Local Governance and Bureaucrats' Performance: What Really Matters?*

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Abstract

In the recent decades, civil servant performance, especially in developing countries, is most of the time questioned. While the literature emphasizes the educational level and the monetary incentive as the most important argument, it must be noted that this is not always the case. In this paper, we collect individual-level survey data combined with Audits Reports stemming from 45 Beninese Local Administrations to explore the univers of bureaucratic performance. Beyond all that has been said, we find that Skill-Position Matching (i.e. appointing the skill that is needed in a position where it is needed) is what matters the most for individual bureaucrat's performance. Our findings are robust even after controlling for bureaucrats' relevant characteristics as well as ability, and in an environment of favoritism. On the other hand, using selection on observables to address potential bias from selection on unobservables proposed in Altondji et al (2005), we establish the causal effect of the skill-position matching on performance. Overall, evidences support the view that policy that enhances civil service regulation and offsets local politicians' implications power in both hiring and appointment decision are worth regards.

Keywords: Local bureaucrats, Skill-Position Matching, Performance, Favoritism

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1 Introduction

In the recent literature, monetary incentive, bureaucratic effectiveness, efficiency in public job sector, management practices and civil service regulation are the most cited arguments for bureaucratic performance (Rasul and Rogger, 2016; Ferraz and Finan, 2009; Ujhelyi, 2014; Best et al, 2017; Evans and Rauch, 2000). Although, evidences emphasize the quality of bureaucrats should be hired or appointed as relevant for both agencies and governmental administrations (Colonnelli et al, 2017; Dal Bo et al, 2013; David Lewis, 2007; Robinson and Verdier, 2014), there still be a lack of consensus around what really matters for individual bureaucrat to make them effective, especially when for instance, the mechanism serving for public job allocation or agents promotion within the administration is not fear.

Actually, notwithstanding the fact that incumbents have a preference for more educated depending on the importance of the job, even in a favoritism setting (Iyer and Mani, 20012; Labonne and Fafchamps, 2017), it must be noted that there are still discrepencies between individuals' skills and positions requirements. For instance, for a job where a bachelor in statistic is the best match in the accordance of the poisition requirement, incumbents may hire or appoint an individual with the same level of education or even more(master degree) but with a completely different skills (eg: bachelor or master in geography, law or chemistry). In these conditions, it is clear that we can not expect much from those bureacrats, as they are mismatched according to their skills and the positions specificities. This is a relevant issue that experiences most of the developing countries where, despite civil service regulations, incumbents are still using their discretional power to allocate jobs in their ease (Grindle, 2010; Evans and Rauch, 1999; De Sardan, 2008). Thus, it is worth regard to take into account and examine this channel quite overlooked in the literature of bureaucratic performance.

Hence, this paper aims to fill this gap by exploring, above all that has been said, what does really matter for individual bureaucrat to yield a better outcome regardless of the mechanism that leads them to the office.

Roughly speaking, we examine the extent to which skill-position matching (i.e. appointing and or hiring who is needed at the position where is needed) can be a relevant argument for office heads to perform well, even though, there were patterns of favoritism. To this end, we collect a combined individual-level survey data on local office heads and administrative records, more accurately local governments Audits Reports stemming from 45 Beninese local administrations where favoritism is frequently used to allocate public job (Wantchekon, 2003; Bierschenk and De Sardan, 2014).

Subsequently, using an OLS estimation, we find that, on average, bureaucrats who are perfectly matched with their position perform better than those who are not. This is associated to a significant 3.36 points increase on matched office heads' performance, and represents for example 13.44 percent of the General Secretary's contribution to the local bureucratic performance and 16.80 percent of that of the Finance Affairs' manager. On the other hand, controlling for differences in individuals' observables such as wages, years of educations, years of experiences, genders inequality, age, marital status, bonus incentive and office size as well as the proportion of trained bureaucrats, does not significantly affect our finding.

However, the matching effect could result from a high effort exerted by politicians' relatives or locally appointed who might likely do well to improve public goods provision on an anticipated reelection incentive which would probably help them securing their position[1]. Then, we take advantage of the wide range of observables and consider extending our control variables set in order to deal with potential variables exclusion by accounting for the proportion of bureaucrats sharing the same ethnicity with the Mayor, originally from the municipality, as well as the proportion of those who were born in the locality. Yet there, we come up with a positive and significant point estimate which is robust to the inclusion of the proportion of bureaucrats who has the local knowledge.

On the other hand, there is a high contender of more educated among matched bureaucrats, and knowing the strong correlation between educational attainment and individuals performance, it is easier to attribute the effect to this proportion of eligible, even though we control for individuals' education level. Alternatively, one may be right in interpreting our point estimate as a product of managers' ability. Then, to isolate the matching effect and ascertain whether it is, in fact, causal, we undertake a number of checks.

First of all, we level individuals' attainment to eligible office heads, notably bureaucrats who fulfil the minimum educational requirement for an office manager, whether or not they are actually in a matched position. This helps us manage any omitted variable bias as it cancel out any unobservable related to education confounders. Still, we find that, even controlling for all characteristics mentioned above, the skill-position adequacy increases performance.

Subsequently, we account for individual's ability by considering only managers who have a past experience in such or similar position to their current one (i.e. the position in which there are at the time of the survey), whether or not they are in a matched position. The intuition behind is that, an individual who experienced an office, even though he has not been the manager, would have acquired some skills that would likely make him more able compared to someone who did not, and subsequently boosts his performance. But then, after controlling for observables covariates does not affect the matching effect which is even confirmed with a Propensity Score Matching estimation strategy.

Finally, we use insight from Altondji, Taber and Elder (2005) who uses selection on observables to estimate the potential bias from the selection on unobservables. This allows us to estimate the potential bias stemming from selection on unboservables. Uttimately, we establish the real effect of the matching on offices heads performance. Moreover, selection on unobservables must to be as strong as six times larger than our observables covariates to explain away the matching effect.

