Another Wind of Change? Evidence about Political Outsiders in the French Parliament[*]

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Abstract

Some citizens who are dissatisfied with long-established politicians are turning to new representatives, that come from the general public, referred to as political outsiders. This article empirically explores whether the change in political representatives –achieved by citizens voting for political outsiders– leads to a change in political representation. Our analysis uses original data on the votes and activity of over 1,000 members of the French Parliament (MPs) between 2012 and 2020. Isolating an outsider effect remains a challenge as they are both novices in politics and in the Parliament. Our empirical strategy allows disentangling the political experience effect from the parliamentary experience effect using novice MPs political insiders. First, we find that political outsiders are more independent than political insiders only in low disciplined political groups, and there is no evidence concerning highly disciplined political groups. Second, using a non-parametric multidimensional index measuring MPs' legislative activity, our findings indicate that parliamentary inexperience explains why newly elected MPs are less productive at first and then catch up with their experienced counterparts within a year after taking office. However, over the entire legislature, the difference between new and re-elected MPs level of activity does not appear to be significant. Overall, even if the election of political outsiders allows changes in some usual individual characteristics of the representatives as age or gender, it appears that more conditions are needed than solely electing political outsiders to change the manner of doing politics.

Political Economy - Political Outsiders - Political Selection - Legislative Activity.

Un vent nouveau? Étude sur les politiques issus de la société civile au sein du Parlement français

Résumé

Certains citoyens déçus par les représentants politiques habituels se tournent volontiers vers de nouveaux candidats issus de la société civile et sans expérience politique préalable. Cet article étudie de manière empirique si ce renouvellement d'élus mène à un changement dans la représentation politique. Notre analyse

s'appuie sur une base de données compilant les votes et l'activité législative de plus de 1000 députés entre 2012 et 2020. Afin d'isoler correctement un effet de novicité en politique, nous dissocions le fait que les élus de la société civile soient également novices au sein du Parlement. Notre stratégie empirique permet d'isoler cet effet en utilisant les données concernant les représentants ayant déjà une expérience politique mais nouvellement élus au Parlement. En premier lieu, nous notons d'importantes disparités des élus issus de la société civile concernant leur indépendance vis-à-vis des consignes de vote de leur groupe parlementaire. Si les élus appartiennent à des groupes avec une cohésion relativement faible, ils montrent davantage d'indépendance à l'égard du groupe, tandis qu'il n'y aucune différence notable dans les groupes à forte cohésion. Ensuite, en utilisant un indice multidimensionnel de l'activité législative des députés, nous montrons que les différences observées sont avant tout dues au manque d'expérience parlementaire se traduisant par une activité moindre en début de mandat. Cette différence s'estompe, et ne conduit pas à une distinction de l'activité entre nouveaux et anciens membres du parlement sur l'entièreté du mandat. Globalement, même si l'élection de nouveaux politiques permet un changement des caractéristiques individuelles usuelles des députés comme l'âge ou le sexe, cela semble insuffisant pour faire souffler un véritable vent nouveau sur la façon de faire de la politique.

Économie politique - sélection des représentants - élus de la société civile- activité législative.
Classification JEL : P16, D72.

1   Introduction

A paradox related to political representation has intensified over the past decade: while populations in developing countries pressure regimes for more democracy, citizens in established democracies are showing an increasing dissatisfaction with political representation. This goes hand in hand with an increased demand by voters for political outsiders. Where the citizens feel that the past or current elected representatives have failed to represent their interests and needs, citizens express their will to change elected politicians in particular through the desire for new representatives from outside traditional political paths. The success of Donald Trump in the 2016 US presidential election, the emergence, and rise to prominence of Podemos (Spain) and the Five Star Movement (Italy), all of which call for a profound change in the political class by replacing career politicians, highlight citizens' demands for a new type of representatives. Another striking illustration that we study in this paper is the 2017 French parliamentary election, where citizens elected 433 new MPs (out of 577 in total), among whom were 188 political outsiders, that is MPs coming with no prior political experience.

During parliamentary elections, most national political parties decide the platform and provide a financial support[1] on the campaign expenditure of the local candidate. In multiparty democracies, as in France, scholars extensively studied the strategic behaviors of political parties (Bekkouche et al. [2022]), but also candidates and voters (Pons and Tricaud, 2018, Granzier et al., 2019). To win the ballot, candidates to the lower house of the French Parliament might adapt the radicalness of their discourse about the national platform or communicate dimensions that are not about policy, as their experience, their activity in the previous mandate or their current profession (Le Pennec et al. [2022]). It is especially interesting when voters are not supportive of any running platforms. This strategy is based on the existence of a "candidate effect" meaning that voters, beyond their partisan preferences, vote for individuals and their characteristics. Brouard and Kerrouche [2013] show that such an effect exists for the French parliamentary elections. Faced with a rejection of professional politicians, political parties and candidates are adapting their communication[2]. Instead of promoting the political experience of

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1. Financial support is particularly efficient to persuade voters to vote for a candidate rather than another and to mobilize by raising the awareness of the voters to the ongoing election (Bekkouche et al. [2022]).

2. The criticism of professional politicians -or career politicians- is not new in parties at the extremes of the political spectrum. In the run-up for the 2017 French presidential and parliamentary elections, this rhetoric was notably developed by the far-right party

their members and candidates, parties increasingly communicate about their candidates' professional experience outside politics, and the "newcomer" [3] label is flourishing on the candidates' leaflets and programs. By changing individuals, voters aim to create policy changes or changes in the way politicians exercise their mandate and carry out their mission. In the end, they are expected to behave differently from political insiders.

This paper empirically addresses the question of the relationship between political selection and democratic representation. We assess whether the change of political representatives achieved by citizens voting for political outsiders results in a change in political representation. In other words, we investigate whether political outsiders are vectors of change as expected by some voters. These differences could be explained by four mechanisms in particular. First, due to the change of the usual individual characteristics of representatives. Second, because of their recent change from outside to inside politics, they might be more responsive to voters. Third, they might be more independent to their political parties depending on their outside option. Fourth, their inexperience in politics.

To investigate the third mechanism, one relies on data from the votes within the lower house of the French Parliament of 1,090 Members of Parliament (MPs) from 2012-2020 in two ways. We explore the way political outsiders vote vis-à-vis their political groups as compared to political insiders. We also discuss the second mechanism in the vote dimension because even if we do not observe voters' preferences, it takes into account the representativeness of voters to the French Parliament. For the fourth mechanism, we investigate how political background affects the level of activity of MPs as it can favor experienced politicians for specific tasks such as interventions in the debate or questions addressed to the government. To capture the multi-faceted nature of MPs' activity, we rely on an approach developed by Gavoille and Verschelde [2017], which allows the computation of a multidimensional measure of MPs' activity. Finally, we control for observable individual characteristics in each investigation to account for the first mechanism. This investigation aims to better understand whether the voter strategy of installing political outsiders in key political positions is effective in changing the way political representation is expressed.

We develop an empirical strategy that allows isolation of an *outsider effect* from a *parliamentary experience effect* by assessing the variation between political outsiders and novice political insiders in the Parliament. Our results show little evidence that political outsiders behave differently from political insiders. On the one hand, in terms of vote and deviation from their political group's line, the findings are mixed, depending on the level of political group cohesion, which implicitly affects the political cost of deviating from the political group's objective. The results suggest the existence of a political outsider effect in less disciplined political groups, while there is no evidence found for highly disciplined groups as the majority or political groups located on the extremes. On the other hand, relative to their activity, political outsiders incur learning costs that hamper their activity level at first and are more related to their parliamentary rather than their political inexperience. The activity gap with re-elected MPs decreases rapidly and disappears within a year, and shows no significant difference in the overall mandate.

Despite the practical interest in studying whether the shift in political selection in favor of political outsiders has a transformative effect on political representation, there is little evidence on the matter. The massive arrival of political outsiders in the French lower house following the 2017 parliamentary elections provides an interesting framework to explore this question. Ollion [2021] exploits it to propose an interesting method to classify MPs according to their activity based on self-organizing maps. Our paper offers an alternative and complementary approach, relying on an econometric analysis that allows us to control for MPs' characteristics and their political group affiliation. In a broader view, this paper contributes to the large literature studying

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Rassemblement National and the far-left party *La France Insoumise*. The centrist candidate Emmanuel Macron also developed his campaign using the same argument.

