3. CAREER FORCE MANAGEMENT

The labor supply issues affecting personnel that have gone beyond the first enlistment point are particularly significant in an all-volunteer environment. The potential productivity (and costs) of professional soldiers place a premium on establishing promotion and compensation policies that avoid the premature loss of valuable personnel (or the protracted stay of less valuable individuals) and align individual goals with those of the organization.

This chapter begins to explore such policies, as well as their theoretical and empirical foundations. It is divided into four main sections: the first discusses the decision to stay or leave the military, and the impact force management policies have on such decision. The second instead explores the effects that promotion and compensation policies have on effort supply—a phenomenon that is less observable than stay/leave behavior, but which is equally important. Section three explores the Italian experience in these areas, while the concluding portion of the chapter highlights a set of key policy issues.

3.1 PROMOTION, RE-ENLISTMENT AND ATTRITION

Evidence from past research: theoretical models and empirical findings

This section briefly reviews the theoretical foundations of models that have been developed to analyze retention (and therefore attrition) behavior. It then proceeds to discuss empirical estimates of such models.

Theoretical models

One of the earliest and most widely-used frameworks for understanding the stay/leave decision is the Annualized Cost of Leaving (ACOL) model (Enns, Nelson and Warner, 1984, Warner and Goldberg,

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37 A large portion of section 3.1 is based on studies first summarized by Warner and Asch (1995).
The ACOL model calculates a cost of leaving that is a function of:

- relative pay over a fixed time interval,
- changes in retirement benefits,
- changes in civilian opportunities due to military service,

The ACOL model has been employed in a wide number of studies, but it suffers from a series of theoretical limitations (Gotz and McCall, 1984, and Gotz, 1990). These limitations were addressed by Gotz and McCall (1984) with an alternative model based on dynamic programming. This model calculates the expected gain from staying (or the expected cost of leaving) by estimating the difference between expected utility if the individual stays and the value of leaving immediately. The analytical framework allows uncertainty to be taken into account, since individuals make decisions by evaluating the returns to all possible promotion and separation sequences. These are then weighted by the chance of their occurrence, which in turn depends "on tastes, the importance of random shocks to retention decisions, and the likelihood of promotion at each rank/year-of-service (YOS) point" (Warner and Asch, 1995, p. 363).

Empirical findings

Studies on personnel retention in the U.S. military have been carried out since the early 1980s; Table 3.1 summarizes the evidence from a selection of these.

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39 ACOL’s single dominant time horizon prevents it from factoring in the uncertainties related to the occurrence of random events and future promotion opportunities (as well as the possibility of involuntary separation). For more details, see Warner and Asch (1995), pp. 362-363.
40 This model produces equations for the probability that a given individual will remain in service from period 1 to period t; these are then estimated through econometric analysis.
Table 3.1 Empirical estimates of re-enlistment behavior

<table>
<thead>
<tr>
<th>Study</th>
<th>Period</th>
<th>Service</th>
<th>Skill</th>
<th>Term</th>
<th>Term Pay</th>
<th>Re-enlistment Bonus effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warner and Goldberg</td>
<td>1974-1978</td>
<td>Navy</td>
<td>Ship maint.</td>
<td>1</td>
<td>2.12</td>
<td>0.023</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Aviation maint.</td>
<td>1</td>
<td>2.46</td>
<td>0.032</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Administration</td>
<td>1</td>
<td>2.44</td>
<td>0.042</td>
</tr>
<tr>
<td>Hosek and Peterson</td>
<td>1976-1981</td>
<td>Air</td>
<td>Pooled</td>
<td>1</td>
<td>3.8</td>
<td>0.02 (install.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Force</td>
<td></td>
<td>2</td>
<td>1.7</td>
<td>0.025 (lump-sum)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.024 (install.)</td>
</tr>
<tr>
<td>Quester and Adedeji</td>
<td>1980-1990</td>
<td>Marine</td>
<td>Pooled</td>
<td>1</td>
<td>1.64</td>
<td>0.066</td>
</tr>
<tr>
<td>Smith Sylwester and Villa</td>
<td>1974-1983</td>
<td>Army</td>
<td>Infantry</td>
<td>1,2</td>
<td>1.29, 0.86</td>
<td></td>
</tr>
<tr>
<td></td>
<td>entrants</td>
<td></td>
<td>Maintenance</td>
<td>1,2</td>
<td>1.76, 1.12</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Administration</td>
<td>1,2</td>
<td>1.90, 1.76</td>
<td></td>
</tr>
<tr>
<td>Buddin et al.</td>
<td>1983-1989</td>
<td>Army</td>
<td>Pooled</td>
<td>1</td>
<td>1.05</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Infantry</td>
<td>1</td>
<td>1.40</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Comm. &amp; Intell.</td>
<td>1</td>
<td>1.34</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>El. &amp; mech. maint</td>
<td>1</td>
<td>0.87</td>
<td></td>
</tr>
<tr>
<td>Daula and Moffitt</td>
<td>1974-1983</td>
<td>Army</td>
<td>Infantry</td>
<td>1,2</td>
<td>Large</td>
<td></td>
</tr>
</tbody>
</table>