This paper contributes to the large and growing literature on bureaucratic performance by documenting, above all, one of the most relevant but overlooked piece of the puzzle. Through our finding, we debate on civil servant selection and though, their

[1]Holmstrom (1999) introduced the first model of careers concern in 1982. Basically, the model formulated that a person concern by future career may influence his or her own incentive to excert more effort.
Further, Tabellini and Persson (2002) took insight from Holmstrom model in a case for reelection incentive and expose how an incumbent concern by a future career might refrain from rent seeking and do good.

performance (DellaVigna and Pope, 2017; Ashraf et al. 2014; Ashraf et al. 2014; Dal Bo et al, 2013), and participate to the rich and vast literature related of political oversight of the local bureaucracy and related performance of workers (Gulzar and Pasquale, 2017; Drugov, 2015; Iyer and Mani, 2012; Colonnelli et al, 2017). In the like of Weaver (2016) who, in a case of hiring under corruption, provide evidence that hires can yield better outcome in terms of performance, we start to filling the gap in the literature about the lack of consensus over public sector workers' performance by empirically document at the individual level, and probably for the first time, that when bureaucrats skills match with their position, they perform better compared to those who are not.

Overall, our findings tell much about policy implications. Notably on the ongoing debate about the institutional reform over the local governance in developing countries (Olken, 2010; Finan and Ferraz, 2011) and in particular, over the local bureaucracy (Ujhelyi, 2014). Roughly speaking, we suggest to offset the implication power of local politicians in the hiring process, and foster civil service regulation.

The remainder of the paper is organized as follows: section 2 presents the institutional environment and Beninese local bureaucracy. In section 3, we discuss the data and while section 4 presents the specification and challenges should be overcome, section 5 present the main finding. In section 6, we discuss the causal relationship before concluding in section 7.

2 Institutional Context and Local Bureaucracy in Benin

Benin, as most of West African Economic and Monetary Union (WAEMU) members adopted the decentralization system around 1990s but this became effective in 2000 through *"Loi N 97-028 du 15 Janvier 1999 Portant Organisation de L'Administration Territoriale de la Rplublique du Bnin"* in its Article 7 alongside with Article 21 that institutionalized created Local collectivities (municipalities) endowed with a financial autonomy.

In total, Benin counts 77 communes (municipalities), each led by a local council elected through a regular electoral process held every five years. Once the council is validated by the Supreme Court, the Mayor is in charge to appointing a General Secretary (SG) as the first employee of the local administration in term of hierarchy as stated by the same law in its Article 25. His role is to oversee the work of the whole administration and to ensure its good governance, i.e. the good functioning of the entire local administration is managed by the SG.

Beside the SG, the Mayor has the possibility to reshuffle his cabinet by hiring new managers or promoting some within the local administration as well as disciplining recidivist agents, which could lead to the firing of the latters. However, how this should be conducted, upon the time of this study, is left in the hands of the Mayor. While ostensibly well-meaning, the legislator does not go beyond the constraint of "Go forth and do well", leaving room for incumbents to staff offices or allocate public jobs at theirs ease, and with enough discretion.

Actually, a Mayor considering local development challenges of his community and knowing that the quality of the local bureaucracy is sine qua non for a well-being of the administration should care about the type of individuals that is needed and hire,

or yet, appoint according to the position requirement. For instance, on the regular basis, the SG is supposed to be appointed among the category of service's administrators.

However, through experiences that we have had in working in partnership with local government, we noticed that a non-negligible part of them across municipalities have not met the educational requirement. On the other hand, the manager of financial affairs should be appointed among accounting administrators, but there also, some are not qualified for the job and are given the privilege to manage this office.

Later on, the law on decentralization completed this list of offices with others based on to the organizational chart of Beninese public administration. While some are compulsory namely the Planning and local development office, the Infrastructure and Maintenance department and the Public Procurement Office, others are left to the appreciation of the Mayors on the relevancy of their creation depending on the socio demographic structure and the local development plan of the municipality

While, many anecdotes highlight the mechanism through which politicians, enjoying the authority that the law conferred them, allocate public job[2], evidences emphasize that the use of clientelism is the most influencing channel in Benin[3] (Wantchekon, 2003; Olivier de Sardan, 2008; Bierschenk and de Sardan, 2014). This is most noticeable at the local level cause of the direct interaction between incumbents and citizens through interest group and local development association[4] which are strongly linked to politicians. Therefore, the Beninese local administration offers a good environment to study the importance of skill-position matching on the performance of local civil servant, especially office heads even though there is a pattern of favoritism.

On the other hand, the central government institutes a yearly control through Local Government Audits, which aims to screen the use of the public transfers (funds), the quality of public goods provided with the funds and in general, the functioning of the local administration. In addition, auditors evaluate the quality of achieved task by office managers on the basis of what was expected according to the office's attributions. This allow them to question the quality and performance of office heads and in case they do not suit the job (i.e. whether there is skill-position adequacy or not), auditors suggest their replacement (office heads). Note that the Audit occurs randomly, as the timing of events is not notified to bureaucrats prior to the arriving of auditor.

Also, at the end of each audit, auditors compute a performance index to the local administration which reflects the aggregate individuals' performance of bureaucrats (office managers). This index follows a rigorous methodology harmonized across local administrations and takes into account all factors should be regarded such as the effectiveness of the local council, the dynamic of the Mayors to provide office

[2]Olivier de Sardan, (2008) in a survey through West Africa Francophone countries including Benin reported reported many stylized fact about how clientelism and patronage work in these countries. For instance, he reported that in Niger, the coallition party in power have a quota in the all administrations to staff with politically connected.

