

In Self Interest? Meritocratic Promotions in a Bureaucracy Through Discretion of Seniors*

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Abstract

What can be a mechanism that leads to meritocracy, rather than nepotism, as a result of discretionary decisions? I answer this question by studying discretionary promotions of junior Pakistan Administrative Services (PAS) bureaucrats by their seniors, and making two main contributions. First, I present novel evidence on how discretion in the choice of teams can be a lever for meritocracy of discretionary promotions. Second, I digitized for the first time a bureaucrat-month panel dataset which combines career records of PAS bureaucrats with their (1) recruitment exam ranking, which is *public information*; and (2) tax collection ranking, which is *private information* of a set of seniors. I find that public and private information are complements in discretionary promotions. Seniors are most selective and meritocratic when choosing their own team and promoting within, while this is not the case for other teams.

JEL codes: O1, M51, D73, D23, J45

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Delegating decision making allows better use of local information, as it avoids losses of information due to strategic communication. However, it also creates opportunities for agents in charge of the decision to influence and bias outcomes in their favour (Cyert and March (1963); Holmstrom (1978); Holmstrom et al. (1982); Tirole (1986); Milgrom and Roberts (1988); Mookherjee (2006); Gibbons et al. (2013)). One organizational response to such incentives has been to limit discretion (Milgrom and Roberts (1988)). With a view that these problems get amplified in government bureaucracies, the push for limited discretion has been even stronger in the public sector (Weber (1922); Northcote et al. (1854)). This intellectual tradition has been so powerful that most bureaucracies today are expected to follow rule-based decision making. However, rule-based decision making is not costless. It not only entails a loss of local information in decisions, but also results in lowering of incentives to perform (Bertrand et al. (2017)).

What if organizations could design institutions that use self-interest as a lever for meritocracy of decisions? Let us consider one organization in which senior and junior workers are randomly matched to form multiple teams. The organization has to promote juniors and wishes to make use of the local information of seniors on type of junior workers. It starts off by picking the senior-most worker across all teams, and allowing her discretion to promote all junior workers in the organization. With just discretion over promotions, there is a chance that the senior may be nepotistic and promote her low ability nephew, say over a high ability junior. But the organization decides to give her additional discretion over the choice of her team. This simple change has the potential to increase meritocratic promotions. Since it directly affects her own performance, the senior now has incentives to bring into her team and promote a high ability junior. What I highlighted through the example is not new. Prendergast and Topel (1993) and Prendergast and Topel (1996) discuss conditions under which discretion can result in the use of local information rather than favoritism:

Favoritism is accentuated when the supervisor is not responsible for the performance of the subordinate. A means of aligning the supervisor's incentives with those of the organization is.....to make the supervisor responsible for the output of the job to which his subordinates are promoted. (Prendergast and Topel (1993) p.360)

This idea, however, has not received empirical attention. A main contribution of this paper is to provide evidence for this mechanism that generates meritocracy of discretionary promotions.

I link long run careers of newly recruited, junior bureaucrats to increases in the discretion or power of their seniors and ask: are discretionary fast-track promotions of juniors by their seniors, meritocratic? With fast-track promotions junior bureaucrats are allocated higher ranked jobs, ahead of their official promotions. Next I investigate whether discretion in the choice of teams, and promotions within, can be a tool for meritocracy of discretionary promotions. Whom the seniors bring into their own team has a direct effect on the senior's performance. Unless reputation concerns on referrals to other teams are extremely important, in their own self-interest, the probability of meritocratic promotions should be higher for the senior's own team than other teams.

I base this study on the Pakistan Administrative Services (PAS) bureaucracy. PAS is an elite cadre of civil servants. They are responsible for running key government departments. In general, they start off their careers as heads of revenue administration in a tehsil¹, but after this initial phase they have wide-ranging assignments: from being responsible for the roll out of health and education programs, protection of property rights, to implementation of various UN and World Bank projects. Therefore, understanding the allocation of talent in this bureaucracy is important for welfare.

To test for meritocracy of promotions, I digitized for the first time a publicly observable measure of merit of the juniors i.e. ranking of juniors based on their civil service recruitment exam. This is published in newspapers. Skills required to do well in this exam are English language (since all government business is done in English) and critical thinking. In general, only the very top exam ranking bureaucrats - called '*toppers*' in common parlance - are viewed as high ability, while those who came in last or next to last in their cohort are perceived low ability. Following this organizational norm, I classify high and low ability bureaucrats as those that are in the top and bottom 10% of their cohort in the recruitment exam, respectively.²

Despite digitization of exam ranks, the big question remains: Do seniors use their private information to promote juniors meritocratically? After all, it is the use of this private information that makes organizations delegate decisions. But, the empirical requirements of studying the use of private information are not trivial. We need data on merits of juniors that are observed by the decision maker and the researcher, but not the organization. Another main contribution of this paper is that I digitized data for the first time, that allows me to carry out just such an investigation. This novel dataset on both public and private measures of merit of juniors,

¹Pakistan is administratively divided into provinces, districts and tehsils.

²Results are not locally sensitive to these cut-offs.

helps provide an insight into their interaction in discretionary promotion decisions. A mix of imperfectly correlated public and private information is common in many organizations. It is possible that the degree of meritocracy using private information is tamed by what others know. Despite private information to the contrary, maybe you don't want to be the senior promoting a junior that 'everyone knows' from the entry exam to be a lemon.

The private measure of merit of the junior is their ranking in tax collection within their cohort. As head of revenue administration in the tehsil, juniors mainly manage a team of officials and collect taxes against annual target. This target is set by the central Board of Revenue. The skill required in tax collection is team management, which is relevant for long run performance as well. Seniors are fully aware of the performance of their own juniors through regular meetings. However, to the Board of Revenue, seniors report the aggregate district level performance, with each junior's individual performance as annexes. This correspondence from each district is received by clerks in the Board of Revenue. Clerks note down the aggregate tax performance of each district and share it with the organization, while the original letters with tax performance of juniors is put in gunny sacks and dumped in the record room in the basement of the BOR building (see figure 1 below). This information never makes it to the career files of the juniors and never gets discussed any where else.³ Owing to poor record keeping, data on this measure is more limited than data that is available for exam rank. I classify high merit juniors as those whose average tax performance lies in the top of their cohort.⁴

I classify discretion or power of seniors (\overline{Power}) as the average monthly official rank of seniors. Official rank is based on a bureaucrat's experience, mandatory training and subjective performance evaluation by their immediate bosses. In this context, we would ideally need two things to causally study the effect of discretion. First, we need seniors to be exogenously allocated to the juniors.⁵ Second, we need discretion or rise of the senior in the organization to be exogenous and uncorrelated with unobservables of juniors.

³I was one of these junior tax collectors before I entered academia. When I went to get this performance data from the BOR, they kept sending me away saying that they only had aggregates of tax performance of districts. Since I had worked as a junior, I knew this data existed, so I persisted. After many months of repeat visits, they allowed me to go to their record room and search for the data. I worked through all the files in their basement, and found these records. I was then allowed permission to digitize these records for my own use. Multiple unstructured interviews with bureaucrats at different tiers of the hierarchy, further corroborated that there is no knowledge of this performance measure. Why there is no demand for this individual performance information is an interesting question itself. A number of potential explanations can explain it including lack of state capacity, apathy or a desire to only hold the head of the district responsible allowing him or her to deal with their team. It is possible that all these explanations co-exist.

⁴Results are presented for top 10% - top 50%.

⁵Fisman et al. (2020) underscores the importance of controlling for positive selection bias and endogeneity of workplace assignments, particularly when studying the effect of work place ties.



Figure 1: Board of Revenue's (BOR) record room. Archival research from these record rooms allowed data digitization of tax performance of juniors. This performance is only observed by seniors in the revenue administration and not the organization overall.

To get a set of exogenously allocated seniors, I exploit timing of the first job of juniors and job allocation rules of the government. The allocation rules of the government dictate that newly recruited juniors can be assigned first jobs as head of revenue administration, which are either vacant or where the incumbent has spent at least one year on the job.⁶ This rule gives a set of 'potential seniors' that any cohort of newly recruited junior bureaucrats could have worked with and include bureaucrats working in districts with open positions at the time of first job of juniors. These seniors remain fixed for the analysis. Only at the start of their careers, juniors cannot select into the month-year when they begin their job. This decision is taken by a central government agency.

For discretion or rise of the senior in the organization to be exogenous, I use the Minimum Length of Service Rules of the government. These are applicable to official promotions. The Minimum Length of Service Rules stipulate how the experience of a bureaucrat can translate into their official promotion. Bureaucrats are eligible for one promotion after every 5, 12, 17 and 22 years of entry.⁷ The career of a civil servant, according to this rule, is like a step function, shown in appendix figure C7. I classify a cohort-based, time varying measure: promotion power of potential seniors. It is defined as the monthly average rule-based rank of potential seniors. It is also worth emphasizing that the outcomes of newly recruited juniors are studied,

⁶The Punjab Government Transfer Policy 1980; Inter-Provincial Transfers of DMG/PSP Officers 1988; Government of Punjab Circular Letter 2004; Guidelines for Transfer of Assistant Commissioners 2013.

⁷Establishment Division's O.M.No.1/9/80-R.2 dated 2-6-1983

not those of the seniors. This helps overcome mechanical correlations that have been discussed at length in the literature ([Manski \(1993\)](#), [Angrist \(2014\)](#), [Guryan et al. \(2009\)](#), [Caeyers and Fafchamps \(2016\)](#)).

Results show that as seniors rise in the organization and their discretion increases, they do promote juniors meritocratically, based on public information. With a one rank above average increase in the power of potential seniors, the top 10% exam performing juniors have a 9% higher probability of being fast-tracked than the mid 80%. On the other hand, the bottom 10% have a 6% lower probability than the mid 80%. The effect for the top 10% exam performers is both statistically and economically significant. It is one-third the mean of fast-track promotions. I find that public and private information are, in fact, complements in discretionary promotion of juniors. Seniors use their private information meritocratically and differentiate between juniors who are viewed as stars by the organization. Juniors that are star exam-star tax collectors have almost two-thirds higher probability of being fast-tracked by seniors, than those that are not top tax collectors, but are viewed as stars by the organization. These effects are also economically significant.

Moving onto the mechanism behind meritocracy, results show that senior's incentive to form a high ability team and grant promotions within, is a dominant factor behind meritocratic promotions of juniors. As is the case in the previous results on fast-track promotions, here too public and private information of seniors are complements in team formation and promotions. When it comes to the senior's own team, they are very selective and *only* pull in and promote star juniors. Results from a multinomial logit estimation show that with a one rank above average increase in the power of potential seniors, the probability of being pulled into the senior's team and fast-tracked there is 6.67 times higher for a top exam and tax performer, relative to a junior that is bottom on both dimensions. There is no effect for any other type. Interestingly, when it comes to referrals of juniors to other teams, seniors are not as selective. Except for the bottom exam - bottom tax performers, the rest have a statistically significant positive probability of moving teams and getting a fast-track promotion in those new teams.

Observing meritocracy in a public sector bureaucracy, in a developing country like Pakistan, is surprising. According to Corruption Perception Index 2019 ([Transparency International \(2020\)](#)), Pakistan ranks below average, with a score of 32 out of 100 (least corrupt) in perceived levels of public sector corruption. While the study makes no claims on either efficiency of meritocratic promotions,⁸ or corruption overall (e.g. if high ability junior can help

⁸[Aman-Rana et al. \(2020\)](#) tackle this question.

seniors earn more bribe money), it does make one claim: *meritocratic allocations can result from institutions that align incentives and make use of self-interest of individuals*. The theoretical literature has highlighted the importance of ‘preference congruence’ parameter. This paper sheds light on one way in which these preferences of the decision maker and the organization can be made congruent i.e. through discretion in the choice of their team. Moreover, these results challenge: (a) the conventional view of bureaucracies being ossified establishments; and (b) the Weberian ideal of a bureaucracy that is best when stripped of all subjectivity (Weber (1922)). Given the right incentives, it appears that there is value from discretion and that a case can be made to increase autonomy in bureaucracies rather than reducing it. Moreover, self-interest is not just restricted to public sector bureaucracies, and so the results have broader implications for the use of discretion even in the private sector and NGOs.

Related Literature

The paper adds to the rapidly expanding literature on the organizational economics of the state. There is a growing realization within Economics that state capacity is important for development (Besley and Persson (2009); Besley and Persson (2010); Sánchez De La Sierra (2020)) and there is a need to open up the black box of internal organization of public sector bureaucracies (Finan et al. (2015)). Dal Bó et al. (2013) and Ashraf et al. (2020) study recruitment in the public sector, but there has been very little attention paid to the internal allocation of talent through promotions. Understanding promotions remains very important as in most bureaucracies there is, in general, certain points of entry into the organization, after which talent is allocated internally. The paper builds on the literature by studying discretionary promotions of juniors by senior bureaucrats, using both public and private information, and presenting novel evidence on how discretion in the choice of teams can be a lever for meritocracy of discretionary promotions.