42 Microdata, probit model of reenlistment vs. separation, pay variable is ACOL.
43 Grouped data, trivariate logit model of reenlistment, extension, and separation, pay variables are military to civilian (M/C) wage ratio and SRBM.
44 Microdata, logit model of reenlistment vs. separation, pay variables are M/C ratio and SRBM.
45 Microdata, bivariate probit model of first- and second-term reenlistment vs. separation, pay variable is ACOL.
46 Microdata, two-equation model of months to E-5 and reenlistment vs. separation, pay variables is the M/C ratio adjusted for promotion timing and SRBM.
47 Microdata, panel probit of first- and second-term reenlistment decisions; pay variables is the stochastic cost of leaving.
Table 3.1 summarizes the effects of two policy levers: pay and re-enlistment bonuses offered to U.S. military enlisted personnel. Various studies show that both levers are effective at increasing retention, although their effectiveness decreases for hard-to-fill occupations such as infantry (Warner and Asch, 1995, p.366). Newer studies explicitly controlling for promotion tempo also show reduced pay elasticities across the board (Buddin et al., 1992).

Warner and Asch (1995, p.366) note that a number of research studies also share the following conclusions:

- Re-enlistment probability is greater for those who originally enlisted for longer terms;
- Holding retention standards constant, a higher unemployment rate increases retention;
- Propensity to enlist is lower for those with higher education levels and test scores, but the difference decreases with YOS;
- The greater the value of educational benefits, the lower the probability of re-enlistment.

### 3.2 PROMOTION AND COMPENSATION

The impact of compensation and promotion policies on individual decision-making and effort supply is examined by Asch and Warner (1994) with a generalized version of the Gotz-McCall dynamic programming model mentioned above. The Asch and Warner model is used to explore how effort supply depends on the structure of pay. It assumes that an individual has a specific ability parameter which he/she knows about but which the military is unable to know a priori. It also assumes that an individual can produce a variable amount of effort depending on (1) the structure of pay, (2) outside opportunities, and (3) taste for military life. At each point in a soldier’s career both he/she and the organization decide whether to continue the employment relationship. The military assesses individual performance using a periodic evaluation, which is used both for promotion and separation. Promotion probabilities depend on

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48 The size of such bonus depends on a multiplier called SRBM (Selective Re-enlistment Bonus Multiplier) which takes into account occupation and years of re-enlistment.
individual effort, as well as on the effort of others (Warner and Asch, 1995, p. 382)

The net expected gain to staying is the expected return to staying minus the return from leaving. These returns are weighted by the probabilities that both the individual wants to stay and the military wants to retain him/her. Individuals desire to stay only if the net expected gain is greater than zero (plus a random element to the retention decision). Based on the marginal utility of effort function derived from the model, Asch and Warner highlight a series of implications for how this expression varies according to different compensation and promotion policies. These are summarized below.

**Active pay considerations**

The model has direct implications for how to structure active-duty pay—both between and within grades.

**Intergrade pay spreads and promotion probability**

Intergrade pay spreads need to be skewed whenever the marginal productivity of individuals is expected to rise with grade. In order to keep the effort supply of workers constant, pay differentials between grades need to offset the decrease in promotion rates as one moves up a hierarchy (Asch and Warner, 1994, p. 92). Equally important is the insight that a skewed pay profile will be most effective when promotion chances depend primarily on effort. All other things being equal, individuals will exert less effort if promotion probability is either very high or very low. Promotion probability can be very high when it is based on simple time-in-grade requirements. It can be correspondingly low when individuals reach terminal grades, or when the promotion system is "clogged" by the absence of regular turnover in the higher grades.