[3]Wantchekon (2003) in a field experiment highlight the way incumbents use public job sector allocation as a proof for elections promises in order to secure vote with interest groups (especially when men are involved).

[4]For instance, in Benin, Students on Beninese campus are used to garther themselves by ethnic group and ask for patronnage for relative politician for financing their activities in their communities. As a result, leaders of these associations become political activist during elections for future job career incentives and promises.

holders with the need, working conditions, the availability and timing of transfers which represents the main budget funding source of the majority of Beninese local administrations. Further, we use the performance index of the local administrations to generate the individuals performance index.

3 Data Section

For the purposes of this paper, we use an individual-level survey data that we combine with administrative records to understand the performance of local bureaucracy. In this section, we detail the data collection procedure, describe the bureaucrats' performance measure as well as the skill-position matching variable and finally, we present some descriptive statistics that emphasize the state of local bureaucrats' appointment in Benin.

3.1 Data collection

The primary data source used in this paper is survey data collected through the Institute for Empirical Research in Political Economy (IERPE). The survey was conducted in 2018 and covers 45 Beninese municipalities. In each municipality, we prioritize bureaucrats in the five most important positions in the local administration who are involved in the management of funds stemming from the central government via the National Commission of Local Finance (Conafil[5]).

Basically, bureaucrats were asked to fill out a survey with questions related to their professional career and their individual characteristics. Amongst other questions, they were asked their years of education, experiences (past and current in years), skills, wages, whether they have bonus incentive, the main attributes of their office, their age, marital status, family size, etc. Out of 225 respondents expected, only seven did not send back their filled form which corresponds to a 96.88 percent responses rate. In addition, we extended the data collection to the rest of office holders others than the five prioritized as well as theirs CVs which allows us to end up with a full sample of 322 individuals.

We combine this data with administrative records from Audit Reports (published by Conafil) on our 45 municipalities. Reports contain amongst others, detailed information on office heads, the educational attainment, the years of experience in the office, number of qualified agents in the office and managers' additional qualification (in term of qualified training) as well as achieved activities by bureaucrats. These details allow us for further checks the accuracy of some relevant information collected with individuals (managers).

On the other hand, Auditors establish the overall performance index of the local administration. Actually, the administrations performance index follows a rating methodology of management and completed activities and projects based on direct observations and a wide range of various indicators taking into account the political process and the local public good provision.

[5] *National Commission for Local Finance* is a governmental agency through which the central governmentt deals with Beninese local administrations for funds (direct and indirect transfers for financing their development plan).

3.2 Bureaucrats' Performance Index

Individuals' performance index of bureaucrats are generated from the overall performance of the local administration. As emphasized above (section 2), the local administration performance is an aggregation of its office heads outcome based on the management of resources and the quality of local public good provided. Then, for each individual, we use a harmonized weighting procedure across local administrations to establish a unique and individual performance index as the share of their respective contribution to the performance of the local administration in terms of the quality and timing of activities achievement and that of the public goods provision.[6]

3.3 Skill-Position Matching

To match bureaucrats and positions, we use information from Beninese Ministry in charge of Labor and bureaucrats career management. It describes the requirements for an individual to perform a specific job. Among other things, there is the educational attainment and, in particular the specific skills needed to suit the office. We combine this information with the main attributions of each office to check the adequacy. In fact, bureaucrats were asked as well to mention the main activities that they used to conduct according to the attributions of the office they are managing.

Following this step, we generate a dummy variable that takes a value of 1 for individuals that have the educational level and the skill required to suit the position and 0 otherwise. As an example, for the Planning and Local Development office, one of the most important position in the local administration, the Labor Ministry classification requires at least a bachelor degree and specifically in Planning, Statistic, Local Development or associated field such as Project Management. Then we code 1 if the bureaucrat meets the requirement and 0 otherwise. In so doing, we find that 55.28 percent (Table 1, Panel A) of bureaucrats have been adequately appointed in their position.

3.4 Description of the Data

At first glance of our data, it is apparent that more than 80 percent of office holder are eligible to the management job, i.e. most of individuals in our sample, more accurately, 81.42 percent (Table 1, Panel A) meet the education level criteria. Based on this high proportion of most educated in our sample, our main identification strategy further take advantage of it and create the sub-sample of eligible office holders.

On the other hand, when we deepen the analysis, we notice that among bureaucrats who fulfil the education level, around 70 percent (Table 1, Panel C) are local appointees and 86.34 percent were born in the municipality with 69.40 percent sharing the same ethnicity with the Mayor. These observations are actually very important as they might drive bureaucrats performance a way that controlling for them in order to isolate the effect of our covariate of interest which is the matching is worth regarded.

In addition, despite knowing that the Beninese local administration is highly politicized along with a huge rate of favored bureaucrats, we are able to identify the proportion of individuals who are used to engage in local development association and have a good knowledge of their community.

[6]More details about the computation of performance index of Local administrations can be found following this link http://conafil.org/index.php/component/content/category/24-finances-locales

Table 1: Summary Statistics Table

Variables	Obs	Mean	Std. Dev	Min	Max
Panel A					
Bureaucrats performance	322	8.515969	5.623601	1.1706	21.7525
Proportion of skilful	323	.8142415	.3895151	0	1
Proportion of Matched Bureaucrats	322	.552795	.4979787	0	
Wage	322	125922.4	38361.78	52500	200000
Years of Education	322	15.65528	2.43593	6	18
Years of Experience	322	4.807453	3.273638	1	15
Age	322	38.97826	6.859254	24	62
Proportion of Married	323	.8544892	.3531622	0	1
Proportion of Men	323	.8235294	.3818115	0	1
Family size	322	5.329193	2.276184	1	16
Panel B					
Bureaucrats with bonus incentive	322	.5652174	.4965	0	1
Office size	322	3.158385	2.215017	1	19
Bureaucrats who attended a training	322	.5931677	.4920077	0	1
Trained before being appointed	322	.2826087	.4509685	0	1
Direct Appointees	322	.2919255	.4553558	0	1
Panel C					
Bureaucrats from the Mayor ethnic group	323	.5696594	.495892	0	1
Bureaucrats born in the Municipality	323	.622291	.4855665	0	1
Local Bureaucrats	323	.7182663	.4505422	0	1
Bureaucrats mastering the Community	322	.6583851	.4749893	0	1