3. "From civil society" literally translated in French.

the effect of observable individual characteristics on policy preference and activity of representatives.

The rest of the article is organized as follows. Section 2 describes the institutional structure of the French Parliament and the conceptual framework underlying the hypotheses we test. Section 3 describes the data and metrics used to capture political party independence and political inexperience. In Section 4, we set the empirical strategy. In Section 5, we discuss the results, and lastly, Section 6 concludes.

2   Institutional and conceptual framework

2.1   The role of the MPs in the National Assembly under the Constitution of the French V^{th} Republic

The French Parliament has two chambers, the Senate (upper house), and the National Assembly (lower house). We focus on MPs in the National Assembly. The French Lower house elections are based on a single-member district system. Voters directly select the 577 MPs through a two-round first-past-the-post election for a mandate of 5 years. MPs have three main missions: to take part in the development of legislation and vote, to control the Government, and to represent the electorate.

First, MPs mainly contribute to the development of legislation by proposing amendments to existing laws. An amendment consists of submitting changes on a given bill to the approval of other MPs. MPs can also elaborate and propose a bill. The purpose of proposing bills and amendments is not just to make law [4]. It is also meant to stimulate the democratic debate. Propositions may serve as a basis for future law proposals.

Second, the MPs exert control over the Government through two channels: Commissions and Questions to the Government. Each MP is assigned to one of the eight permanent thematic commissions of the lower house whose primary mission is evaluation [5]. Once a week, MPs can ask the government ministers questions during plenary sessions with ministers having a duty to respond [6].

Third, MPs represent their electorate by voting in favor or against the adoption of laws and amendments in the Parliament. Most MPs join within political groups, composed of at least 15 members, according to political affiliation and affinity [7]. A political group may be dissolved and reformed under another name to create a new political group. MPs can also switch from a political group to another.

2.2   Conceptual framework

The incentives of political insiders have been formally established in Besley and Coate [1997] who propose a simplified theoretical framework to study how citizens' preferences are reflected in a representative democracy's political process. In this model, a political insider candidate may be more concerned by political career dynamics and the benefits of holding an office, than representing voters' interests and so display a lack of policy commitment (Grossman and Helpman [2001]), or public service motivation (Besley [2005]). Stadelmann and Torrens [January 2020] show that the preferences of voters, special interest groups, and political parties are significant determinants of the vote of MPs but that the preference of voters receives a relatively lower weight.

It appears to be a representative modern democracy structural curse that can lead to a misalignment between the interest of voters and their representatives. We are interested in exploring through which channels political outsiders could reduce or enlarge this gap and verify if one can reasonably assert that a political outsider is only not a political insider at the starting point of their career. More precisely, we search for the potential

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4. The adoption of laws proposed is less likely when proposed by the opposition (Gavoille and Verschelde [2017]).
5. To achieve their mission of evaluation, MPs can, for instance, audit members of the Government and ministries.
6. The time available for questions is proportional to the group's size to which the MP belongs.
7. A few MPs do not belong to any group and are referred to as *Non-Attached*.

existence of an outsider effect by investigating how political outsiders compare to political insiders. Following a classification of MPs in Ollion [2021], we define political outsiders as newly elected MPs with no prior retributive political experience. There are four channels in particular that can explain an outsider effect.

The first channel operates through the individual characteristics of MPs. Electing political outsiders can change the usual individual characteristics of politicians. Politicians' gender is, for instance, a factor that researchers have extensively studied and its connection with policies (Chattopadhyay and Duflo [2004]) [8]. Brollo and Troiano [2016] report that female leaders are less prone to engage in corruption-related activities. For the specific case of the French Parliament, Lippmann [2022] brings consistent proof that gender can affect the topics undertaken by MPs either due to the political party decision or the individual interest of the representative. Alesina et al. [2019] show that age and stage of the political career affect the behavior and preferences of politicians. The socio-economic (Hayo and Neumeier [2014]) and professional background (Dreher et al. [2009]) are also relevant in the choice of policies. However, most of the time, the representatives interested in entering the political sphere do not radically differ from political insiders and are not fully representative of civil society in terms of social and occupational background. This is what is observed by Boleaert et al. [2018] in the French lower house even after the massive 2017 change of MPs or by Keating and Cairney [2006] after devolution in Scotland. Still, the professional background of political outsiders may give them practical knowledge in certain fields that career politicians do not have. Political groups often use this expertise by assigning political outsiders to commissions relative to their professional field, for instance. Scholars have further investigated individual characteristics and their link to the activity of representatives. Fisman et al. [2015] find that graduating from ENA, being more experienced, and making more effort are positive predictors of the legislative production of MEPs. In contrast, salary does not exert any significant effect on legislative production nor on the effort of MEPs [9]. For the French Parliament, Gavoille [2018] discusses one extreme case where aged, low-educated MP elected in low competition jurisdiction are more likely to have no legislative activity record for a whole year. Le Pennec et al. [2022] show that elected politicians who favored a moderate discourse in their manifestos during their campaign election perform better in their legislative activity.

The second channel concerns their responsiveness to citizens motivated by the recent passage into political offices. Political outsiders should have the advantage over political insiders of their professional career to select the valence issues to emphasize, which is an important quality for a politician (Caillaud and Tirole [2002]). In other words, political outsiders should be more competent, at a given political spectrum, to prioritize the issues which the electorate really worries about.

The third channel concerns their responsiveness to political parties. The recruitment process of the candidate may induce to serve the organization more than the electorate's concerns (Mattozzi and Merlo [2015]). This is especially relevant for France, as political parties are held by experienced politicians. As representatives recently coming from the general public might benefit from an outside career option, they might be less politically career-oriented compared to their insiders' peers, and, therefore, would be less sensitive to the possible political sanctions. Moreover, if they are less attracted by the political career aspects, it opens room to give more weight to voters' preferences.

The fourth channel relates to their lack of experience in politics. Being productive within the lower house requires mastering both the legislative apparatus and political games. Moreover, basic economic theory related to human capital states that experience permits the accumulation of skills and therefore being more productive. As a consequence, because they are also novices MPs office, political outsiders might display a lower level of

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8. See Le Barbanchon and Sauvagnat [2022] for further references and discussion on gender.

9. This result is challenged by Mocan and Altindag [2013] who find a negative effect of the salary reform on the attendance of MEPs and by Braendle [2015] who finds a positive relationship between MEPs' salaries and some of their activities, such as the number of speeches and written declarations.

activity in the Parliament compared to their re-elected peers. If so, the activity gap should decrease as new political outsider MPs gain experience.

To account for the responsiveness of political outsiders to political parties, one first relies on the dimension of representation of the MP. In the French Parliament, the vote of political insiders mostly reflects their political group's line (Sauger [2009]) because MPs affiliated to similar political groups are often elected on the same program. Being disloyal sends a negative signal to the political group and implies more independence, as it is politically costly to do so. Moreover, as it represents the standard political behavior, it also opens the possibility of accounting for the existence of the responsiveness of the MPs to their voters. An MP's vote results from a tradeoff between the preferences of a party leader, voters, lobbies, and the disutility for an MP of voting differently from their own initial preferences. Since the established professional political MPs suffer from criticisms concerning voters' interests, we investigate whether political outsiders are more likely to deviate from the standard political behavior controlling their political affiliation. We complete this investigation by controlling for the individual characteristics of the MP that could explain some differences.

Hypothesis 1: There is a political outsider effect on the voting behavior of MPs, marked by a higher level of deviation from the political group line by political outsiders.

Relative to political inexperience, we rely on the activity of the MP. To some extent, the activity that favors charismatic politicians with rhetorical skills, such as interventions in the debate or questions addressed to the government, is linked to the ability or even the quality of representatives (Le Pennec et al. [2022]). Even if there is some political group influence to organize the tasks, it remains the main observable individual output of an MP. As an illustration, some MPs use their activity ranking to convince voters for the next electoral campaigns. A competence effect is often mentioned in the literature to compare first-term incumbents to the re-elected incumbents (Alt et al. [2011]), regardless of whether politics are coming from the general public. Re-elected incumbents benefit from the office experience and the fact that voters have selected the MPs based on their previous performance. As the latter favor the selection of good types of politicians (Besley [2006]), both effects favor *a priori* re-elected MPs over political outsiders. In this perspective, we explore whether the inexperience of political outsiders, accounting for both their political and parliamentary inexperience, is associated with less quantitative legislative activity, without making inferences about the quality of MPs.