**Intragrade pay**

The model also indicates that effort supply could be stimulated by introducing intragrade pay spreads, as in the case of performance-based

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49 This result is consistent with Lazear and Rosen (1981), Nalebuff and Stiglitz (1983), and O’Keefe, Viscusi, and Zeckhauser (1984). These studies are originally cited in Asch and Warner (1994).
pay. Such measure could help offset the reduced importance of intragrade pay spreads when promotion opportunities are small, the pay profile is flat, or when or when individuals have reached their terminal grade and cannot be easily removed (Asch and Warner, 1994, p.97).50

**Retired pay considerations**

An individual’s decision to stay or leave the force is also influenced by retired or separation pay. In fact, Asch and Warner argue that the military should consider retired pay not as a means to transfer consumption from the present to the future, but rather as an policy lever used to actively manage the experience and grade profile of the force. Retirement benefits could play a role in separating older personnel; separation is often beneficial from the organization’s standpoint because it increases the promotion opportunities for younger and able personnel, which in turn are necessary to motivate effort supply in the lower ranks. (Asch and Warner, 1994, pp.101-102)

**Up-or-out rules**

The Asch and Warner model also considers involuntary separation as a policy lever. Involuntary separation would occur when individuals fail to meet minimum performance standards. For the vast majority of individuals, up-or-out rules boost effort supply, since additional work lessens the prospect of early career termination (Warner and Asch, 1995, p. 384). Performance-based promotion policies can also help in retaining personnel that could contribute the most to the organization, since more talented individuals would face better promotion probabilities and therefore higher expected gains to staying (Asch and Warner, 1994, p.73).

### 3.3 FORCE MANAGEMENT: THE ITALIAN EXPERIENCE

This section provides an overview of the Italian Army’s personnel system by describing current promotion policies and the retention

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50 The pay differentials between grades need to be greater than those within a grade in order not to blunt promotion incentives for those who could make a greater contribution at higher ranks (Asch, 1993, p. x).
behavior based on data from recent years. It then outlines the major features of the compensation system—both from the standpoint of active and retired pay.

**A brief introduction to basic personnel categories and flows**

The career management system in the Italian military is based on a number of personnel categories that comprise several grades. Personnel flows occur between categories, as well as within each.

The VFB enlisted soldiers described in Chapter 2 make up the most junior category. At the end of their term, those in the terminal VFB grade and with the requisite years of service are eligible to become part of the career enlisted force (Volontari in Servizio Permanente, or VSP). VSPs are major corporals—essentially blue-collar military workers—to be employed in combat roles for the first half of their career, and then reassigned to support and administrative tasks for their remainder of their military life.

There are four grades in the VSP category. While some individuals will reach the terminal grade as VSPs, others will instead be promoted into the NCO ranks either as a Sergeant or Marshal (see Figure 3.1).

**Figure 3.1 Career progression between different personnel categories**

Sergeants include 3 separate grades, and are drawn from the VSP stock. These are junior NCO personnel, and their responsibilities

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51 Since VFAs are not career-track soldiers, they are not included in this discussion.
include training and command of small teams—such as a tank crew. Marshals are instead more akin to warrant officers and those who reach the highest of the four Marshals grades can actually substitute for an officer in his/her duties should the latter become incapacitated. Marshals also have specialist and technical roles, and those deployed in operational units command platoons (Sampaolo, 1995). As mentioned in Chapter 2, Marshals are in large part recruited laterally (70% come from the civilian world, while 30% are promoted vertically). Both VSPs and Sergeants can become Marshals: 20% of the year’s available slots are assigned to the former, with the remaining 10% is reserved for the latter.\footnote{However, these proportions could change as the Army reaches a steady-state, with more Marshals being promoted from the lower ranks.}

All of those who move beyond the VFB stage are essentially employed for life, since retirement comes after approximately 37 years of service, and given that there are no up-or-out rules. While some soldiers will move from the VSP category to become a Sergeant or Marshal, others will instead reach the terminal VSP grade and eventually retire. The actual number of individuals transitioning from one category to another is a variable in the hands of Italian policy makers, and will be thoroughly explored in the modeling chapters. The next section instead sketches the flow of personnel through the ranks more precisely (these flows are summarized graphically in Appendix C).

