Assessing Military Access in Politics: A Dyadic Methodology*

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Abstract

The extensive literature on civil-military relations deals with the influence of the military on politics by attending to either specific policy outcomes, such as budgetary allocations, coups, or decisions to employ force; or to prerogatives, such as legal privileges, high office, or control of state enterprises. However, more structural, background forms of influence are not reducible either to policy outcomes or to prerogatives: for example, if the military is able to set the political agenda, or if certain civilian cadres owe their advancement to their ties with the military. This latter possibility, which we call access, is the focus of this paper. We propose a dyadic methodology for assessing access, based on long-term geographical proximity between particular civilian cadres and particular military officers; our measurement argument is that civilians who for many years have had "buddy" ties with officers are, ceteris paribus, likely to advance more rapidly up the ladder than counterparts who lack such ties; and vice-versa for military officers with civilian buddies. This argument is tested using a sample from a large-scale data set of party cadres and military officers in China, with results pointing toward mutual effects of members of each group on the other, and the paper concludes with preliminary thoughts on both civil-military relations and dyadic research more generally.

Keywords: .

1 Introduction

For decades, social scientists have viewed civil-military relationships in nondemocratic regimes which are not military dictatorships from two perspectives. On the one hand, those regimes are typically stipulated to be dominated by civilian institutions, such as ruling parties (even if those parties came to power by force of arms); on the other hand,

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since the military in those countries controls by far the largest concentration of weaponry and of personnel who can use it, they might well be viewed as the power behind the throne. This antinomy is particularly marked when it comes to states ruled by a single party, typically the Communist Party of the country; as two scholars put it almost 35 years ago (i.e., before the breakup of the Soviet Union and its client regimes in Eastern Europe):

> "The role of the armed forces in Marxist-Leninist political systems seems inherently contradictory. The Leninist party is anchored in the Clausewitzian dictum that politics is supreme to military action ... Yet the armed forces of communist systems are, almost without exception, politicized institutions which participate in politics more directly and unabashedly than the armed forces in any Western state" (Perlmutter and LeoGrande 1982, p. 778; cf. Herspring 1999; Perlmutter 1969; Luckham 1971).

Our argument in this paper is that the tension between these two perspectives is exaggerated – not because one view is correct and the other wrong, but because both gloss over everyday forms of influence. Whether or not the military affects policy outcomes, such as budgetary allocations or decisions to use force, those outcomes are, by definition, only a tiny fraction of everyday activities involving most party officials and military officers, and there is no reason to expect that the latter are well represented by the former. Similarly, whether or not party officials give formal orders to the military or, conversely, are constrained to accord it privileges is more or less beside the point if the two sets of actors see eye to eye, or if they regularly consult with each other. These sorts of everyday relationships tell us something about access: the ways in which two sets of elites interact with and use each other for various purposes. Access is, in effect, a sort of structural power, and it is the focus of this paper.

We begin with a general discussion of the concept of access, defining the term as a primarily dyadic sort of capability, and elaborating how it can be used to study the use by officials of their relationships to accomplish particular tasks. We then turn to a specific task, career advancement by civilian cadres and military officers in China in the post-Mao Zedong era, and more specifically still, the use by cadres of officers and vice-versa. This is an interesting and tractable research question, though it raises knotty questions of how to observe access attempts.

In the third section of the paper, we discuss information sources, data construction, and the measurement of key variables (career advancement and access) for several hundred officials. The fourth section presents results of various statistical tests suggesting that having a high-ranking military buddy (akin to a patron) helps civilian cadres in career advancement, and vice-versa for military officers with civilian buddies. The paper concludes with a brief discussion of the applicability of the methodology to future

research.

2 The concept of access

We define access as a relationship between two or more actors that can be called on by one of the actors to help it accomplish a task. Note that access is a capability: it is a relationship that can be called on, even if the actor rarely (or, conceivably, never) does so. Note further that access need not imply any relation of status or power symmetry between the actors: a powerful actor often does call upon her relationship with weaker ones (indeed, this may be an abiding characteristic of powerful actors) to carry out goals, just as the latter may call upon their relationship with the former, perhaps in a clientelistic fashion, to carry out their own goals. Of course, the fact that access need not imply a status or power asymmetry does not mean that any given access relationship is itself symmetrical. In a given dyad, one actor may be the only one who calls on the other, or he may do most of the calling-on, or both actors may do so with roughly equal frequency.

Not all relationships are access ones. To begin with, many social interactions cannot be qualified as relationships: a person letting a stranger pass before him at an entrance, for example, or asking for the time of day, or to use a cigarette lighter. Moreover, many relationships are so thin, so to speak, as to limit drastically the range of goals that can be pursued by one party to the relationship calling upon another. A student, for example, might call upon one of her classmates to borrow a pen, but not necessarily to study together; a worker to borrow money for coffee but not necessarily to provide advice on talking with the boss. Indeed, every relationship has what we can call access domain limits: even close friends cannot, and would not, ask each other for the same range of help or advice as a family member – and vice-versa. Those limits can and do shift over time, which is one way to gloss the way in which complementary role relationships between superiors and subordinates, teachers and students, or husbands and wives, evolve in the course of decades.

Access is arguably at the heart of various often-studied phenomena. Many definitions of power, for instance, presuppose some sort of access: A gets B to do what it would not do otherwise (Weber, Dahl: A has access to B); B has been disciplined by various actors C, D, etc. in such a way that when A says or does something, B will react accordingly (Gramsci, Foucault: the power relationship between B and C, D, etc. is instantiated by A's words or actions). Similarly, many definitions of social capital assume that it is built up or operates via access: A's relationships with others are resources that can be called on by A (Bourdieu, Lin); A's ties with others generate trust, which can be called on by A for various transactions (Coleman, Putnam).[1] By the same token, the concept

[1]Of course, access is not present in all power-related or social capital-related phenomena: an actor

of brokerage (Burt, Granovetter), straddling work on social capital and network analysis, is premised on access relationships.

At heart, access is a dyadic concept. Certainly actors can and do call on more than one relationship at a time to accomplish a given task, but those calls, even if they are made as part of a general appeal and even if they are responded to in a coordinated fashion by those being called upon, involve dyadic ties somewhere along the line. For example, a general call by a superior on subordinates to act in a certain fashion may be successful or fail due to the subordinates' prior relationship with the superior, or with more immediate supervisors who relay or reinforce the superior's call. For measurement purposes (see the discussion below), capturing this set of multiple and/or indirect dyadic relationships may be tantamount to treating an actor's access as a sort of ego-net (Crossley, Bellotti, Edwards, Everett, Koskinen, and Tranmer 2015), but with the important caveat that what matters for access is not the type of tie shared by the actor and its alters, but rather the tasks aimed at by the actor and for the accomplishment of which it calls on the alters.

This point brings up a more general theoretical issue. Access may be a capability, but it is only observable in specific calls, i.e., in an actor's use of specific relationships to accomplish specific tasks. Without denying that individuals vary widely in their degree of access, there is no such thing as general access, and any attempt at coming up with some kind of all-purpose access score, applicable to any type of task, is pointless. Instead, access needs to be theorized about and observed in specific contexts, notably specific actors having specific goals. The specific actors focused on in this paper are military officers and civilian cadres in a Communist Party-ruled country, post-Mao China, and the principal goal we will be looking at is that of career advancement, to be precise, whether the actors in one of the two groups (officers and cadres) call on their relationships with the actors in the other group to facilitate their advancement through the ranks of the respective bureaucracy.

3 Hypotheses on career advancement

To a considerable degree, bureaucracies are built around the notion of career advancement. Individuals enter a bureaucracy through various portals; as they rise in rank, they take on more extensive responsibilities in the organization. Those responsibilities are ranked along a set of covarying dimensions, with supervisory scope going along with prestige and, often, with increased remuneration. Not surprisingly, advancement becomes an abiding goal of those who plan on staying years, if not their entire working life, in a

might use the mass media, rather than specific relationships, to accomplish her goals; and the relationships that an actor builds up may in fact not be used by the actor, but instead redound to the community's benefit.

particular bureaucracy. State employees, whether civilian cadres or military officers, are no exception to this rule, and a key way to think about access is whether cadres can use officers to advance their careers, or vice-versa.

Career advancement, as a particular goal, has certain advantages from the standpoint of conducting research on civil-military relations. First, career advancement is a presumably constant goal for most, if not all, bureaucrats; thus there should be numerous attempts at using such access relationships as exist. By contrast, a focus on particular decisions will of necessity involve far fewer calls on access relationships for much more limited periods of time and, we would assume, for far fewer numbers of actors. Although, as implied above, even these access attempts are likely to involve calls on persistent relationships, the numerical limitations to those attempts are severe, a problem which is not the case for goals such as career advancement.