A large theoretical literature studies the question of delegation. Mookherjee (2006), Gibbons et al. (2013) and Bolton and Dewatripont (2013) provide excellent surveys of the key papers and ideas. Till now, empirical evidence on the value of delegation has been mixed. In the context of lending in Indian banks, Fisman et al. (2017) show that cultural proximity between officers and borrowers serves to mitigate information frictions in lending. Recent studies, focused on public sector organizations, have also highlighted the benefits of autonomy in decisions (Bandiera et al. (2009); Jia et al. (2015); Brollo et al. (2017); Rasul and Rogger (2017); Duflo et al. (2018); Bandiera et al. (2020)). However, there has also been evidence of nepotism

following discretion in decisions (Fisman et al. (2018); Xu (2018); Colonnelli et al. (2019)). And then in a recent study, Fisman et al. (2020) show the existence of a ‘connections penalty’ in China’s Politburo selection, resulting from intra-factional competition. Unlike previous papers, this study uses both public and private information of the decision maker and suggests that while the question of discretion may not have a universal answer, we can interpret all these disparate results from the lens of self-interest of the decision maker

1 Background and Data

The Pakistan Administrative Services (PAS) is an elite group of federal civil servants, very similar to the Indian Administrative Services (IAS). Like the IAS, it is a successor of the Indian Civil Service (ICS). Though not a huge bureaucracy they too remain key players across the government machinery. The most senior civil service positions - the Secretary of Cabinet at the federal and provincial levels, the Chief Secretary of all the four provinces, heads of most provincial and federal government departments - are in general occupied by PAS officers. PAS bureaucrats are involved in designing health, education and taxation policy of the government, as well as implementing various key projects of the government and international financial institutions like the World Bank and United Nations. They also occupy key positions in public sector enterprises, autonomous bodies and state-run companies. Therefore, the allocation of talent within this bureaucracy has important welfare implications.

Their recruitment is through a competitive exam, conducted by the Federal Public Service Commission (FPSC). PAS bureaucrats start their career in rank 17 and can get promoted all the way to rank 22. Appendix figure C1 presents the time-line of the initial career of a PAS new recruit. On recruitment, PAS civil servants undergo 18 months of academic training, which is followed by 6 months of on-the-job training.⁹ Training is centrally administrated by the Civil Services Academy, as well as the Pakistan Administrative Services (PAS) Academy. The length of training and the dates of start and end of training are determined centrally by these training institutions, under the guidance of the federal government. After 24 months of training, new recruits are allocated their first job. PAS new recruits are meant to start their initial career as head of the revenue administration in tehsils of Punjab. Here one of their main job is to oversee tax collection and manage teams of revenue officials. While on paper, revenue administration is their main task, in reality the government allocates additional tasks to them, from time to time.

⁹This has historically ranged from 18 weeks to 37 weeks.

These can include providing assistant in wheat procurement in spring of every year, monitoring hoarding of fertilizers in certain months, relief efforts in case of floods etc. How the initial allocation of PAS bureaucrats to their first revenue administration jobs is carried out is implied by the Tenure/Transfer Policy of the government. Following this policy, new recruits can only be allocated jobs that are vacant or where the incumbent bureaucrat has spent at least 1 year. This is the policy that I exploit to get variation in the set of seniors.

There are two kinds of promotions in this setting, official promotions and fast-track promotions. Official promotions are based on rules of experience, mandatory training and thresholds of performance based on subjective performance evaluation of the bureaucrats by their immediate bosses. On the other hand, fast-track promotions are when higher ranked jobs are allocated to junior civil servants, ahead of their official promotions. The context is such that the higher a senior bureaucrat rises, the higher the likelihood that he or she will have discretion over fast-track promotions of juniors. However, no one senior has complete discretion. Other senior civil servants in the Services and General Administration Department (S&GAD) and the Chief Minister's Secretariat are involved in these decisions, with the final authority resting with the chief minister of the province. Once granted, official promotions become a matter of right and are not reversed. However, this is not the case with fast-track promotions. These are at the discretion of the seniors in the organization and can be reversed at any time.

1.1 Data Sources

In this study I combined data from four different sources to create a bureaucrat-month panel dataset. I digitized all these data for the first time for this study. There are 207 PAS juniors, across 40 cohorts from 1975-2013, that have information on their first job as well as exam ranks.¹⁰ Having data on the first job is important for causal identification as first job is the only one that has an exogenously determined timing of its start (see sub-section 2.1 for details). Data on rank of juniors based on tax performance is more limited. This is due to poor record keeping by BOR. There are 92 PAS juniors, across 30 cohorts from 1985-2013, that have information on their first job as well as exam and tax ranks. The four data sources that form the basis of the bureaucrat-month panel dataset are described below.

¹⁰I define cohorts of juniors as those that start their on-the-job training together.

1.1.1 FPSC internal documents on exam rank

For this study, exam rank data has been digitized for the first time from the internal records of the Federal Public Service Commission (FPSC). The data has information on year of recruitment exam, overall merit position across different ‘occupational groups,’ that take the recruitment exam together in any year, merit position within PAS cohort, roll number and name (see appendix figure B2 for a snapshot of how these ranks are released in the press).¹¹ Exam rank data was matched with career charts data on name and year of recruitment exam. Following this, I was able to match the career charts and exam rank of 207 juniors that have information on their first job as well.¹²

1.1.2 Historical records of BOR on tax collection

I conducted archival research in Board of Revenue’s record room to dig out tax collected by bureaucrats and their teams in various tehsils of Punjab. I acquired and digitized this data for the first time for this study. The tax considered is Agricultural Income Tax (AIT)/ Land Revenue, levied on rural areas and collected at each village and revenue circle level, by a team of revenue officers i.e. *patwari*, *naib-tehsildar* and *tehsildar*, headed by juniors. The original tax data is at a revenue circle level.¹³ It is an unbalanced, monthly panel of revenue circles from 1983-2013. As previously highlighted, attrition in the data is a result of poor record keeping.¹⁴

Data is available on the month, year, revenue circle, tehsil, district, name of revenue official responsible, their designation, annual tax collection target, remission, suspension, irrecoverable, net target, cumulative recovery of taxes, tax collection during the month, total tax collection in the month, balance, percentage of tax collection against net target. Collection details are available for both the ongoing fiscal year as well as arrears from past years. I only use current year’s tax performance, as there is little or no incentive to collect taxes against arrears and current tax collection is more reflective of the junior’s performance. Since annual tax col-

¹¹One recruitment exam is used to select bureaucrats in 12 groups of bureaucracies together. These are called occupational groups of which PAS is one.

¹²It was not possible to match bureaucrats across the two data if the way the name was written differed across the two records eg. ‘Muhammad Mehmood’ vs. ‘M. Mahmud’ and there was no cohort or other information to verify in career charts data; or if the person re-rook the recruitment exam multiple times so that the career charts data had one cohort and the FPSC data had another. I used archives of newspapers, interviewed various bureaucrats and used various online forums (like <http://www.cssforum.com.pk>) to confirm cohort details and double check any missing information.

¹³A revenue circle is a collection of a few villages and are a smaller unit than union councils.

¹⁴BOR’s record room and files can be seen in figure 1, appendix , figure B3 and online at: <https://www.shanamanrana.com/research-in-the-field-a-snapshot>

lection target, rather than net target, is a function of objective measures like number of farms and irrigated area, I keep this as the relevant measure against which I measure performance of juniors.

To create a measure of tax performance of each junior officer from the revenue circle-month observations, I created tehsil-month averages of annual tax collection target as well as tax collected during the month. This tehsil-month panel was then combined with the career charts data on the job, tehsil, district and month-year from the career records of juniors. This gives me tax performance in the first job for 115 PAS juniors. The study is conducted on 92 of these, across 30 cohorts from 1985-2013, for whom both exam rank and tax performance are observable.

1.1.3 Career records

In this paper outcomes are only studied for the junior PAS bureaucrats, however, other civil service groups are included when classifying seniors of these bureaucrats. These other civil service groups include Provincial Civil Services (PCS), Provincial Secretariat Services (PSS), Provincial Management Services (PMS), Ministerial Services. To observe their careers, in addition to the juniors, their career records were also digitized (see appendix figure B1 for a copy of the career chart). The source of the career records is Services and General Administration Department (S&GAD). Career records include information on the name, date of birth, religion, bureaucracy group, home district, qualifications, training, visits abroad, date and rank of official promotion, and the entire service record including date and designation of job held, department or team, district and subjective evaluation by immediate superiors.¹⁵ Fast-track promotion, power of seniors (\overline{Power}) and whether juniors work in the team of their first seniors in the long-run, are all classified using this data.

1.1.4 Incumbency boards

This study relies on initial job allocation rules for causal identification. This rule directs that newly recruited PAS juniors can only be allocated their first job in a revenue department in a district, where there is a vacancy or where the incumbent has worked at least a year. For this we need to observe the vacancy position and tenure of all heads of revenue administration, in tehsils across Punjab. This is what incumbency boards allow us to build. Each incumbency

¹⁵A sample of dates of promotions in the career charts were double checked from seniority lists, issued by Establishment Division, available online at <http://establishment.gov.pk/>

board in a tehsil, has the name of the bureaucrat and the dates when he or she held the job. From here a daily panel of vacancy and tenure of positions across Punjab was created. This data was combined with the career charts data on date of end of on-the-job training of PAS new recruits to define the set of potential seniors as those senior bureaucrats that were working in positions with a vacancy or where the incumbent head of tehsil revenue administration had worked for at least a year. Through telephonic requests to all heads of tehsil revenue administration, I was able to get images of almost all incumbency boards of these offices across Punjab. Using these images, data was manually entered and digitized for the first time. Appendix figure B6 shows an example of an incumbency board. Incumbency boards are a tradition from colonial times. It is a status symbol for the civil servant and every new civil servant takes pride in ensuring his/her name is up on the board, with the dates of their tenure. Therefore, the data is reliable.

1.2 Key variables and descriptive statistics

1.2.1 Publicly observable measure of ability of juniors: Recruitment exam ranking

The first measure of ability I classify is ranking of juniors in their civil service recruitment exam. These are published in national newspapers. The cut-offs I use to classify high and low ability juniors are guided by the organizational perception of ability of juniors. In general, only the very top exam ranking bureaucrats are viewed as high ability by the organization. In common parlance, these bureaucrats are called ‘*toppers*’ and it is common knowledge who these star exam performers are. On the other hand, low ability bureaucrats are individuals who came in last or next to last in their cohort. While there is no common term used to refer to bureaucrats in the left tail, it is common knowledge who these are. Then there is a large fuzzy mid, which isn’t as pronounced a marker of ability as the tails.

Given these institutional traditions, I classify high and low ability juniors using dummy variables that turn on 1 whenever a junior is in the top 10% and bottom 10% of their cohort in the recruitment exam, respectively. Appendix tables A1 to A4 show results defining high-low ability as top-bottom 5-15%. OLS results are robust to any definition of top and bottom exam performers. Estimates in the instrumental variable and reduced form regression are in the same direction, but not significant for the top 5-9% juniors.

1.2.2 Privately observable measure of ability of juniors: Tax collection

The second measure of ability I classify is a time-invariant ranking of juniors in tax collection, in their first job. This is when juniors work as head of the revenue administration in a tehsil. A central revenue agency i.e. the Board of Revenue (BOR), sets annual tax collection targets based on official record of number of farms and irrigated area (see appendix table A5 and A6). Each junior collects taxes in rupees against these annual targets, using his or her team of revenue officials. I use this performance to take an average of tax collection by each junior in their first job. If a junior's average tax performance lies in the top end of their cohort, I classify them as high ability, using a dummy variable. Since there aren't many institutional details to guide a choice of high and low ability following tax performance, for robustness, I show the main results for top 10%, 20%, 30%, 40% and top 50%. The skill required to do well in tax collection is team management. Since almost all their future career entails managing teams, it contains important information on talent of juniors.

How is this private information of first seniors? Tax performance is just observed by seniors in the district and not the organization. It is neither part of the organization's career records on juniors nor of any official decision making process. Multiple unstructured interviews with officials in the BOR, as well as outside that department, confirm that there is no knowledge of these records outside the district where juniors work.

So, how is it just private information of seniors? In regular district level meetings tax collection is discussed with seniors. Therefore, seniors are fully aware of the performance of their juniors. Seniors are supposed to report back their district's performance to the Board of Revenue. This they do via letters. The aggregate district level performance is in the main letter, while each junior's individual performance is attached as annexes. These letters from each district are received by clerks in the Board of Revenue. Clerks note down the aggregate tax performance of each district and share it with the organization, while the original letters with tax performance of juniors is put in gunny bags and dumped in the record room in the basement of the BOR building, where it remains unobserved by the rest of the organization (figure 1).

Junior's multiple-tasks. When juniors act as head of revenue administration they are not just incharge of tax collection. While on paper their official duties pertain to revenue administration, from time to time, they are still assigned extra work by the government. For instance, in spring of every year, they also play an important role in helping the government procure wheat from farmers. Apart from that they are tasked with stabilizing prices of essential com-

modities, or made in-charge of a seasonal anti-hoarding drive, setting up of cheap ‘ramzan’ bazars or coordinating a law and order situation in the area with the police. Like performance on tax collection, skills required to perform well in almost all of these other tasks is also team management of revenue officials and clerks that work for juniors.

Junior’s rank based on tax performance is defined and is relevant at the cohort level. Therefore, within a cohort, tasks that are either differentially allocated based on tax collection ability or that reverse the intra-cohort rank of juniors based on tax performance, can be a problem for the study. The first problem is less of a concern since, in general, in any time period, what tasks have to be carried out are determined at the highest tiers of political administration and allocated across the province, to all juniors, in one go. Regarding the second issue, the main underlying assumption, behind using tax as an ability measure, is that any extra task assigned must preserve the intra-cohort rank of juniors in tax performance. One way that can happen is if ability on tax and other tasks is positively correlated. Below table 1 provides evidence in support of this assumption.

Do the tax and exam based ability measures convey anything useful? Table 1 shows descriptive evidence on what the two measures of ability mean for performance on the job. I consider three different outcomes: whether throughout his or her career junior is evaluated as an outstanding worker; whether citizens felt that the attitude of the revenue departmental employees improved, when the junior is incharge; and whether the timeliness of service provided by revenue department improved, when the junior is incharge.

The source for subjective evaluation is career records of juniors. Juniors are classified as average, good, very good, outstanding. I classify subjective evaluation as a dummy that turns on 1 whenever a junior is classified as an outstanding worker.¹⁶ Data on this measure is limited, as career records don’t always record performance evaluation. In the case of tax sample, I observe subjective evaluation for 8 out of 30 cohorts, while in the case of exam rank sample I observe it for 25 out of 40 cohorts. Given the small number of clusters, following Cameron et al. (2008), I also report clustered wild bootstrap p-values.