**Promotion policies**

**VFBs**

For VFBs, the first promotion to VFB2 (from private to corporal) comes automatically after 3 months of service, while the second promotion to VFB3 (major corporal) is automatically awarded to all who complete the 12th month of service.\footnote{The timing of VFB promotions once the enlistment term is lengthened to 5 years will be slowed accordingly, although details remain undefined.}. At the end of the term (3 years for those recruited through 2000, five years for those who enlisted in 2001 and beyond), the top personnel is chosen for the career force, based on a ranking system that takes into account past performance on a
number of measures. Some of the VFBs instead join other police forces or return to civilian life. Others still may want to renew their term for a maximum of 2, 2-year periods. VFBs who renew earn additional “points” which may increase their chances of being selected into the career force.54

VSPs

As VSPs, personnel progress automatically from each of the four grades (VSP1, VSP2, VSP3, VSP4) to the next with 5 years in grade (with the exception of the promotion from VSP1 to VSP2, which requires 1 year in grade).55 VSP4 is the terminal grade for this category, but as mentioned above VSPs can seek promotion into the NCO ranks. Sergeants are fully composed of former VSPs, and each entry-level Sergeant cohort is selected annually through a competitive process. Seventy percent of the slots available each year are dedicated to VSP4 personnel, while the remaining 30% of the positions are dedicated to VSP2s and VSP3s. VSPs can also compete for promotion into the Marshal grade; eligible candidates must be high school graduates with at least 7 YOS and under 40 years of age. In each year, 20% of the slots are dedicated to VSP personnel who have the requisite skill set.

Sergeants

There are three grades in the Sergeants category (S1, S2, and S3): eligibility for promotion from S1 to S2 and S2 to S3 comes into effect after seven years in each grade, but promotion is not triggered by simple time-in-grade thresholds.56 It instead takes place through an intricate selection process—termed the “by choice” system—as follows: after seven YOS in the grade, the top one-third of the eligible cohort (c₁) is promoted. The remaining soldiers are evaluated for a second

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54 Some former VFBs also attempt to become Marshals by entering laterally to the senior NCO category as civilians. Former VFBs benefit from some preferential treatment in the Marshals contest (they are awarded extra points to account for their prior military experience), but they are not entitled to a yearly quota of Marshals slots.

55 VSP1 stands for the rank of 1st Major Corporal; VSP2 for “Chosen” Major Corporal; VSP3 for Chief Major Corporal; VSP4 for “Chosen” Chief Major Corporal.

56 S1 stands for the rank of Sergeant; S2 for Major Sergeant; S3 for Chief Major Sergeant.
time in $t+1$. The upper half of these is promoted in $t+1$, with a class rank below those from the next cohort ($c_1$) who are promoted in their first year of eligibility. The lower half is instead promoted in $t+2$, with a class rank that is below those from the cohort $c_1$ who are promoted after the second review. All Sergeants are eligible for promotion to the Marshal grades, but in order to compete in the promotion contests they have to possess a “above average” rating and no more than 40 years of age (approximately 20 YOS).

**Marshals**

Promotion to the Marshal category takes place through competitive examinations. As mentioned before, 70% of the available slots for the entry-level Marshal grade (M1) are currently dedicated to applicants joining the force laterally. Lateral entrants spend the first two years of service at a NCO academy for training before being assigned to operational tasks. The progression of Marshals through the four grades is triggered by time in grade rules (as in the move from M1 to M2 after 2 years in grade), as well as by a selection process similar to the one outlined for Sergeants (for the promotion from M2 to M3). The promotion to the terminal M4 grade is instead a hybrid of the two: 70% of the slots follow the “by choice” system after 8 years in the M3 grade, while the remaining 30% are allocated through a competitive process.

**System behavior: promotion and retention**

The system described above was first implemented in 1996, and therefore indications on the behavior of individuals moving through it are limited. Individual choices in such a system are also highly contingent on the peculiar properties of a transition: some of the stocks were created with little to no personnel, and Army planners were prompted to exceed steady-state accession requirements in order to meet the short-term manpower goals set by the Parliament (VSPs and Sergeants in particular—more on this in Chapter 4). This means that a very large

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57 Class ranks has an impact when the number of individuals to be promoted is lower than that of those eligible for promotion. In such a circumstance, the order of promotion would reflect class rank.