Hypothesis 2 : Political outsiders display a lower level of activity than political insiders.

3   Data

Our study investigates the activity and behavior of French MPs for a period covering the XIVth (2012 - 2017) and a part of the XVth (2017 - 2022) legislatures. Since the French Government began a lockdown on 20th March 2020 that restricted the ability of MPs to be physically present in the National Assembly and changed how their activity was then carried out, our sample is limited to the period prior to March 2020.

The XIVth legislature: in May 2012, François Hollande, candidate of the *Parti Socialiste* (the main left-wing party at the time), was elected as President of France. In June 2012, parliamentary elections brought into office 331 MPs who supported the Government (of which 280 MPs were members of the *Parti Socialiste*) out of a total of 577 MPs. During the XIVth legislature, the number of political outsiders was low (about 5%), reflecting the difficulty at that time for a political outsider to be elected.

The XVth legislature: in May 2017, Emmanuel Macron, leader of a brand new center-party *La République en Marche* created a year earlier, was elected president. The next month, his party obtained an absolute majority

of 307 MPs. Unlike previous legislatures, the 2017 parliamentary elections brought a high number of new MPs to office. 75% of them were not in the previous legislature. Out of the new MPs, 182 political outsiders entered the Parliament.

We build a unique database by assembling data from multiple sources, including: *NosDéputés.fr* (a project led by the non-governmental organization *Regards Citoyens*), an inquiry made by the newspaper *Le Monde*, and the official website of the French Parliament.

3.1 Sources & description

Our analysis includes on 1,090 MPs over the 2012-2020 period. Table A1 in the Appendix presents a summary of the description and the source of each variable.

Individual control variables. *Regards Citoyens* provides information on MPs' individual characteristics such as birth date and gender, as well as political group affiliation and changes. Information on past positions is taken from the journal *Le Monde* which provides a database for MPs elected in 2017. We complete this information ourselves for MPs of the XIVth legislature (2012-2017) and MPs who were elected after the 2017 election [10]. Finally, we create a binary variable which indicates whether the MP studied at the *Ecole Nationale d'Administration* (ENA), which is the national training university for senior civil servants, and is known "as the antechamber of the political elite". The official French Government website provides election results at the district level, which allows us to capture the level of competition by constituency. We compute the degree of competition as $1 - \sum s_i^2$, where s_i is the share of votes obtained by each candidate in the first round of the election. This measure reflects the degree of electoral competition better than other measures such as victory margin, since the French electoral system allows for more than two candidates to qualify for the second round or for a candidate who received more than 50% of votes to win directly from the first round [11].

Political group control variables. We take as a categorical variable the political group to which the MP belongs during the period under investigation. As mentioned in Section 2.2 the main determinant of the MPs' votes is political group affiliation. Ideological proximity and the capacity of the political group to impose strong vote discipline explain why there is a high cohesion. Thus, the extent of deviation from the standard behavior depends on the cost incurred by deviating. The magnitude of this deviation cost for a political group can be reflected in its level of group cohesion. Using the "Agreement Index" (AI) proposed by Hix [2002], it allows computing the level of agreement of MPs of the same political group on each vote. We can capture the group cohesion mechanism through the average agreement index of a political group [12]. This average is continuous, with AI = 1 when the cohesion is perfect, and AI = 0 when MPs of a political group never agree.

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10. For instance, an MP might be promoted to be a minister. In this case, the MP is replaced by their substitute. Information on the substitutes is not provided by *Le Monde*'s data.

11. A candidate receiving the support of at least 12.5% of registered voters qualifies for the second round. As a result, with a null abstention, in theory up to eight candidates can qualify for the second round. In practice, the second round elections usually have two candidates, although elections with three candidates do occur (34 in the 2012 parliamentary election). The rule slightly changed for the 2022 elections adding a threshold of voter participation to validate the preceding rule.

12. For the detail of construction of the agreement index, see Equation (A1) in Appendix.

Table 1 − Average agreement index of political groups between 2012-2020

Political Group	Acronym	Agreement Index (avg.)
La France Insoumise	LFI	0.990
Gauche Démocrate et Républicaine	GDR	0.949
La République en Marche	LREM	0.947
Socialistes et apparentés (XVe)	SOCXV	0.945
Nouvelle Gauche	NG	0.940
Union pour un Mouvement Populaire	UMP	0.938
Socialiste Ecologiste et Républicain	SER	0.906
Socialistes et apparentés (XIVe)	SOCXIV	0.900
Mouvement Démocrate et apparentés	MODEM	0.898
Les Républicains	LR	0.892
Union Démocrates et Indépendants	UDI	0.879
Europe Ecologie Les Verts	EELV	0.868
Radical, Républicain, Démocrate et Progressiste	RRDP	0.839
Liberté et Territoire	LT	0.837
Les Constructifs	LC	0.826
UDI, Agir et Indépendants	UAI	0.814

The ranking in Table 1 shows well-known patterns documented in the literature of party cohesion (Owens [2003]) [13]. Different political party dynamics might blur the outsider effect by imposing different constraints on an MP. For instance, the unity of the majority is of high importance, particularly when the parliamentary majority is from the same political party as the current Government (Diermeier and Feddersen [1998]). In a case like this, deviating from the political group's line is also deviating from the Government's line. As a result, it is more costly for an MP inside the majority to deviate than an MP outside the majority. With these averages, we create a binary variable representing the relative level of a Group Discipline, which we name GD. It is equal to 1 for MPs who belong to a political group with a high cohesion, relative to the mean of the agreement index of the whole vote sample (≈ 0.92), and 0 for MPs who belong to political groups with low cohesion.

3.2   Main variables & outcomes

Our variable of interest is related to the prior political and parliamentary experience of MPs. We define political outsiders, as new MPs with no previous experience of a political mandate at a town, county, region, or national level, or an important para-political position such as being chief of staff of any minister. In contrast, we define political insiders as already holding at least one political retributive position of any kind before their current MP mandate. We split political insiders into two subgroups: new insider MPs who are novices in the Parliament, and re-elected MPs who already have the experience of being an MP. Table 2 summarizes the experience of the different type of MPs.

Table 2 − Construction of the variable of interest

Type of MPs	Experience
Re-elected MP	Political and Office
New insider MP	Political
Political outsider	None

13. Extreme parties (LFI and GDR) and the majority (LREM) are the groups with the highest level of agreement. An exception that is well documented in France is related to SOCXIV, which experienced an unusual degree of discord for a majority. In March 2014, the *Parti Socialiste* experienced a unique ideological separation with the emergence of a group of MPs called *les frondeurs* who disapproved of most of the action undertaken by the Government. Centrist parties (EELV, RRDP, LT, LC, and UAI) display less cohesion which also fits with the related literature review on party cohesion.

We use MPs' votes and deviations relative to their parties to test Hypothesis 1. Our sample consists of all electronic votes cast during the studied period at the MP level, which we retrieved directly from the official website of the National Assembly [14]. Electronic votes are increasingly used instead of raised hands votes for transparency reasons [15]. The sample consists of 3,256 votes (672 for the XIVth legislature and 2,584 for the XVth legislature), which are laws or amendments. The more mature and comprehensive texts are generally voted by ordinary public (electronic) votes, which are registered. The National Assembly website collects MP's positions and publishes them on its website. An observation consists of an MP's position on a specific law with a unique id. The MP can vote in favor of the text, against it, or abstain [16]. The votes in the sample are recorded and publicly accessible online. Since these features of electronic votes implicitly increase the political cost of deviating from the group's line, the results displayed are likely to characterize a lower-bound effect. Following the idea of our conceptual framework, we use two different indexes to account for deviation. We capture the deviation as a dichotomous variable that takes the value 1 when MPs vote differently from the majority of their political groups (variable *Deviation*) or from the president of their political groups (variable *Deviation President*) [17].