Second, career advancement is far easier to ascertain than certain other types of goals that cadres or officers may have. Each such official has a rank, or at least a ranked position, and this is public knowledge. If, instead, we were to focus on other goals, particularly those connected with policy outputs, observation is considerably more difficult: outputs may be secret or only partly disclosed, it may be unclear as to who wanted what, and even the relevant time period for ascertaining success or failure after the putative access attempt is less than obvious.

Third, career advancement calls on access relationships can be made across a wide number of relationships. Certainly high-ranking alters are presumably more useful to call on in climbing the ladder than lower-ranking ones, but since the latter, earlier on, may well become the former, it is reasonable to study access relationships between actors and numerous alters. In fact, as we will argue below, it is possible to use the length of (assumed) relationships as a proxy measure for access calls. On the other hand, a focus on specific types of decisions or policy outcomes requires one to have knowledge about which specific alters are likely to be useful, information that presumes one has already figured out the very access relationships that are the object of research. Thus, there are numerous advantages to focusing on career advancement in the study of civil-military access.

How exactly would access work? Our claim is simple: that whatever the multiple reasons that account for career advancement (see, regarding China, Manion 1985; Li and Zhou 2005; and, on the value of connections in general, Shih, Adolph, and Liu 2012; Yang, Xu, and Tao 2014; Jia, Kudamatsu, and Seim 2015; Jiang and Zhang 2015; and Jiang n. d.), civilian cadres who have a military "buddy" are more likely to advance either higher, or faster, or both, than counterparts lacking such a buddy.[2] The inverse argument can also be tested: that military officers with civilian buddies should also be advantaged in their career advancement as compared to other officers. If the data support

[2]See the next section for alternative measures of career advancement.

both hypotheses, we could also compare the two presumed sources of access to get an initial idea of who – cadres or officers – benefits more from access among the other group.

The problem from a design standpoint is that, precisely because they presumably are frequent and well below the radar, access attempts for most cadres and officers will, in practice, be unobservable. An official who uses his connections to get a good word put in for him, or perhaps to torpedo a rival's chances at promotion, is not likely to advertise his actions. Moreover, those actions which are reported, or at least rumored, are likely disproportionately to be successful. Hence, we need an indirect way of getting at access attempts. Our suggestion is simply to use time: the longer that any two individuals know each other, whether or not they work together, the greater the chance that they will make an access attempt. But the length of a relationship is itself difficult to observe, for similar types of reasons as for access attempts. There is no way of knowing, across all dyads, which particular pairs of officials have a long-term, or indeed any, relationship. Yes, if someone is a deputy or an adjunct to someone else, we can infer that they have a relationship; yes, if two officials are named as being on a committee, we can make the same inference; but these particular clues barely scratch the surface of other types of relationships that are extremely unlikely to be reported.

What we opt for, instead, is geographical propinquity. Our argument is simple: the longer that both members of a civilian-military dyad are posted to the same relatively small geographical region, the greater the chance that they have some type of relationship, whether serving on common administrative bodies, otherwise working together, or perhaps socializing (Backstrom, Sun, and Marlow 2010; Rivera, Soderstrom, and Uzzi 2010; Crandall, Backstrom, Cosley, Suri, Huttenlocher, and Kleinberg 2010; Cho, Myers, and Leskovec 2011; Zhuang, Chin, Wu, Wang, Wang, and Tang 2012; Sadilek, Kautz, and Bigham 2013; Xiao, Zheng, Luo, and Xie 2014; Li, Wong, and Yu 2015; Yu 2015; and especially dos Santos, Furtado, Alvares, Pelekis, and Bogorny 2015). Obviously, there are no guarantees that being in the same place for a certain number of years covaries with having a relationship – indeed, we would put the odds as fairly long – but as long as the region in question is relatively small and the military officer in the dyad ends up at a higher rank, there is a presumably nonzero chance of having a relationship, with that chance rising with the length of time the dyad is in that place.[3]

[3]Below we discuss the level of granularity for regions and the minimum rank for military officers. The logic of the latter criterion is that all officers above the rank of colonel must be party members, which means that cadres may meet not just in the course of state-related activities but in party-related ones as well. Note that the above-cited literature on the covariation of geographical propinquity with social relations is, for the most part, interested in how the latter lead to the former, i.e., how people with ongoing social relations are likely to arrange to be in the same physical location from time to time (though the Crandall, Backstrom, Cosley, Suri, Huttenlocher, and Kleinberg 2010 and the dos Santos, Furtado, Alvares, Pelekis, and Bogorny 2015 pieces are exceptions). Our concern is with the reverse causal pathway, but if we assume that, as per the propinquity literature, that face-to-face encounters further strengthen existing social ties, the use of extended periods of common location as an indirect indicator of access is not unreasonable.

4 Data construction: China 1976-present

To assess the hypotheses on the role of access in career advancement, we have taken advantage of a recently constructed information source, the Communist Political Elite Database (CPED: http://cped.nccu.edu.tw/). This compendium constructed from numerous biographical and other sources, has entries for all of China's leaders, since 1949, who ended up at or above the level of vice-provincial leader. Of the more than 6,000 individuals catalogued, some 1100 are in the military, ending up with high rank (most as the Chinese equivalent of 2- or 3-star generals). From the CPED, we hand-coded random samples of some 190 civilian cadres and 126 military officers (the latter sample was larger than a strict ratio would have suggested to increase the chances of finding civilian-military dyads); focusing on individuals who began their careers on or after 1976 (the year that Mao died, thus after the initial revolutionary period and the turmoil of the Great Leap Forward and the Cultural Revolution).[4] Each individual's job title and prefectural location were entered for each year from the start to the end of his career.[5] From the job title, ordinal scales were constructed for both sets of officials, with the civilian scale running from 1 (at or below the level of vice provincial leader) to 4 (national level) and with the military one running from 1 (below the Chinese equivalent of 1-star general) to 4 (the Chinese equivalent of 3-star general).[6]

Our hypotheses involve two variables: career advancement and having one or more "buddies" in the other bureaucracy. The simplest way of measuring career advancement is to take the number of years between the start of an official's career and the moment at which he attained the rank of either provincial leader (2 on our scale) for civilians, or 1-star general for the military (2 on our scale): the shorter the number of years, the more rapid the advancement. An alternative measure, one that does not take account of time, is simply to use either the highest rank achieved (although since most officials do not advance to the top, the distribution of this measure is highly skewed) or the mean rank achieved. A third possibility, which combines the speed of ascent with maximum height, draws on work on "trajectories" of personal or career paths (e.g., Nagin and Tremblay 2001; Piquero 2008). Using TraMineR (Gabadinho, Ritschard, Müller, and Studer 2011), an R package developed to analyze discrete sequence data (notably on life trajectories), we can represent the career trajectory for each of the 190 civilian cadres in our sample (see Figure 1). Most cadres begin their career at some point between the ages of 16

[4] We will subsequently code the entire CPED; this paper is in the nature of a "proof of concept."

[5] We have chosen the prefectural level because it is sufficiently granular that civilian and military cadres have some chance of meeting and working together. Various studies of the PLA show extensive activity at this level, even if it does not correspond 100% to the military's own geographical-administrative arrangements (Swaine 1992; Paltiel 1995; Hague 2004; Bo 2009; Guo 2012, ch. 7; and Miller 2015).

[6] There is indirect evidence (see the discussion below of Figures 1 and 2) that this scale is too coarse, notably as concerns the large number of cadres who spend many years at the bottom rank of 1. In subsequent work, we will experiment with more a more fine-grained ordinal scale, particularly on the low end.

and 24 and then proceed to climb the ladder to higher rank. As Figures 1 and 2 show, most do not get promoted beyond the level of vice-provincial leader until at least their 30s, with a relatively small number finishing their careers at much higher rank. Cluster analysis of these different trajectories reveals several characteristic career advancement profiles: bottom feeders who pass their entire career at level 1 (cluster 1 in Figure 3), late starters who move up to level 2 fairly quickly (cluster 3), steady advancers who keep moving at the same speed throughout their career (cluster 2), and time servers who, at the end of their career, finally make it to the next level (cluster 4). Although there is no simple intuitive way of scaling these profiles, we can use them to compute a career-long characteristic, "turbulence," a concept which captures the extent to which an official's career involves rapid advancement (Elzinga and Liefbroer 2007).[7]

The "buddy" variable is based on the idea of common location. We calculate the number of years each civilian cadre is stationed in the same prefecture as each military officer, expressed as a percentage of the civilian official's total career years, then weight that fraction by the military officer's rank.[8] There are multiple measures we can calculate from this weighted propinquity information, but we have opted for two: the maximum buddy score, across all officers, for each cadre (this gets at a sort of patron), and the mean buddy scores, as a kind of portfolio. Strictly speaking, the second of these measures is more along the lines of an ego-net characteristic, whereas the first is dyadic. The coefficient of a univariate regression (without a constant) of the first on the second variable is equal to 6.797, with an associated t-statistic of 34.