58 M1 stands for the rank of Marshal; M2 for “Ordinary” Marshal; M3 for Chief Marshal; M4 for “Aide.”
portion of soldiers wishing to transition from VFB to VSP, and from VSP to Sergeant, have been able to do so.\textsuperscript{59} The fact that some personnel stocks such as VSP and Sergeants were established in 1996 as virtually empty reservoirs also means that the behavior of personnel who have spent a considerable number of years in these categories cannot be ascertained. The promotion patterns for Marshals (and into the Marshals category) are rather different since this stock is instead well over the steady-state amount and will therefore have to diminish over time.

High promotion rates have been coupled by low retention rates across the board. Out of all the VFB who entered in 1996, only 3.2\% dropped out by the end of the term; for the class of 1997, the attrition rate is of 6.7\% from beginning to end (see Figure 3.2).

\textbf{Figure 3.2 Retention for VFBs}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure3.2.png}
\caption{Retention for VFBs}
\end{figure}

source: based on Army General Staff data

While no data is currently available to quantify attrition in the VSP ranks, Italian officials have claimed that it has been equally small (their planning factor is 1\% per year). NCO data (mainly of Marshals since the Sergeant stock only recently began to take personnel) is also consistent with this trend. Army General Staff data typically show minimal attrition rates for those with less than 30 YOS; attrition

\textsuperscript{59} For instance, many VFB who were not promoted as VSPs immediately at the end of their term have been able to join the career force during or after the two 2-year renewals.
gradually increases, and most individuals retire by the time they reach the 37th year of service (see Figure 3.3 for a representative sample of NCO loss rates by YOS). It is important to realize that this 37-year limit applies the administrative YOS count, which in effect implies that the actual retirement age is three years lower (at around the 34th YOS).\footnote{As first mentioned in Chapter 1, individuals accumulate years of service for administrative purposes that exceed their actual years of service when they are deployed in operational units. Typically, soldiers can expect to accrue three extra years of service at career end. Army planners have recommended modeling the current actual career length as having a limit of 34 YOS, and progressively increasing it to 37 by 2008 (see Chapter 7).}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure3.3.png}
\caption{NCO Losses by YOS cohort, January-October 2000}
\end{figure}

\textbf{source: based on Army General Staff data}

\section*{Active-duty pay\footnote{The results are based on several discussions with Army planners and on compensation policy papers, the most important of which is Italian Army General Staff (2000a).}}

The major compensation elements include active-duty pay (both its structure and its level relative to civilian pay), retired pay, and non-monetary benefits. Each is briefly discussed below.

\subsection*{Components and structure of active-duty pay}

Active-duty pay is primarily determined by grade, although adjustments for YOS and type of employment are factored in. Leaving aside YOS-dependent compensation, the major elements of pay include: (1) a basic salary, (2) a cost of living adjustment (\textit{indennita' integrativa})
speciale, or IIS), (3) an additional pension contribution (importo aggiuntivo pensionabile mensile, or IAPM), and an operational allowance (indennità' impiego operativo, or IIO).62

Basic pay and IIS are solely functions of grade. In turn, the amount for each grade is determined by a pay tier system that regulates the salary of all public sector employees, with a minimal percentage increase for those grades that share the same pay tier. The IAPM is a small part of total salary, and instead varies by groups of grades (e.g., all four VSP grades receive the same amount). As shown in Figure 3.4, the differences in basic salary, IIS, and IAPM are minimal across grades. The only exception to this pattern is the large difference that exists between VFBs and career personnel.63

Figure 3.4 Active-duty before-tax pay (basic, IIS, IAPM, IIO)

source: based on Army General Staff data

The IIO adds some skeweness to the intergrade pay profile. The actual IIO amount each person receives varies by grade—and as Figure 3.4 shows, the terminal grade for each category has a higher amount of IIO than the starting grade of the next. IIO also varies by the type of

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62 Another important element of compensation is the daily deployment allowance (Alta Valenza Operativa, or AVO). It is not considered here because of its contingent nature.

63 The pay for M1s unadjusted for YOS is lower than that of S3s to reflect the fact that junior M1s are lateral entrants and have less experience than many Sergeants and VSPs.
work an individual soldier is assigned to: those belonging to deployable units can earn up to 35% more than their colleagues assigned to more administrative tasks, while those employed in elite units such as the amphibious battalion earn as much as 80% more. Army planners estimate that a typical soldier earns on average 15% more than the basic IIO amount set in the pay tables, and this additional amount is used as the IIO per-soldier estimate in Figure 3.4 and in future chapters. Army pay tables also show that there are IIO increases at certain years of service thresholds—but only for certain grades. Figure 3.5 indicates that most of the YOS-contingent increases in IIO are concentrated in the middle grade of the Sergeants category (S2) and the middle grade of the Marshals category (M2). This figure also shows that the Army compensation system takes YOS into account with a seniority allowance for those with more than 19 and 29 years of service (assegno funzionale, or AF). The actual amount of AF varies from one category to another (e.g., VSPs vs. Sergeants).