Actually, a survey of the literature reveals that local knowledge of the community is a non-negligible factor that could explain local bureaucratic performance and the quality of public goods provided (Acemoglu et al, 2014). Therefore, we construct the variable local knowledge which is a dummy taking the value 1 if manager i in municipality m completed at least the primary school in the locality or have been member of a local development association such as students association for the development of the community.

As seen in Table 1 and Panel C, more than 65 percent of office heads have the knowledge of their community and represent 65.65 percent of eligible bureaucrats. Moreover, it is notable to emphasize that 65 percent (Table 1, Panel B) of less educated managers (non-eligible) attend a training, and among the trained, 48.71 percent attended before being appointed as an office heads. All these variables will be used as control in our identification strategies cause of their relevance in the literature and their high frequency in our sample. Later on, we use the proportion of individuals with local knowledge for robustness check cause of the close collaboration between those bureaucrats and politicians during electoral campaign. Details on the data used in this study is provided in the summary table (Table 1).

Table 2: Balance Table between Matched and Unmatched Office Heads

Variable	(1) 0 Mean/SE	(2) 1 Mean/SE	T-test Difference (1)-(2)
Bureaucrats performance	6.954	9.780	-2.826***
	(0.460)	(0.405)	
Panel A			
Wage	1.11e+05	1.38e+05	-2.77e+04***
	(2670.121)	(2896.908)	
Years of Education	14.139	16.882	-2.743***
	(0.240)	(0.062)	
Years of Experience	5.264	4.438	0.826**
	(0.258)	(0.253)	
Age	39.340	38.685	0.655
	(0.627)	(0.471)	
Proportion of Men	0.757	0.882	-0.125***
	(0.036)	(0.024)	
Proportion of Married	0.840	0.871	-0.031
	(0.031)	(0.025)	
Faimily Size	5.521	5.174	0.347
	(0.208)	(0.156)	
Panel B			
Bureaucrats with bonus incentive	0.569	0.562	0.008
	(0.041)	(0.037)	
Office Size	3.035	3.258	-0.224
	(0.160)	(0.182)	
Bureaucrats who attended a training	0.576	0.607	-0.030
	(0.041)	(0.037)	
Trained before being appointed	0.264	0.298	-0.034
	(0.037)	(0.034)	
Direct Appointees	0.215	0.354	-0.139***
	(0.034)	(0.036)	
Panel C			
Proportion of Bureaucrats from the Mayor ethnic group	0.528	0.607	-0.079
	(0.042)	(0.037)	
Bureaucrats mastering the Community	0.653	0.663	-0.010
	(0.040)	(0.036)	
Proportion of Bureaucrats born in the Municipality	0.597	0.646	-0.049
	(0.041)	(0.036)	
Local Bureaucrats	0.694	0.742	-0.047
	(0.039)	(0.033)	
N	144	178	
F-test of joint significance (F-stat)			10.485***
F-test, number of observations			322

Notes: The value displayed for t-tests are the differences in the means across the groups. The value displayed for F-tests are the F-statistics. ***, **, and * indicate significance at the 1, 5, and 10 percent critical level.

4 Estimating the effect of Skill-Position Matching on Performance

4.1 Main Identification Strategy

To estimate the causal effect of Skill-Position-Matching on bureaucratic performance, the ideal context would be to randomly assign offices among bureaucrats and then compare both matched and unmatched bureaucrats. For obvious reasons implementing such an experiment is not feasible. Looking at the balanced table (Table 2) between matched and unmatched bureaucrats based on observables, it appears clear that we are not comparing two balanced groups in all regard as their difference in mean are significant for some relevant variables that determine performance. For instance, Panel A of the same table shows that matched and unmatched bureaucrats are different on characteristics such as wages, years of education, years of experience in the office.

The literature has shown that these variables are important factors that drive the performance of a bureaucrat (Evans and Rauch, 2000; Sturman, 2003; Finan and Ferraz, 2009). Giving the importance of these variables, we include them in all of our regressions. Also, as seen in Panel A and B of Table 2, matched bureaucrats are significantly likely to be men. Gender quota is very important as it tends to make men more performant cause of the competitive pressure imposed by women share (Besley et al, 2017). Therefore not accounting for gender could bias our result. Same for hires directly appointed as manager. In fact, proportion of matched direct appointees is significantly higher. On the regular basis, one might expect direct hires being more performant cause of the competitive hiring setting.

Notwithstanding the fact that we take into account the observed differences, there might be other sources of bias. One and important of them is the matching confounding factors such as the motivation conducting to bureaucratic appointment as it does not occur randomly and is controlled by the Mayor who retains sufficient power to hire and appoint. Subsequently, we fix all administrations' differences related to their functioning and specificities across municipalities. Given that, the individual-level of our observations allow us to ensure the quasi-randomness of the Skill-Position-Matching, and thereby makes us more confident in explaining its effect on performance as causal.

In addition, the quality of our data, its originality and the relevance of the wide range of variables that we observe gives us the advantage to overcome most of the endogeneity issues mentioned above and that may affect our estimates, as we control for both individuals' and office's characteristics (Table 1, Panel A and B).