The source for citizen perception survey is a study conducted by Oasis Insights (Private) Limited in 2014, commissioned by the World Bank. This study carried out a 10-15 min telephone survey, aimed at understanding citizen’s perceptions of services delivered by the state, as well as efficacy of the Citizen Feedback Model (CFM) as an accountability mechanism (Masud

¹⁶The real variation in this measure is between very good and outstanding. Almost no one is evaluated as average, and very few evaluated as good.

(2015); Beschel et al. (2018)). The sampling frame was anyone that had availed 11 different services between September 2012 to February 2014. Out of 11 services, there was one that is relevant for juniors in this study i.e. issuance of 'fard' or land titles. These land titles are delivered by the lowest tier of the junior's team. For this particular service 900 citizens were surveyed. Data on performance of junior's team is available for a maximum of 5 cohorts. As with subjective evaluation, I also report clustered wild bootstrap p-values.

There is one important caveat that needs to be kept in mind while interpreting results based on citizen perceptions. It might be a little unfair to use these in the case of exam rank as an ability measure. The ability required to do well in exam is English language and critical thinking and not team management. If we had data on a performance measure that was based on file work and application of law and rules, we might see different results.

In all specifications in table 1, I include cohort and month-year fixed effects. For the citizen perception regressions in column (2)-(3) and column (5)-(6), I also include district fixed effects. Therefore, I am comparing perceptions of citizens within the same district, across a high and low ability junior in a cohort. Results in column (1)-(3) show that rank of juniors in tax collection is strongly positively correlated with all performance outcomes. However, results for exam top 10% juniors are small in magnitude and quite imprecise. It appears that the bottom end of the exam distribution conveys more information on ability than the top. Bottom 10% exam performers are statistically significantly less likely to be evaluated as outstanding and citizens are less likely to feel that timeliness of service provision improved, while there is no effect of exam rank on citizen's perception of attitude of staff. Taken together, results provide support for the use of tax rank as an ability measure, while exam rank appears to contain more information for those in the left tail than right.

1.2.3 Power of seniors (\overline{Power})

It is important for the study to consider exercise of discretion by people who have local information on juniors. Therefore, I consider seniors as those that have worked with juniors. Due to causal identification, the seniors of interest are first seniors (explained in sub-section 2.1 below). However, results are also presented for all seniors throughout the career of juniors. The set of seniors I consider, remain fixed throughout the career of juniors. The source for the variable is career records from S&GAD. An advantage of using career records is that I can objectively classify the set of seniors and data is not reliant on network surveys, which have been highlighted to suffer from measurement error and subjectivity bias (Jackson (2013)). To

classify discretion of seniors I use institutional details. The organization is such that the higher the senior, the more power they exercise over careers of juniors. Therefore, in each time period, power of seniors is defined as average official rank of seniors.

$$Power\ of\ seniors\ (\overline{Power}) = \frac{\sum_{s=1}^S Official\ rank\ of\ seniors_s}{S}$$

where official rank is the rank of the senior based on their official promotions and S is the number of first seniors that are still in Punjab in that time period. Official promotions move bureaucrats from rank 17-22. I normalize them from 0-5, 0 being the junior most rank and 5 being the senior most. To keep results comparable across OLS and reduced form estimation (sub-section 2.1 below), I use cohort-month level average of power of first seniors across all specifications. Table 2 shows that the power of first seniors of exam mid 80% juniors is higher than others. This remains the case in table 3. The mean power of first seniors in the exam rank sample is 1.12, while it is 0.92 in the tax sample. This shows that these seniors are not people that are very far removed from the juniors. Appendix figure C2 shows the variation in power of first seniors across cohorts in the exam rank sample.

1.2.4 Fast-track promotions of juniors

Fast-track promotions are quantified as a dummy that turns on 1 whenever actual rank of a junior bureaucrat is higher than their official rank. Official rank of juniors and the jobs they are allocated can be observed from career record of bureaucrats. To classify rank of the job they occupy, I use notifications of job ranks by the Services and General Administration Department (S&GAD). These were personally acquired from S&GAD. Rank of the job was manually assigned after going through the notifications. Appendix figures C4 and C5 plot the actual and official careers of a sample of cohorts from the 70s, 80s, 90s and 2000s. Once a civil servant is officially promoted he or she can't be demoted. However, that is not the case for fast-track promotions. These are at the discretion of the senior civil servants and the chief executive of the province.

Table 2 shows that fast-track promotions are meritocratic on average. Top 10% exam performers have a 35% probability of being fast-tracked, while it is 31% and 24% respectively for the mid 80% and bottom 10% exam performers. The trend remains similar when we consider the tax sample in table 3. Juniors that are star performers on both tax and exam measures have a higher probability of being fast tracked than those that perform well on just exam, but not tax.

Contrary to fast-track promotions, both tables 2 and 3 show that there is almost no variation in official promotions by tax and exam, across both samples. Official promotions happen a maximum 5 times in a bureaucrats career and so this isn't surprising. Appendix figure C3 shows the variation in fast-track promotion across different cohorts.

1.2.5 Junior in team of first seniors (after first job, in the long-run)

Working in team of first seniors is classified as a dummy that turns on 1 whenever the juniors work in the team of their first seniors, in a given month, in their long-run careers, after the first job. The source of this variable is career record of bureaucrats from Services & General Administration Department (S&GAD). Table 2 and 3 show that working in the senior's team and being fast-tracked is meritocratic in both the exam and tax sample on average. While, star exam and tax performers have the highest probability of being in the senior's team in the long run and being fast-tracked there, this is 0% for those who are bottom in both dimensions of ability. Trends are similar when we consider juniors working in other teams and getting fast-tracked there.

2 Estimation Strategy

The OLS estimation is:

$$Fast - track_{ict} = \kappa_c + \kappa_t + \gamma Ability_i + \pi \overline{Power}_{ct} + \phi \overline{Power}_{ct} \times Ability_i + \mu X_{ict} + \varepsilon_{ict} \quad (1)$$

where the outcome $fast-track_{ict}$ is a dummy that turns on 1 whenever the actual rank of the junior bureaucrat i , of cohort c , in month-year t , is higher than his or her official rank. \overline{Power}_{ct} is the mean official rank of seniors of a cohort c , in month-year t . Results are presented both for seniors in the first job, as well as all seniors that a cohort of juniors ever worked with.

Ability is measured in different ways depending on whether the ability measures are public information or private information of seniors. When I consider ability that is public information: $Ability_i \in \{Exam\ top\ 10\%,\ Exam\ bottom\ 10\%\}$ where exam top and bottom 10% are dummy variables that turn on 1 whenever a junior i , of cohort c , is in the top 10% and bottom 10% of their cohort in the recruitment exam, respectively. When I consider ability that is private information of the senior: $Ability_i \in \{\overline{Tax}\}$, where \overline{Tax} is a dummy that turn on 1 whenever a junior i , of cohort c , is in the top 10%, 20%, 30% and 40% or 50%, of their cohort in tax

collection in their first job.

Between group variation has been highlighted by [Fisman et al. \(2020\)](#) as a source of selection bias in studies on workplace ties. Although in my case, seniors are plausibly exogenously allocated through rules and timing of the first job, to be conservative I control for time invariant, cohort specific, unobserved heterogeneity using cohort fixed effects κ_c , thus throwing away any between cohort variation. These control for possible factors such as the total number of first seniors, time invariant characteristics of the first job etc. Time varying characteristics, that are similar for all cohorts, are captured by κ_t . For example, any policies of the government on creation of new jobs in higher ranks that affect all cohorts equally, are accounted for by κ_t . X_{ict} includes controls such as annual time trend of the first job, experience and experience squared of the junior, official rank of the junior and a dummy for whether the job is in the field offices. Error terms are clustered at the cohort level, as that is the level at which seniors are allocated ([Abadie et al. \(2017\)](#)).

In this estimation, in a given time period, I compare cohorts that experienced more of a change in power of their seniors to those that experienced less or no change and test for heterogeneity of the effect based on ability of the juniors. The coefficient of interest is ϕ which tells us the heterogeneous effect of discretion of the senior in promotion decisions, according to the ability of the junior. If for high ability juniors, $\phi > \pi$ then we can say that discretionary promotions are meritocratic.

2.1 Identifying variation: Promotion power of potential seniors

It is hard to argue that the OLS estimates in (1) are causal. Controls and fixed effects do not overcome identification challenges that stem from cohort-time varying confounders. In this context, we would ideally need two things to causally study the effect of discretion. First, we need seniors to be exogenously allocated to the juniors. Second, we need discretion or rise of the senior in the organization to be exogenous and uncorrelated with unobservables of juniors.

To get a set of exogenously allocated seniors, I exploit timing of the first job of juniors and job allocation rules of the government. The allocation rules of the government dictate that newly recruited juniors can be assigned first jobs as head of revenue administration, which are either vacant or where the incumbent has spent at least one year on the job.¹⁷ This rule gives a set of ‘potential seniors’ that any cohort of newly recruited junior bureaucrats could have

¹⁷The Punjab Government Transfer Policy 1980; Inter-Provincial Transfers of DMG/PSP Officers 1988; Government of Punjab Circular Letter 2004; Guidelines for Transfer of Assistant Commissioners 2013.

worked with and include bureaucrats working in districts with open positions at the time of first job of juniors. These seniors remain fixed for the analysis. Only at the start of their careers, juniors cannot select into the month-year when they begin their job. This decision is taken by a central government agency. Appendix figure C6 shows the average number of potential and actual seniors per junior, across 40 cohorts from 1975-2013. The mean number of seniors in the first job are 12. The average number of potential seniors is 26. Therefore, for each actual senior, a junior has approximately two potential seniors.

For discretion or rise of the senior in the organization to be exogenous, I use the Minimum Length of Service Rules of the government. These are applicable to official promotions. The Minimum Length of Service Rules stipulate how the experience of a bureaucrat can translate into their official promotion. Bureaucrats are eligible for one promotion after every 5, 12, 17 and 22 years of entry.¹⁸ The career of a civil servant, according to this rule, is like a step function, shown in appendix figure C7.

Power of potential seniors: Combining exogenous timing of the first job, initial allocation and the Minimum Length of Service Rules, I classify a cohort-month level variable: power of potential seniors. In a given time period, it is defined as the average, rule-based rank of potential seniors, that the cohorts of newly recruited juniors could have worked with, in the first month, of their first job.

$$\text{Power of potential seniors } (\overline{Power}^p) = \frac{\sum_{\tilde{s}=1}^{\tilde{S}} \text{Rulebased rank of potential seniors}_{\tilde{s}}}{\tilde{S}}$$

where rule-based rank of potential seniors is based on the Minimum Length of Service Rules and \tilde{S} is the number of potential seniors that are still in Punjab in that time period. While power of seniors varies from ranks 0-5, power of potential seniors lies between 0-4. This is because these are the ranks on which the Minimum Length of Service Rules apply.

There is cross-cohort variation in the measure as bureaucrats move across departments. Therefore, at the time that a cohort of new recruits start their first job, they can be faced with a different set of potential seniors, even if the same set of district departments had a vacancy. There is time variation in the measure as departments with vacancies have people of varying official ranks working in them. For instance, a few seniors may have just been promoted and so will not be moving up for the next 4-5 years, and a set of seniors may be due to cross their 12 year mark and so will rise this month. Appendix figure C8 shows cross-sectional variation

¹⁸Establishment Division's O.M.No.1/9/80-R.2 dated 2-6-1983

in power of potential seniors across cohorts, while appendix figure C9 shows the time variation in mean power of potential seniors, across years, for a sample of four cohorts from the 1970s, 80s, 90s and 2000s. The figure shows that power of seniors doesn't just go up but it can come down as well. This can be the case when, for instance, seniors retire. Appendix figure C10 shows the cross-sectional correlation between power of actual and potential seniors.

Reduced form estimation. The reduced form estimation is as follows:

$$Fast - track_{ict} = \gamma_c + \gamma_t + \theta Ability_i + \chi \overline{Power}_{ct}^p + \lambda \overline{Power}_{ct}^p \times Ability_i + \rho X_{ict} + v_{ict} \quad (2)$$

where all the variables are the same as in equation 1, except power of potential seniors (\overline{Power}_{ct}^p) which is the monthly average of the rule-based rank of potential seniors, that cohorts of junior PAS bureaucrats could have worked with, in their first job. Error terms are again clustered at the cohort level, as that is the level at which first seniors are allocated (Abadie et al. (2017)). The coefficient of interest is λ which tells us the heterogeneous effect of the discretion or power of potential seniors, according to ability of the junior. If for high ability juniors, $\lambda > \chi$ then we can say that discretionary promotions are meritocratic. The identifying assumption is that there are no unobservables that are correlated with changes in fast-track promotion of juniors and \overline{Power}_{ct}^p and systematically different between high and low ability juniors in a cohort. Appendix tables A7, A8 and A9 provides supporting evidence in this regard.

3 Results: Discretionary fast-track promotions of juniors

3.1 Do seniors use *public* information on merit of juniors to promote meritocratically?

Table 4, column (1) and (2) report results using OLS estimation, while column (4) reports reduced form results. Conditional on the exclusion and monotonicity assumptions holding, instrumental variable (IV) results are presented in column (3). Table 5 reports the first stage estimates from the instrument. I report the Angrist-Pischke (2008) F-statistic at the bottom of the table.¹⁹ The F-statistic provides some evidence that power of potential seniors is relevant

¹⁹For a single regressor AP F-statistic and Kleibergen-Paap Wald F-test are the same. I report AP F-statistic since it tests whether even one of the endogenous regressor is under or weakly identified.

in predicting power of actual seniors. Table 4, column (1) reports result using all seniors that the junior PAS bureaucrats may have worked with in their careers, while column (2)-(4) report results restricting attention to just the seniors that juniors worked with in their first job. Results using all seniors suffer from selection bias. For one there is the possibility of selection of juniors and seniors with each other into teams. There is the added possibility of juniors' unobservables being correlated with how high the seniors rise, through senior's subjective performance evaluation. The instrumental variables result in column (3) and reduced form results in column (4) aim to overcome this endogeneity. Since the instrument is defined using the first set of seniors, the relevant comparison for the IV and reduced form results are the OLS results in column (2). To keep the results meaningful the variable \overline{Power} has been demeaned for each junior, so that the reference category reports results when the variable takes on a the average value for \overline{Power} .