**Figure 3.5 Elements of pay contingent on YOS**

source: based on Army General Staff data

It is important to note that the current compensation system differentiates pay by different levels of operational intensity, but not

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64 YOS-related increases in IIO are limited to S2s with 15 or more YOS; M1s with 5 or more YOS; M2s with 10 and 20 or more YOS; M3 with 25 or more YOS; M4 with 25 and 29 or more YOS.

65 For IIO the actual amount represents the maximum variation of pay by YOS for each grade.
by occupational category. Moreover, it does not include elements of performance-based pay.

How skewed is the intergrade distribution? The result is not at all obvious, since individuals do not necessarily follow a linear, hierarchical progression through the grades. In fact, one can think of the four categories not as pyramids, but rather rectangles: promotion within them is automatic (although sometimes subject to delays), and virtually everyone is assured the possibility of reaching the stock’s terminal grade. The hierarchical aspect of promotion sets in when individuals seek to be promoted from one stock to another: from VFB to VSP, from VSP to Sergeant, and from Sergeant to Marshal. Therefore, the critical question to ask is whether the differences in pay between stocks, and not necessarily adjacent grades, provide a sufficient incentive for those who could make a significant contribution in the higher stocks to seek such a progression.

**Table 3.2 Inter-category and Intra-category pay spreads (% increase)**

<table>
<thead>
<tr>
<th>Inter-category</th>
<th>(average)</th>
<th>To:</th>
<th>Sergeant</th>
<th>Marshal</th>
</tr>
</thead>
<tbody>
<tr>
<td>From:</td>
<td></td>
<td>VSP</td>
<td>Sergeant</td>
<td>Marshal</td>
</tr>
<tr>
<td>VFB</td>
<td></td>
<td>98.5%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>VSP</td>
<td></td>
<td>-</td>
<td>6.5%</td>
<td>15%</td>
</tr>
<tr>
<td>Sergeant</td>
<td></td>
<td>-</td>
<td>-</td>
<td>7.9%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Intra-category</th>
<th>To:</th>
<th>VSP4</th>
<th>S3</th>
<th>M4</th>
</tr>
</thead>
<tbody>
<tr>
<td>From:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VSP1</td>
<td></td>
<td>13.5%</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>S1</td>
<td></td>
<td>-</td>
<td>16.4%</td>
<td></td>
</tr>
<tr>
<td>M1</td>
<td></td>
<td>-</td>
<td>-</td>
<td>21.5%</td>
</tr>
</tbody>
</table>

The first half of Table 3.2 provides a rough estimate of inter-category differences—using a simple average of pay for each category (based on pay for each grade in the category), this table shows that the pay spread is extremely high in the first category transition from VFB to VSP (98.5%). The spreads then diminish to less 6.5% and 8% for the transition between VSP and Sergeant and between Sergeant and Marshal, respectively. For those who transition from the VSP stock directly to the Marshals category, the average percentage change in pay increases to
15%. Some of the flatness of the post-VFB pay profile is related to the fact that the first two grades in the Sergeant and Marshal stocks are assigned a lower salary base than the terminal grades of the preceding stock (see Figure 3.4).  

Table 3.2 also provides the intragrade pay spreads, unadjusted for (fairly small) YOS differences. These show that the variance between the entry and terminal grade for each category is significant, and in most cases greater in percentage terms than the differences between categories.

**Estimating earnings profiles**

The foregoing discussion provides a framework for how pay changes across grades and categories. But career trajectories can vary significantly among personnel—for instance, some can seek promotion to S1 as VSP2s, without having to reach the terminal grade of VSP4 in order to make the transition. Therefore a soldier’s actual pay profile depends on his/her path across grades and categories.

