Outside earnings, electoral systems and legislative effort in the European Parliament

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Abstract

Parliamentarians are often allowed to pursue other work in addition to their mandate. Using data on the 7th European Parliament (2009-14), we analyse the relationship between the outside earnings of its Members (MEPs) and their parliamentary activities. The supranational nature of the European Parliament thereby allows a novel analysis of 'moonlighting' free of country-specific bias. We find outside earnings to be negatively correlated with the particularly work-intensive production of draft reports and opinions. Utilising the considerable freedom of Member States in organising elections, we find this relation to be dependent on the electoral system under which MEPs are elected. While the effect of the trade-off between outside and parliamentary work is predominantly negative in all other systems, outside earnings of MEPs from centralised but candidate-focused systems correlate positively with their productivity, indicating a possible benefit from selection effects.

Keywords: European Parliament, Moonlighting, Political effort, Election systems

1. Introduction

In many parliamentary systems, Members of Parliament (MPs) are allowed to pursue outside activities and to receive additional income to their official salary (see e.g. Geys and Mause, 2013, for a cross-national comparison). The possibility of working outside the parliamentary role creates a clear trade-off between the time available for contributing to the legislative process, and the time invested in pursuing paid work. Thanks to reporting obligations and the (recent) availability of data on outside earnings, moonlighting has been found to negatively influence legislative effort in different ways across national parliaments (see e.g Arnold et al., 2014; Gagliarducci et al., 2010; Geys and Mause, 2013, 2016). Research on moonlighting on a cross-country or the supranational level is, however, still missing. The question whether moonlighting influences the work of parliamentarians has important implications for the ongoing public debates on institutional transparency, qualification and selection of politicians, and conflicts of interest.

In this article, we investigate the influence of moonlighting on legislative output in the European Parliament (EP). We use data on the output produced by Members of the European Parliament (MEPs) during the 7th term (2009-14), data on their personal backgrounds collected from curricula vitae, and information on their outside earnings. The latter became more broadly available when the EP introduced a new Code of Conduct in 2011, switching from voluntary to mandatory reporting of outside earnings during the mandate.

The data from the EP enable us to test cross-national aspects that single-country studies cannot evaluate. In particular, the institutional context in which politicians operate has not received much attention in the analysis of moonlighting. Yet, it can be expected that the behaviour of MEPs is subject to the way they are selected into office. Their career concerns once in office will likely drive the effort they invest in- and

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outside the EP. Member States of the European Union (EU) have considerable freedom in choosing the electoral system they use for the European elections as long as it satisfies proportional representation. The multinational composition of the EP and the variation in the electoral procedures to elect MEPs across countries allow us to explore the role of electoral systems in the trade-off between outside earnings and parliamentary effort. MEPs need to convince different principals of their suitability for re-selection and re-election, depending on the system in their home countries (Hix et al., 2012). This need directly relates to the signalling of competence and the incentives to focus on parliamentary work.

Overall, we find outside earnings to be negatively correlated with MEPs' productivity for draft documents in the form of (shadow) rapporteurships of reports and opinions. Comparing the relative performance of MEPs on a combined measure for draft documents, an increase of 1000 euro in an MEP's monthly earnings from non-parliamentary activities correlates with a 1.6 percentile point drop compared to his or her peers. The electoral systems under which MEPs are elected both directly affect the output of MEPs and mediate the influence of moonlighting. Under strong party hierarchies with the ability to monitor MEPs' work, as in party centralised systems, MEPs produce significantly more draft documents than their colleagues from other systems. The latter may to a larger extent depend on an electorate for re-selection and re-election that is less demanding in terms of parliamentary output. The analysis of the interaction between moonlighting and the electoral systems reveals moonlighting to remain mostly negatively correlated with written output across systems. However, for MEPs from candidate-based systems with a centralised election structure, an additional 1000 euro of monthly earnings correlate *positively* with a 3 percentile point increase in output. This result may be rooted in a differing importance of the two opposing effects of moonlighting on candidate selection and politicians' incentives in office across electoral systems. The less rigid candidate-centralised systems may benefit from allowing high-performing individuals to enter politics at a lower cost than more hierarchical systems.

2. Selection, incentives, and electoral systems

Parliamentarians' quality and invested effort is typically seen to be influenced by two main effects: the incentives of candidates to run for office (selection effect); and the reward structure for performance once elected (incentive effect). Both have been found to be influenced by the official salary (see e.g. Besley, 2004; Caselli and Morelli, 2004; Messner and Polborn, 2004; Mattozzi and Merlo, 2008). Regarding selection effects, higher salaries are seen to reduce the opportunity costs of running for office for high quality candidates (Besley, 2004; Caselli and Morelli, 2004). At the same time they increase the existing opportunity cost advantage of low quality candidates. The overall quality of the candidate pool then depends on this balance and other factors such as personal motivation and the intrinsic attractiveness of the mandate itself (Messner and Polborn, 2004; Mattozzi and Merlo, 2008). In terms of the principal-agent model of politics, and given the absence of performance-linked payment schemes for politicians, incentive effects are usually seen to center around re-election concerns. As low-performing politicians should more likely be voted out of parliament, the motivation to invest work in the parliamentary role should increase with the rewards from office (Besley, 2004).

For the European Parliament, a number of studies use an exogenous salary shock in 2009 to evaluate the effect of salary on selection and performance, with differing results.[1] Some studies find higher salaries to have attracted less educated, but more politically experienced politicians to the EP in 2009 (Fisman et al., 2015; Staat, 2015).[2] In examining the composition of the EP along a broad range of ex-ante quality dimensions, such as education and professional background of MEPs, Braendle (2015) finds them generally unaffected. On the performance side, Mocan and Altindag (2013) and Staat (2015) find higher salaries to

[1] Prior to 2009, MEPs' salaries were linked to those of the national MPs in their respective home countries. With the reform, the salaries of all MEPs were equalised, leading to substantial pay cuts for Austrian and Italian MEPs, but to (up to eight-fold) increases for MEPs from other countries.

[2] On the municipal level, higher salaries have been shown to attract more educated politicians (see Gagliarducci and Nannicini, 2013; Ferraz and Finan, 2011, for Italy and Brazil, respectively). In the Finnish national parliament, Kotakorpi and Poutvaara (2011) find that candidate quality increases with salary among women, but not among men.

have had a negative impact on the incentive to produce legislative output and attendance. While Braendle (2015) also finds higher salaries to increase absenteeism, he finds positive effects for other effort measures, including the number of reports drafted.

2.1. Moonlighting

The official salary is, of course, not the only (financial) consideration for candidates when running for office. Moonlighting can interact with the (self-)selection effect and has a direct influence on the incentive to focus on parliamentary work. The possibility of receiving outside earnings while serving in political office is one way to reduce the opportunity cost of entering politics for citizens with successful market activities. Gagliarducci et al. (2010), for instance, show for Italy that high-ability citizens are indeed more likely to run for office if they can continue collecting outside incomes. Once elected they are, however, also more likely to shirk. Moonlighting presents the elected politician with a trade-off. How much time should be allocated to outside activities rather than to parliamentary work?[3] A common expectation is that the time trade-off dominates any benefits from the increased performance brought on by the selection effect, and additional outside earnings correspond to a decrease in effort invested during the mandate (Gagliarducci et al., 2010).[4]

In national-level studies, Gagliarducci et al. (2010) find that higher outside earnings are associated with a higher absenteeism rate for Italian MPs, whereas Arnold et al. (2014) find no significant influence of outside earnings on the absenteeism rate of German MPs and the number of speeches they deliver. Arnold et al. (2014) do, however, find a negative relationship between outside earnings and a range of other effort variables. They point to country-specific characteristics, like political culture, to explain the differences between their own results and those of Gagliarducci et al. (2010). In light of the national differences, the EP presents a particularly interesting case for the analysis of moonlighting as it allows the bridging of seemingly contradictory results at the national level.