There is one main takeaway from this result. Seniors promote meritocratically based on public information on merit of juniors. Reduced form results in column (4) show that with a one rank above average increase in \overline{Power}^p , the top 10% exam performers are 9% more likely to be fast-tracked than the mid 80% exam performers. The total effect for the top 10% exam performers is almost one-fifth of the mean of fast-track promotions, suggesting that the effects are not just statistically, but also economically significant. The differential effect on the bottom 10% is negative but not significant. The effects are not precise and large enough in magnitude to statistically significantly reject that the effect at the top and bottom end of exam distribution is the same in IV and reduced form estimations. An F-test of equality of coefficients on $\overline{Power}^p \times Exam\ top\ 10\%$ (α) and $\overline{Power}^p \times Exam\ bottom\ 10\%$ (β) has a p-value of 0.10 using OLS estimation in column (2). It is 0.15 and 0.17 in columns (3) and (4) respectively. The OLS estimates in column (2) are a little larger in magnitude than the reduced form estimates in column (4), suggesting that there is positive selection on power of first seniors.

3.2 Do seniors use *public* or *private* information on merit of juniors to promote meritocratically?

The role of private information on its own. In this subsection, I test for heterogeneity of the effect of power, using tax rank of juniors. Table 6 presents results using OLS estimation, while table 7, 8 present instrumental variables and reduced form results, respectively. Table 9 presents the first stage of the IV estimation. Definition of \overline{Tax} used in each case is specified at the top

of each column, and for robustness it goes from top 10% to top 50%. OLS estimates in table 6 presents results using both first seniors and any senior that juniors could have worked with in their first job. The rest of the tables report results using just the first seniors.

First, let us consider results of power interacted with tax rank alone. Across all specifications, results show that there is no effect of power of seniors on fast-track promotions of top or even bottom tax performers. This is despite tax rank being an important determinant of performance (see table 1). It is irrespective of how we define top tax performers, be it as top 10% or top 20%, 30%, 40% or 50%. Results are insignificant and quite imprecise throughout. Second, this is not the case for exam rank. IV and reduced form results in table 7 and 8 respectively, show that exam rank matters in discretionary promotions. In table 8, across all definitions of \overline{Tax} , results show that with a one rank above average increase in the power of potential seniors, top 10% exam performers have close to 30 percent higher probability of being fast tracked than those juniors who are bottom tax ranking and mid 80% exam performers. This effect reverses for the bottom 10% exam performers. Overall, it appears that while exam rank matters, tax rank on its own doesn't play a role.

One explanation of this result lies in the way the institution works. The discretion we study in this paper is a constraint one. Seniors from the first job don't have complete power on career of juniors, and other have to sign-off on these decisions as well. What others know are just exam ranks. For seniors with private information on ability of juniors, it is potentially harder to go against public signals of ability. For instance, convincing others that a bottom 10% exam performer is actually not a lemon is harder, than using ones private information to differentiate amongst 'toppers'.

Are public and private information complements? Given how the institution works, this may very well be the case. Therefore, I test for heterogeneity of the effect of power, using both exam and tax rank of juniors and their interaction. Table 10 presents results using OLS estimation, while tables 11, 12 present instrumental variables and reduced form results, respectively. Table 13 presents the first stage of the IV estimation. Definition of \overline{Tax} used in each case is specified at the top of each column, and it goes from top 10% to top 50%. In all specifications, across columns (1)-(5), the omitted category is bottom 10% exam and bottom 90%, 80%, 70%, 60% and 50% tax performers, respectively. OLS estimates in table 10 presents results using both first seniors and any senior that juniors could have worked with in their first job. The rest of the tables report results using just the first seniors.

The main takeaway from these sets of results is that public and private information are

complements in promotion decision of seniors. Seniors use their private information to differentiate within those that the organization views as stars i.e. the top 10% exam performers. They appear to differentiate to some extent at the bottom end of the exam distribution as well. From bottom 10% exam performers, star tax collectors have a higher probability of being fast-tracks than those who are bottom on both dimensions. Seniors seem to be giving bottom exam, but star tax collectors a chance, especially when they are top 10% tax collectors. However, results are not robust. On the other hand, seniors do not seem to differentiate within mid 80% exam performing juniors. In fact, if anything, when the senior has more power, those mid 80% exam performers who are bottom tax collectors seem to have a higher probability of being fast tracked than star tax collectors. Although these differences are not statistically significant. An F-test of equality of the coefficient on $\overline{Power} \times Exam\ mid\ 80\% \times \overline{Tax}$ (π) and $\overline{Power} \times Exam\ mid\ 80\%$ (γ) fails to reject the null in all specifications and across all definitions of \overline{Tax} . Results in subsection 4.1.2 explore the mechanism behind these results and help shed light on why we see these effects.

One might think that complementarity of public and private information is peculiar to this public sector bureaucracy in Pakistan. I would argue against that. Promotion decisions are taken by group or a committee of seniors in many organizations, be they universities or organizations in the private sector. Being a member of such a committee is conditional more on rising in the organization, than on one's information regarding the decision at hand. This results in committees of senior decision makers, all with heterogeneous information on merit of juniors. Some seniors will rely on public information and then others, who have worked closely with juniors, will have both public and private information on merit of juniors. The equilibrium outcome might depend on organizational norms on how much weight is placed on the voice of seniors who have worked closely with juniors. In some sense, results we observe in this setting can be thought of as a lower bound for the effect when such promotion committees are only composed of seniors who have worked with juniors and have information on their type.

4 Results: Mechanism behind meritocracy

4.1 Who gets fast-tracked in senior's team?

We are interested in the effect of power and type of juniors on who moves into senior's team and gets fast-tracked there, and who ends up in other teams and gets fast-tracked there. To

estimate these effects, I use a multinomial logit framework. This allows for us to study these two outcomes together with a well defined reference category, test for similarity of effects within the senior's team and other teams and help exploit the richness of the data more than a linear specification would. The estimation of interest is as follows:

$$\ln \frac{P(w_{ict} = j)}{P(w_{ict} = J)} = \alpha_{cj} + \alpha_{tj} + \theta_j Ability_i + \kappa_j \overline{Power}_{ct} + \mu_j \overline{Power}_{ct} \times Ability_i + \lambda_j X_{ict} \quad (3)$$

where

- $j=1$ if junior i , in cohort c and month-year t is not fast-track promoted (base category)
- $j=2$ if junior i , in cohort c and month-year t starts working in other teams & gets fast-track promoted
- $j=3$ if junior i , in cohort c and month-year t starts working in senior's team & gets fast-track promoted

where \overline{Power}_{ct} is the mean official rank of seniors of a cohort c , in month-year t . I use the instrument, power of potential seniors (\overline{Power}_{ct}^p) as an instrument for \overline{Power}_{ct} . Power of potential seniors is the monthly average rule-based rank of potential seniors that cohorts of junior PAS bureaucrats could have worked with, in their first job. Ability is measured in different ways depending on whether the ability measures are public information or private information of seniors. When I consider ability that is public information: $Ability_i \in \{Exam\ top\ 10\%,\ Exam\ bottom\ 10\%\}$ where exam top and bottom 10% are dummy variables that turn on 1 whenever a junior i , of cohort c , is in the top 10% and bottom 10% of their cohort in the recruitment exam, respectively. For simplicity, in this section when I consider ability that is private information of the senior I restrict attention to juniors defined as top 50% tax collectors. Appendix figure C11 shows that there does not appear to be any non-monotonicity in the probability of being fast-tracked in senior's (other) teams, by tax rank. Moreover, results from subsection 3.2 show that results are similar across the tax distribution. Therefore, in this section \overline{Tax} is defined as a dummy that turn on 1 whenever a junior i , of cohort c , is in the top 50%, of their cohort in tax collection, in their first job. I control for time invariant, cohort specific, unobserved heterogeneity using cohort fixed effects α_{cj} . Time varying characteristics, that are similar for all cohorts, are captured by α_{tj} . X_{ict} includes controls such as annual time trend of the first job, experience and experience squared of the junior, official rank of the junior

and a dummy for whether the job is in the field offices. Error terms are clustered at the cohort level, as that is the level at which seniors are allocated (Abadie et al. (2017)). The coefficient of interest is μ_j relative to κ_j , which tells us the heterogeneous effect of discretion of the senior in promotion decisions, according to the ability of the junior.

This section allows us to test the mechanism of self-interest in meritocratic promotions of juniors in two ways. First, we test the effect of power of seniors on movement and promotion of different types of juniors *within* the senior's team. For instance, with increased power, are the high ability moved in and fast-tracked more than low ability juniors? Second, we test the effect of power of seniors on movement and promotion of different types of juniors *outside* the senior's team i.e. in teams of others. If with increased power of first seniors, high ability juniors get moved across other teams and get promoted there, then that is consistent with the idea that referrals occur in this setting; and that reputation on a referral matters to seniors. But if the effect on senior's team is higher than that on other teams it is a test of the relative strength of direct self interest of seniors versus their reputation concern on referral of juniors.

4.1.1 The role of *public information*

Table 14 presents the main results considering only the exam rank of juniors as a measure of their ability. The base category is junior not being fast-tracked. The first two columns of table 14 report results for a simple multinomial logit, without accounting for any potential endogeneity of \overline{Power} . While columns (3)-(4) report multinomial IV results, using a control function approach. This is implemented following standard techniques suggested by Petrin and Train (2010) and Imbens and Wooldridge (2007). Since I use a two-step control function approach, to account for the first stage estimation, bootstrap is implemented. I use a score bootstrap as suggested by Kline and Santos (2012) for non-linear models, and implement it through Roodman et al. (2019)'s program in Stata.²⁰ Columns (5)-(6) present the reduced form results. The coefficients reported are log relative risk ratios, relative to the base category.

First, let us consider what type of juniors get moved in and promoted *within* the senior's team. Reduced form results in column (6) of table 14 show that a one rank above average increase in the power of potential senior results in nearly one time higher log of relative risk ratio for the top 10% exam performers to start working in the seniors team and be fast-track promoted there (relative to the base category). The effect is statistically significant and the bootstrapped p-value is 0.01. When using a control function in column (4), the effect is similar

²⁰See Roodman et al. (2019) for details of why the program doesn't produce standard errors.

and the magnitude slightly larger. While the differential effect for the top is positive, it is large and negative for the bottom 10% exam performers. At the bottom of the table, an F-test of similarity of the coefficient $\overline{Power} \times Exam\ top\ 10\%$ (α) and $\overline{Power} \times Exam\ bottom\ 10\%$ (β) rejects the null in all specifications. Therefore, movements in and fast-track promotions of juniors in the senior's team are meritocratic.

With increases in power of seniors, what type of juniors get moved around and promoted *outside* the senior's team? Reduced form results in column (5) show that while exam top 10% have a high chance of moving teams and getting fast-tracked and bottom 10% exam performers have a lower chance, both these effects are not statistically significant. Across all specifications, an F-test testing similarity of the coefficients for the interaction of power with top and bottom 10% exam performers, fails to reject the null.

Results are consistent with the idea, that referrals of juniors is not an important channel when considering public information on merit of juniors. After all this is public information and so referrals shouldnt really matter as much. Two F-tests at the bottom of the table test the relative strength of movements in and promotions of high and low ability juniors within the senior's team versus outside. F-test of similarity of the coefficient $\overline{Power} \times Exam\ bottom\ 10\%$ (β) in other teams versus senior's team rejects the null in both the IV and reduced form specifications. P-value of the F-test for exam top 10% performers is 0.15 and 0.16 in reduced form and IV specifications respectively.

4.1.2 The role of *private* information on its own

Tables 15, 16 and 17 report results using tax rank of juniors as a measure of their ability. Columns (1) and (2) in all tables report results using just tax, while columns (3) and (4) add exam rank as well. In columns (3) and (4) bottom tax performers, who are mid 80% in exams, are the omitted category. Reduced form results in columns (1) and (2) of table 17 show that with a one rank above average increase in the power of potential seniors, high tax rank juniors have a higher probability of moving to the senior's team and getting fast-tracked. This is negative in the case of movement in and promotion in other teams. Effects in the senior's own team and other teams reverse for bottom tax performers. However, none of these effects are statistically significant. It seems like private information of the senior on ability of juniors does not matter on its own. While private information does not seem to matter, this is not the case with public information. These results echo those in the previous tables 6, 7 and 8 and can be a function of how the institution operates. Next I test whether there is any complementarity between

public and private information in the choice of the senior's team and discretionary promotion decisions.

4.1.3 Are *public* and *private* information complements?

Tables 18 and 19 present results using interactions of both exam and tax rank of juniors with power of senior. Columns (1) and (2) of table 18 presents results without accounting for the endogeneity of \overline{Power} , while columns (3) and (4) present IV results using a control function approach. Reduced form results are presented in table 19. In all specifications, the omitted category is bottom 10% exam and bottom 50% tax performers.

Results are consistent with self interest of the senior as being an important determinant of meritocratic discretionary promotions of juniors. Across IV and reduced form specifications, with a one rank above average increase in the power of potential seniors, top exam-top tax ranking juniors have a higher probability of moving to the senior's team and getting fast-tracked there, as compared to bottom exam-bottom tax rank juniors. The magnitude of the effect is large and it is highly statistically significant. Except for these star juniors, there appears to be no effect for any other type of juniors. This suggests that when it comes to their own teams and promotions within, seniors are highly selective.