Pay profiles are estimated for three different VSP career trajectories in Figure 3.6. The first trajectory, called “S1 @ 8 YOS,” includes fast trackers who are able to earn a promotion to S1 quickly (with 8 YOS), and then swiftly progress to the terminal S3 grade with 22 YOS. The second trajectory of “S1 @ 15 YOS” includes those who become S1s at the 15 YOS mark, reaching the terminal grade of S3 by 31 YOS. Those in the VSP4 @ 16 YOS trajectory instead never become Sergeants, and reach the terminal VSP4 grade with 16 YOS. For all, the career is assumed to end at 37 YOS.

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66 This in turn is due to the fact that in the short run no personnel from the senior VSP and Sergeant ranks will be promoted to a higher category (these grades are empty). Army planners reckon that, once inter-category promotions will include senior personnel, an allowance will be created in order to prevent a pay cut.

67 This analysis assumes a three-year VFB term. The results are generally applicable to a 5-year term, however.
Figure 3.6 Earnings profile for different VSP/S career tracks

The chart shows that pay does increase more quickly for fast trackers than for those in the middle or slow track. The pay level is also higher: at around 30 YOS, individuals in a S1 @ 8 YOS trajectory can earn an additional Lit. 4m more per year compared to slow trackers (a 10% difference). Those in the S1 @ 15 YOS trajectory experience lower pay during the mid-career phase than personnel who is never promoted to the Sergeants stock, but as they progress through the Sergeant ranks, they quickly manage to overtake individuals in a VSP4 @ 16 YOS trajectory.

Figure 3.6 also indicates that salaries are almost identical among the different tracks until the 15th YOS. Moreover, and especially for slow and fast trackers, salary ceases to increase significantly at approximately the 20 YOS mark (for middle trackers, there is a steady increase until the 30 YOS mark).

Performing this analysis for those who enter laterally as Marshals also yields some interesting results. In this case some individuals reach the terminal M4 grade after 16 YOS, others at 22 YOS, while others still at 27 YOS.
The differences in salary among the different career paths are greatest during the mid-career phase, but are never as great as in the case of VSPs/Sergeants. Indeed, salary is identical for all paths during the early and latter stages of one’s career. Figure 3.7 also highlights how the pay profile reaches plateaus that extend across a number of years. For those who become M4 after 16 YOS, the prospect of significant increases in pay diminishes drastically after 19 years of service.

**Retired compensation**

An individual is eligible for an Army pension after either reaching a specified age or YOS limit. For enlisted and NCO personnel, the age limit is 60, while the YOS threshold is being gradually increased in conjunction with the reform of the whole public sector retirement system: currently individuals can retire with 37 years of service, but by 2007 full retirement will occur at 40 YOS (see Table 3.3).

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68 Individuals who retire can join an auxiliary force for 5 years; auxiliary duty pays approximately 80% of a soldier’s active duty salary. Auxiliaries may be staffed in the military or in other public-sector institutions, and are required to serve on a full-time basis.
Table 3.3 Pension YOS thresholds\textsuperscript{69}

<table>
<thead>
<tr>
<th>Year</th>
<th>YOS</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>37</td>
</tr>
<tr>
<td>2001</td>
<td>37</td>
</tr>
<tr>
<td>2002</td>
<td>37</td>
</tr>
<tr>
<td>2003</td>
<td>37</td>
</tr>
<tr>
<td>2004</td>
<td>38</td>
</tr>
<tr>
<td>2005</td>
<td>38</td>
</tr>
<tr>
<td>2006</td>
<td>39</td>
</tr>
<tr>
<td>2007</td>
<td>39</td>
</tr>
<tr>
<td>2008 and beyond</td>
<td>40</td>
</tr>
</tbody>
</table>

source: Army General Staff

Army personnel can leave the service without meeting either the age limit or the statutory early retirement criteria laid out in Table 3.3. Individuals who do so are no longer eligible for an Army pension, but their retirement contributions while in service are credited toward a pension account at the Italian Social Security Administration (INPS). In this case, retirement benefits depend on the number of additional years worked in the civilian sector.