For Hypothesis 2 we compute an α-activity index, in an approach similar to Gavoille and Verschelde [2017], which ranks MPs from 0 for the least active to 1 for the most active. The challenge is that the activity of MPs within Parliament takes multiple forms. Among other activities, they draft or sign proposals of laws and raise oral or written questions. *NosDéputés.fr* provides monthly observations on 12 dimensions of the parliamentary activity of each MP. However, the way of measuring the activity matters, MPs may focus more on some dimensions and less on others according to their skills and synergies with the other MPs of their political groups. As a result, we choose not to focus on a specific type of activity but on an index that captures MPs' multidimensional activity. The α-activity index takes these dynamics into account. MP i having a lower or equal level of activity than MP j in all types of activity is considered dominated by MP j and gets a lower score of multidimensional activity during the period t [18]. The α-activity index we use has 4 dimensions: (i) Interventions, (ii) Written propositions, (iii) Written questions, and (iv) Reports. Interventions are limited to speeches in the assembly of more than 20 words in order to capture interventions by which MPs make a significant contribution to parliamentary debate. Interventions of 20 words or less are mostly interjections and comments of form rather than substance. Written propositions are propositions of laws and amendments authored by an MP. We do not take into account co-signed propositions where the MP in question is not the principal author. Written questions are questions addressed to the Government. They are a tool through which MPs exert control on the activity of the Government and can relay the concerns of citizens and their electorate. Unlike oral questions, there is no limit on the number of written questions an MP can address to the Government. Finally, reports are working documents that serve as a basis for discussion of a proposition of law within the lower house.

The list of activities is similar to Gavoille and Verschelde [2017] except that we replace oral questions, because they have several drawbacks, by written questions [19]. In addition, the low correlation between the four

14. The most common vote process happens through raised hands in public sessions. It is video recorded on the channel dedicated to the Parliament, but it is not traceable otherwise. This method is the most frequently used since most of the laws have different parts, and each of these parts might be rejected until the text takes its final form.

15. We verified that the distribution of these electronic votes is not day-specific as shown in Figure A1 in Appendix, because that would have entailed potential biases.

16. There is also the "non vote" position, which reflects a technical or human error. We removed them from the sample because they are not considered for the final vote.

17. Note that a majority of political outsiders of the same political group could attend to the vote; in this case, deviating from the group would not necessarily mean deviating from the standard political behavior. In this paper, only one political group might experience a majority of political outsiders in a vote: LREM. Thanks to the second index relative to the president, one can ensure that deviating from the group is also deviating from the political group's line since there are no political outsider presidents of a political group. As expected, both are highly correlated (over 0.9), which supports our approach.

18. See Aragon et al. [2006] for methodological details and discussion on α-activity index.

19. Some MPs reuse oral questions already asked by other MPs, which creates artificial activity. The number and length of

dimensions selected (see Table A2 in Appendix) indicates that each of the four dimensions captures distinct aspects of the activity of MPs. This strengthens the relevance of using a multidimensional index to observe the activity of MPs and supports the selection of the dimensions on which it is built. Lastly, we convert the monthly data collected to build three-month periods of observation to avoid a high sensitivity of the domination index resulting from exceptional (in-)activity of groups of MPs during specific months.

The α-activity index measuring MPs' activity is obtained by computing:

$$\alpha_{iq} = 1 - \frac{\sum_{j=1}^{N} I(y_{jq} \geq y_{iq})}{N} \tag{1}$$

where N is the number of MPs different from the MP i at a given 3-month period q, y_i is the multidimensional output of MP i that takes the form of a row vector of four dimensions $y_i = (y_{i1}, ..., y_{i4})$, each dimension corresponding to a type of activity of MPs collected. I is an indicator function and takes 1 when $(y_j \geq y_i)$ that is when MP j is more active than MP i at 3-month period q. MP j must then have a higher or equal value in each of the four dimensions to be considered to be more active than MP i at a 3-month period q. In other words, the multidimensional activity index of MP i in 3-month period q equals 1 minus the share of MPs that are more active than MP i in that period.

Table 3 − Summary statistics

	Re-elected MPs			New insider MPs			Political outsiders		
	Mean	SD	N	Mean	SD	N	Mean	SD	N
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Individual characteristics									
Age	59.02	8.91	527	51.26	10.17	503	44.51	10.01	208
Gender (Woman =1)	0.21	0.41	527	0.38	0.49	503	0.5	0.5	208
ENA	0.05	0.22	527	0.02	0.15	503	0.02	0.14	208
High SPC	0.67	0.47	523	0.66	0.47	482	0.68	0.47	197
Competition	0.72	0.16	519	0.77	0.04	430	0.78	0.05	197
Vote presence	0.22	0.12	521	0.26	0.15	502	0.21	0.09	208
Deviation	0.06	0.06	511	0.06	0.07	491	0.05	0.06	204
High-disciplined groups (GD=1)	0.39	0.49	521	0.37	0.48	502	0.82	0.38	208
Parliamentary activity									
Interventions	26.99	48.4	527	17.47	29.01	503	21.5	39.18	208
Written propositions	0.32	0.61	527	0.16	0.39	503	0.12	0.29	208
Written questions	8.08	14.2	527	6.09	12.85	503	3.07	4.17	208
Reports	0.23	0.4	527	0.22	0.25	503	0.26	0.26	208
α-Activity	0.76	0.19	527	0.72	0.18	503	0.68	0.19	208

Note: MP stands for Member of Parliament. As the study period includes two legislatures, the classification of MPs who are new in the first legislature and are re-elected for the second legislature logically changes from *political outsiders* or *new insider MPs* to *re-elected MPs* after being re-elected. The α-activity index ranks MPs from the least active (0) to the most active (1). The total number of MPs displayed in this table (1,238) is higher than the one mentioned above (1,090) because we count the MPs whose type has changed in the second legislatures (from new MP to re-elected MP) twice for the summary statistics. Authors' calculations. Data sources: *Regards Citoyens*, *Le Monde*, www.assemblee-nationale.fr.

Table 3 gives the summary statistics of the sample according to the political experience of the MPs. First, it highlights that the group of political outsiders is younger and more balanced in terms of gender than their counterparts. The gap is particularly pronounced with re-elected MPs who are on average 15 years older and only 21% female. Second, the High Socio-Professional Category (SPC) variable indicates that political outsiders tend to share the same socio-economic background as political insiders. Third, a striking fact lies in the distribution of political outsiders according to the group discipline. We see that 82% of the political

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questions, and the selection of MPs able to address oral questions to the Government are also subject to constraints.

outsiders are inside high disciplined groups, which are extreme parties (GDER, LFI), the second legislature majority (LREM) or important historical parties (SOC,NG and UMP). It contrasts with political insiders, who are relatively more homogeneously distributed across high and low disciplined groups. Fourth, political outsiders exhibit differences in terms of activity with respect to their peers. They address fewer written questions to Government. On average, a political outsider MP writes 3.7 questions per quarter compared to 6.1 for a new political insider MP and 8.1 for a re-elected MP. A similar pattern is observable for written propositions for which political outsiders MPs are on average less productive than their counterparts. Fourth, political outsiders produce less interventions than re-elected MPs but more than newly elected insider MPs. Lastly, the difference in terms of production of reports is small between the three groups of MPs, although political outsiders display the highest average number of reports by MP per quarter. However, these descriptive statistics mentioned in this paragraph should be read with caution and not be interpreted as a causal effect since the political groups to which the members belong may have quite different strategies.

Figure 1 shows the multidimensional activity level of MPs over time according to their prior political experience. In order to provide a picture of the dynamics of MPs' activity over a period in office, we superimpose the XIVth and XVth legislatures. It shows that there is a clear activity level differences during the first part of legislatures. During the second 3 months of their legislatures, re-elected MPs have an average activity score above 0.8 against approximately 0.75 for new insider MPs and approximately 0.7 for political outsiders. At first, political outsiders exhibit a lower activity score than new insider MPs, who themselves have a lower activity score than re-elected MPs. The activity gap decreases over the length of a legislature, and political outsiders as well as new insider MPs catch up with their re-elected fellows. Although these observations are interesting, they must also be interpreted with care. First, the number of political outsiders in the XIVth legislature is small and does not allow inference of consistent stylized facts. Second, Figure 1 presents descriptive statistics [20], as such, the graphs do not take into account important factors such as the individual characteristics and political affiliation of MPs which may affect their level of activity. For instance, members of the majority may differ from MPs in the opposition in terms of activity, but many political outsiders of the XVth legislature are members of the majority (LREM party). As a consequence, to disentangle co-founding effects, a finer econometric analysis is needed to investigate further the relationship between the experience in office and the activity level of MPs [21].