This is not the case for referrals of juniors to other teams. Across IV and reduced form, results in the first column show that while those who are at the bottom of the the wrung on both exam and tax have a negative probability of moving teams and getting fast-tracked, the differential effect is positive and significant for all other types. If we compare the coefficient on $\overline{Power} \times Exam\ top\ 10\% \times \overline{Tax}$ (α) across first and second columns in IV and reduced form specifications, we see that the magnitude of the effect in senior's own team is larger. It is much larger in the case of IV. However, we cannot reject similarity of the coefficients across these two types of teams. An F-test at the bottom testing α in other teams and in senior's team, fails to reject similarity of the effect.

Taken together, results are in line with what [Prendergast and Topel \(1993\)](#) argue and are consistent with self-interest of the senior being an important mechanism behind meritocracy. Results in section 3 can be interpreted using results in this section. Star exam-tax juniors have a higher chance of moving in and being fast-tracked in the senior's team. These juniors also have a high chance of being referred to other teams and being fast-tracked there. Hence, the average effect on fast-track promotions in table 12 in subsection 3.2 is positive and significant for these star juniors. In the same table, it can be seen that the coefficient on $\overline{Power} \times Exam\ mid\ 80\%$ (γ)

is larger in magnitude than $\overline{Power} \times Exam\ mid\ 80\% \times \overline{Tax}$ (π). This average effect on fast-track promotions can also be interpreted by looking at the effects for other teams in column (1) of table 19. With an increase in the power of potential seniors, bottom tax performing - mid 80% exam ranking juniors have a higher probability of moving across others teams and being fast-tracked there, than star tax collecting - mid 80% exam performing juniors.

Conclusion

This paper studies discretionary promotion of junior bureaucrats by their seniors and tests why these can be meritocratic. The two main contributions of the study are: first, it investigates a way in which self interest of the person exercising discretion can be leveraged for meritocratic allocations; and second, complements the literature by shedding light on the interaction of both public and private information of the decision maker.

The spotlight on self-interest of the decision maker exercising discretion is what makes the study move beyond its context. For instance, self-interest can provide an insight into why an organizational design, where professors have complete discretion to hire their own research assistants, makes sense. In this case too discretion in the choice of teams can be a tool for meritocracy of discretionary promotions. Low ability research assistants directly hurt any professor's academic interests. and so it self-interest of the professor that makes the chance of nepotism low. These and many other issues such as: should hiring, promotion or tenure decisions be taken by seniors in the field or by the university; should local or central governments be responsible for public good provision to communities etc., can all be viewed from how the lens of self-interest.

The next step is to ask whether discretionary promotions by seniors are efficient.²¹ Another equally important aspect would be to understand the corruption aspect of these promotions. Is it that seniors pull up the high type into their team so that they could together engage in effective rent extraction? What is the effect on the senior's performance of working with a high type junior? Does it allow the senior to reduce effort? Further work would also need to investigate whether allowing discretion to seniors could help organizations promote on the basis of the more permanent and job relevant component of ability of junior workers, and help avoid pitfalls of the Peter Principle (Lazear (2004) and Benson et al. (2018)).

²¹In Aman-Rana et al. (2020) we take a first crack at this question.

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Tables

Table 1: **Do the tax and exam based ability measures convey anything useful?**

	Dependent variable:					
	Outstanding subjective performance evaluation by boss	Attitude of staff with citizens improved	Timeliness of service improved	Outstanding subjective performance evaluation by boss	Attitude of staff with citizens improved	Timeliness of service improved
	OLS (1)	OLS (2)	OLS (3)	OLS (4)	OLS (5)	OLS (6)
$\overline{Tax} = Top50\%$	0.20*** (0.09) [0.00]	0.12*** (0.04) [0.00]	0.08*** (0.04) [0.00]			
Exam Top10%				-0.02 (0.04) [0.55]	-0.00 (0.07) [0.88]	0.02 (0.08) [0.88]
Exam Bot10%				-0.13*** (0.03) [0.00]	-0.01 (0.04) [0.81]	-0.10*** (0.03) [0.00]
controls	No	No	No	No	No	No
district FE	No	Yes	Yes	No	Yes	Yes
month-year FE	Yes	Yes	Yes	Yes	Yes	Yes
cohort FE	Yes	Yes	Yes	Yes	Yes	Yes
mean of outcome	0.20	0.64	0.64	0.14	0.64	0.64
person x mon	911	103	103	6735	189	189
cohorts	8	4	4	25	5	5

* p<0.1, ** p<0.05, *** p<0.01

Clustered standard errors in parentheses. Clustered wild bootstrap p-value in square brackets.

Notes: The unit of observation is a civil servant-month. \overline{Tax} =Top 50% is a dummy that turns on 1 whenever the junior is in the top 50% of their cohort in tax performance, in the first job. Exam top (bottom) 10% is a dummy that turns on one for those civil servants that were the top (bottom) 10% of their cohort in the recruitment exam.

Table 2: Summary statistics of careers of juniors by exam rank

	Exam Top 10%	Exam Mid 80%	Exam Bottom 10%	Overall
Exam rank sample: 40 cohorts				
Power of seniors (\overline{Power})	0.99 (0.87) [N= 2142]	1.20 (0.94) [N=12964]	0.76 (0.58) [N=2129]	1.12 (0.91) [N=17235]
Official promotions	0.01 (0.12) [N=2142]	0.01 (0.11) [N=12964]	0.01 (0.11) [N=2129]	0.01 (0.11) [N=17235]
Fast-track promotions	0.35 (0.48) [N=2142]	0.31 (0.46) [N=12964]	0.24 (0.43) [N=2129]	0.31 (0.46) [N=17235]
Working in senior's team & fast-tracked	0.33 (0.47) [N=348]	0.32 (0.46) [N=1946]	0.27 (0.45) [N=351]	0.31 (0.46) [N=2645]
Working in other teams & fast-tracked	0.35 (0.48) [N=1477]	0.32 (0.47) [N=9593]	0.23 (0.42) [N=1777]	0.31 (0.46) [N=12847]
Tax sample: 30 cohorts				
Power of seniors (\overline{Power})	0.66 (0.42) [N=778]	1.01 (0.73) [N=4113]	0.69 (0.50) [N=754]	0.92 (0.69) [N=5645]
Official promotions	0.02 (0.13) [N=778]	0.01 (0.11) [N=4113]	0.01 (0.10) [N=754]	0.01 (0.11) [N=5645]
Fast-track promotions	0.41 (0.49) [N=778]	0.37 (0.48) [N=4113]	0.16 (0.36) [N=754]	0.35 (0.48) [N=5645]
Working in senior's team & fast-tracked	0.34 (0.47) [N=264]	0.33 (0.47) [N=771]	0.05 (0.22) [N=141]	0.30 (0.46) [N=1176]
Working in other teams & fast-tracked	0.44 (0.50) [N=512]	0.37 (0.48) [N=3233]	0.18 (0.39) [N=613]	0.35 (0.48) [N=4358]

Notes: Standard deviation is in round parentheses. Number of observations (junior \times month) are in square parentheses. The unit of observation is a civil servant-month. Fast-track promotions is defined as a dummy that turns on one whenever the actual rank of the junior bureaucrat is higher than his or her official rank. Official promotions are promotions that are based on experience, training and subjective performance evaluation of the bureaucrat by the immediate bosses. It is defined as a dummy that turns on one whenever the bureaucrat is officially promoted to the next rank, zero otherwise. Promotion power of seniors (\overline{Power}) is the monthly average official promotions of the first set of seniors. Promotion power of potential seniors (\overline{Power}^p) is the monthly average rule-based rank of the first set of potential seniors that junior PAS bureaucrats could have worked with in the first job. *Tax* is a dummy that turns on 1 whenever the junior is in the top 50% of their cohort in tax performance, in the first job. Exam top 10%, mid 80% and bottom 10% are dummy variables that turn on one for those junior bureaucrats that were the top 10%, mid 80% and bottom 10% of their cohort in the recruitment exam. First job is excluded from the analysis.

Table 3: Summary statistics of careers of juniors by exam and tax rank

	Exam Top 10% Tax Top 50%	Exam Top 10% Tax Bottom 50%	Exam Mid 80% Tax Top 50%	Exam Mid 80% Tax Bottom 50%	Exam Bottom 10% Tax Top 50%	Exam Bottom 10% Tax Bottom 50%	Overall
Tax sample: 30 cohorts							
Power of seniors (\overline{Power})	0.68 (0.39) [N=460]	0.63 (0.46) [N=318]	1.08 (0.76) [N=2751]	0.87 (0.65) [N=1362]	0.71 (0.54) [N=603]	0.62 (0.28) [N=151]	0.92 (0.69) [N=5645]
Official promotions	0.02 (0.14) [N=460]	0.01 (0.11) [N=318]	0.01 (0.10) [N=2751]	0.01 (0.12) [N=1362]	0.01 (0.10) [N=603]	0.01 (0.08) [N=151]	0.01 (0.11) [N=5645]
Fast-track promotions	0.46 (0.50) [N=460]	0.34 (0.47) [N=318]	0.39 (0.49) [N=2751]	0.33 (0.47) [N=1362]	0.19 (0.39) [N=603]	0.03 (0.16) [N=151]	0.35 (0.48) [N=5645]
Working in senior's team & fast-tracked	0.40 (0.49) [N=137]	0.27 (0.44) [N=127]	0.39 (0.49) [N=437]	0.25 (0.43) [N=334]	0.08 (0.27) [N=87]	0.00 (0.00) [N=54]	0.30 (0.46) [N=1176]
Working in other teams & fast-tracked	0.48 (0.50) [N=321]	0.38 (0.49) [N=191]	0.38 (0.49) [N=2214]	0.35 (0.48) [N=1019]	0.21 (0.41) [N=516]	0.04 (0.20) [N=97]	0.35 (0.48) [N=4358]

Notes: Standard deviation is in round parentheses. Number of observations (junior \times month) are in square parentheses. The unit of observation is a civil servant-month. Fast-track promotions is defined as a dummy that turns on one whenever the actual rank of the junior bureaucrat is higher than his or her official rank. Official promotions are promotions that are based on experience, training and subjective performance evaluation of the bureaucrat by the immediate bosses. It is defined as a dummy that turns on one whenever the bureaucrat is officially promoted to the next rank, zero otherwise. Promotion power of seniors (\overline{Power}) is the monthly average official promotions of the first set of seniors. Promotion power of potential seniors (\overline{Power}^p) is the monthly average rule-based rank of the first set of potential seniors that junior PAS bureaucrats could have worked with in the first job. \overline{Tax} is a dummy that turns on 1 whenever the junior is in the top 50% of their cohort in tax performance, in the first job. Exam top 10%, mid 80% and bottom 10% are dummy variables that turn on one for those junior bureaucrats that were the top 10%, mid 80% and bottom 10% of their cohort in the recruitment exam. First job is excluded from the analysis.

Table 4: **Do seniors use public information to promote meritocratically?**

<i>Set of seniors considered:</i>	Dependent variable: Fast-track Promotion			
	<i>All</i>	<i>First</i>	<i>First</i>	<i>First</i>
	OLS (1)	OLS (2)	IV (3)	RF (4)
\overline{Power}	-0.04 (0.06)	-0.03 (0.04)	-0.08 (0.09)	
$\overline{Power} \times \text{Exam Top 10\% } (\alpha)$	0.08** (0.04)	0.14** (0.06)	0.13* (0.08)	
$\overline{Power} \times \text{Exam Bot 10\% } (\beta)$	-0.06 (0.08)	-0.08 (0.11)	-0.07 (0.11)	
\overline{Power}^p				-0.04 (0.05)
$\overline{Power}^p \times \text{Exam Top 10\% } (\alpha)$				0.09* (0.05)
$\overline{Power}^p \times \text{Exam Bot 10\% } (\beta)$				-0.06 (0.08)
Ho: $\alpha=\beta$ (p-value)	0.15	0.10	0.15	0.17
mean of outcome	0.31	0.31	0.31	0.31
person x mon	17625	17235	17172	17417
cohorts	40	40	40	40

* p<0.1, ** p<0.05, *** p<0.01. Clustered std errors in parentheses.

Notes: The unit of observation is a civil servant-month. Fast-track promotions is defined as a dummy that turns on one whenever the actual rank of the junior bureaucrat is higher than his or her official rank. Promotion power of seniors (\overline{Power}) is the monthly average official promotions of the first set of seniors. Promotion power of potential seniors (\overline{Power}^p) is the monthly average rule-based rank of the first set of potential seniors that junior PAS bureaucrats could have worked with in the first job. Exam top (bottom) 10% is a dummy that turns on one for those civil servants that were the top (bottom) 10% of their cohort in the recruitment exam. Levels of exam top 10% and bottom 10% are included. Controls include cohort & month-year FE, experience, experience squared, official rank of the junior, a dummy for field position, time trend of the first job. All specifications exclude first job.

Table 5: **First Stage - Do seniors use public information to promote meritocratically?**

<i>Set of seniors considered:</i>	Dependent variable:	
	<i>Power</i>	
	<i>First</i>	<i>First</i>
	(1)	(2)
\overline{Power}^p	0.59*** (0.07)	0.55*** (0.08)
$\overline{Power}^p \times \text{Exam Top 10\% } (\alpha)$		-0.10 (0.10)
$\overline{Power}^p \times \text{Exam Bot 10\% } (\beta)$		-0.01 (0.04)
AP F Statistic-I	75	99
AP F Statistic-II		121
AP F Statistic-III		528
control	Yes	Yes
FE	Yes	Yes
person x mon	19781	17172
cohorts	40	40

* p<0.1, ** p<0.05, *** p<0.01.

Clustered standard errors in parentheses.