2.2. Electoral systems

While MEPs from different countries generally share the same legislative tasks inside the EP, one key differentiator is how they are elected. Member States are free to hold the European elections according to their own prerogative, as long as they satisfy proportional representation and election thresholds do not exceed 5% at the national level. Two main dimensions characterise the different national electoral rules in use. First, the election may be based on the closed-list (party-list) or the open-list (single transferable vote or similar) system. Second, the electoral area may be subdivided as long as it does not affect the general nature of the proportional vote (Farrell and Scully, 2007).

Existing studies on differences between the electoral systems and their effects have so far predominantly focused on the voting behaviour of MEPs (e.g. Hix, 2004; Hix et al., 2007), and on issues of representativeness and the campaigning efforts of MEPs in their home constituencies (see e.g. Bowler and Farrell, 1993; Farrell and Scully, 2007, 2010, and references therein). Hix et al. (2012) also analyse MEPs' career choices after their mandates as a function of their participation and the electoral systems in which they were elected.[5] In this article we expand the consideration of electoral systems to their relation with parliamentary work and moonlighting.

[3]The electoral control voters exercise over the mandate holder and the public's (rather) negative view of moonlighting provide a clear incentive for politicians to focus on their parliamentary work (see Campbell and Cowley, 2015, for a differentiated account of public attitudes towards moonlighting). The competition a politician is facing for his or her seat thereby has a mediating influence. Those elected by a narrow margin have more reason to demonstrate their commitment to their parliamentary work to secure future re-election. Those who won by large margins are less constrained by such concerns. They can invest more time in earning outside income (Becker et al., 2009).

[4]The time trade-off effect has been shown to be mediated by partisan and socio-economic factors. Higher age has been found to reduce the invested effort (measured by the number of bills sponsored) while improving the attendance (Fedele and Naticchioni, 2015; Gagliarducci et al., 2010). Men show higher absenteeism rates, and women have fewer outside jobs in the private sector (Becker et al., 2009; Mause, 2009; Geys and Mause, 2012). Finally, right-wing politicians receive outside income more often and also higher amounts than left-wing politicians (Arnold et al., 2014).

[5]For a discussion of different career paths in the European Parliament see also Scarrow (1997).

We expect MEPs to adjust their efforts to the expectations of the different principals holding power over their re-selection and re-election chances in their home countries. In particular, the performance of a politician during the parliamentary mandate can be of distinctly different importance to voters than to political parties (Hix et al., 2007; Staat, 2015). In evaluating a politician's effort, voters might be more susceptible to cheap signalling or charisma than a party organisation that has more opportunity to scrutinize the actual work, for instance. Intuitively, politicians in candidate-based systems should, to some extent, more readily be able to substitute parliamentary work effort with outside earnings without being punished. We would thus expect to see lower levels of output for MEPs from candidate-based systems. The centralisation of an election system should reinforce this difference. To the extent that voters have the possibility to directly influence the election chances of a politician in candidate-based systems, more centralisation increases the value of personal reputation (Carey and Shugart, 1995).[6] In the absence of literature on this topic, one intuition might be that centralisation in party-based systems should lead to party organisations being more resourceful in monitoring their members. In combination with the incentive of politicians to convince with their work, this should further increase the expected output of MEPs from party-centralised systems relative to others. The effect of outside earnings on performance can fall in the two categories of selection and incentive effects discussed above, but they may weigh differently across electoral systems. We might expect the time trade-off to have a negative influence on output throughout, but as Gagliarducci et al. (2010) point out, moonlighting may attract higher quality politicians. Intuitively, the increase in attractiveness of holding office through the possibility to moonlight should be felt most where candidates can enter the electoral race easily. Parties often require candidates to prove themselves before being advanced onto (or within) the ballot. Moonlighting is likely a less dominant motivator under such circumstances. We would thus expect any selection effects stemming from the possibility to moonlight to be stronger in candidate-based systems.

3. Institutional Background

The European Parliament is composed of representatives from all EU Member States, who are (since 1979) directly elected every five years. At roughly 50%, the turnover of parliamentarians is quite high in the EP compared to national parliaments (e.g. 25% in the German Bundestag, Leif, 2009). The composition of the EP reflects a degressive proportionality system using the share of Member States' populations in the total population of the EU as baseline. Countries with bigger populations seat more parliamentarians, but smaller countries are over-represented on a per-capita basis. Due to fluctuation during the term caused by the restructuring of the EP and the replacement of MEPs who left because of their age, health, change of occupation, or other reasons, 857 individuals served as an MEP during the 7th EP.[7] To avoid biasing our results, in this article we focus on the 650 MEPs who served the full term. For them, the completed disclosures are available and their effort can be reliably measured.[8]

MEPs are organised in multinational political groups with relatively strong internal cohesion. Political divisions within the Parliament typically reflect the left to right spectrum present in most Member States (Hix et al., 2007). The political groups and their shares of seats are listed in Table 1. A typical working month of an MEP consists of two weeks for Committee and political group meetings in Brussels, one plenary

[6]The opposite effect occurs in a party-based system: the value of personal reputation decreases with district magnitude (Carey and Shugart, 1995).

[7]The total number of MEPs increased twice during the 7th EP. Once due to the Lisbon treaty reforms, and again when Croatia joined the EU. At the time of the European election in 2009, the number of seats per country ranged from five (Malta) to 96 (Germany), with a total of 736 seats. At the end of the 7th legislature in 2014, the EP had 766 seats.

[8]As the declarations of financial interests only became mandatory in 2012, 35 MEPs had already left parliament without reporting their incomes. Others were only in the EP for short periods and their effort cannot be measured reliably. Finally, some MEPs served long enough to have a measure of their effort and provided their financial declarations, but briefly enough that the effort variables may be biased due to a potential learning curve at the start of the mandate and the internal organisation of parties and parliamentary Committees (Daniel, 2013; Hurka and Kaeding, 2012). Further, their effort measures would need to be adjusted to those of MEPs who served the full five years. Such adjustment could easily invalidate the measures.

week in Strasbourg, and one week alternating between additional short (one or two-day) plenary sessions in Brussels and time in the constituency.[9]

Members of the European Parliament receive a compensation package of a basic salary and additional allowances.[10] While the base salary is likely an important motivator to become an MEP, other considerations can also be important. Broadly speaking, three motives for holding office have been identified in political economy: (ego-)rents, material gains, and public good concerns (see e.g. Besley, 2005). We might expect that financial and opportunity cost considerations are relatively more important in less prestigious offices that promise smaller 'ego-rents'. For most politicians, the European Parliament carries less weight with regard to personal profile and career advancement than national level politics (Hix et al., 2012). It thus provides an optimal setting for our study.

In 2011, the EP endorsed a new Code of Conduct for its Members as a reaction to a cash-for-influence scandal and the damage it caused to its public image.[11] Since January 2012, all MEPs have been required to disclose any conflicts of interest they may have and, to improve transparency, must provide declarations of financial interests detailing their earnings from outside activities during their mandates, as well as their income in the three years prior. The Code of Conduct includes a clear statement of consequences in case of breaches or inaccurate reporting and a mechanism for enforcement. Penalties range from simple reprimands to more drastic punishments, such as fines and suspensions, up to removal from office.

4. Data

Personal information of MEPs who served in the 7th legislature was retrieved from the webpages of the European Parliament and from Parltrack.[12] We also encoded MEPs' curricula vitae to determine their education, professional-, and political experience.[13] The sample demographics are summarised in Table 1. Given the identification issues discussed above, Table 1 provides a comparison for those MEPs elected in 2009 and the subset under consideration who served the full term.