The end result of data construction is that we have one measure of career advancement for civilian cadres to run against two measures of military buddies, and, for the second hypothesis, one measure of career advancement for military officers to run against two measures of civilian buddies. Summary statistics for the civilian cadre cross-sectional dataset are presented in Table 1, and for the corresponding military officer dataset in Table XX. Histograms of the two dependent variables and the two buddy variables, for civilian cadres and military officers are presented in Figures 4 and XX, respectively.

[7]To be specific, turbulence goes up with the number of distinct states in a sequence (here, ranks) and down with the variance of time spent in each state (here, if a cadre spends most of his time at a single rank). Another composite measure combining advancement and speed is "complexity," which is based on the number of promotions and the entropy (qua diversity) of each rank; since cadres almost never go down in rank, this measure is less appropriate for analysis of career advancement. Nonetheless, just for information purposes, we ran regressions not only on turbulence, but also on complexity and other, single-dimensional measures of career advancement; the results were broadly similar to those for turbulence.

[8]In fact, we use two weights: one for the officer's rank at the time of joint stationing, the other for the maximum rank achieved by the officer. The first gives us information about what the officer is able to do for the cadre at the time of joint stationing; the second about whether someone who ends up highly ranked might be able to pull the cadre along at various times. We use the second weight when calculating a maximum buddy score (see below), because it corresponds intuitively to the notion of a patron-like figure pulling a client with him. We use the first weight when calculating a more network-style concentration score for a portfolio of buddies, since for a large number of buddies, the access they provide is likely to be more contemporaneous than that of a career-long patron.

5 Results

5.1 Cross-sectional regressions

5.1.1 Civilian cadres with military buddies

We begin by looking at the whether civilian cadres are more likely to advance in their careers if they have military buddies. To do this, we run simple OLS regressions with the LHS being the turbulence score or the number of years spent at rank 1, and the key RHS variable a buddy score.

The principal results are presented in Tables 2 and 3, and Figure 5. Column (1) of Table 2 and the left-hand panels of Figure 5 show clearly that cadres with a single, high-ranking military buddy ("Military patron buddy score") are able to use the latter as a sort of patron to advance their careers. Having a patron is helpful at a high level of statistical significance, with an increase of 1 standard deviation in the patron score raising the turbulence score by 7.78%.

Another way to represent the size of this effect is in terms of years in rank (where the regression involves replacing turbulence by the number of years spent at rank 1 as the LHS variable). This is done in column (1) of Table 3: an increase of 1 standard deviation in the patron score means that a cadre spends 1.22 years less at rank 1; an inter-quartile range (IQR) increase in the patron score results in the cadre spending 2 years less at rank 1; and, quite significantly, a shift from having no military buddies to the maximum number of buddies shortens time at rank 1 by almost 4 years. In other words, having a military buddy has not only statistically significant effects on civilian advancement but substantively significant one as well.

A similar result holds for the military mean buddy score, which is a measure of a civilian cadre's portfolio of access relationships. As indicated in column (2) in Tables 2 and 3, and in the right-hand panels of Figure 5, having a high military mean buddy score is important for career advancement, with the quantitative effects of a one standard deviation, IQR and zero to maximum increases in the military mean buddy score on turbulence and years spent at rank 1 being roughly similar to the effects of increases in the military patron measure.

Note that these results are not only robust to the inclusion of covariates, but actually strengthened by doing so. Consider our benchmark results of the impact of the military patron and mean scores on civilian cadre career turbulence and years spent at rank 1. We add (i) whether the cadre has spent in Beijing as a rank 1 official (since the buddy scores might simply be proxying having been posted to Beijing), (ii) a dummy variable which is equal to 1 when the cadre is Han (86% of the sample is), (iii) a dummy variable that is equal to 1 when the cadre is a member of the Communist Youth League (a growing Chinese literature has documented the importance of the CYL in career advancement in

China, and 20% of the sample are CYL members), (iv) a Communist Party membership dummy (85% of the cadres in the sample are members), (v) 3 educational attainment dummies, (vi) a female dummy (8% of the cadres in the sample are women), (vii) and a dummy variable which is equal to 1 when the cadre has studied abroad.

Results for turbulence are reported in columns (3), (4) and (5) of Table 2, and in the same columns of Table 3 for years spent at rank 1. As should be obvious from the results, controlling for covariates leads to much larger quantitative impacts of having either a military patron or a network of military buddies, with the network effect dominating the patron effect when a direct horse race is run between the two (as is done in column (5) of both Tables 2 and 3). Ceteris paribus, and based on our preferred results in column (4) of Table 3 a 1-standard deviation increase in a cadre's military mean buddy score decreases the amount of time spent at rank 1 by 2.65 years and an interquartile increase in the buddy score decreases the wait before attaining rank 2 by 4.74 years, whereas moving from having no buddies at all to having the highest mean buddy score in the sample decreases the wait by 8.57 years. This is a genuinely massive impact.

Note also that accounting for the integer nature of the time spent at rank 1 variable by adopting a negative binomial specification leads to virtually identical empirical results: this is in all likelihood due to the relatively symmetric distribution of this dependent variable which, as shown by the histogram presented in the top right panel of Figure 4, is *not* at all skewed.[9] Moreover, a semi-parametric counterpart to column (4) of Table 3, which is presented in Figure 6, shows that the basic result does not hide significant non-linearities, although most of the impact of the military mean buddy score stems from the lower scores. Finally, the statistically significant and quantitatively large impact of the military mean buddy score is relatively constant across the quantiles of the dependent variable, as is illustrated by the quantile regression results reported in Figure 7.

5.1.2 Military officers with civilian buddies

Consider now the reverse relationship: the effect on a military officer's career of having access to civilian cadres. To begin with, the range and distribution of career paths among officers is different than among civilians. This can be seen, first, by looking at Figures 8 and 9, which show, by contrast with the civilian paths (Figures 1 and 2, discussed above), that almost all military officers end up at one of the top two ranks and spend roughly the same amount of time as their peers in climbing to those rank. This is why, when we cluster trajectories (Figure 10), each cluster has only a single profile, with the amount of time in the lower two ranks being fairly similar across clusters; the only real difference is between the majority of officers (85), who end up at rank 3, and those who plateau at rank 2 (30) or make it all the way to the top (10). Thus, the military officers

[9]Results not presented in the interest of brevity but available upon request.

in the CPED are, relatively speaking, more elite, or at least more successful at career advancement, than their civilian counterparts in the database.

If we turn now to access relations, we see a similar picture as with civilians. Table XXX and Figure XXX show that having a high-ranking civilian buddy, a sort of patron, is helpful to military officers; but, as compared with civilians, the coefficient is roughly twice as large.

IMPOSSIBLE TO GO ANY FURTHER HERE BECAUSE
WE DO NOT HAVE THE COVARIATES FOR THE MILITARY OFFICERS

What the results for both hypotheses seem to indicate is that access runs two ways: civilian cadres can use military officers to help their careers advance, just as officers can use cadres for their advancement. However, the access in question involves high-ranking patrons, not a large number of smaller fry. In one sense, these results track what we know about patron-client relations in different settings and are concordant with the literature, mentioned above, about promotion patterns inside the Chinese civilian bureaucracy. The results are also compatible with accounts of political control by the party over the military, even though the mechanism here is both lower-level and more ubiquitous than the institutional means discussed in those accounts. However, what is slightly less expected is the influence of military patrons on civilian advancement. Although access relations like this are perfectly reasonable, the more general phenomenon has largely been elided in the literature on civil-military relations in nondemocratic regimes which are not military dictatorships.[10]

5.1.3 Intra- versus inter-group access

If in fact access works in both directions, then the obvious follow-up question is whether inter-group access is more useful than intra-group access: how much help can a civilian cadre get from a military officer, as opposed to a civilian patron, and vice versa? To begin to explore this, we extended our methodology to calculate intra-group buddy scores for civilian cadres. Regressing civilian advancement on civilian, rather than military, buddies gives a similar picture, as is shown in Table 4 for the number of years spent by civilian at rank 1 (results are similar for the career turbulence measure): civilian patrons and networks are, unsurprisingly, helpful for civilian advancement.

What is more interesting is when we look at the effects, for civilian advancement, of having both civilian and military patrons and networks. Table 5 presents the results, for the determinants of the number of years spent at rank 1, where the RHS includes

[10]The one exception is the first decades after a revolution, in which it is customarily expected that military leaders, active in combat operations prior to the taking of power, will continue to play a large role. This is why we deliberately chose the post-1976 period for our analysis, so that any such phenomena will presumably have been attenuated, if not actually died out.

both kinds of patrons and networks, as well as various interaction and squared differences terms.

Experimentation with various specifications revealed two leading cases. The first, presented in columns (1) and (2) of Table 5, is characterized by the key role played by the difference between the military and civilian patron scores, squared. Both the military and civilian patron buddy scores are statistically significant determinants of years spent at rank 1 for civilian cadres, and the coefficient associated with the squared difference is positive, meaning that if a civilian cadre has both a military and a civilian patron, the cadre will do worse if the two patrons are of *different* rank relative to each other. The interpretation of this finding is obvious in terms of jousts over clients.