Notes: The unit of observation is a civil servant-month. Promotion power of seniors (\overline{Power}) is the monthly average official promotions of the first set of seniors. Promotion power of potential seniors (\overline{Power}^p) is the monthly average rule-based rank of the first set of potential seniors that junior PAS bureaucrats could have worked with in the first job. Exam top (bottom) 10% is a dummy that turns on one for those civil servants that were the top (bottom) 10% of their cohort in the recruitment exam. Controls include cohort & month-year FE, experience, experience squared, official rank of the junior, a dummy for field position, time trend of the first job. All specifications exclude first job.

Table 6: **Do seniors use public or private info meritocratically?**

		Dependent variable: Fast-track Promotion														
		Definition of \overline{Tax} =														
		\overline{Tax} =Top 10%			\overline{Tax} =Top 20%			\overline{Tax} =Top 30%			\overline{Tax} =Top 40%			\overline{Tax} =Top 50%		
Set of seniors considered:		All	First	First	All	First	First	All	First	First	All	First	First	All	First	First
		OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
\overline{Power} (θ)		0.04 (0.11)	0.01 (0.07)	0.06 (0.07)	0.06 (0.11)	0.03 (0.07)	0.08 (0.06)	0.03 (0.11)	0.00 (0.08)	0.08 (0.07)	0.04 (0.11)	-0.01 (0.08)	0.09 (0.06)	0.09 (0.14)	0.03 (0.10)	0.16* (0.09)
$\overline{Power} \times \overline{Tax}$ (π)		-0.02 (0.07)	-0.03 (0.08)	0.00 (0.09)	-0.07 (0.07)	-0.07 (0.08)	-0.03 (0.10)	-0.01 (0.08)	-0.02 (0.08)	-0.01 (0.10)	0.00 (0.06)	0.02 (0.06)	0.01 (0.07)	-0.05 (0.09)	-0.03 (0.08)	-0.08 (0.08)
$\overline{Power} \times \text{Exam Top 10\%}$ (α)				0.18 (0.19)			0.17 (0.19)			0.18 (0.19)			0.17 (0.20)			0.15 (0.19)
$\overline{Power} \times \text{Exam Bot 10\%}$ (β)				-0.24* (0.12)			-0.23* (0.13)			-0.24* (0.13)			-0.25* (0.12)			-0.22** (0.11)
Ho: $\alpha=\pi$ (p-value)				0.47			0.42			0.45			0.50			0.30
Ho: $\beta=\pi$ (p-value)				0.13			0.30			0.24			0.12			0.30
mean of outcome		0.33	0.33	0.35	0.33	0.33	0.35	0.33	0.33	0.35	0.33	0.33	0.35	0.33	0.33	0.35
person x mon cohorts		6679	6646	5645	6679	6646	5645	6679	6646	5645	6679	6646	5645	6679	6646	5645
		30	30	30	30	30	30	30	30	30	30	30	30	30	30	30

* p<0.1, ** p<0.05, *** p<0.01. Clustered standard errors in parentheses.

Notes: The unit of observation is a civil servant-month. Fast-track promotions is defined as a dummy that turns on one whenever the actual rank of the junior bureaucrat is higher than his or her official rank. Promotion power of seniors (\overline{Power}) is the monthly average official promotions of the first set of seniors. \overline{Tax} is a dummy that turns on 1 whenever the junior is in the top 10%, 20%, 30%, 40% or 50% of their cohort in tax performance, in the first job. The definition of \overline{Tax} used in each case is described above the columns. Exam top (bottom) 10% is a dummy that turns on one for those civil servants that were the top (bottom) 10% of their cohort in the recruitment exam. Levels of exam top 10%, bottom 10% and \overline{Tax} are included. Controls include cohort & month-year FE, experience, experience squared, official rank of the junior, a dummy for field position, time trend of the first job. All specifications exclude first job.

Table 7: Do seniors use public or private info meritocratically?

	Dependent variable: Fast-track Promotion									
	Definition of \overline{Tax} =									
	\overline{Tax} =Top 10%		\overline{Tax} =Top 20%		\overline{Tax} =Top 30%		\overline{Tax} =Top 40%		\overline{Tax} =Top 50%	
<i>Set of seniors considered:</i>	<i>First</i>	<i>First</i>	<i>First</i>	<i>First</i>	<i>First</i>	<i>First</i>	<i>First</i>	<i>First</i>	<i>First</i>	<i>First</i>
	IV	IV	IV	IV	IV	IV	IV	IV	IV	IV
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
\overline{Power} (θ)	-0.02 (0.15)	0.12 (0.18)	0.01 (0.14)	0.13 (0.18)	-0.02 (0.13)	0.14 (0.19)	-0.02 (0.15)	0.15 (0.20)	0.04 (0.19)	0.26 (0.25)
$\overline{Power} \times \overline{Tax}$ (π)	-0.03 (0.08)	-0.01 (0.08)	-0.10 (0.08)	-0.03 (0.09)	-0.03 (0.08)	-0.01 (0.09)	0.02 (0.05)	0.04 (0.06)	-0.06 (0.10)	-0.11 (0.12)
$\overline{Power} \times$ Exam Top 10% (α)		0.39*** (0.14)		0.39*** (0.14)		0.39*** (0.13)		0.38** (0.14)		0.33** (0.15)
$\overline{Power} \times$ Exam Bot 10% (β)		-0.33*** (0.09)		-0.32*** (0.09)		-0.33*** (0.09)		-0.35*** (0.08)		-0.30*** (0.07)
Ho: $\alpha=\pi$ (p-value)		0.02		0.03		0.03		0.05		0.01
Ho: $\beta=\pi$ (p-value)		0.00		0.08		0.04		0.00		0.19
mean of outcome	0.33	0.35	0.33	0.35	0.33	0.35	0.33	0.35	0.33	0.35
person x mon cohorts	6646 30	5645 30	6646 30	5645 30	6646 30	5645 30	6646 30	5645 30	6646 30	5645 30

* p<0.1, ** p<0.05, *** p<0.01. Clustered standard errors in parentheses.

Notes: The unit of observation is a civil servant-month. Fast-track promotions is defined as a dummy that turns on one whenever the actual rank of the junior bureaucrat is higher than his or her official rank. Promotion power of seniors (\overline{Power}) is the monthly average official promotions of the first set of seniors. \overline{Tax} is a dummy that turns on 1 whenever the junior is in the top 10%, 20%, 30%, 40% or 50% of their cohort in tax performance, in the first job. The definition of \overline{Tax} used in each case is described above the columns. Exam top (bottom) 10% is a dummy that turns on one for those civil servants that were the top (bottom) 10% of their cohort in the recruitment exam. Levels of exam top 10%, bottom 10% and \overline{Tax} are included. Controls include cohort & month-year FE, experience, experience squared, official rank of the junior, a dummy for field position, time trend of the first job. All specifications exclude first job.

Table 8: **Reduced form: Do seniors use public or private info meritocratically?**

	Dependent variable: Fast-track Promotion									
	Definition of \overline{Tax} =									
	\overline{Tax} =Top 10%		\overline{Tax} =Top 20%		\overline{Tax} =Top 30%		\overline{Tax} =Top 40%		\overline{Tax} =Top 50%	
<i>Set of seniors considered:</i>	<i>First</i>	<i>First</i>	<i>First</i>	<i>First</i>	<i>First</i>	<i>First</i>	<i>First</i>	<i>First</i>	<i>First</i>	<i>First</i>
	RF	RF	RF	RF	RF	RF	RF	RF	RF	RF
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
\overline{Power}^p (θ)	-0.01 (0.10)	0.08 (0.12)	0.01 (0.10)	0.09 (0.13)	-0.01 (0.09)	0.10 (0.13)	-0.02 (0.11)	0.10 (0.15)	0.03 (0.14)	0.19 (0.18)
$\overline{Power}^p \times \overline{Tax}$ (π)	-0.03 (0.07)	-0.01 (0.08)	-0.08 (0.06)	-0.02 (0.08)	-0.03 (0.06)	-0.00 (0.08)	0.02 (0.04)	0.04 (0.06)	-0.05 (0.08)	-0.08 (0.09)
$\overline{Power}^p \times \text{Exam Top 10\%}$ (α)		0.30** (0.12)		0.30** (0.12)		0.30** (0.11)		0.30** (0.12)		0.28** (0.12)
$\overline{Power}^p \times \text{Exam Bot 10\%}$ (β)		-0.25*** (0.07)		-0.24** (0.09)		-0.25*** (0.09)		-0.28*** (0.08)		-0.23*** (0.06)
Ho: $\alpha=\pi$ (p-value)		0.05		0.06		0.06		0.11		0.01
Ho: $\beta=\pi$ (p-value)		0.02		0.17		0.12		0.01		0.14
mean of outcome	0.33	0.35	0.33	0.35	0.33	0.35	0.33	0.35	0.33	0.35
person x mon	6679	5678	6679	5678	6679	5678	6679	5678	6679	5678
cohorts	30	30	30	30	30	30	30	30	30	30

* p<0.1, ** p<0.05, *** p<0.01. Clustered standard errors in parentheses.

Notes: The unit of observation is a civil servant-month. Fast-track promotions is defined as a dummy that turns on one whenever the actual rank of the junior bureaucrat is higher than his or her official rank. Promotion power of potential seniors (\overline{Power}^p) is the monthly average rule-based rank of the first set of potential seniors that junior PAS bureaucrats could have worked with in the first job. \overline{Tax} is a dummy that turns on 1 whenever the junior is in the top 10%, 20%, 30%, 40% or 50% of their cohort in tax performance, in the first job. The definition of \overline{Tax} used in each case is described above the columns. Exam top (bottom) 10% is a dummy that turns on one for those civil servants that were the top (bottom) 10% of their cohort in the recruitment exam. Levels of exam top 10%, bottom 10% and \overline{Tax} are included. Controls include cohort & month-year FE, experience, experience squared, official rank of the junior, a dummy for field position, time trend of the first job. All specifications exclude first job.

Table 9: **First stage: Do seniors use public or private info meritocratically?**

		Dependent variable: Promotion power of seniors (<i>Power</i>)									
		Definition of \overline{Tax} =									
		\overline{Tax} =Top 10%		\overline{Tax} =Top 20%		\overline{Tax} =Top 30%		\overline{Tax} =Top 40%		\overline{Tax} =Top 50%	
<i>Set of seniors considered:</i>		<i>First</i>	<i>First</i>	<i>First</i>	<i>First</i>	<i>First</i>	<i>First</i>	<i>First</i>	<i>First</i>	<i>First</i>	<i>First</i>
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
\overline{Power}^p (θ)		0.69*** (0.08)	0.70*** (0.05)	0.71*** (0.06)	0.72*** (0.05)	0.71*** (0.06)	0.72*** (0.05)	0.70*** (0.06)	0.71*** (0.06)	0.71*** (0.06)	0.70*** (0.05)
$\overline{Power}^p \times \overline{Tax}$ (π)		0.07 (0.05)	0.07 (0.05)	-0.00 (0.04)	0.03 (0.04)	-0.01 (0.04)	0.03 (0.04)	0.01 (0.04)	0.06** (0.03)	-0.02 (0.04)	0.02 (0.04)
$\overline{Power}^p \times \text{Exam Top 10\%}$ (α)			0.06 (0.05)		0.05 (0.05)		0.05 (0.05)		0.05 (0.05)		0.06 (0.05)
$\overline{Power}^p \times \text{Exam Bot 10\%}$ (β)			-0.19 (0.14)		-0.21 (0.16)		-0.22 (0.16)		-0.23 (0.16)		-0.20 (0.15)
AP F Statistic-I		91	249	417	367	301	361	326	332	250	249
AP F Statistic-II		824	824	1229	1562	1204	1600	949	929	1286	977
AP F Statistic-III			121		116		109		125		139
AP F Statistic-IV			566		472		477		315		503
controls		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
FE		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
person x mon		6646	5645	6646	5645	6646	5645	6646	5645	6646	5645
cohorts		30	30	30	30	30	30	30	30	30	30

* p<0.1, ** p<0.05, *** p<0.01. Clustered standard errors in parentheses.

Notes: The unit of observation is a civil servant-month. Fast-track promotions is defined as a dummy that turns on one whenever the actual rank of the junior bureaucrat is higher than his or her official rank. Promotion power of seniors (*Power*) is the monthly average official promotions of the first set of seniors. Promotion power of potential seniors (\overline{Power}^p) is the monthly average rule-based rank of the first set of potential seniors that junior PAS bureaucrats could have worked with in the first job. \overline{Tax} is a dummy that turns on 1 whenever the junior is in the top 10%, 20%, 30%, 40% or 50% of their cohort in tax performance, in the first job. The definition of \overline{Tax} used in each case is described above the columns. Exam top (bottom) 10% is a dummy that turns on one for those civil servants that were the top (bottom) 10% of their cohort in the recruitment exam. Levels of exam top 10%, bottom 10% and \overline{Tax} are included. Controls include cohort & month-year FE, experience, experience squared, official rank of the junior, a dummy for field position, time trend of the first job. All specifications exclude first job.