For these reasons, we quantify the effect of Skill-Position-Matching on individual bureaucrat performance using the following linear model:

$$Perf_{ia} = \beta Matching_{ia} + X'_{ia}\lambda + W'_{ia}\delta + \mu_a + \varepsilon_{ia} \tag{1}$$

where $Perf_{ia}$ represents individual bureaucrat i performance in an administration a; $Matching_{ia}$ is a dummy taking the value 1 if bureaucrat's skills are in adequacy with the position attributions. On the other hand, X'_{ia} and W'_{ia} stand respectively for individual's bureaucrat and office's characteristics such as wages, years of educations, experience at the curent position, bonus incentive, qualified training, office size, age, gender, etc. μ_a is the administration's fix effect and ε_{ia} represents unobservables

which are related to individual's performance.

Even though we controlled for most relevant covariates in our main specification, which might be not enough and requires us to go beyond. Indeed, sharing the same ethnicity with the mayor, or being originally from the locality as well or yet, being born in the locality are individuals characteristics that could influence the matching at the individual level, as a Mayor would likely be tempted in promoting a relative or a local bureaucrat. Subsequently, it can be an argument for office heads to do well in order, for instance, to improve his community Also, ethnic heterogeneity is positively correlated with bureaucratic organization (Rasul and Rogger, 2015). Thus not accounting for them could leads us to omitted variable bias. In addition, we use the proportion of managers who belong to developing association captured in the variable "Local Knowledge" to control for political connection as potential source affecting both matching and performance and public goods provision (Acemoglu et al, 2014).

Therefore, we consider estimating an extended relationship as follow:

$$Perf_{ia} = \beta Matching_{ia} + X'_{ia}\lambda + W'_{ia}\delta + S'_{ia}\rho + \mu_a + \varepsilon_{ia} \tag{2}$$

where S'_{ia} represents others characteristics such as individual from the Mayor's ethnic group, place of birth, origin local activist. The remaining are the same as in the previous equation.

4.2 Accounting for Bureaucrats' Eligibility

Before being eligible for the matching, managers should ultimately undergo a first screening about the educational attainment without which they should not be qualified. That is, matched bureaucrats meet at least the education level requirement, and that the matching effect could be attributed to the contingent of educated in the treatment, given the strong relationship between education level and performance. This is very important to care about and address accordingly as it is a plausible source of bias cause of potential confounding related to individuals education attainment.

Thus, to rule out this channel in order to be more confident on our point estimates, we restrict the data to managers who merely fulfil at least the education requirement for being matched whether or not they are actually in a matched position. This helps controlling for any omitted variable, in particular educational confounders as well as the heterogeneity between individuals. Then, controlling observables used in the previous specifications, our covariate of interest is as good as random.

In this respect, we reestimate both equations (1) and (2) on the restricted sample to only eligible bureaucrats.

4.3 Accounting for Bureaucrats' Ability

The most plausible alternative explanation to our finding is that it could be a matter of bureaucrats' ability. That is, more able office heads are likely to perform well, as it constitutes the core of individuals' smartness in performing a task (Iyer and Mani, 2012). Therefore, to explain away this hypothesis even though, we did not observe directly ability, we take advantage of the unicity of our data.

Actually, bureaucrats were asked *"Whether or not they have been in a recent past in such or similar position to their current position before being appointed as office head?"* The intuition behind is that a bureaucrat who has already served in a position similar to the observed position at the time of the survey would probably be able to perform more than their counterpart who has never been in, whether or not, they are in a matched position.

Ultimately, if the skill-position adequacy effect was driven by individuals' ability, then within able bureaucrats, the matching effect should vanished. Subsequently, we use that subsample of office heads who worked in such or similar position to their current one to ascertain the established relationship between adequacy and performance. This allows us to address heterogeneity issues and to assure to the causality of the treatment variable of interest.

Afterward, we perform a Propensity Score Matching (PSM) for additional robustness check.

5 Empirical Results and Discussion

5.1 Effect of Skill-Position Adequacy on Managers' performance

The main identification strategy is estimated in three steps. First of all, we begin with including only the administration fix effect. Then, we add differences observables between matched and unmatched offices heads. Finally, we control for others individuals' and office characteristics.

In so doing, for the full sample, we find that bureaucrats who are in a perfect adequacy with their position perform better compared to individuals who are not, and this is associated with an average of 3.36 points increase (column 2 of Table 3). The estimated effect represents 13.44 percent of the General Secretary's performance and 16.80 percent of that of the Finance Affairs' manager, and while it represents 22.40 percent of Infrastructure office holder's, the point estimate is a 67.2 percent of the local public procurement office head. This is very high and show how much we can ameliorate our local administration by taking into account the skill-position matching in the appointment process.

However, including differences observables in the regression drops the coefficient to 2.00 but remains highly significant. As shown in column 3 of Table 1, the point dropping is due to the control of individuals' characteristics, which are actually the main determinants of bureaucrats' performance. Furthermore, controlling for additional individuals' and office's characteristics as reported in column 5 of Table 3 adjusts the point estimate at an average of 2.14 point increase.

Afterwards, following our conceptual framework, we extended our range of control set to some important variables by estimating equation (2). While column 1 of Table 4 reports the previous estimates of equation (1), column 2 through 4 present the matching coefficient to the progressive inclusion of the extended control. As we can see, the point estimates vary very sensibly between an average of 2.14 and 2.28 points increase.

Table 3: Matching Effect: controlling for individuals' and office's characteristics

VARIABLES	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) OLS
skill_adequacy	9.780***	3.360***	2.003***	3.310***	2.141***
	(0.404)	(0.701)	(0.771)	(0.665)	(0.739)
Administration FE	NO	YES	YES	YES	YES
Bureaucrats' Control	NO	NO	YES	NO	YES
Office's Control	NO	NO	NO	YES	YES
Observations	322	322	322	322	322
R-squared	0.508	0.722	0.755	0.752	0.783

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Actually, the difference in coefficients estimated do not have a significant impact on outcome of individuals, as it represents accurately 0.56 percent of the SG's performance which is negligible and there indicating that our observed individuals' and office's characteristics are enough to isolate the matching effect. However, at this stage, although we take into account a wide range of observables, any conclusion cannot be inferred from this analysis on the causality of the matching effect. We then need to go further and get rid of the potential biases driven by unobservables.