4.1. Dependent variables

Data on the parliamentary activities of MEPs was obtained from VoteWatch Europe.[14] Often, the moonlighting literature focuses on the absenteeism rate as a measure of effort (see, however, Arnold et al., 2014, for an analysis of a broader range of effort variables).[15] While the absenteeism rate is an important indicator, we argue that additional legislative output measures should be considered to obtain a fuller picture of the connection between moonlighting and parliamentary effort. The absenteeism rate may be disproportionately influenced by the incentive scheme attached to the presence of MEPs at the plenary sessions, which may distort the time trade-off effect. During the 7th EP, MEPs received a per diem rate of 304 euro, provided they attend. The trade-off is thus not restricted to the fulfilment of the parliamentary duties and the engagement in outside activities to earn further income.

For a detailed picture of MEPs' work effort, we therefore examine the 10 different measures displayed in Table 2.[16] Effort measurement is subject to a few caveats. First, because of data availability, we cannot

[9] During the 7th EP, parliamentary work was arranged by policy field in 20 Committees, plus two Sub-Committees. Each MEP is at minimum a full member of one Committee and a substitute for at least one other Committee.

[10] See Section A of the supplementary information for details.

[11] *Source:* `http://www.europarl.europa.eu/pdf/meps/201206_Code_of_conduct_EN.pdf`

[12] The data include the MEPs' gender, date of birth, start date and end date of their mandate, the European political group affiliation, and so forth, and is available on `http://www.europarl.europa.eu` and `parltrack.euwiki.org`. Throughout the article, the *age* variable signifies MEPs' age at the start of the 7th EP.

[13] The CVs were also obtained from the European Parliament web-pages, supplemented by the MEPs' personal Wikipedia entries, and cross-checked by nationals of the MEPs' home countries for verification of the coded information.

[14] *Source:* `http://www.votewatch.eu`

[15] Some studies consider the number of bills sponsored in addition to absenteeism rates (Fedele and Naticchioni, 2015; Gagliarducci et al., 2010, see e.g.). The reliability of this measure is discussed below.

[16] Definitions of the individual measures and an overview of their distributions are provided in Section B of the supplementary information.

Table 1: Sample Demographics

	Elected 2009[a]		Full term	
N=	736		650	
Newcomer 2009[b]	47.6	%	47.1	%
Female	35.1	%	35.9	%
Mean age	56.0	years	56.2	years
University degree	78.0	%	77.9	%
Mean years of experience	4.2	years	4.3	years
ALDE: Alliance of Liberals and Democrats for Europe	11.4	%	11.5	%
ECR: European Conservatives and Reformists	7.3	%	8.2	%
EFD: Europe of Freedom and Democracy	4.3	%	4.8	%
EPP: European People's Party	36.0	%	35.9	%
GUE-NGL: European United Left - Nordic Green Left	4.8	%	3.7	%
Greens/EFA: Greens/European Free Alliance	7.5	%	7.4	%
NI: Non-attached Members (non-inscrits)	3.7	%	3.5	%
S&D: Progressive Alliance of Socialists and Democrats	25.0	%	25.1	%
Mean outside earnings (full sample)	477.3	euro	459.2	euro
Share with outside earnings	19.6	%	20.3	%
Number with outside earnings	144		132	
Mean for MEPs with positive outside earnings	2456.1	euro	2261.4	euro
Mean prior income (uncorrected)	3414.0	euro	3599.9	euro

Notes:
[a] Thirty-five MEPs left parliament before the declarations of financial interest became mandatory. The earnings numbers in this column are thus only based on 701 MEPs.
[b] Newcomers had never served in the EP before.

measure the commitment and informal persuasion effort of MEPs, nor their work outside the formal bounds of the Parliament (such as informing the public or any work in their constituencies). We rely on the activities of MEPs within the EP to measure their performance. Second, our measures capture the quantity of MEPs' work, but not its quality. While we are aware of these limitations, we believe that the variety of our effort measures at least provides a reasonable approximation of the legislative part of MEPs' mandated work.

In terms of the importance of different activities, conversations with decision-makers in Brussels suggest a clear hierarchy. Being nominated the rapporteur for a report or an opinion is seen as evidence for the knowledge and determinedness of the MEP to work hard, as supported by research on the allocation of reports (see e.g. Daniel, 2013; Hurka and Kaeding, 2012; Hurka et al., 2015). Rapporteurships provide the most direct influence an MEP can have on the European Parliament's legislative function (Benedetto, 2005; Costello and Thomson, 2011). Some tasks providing information on the effort MEPs invest must, however, be interpreted with caution in regard to the output of the institution. They can easily give a false impression of commitment and great effort. Speeches in plenary (oral or handed in as written statements) are a case in point, as they may be merely demonstrative (Slapin and Proksch, 2010). The same is true for parliamentary questions. In themselves they are a legitimate instrument to monitor activities of the executive parts of the EU institutions (Proksch and Slapin, 2011), but they may also be used to artificially raise the visible effort of an MEP without a clear benefit to the work of the EP.[17]

Judging the importance of individual effort measures is difficult, as they depend on the personal preferences, objectives, and constraints of MEPs. Given the underlying legislative task of the EP and its role as directly elected representation of the European people, the formal contribution to law-making through the production of draft documents seems the most relevant aspect of its work. To facilitate the interpretation of the different measures and the relations between them, we therefore identify three broad categories: i) activities in which the MEP is physically tied to the plenary session (attendance and speeches), ii) the

[17] See for instance news reporting on inflated parliamentary activity at: `http://www.lemonde.fr/les-decodeurs/article/2014/04/16/les-astuces-de-m-melenchon-pour-paraitre-assidu-au-parlement-europeen_4402075_4355770.html`, Accessed 07 March 2016.

Table 2: Legislative output produced by full-term MEPs during the 7th EP

N = 650	Mean	Median	sd	Min.	Max.
Attendance rate	84.1	86.8	10.6	23.1	99.4
Speeches in plenary	201.0	94.0	311.2	2	2174
Draft report rapporteurships	3.0	2.0	5.1	0	54
Draft report shadow rapporteurships	7.2	3.0	17.0	0	253
Opinion rapporteurships	2.6	2.0	3.6	0	53
Opinion shadow rapporteurships	6.7	3.0	10.0	0	105
Amendments	76.5	65.0	53.2	0	379
Motions for resolutions	38.7	11	71.5	0	471
Written declarations	1.6	1.0	2.1	0	16
Parliamentary questions	97.7	44.5	179.7	0	1492

authorship of (non-) legislative instruments (reports and opinions) as rapporteur or shadow rapporteur, and iii) other activities that have a less direct impact on legislation but are fully under the purview of each individual MEP (amendments, motions for resolution, written declarations, and parliamentary questions).[18] The composition of category two, in particular, reduces the risk of over-reliance on individual items such as draft reports in forming conclusions, as the engagement in such efforts may only partially be the decision of MEPs. Concerns of hierarchy, political bargaining, or simply the use of point systems within Committees to assign reports to the different political groups may make a lower number of reports or opinions less of a 'choice' for newcomers or members of smaller political groups. By aggregating the alternative forms of engagement in the drafting of legislation, we can alleviate such concerns. The operationalisation and use of these three categories is further discussed in the results section below.