Table 10: **Are public and private info complements in discretionary promotions?**

	Dependent variable: Fast-track Promotion									
	Definition of \overline{Tax} =					Definition of \overline{Tax} =				
	Top 10%	Top 20%	Top 30%	Top 40%	Top 50%	Top 10%	Top 20%	Top 30%	Top 40%	Top 50%
<i>Set of seniors considered:</i>	<i>All</i>	<i>All</i>	<i>All</i>	<i>All</i>	<i>All</i>	<i>First</i>	<i>First</i>	<i>First</i>	<i>First</i>	<i>First</i>
	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS	OLS
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
$\overline{Power} \times \text{Exam Top10\%} \times \overline{Tax} (\alpha)$	0.62*** (0.15)	0.45 (0.27)	0.55** (0.26)	0.43** (0.16)	0.57*** (0.17)	0.74*** (0.20)	0.34 (0.38)	0.37 (0.41)	0.13 (0.32)	0.59** (0.29)
$\overline{Power} \times \text{Exam Top10\%} (\beta)$	0.39** (0.18)	0.22 (0.18)	0.30 (0.19)	0.44** (0.17)	0.59*** (0.15)	0.46 (0.28)	0.06 (0.28)	0.10 (0.31)	0.21 (0.31)	0.68** (0.29)
$\overline{Power} \times \text{Exam Mid80\%} \times \overline{Tax} (\pi)$	0.26*** (0.06)	0.10 (0.26)	0.20 (0.25)	0.28 (0.20)	0.40*** (0.11)	0.34** (0.13)	-0.07 (0.38)	-0.01 (0.40)	0.01 (0.38)	0.45*** (0.15)
$\overline{Power} \times \text{Exam Mid80\%} (\gamma)$	0.30*** (0.07)	0.12 (0.23)	0.20 (0.23)	0.27 (0.21)	0.49*** (0.16)	0.37*** (0.12)	-0.04 (0.35)	-0.00 (0.37)	-0.02 (0.37)	0.54*** (0.18)
$\overline{Power} \times \text{Exam Bot10\%} \times \overline{Tax} (\mu)$	0.24** (0.11)	-0.15 (0.25)	-0.05 (0.24)	0.03 (0.21)	0.21 (0.14)	0.30** (0.14)	-0.34 (0.37)	-0.29 (0.39)	-0.28 (0.39)	0.26 (0.19)
$\overline{Power} (\theta)$	-0.25** (0.11)	-0.08 (0.27)	-0.15 (0.26)	-0.21 (0.21)	-0.35** (0.15)	-0.32** (0.14)	0.11 (0.37)	0.08 (0.40)	0.09 (0.38)	-0.37*** (0.13)
Ho: $\alpha=\beta$ (p-value)	0.31	0.31	0.28	0.96	0.92	0.36	0.37	0.40	0.73	0.69
Ho: $\pi=\gamma$ (p-value)	0.56	0.70	0.96	0.91	0.36	0.76	0.78	0.92	0.64	0.29
Ho: $\mu=\theta$ (p-value)	0.01	0.89	0.83	0.56	0.04	0.03	0.54	0.64	0.62	0.04
mean of outcome	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35
person x mon cohorts	5678 30	5678 30	5678 30	5678 30	5678 30	5645 30	5645 30	5645 30	5645 30	5645 30

* p<0.1, ** p<0.05, *** p<0.01. Clustered standard errors in parentheses.

Notes: The unit of observation is a civil servant-month. Fast-track promotions is defined as a dummy that turns on one whenever the actual rank of the junior bureaucrat is higher than his or her official rank. Promotion power of seniors (\overline{Power}) is the monthly average official promotions of the first set of seniors. \overline{Tax} is a dummy that turns on 1 whenever the junior is in the top 10%, 20%, 30%, 40% or 50% of their cohort in tax performance, in the first job. The definition of \overline{Tax} used in each case is described above the columns. Exam top (bottom) 10% is a dummy that turns on one for those civil servants that were the top (bottom) 10% of their cohort in the recruitment exam. Levels of exam top 10%, bottom 10% and \overline{Tax} are included. Controls include cohort &

Table 11: **Are public and private info complements in discretionary promotions?**

	Dependent variable: Fast-track Promotion				
	Definition of \overline{Tax} =				
	Top 10%	Top 20%	Top 30%	Top 40%	Top 50%
<i>Set of seniors considered:</i>	<i>First</i>	<i>First</i>	<i>First</i>	<i>First</i>	<i>First</i>
	IV	IV	IV	IV	IV
	(1)	(2)	(3)	(4)	(5)
$\overline{Power} \times \text{Exam Top10\%} \times \overline{Tax} (\alpha)$	1.18*** (0.17)	0.93** (0.42)	1.02** (0.44)	1.10** (0.47)	1.40*** (0.29)
$\overline{Power} \times \text{Exam Top10\%} (\beta)$	0.65*** (0.18)	0.40 (0.41)	0.57 (0.44)	0.50 (0.44)	0.84** (0.31)
$\overline{Power} \times \text{Exam Mid80\%} \times \overline{Tax} (\pi)$	0.36*** (0.07)	0.10 (0.51)	0.26 (0.51)	0.29 (0.48)	0.58*** (0.17)
$\overline{Power} \times \text{Exam Mid80\%} (\gamma)$	0.40*** (0.09)	0.13 (0.48)	0.28 (0.49)	0.27 (0.48)	0.72*** (0.25)
$\overline{Power} \times \text{Exam Bot10\%} \times \overline{Tax} (\mu)$	0.24 (0.19)	-0.24 (0.50)	-0.07 (0.50)	-0.05 (0.49)	0.34 (0.21)
$\overline{Power} (\theta)$	-0.29 (0.21)	-0.01 (0.43)	-0.14 (0.45)	-0.11 (0.43)	-0.43** (0.21)
Ho: $\alpha=\beta$ (p-value)	0.00	0.00	0.01	0.00	0.01
Ho: $\pi=\gamma$ (p-value)	0.63	0.69	0.85	0.70	0.26
Ho: $\mu=\theta$ (p-value)	0.19	0.80	0.94	0.94	0.05
mean of outcome	0.35	0.35	0.35	0.35	0.35
person x mon	5645	5645	5645	5645	5645
cohorts	30	30	30	30	30

* p<0.1, ** p<0.05, *** p<0.01. Clustered standard errors in parentheses.

Notes: The unit of observation is a civil servant-month. Fast-track promotions is defined as a dummy that turns on one whenever the actual rank of the junior bureaucrat is higher than his or her official rank. Promotion power of seniors (\overline{Power}) is the monthly average official promotions of the first set of seniors. \overline{Tax} is a dummy that turns on 1 whenever the junior is in the top 10%, 20%, 30%, 40% or 50% of their cohort in tax performance, in the first job. The definition of \overline{Tax} used in each case is described above the columns. Exam top (bottom) 10% is a dummy that turns on one for those civil servants that were the top (bottom) 10% of their cohort in the recruitment exam. Levels of exam top 10%, bottom 10% and \overline{Tax} are included. Controls include cohort & month-year FE, experience, experience squared, official rank of the junior, a dummy for field position, time trend of the first job. All specifications exclude first job.

Table 12: **Reduced form: Are public and private info complements in discretionary promotions?**

Set of seniors considered:	Dependent variable: Fast-track Promotion				
	Definition of \overline{Tax} =				
	Top 10%	Top 20%	Top 30%	Top 40%	Top 50%
	<i>First</i>	<i>First</i>	<i>First</i>	<i>First</i>	<i>First</i>
	RF	RF	RF	RF	RF
	(1)	(2)	(3)	(4)	(5)
$\overline{Power}^p \times \text{Exam Top10\%} \times \overline{Tax} (\alpha)$	0.88*** (0.21)	0.69* (0.36)	0.62 (0.39)	0.68* (0.37)	1.04*** (0.24)
$\overline{Power}^p \times \text{Exam Top10\%} (\beta)$	0.47*** (0.14)	0.27 (0.30)	0.43 (0.33)	0.38 (0.33)	0.75*** (0.24)
$\overline{Power}^p \times \text{Exam Mid80\%} \times \overline{Tax} (\pi)$	0.24** (0.09)	0.05 (0.38)	0.18 (0.40)	0.21 (0.37)	0.53*** (0.12)
$\overline{Power}^p \times \text{Exam Mid80\%} (\gamma)$	0.27*** (0.07)	0.07 (0.35)	0.18 (0.37)	0.18 (0.37)	0.64*** (0.18)
$\overline{Power}^p \times \text{Exam Bot10\%} \times \overline{Tax} (\mu)$	0.15 (0.12)	-0.20 (0.35)	-0.08 (0.37)	-0.07 (0.36)	0.33** (0.14)
$\overline{Power}^p (\theta)$	-0.19* (0.10)	0.01 (0.33)	-0.09 (0.35)	-0.08 (0.34)	-0.44*** (0.15)
Ho: $\alpha=\beta$ (p-value)	0.09	0.09	0.50	0.21	0.24
Ho: $\pi=\gamma$ (p-value)	0.70	0.76	0.94	0.55	0.26
Ho: $\mu=\theta$ (p-value)	0.08	0.75	0.99	0.99	0.01
mean of outcome	0.35	0.35	0.35	0.35	0.35
person x mon	5678	5678	5678	5678	5678
cohorts	30	30	30	30	30

* p<0.1, ** p<0.05, *** p<0.01. Clustered standard errors in parentheses.

Notes: The unit of observation is a civil servant-month. Fast-track promotions is defined as a dummy that turns on one whenever the actual rank of the junior bureaucrat is higher than his or her official rank. Promotion power of potential seniors (\overline{Power}^p) is the monthly average rule-based rank of the first set of potential seniors that junior PAS bureaucrats could have worked with in the first job. \overline{Tax} is a dummy that turns on 1 whenever the junior is in the top 10%, 20%, 30%, 40% or 50% of their cohort in tax performance, in the first job. The definition of \overline{Tax} used in each case is described above the columns. Exam top (bottom) 10% is a dummy that turns on one for those civil servants that were the top (bottom) 10% of their cohort in the recruitment exam. Levels of exam top 10%, bottom 10% and \overline{Tax} are included. Controls include cohort & month-year FE, experience, experience squared, official rank of the junior, a dummy for field position, time trend of the first job. All specifications exclude first job.

Table 13: **First stage: Are public and private info complements in discretionary promotions?**

Set of seniors considered:	Dependent variable: Promotion power of seniors (\overline{Power})				
	Definition of \overline{Tax} =				
	Top 10%	Top 20%	Top 30%	Top 40%	Top 50%
	<i>First</i>	<i>First</i>	<i>First</i>	<i>First</i>	<i>First</i>
	(1)	(2)	(3)	(4)	(5)
$\overline{Power}^p \times \text{Exam Top10\%} \times \overline{Tax}$	0.52*** (0.16)	0.07 (0.14)	0.03 (0.14)	-0.04 (0.12)	-0.07 (0.12)
$\overline{Power}^p \times \text{Exam Top10\%}$	0.28*** (0.08)	-0.17*** (0.05)	-0.13** (0.07)	-0.13* (0.07)	-0.15* (0.08)
$\overline{Power}^p \times \text{Exam Mid80\%} \times \overline{Tax}$	0.31*** (0.07)	-0.16*** (0.05)	-0.12** (0.05)	-0.12** (0.06)	-0.18** (0.07)
$\overline{Power}^p \times \text{Exam Mid80\%}$	0.28*** (0.06)	-0.19*** (0.04)	-0.16*** (0.05)	-0.19*** (0.05)	-0.20** (0.09)
$\overline{Power}^p \times \text{Exam Bot10\%} \times \overline{Tax}$	0.71*** (0.07)	-0.42*** (0.14)	-0.37*** (0.14)	-0.39*** (0.14)	-0.40** (0.16)
\overline{Power}^p	0.43*** (0.09)	0.90*** (0.07)	0.88*** (0.08)	0.89*** (0.08)	0.90*** (0.12)
AP F Statistic-I	1038	1749	593	197	974
AP F Statistic-II	845	205	2116	34498	23970
AP F Statistic-III	554	257	140	121	396
AP F Statistic-IV	665	125	202	310	2386
AP F Statistic-V	8980	5915	7603	8784	7132
AP F Statistic-VI	57	343	273	300	236
controls	Yes	Yes	Yes	Yes	Yes
FE	Yes	Yes	Yes	Yes	Yes
person x mon	5645	5645	5645	5645	5645
Cohorts	30	30	30	30	30

* p<0.1, ** p<0.05, *** p<0.01. Clustered standard errors in parentheses.

Notes: The unit of observation is a civil servant-month. Fast-track promotions is defined as a dummy that turns on one whenever the actual rank of the junior bureaucrat is higher than his or her official rank. Promotion power of seniors (\overline{Power}) is the monthly average official promotions of the first set of seniors. Promotion power of potential seniors (\overline{Power}^p) is the monthly average rule-based rank of the first set of potential seniors that junior PAS bureaucrats could have worked with in the first job. \overline{Tax} is a dummy that turns on 1 whenever the junior is in the top 10%, 20%, 30%, 40% or 50% of their cohort in tax performance, in the first job. The definition of \overline{Tax} used in each case is described above the columns. Exam top (bottom) 10% is a dummy that turns on one for those civil servants that were the top (bottom) 10% of their cohort in the recruitment exam. Levels of exam top 10%, bottom 10% and \overline{Tax} are included. Controls include cohort & month-year FE, experience, experience squared, official rank of the junior, a dummy for field position, time trend of the first job. All specifications exclude first job.

Table 14: **Multinomial logit: Why are discretionary promotions meritocratic?**

	Dependent Variables:					
	Base category: not fast-track promoted					
	2	3	2	3	2	3
	Start work in other teams & Promoted	Start work in senior's team & Promoted	Start work in other teams & Promoted	Start work in senior's team & Promoted	Start work in other teams & Promoted	Start work in senior's team & Promoted
<i>Set of seniors considered:</i>	<i>First</i>	<i>First</i>	<i>First</i>	<i>First</i>	<i>First</i>	<i>First</i>
	(1)	(2)	(3)	(4)	(5)	(6)
\overline{Power}	-0.31 [0.329]	-0.18 [0.725]	-0.21 [0.778]	-0.27 [0.809]		
$\overline{Power} \times \text{Exam Top 10\% } (\alpha)$	-0.05 [0.927]	0.51 [0.145]	0.34 [0.635]	1.11* [0.059]		
$\overline{Power} \times \text{Exam Bottom 10\% } (\beta)$	-0.47 [0.686]	-1.56 [0.129]	-0.25 [0.857]	-2.52** [0.048]		
\overline{Power}^p					-0.06 [0.878]	-0.18 [0.757]
$\overline{Power}^p \times \text{Exam Top 10\% } (\alpha)$					0.32 [0.541]	0.87** [0.010]
$\overline{Power}^p \times \text{Exam Bottom 10\% } (\beta)$					-0.19 [0.829]	-1.52* [0.056]
$\alpha=\beta$ (p-value)	0.77	0.02	0.69	0.01	0.60	0.00
Other teams (α)=Seniors team (α) (p-value)	0.21		0.16		0.15	
Other teams (β)=Seniors team (β) (p-value)	0.22		0.05		0.08	
controls	Yes		Yes		Yes	
FE	Yes		Yes		Yes	
person x mon	16742		16703		16891	
cohorts	40		40		40	

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Score bootstrap p-values in parentheses.