5.2 Matching effect on Eligible

To assess the causal effect of interest, we now restrain our data to individuals who merely fulfil the educational level required whether or not they are actually in a matched position. Table 5 reports estimates of various specifications.

Knowing the impact of years of education on performance, we were expecting that, after leveling individuals' education that the matching effect, at least, drops off significantly. However, after controlling for observables, we estimate an average of 2.10 point increase for eligible managers in a matched position (column 4 of Table 5) as in the main specification which established effect was 2.14 point increase and are quite the same. On the other, the estimation of the extended model (equation (2)) gives a very similar coefficient (2.33 point estimate, column 5 of Table 5) to the one obtained with the same specification on full sample (2.28 point estimate).

These results are the signal that our strategies deal with unobservable and that the matching effect is not driven by the education differences of office heads. Indeed, that is obvious and predictable as individuals who are in a perfect adequacy with their position, ceteris paribus, do not need time to learn in office or in any case, very few time to accommodate, cause of their background and skills they would developed during their academic career, and which would actually suit the office attributions. Unlike

Table 4: Matching Effect: Controlling for others characteristics

VARIABLES	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) OLS	(6) OLS
skill_adequacy	2.141***	2.149***	2.166***	2.141***	2.252***	2.283***
	(0.739)	(0.740)	(0.738)	(0.740)	(0.748)	(0.750)
ethnicity		-0.419				-0.503
		(0.773)				(0.863)
place			0.387			0.224
			(0.721)			(0.908)
orig				0.00364		-0.521
				(0.784)		(1.053)
local_knowledge					1.109	1.313
					(0.787)	(0.866)
Administration FE	YES	YES	YES	YES	YES	YES
Bureaucrats' Control	YES	YES	YES	YES	YES	YES
Office's Control	YES	YES	YES	YES	YES	YES
Observations	322	322	322	322	322	322
R-squared	0.783	0.783	0.783	0.783	0.784	0.785

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

matched bureaucrats, in the same condition, individuals who have been mismatched would need more time and even some additional training (qualified training) before being able to improve and yield perhaps a similar outcome.

As detailed in the data section, for instance, 73.61 percent of unmatched office heads attended qualified training after being appointed. This is very high, time consuming and money wasting as they are used to pay for the training. All these combined with the electoral cycle alongside with bureaucratic turnover would only worsen local administration performance (i.e. new incumbents bring in their staff and this continues over and over), which the skill-position matching can, indeed, resolve in an environment of favoritism.

5.3 Estimation Results of the Alternative Explanation

As exposed in the identification strategy section, we take care to account for individual's ability and instead to just control for it, we rather use this category of bureaucrats as the subsample of able. Even though ability does not guarantee the matching, it heavily determines and fosters performance. Therefore, we can be more confident about our matching effect by comparing matched and unmatched within able offices heads.

Table 5: Matching Effect on Performance: Accounting for Bureaucrats' Eligibility

VARIABLES	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) OLS
skill_adequacy	2.954***	1.698**	2.105***	2.220***	2.330***
	(0.865)	(0.843)	(0.784)	(0.782)	(0.788)
ethnicity				-0.371	-0.431
				(0.979)	(0.981)
place				1.587	0.931
				(1.043)	(1.136)
orig				-0.461	-0.733
				(1.171)	(1.162)
local_knowledge					1.791*
					(0.986)
Administration FE	YES	YES	YES	YES	YES
Bureaucrats' Control	NO	YES	YES	YES	YES
Office's Control	NO	NO	YES	YES	YES
Observations	262	262	262	262	262
R-squared	0.737	0.774	0.810	0.812	0.814

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

In Table 6 are reported estimation coefficients. Columns 1 through 5, show the variation of the matching effect on managers' performance to the inclusion of control variables. Point estimates reveal that the observed increase on matched performance is not, so far, caused by individuals ability, otherwise, the matching coefficient would vanished or at least drops off considerably. Instead, it improved point estimates, and as we can see in column 3, on average, skill-position adequacy leads to 3.19 and 3.26 point increase (columns 3 and 5) respectively for the main specification and the extended model (equation 2). That is, no matter the ability of a bureaucrat in performing a job, when his or her skills suit the office attributions, his or her yields better outcome compared to another one with the same ability but unmatched to the office.

We do the same exercise with eligible bureaucrats with ability, whether or not they are in a matched position, and results confirm the robustness of the skill-position adequacy. In Table 7, we reported point estimates which indicate an effect almost stable and consistent to the inclusion of additional control covariates (around an average of 3.38 point increase). A look at our coefficients of determination gives better understanding of consistency as it stayed relatively constant (R-squ=0.88).

It is noticeable to highlight that getting rid of both unable and ineligible bureaucrats refine and sharpen the matching effect as a simple look of both estimates (3.26 and 3.38 respectively) gives us back to our first point estimate obtained by estimating solely individuals performance on the treatment variable (skill-position matching)

Table 6: Matching Effect on Performance: Accounting for Bureaucrat's Ability

VARIABLES	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) OLS
skill_adequacy	4.755***	3.278***	3.198***	3.189***	3.264***
	(1.126)	(1.212)	(1.200)	(1.193)	(1.186)
ethnicity				-0.365	-0.305
				(1.335)	(1.331)
place				1.111	0.744
				(1.382)	(1.437)
orig				-1.997	-2.382
				(1.580)	(1.641)
local_knowledge					1.372
					(1.265)
Administration FE	YES	YES	YES	YES	YES
Bureaucrats' Control	NO	YES	YES	YES	YES
Office's Control	NO	NO	YES	YES	YES
Observations	166	166	166	166	166
R-squared	0.810	0.849	0.855	0.858	0.859

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

without any control (3.36 reported in column 2 of Table 3). These similarities are very important as they are indicators of how much we take care of endogeneity issues in order to establish the causal relationship.