4.2. Independent variables

Since January 2012, the mandatory declaration of financial interests requires parliamentarians to report their earnings from outside activities during their mandate. Three separate sections of the declaration require the detailed statement of employment or self-employment, (paid) membership in any boards or committees, and one-off remunerated activities.[19] They provide the *outside earnings* data, and thus the main independent variable for our analysis. Incomes from different sources must be listed individually and assigned to one of four categories: 1) 500 to 1000 euro a month; 2) 1001 to 5000 euro a month; 3) 5001 to 10,000 euro a month; and 4) more than 10,000 euro a month. The accuracy of the measurement and analysis of the income of MEPs is thus not only constrained by the assumption of honest reporting, but also by the rather wide reporting categories. As category 4 is open-ended and no mean value or upper bound can be determined, we always take the lower bound of each category for our analysis. Where multiple sources of income are listed, they are summed together. Of the 650 MEPs serving the full term, 132 MEPs declared outside earnings, ranging from 500 to 20,000 euro per month (see also Table 1).[20] A comparison of this number to the national level is complicated by different reporting standards. Geys and Mause (2012) report the share of national MPs with outside activities for different countries, including a number of EU Member States. The share of parliamentarians reporting outside earnings tends to fall between 20 and 30%. While

[18] The assignment of amendments to either category two or three may be debatable. On the one hand, if they are adopted, they form part of the final legislative output. On the other hand, the dedication and investment of time and effort required by a (shadow) rapporteur have a very different magnitude than those for writing amendments. The results do not differ qualitatively across these two possible assignments, and we restrict our reporting to the categorisation presented here.

[19] One-off outside activities must be reported only if their total exceeds 5000 euro per year.

[20] As the parliamentarians in the EP come from countries with sometimes very different per capita GDP, a potential underestimation of the role of nominal outside incomes of MEPs from poorer countries could cause a bias in our results. An MEP from a poor country may need to invest more time to earn the same nominal outside income than a colleague from a richer country. Consequently, we use PPP adjusted earnings numbers throughout. We use the conversion rates provided by the OECD for 2011, available at `https://stats.oecd.org/` (2011 PPP results in euros, European Union as reference).

at the lower end of this range, the 20% of MEPs reporting outside earnings thus does not seem unusually low.[21]

Our second independent variable of interest is the electoral regime under which MEPs are elected. As MEPs are not elected under a unified European election rule, we categorise electoral systems along two main lines (see also Bowler and Farrell, 1993; Farrell and Scully, 2010; Hix, 2004; Hix et al., 2012). First, do voters have discretion over the ranking of candidates on party lists? And second, is the candidate selection made at the national or sub-national level? Based on these two dimensions we code a categorical variable capturing the four possible combinations (see Hix, 2004, for the original approach). We denominate open-list electoral systems as candidate-centred and closed list systems as party-centred, and sub-categorise each as centralised when there is only one constituency in a country, and as decentralised when there is more than one constituency. This categorical approach is chosen to facilitate comparison of distinct families of electoral rules rather than emphasize the interpretation of the individual dimensions. However, this rigid approach also means the loss of variation compared to more fine grained measures of centralisation or ballot structure. We discuss this issue in more detail and present a robustness check for our results in Section E of the supplementary information using i) dummies for centralisation and ballot structure, and ii) the modified Shugart index for the openness of an electoral system to the mobility of individual candidates as adapted by Farrell and Scully (2010) from Shugart (2001).

As we are interested in the interplay of our two independent variables, we run pairwise comparisons of the outside earnings across electoral systems. Earnings are roughly the same across systems, with the exception of candidate decentralised systems.[22] At around 2700 euro, the difference between candidate-decentralised and candidate-centralised systems is large and significant at the 5% level. To avoid bias in our results and conclusions from the significantly higher earnings of MEPs from candidate-centralised systems, we repeat all our tests without these observations, and find our results to be robust.

4.3. Control variables

In addition we include a number of relevant control variables. To ensure that we capture the direct influence of moonlighting and not a legacy effect from the previous income levels of MEPs, we include their *prior income* from work before the mandate. We obtain this information from the financial declarations, as MEPs must report their occupations and related incomes from the three years prior to their taking office.[23] Further, like Gagliarducci et al. (2010) in their analysis of moonlighting, we also collect and code the professional background of MEPs in 15 different job families to account for systematic differences in motivation, training, and expertise (see e.g. Gehlbach et al., 2010; Matter and Stutzer, 2015, who, respectively, find businessmen and lawyers to exhibit distinct candidacy and parliamentary work patterns). As some of the effort variables may be dependent on MEPs' support staff, the numbers of accredited assistants was retrieved from the EP website. Accredited assistants work in the MEPs' offices in Brussels and Strasbourg. Their duties may include, but are not limited to, organisational and liaison tasks, following and reporting on Committee activities, and the drafting of legislative texts. We also include a dummy indicating whether an MEP held the position of committee chair. Hurka et al. (2015), for instance, find committee chairs to produce considerably more reports than other MEPs, which suggests a different prioritisation of tasks.

At the national level, we include four commonly used variables that are particularly suited to reflect political circumstances expected to influence the behaviour of MEPs in choosing their priorities between parliamentary and outside work (see also Staat, 2015). The variables are the public *image of the EP*, the *corruption index* of Kaufmann et al. (2011), and a *Hirschman-Herfindahl Index (HHI)* for political competition. The coding of these variables is described in more detail in the supplementary information. Finally, we include a dummy that takes the value 1 for new Member States that joined the EU since 2004, and 0 otherwise to account for systematic differences in the work of their MEPs (see e.g. Hurka et al., 2015).

[21] We present a more detailed breakdown of outside earnings and a comparison across political groups in the supplementary information.

[22] Details are reported in Section C of the supplementary information.

[23] Some entries were very evidently erroneous and required correction. See Section C of the supplementary information for details.

5. Results

For our analysis we take all 10 different effort measures into account. We provide the detailed discussion and tables with the results for the individual measures in the supplementary information and present only the key findings here. Due to the skewed distribution of our count variables, we use negative binomial regressions when analysing single measures in the supplementary information.[24]

Table 3: OLS regression results with country fixed effects for MEPs' legislative output on percentile scores grouped by category

	Plenary	Written output	Other	All measures combined
Outside earnings (PPP, ths)	-0.42	-1.55***	-0.04	-0.72**
	(0.54)	(0.53)	(0.45)	(0.36)
Prior income (PPP, ths)	-0.07	0.12	-0.26	-0.07
	(0.25)	(0.24)	(0.21)	(0.17)
Newcomer 2009	0.93	3.55**	-1.09	1.17
	(1.84)	(1.80)	(1.55)	(1.24)
Male	-2.46	-5.37***	-5.00***	-4.64***
	(1.80)	(1.77)	(1.53)	(1.22)
Age	-0.22**	-0.00	-0.28***	-0.16**
	(0.10)	(0.09)	(0.08)	(0.06)
University degree	2.85	1.46	1.86	1.90
	(2.19)	(2.15)	(1.86)	(1.49)
Years experience	-0.18	-0.34***	-0.24**	-0.27***
	(0.12)	(0.12)	(0.10)	(0.08)
Accredited Assistants	0.16	2.57***	2.25***	1.96***
	(0.96)	(0.94)	(0.81)	(0.65)
Committee chair	-3.19	6.85	0.72	2.39
	(4.52)	(4.43)	(3.83)	(3.06)
	EPP is reference group			
ALDE	-4.00	12.48***	10.47***	8.38***
	(2.92)	(2.86)	(2.47)	(1.98)
ECR	-11.65***	11.12***	1.69	2.79
	(3.75)	(3.68)	(3.18)	(2.54)
EFD	-7.48*	-10.17**	-3.76	-7.07**
	(4.28)	(4.20)	(3.62)	(2.90)
GUE-NGL	-3.05	13.15***	15.63***	10.90***
	(4.70)	(4.61)	(3.98)	(3.18)
Greens/EFA	-4.34	11.48***	10.25***	7.82***
	(3.49)	(3.42)	(2.95)	(2.36)
NI	-6.78	-24.74***	-8.96**	-14.84***
	(4.86)	(4.77)	(4.12)	(3.30)
S&D	-2.84	3.82*	-2.01	0.16
	(2.19)	(2.15)	(1.85)	(1.48)
Constant	61.94***	31.65***	60.99***	49.44***
	(7.18)	(7.04)	(6.08)	(4.87)
Work field dummies	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes
Observations	650	650	650	650
R^2	0.075	0.235	0.206	0.242

Notes: Linear regression model estimates with country fixed effects. Standard errors in parentheses; $^{*}p < 0.10$,$^{**}p < 0.05$,$^{***}p < 0.01$. Effort measures have been composed by averaging percentile scores for the individual activities within the categories: activities in plenary (attendance and speeches), written output (draft reports, draft report shadow rapporteurships, opinions, and opinion shadow rapporteurships), and other (amendments, motions, declarations, and questions).