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20. The multidimensional index is computed for 30 three-month periods: 20 3-month periods starting with the XIVth legislature in 2012 and 10 3-month periods from the beginning of the XVth legislature in 2017 until 2020. We superimpose the two legislatures to observe the dynamics of the activity over the length of a legislature (20 3-month periods). The vertical line divides the first 10-3month periods of both legislatures from the 10 last 3-month periods of the XIVth legislature.

21. Similar graphs displaying the changes in each individual dimension over legislatures are available in Figure A2 in Appendix.
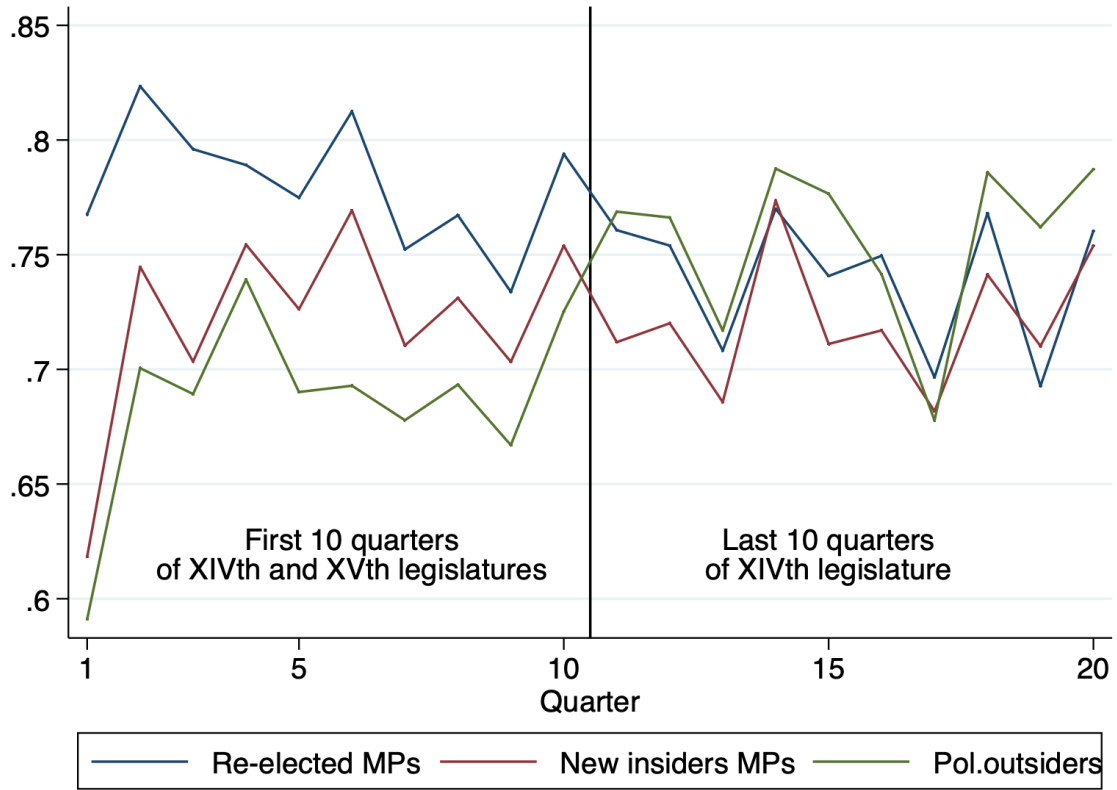
Figure 1 − Multidimensional activity index of MPs over time.

4   Empirical strategy

As discussed in Section 2.2, we are interested in studying the impact of being a political outsider on (i) the voting position relative to the party's majority, and (ii) the level of parliamentary activity. The challenge is to disentangle the fact that a political outsider is both a novice in politics and a novice in Parliament. We use an approach similar to Alt et al. [2011] to target the political outsider effect. We compare the political outsiders to the new insider MPs (i.e. individuals elected for the first time as MPs but with prior retributive political experience) to account for an outsider effect. The comparison between political insiders newly elected and those re-elected reasonably reflects the parliamentary experience of the position.

Our first empirical specification aims to investigate Hypothesis 1. We use a standard logit model clustered at the individual level where we run the following regression :

$$Prob(y_{dtl} = 1) = Prob(\phi_0 + \phi_1 \text{Outsider}_{dt} + \phi_2 \text{Re-elected}_{dt} + \phi_3 P_{dt} + \phi_4 I_{dt} + \phi_5 Q_t + \epsilon_{dtl} > 0) \qquad (2)$$

Where y is a dichotomous variable that takes the value 1 if the MP d votes differently from the majority (*Deviation*) or the president (*Deviation President*) of the MP's political group, at day t over a law l. The category of reference for Outsider and Re-elected is the new insider MPs. The coefficient on Outsider, ϕ_1, provides an estimate of the political experience effect. The coefficient on Re-elected, ϕ_2, provides an estimate of the parliamentary experience effect. P_{dt} accounts for the political group fixed effects and allows controlling for the specifics of political groups such as the size of groups, political ideology, culture and strategies. I_{dt} represents a vector of MPs' characteristics, including age, gender, a dummy which captures whether an MP graduated

from ENA, a dummy which captures if the MP belongs to a higher socio-professional category, and the level of electoral competition. Finally, Q_t captures the 3-month fixed effect.

In order to take into account the heterogeneity effect over the level of group discipline, which is of paramount importance inside the French Parliament, we run the same regression separately for (i) the MPs affiliated with political groups with low cohesion ($GD = 0$), and (ii) the MPs affiliated with political groups with high cohesion ($GD = 1$).

Our second empirical specification covers Hypothesis 2. To investigate how the political outsider effect impacts the parliamentary activity of MPs, the baseline specification used is a general linear model, clustered at the individual level (MP id) to remedy against serially correlated error terms, of the following form:

$$Activity_{dq} = \beta_0 + \beta_1 \text{Outsider}_{dq} + \beta_2 \text{Re-elected}_{dq} + \beta_3 S_{dq} + \beta_4 P_{dq} + \beta_5 Q_q + \epsilon_{dq} \tag{3}$$

Where $activity_{dq}$ corresponds to the value of the multidimensional activity index (ranging between 0 and 1) for an MP d in 3-month q. As described in Section 3, this index refers to the ranking of MPs regarding their legislative activity computed for periods of 3-months. All other variables are consistent with the description in the previous Equation 2.

5 Empirical results

5.1 Representation dimension and responsiveness to political parties.

In this section, we test Hypothesis 1 from Section 2.2 where the starting point is to explore a potential outsider effect. If such an effect exists, a difference with respect to the standard political behavior of political insiders should be observed. In the French Parliament, the standard behavior is to stick to the party's line. As highlighted in Table 1, there is an important heterogeneity among political groups to take into account. The inclusion of political group fixed effects and the correction for serial correlation prevents various biases and provides robustness to the estimation.

The first column of Table 4 shows no specific outsider effect on the voting behavior of MP over the whole sample. However, this overall view hides the different dynamics of the different political groups. When we distinguish low discipline groups ($GD = 0$) and high discipline groups ($GD = 1$) in separate regressions, patterns appear. The second column shows that in less disciplined political groups, a strong positive political outsider effect arises. This means that we observe that political outsiders are significantly more dealigned to their political group than new insider MPs. Moreover, they vote against the political group line more than re-elected MPs [22]. This effect is all the more interesting because, a part from gender, all the characteristics related to individuals are not significant. However, we can only assert that it exists and cannot invoke a single causal explanation. A first explanation may lie in the fact that political outsider candidates who are likely to behave differently from political insiders naturally join, either by self or party selection of the candidate, low disciplined groups. This track is all the more interesting as some self-selection, or party-selection mechanisms seem at work, as shown by Table 3 where political outsiders are mostly inside highly disciplined groups. A second possible explanation is that when the cost of deviation is lower, they tend to affirm different positions from their political group. We have to keep in mind that deviating is not just costly at the political career (Sieberer [2010]) because it is not solely a matter of being rewarded, or not sanctioned, by the political group.