Afterward, we perform a Propensity Score Matching (PSM) in order to estimate the average treatment effect of skill-position adequacy on bureaucrats' performance. Yet, it confirms definitively that our estimated effect is actually causal. Indeed, the PSM estimation leaves us with an average treatment effect of 2.78 point increase which is not that much far from the matching established effect (a difference in average effect less than the unit). It could not be otherwise as the PSM will estimate the average treatment effect only on eligible and able bureaucrats as there is any ineligible individuals in the matched group to be associated with in the unmatched group which contains some.

6 Assessing Bias from Unobservables Using Selection on Observables

Notwithstanding the fact that evidence suggests that skill-position adequacy effect is consistent and that the specifications deal with endogeneity based on our observables, it is obvious that point estimate contains an amount of bias explained by selection on unobservables. Then, in order to estimate this bias and provide the real effect of the

Table 7: Matching Effect: Accounting for Bureaucrat's Ability and Eligibility

VARIABLES	(1) OLS	(2) OLS	(3) OLS	(4) OLS	(5) OLS
skill_adequacy	4.655***	3.374**	3.377**	3.384**	3.553***
	(1.572)	(1.388)	(1.385)	(1.385)	(1.325)
ethnicity				-0.185	-0.0443
				(1.568)	(1.525)
place				0.620	-0.524
				(1.798)	(1.988)
orig				-1.574	-2.138
				(1.978)	(1.961)
local_knowledge					3.068**
					(1.473)
Administration FE	YES	YES	YES	YES	YES
Bureaucrats' Control	NO	YES	YES	YES	YES
Office's Control	NO	NO	YES	YES	YES
Observations	140	140	140	140	140
R-squared	0.835	0.875	0.885	0.886	0.892

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

matching on office heads performance, we conduct a sensitivity analysis proposed by Altondji, Elder and Taber (2005).

The strategy examine the sensitivity of the estimated effect to the correlation between the unobserved covariates that determine both skill-position adequacy and individuals' performance. Subsequently, to gauge the accuracy of the point estimate, the methodology employs selection on observables to estimate the likely bias stemming from selection on unobservables, and how much stronger it has to be relative to selection on observables in order to totally cancel out the matching effect.

6.1 Short Recall of the Theoretical Foundation

Consider our main specification rewritten as follow:

$$Perf_{ia} = \beta Match_{ia} + FS'_{ia}\Delta \tag{3}$$

where $Match_{ia}$ is our usual indicator for whether bureaucrat i is appointed in a matched position to his skills, β is the causal effect of matching on performance and FS'_{ia} represents the full set of covariates , both observables and unobservables that explain office heads performance and Δ is the FS's causal effect.

Since we did not observed all the potential variables related to performnace, we then split the ful set into distincts set which contain respectively observables and unobservables. Hence the following equation:

$$Perf_{ia} = \beta^* Match_{ia} + Ob'_{ia}\Delta_o + Unob'_{ia}\nu \tag{4}$$

where Ob'_{ia} represents our range of individuals' observables characteristics that affect their performance in the extent of Δ_o; these are wage, years of education, experience, bonus incentive, office size, training, etc. and in $Unob'_{ia}$ is included any other covariate not accounted in Ob'_{ia}, for instance, bureaucrat's motivation and so one amounted to ν with β^* the real effect of the Matching.

Basically, the aim is to estimate ν and thereafter determine how as strong as it has to be in order to cancel out the entire effect of β^* condition on the selection on observables. To this end, Altondji, Taber and Elder (2005) set up two conditions which are simplified here:

1. $\beta^* = \nu$
2. $\nu = 0$

While the first condition refers to the idea that selection on observables and unobservables affect the matching in the same way, i.e. our covariates (years of education, experience, wages, age, etc) and motivation and any others unobservables have the same relationship with the matching. Hence, we can write the following relationship:

$$\frac{E(Unob'\nu|M=1) - E(Unob'\nu|M=0)}{Var(Unob'\nu)} = \frac{E(Ob'\Delta_o|M=1) - E(Ob'\Delta_o|M=0)}{Var(Ob'\Delta_o)} \tag{5}$$

Where for simplication reason, M stands for the treatment variable of interest which is the skill-position matching (see Altonji et al. 2005 for more details about the condition 1) Condition 2 is that of OLS, i.e. the treatment (Matching) is exogenous to the selection on unobservables explaining bureaucrats' performnce. Also, to have a sens of the first condition, the following assuptions are importantt and sufficient as well, as they present an overview of all the conditions leading to $\beta^* = \nu$

1. our observables are chosen randomly from the full set of covariates that affect individuals' performance
2. both observables and unobservables are large and any of them does not dominate the distribution of the skill-position matching or that of the performance
3. the relationship between our observables (wages, education level, experience, etc.) and unobservables (motivation, etc.) follows a rule pretty weaker than the OLS assumption which is $Cov(X, \epsilon) = 0$.