The second, presented in columns (3) and (4) of Table 5, involves the marginal effect of the military mean buddy score being a function of the other buddy scores. A higher civilian mean buddy score systematically increases the (negative) marginal effect of the military mean buddy score on time spent by the cadre at time 1: having a network of civilian buddies in conjunction with a network of military buddies therefore *mitigates* the career-accelerating effect of the latter (column (3)). Conversely, having a strong military or a civilian patron *enhances* the career acceleration induced by a strong network of military buddies (columns (3) or (4)).

5.2 Dyadic regressions

Who benefits more from the buddy relationship, the civilians or the military?

I AM CURRENTLY WORKING ON A FIRST DRAFT OF SECTION 5.2.1

5.2.1 Time-invariant dyads

Let the conditional mean of the benefits y_i to the buddy relationship (measured in terms of turbulence or years spent at rank 1, as above) be given by:

$$y_i = b_{ij}\beta_c + \lambda_i + \epsilon_{ij}, \tag{1}$$

where $i = 1, ..., I$ is a civilian cadre and b_{ij} is the buddy relationship (a dummy variable equal to 1 when i and j have a non-zero buddy relationship, and 0 otherwise) and consider a similar conditional mean for military officers $j = 1, ..., J$:

$$y_j = b_{ij}\beta_m + \mu_j + \eta_{ij}. \tag{2}$$

We write this as a dyadic specification, in terms of the mean benefits to the dyad and the difference in benefits:

$$\frac{y_i + y_j}{2} = b_{ij}\gamma_1 + \frac{\lambda_i + \mu_j}{2} + \frac{\epsilon_{ij} + \eta_{ij}}{2}, \tag{3}$$

$$y_i - y_j = b_{ij}\gamma_2 + (\lambda_i - \mu_j) + (\epsilon_{ij} - \eta_{ij}). \tag{4}$$

$$\gamma_1 = \frac{\beta_c + \beta_m}{2}, \gamma_2 = \beta_c - \beta_m \tag{5}$$

Marginal benefit can depend on covariates, which themselves may be dyadic

5.2.2 Time-varying dyads

$$y_{it} = b_{ijt}\beta_c. \tag{6}$$

Cumulative buddy scores with each individual (with or without depreciation)

6 Conclusion

It is apparent from the above results that access is a genuine below-the-radar facet of how civilian cadres and military officers relate to each other. Of course, the results presented here are preliminary in any number of ways, not least concerning the size of the sample and the choice of certain measures. Nonetheless, they suggest that civil-military relations, not only in post-Mao China, but in other nondemocratic, nonmilitary dictatorship countries, are likely to involve mutual influence (and not only on careers) rather than be asymmetric in nature.

Beyond these findings, the methodology is also promising for future research. Geographical propinquity not only provides the opportunity for interpersonal relationships but, as a measurement proxy, poses a potentially useful alternative to standard questionnaires or anecdotal accounts. Given how commonly research efforts are premised on these latter methods, it is worth pursuing location-based measures. Similarly, the use of tools from the study of sequences is of potentially broader utility. Many social phenomena are not only time-indexed but sequential, and is interesting to explore ways in which they can be analyzed as wholes.

Finally, the dyadic approach taken here is worth following up. Patronage relations are hardly the only everyday dyadic links: one can also study phenomena ranging from friendship to rivalry. Provided that one can either identify dyads or, as we have done here, isolate some of them as promising, there are any number of domains for future research.

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Table 1: Summary statistics: civilian cadre cross-sectional data.

Statistic	N	Mean	St. Dev.	Min	Max
			Career progression		
Turbulence	190	5.533	1.713	2.000	10.622
Years at rank 1	190	24.474	6.167	2	40
Mean rank over career	190	1.290	0.210	1.000	2.150
Maximum rank attained	190	1.968	0.513	1	4
Transitions	190	0.989	0.573	0	4
Subsequences	190	9.800	7.502	4	66
Entropy	190	0.379	0.192	0.000	0.898
Complexity	190	0.095	0.050	0.000	0.288
Years at rank 2	163	9.362	3.920	1	25
Years at rank 1 or 2	163	32.939	5.423	8	40
			Covariates		
Years in Beijing	190	10.421	12.356	0	40
Years in Beijing at rank 1	190	7.100	9.864	0	35
Beijing posting at rank 1	190	0.432	0.497	0	1
Han	190	0.868	0.339	0	1
Communist Youth League member	190	0.205	0.405	0	1
Chinese Communist Party member	190	0.853	0.355	0	1
Educational attainment	190	3.758	0.558	1	4
Female	190	0.084	0.278	0	1
Studied abroad	190	0.153	0.361	0	1
			Buddy scores		
Military patron buddy score	190	1.380	1.086	0.000	3.343
Military mean buddy score	190	0.163	0.175	0.000	0.567
Civilian patron buddy score	190	0.871	0.383	0.109	1.749
Civilian mean buddy score	190	0.083	0.082	0.0002	0.245

Table 2: Inter-group access: determinants of turbulence of civilian cadre careers (standard errors in parentheses).

	Estimator: OLS				
	(1)	(2)	(3)	(4)	(5)
Military patron BS	0.396***		0.417**		−0.0003
	(0.111)		(0.167)		(0.229)
Military mean BS		2.814***		3.664***	3.665***
		(0.682)		(1.001)	(1.395)
Beijing at rank 1			−0.281	−0.578	−0.577
			(0.356)	(0.352)	(0.368)
Han			0.514	0.552	0.552
			(0.383)	(0.373)	(0.377)
CYL member			−0.017	0.032	0.032
			(0.307)	(0.301)	(0.302)
CCP member			−0.685*	−0.699*	−0.699*
			(0.362)	(0.355)	(0.356)
Ed. attainment 2			−2.007	−1.760	−1.760
			(1.384)	(1.361)	(1.365)
Ed. attainment 3			−1.530	−1.221	−1.221
			(1.274)	(1.253)	(1.259)
Ed. attainment 4			−1.977	−1.640	−1.640
			(1.232)	(1.214)	(1.219)
Female			0.139	0.161	0.161
			(0.443)	(0.434)	(0.436)
Studied abroad			0.943***	1.014***	1.014***
			(0.347)	(0.339)	(0.342)
Constant	4.986***	5.073***	6.955***	6.690***	6.690***
	(0.195)	(0.163)	(1.142)	(1.125)	(1.128)
	Effect on career turbulence (as a percentage of mean turbulence) of an increase in the military patron buddy score:				
- of 1 std. dev.	7.78		8.19		−0.01
- equal to IQR	12.95		13.63		−0.01
- from 0 to max	23.95		25.2		−0.02
	Effect on career turbulence (as a percentage of mean turbulence) of an increase in the military mean buddy score:				
- of 1 std. dev.		8.92		11.62	11.62
- equal to IQR		15.97		20.79	20.79
- from 0 to max		28.83		37.53	37.54
Observations	190	190	190	190	190
Adjusted R^2	0.058	0.078	0.119	0.152	0.147
Note:					*p<0.1; **p<0.05; ***p<0.01

Table 3: Inter-group access: determinants of years spent by civilian cadres at rank 1 (standard errors in parentheses).

	Estimator: OLS				
	(1)	(2)	(3)	(4)	(5)
Military patron BS	-1.127^{***}		-2.064^{***}		-0.662
	(0.406)		(0.614)		(0.842)
Military mean BS		-7.715^{***}		-15.114^{***}	-12.311^{**}
		(2.502)		(3.690)	(5.133)
Beijing at rank 1			2.947^{**}	3.644^{***}	3.942^{***}
			(1.305)	(1.298)	(1.353)
Han			-1.500	-1.758	-1.628
			(1.405)	(1.377)	(1.388)
CYL member			-2.150^{*}	-2.289^{**}	-2.316^{**}
			(1.124)	(1.110)	(1.112)
CCP member			2.683^{**}	2.678^{**}	2.732^{**}
			(1.328)	(1.308)	(1.311)
Ed. attainment 2			6.823	5.966	5.990
			(5.074)	(5.015)	(5.020)
Ed. attainment 3			4.180	2.888	3.141
			(4.673)	(4.616)	(4.632)
Ed. attainment 4			5.330	4.067	4.197
			(4.517)	(4.475)	(4.483)
Female			-1.663	-1.820	-1.734
			(1.625)	(1.599)	(1.604)
Studied abroad			-1.689	-2.045	-1.928
			(1.272)	(1.249)	(1.259)
Constant	26.028^{***}	25.734^{***}	20.752^{***}	21.639^{***}	21.644^{***}
	(0.712)	(0.599)	(4.188)	(4.146)	(4.150)
	Effect on years spent at rank 1 of an increase in the military patron buddy score:				
- of 1 std. dev.	-1.22		-2.24		-0.72
- equal to IQR	-2.04		-3.73		-1.2
- from 0 to max	-3.77		-6.9		-2.21
	Effect on years spent at rank 1 of an increase in the military mean buddy score:				
- of 1 std. dev.		-1.35		-2.65	-2.16
- equal to IQR		-2.42		-4.74	-3.86
- from 0 to max		-4.37		-8.57	-6.98
Observations	190	190	190	190	190
Adjusted R^2	0.034	0.043	0.085	0.110	0.109

Note: *p<0.1; **p<0.05; ***p<0.01

Table 4: Intra-group access: determinants of years spent by civilian cadres at rank 1 (standard errors in parentheses).