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22. By changing the reference group from new insider MPs to re-elected MPs that confirms that this effect is stronger.

Loyalty to the political group might also displease certain stakeholders, including the MP him/herself, when it comes to voting differently from their personal policy preferences, which might be better aligned with voters' preferences or not. It should be noted that the deviation with respect to president shows the same positive sign in the fifth column, but the p-value is just above the significance threshold.

We also observe a pattern among political insiders. In the whole sample and in low discipline groups, as shown in the first and the third column, having parliamentary experience tend to reinforce the loyalty of the MP. A straightforward explanation is that re-elected MPs, due to their parliamentary experience, decide the political group line to follow. In contrast, the reverse is weakly significantly true for highly disciplined political groups. If we remove the majority inside highly disciplined political groups, this result is no longer significant. It supports the possibility that in the case of a majority, the government decides the political line, and experienced MPs are more prone to express their view against the line.

In a nutshell, what we show is that an outsider effect is more likely to occur in less disciplined political groups. Political outsiders are more independent from their political party and are more prone to follow other concerns than just the line imposed. However, we cannot be sure that these concerns are a better reflection of voters' preferences. In the end, the results are not convincing for the existence of a global outsider effect and a concrete change in the way the representation is exercised, even with the relatively large number of new political outsiders elected.

Table 4 − Is there a political outsider effect on the standard vote behavior in the French Parliament ?

	(1) Deviation [Whole sample]	(2) Deviation [$GD=0$]	(3) Deviation [$GD=1$]	(4) Deviation President [Whole sample]	(5) Deviation President [$GD=0$]	(6) Deviation President [$GD=1$]
Outsider effect	0.066	0.552***	-0.118	-0.002	0.357	-0.194
	(0.120)	(0.176)	(0.130)	(0.125)	(0.222)	(0.127)
Parliamentary experience effect	-0.061	-0.235**	0.344*	-0.214**	-0.340***	0.099
	(0.088)	(0.091)	(0.202)	(0.101)	(0.119)	(0.186)
Competition	0.928	-0.200	2.427	0.946	0.058	2.138
	(0.780)	(0.556)	(1.813)	(0.793)	(0.659)	(1.715)
Age	-0.005	0.001	-0.014***	-0.011***	-0.007	-0.019***
	(0.003)	(0.004)	(0.005)	(0.004)	(0.006)	(0.005)
ENA	0.019	0.042	-0.096	-0.043	-0.026	-0.142
	(0.150)	(0.178)	(0.137)	(0.206)	(0.265)	(0.163)
Gender	-0.066	-0.196**	0.114	-0.057	-0.152	0.107
	(0.068)	(0.078)	(0.109)	(0.079)	(0.106)	(0.107)
High Socio-Professional Category	0.043	0.077	-0.044	0.016	0.044	-0.045
	(0.065)	(0.075)	(0.105)	(0.072)	(0.094)	(0.107)
Constant	-4.570***	-4.226***	-4.628***	-3.731***	-3.489***	-3.789**
	(0.696)	(0.664)	(1.629)	(0.778)	(0.795)	(1.637)
Observations	334,620	138,069	196,491	171,757	83,396	88,329
Group Party FE	yes	yes	yes	yes	yes	yes
Time FE	yes	yes	yes	yes	yes	yes

Note: This table displays results of interest from estimations of Equation 2. The omitted category is the new insider MPs. Group Party FE captures the political group to which the MP belongs fixed effect. Time FE captures the 3-month fixed effect. See section 3 for the construction of our dependant variables *Deviation* and *Deviation President*. **Outsider effect** stems from comparing the political outsiders to the new insider MPs ; **Parliamentary experience effect** stems from comparing the Re-elected MPs to the new insider MPs. *GD=0* refers to the sub-sample including only the MPs affiliated with political group with low cohesion ; *GD=1* refers to the sub-sample including only the MPs affiliated with political group with high cohesion. The description of the other variables is available in Table A1 in Appendix. Robust standard errors clustered at the MP level are in parentheses. Statistical significance: *** p<0.01, ** p<0.05, * p<0.1.

5.2 Political inexperience and activity: the relative parliamentary activity of political outsiders

Are political outsiders less active than their experienced counterparts?

We first investigate overall activity differentials between MPs according to their political background. Table 5 presents the results obtained by running Equation 3. Evidence in column (1) suggests that both outsider effect and parliamentary experience effect are not statistically different from 0. Neither political outsiders nor new insider MPs have a significantly lower level of activity than re-elected MPs. We do not find a significant parliamentary experience effect, which echoes the competence effect (Alt et al. [2011]), for re-elected incumbents over novice MPs. It can be because the parliamentary experience effect and outsider effect go in the opposite direction, or the selection of good candidates might not be a significant factor favoring MPs' activities. Over the whole duration of their mandates, MPs' level of activity does not depend on previous experience of the position.

However, these results may hide some effects within the duration of the 5-year mandate of MPs. Columns (2) and (3) display the results when we restrict the sample to the first 6 and 12 months of mandates, respectively. The coefficient associated with the outsider effect is still negative, suggesting that political outsiders are less productive than new insider MPs, but still not statistically significant. In contrast, the coefficient associated with the parliamentary experience effect is positive and significant at 1%. It indicates that re-elected MPs display multidimensional activity scores 0.08 points higher than new insider MPs in the first 6 months of MP mandates. This score difference is still highly significant but drops to 0.06 when we extend the time window to the first 12 months of mandate. These results provide three insights. First, re-elected MPs benefit from their experience of MP office over new MPs, and it translates into higher activity. Second, this experience advantage diminishes over time as new MPs gain experience. Third, the absence of outsider effect indicates that new insider MPs do not benefit from their familiarity with formal rules and informal games of politics more than new political outsiders. Experience of politics in a broad sense does not provide any observable disadvantage neither in the medium term nor in the short term, in contrast to the specific experience of the MP position, which gives re-elected MPs an initial surplus of activity. We further investigate these effects and how experience impacts the legislative activity of MPs in the following section.

Table 5 − Activity over time

Dependent variable : Activity	(1) Whole sample	(2) First 6 months	(3) First 12 months
Outsider Effect	-0.012	-0.029	-0.012
	(0.016)	(0.020)	(0.017)
Parliamentary experience effect	0.014	0.078***	0.057***
	(0.014)	(0.017)	(0.015)
Age	-0.002***	-0.002**	-0.002***
	(0.001)	(0.001)	(0.001)
Gender	0.002	-0.034**	-0.016
	(0.012)	(0.015)	(0.012)
ENA	0.031	0.067**	0.038
	(0.027)	(0.027)	(0.026)
High Socio-Professional Category	0.041***	0.056***	0.045***
	(0.012)	(0.014)	(0.012)
Competition	-0.083***	-0.093***	-0.085***
	(0.016)	(0.024)	(0.021)
Constant	0.980***	0.961***	0.991***
	(0.041)	(0.047)	(0.042)
Observations	16,345	2,216	4,416
R-squared	0.105	0.174	0.147
polparty FE	yes	yes	yes
trim FE	yes	yes	yes

Note: This table displays results of interest from estimations of Equation 2. Activity is a [0;1] continuous variable that measures an MP's relative position regarding legislative activity compared to other MPs (using the $\alpha-$activity index described in Section 3). The omitted category is the new insider MPs. Group Party FE captures the political group to which the MP belongs fixed effect. Time FE captures the quarter's fixed effect. **Outsider effect** stems from comparing the political outsiders to the new insider MPs ; **Parliamentary experience effect** stems from comparing the re-elected MPs to the new insider MPs. The description of the other variables is available in Table A1 in Appendix. Robust standard errors clustered at the MP level are in parentheses. Statistical significance: *** p<0.01, ** p<0.05, * p<0.1.