While the results vary between the different measures, the sign for the *outside earnings* coefficients is predominantly negative, with a clear clustering of significant results among effort variables related to the

[24]Section E of the supplementary information provides a robustness check using simple OLS regressions. For the attendance rate we also run a generalized linear model with a logit link function to take account of the [0,1] bounds of the data and find the results to be robust (not reported).

production of draft documents (reports and shadow rapporteurships). Among the controls, *prior income* does not have any noteworthy effect. The estimates are mostly close to zero and fail to reach significance. With a weak correlation between *prior income* and *outside earnings* of 0.32, we are confident of capturing the independent effect of moonlighting rather than a legacy effect of previous earnings. Any clear trends among the control variables are also captured and discussed in the results below.

To facilitate the interpretation of the effects of moonlighting and electoral systems across effort measures, we group them into three distinct categories as discussed in Section 4.1. To obtain easily interpretable variables, we assign MEPs percentile scores for each output, and average them within our three categories to obtain comparable measures.[25] Table 3 reports OLS regression estimates with country fixed effects on the percentile scores for the three output categories, as well as a dependent variable aggregating the percentile scores of each MEP across all 10 outputs.

Across the three categories, the correlation with *outside earnings* is strongest for the drafting of documents, where, on average, an additional 1000 euro per month correspond to a drop of roughly 1.6 percentile points. Taking all effort measures into account, the drop is still around 0.7 percentile points and significant at the 5% level. The lack of a significant correlation of moonlighting with the plenary and other outputs is worthy of discussion. The negative relationship with *outside earnings* is strongest for a category of legislative effort which can be seen as particularly work intensive. The results of Arnold et al. (2014) for the German case show a broadly similar pattern, with plenary activities uncorrelated with outside earnings, but other effort variables being influenced. Absent any single-country cultural bias, the lack of correlation between *outside earnings* and the plenary activities can perhaps be explained by the additional per diem monetary incentive MEPs receive for attending. The trade-off is no longer limited to either performing one's political duties or generating additional income. The per diem rate guarantees additional income with certainty, which might not be matched by other activities. An additional interpretation could lie in the comparatively public nature of the plenary meetings, which are relatively easy to scrutinise by the media and the public. Other effort measures, such as the drafting of documents, may be more hidden from the public eye. While some draft reports indeed reach a high level of salience and are publicly debated, no fewer than 1071 legislative acts alone were adopted during the 7th EP.[26] The vast majority likely went largely unnoticed by the general voter.

Among the control variables, men score roughly 5 percentile points lower than women, older and more experienced MEPs produce less output, and the number of accredited assistants is positively correlated with written output (potentially signalling higher motivation of the MEP). The *political group* dummies reveal smaller groups (with the exception of the EFD and non-attached MEPs) to be disproportionally productive across all categories, except for the plenary. To some extent, this exception could be an artefact of the measure for speeches. The allocation of speaking slots (and time) in plenary is dependent on the share of seats a group holds. Regarding the *work field* dummies, we find very little effect on the output of MEPs, and no consistent results for particular professional backgrounds across categories.

In Table 4, we report the correlations of moonlighting with MEPs' effort investment in written output across the different electoral systems. The main effect of the electoral system variable allows the evaluation of our expectations of lower output levels for MEPs from candidate-based systems and the different influence of centralisation across systems. Column (1) presents the corresponding base-line model. In candidate-based systems the value of personal reputation increases with centralisation, whereas centralised party systems should have more interest in scrutinizing the actual work of their delegates. These differences in incentive structure should be reflected in the interaction between moonlighting and the electoral systems. In column (2) we therefore report a model including an interaction term between *outside earnings* and a vector comprised of the election system dummies of the form:

$$Y_i = \alpha + \beta \text{ earnings} + \gamma \textbf{ election system} + \delta \text{ earnings} \times \textbf{election system} + Controls + \varepsilon_i \qquad (1)$$

[25] We alternatively use z-scores to aggregate our combined measures, and obtain qualitatively similar results. We opt to report the results based on percentile scores due to their easier interpretation.

[26] *Source*: European Parliament Fact Sheet, available at: `http://www.europarl.europa.eu/EPRS/EPRS-Briefing-542150-European-Parliament-Facts-and-Figures-FINAL.pdf`.

Finally, to facilitate interpretation, column (3) presents a re-estimation of the interaction model for the individual dummies and excluding the *outside earnings* main effect. Specifically, we estimate:

$$\begin{aligned} Y_i = \alpha & \\ & + \gamma \textbf{ election system} \\ & + \theta \text{ earnings} \times \text{Party Cen} \\ & + \zeta \text{ earnings} \times \text{Cand Cen} \\ & + \eta \text{ earnings} \times \text{Cand Dec} \\ & + \iota \text{ earnings} \times \text{Party Dec} \\ & + Controls \\ & + \varepsilon_i \end{aligned} \tag{2}$$

The coefficient estimates θ, ζ, and η and ι reflect how each category of electoral systems individually moderates the relation between *outside earnings* and written output.

Among MEPs without reported moonlighting earnings (*outside earning* = 0), including the election systems shows a strongly significant and large baseline difference in output between party centralised systems and the other systems. MEPs from party centralised systems score around 3.3 percentile points higher for written output than their colleagues from candidate centralised systems, and more than 6 and 5 percentile points higher than those from candidate decentralised and party decentralised systems, respectively. Strong national party structures may have advantages for their members in Brussels. Existing studies report sustained influence of national parties and their delegations on committee allocations, the voting behaviour of MEPs, and the work of Committees (see e.g. Hix, 2002; Whitaker, 2001, 2005). Research on the influence of support structures of varying strength on legislative output is, however, missing. Still, positive effects of national parties on their MEPs' output through improved resource allocation, exchange of information, and organised bargaining within and across political groups seem intuitively possible. The higher output may also support the conclusions by Hix et al. (2012), that legislative effort is more important for improving re-selection and re-election chances of parliamentarians in party centralised systems. MEPs in those systems must demonstrate commitment to the party line and impress the gatekeepers within the party organisation. In decentralised systems, it is more important to either have a good standing with the leaders of the regional party chapter, or to maintain a positive profile with the local electorate. Political effort is thereby less important.

The coefficient for *outside earnings* remains negative and significant in all specifications, but columns (2) and (3) show that the effect is strongly dependent on the electoral system. While the correlation is negative in the two decentralised systems and in the party-centralised system, it is positive in the candidate-centralised system. While each additional 1000 euro in *outside earnings* are associated with a drop between roughly 1.2 and 1.8 percentile points in the other systems, it correlates with an increase in the written output of MEPs from the candidate-centralised systems by about 3 percentile points. One standard deviation in *outside earnings* of an MEP from a candidate-centralised system would thus roughly offset the negative main effect of the electoral system compared to the party-centralised system.