	Estimator: OLS				
	(1)	(2)	(3)	(4)	(5)
Civilian patron BS	−2.811**		−3.892***		−0.835
	(1.157)		(1.462)		(1.858)
Civilian mean BS		−13.767**		−33.066***	−29.808**
		(5.426)		(8.856)	(11.458)
Beijing at rank 1			1.479	3.953***	3.906***
			(1.115)	(1.433)	(1.440)
Han			−2.160	−2.015	−2.036
			(1.409)	(1.384)	(1.388)
CYL member			−2.228*	−2.522**	−2.547**
			(1.144)	(1.129)	(1.133)
CCP member			2.175	2.967**	2.876**
			(1.339)	(1.327)	(1.345)
Ed. attainment 2			8.580*	6.318	6.629
			(5.131)	(5.047)	(5.106)
Ed. attainment 3			5.741	3.359	3.786
			(4.766)	(4.645)	(4.751)
Ed. attainment 4			7.080	4.552	4.915
			(4.577)	(4.500)	(4.581)
Female			−1.953	−1.929	−1.916
			(1.639)	(1.610)	(1.613)
Studied abroad			−2.136*	−1.894	−1.926
			(1.281)	(1.259)	(1.264)
Constant	26.920***	25.610***	21.337***	21.303***	21.519***
	(1.100)	(0.629)	(4.275)	(4.171)	(4.208)
	Effect on years spent at rank 1 of an increase in the civilian patron buddy score:				
- of 1 std. dev.	−1.08		−1.49		−0.32
- equal to IQR	−1.69		−2.33		−0.5
- from 0 to max	−4.61		−6.38		−1.37
	Effect on years spent at rank 1 of an increase in the civilian mean buddy score:				
- of 1 std. dev.		−1.12		−2.7	−2.43
- equal to IQR		−1.96		−4.71	−4.25
- from 0 to max		−3.37		−8.09	−7.29
Observations	190	190	190	190	190
Adjusted R^2	0.025	0.028	0.064	0.097	0.093

Note: *p<0.1; **p<0.05; ***p<0.01

Table 5: Intra- versus Inter-group access: determinants of years spent by civilian cadres at rank 1 (standard errors in parentheses).

	Estimator: OLS			
	(1)	(2)	(3)	(4)
Buddy scores				
Military patron	−3.299***	−2.150*		
	(1.013)	(1.151)		
Civilian patron	−2.942*			
	(1.698)			
(Military patron - Civilian patron)^2	1.952**	1.573*		
	(0.871)	(0.836)		
Military mean		−12.338**	−42.018***	−31.377***
		(5.097)	(9.495)	(9.961)
Military mean × Civilian mean			128.026***	576.214***
			(41.797)	(111.264)
Military mean × Military patron				−14.428**
				(6.024)
Military mean × Civilian patron				−48.382***
				(13.327)
Beijing at rank 1	3.620***	4.215***	3.819***	4.955***
	(1.318)	(1.352)	(1.270)	(1.256)
Han	−1.018	−1.060	−1.209	−0.924
	(1.422)	(1.411)	(1.357)	(1.293)
CYL member	−1.832	−1.870*	−1.902*	−1.484
	(1.138)	(1.129)	(1.092)	(1.044)
CCP member	2.268*	2.562*	2.719**	2.577**
	(1.323)	(1.305)	(1.278)	(1.218)
Ed. attainment 2	6.715	5.198	4.293	4.674
	(5.045)	(5.003)	(4.932)	(4.693)
Ed. attainment 3	4.521	2.428	1.140	3.334
	(4.671)	(4.615)	(4.548)	(4.354)
Ed. attainment 4	5.334	3.416	2.301	3.252
	(4.504)	(4.471)	(4.412)	(4.203)
Female	−1.561	−1.630	−1.493	−1.130
	(1.606)	(1.594)	(1.566)	(1.494)
Studied abroad	−1.561	−1.692	−1.368	−1.067
	(1.264)	(1.257)	(1.241)	(1.189)
Constant	22.593***	22.312***	23.485***	22.474***
	(4.207)	(4.136)	(4.097)	(3.904)
Observations	190	190	190	190
Adjusted R^2	0.107	0.121	0.150	0.231
Note:				*p<0.1; **p<0.05; ***p<0.01

Figure 1: Career trajectories: civilian cadres.

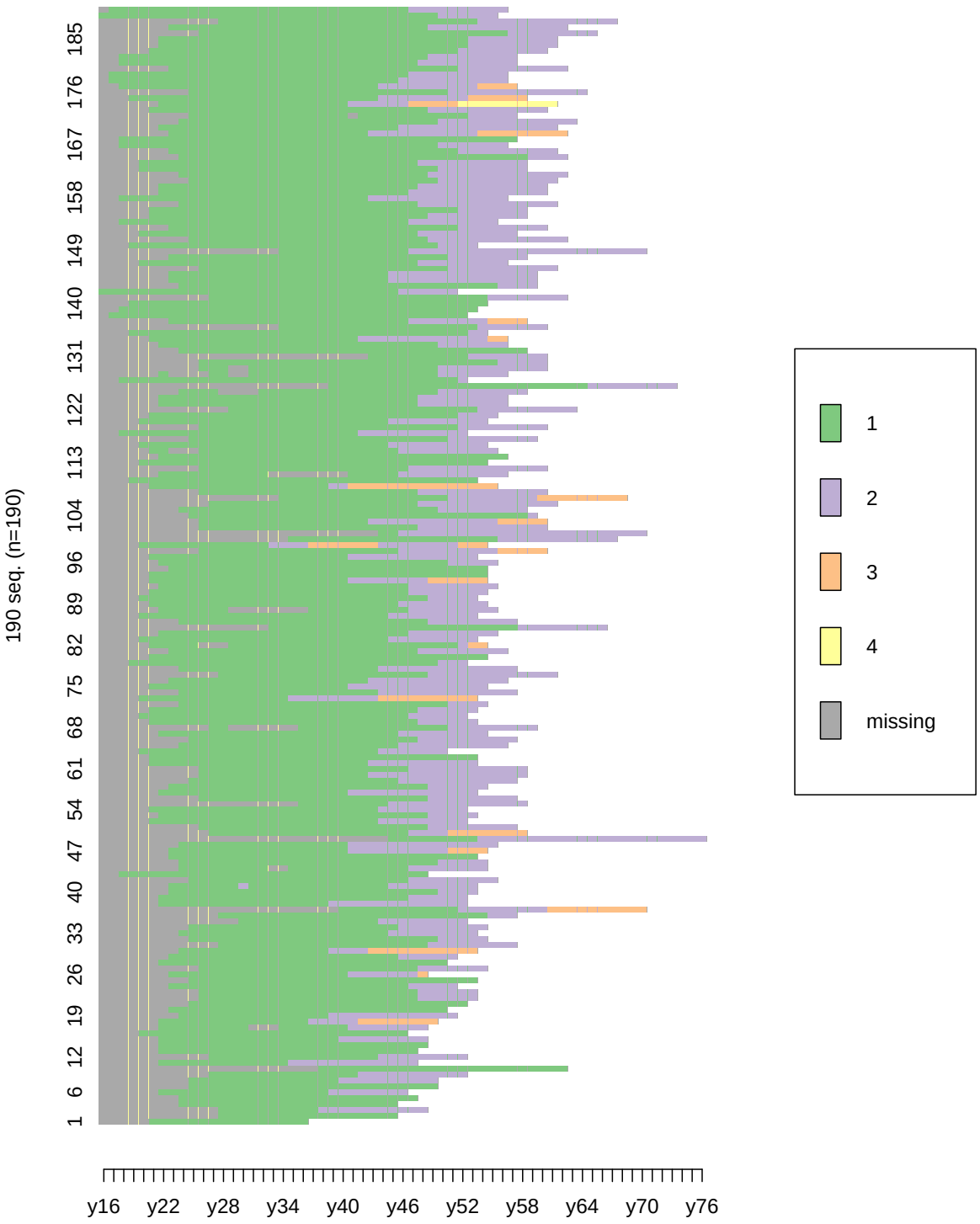

Figure 2: Transversal distribution of career trajectories: civilian cadres.