We observe that some individual characteristics can influence parliamentary activity. In particular, older MPs exhibit a robust low activity score compared to their counterparts. This is consistent with the findings of Alesina et al. [2019] who argue that younger politicians have greater incentives to produce efforts to ensure a long-term and successful career in politics. Gender is not significant, suggesting that the activity level of female MPs does not differ from the activity level of male MPs and corroborating the finding of Lippmann [2022] who find no gender evidence on the number of amendments produced in the French Parliament. Unlike Gavoille and Verschelde [2017], we do not find a significant positive association of MPs graduating from ENA (the highly selective organization whose aim is to train the future executives of political institutions public bodies) with higher activity scores. Finally, unlike Gavoille and Verschelde [2017] findings based on past legislatures (1958-2012), we find that MPs elected in more competitive contests tend to be less active.

How long does it take to catch up with the parliamentary activity level of re-elected MPs?

The lack of experience of MPs in the first few months of their mandate results in a low activity of new insider MPs and political outsiders relative to those who are re-elected and therefore experienced, as shown in Table 5. Under the assumption of decreasing marginal productivity of experience, the activity gap between new and re-elected MPs would be expected to decrease[23]. This expectation is supported by the evidence presented in

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23. The economics literature provides an extensive rationale and evidence about the positive role of experience on productivity, see for instance Bagger et al. [2014].

Section 5.2. However, the precise dynamics of learning and the speed of convergence in activity level between the different categories of MPs remain unclear. The temporal granularity of our data on parliamentary activity allows us to investigate more thoroughly how experience shapes the legislative activity of MPs. We achieve this by enriching the baseline model (Equation 3) with interactions between the dummy variables of interest (Outsider and Re-elected) and the 20 3-months periods (5 years) of a legislature. Based on this interactive model, Figure 2 shows the marginal activity gaps between groups of MPs, using new insider MPs as the reference group, over a legislature [24].

The results confirm the evidence from Table 5. We do not observe any political outsider effect. That is to say, the activity level of political outsiders (in red) does not differ from the activity level of new insider MPs (reference). We observe that re-elected MPs display significantly higher activity scores than new insider MPs in the first 9 months of their mandate suggesting a parliamentary experience effect. However, we observe that the experience advantage of re-elected MPs decreases within the first year of being an MP. After one year, we do not observe any difference in activity among MPs. These results suggest that new MPs, either political outsiders or new insider MPs, initially suffer from an inexperience effect characterized by a large activity gap with re-elected MPs which decreases but persists in the subsequent 6 months and disappears from the fourth 3-month period. As a result, Hypothesis 2 is partly verified: their lower activity level, in the beginning, is due to their inexperience in the Parliament. They first incur a learning cost of the MP position (as do new insider MPs) and then catch up. In addition, after one year of experience, the activity gap disappears and does not keep the same trend. Finally, we observe greater confidence intervals during the last 30 months for political outsiders. This is due to the fact that, unlike the first 30 months that use data from both the XIVth and XVth legislatures, the sample for the last 30 months is only made up from the XIVth legislature since the XVth is still ongoing, and data are not reliably exploitable since the first covid-related lockdown established by Government in March 2020. The limited number of political outsiders during the XIVth legislature explains greater confidence intervals after the first 30 months of a legislature.

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24. The multidimensional index is computed for 30 three-month periods: 20 3-months starting with the XIVth legislature in 2012 and 10 3-months corresponding the beginning of the XVth legislature in 2017 to 2020. We superimpose the two legislatures to show the dynamics of the activity over the length of a legislature (20 3-month periods). The vertical line divides the first 10 3-months periods of both legislatures from the ten last 3-month periods of the XIVth legislature.
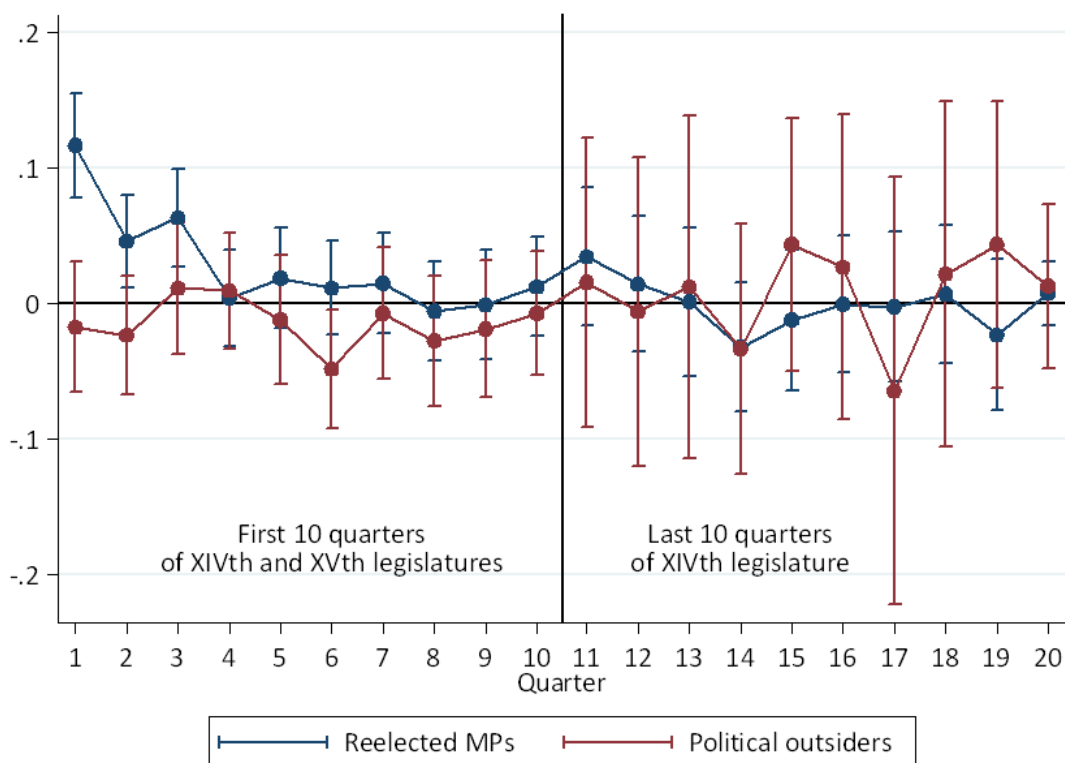
Figure 2 – Marginal Differentials Activity of MPs relative to new insider MPs.

6 Conclusion

In a context where dissatisfaction with the political class is high, we provide some quantitative evidence in response to the demand to install political outsiders in key public positions. We investigate whether a change of representatives brings changes in the way democratic representation is achieved with evidence from the French Parliament, in terms of representativity and the activity of MPs. In this spirit, we contribute to the literature that studies the effect of individual characteristics of MPs on policy preferences and the activity of representatives.

The analysis conveys two main insights. The first concerns the existence of a political outsider effect, that is, outsider politicians who should show different political behaviors from those adopted by political insiders. In France, political group preferences and cohesion mechanisms are traditionally the main determinants of the position of MPs regarding a policy. Our results are pessimistic about the use of political outsiders to change the way of doing politics. However, if such an effect exists, it is more likely to occur in low cohesive political groups, that is, groups that are more centrist and not inside the majority. Moreover, being more independent from political parties can but does not necessarily imply a better representation for citizens; it might also reflect support for other private interests. It is also important to note that this wave of political outsider MPs allowed more women and younger individuals to access key political positions, as it for sure matters for more than the dimensions studied in this paper.

The second insight relates to the level of activity of MPs. The specific experience of an MP in office, over the broad experience of political positions in general, matters for political activity. Political outsiders and new insider MPs exhibit activity levels similar to re-elected MPs over the length of a legislature. However, they are

inexperienced, and that hinders their activity at the beginning of their mandates. The activity gap gradually decreases, and novice MPs catch up with experienced politicians within a year after taking office.

Overall, installing new representatives in place of established politicians does not appear to be a way of supporting a significant change in the manner in which political representation is exercised, as desired by a part of the electorate. Despite the high number of political outsiders obtaining a seat of MP in the 2017 parliamentary elections, about one-third of the total number of MPs, most of them share backgrounds similar to their experienced fellows. In particular, most of them have advanced education diplomas from top universities and belong to the upper socio-professional categories. In that sense, they do not differ much from established politicians and are not much more representative of the electorate. While it might favor more independence toward political parties because of an appealing outside option, it hinders their capacity to select valence issues that a fringe of the electorate is concerned with. Political parties being mostly led by long-established politicians, may proceed to a controlled political outsider "washing" by selecting political outsiders who change political representatives only on the surface. Inertia induced by traditions and experienced politicians in office who lead the activity and its organization within political groups could also explain why new MPs do not behave significantly differently.