One possible interpretation of this positive correlation could be a selection effect, as also proposed by Besley (2004) and Caselli and Morelli (2004) for the official salary level. *Outside earnings* may be a post-hoc indicator of politicians' motivation and quality in candidate-centralised systems, whereas the incentive effect prevails in other systems. Our initial expectation that voters might be easier to convince of a politician's effort than the gatekeepers in a party seems to hold partially only for the party-centralised system. It remains reasonable to assume more efficient monitoring of the work of MEPs with a stronger and more tightly knit party organisation. When voters can influence the electoral chances of individual politicians more directly, the balance between the quality of candidates and the time trade-off they face in office may be a function of centralisation. As Carey and Shugart (1995) show, the value of a politician's personal reputation increases with centralisation, which may benefit high quality candidates for whom moonlighting's reduction of the

Table 4: OLS regression results for MEPs' written output with interactions of outside earnings and election systems

	Written output		
	(1)	(2)	(3)
Outside earnings (PPP, ths)	-1.24**	-1.73*	
	(0.58)	(0.98)	
	Party centralised is reference group		
Candidate Centralised	-1.90	-3.32*	-3.32*
	(1.97)	(1.73)	(1.73)
Candidate Decentralised	-5.59**	-6.13***	-6.13***
	(2.11)	(1.68)	(1.68)
Party Decentralised	-5.28***	-5.41***	-5.41***
	(1.47)	(1.37)	(1.37)
Party Centralised × Outside earnings (PPP, ths)		*reference group*	-1.73*
			(0.98)
Candidate Centralised × Outside earnings (PPP, ths)		4.69***	2.96**
		(1.60)	(1.34)
Candidate Decentralised × Outside earnings (PPP, ths)		0.58	-1.15**
		(1.02)	(0.47)
Party Decentralised × Outside earnings (PPP, ths)		-0.05	-1.77**
		(1.25)	(0.84)
Prior income (PPP, ths)	0.19	0.17	0.17
	(0.22)	(0.23)	(0.23)
Newcomer 2009	3.40*	3.45*	3.45*
	(1.76)	(1.74)	(1.74)
Male	-5.36***	-5.31***	-5.31***
	(1.39)	(1.42)	(1.42)
Age	-0.05	-0.04	-0.04
	(0.06)	(0.06)	(0.06)
University degree	2.74*	2.93*	2.93*
	(1.57)	(1.60)	(1.60)
Years experience	-0.34**	-0.35***	-0.35***
	(0.12)	(0.12)	(0.12)
Accredited Assistants	3.11***	3.12**	3.12**
	(1.10)	(1.14)	(1.14)
Committee chair	6.93*	7.02*	7.02*
	(3.61)	(3.60)	(3.60)
Constant	37.23***	37.67***	37.67***
	(6.89)	(6.61)	(6.61)
Political group dummies	Yes	Yes	Yes
National-level variables	Yes	Yes	Yes
SE clustered at country level	Yes	Yes	Yes
Observations	650	650	650
R^2	0.243	0.249	0.249

Notes: Linear regression model estimates with standard errors clustered at country level in parentheses; $^{*}p < 0.10$,$^{**}p < 0.05$,$^{***}p < 0.01$. Excludes *post 2004 accession* variable due to lack of variance within groups.

opportunity costs of holding office is particularly relevant.[27]

We also run the specified interaction models for the plenary and 'other' measures categories (not reported, details available on request). We find a strong positive main effect of moonlighting on 'other' activities in candidate-decentralised systems driven by the parliamentary questions, and a significant negative correlation with plenary activities in candidate-centralised and party-decentralised systems. Our interpretation of the positive coefficient for outside earnings on the written output of MEPs from candidate-centralised systems

[27]The results for the national-level controls (*Image EP, Corruption index,* and *HHI*) are not reported here due to space restrictions, but are included separately in the robustness checks in the supplementary information.

is further supported by this finding, as a decrease in plenary activities may be indicative of more time spent at home maintaining personal reputations.

6. Discussion

We use a unique dataset to empirically test the influence of the outside earnings of Members of the European Parliament on their legislative effort during the 7th term (2009-14) of the European Parliament. Parliamentarians face a trade-off: they can spend their time fulfilling their political duties, or they may invest it in the generation of additional income. By focusing on the European level, we can for the first time exclude country-specific biases in the analysis of the correlations between outside earnings and politicians' parliamentary effort. While it must be qualified that only 20% of MEPs report outside earnings (which is comparable to their national counterparts), we find moonlighting to be negatively correlated with the production of legislative documents, but not with other outputs. Compared to some of the controls, notably the political group affiliation, the effect sizes are modest, but nonetheless robust. Given that the creation of legislation is the main task of the European Parliament, this result complicates the understanding of the role of parliamentarians as first and foremost the public's agents.

Two main arguments may be used to defend the right of parliamentarians to pursue outside activities. The first claims that not all politicians may see their mandate as being taxing enough to be considered a full-time obligation. They may have the ability, skill, and resources to successfully multi-task between their different occupations (see e.g. Geys and Mause, 2012, for a review), and even benefit from doing so in terms of their well-being (Weinberg and Cooper, 1999). Our findings, along with other studies on the national level (Arnold et al., 2014; Gagliarducci et al., 2010), speak directly against the former claim. The second argument concerns a selection effect for high quality politicians. Based on similar selection effect considerations regarding official pay (Besley, 2004, 2005; Caselli and Morelli, 2004; Messner and Polborn, 2004), additional earnings from moonlighting may reduce the opportunity costs to high quality individuals of taking up political office. The permeability of the political system for high quality outside candidates for whom opportunity cost considerations are relevant should depend on the selection and election procedures parliamentarians must pass. For a better understanding of the institutional context in which politicians make their trade-off between political and outside work, we therefore explore the influence of moonlighting across different electoral systems. We find moonlighting to be positively correlated with the creation of draft documents for MEPs from candidate-centralised systems, but negatively for MEPs from all other systems. Any optimal policy toward moonlighting may thus be largely dependent on the institutional and electoral context.

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Supplementary information A. MEP Salary and Allowances

The annual base salary of an MEP is set at 38.5% of the salary of a judge at the European Court of Justice. Before taxes, it was 96,246.36 euro in 2014 and is subject to an EU tax and to contributions to an accident insurance plan. After tax, the net salary amounts to 75,004.44 euro on which Member States may impose further national taxes. MEPs' allowances include a per diem rate for each attended plenary session. The per diem pay is adjusted regularly and stood at 304 euro in 2014. The full per diem pay is only attributed when the MEP attends at least half of the votes during the plenary day. The per diem is a purely financial incentive to attend plenary sessions, as MEPs are reimbursed in full for actually-incurred expenses for travel between the constituency, Brussels, and Strasbourg. Each MEP also has a monthly budget of 21,209 euro at his or her disposal to pay the salaries and expenses of accredited assistants (in Brussels or Strasbourg) and local assistants in the home constituency.[28]

Supplementary information B. Parliamentary Activities

- *Attendance.* The attendance rate reflects the share of plenary sessions an MEP attended. To be counted as present, an MEP simply fills in the sign-up sheet when entering the chamber.
- *Speeches in Plenary.* MEPs can request time for speaking during plenary sessions. Speeches can be oral interventions, even one minute snippets, or take the form of written explanations after votes. We count the number of oral speeches an MEP delivers and the number of written interventions.
- *Draft Reports.* Draft reports are texts for legislative or non-legislative proposals that the responsible author, i.e. the MEP serving as rapporteur, proposes for adoption in plenary. Usually, rapporteurs are nominated by the competent Committee from within its ranks. Being a rapporteur is a challenging job, as all the amendments must be tabled and the draft report must be negotiated with the representatives of the other political groups (see below) before presentation in the Committee and later in the plenary for voting.
- *Opinions.* Committees not directly responsible for the preparation of a legislative report, may, of their own accord or on invitation by the responsible Committee, prepare an opinion expressing their views. Opinions take a similar form to draft reports. Once the rapporteur finalises a draft it is voted on in the Committee and, if successful, is handed over to the rapporteur of the lead Committee. We count the number of opinions an MEP is responsible for.
- *Shadow rapporteurships.* Political groups may appoint so called shadow-rapporteurs to follow the work of the main rapporteur, negotiate the draft on behalf of the group, and prepare compromises before the vote in Committee. We count these assignments separately for reports and opinions
- *Amendments.* Amendments to reports or opinions are suggestions by MEPs submitted to Committee or directly to the plenary. Once they are received, they are voted on, and adopted amendments are incorporated into the draft text. Amendments are a way for individual MEPs to modify policy proposals. We count the number of amendments tabled by each MEP.
- *Motions for Resolutions.* As the right to initiate laws lies with the European Commission, motions for resolutions are a way for the EP to define its stance on a particular issue and request the Commission to respond with a legislative proposal. We count all motions put forth by an MEP.
- *Written Declarations.* Written declarations can be initiated by at least 10 Members from at least three political groups. A written declaration expresses the opinion of its signatories (but is not binding for the EP) on a European issue, which must fall within the competence of the EU. It cannot be on an issue subject to an ongoing legislative procedure. If after three months the declaration is signed by