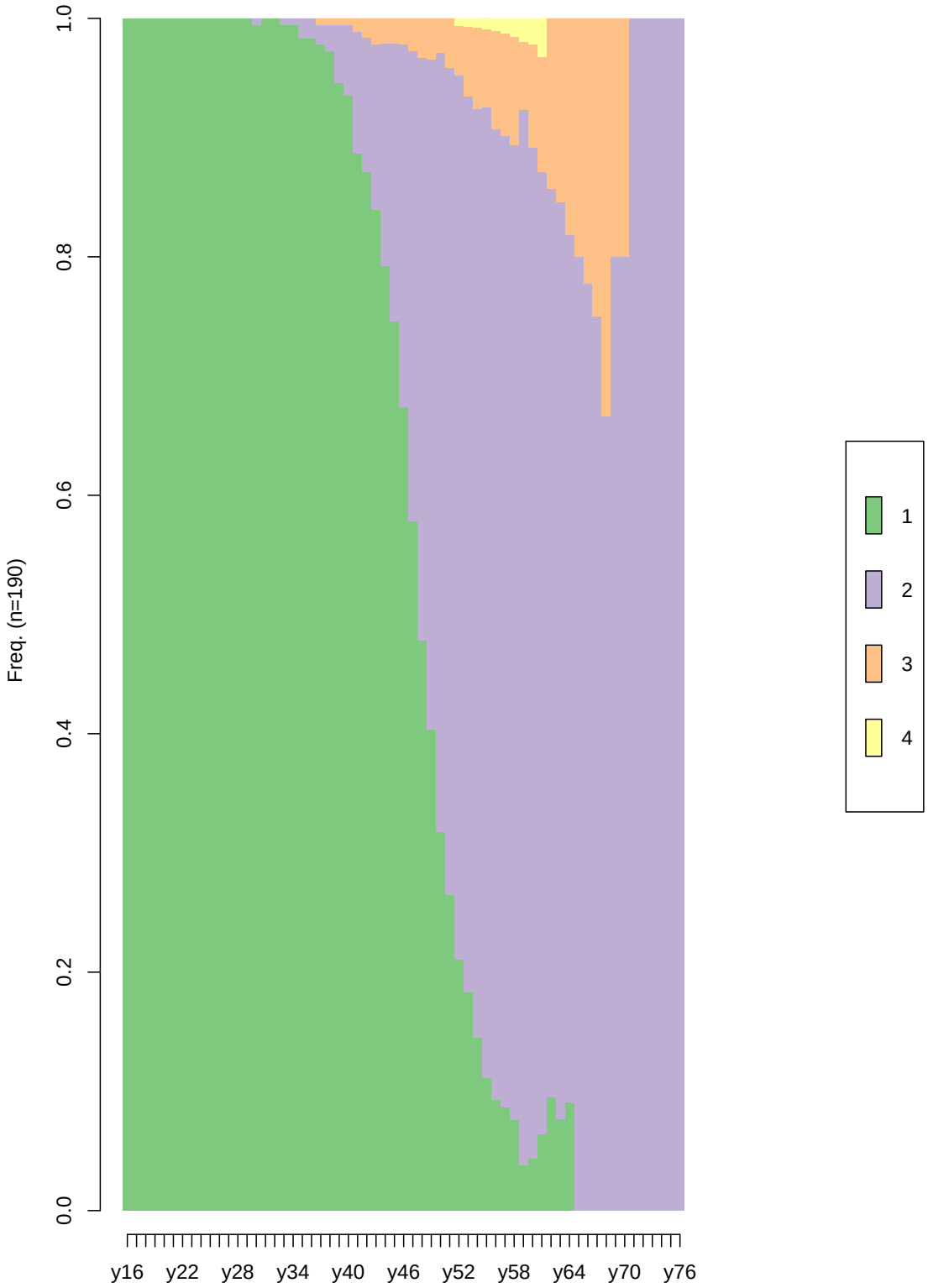

Figure 3: Clusters of career trajectories: civilian cadres.

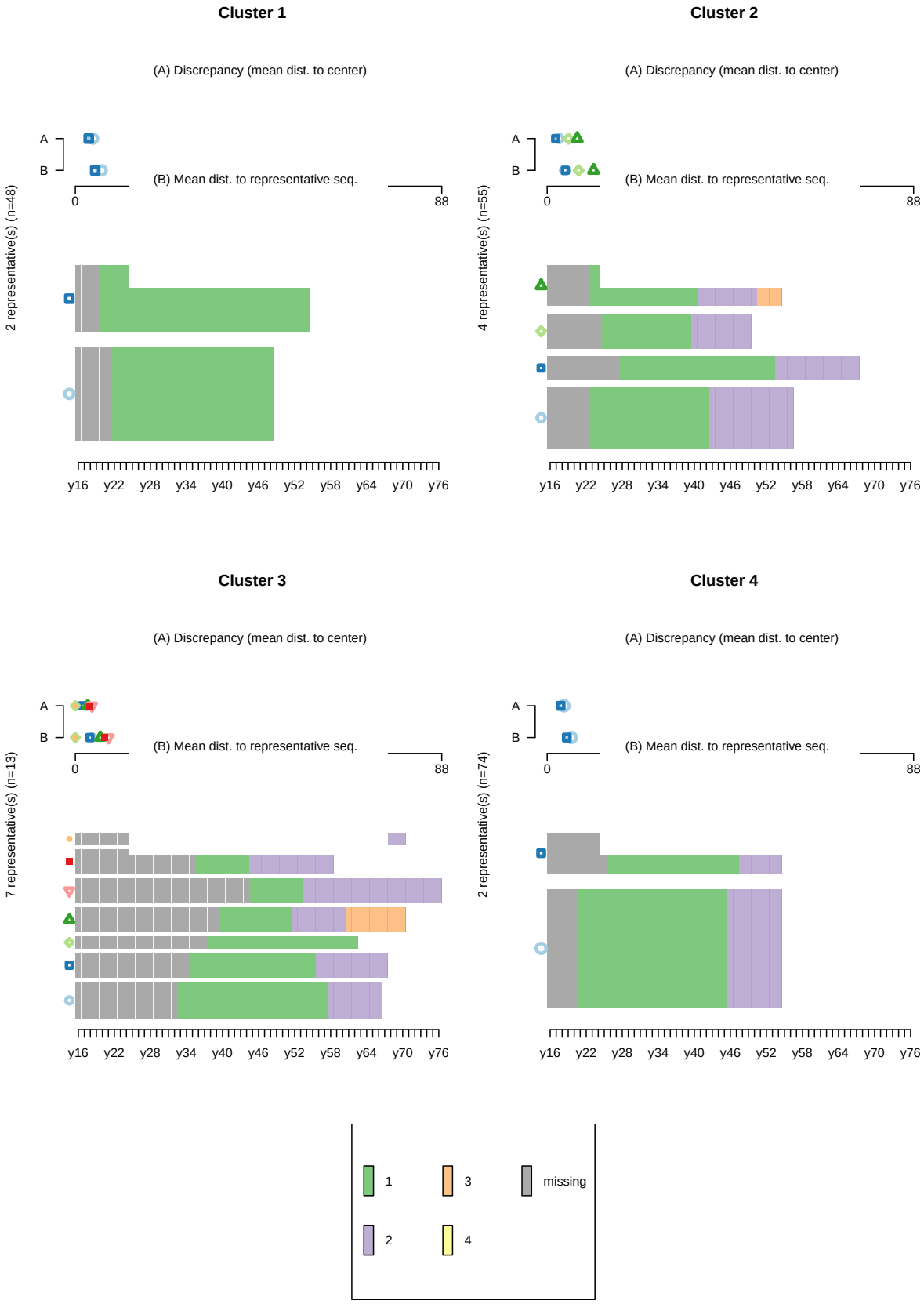

Figure 4: Histograms of turbulence, years spent at rank 1, military patron buddy scores and military mean buddy scores, for civilian cadres.