**Career force non-pecuniary benefits**

Information on non-pecuniary benefits is scant, aside from the obvious benefit of job stability associated with a career in the Italian Army. During recent interviews Army officials have expressed concern at the lack of the infrastructure to improve the quality of life for personnel and their family members. For instance, Army support for housing is a pressing issue. The service controls about 11,000 housing units, but according to Army estimates only 6,600 are truly available since the remaining is (1) uninhabitable, (2) located in areas where there is no longer the need for a military presence (as in the Northeast of Italy), or (3) occupied by personnel no longer eligible. Up until recently the Army limited access to its housing infrastructure to officers and NCOs. But with the creation of the VSP category—and their entitlement to Army-provided housing—comes the added pressure of what will be a rapidly increasing number of individuals expecting benefits on this front (Italian Army General Staff, 2000b). Measures to facilitate personnel mobility such as coverage of relocation expenses, among

\textsuperscript{69} Table 3.3 represents the YOS count that is considered for administrative purposes. As mentioned earlier, the actual years of service are generally three years lower at the end of one's career.
others—are also believed to be poor. In fact, they may blunt individual incentives to seek promotion into a higher category because such advancement often involves relocation.

3.4 POTENTIAL LONG-TERM DEVELOPMENTS

Currently the high rate of retention is in line with the theory and prior findings outlined in section 3.1. The pay differential between VFBs and VSPs is so great that it, along with the promise of job security, provides an unambiguous promotion incentive. Retention in the first term has also been boosted by the fact that promotion opportunities for those seeking to become VSPs and Sergeants have been significant—virtually everyone seeking advancement into the VSP stock is managing to do so.\textsuperscript{70} However, as specified in Asch and Warner’s model, near-automatic promotions can also have a deleterious impact on effort supply; they could also adversely affect the quality of personnel that will eventually remain in the force for an additional three decades.

More broadly, the long-term viability of the current promotion and compensation systems outlined above is open to question. While these systems have not been placed under great stress—in large part because of the peculiar patterns of the transition—such stresses and pitfalls could emerge in the future. Two “warning signs” appear to be particularly relevant:

- Under current policies, it is likely that a large fraction of soldiers will reach the terminal grade or pay ceiling by mid-career: this, along with relatively low inter-category compensation spreads and automatic intra-category promotion, may blunt effort incentives;
- The current retirement system is designed to discourage early separation; therefore, it will likely hinder personnel management as the force becomes more senior.

\textsuperscript{70} The end-of-term bonus given to all VFBs also serves as a significant incentive.
Long permanence in terminal grade may blunt effort incentives

As shown in Figures 3.6 and 3.7, it is very likely that individuals admitted to the career force will reach the terminal grade for a particular category and stay in that grade for several years. This could become a pressing issue for VSPs, since most will reach the terminal VSP4 grade with 20 years of service before retirement.

Given that promotion within the VSP ranks is based on automatic years-in-grade requirements, and since the system does not have strict up or out rules, some VSPs could be induced to exert less effort than they would otherwise. To be sure, the potential magnitude of the problem is largely dependent on the size of personnel flows into the terminal VSP grade and promotion opportunities out of the terminal grade (to be explored in later chapters). But were retention to stay high despite possible career and wage stagnation, and if individuals were able to remain in the force without facing a credible risk of separation for lack of effort, then the Army may want to consider performance-related rewards (and/or punishments) to stimulate individual productivity. Such a policy could only be implemented after improving the Army’s evaluation system, which is said to be suffering from bureaucratization, lack of standardized evaluation instruments, lack of differentiation, and grade (score) inflation (Malfe’, 1998). More generally, the Army should take a fresh look at the adequacy of its career personnel management processes and their long-term effects, and tailor its frameworks to suit the varying needs and requirements of individuals with different skill sets and preferences (see Chapter 9).

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71 The possibility that attrition in the future could increase as promotion tempo between categories decreases, and as the gains in salaries associated with such promotions consequently become rarer, remains very distant in the minds of virtually all the Army planners interviewed during the course of this research. Most instead reckon that the more likely outcome resulting from stagnation in promotions would involve the creation of new grades and higher pay levels for those affected.

72 Malfe’s comments were made in reference to the officer evaluation system, but appear to be relevant for the entire force.
The retirement system discourages early retirement and could well complicate force management

The structure of the military retirement system is heavily influenced by the policies that regulate pensions for most public employees. Most notably, it has been affected by the wider move to raise minimum ages for retirement. While such changes may conform to the Treasury’s wishes, they are likely to complicate force management, especially given Army plans for a relatively senior force. In general, the Army may want to start thinking about retired pay differently, and consider more actively the possibility of separation pay. The extent to which separations will be desirable, and their impact on the force profile, will be explored in later chapters. Although clearly expensive, a system that provides voluntary-separation incentives may actually be cheaper because the adverse productivity effects of a much older force could be substantial (Asch and Warner, 1994, p.103).