Notes: The unit of observation is a civil servant-month. Fast-track promotions is defined as a dummy that turns on one whenever the actual rank of the junior bureaucrat is higher than his or her official rank. Promotion power of seniors (\overline{Power}) is the monthly average official promotions of the first set of seniors. Promotion power of potential seniors (\overline{Power}^p) is the monthly average rule-based rank of the first set of potential seniors that junior PAS bureaucrats could have worked with in the first job. Exam top (bottom) 10% is a dummy that turns on one for those civil servants that were the top (bottom) 10% of their cohort in the recruitment exam. The reference category is Exam mid80%. Controls include cohort & month-year FE, experience, experience squared, official rank of the junior, a dummy for field position, time trend of the first job. All specifications exclude first job.

Table 15: **Multinomial logit: Why are discretionary promotions meritocratic?**

	Dependent Variables:			
	Base category: not fast-track promoted			
	Start work in other teams & Promoted	Start work in senior's team & Promoted	Start work in other teams & Promoted	Start work in senior's team & Promoted
	Definition of \overline{Tax} =			
Top 50%	Top 50%	Top 50%	Top 50%	
<i>Set of seniors considered:</i>	<i>First</i> (1)	<i>First</i> (2)	<i>First</i> (3)	<i>First</i> (4)
\overline{Power} (θ)	0.09 [0.869]	0.69 [0.496]	1.03* [0.081]	1.84 [0.476]
$\overline{Power} \times \overline{Tax}$ (π)	-0.38 [0.416]	0.60 [0.503]	-0.77 [0.176]	0.56 [0.642]
$\overline{Power} \times \text{Exam Top 10\%}$ (α)			0.67 [0.628]	0.59 [0.504]
$\overline{Power} \times \text{Exam Bot 10\%}$ (β)			-3.73** [0.026]	1.40 [0.466]
$\alpha=\beta$ (p-value)			0.02	0.66
$\alpha=\pi$ (p-value)			0.35	0.99
$\beta=\pi$ (p-value)			0.08	0.69
Other teams (π)=Seniors team (π) (p-value)	0.24		0.20	
Other teams (α)=Seniors team (α) (p-value)			0.94	
Other teams (β)=Seniors team (β) (p-value)			0.01	
controls	Yes		Yes	
FE	Yes		Yes	
person x mon	6575		5574	
cohorts	30		30	

* p<0.1, ** p<0.05, *** p<0.01. Score bootstrap p-values in parentheses.

Notes: The unit of observation is a civil servant-month. Fast-track promotions is defined as a dummy that turns on one whenever the actual rank of the junior bureaucrat is higher than his or her official rank. Promotion power of seniors (\overline{Power}) is the monthly average official promotions of the first set of seniors. \overline{Tax} is a dummy that turns on 1 whenever the junior is in the top 50% of their cohort in tax performance, in the first job. Exam top (bottom) 10% is a dummy that turns on one for those civil servants that were the top (bottom) 10% of their cohort in the recruitment exam. Levels of exam top 10%, bottom 10% and \overline{Tax} are included. Controls include cohort & month-year FE, experience, experience squared, official rank of the junior and a time trend of the first job. All specifications exclude first job.

Table 16: **Multinomial logit: Why are discretionary promotions meritocratic?**

	Dependent Variables:			
	Base category: not fast-track promoted			
	Start work in other teams & Promoted	Start work in senior's team & Promoted	Start work in other teams & Promoted	Start work in senior's team & Promoted
	Top 50%	Top 50%	Top 50%	Top 50%
<i>Set of seniors considered:</i>	<i>First</i>	<i>First</i>	<i>First</i>	<i>First</i>
	IV-control function	IV-control function	IV-control function	IV-control function
	(1)	(2)	(3)	(4)
\overline{Power} (θ)	0.37 [0.780]	-0.30 [0.859]	2.23 [0.254]	-1.38 [0.686]
$\overline{Power} \times \overline{Tax}$ (π)	-0.57 [0.329]	0.66 [0.558]	-0.97 [0.264]	1.09 [0.456]
$\overline{Power} \times \text{Exam Top 10\%}$ (α)			1.43 [0.418]	4.04*** [0.006]
$\overline{Power} \times \text{Exam Bot 10\%}$ (β)			-4.31** [0.012]	-3.46 [0.287]
$\alpha=\beta$ (p-value)			0.00	0.03
$\alpha=\pi$ (p-value)			0.10	0.12
$\beta=\pi$ (p-value)			0.04	0.21
Other teams (π)=Seniors team (π) (p-value)	0.35		0.23	
Other teams (α)=Seniors team (α) (p-value)			0.27	
Other teams (β)=Seniors team (β) (p-value)			0.82	
controls	Yes		Yes	
FE	Yes		Yes	
person x mon	6575		5574	
cohorts	30		30	

* p<0.1, ** p<0.05, *** p<0.01. Score bootstrap p-values in parentheses.

Notes: The unit of observation is a civil servant-month. Fast-track promotions is defined as a dummy that turns on one whenever the actual rank of the junior bureaucrat is higher than his or her official rank. Promotion power of seniors (\overline{Power}) is the monthly average official promotions of the first set of seniors. \overline{Tax} is a dummy that turns on 1 whenever the junior is in the top 50% of their cohort in tax performance, in the first job. Exam top (bottom) 10% is a dummy that turns on one for those civil servants that were the top (bottom) 10% of their cohort in the recruitment exam. Levels of exam top 10%, bottom 10% and \overline{Tax} are included. Controls include cohort & month-year FE, experience, experience squared, official rank of the junior and a time trend of the first job. All specifications exclude first job.

Table 17: **Reduced Form Multinomial Logit: Why are discretionary promotions meritocratic?**

	Dependent Variables:			
	Base category: not fast-track promoted			
	Start work in other teams & Promoted	Start work in senior's team & Promoted	Start work in other teams & Promoted	Start work in senior's team & Promoted
	Definition of \overline{Tax} =			
	Top 50%	Top 50%	Top 50%	Top 50%
	<i>First</i> (1)	<i>First</i> (2)	<i>First</i> (3)	<i>First</i> (4)
<i>Set of seniors considered:</i>				
\overline{Power}^p (θ)	0.31 [0.740]	-0.07 [0.950]	1.61 [0.248]	-0.69 [0.763]
$\overline{Power}^p \times \overline{Tax}$ (π)	-0.43 [0.361]	0.45 [0.666]	-0.76 [0.244]	0.35 [0.787]
$\overline{Power}^p \times \text{Exam Top 10\%}$ (α)			1.25 [0.340]	2.18*** [0.005]
$\overline{Power}^p \times \text{Exam Bot 10\%}$ (β)			-3.34* [0.054]	-0.48 [0.853]
$\alpha=\beta$ (p-value)			0.00	0.31
$\alpha=\pi$ (p-value)			0.09	0.35
$\beta=\pi$ (p-value)			0.08	0.78
Other teams (π)=Seniors team (π) (p-value)	0.43		0.43	
Other teams (α)=Seniors team (α) (p-value)			0.32	
Other teams (β)=Seniors team (β) (p-value)			0.35	
controls	Yes		Yes	
FE	Yes		Yes	
person x mon cohorts	6592 30		5591 30	

* p<0.1, ** p<0.05, *** p<0.01. Score bootstrap p-values in parentheses.

Notes: The unit of observation is a civil servant-month. Fast-track promotions is defined as a dummy that turns on one whenever the actual rank of the junior bureaucrat is higher than his or her official rank. Promotion power of seniors (\overline{Power}) is the monthly average official promotions of the first set of seniors. Promotion power of potential seniors (\overline{Power}^p) is the monthly average rule-based rank of the first set of potential seniors that junior PAS bureaucrats could have worked with in the first job. \overline{Tax} is a dummy that turns on 1 whenever the junior is in the top 50% of their cohort in tax performance, in the first job. Exam top (bottom) 10% is a dummy that turns on one for those civil servants that were the top (bottom) 10% of their cohort in the recruitment exam. Levels of exam top 10%, bottom 10% and \overline{Tax} are included. Controls include cohort & month-year FE, experience, experience squared, official rank of the junior and a time trend of the first job. All specifications exclude first job.

Table 18: **Multinomial logit: Why are discretionary promotions meritocratic?**

	Dependent Variables:			
	Base category: not fast-track promoted			
	Start work in other teams & Promoted	Start work in senior's team & Promoted	Start work in other teams & Promoted	Start work in senior's team & Promoted
	Top 50%	Top 50%	Top 50%	Top 50%
<i>Set of seniors considered:</i>	<i>First</i>	<i>First</i>	<i>First</i>	<i>First</i>
	(1)	(2)	(3)	(4)
			IV-control function	
$\overline{Power} \times \text{Exam Top10\%} \times \overline{Tax} (\alpha)$	3.04* [0.052]	2.07 [0.103]	8.94*** [0.000]	15.87*** [0.007]
$\overline{Power} \times \text{Exam Top10\%} (\beta)$	3.80* [0.061]	-2.07** [0.022]	5.98*** [0.007]	-2.44 [0.473]
$\overline{Power} \times \text{Exam Mid80\%} \times \overline{Tax} (\pi)$	2.32* [0.070]	-0.32 [0.774]	4.36*** [0.006]	-0.37 [0.837]
$\overline{Power} \times \text{Exam Mid80\%} (\gamma)$	3.07** [0.041]	0.14 [0.901]	5.48** [0.018]	-0.12 [0.941]
$\overline{Power} \times \text{Exam Bot10\%} \times \overline{Tax} (\mu)$	-1.68 [0.496]	2.55 [0.686]	0.64 [0.742]	-3.13 [0.437]
$\overline{Power} (\theta)$	-2.06 [0.156]	2.72 [0.209]	-3.12*** [0.004]	1.09 [0.598]
$\alpha=\beta$ (p-value)	0.54	0.00	0.30	0.01
$\pi=\gamma$ (p-value)	0.21	0.79	0.24	0.88
Other teams (α)=Seniors team (α) (p-value)	0.29		0.16	
Other teams (μ)=Seniors team (μ) (p-value)	0.48		0.42	
controls	Yes		Yes	
FE	Yes		Yes	
person x mon	5574		5574	
cohorts	30		30	

* p<0.1, ** p<0.05, *** p<0.01. Score bootstrap p-values in parentheses.

Notes: The unit of observation is a civil servant-month. Fast-track promotions is defined as a dummy that turns on one whenever the actual rank of the junior bureaucrat is higher than his or her official rank. Promotion power of seniors (\overline{Power}) is the monthly average official promotions of the first set of seniors. \overline{Tax} is a dummy that turns on 1 whenever the junior is in the top 50% of their cohort in tax performance, in the first job. Exam top (bottom) 10% is a dummy that turns on one for those civil servants that were the top (bottom) 10% of their cohort in the recruitment exam. Levels of exam top 10%, mid 80% and \overline{Tax} are included. Controls include cohort & month-year FE, experience, experience squared, official rank of the junior and a time trend of the first job. All specifications exclude first job.

Table 19: **Reduced Form Multinomial Logit: Why are discretionary promotions meritocratic?**

	Dependent Variables:	
	Base category: not fast-track promoted	
	2	3
	Start work in other teams & Promoted	Start work in senior's team & Promoted
	Definition of \overline{Tax} = Top 50%	
	First (1)	First (2)
<i>Set of seniors considered:</i>		
$\overline{Power}^p \times \text{Exam Top10\%} \times \overline{Tax} (\alpha)$	5.98*** [0.000]	6.65*** [0.000]
$\overline{Power}^p \times \text{Exam Top10\%} (\beta)$	4.67*** [0.009]	-0.16 [0.972]
$\overline{Power}^p \times \text{Exam Mid80\%} \times \overline{Tax} (\pi)$	3.23*** [0.006]	0.75 [0.801]
$\overline{Power}^p \times \text{Exam Mid80\%} (\gamma)$	4.06** [0.013]	1.40 [0.636]
$\overline{Power}^p \times \text{Exam Bot10\%} \times \overline{Tax} (\mu)$	0.15 [0.919]	0.46 [0.829]
$\overline{Power}^p (\theta)$	-2.47*** [0.000]	-0.95 [0.765]
$\alpha=\beta$ (p-value)	0.44	0.01
$\pi=\gamma$ (p-value)	0.24	0.67
Other teams (α)=Seniors team (α) (p-value)	0.81	
Other teams (μ)=Seniors team (μ) (p-value)	0.93	
controls	Yes	
FE	Yes	
person x mon	5591	
cohorts	30	

* p<0.1, ** p<0.05, *** p<0.01. Score bootstrap p-values in parentheses.

Notes: The unit of observation is a civil servant-month. Fast-track promotions is defined as a dummy that turns on one whenever the actual rank of the junior bureaucrat is higher than his or her official rank. Promotion power of potential seniors (\overline{Power}^p) is the monthly average rule-based rank of the first set of potential seniors that junior PAS bureaucrats could have worked with in the first job. \overline{Tax} is a dummy that turns on 1 whenever the junior is in the top 50% of their cohort in tax performance, in the first job. Exam top (bottom) 10% is a dummy that turns on one for those civil servants that were the top (bottom) 10% of their cohort in the recruitment exam. Levels of exam top 10%, mid 80% and \overline{Tax} are included. Controls include cohort & month-year FE, experience, experience squared, official rank of the junior and a time trend of the first job. All specifications exclude first job.