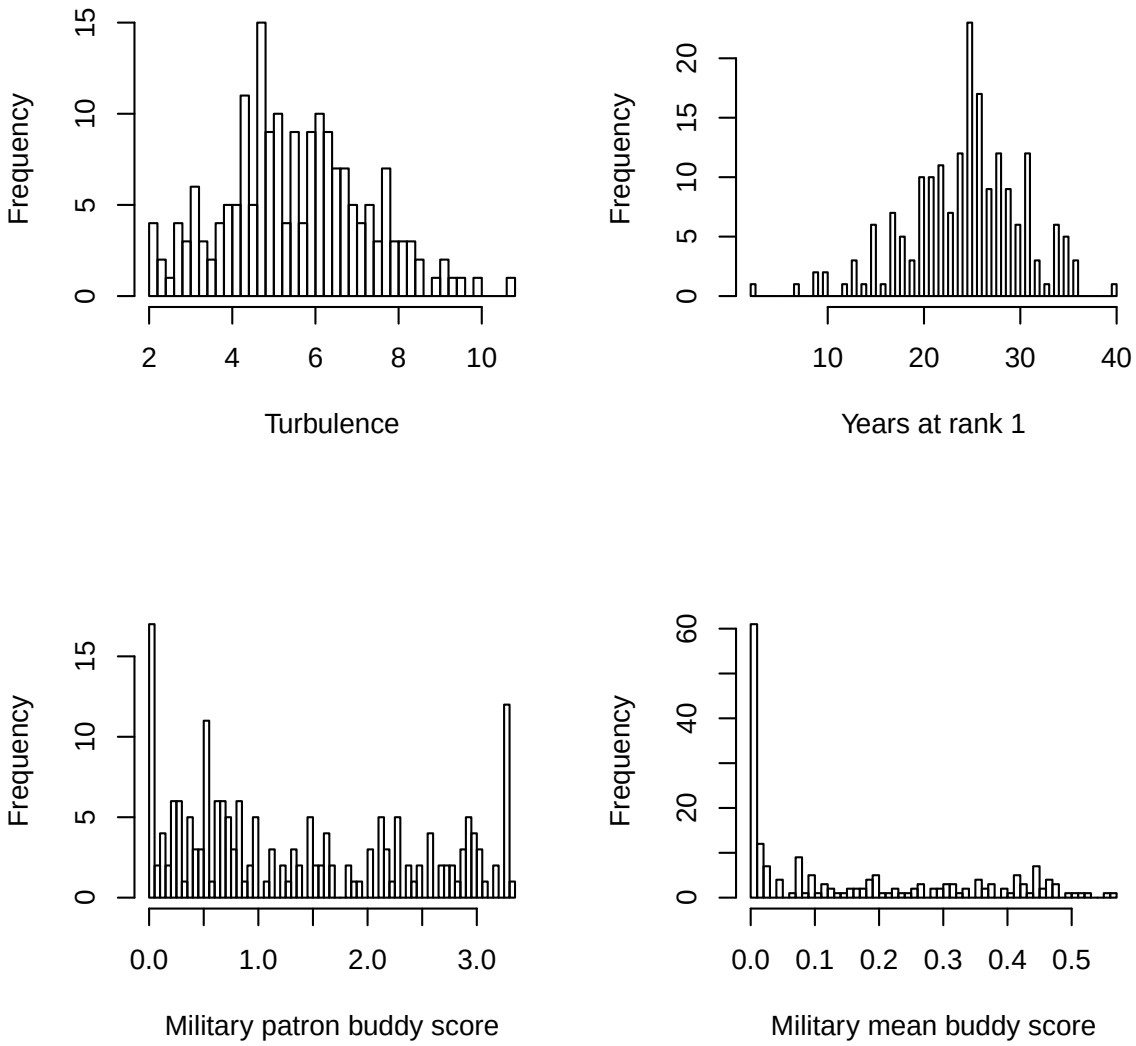

Figure 5: Simple correlations (the red line represents the fitted relationship from a univariate regression which includes a constant) of turbulence and years spent at rank 1 with military patron buddy scores and military mean buddy scores, for civilian cadres.

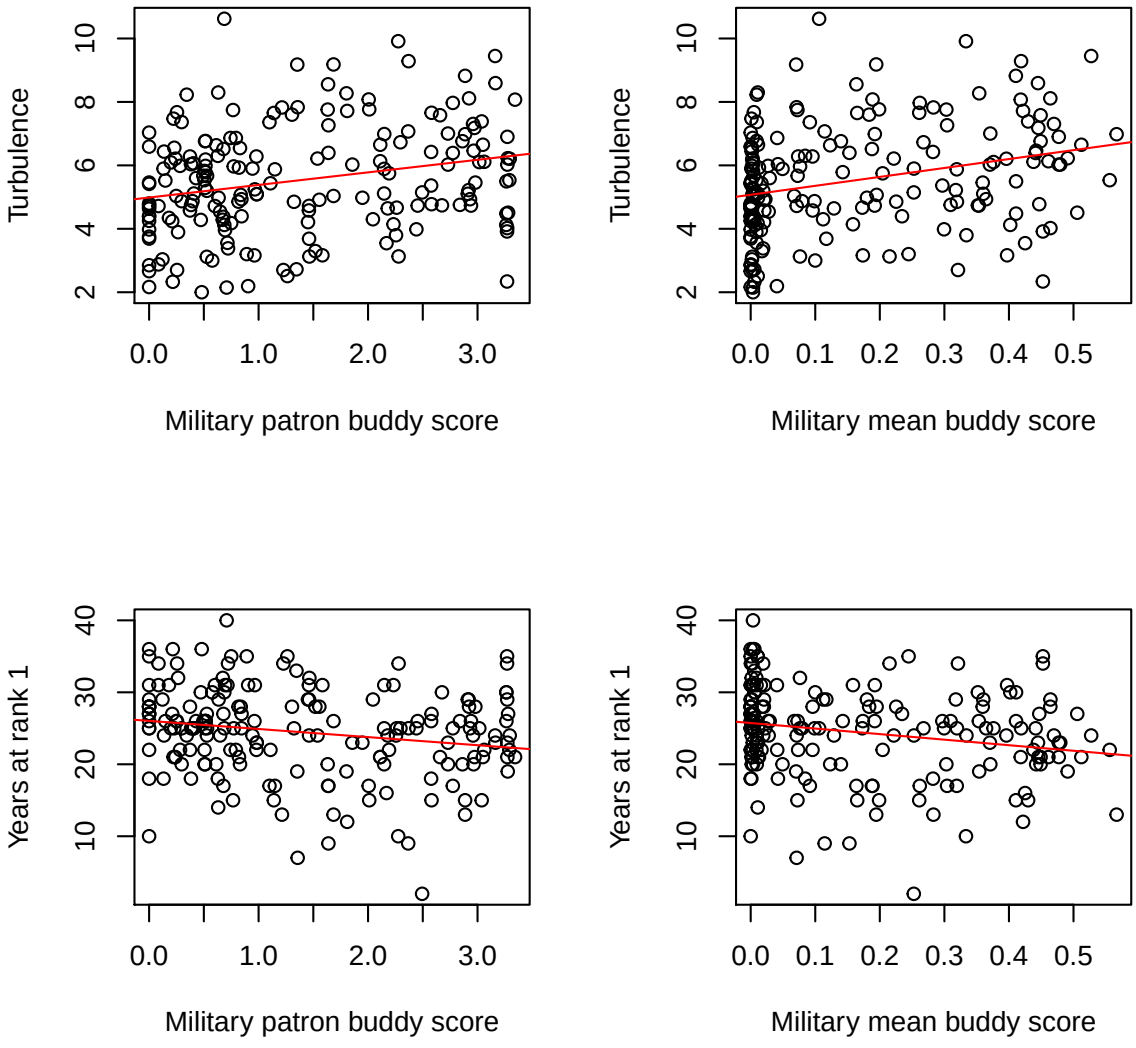

Figure 6: Semi-parametric specification of years spent at rank 1 as a function of the military mean buddy score. Covariates that enter linearly are the same as in column (4) of Table 3 (dotted lines are 95% confidence bands).

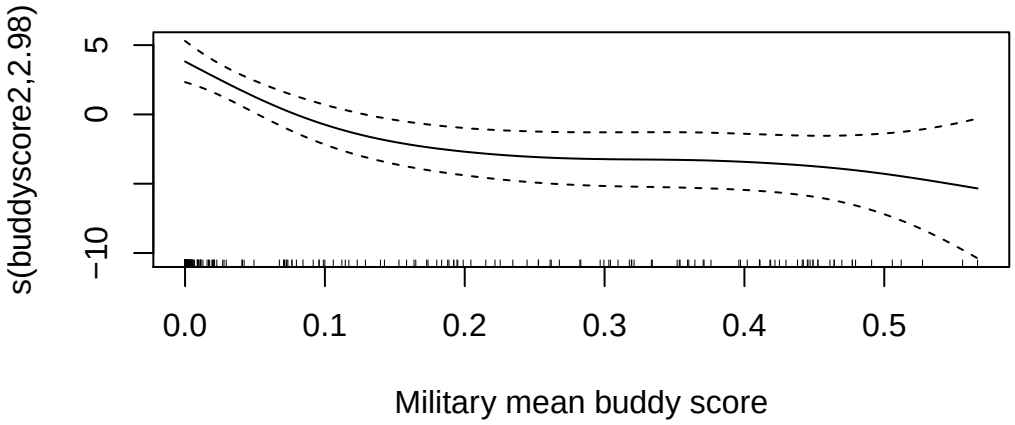

Figure 7: Quantile regression of years spent at rank 1 on the same covariates as in column (4) of Table 3: each black dot represents a coefficient associated with the military mean buddy score at the corresponding quantile (on the horizontal axis) of the dependent variable (95% confidence interval in grey; corresponding OLS coefficient with 95% confidence bands in red).