Therefore, following Altonji et al. (2005), we rewrite (5) in a more generalized form:

$$\frac{Cov(Unob'\nu, Match)}{Var(Unob'\nu)} = \frac{Cov(Ob'\Delta_o, Match)}{Var(Ob'\Delta_o)} \tag{6}$$

where the bias from OLS regression is:

$$\frac{Cov(Unob'\nu, \tilde{M})}{Var(\tilde{M})} \tag{7}$$

with $\tilde{M}$ the residuals from the regression of the matching on Observables. Therefore, accordingly we derive the estimation of this bias following the formula stressed below:

$$\frac{Cov(Unob'\nu, M)}{Var(\tilde{M})} = \frac{Cov(Unob'\nu, M}{Cov(Ob'\Delta_o, M)} \frac{Var(Ob'\Delta_o)}{Var(Unob'\nu)} \frac{Cov(Ob'\Delta_o, M)}{Var(Ob'\Delta_o)} \frac{Var(Unob'\nu)}{Var(\tilde{M})} \tag{8}$$

From the equality, it can infer from Condition (1) that the product of the first two terms at the right hand side is equal to one. Subsenquently, the bias is reduced to:

$$\frac{Cov(Unob'\nu, M)}{Var(\tilde{M})} = \frac{Cov(Ob'\Delta_o, M)}{Var(Ob'\Delta_o)} \frac{Var(Unob'\nu)}{Var(\tilde{M})} \tag{9}$$

Actually, the first term of (9) is easily recognizable as it represents the point estimate of the OLS regression of the Matching on observables which is multiplied by the variance ratio of unobservables to the residuals from (9). Yet, more details can be found in Altondji, Elder and Taber (2005) for inferences and proofs.

Hence, to have an idea on how as strong as the selection on observable has to be to explain away the entire effect of the matching, consider the ratio of the Matching point estimate (β) to the estimated bias arising from unobservables. That is:

$$\frac{\beta}{\frac{Cov(Unob'\nu, \tilde{M})}{Var(\tilde{M})}} \tag{10}$$

6.2 Estimation of the bias from unobservables

Using the full sample, and based on the condition that the part of individuals' performance that is related to both observables and unobservables have the same relationship on skill-position adequacy, the estimates show that the estimated bias from the unobservables is almost six fold the matching effect itself, i.e. even though, we control for a wide range of covariates, we are not able to identify the real effect of the matching as selection on unobservables is much stronger to cancels out our estimated effect. Roughly speaking, that is, in some extent, a prof for the level of heterogeneity among individuals surveyed, as, in the regular basis, some are eligible for the job while some are not. That is why, our identification strategy accounted for the educational level confounders.

Thus, using the specification that leveled the bureaucrats according to the eligibility reduces the estimated bias (Table 8, column 2) but that is not sufficient to establish the matching effect relying only to this specification.

However, after accounting for office heads ability, which, not only dealt with heterogeneity but also for potential and relevant source of omitted variables bias cause of the strong correlation between ability and performance, as we can see in Table 8, column 3, the estimated bias arising from unobservables drops off significantly even bellow the unit (0.63) alongside with a matching effect of 3.55 point estimate. Therefore, subtracting the estimated bias from the point estimate yields the real matching effect on office heads performance which is 2.92 point estimate, which represents 11.68 percent of the SG's contribution to the effectiveness of the local administration.

Table 8: Estimation of the Bias from unobservables

VARIABLES	(1) Full Sample	(2) Eligible	(3) Accounting for Ability
skill_adequacy	2.283***	2.330***	3.553***
	(0.750)	(0.788)	(1.325)
Bias from	12.95	4.10	0.63
Unobservables	(5.53)	(2.56)	(2.31)
Administration FE	YES	YES	YES
Bureaucrats' Control	YES	YES	YES
Office's Control	YES	YES	YES
Other Control	YES	YES	YES
Observations	322	262	140
R-squared	0.785	0.814	0.892

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

On the other, selection on unobservables needs to be as much as six times larger than the selection on observables in order to explain away the established matching effect. Given that, it is pretty less likely that the skill-position matching effect is driven solely by selection on unobservables and that we can rely on the relationship as causal as we have been able to extract the estimated potential bias from the original point estimate.

7 Conclusion

Roughly speaking, this paper extend the literature in political economy that tries to have a clear picture of the determinants of bureaucratic performance especially even in an environment of favoritism appointment process. Both theoretical and empirical works in this field have focused on the education attainment and monetary incentive as key drivers of the effectiveness the bureaucratic performance and thereby the quality of public good provision, in particular at the local level.

Then, using a combined individual-level survey data with Audits reports stemming from 45 Beninese local administrations which present a good feature for favoritism

hiring and appointment, we established that skill-position matching can be optimal for governmental administrations in terms of individual bureaucrat's performance.

To assess the causal link, we undertook a number of exercises through different specifications. First, we controlled for important determinants of performance such as individuals' wages, education level, years of experience in the current position, bonus incentive, office size and qualified training and others additional characteristic such as ethnicity etc. Second, we accounted for education level gap between matched and unmatched by considering only eligible bureaucrats (i.e. those who fulfilled the educational level requirement) whether or not they are in matched position.

Finally, we took into account individuals' ability by considering those who have had already worked in such or similar position to their current one. Yet, the matching effect has been robust under all these strategies. In addition, we have performed a PSM estimation and the average treatment effect estimated obtained, confirm the established relationship.

Still, convinced that, there might be potential bias in our point estimate, we made a step forward to ensure the causality of the matching effect. To this end, taking insight from the technique suggested in Altondji, Taber and Elder (2005), we estimated the potential bias arising from selection on unobservables. Thus, we have been able to estimate the real effect of skill-position matching on office heads performance which is actually causal, as selection on unobservables have to be as much as 6 times larger than our observables to be able to vanish entirely the matching effect.

In the nutshell, our findings show evidence that skill-position matching can be a good argument for individual bureaucrat to do well and make effective the local bureaucracy even in a favoritism setting of appointment. However, the nature of our data did not allow us to study the dynamic of the matching when for instance we care about the electoral cycle. Ultimately, the next and natural step would be to assess what can motivate incumbents to match individuals.

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