[28] *Source* for all figures: `http://www.transparencyinternational.eu/2014/08/how-much-does-an-mep-make/`

a majority of MEPs, it is published in the minutes and is sent to the other European institutions. Written declarations often have no direct impact on the decision-making agenda, but help to raise awareness on a specific topic. We count the number of declarations submitted by MEPs.

- *Parliamentary Questions.* Each MEP has the right to submit questions, in writing or orally, to other European Union institutions and bodies. They allow the MEP to scrutinise the work of the executive branches of the EU institutions such as the executive agencies. We count the number of questions an MEP asks.

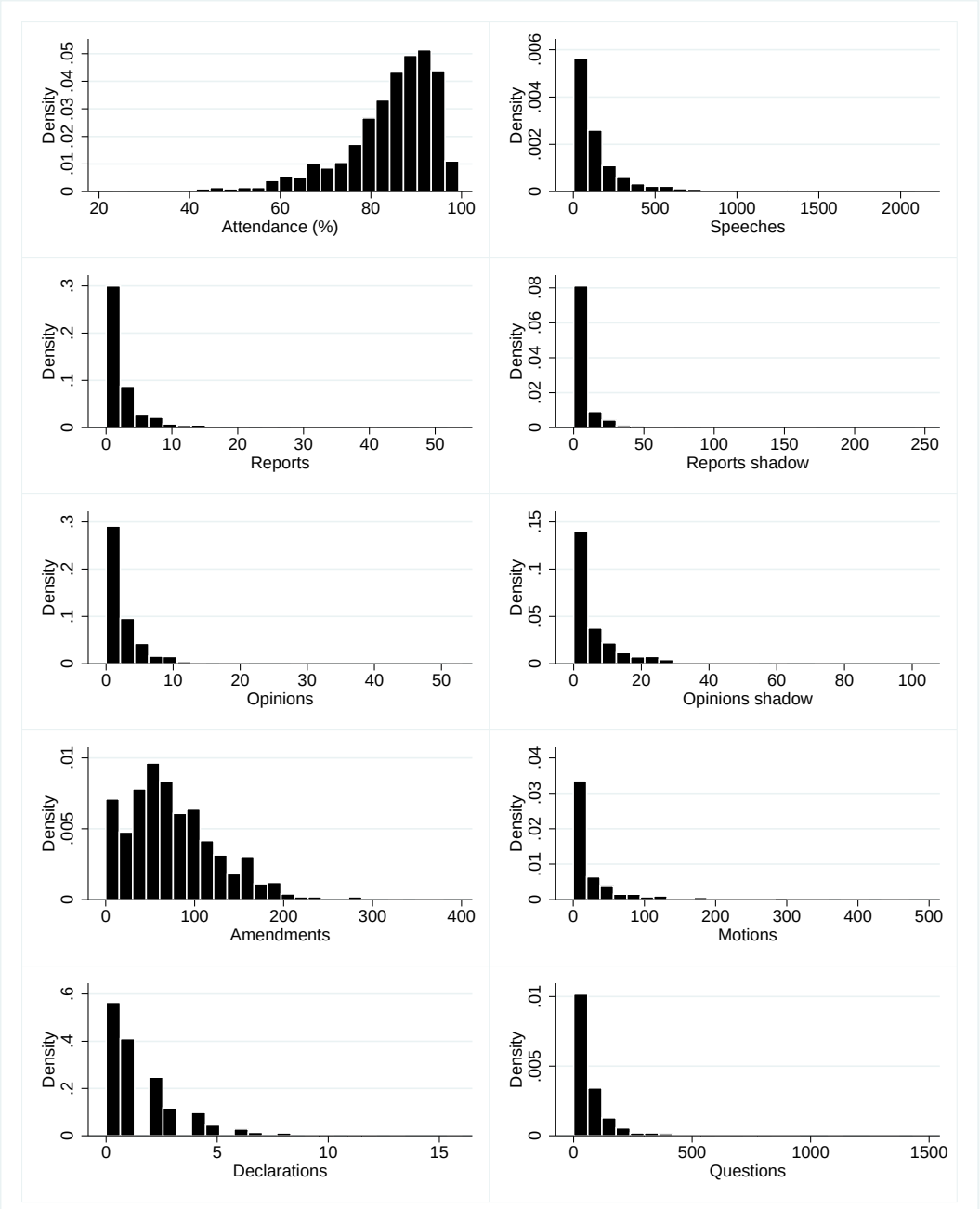


Figure SI.1: Effort measure distributions

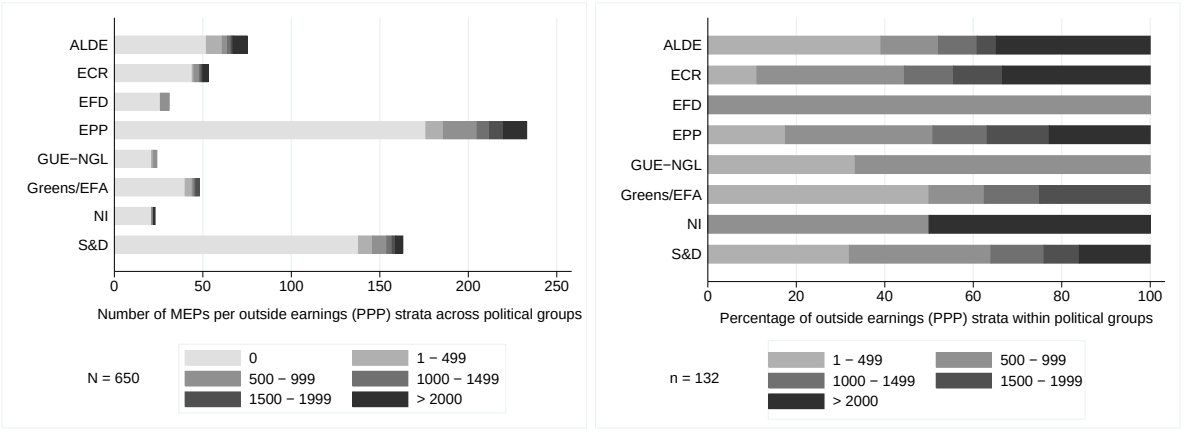
Supplementary information C. Variables and Coding

Supplementary information C.1. Independent variables of interest

Table SI.5 uses different earnings strata to give an overview of the general distribution of outside earnings. Note that outside earnings are treated as a continuous variable elsewhere throughout the article. Figure SI.2 presents the distribution of outside earnings across the different political groups as shares of the total number of MEPs per group (panel a), and as within-group shares of those MEPs with positive outside earnings (panel b).