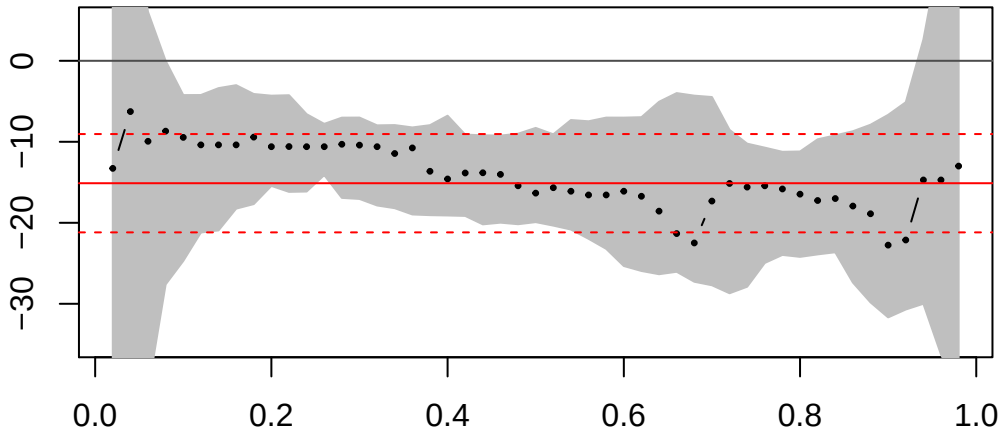

Figure 8: Career trajectories: military officers.

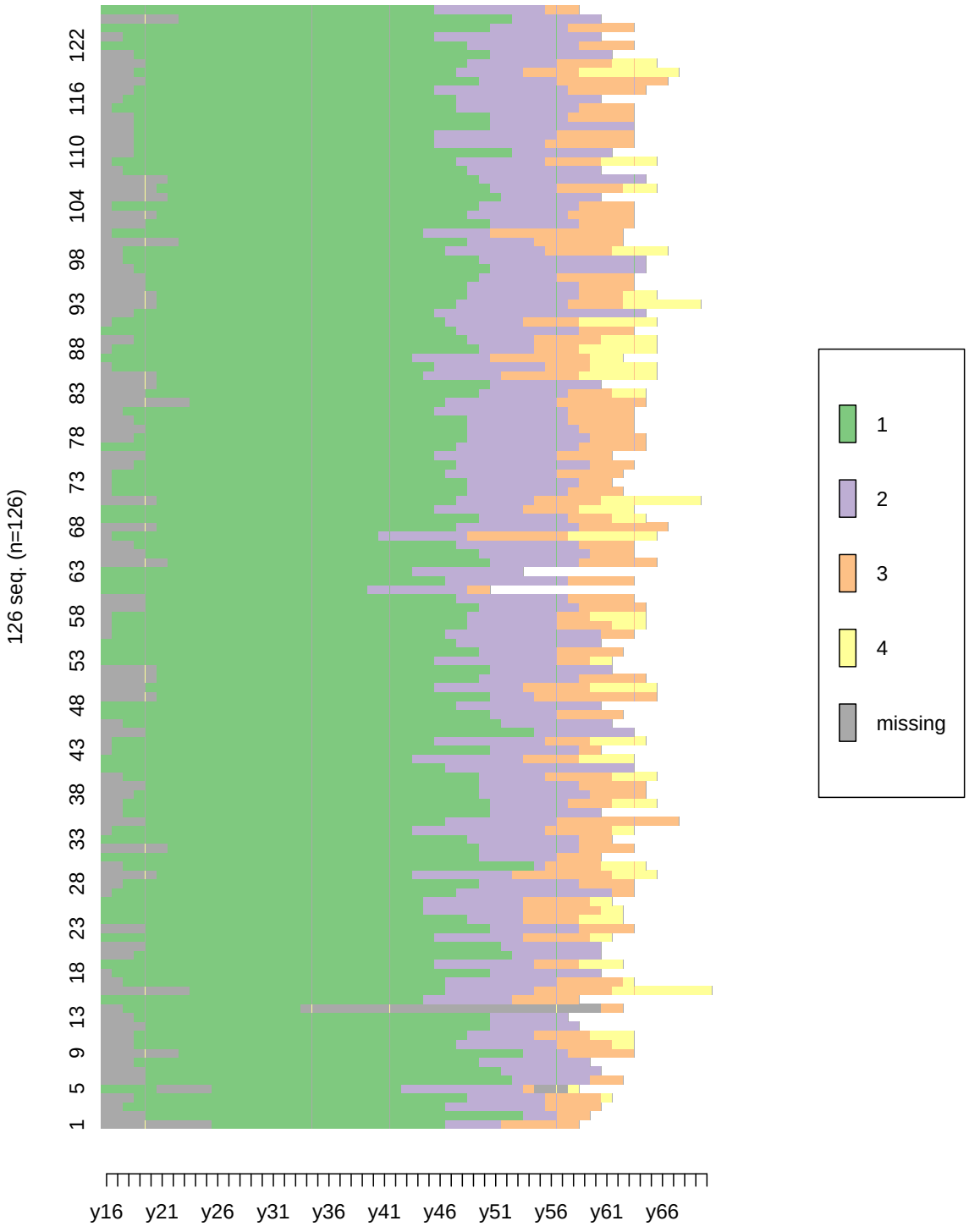

Figure 9: Transversal distribution of career trajectories: military officers.

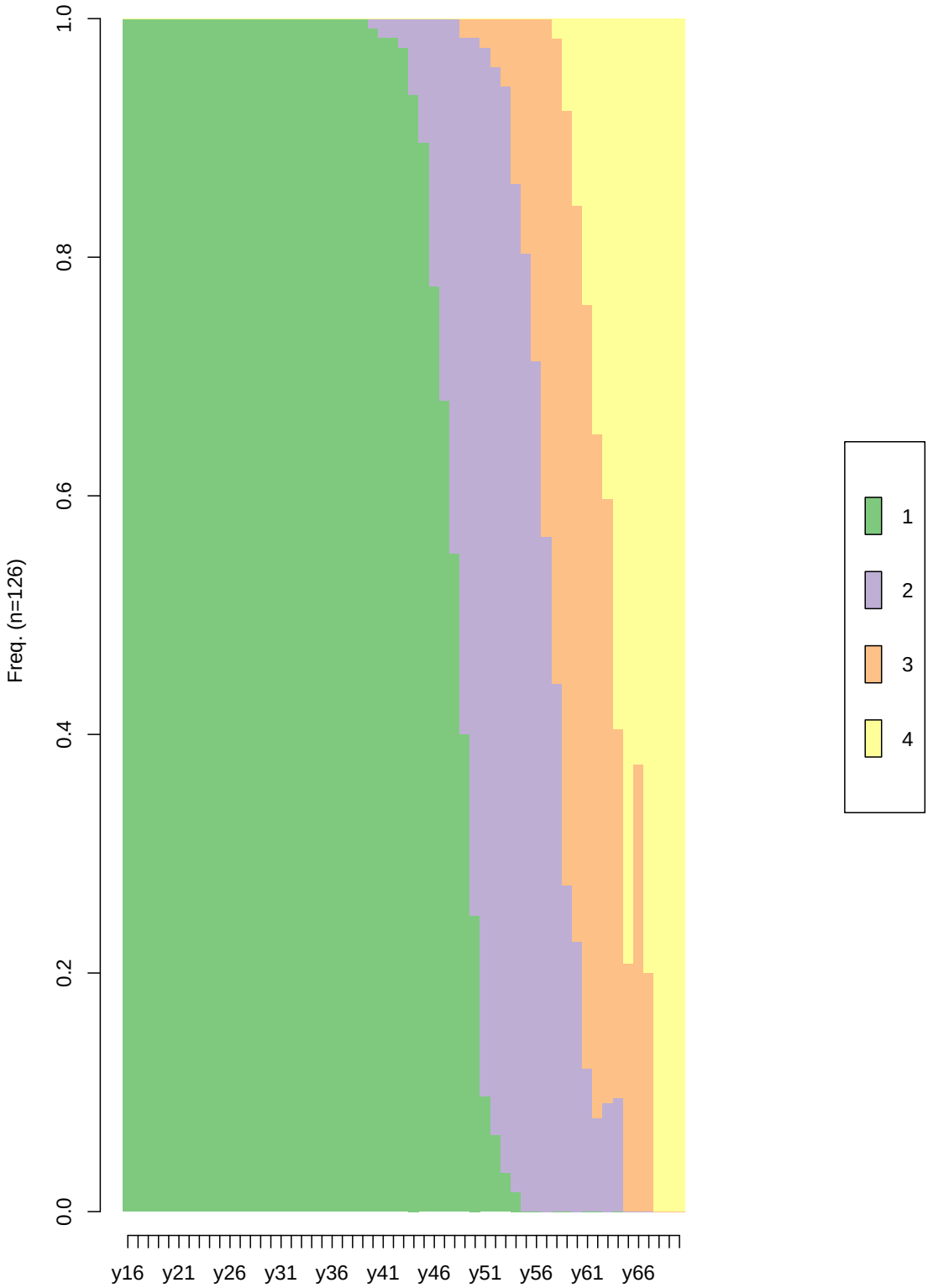

Figure 10: Clusters of career trajectories: military officers.