Appendix

Appendix A: Data and descriptions

Table A1 − Descriptions and sources of variables

Variable	Definition and measure	Source
Age	Age of the MP at the date of vote or activity	RC
Gender	Gender of the MP 0 if male 1 if female	RC
High Socio-Professional Category	1 if the MP belongs to the High socio-professional category	RC/S
Political Group	The political group at which the MP belongs at the date of vote & activity	RC/S
Group Discipline	1 if the MP belongs to a group with a high cohesion (greater than the mean) and 0 if the MP belongs to a group with a low cohesion (lower than the mean)	RC/S
Vote Presence	Ratio combining the effective number of attendance over the total number of possible attendance	S
Maj	If the MP belongs to the majority of the five-year term, it is equal to 1	RC/S
ENA	1 if the MP studied at the Ecole of National Administration	LM/S
Competition	Degree of competition experienced by the MP during the first round	S
Group President	1 if the MP is a president of political group	S
High disciplined groups	1 if the MP belongs to GDR or LFI or NG or LREM or UMP or SOCXV	RC/S
#Deviation	1 if the MP voted differently from their political group majority	S
#Deviation president	1 if the MP voted differently from their political group president	S
#Activity	Relative ranking taking into account the 4 dimensions below monthly recorded	RC
Interventions	Number of oral contributions (>20 words) to debates in the lower house	RC
Written propositions	Number of authored propositions of laws and amendments	RC
Written questions	Number of questions addresses to the Government	RC
Reports	Number of reports authored	RC

Note: RC stands for *Regards Citoyens*. LM for *Le Monde*. S for Scrapping of different website and mostly from www.assemblee-nationale.fr.
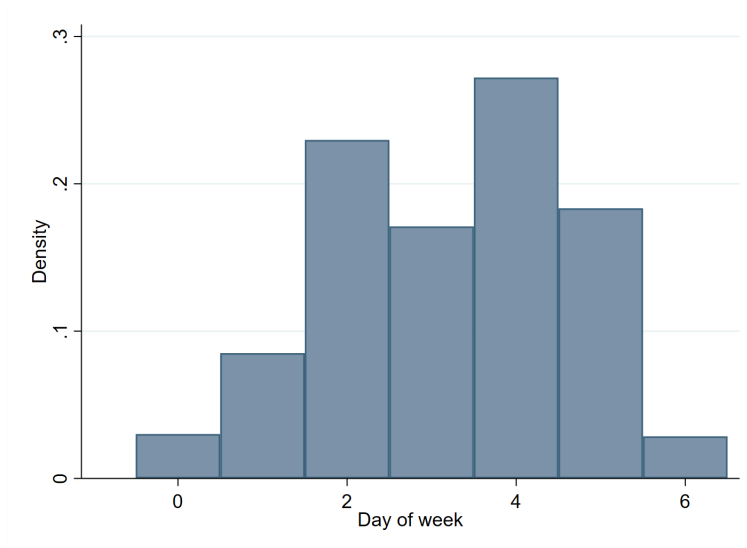
Figure A1 − Distribution of the days of electronic votes between 2012 and 2020. The day of the week starts at 0 for Sunday and ends at 6 for Saturday.

Construction of the agreement index

The agreement index for the cohesion of a group for a given policy is computed as follows:

$$AI_i = \frac{\max\{Y_i, N_i, A_i\} - \frac{1}{2}\left[(Y_i + N_i + A_i) - \max\{Y_i, N_i, A_i\}\right]}{(Y_i + N_i + A_i)} \tag{A1}$$

Y, N and A stand for the number of votes within the group i, where votes can take three modalities: Yes, No and Abstain respectively.

Table A2 − Pearson correlation between the dimensions of the multi-dimensional activity index

	Interventions	Written propositions	Written questions	Reports
Interventions	1.000			
Written propositions	0.124	1.000		
Written questions	0.046	0.154	1.000	
Reports	0.265	0.020	-0.011	1.000

Note: See a description of variables in Section 3.
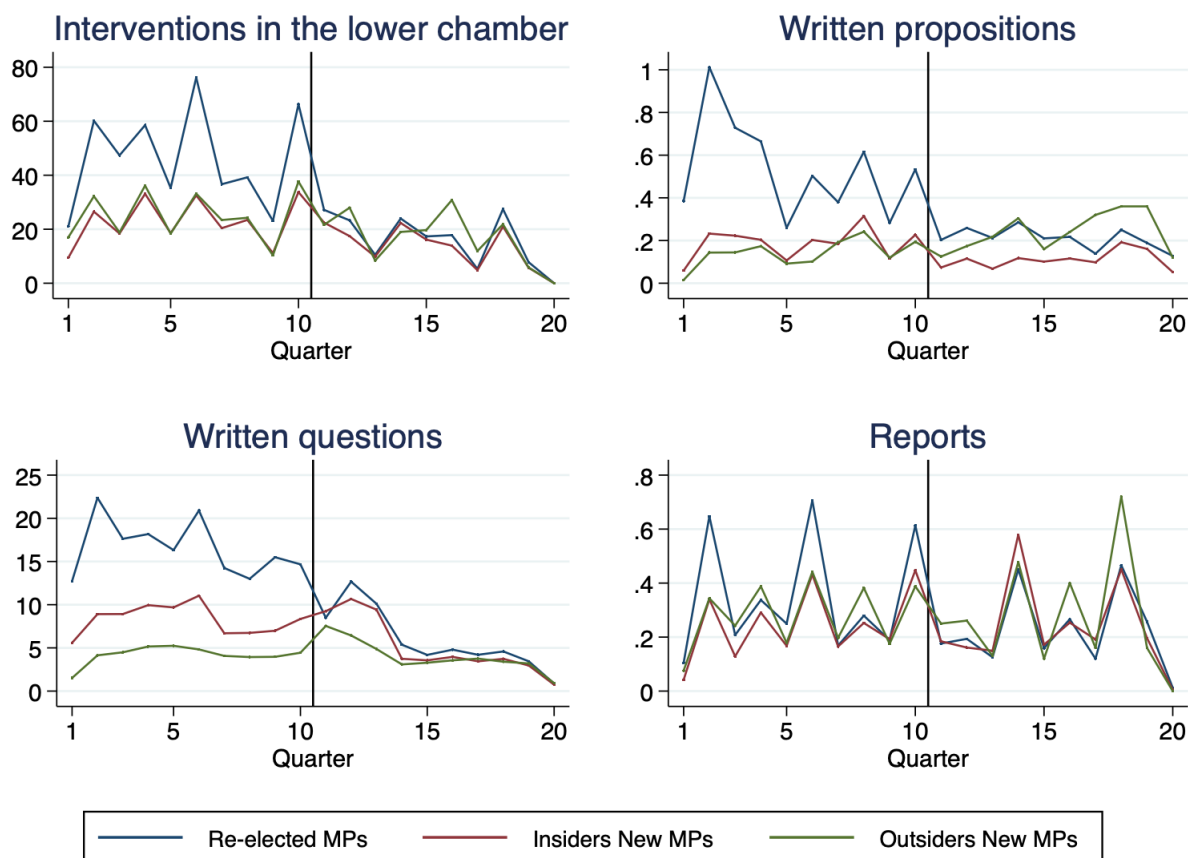
Figure A2 − Evolution of the dimensions of the multi-dimensional activity index. Four components of the MPs parliamentary activity over time. Four dimensions of the MPs parliamentary activity are followed over 30 three-month periods: 20 3-month periods starting with the XIVth legislature in 2012 and 10 3-month periods from the beginning of the XVth legislature in 2017 to 2020. We superimpose the two legislatures to observe the dynamics of the activity over the length of a legislature (5 years). The vertical line divides the first 10 3-month periods of both legislatures from the 10 last 3-months periods of the XIVth legislature.

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