Table SI.5: Overview of MEPs outside earnings (PPP)

Outside earnings	N	Mean	sd
0	518	0	0
1 – 499	33	466.9	39.5
500 – 999	42	876.3	124.0
1000 – 1499	14	1293.4	176.7
1500 – 1999	14	1817.4	140.2
2000 <	29	6991.0	4185.2
	650	459.2	1702.5



(a) Distribution of outside earnings across groups **(b)** Outside earnings distribution within groups

Figure SI.2: Outside earnings distributions across and within political groups

Table SI.6 presents the outside earnings of MEPs grouped by the electoral system under which they were elected. In the right half of the table we report pairwise comparisons between the earnings across systems. Earnings are roughly the same across systems, with the exception of candidate decentralised systems. The difference between candidate-decentralised and candidate-centralised systems is nearly 2700 euro and is significant. We find our results to be robust when excluding observations from these systems.

In general, the form provided to the MEPs by the European Parliament for the purpose of submitting the financial declarations is straight-forward and clearly worded. However, the formulation of the section on *prior income* unfortunately leaves considerable room for interpretation. MEPs are asked to declare their 'occupation(s) during the three-year period before [taking] up office with the Parliament'. Only a later user guide for the Code of Conduct specifies that those three years concern only the period preceding the mandate for the 7th EP, and not preceding any previous terms in office. Re-elected Members should thus list their previous role as MEP in this section. Many Members seem to have misunderstood the instructions and initially provided either data on their occupations before their first election (sometimes reaching back decades), or simply omitted their previous mandate. One-hundred forty MEPs submitted revised declarations between early 2012 and June 2013 reflecting corrections along these lines. However,

Table SI.6: Outside earnings (PPP) by election system (categorical)

Election system	Full sample		MEPs with outside earnings		Pairwise comparison of means[a]		
	N	mean	n	mean	Party centralised	Candidate centralised	Candidate decentralised
Party centralised	222	472.0	49	2138.3			
		(1691.6)		(3088.4)			
Candidate centralised	161	256.6	30	1376.8	-761.4		
		(804.6)		(1405.8)	(723.7)		
Candidate decentralised	93	957.5	22	4047.5	1909.2*	2670.6**	
		(2944.7)		(4988.6)	(801.2)	(876.2)	
Party decentralised	174	364.2	31	2044.4	-93.9	667.6	-2003.1
		(1351.8)		(2643.4)	(716.4)	(799.5)	(870.2)
Total	650	459.2	132	2261.4			
		(1702.5)		(3202.1)			

Notes: The left-hand columns present the number of MEPs in each category of electoral systems and their corresponding mean outside earnings with standard deviations in parentheses. The right-hand column presents the contrasts from Tukey pairwise comparisons of means with standard errors in parentheses; $^{*}p < 0.10$,$^{**}p < 0.05$,$^{***}p < 0.01$.
[a] The pairwise comparison of means is based on MEPs with positive outside earnings.

in many cases the declarations of re-elected MEPs still failed to mention their previous mandate. In such instances, we corrected the *prior income* variable by replacing outdated income information referring to time-periods before 2007 and omissions of the previous mandate with the non-declared salaries from the 6th EP. Our results, however, remain robust also with the figures originally reported.

Supplementary information C.2. Controls

Table SI.7 presents the national-level variables and the coding of the three different operationalisations of the electoral systems used by Member States. For the national level we first include a measure of the satisfaction of voters with the European Union as this has direct consequences on the relevance and prestige of politicians' mandates. We take the variable *image EP* from the Eurobarometer surveys as an indicator of the satisfaction with the European Union,[29] given that differing national regulations make voter turnout an insufficient measure. Second, the country-level *corruption index* was taken from Kaufmann et al. (2011) to account for differences in the motivational level to misuse the office for rent-seeking. It reflects the relative position of countries' level of corruption as mapped onto a standard normal random variable.[30] Third, we use the Hirschman-Herfindahl Index (*HHI*) of Mocan and Altindag (2013), measuring political party competition, which sums together squared vote shares received by all national parties in a given country's 2009 European election.[31] Parties with a vote share of less than 5% are not taken into account. While it does not capture any intra-party-competition, and subject to the stability of the parties within the country, MEPs from countries with higher *HHI*s face – at least on an inter-party level – less political insecurity than those from countries with lower *HHI*s.

Table SI.8 reports the 15 different job families used to code the professional background of MEPs and the corresponding average outside earnings for the full sample and for the subset of MEPs who report earnings.

[29] The survey data is accessible at `http://ec.europa.eu/public_opinion/archives/eb_arch_en.htm`
[30] The complete distribution described by Kaufmann et al. (2011) ranges from roughly -2.5 to +2.5. We invert the signs from the original variable, so that positive values correspond to higher levels of corruption.
[31] Mocan and Altindag (2013) obtain the underlying election result data from the European Election Database available at `http://www.nsd.uib.no/european_election_database/election_types/ep_elections/.`

Table SI.7: National-level variables

Country	Year of Accession	Corruption index	Party HHI	Image EP	Decentralised	Candidate based	Election system[a]	Modified Shugart[b]
Austria	1995	-1.76	.20	34	0	1	Cand Cen	5
Belgium	1957	-1.43	.06	51	1	1	Cand Dec	5
Bulgaria	2007	0.25	.14	60	0	1	Cand Cen	.
Cyprus	2004	-0.93	.27	52	0	1	Cand Cen	5
Czech Republic	2004	-0.33	.18	39	0	1	Cand Cen	5
Denmark	1973	-2.52	.15	41	0	1	Cand Cen	7
Estonia	2004	-0.91	.18	46	0	1	Cand Cen	7
Finland	1995	-2.30	.15	33	0	1	Cand Cen	8
France	1957	-1.42	.15	44	1	0	Party Dec	3
Germany	1957	-1.72	.22	46	0	0	Party Cen	3
Greece	1981	-0.01	.25	45	0	0	Party Cen	3
Hungary	2004	-0.34	.37	33	0	0	Party Cen	3
Ireland	1973	-1.77	.18	57	1	1	Cand Dec	9
Italy	1957	-0.13	.21	56	1	1	Cand Dec	7
Latvia	2004	-0.13	.13	24	0	1	Cand Cen	5
Lithuania	2004	-0.12	.14	46	0	1	Cand Cen	7
Luxembourg	1957	-1.99	.21	56	0	1	Cand Cen	7
Malta	2004	-0.83	.46	51	0	1	Cand Cen	9
Netherlands	1957	-2.17	.13	45	0	1	Cand Cen	5
Poland	2004	-0.37	.29	52	1	0	Party Dec	3
Portugal	1986	-1.04	.20	49	0	0	Party Cen	3
Romania	2007	0.27	.22	62	0	0	Party Cen	.
Slovakia	2004	-0.23	.17	54	0	1	Cand Cen	5
Slovenia	2004	-1.02	.16	50	0	1	Cand Cen	5
Spain	1986	-1.00	.33	52	0	0	Party Cen	3
Sweden	1995	-2.29	.14	40	0	1	Cand Cen	5
United Kingdom	1973	-1.60	.16	22	1	0	Party Dec	3

[a] Own coding based on Hix (2004); Hix et al. (2012)
[b] *Source:* Farrell and Scully (2010)
Notes: Excludes Croatia as it only joined the European Union on 1 July 2013.

Table SI.8: Outside earnings (PPP) of MEPs by former occupation

Previous occupation	N	Mean outside earnings (full sample)	sd	Share with outside earnings	n (with outside earnings)	Mean outside earnings (n)	sd
Agriculture	19	489.8	1054.2	.37	7	1329.4	1425.4
Education / Academia	126	457.9	1564.6	.20	25	2307.7	2881.5
Finance	12	2276.3	4563.0	.50	6	4552.5	5776.8
Health & Pharmacology	29	623.5	1970.7	.17	5	3616.5	3695.3
Industry - managerial	86	476.9	2186.9	.21	18	2278.5	4423.5
Industry - labour	4	123.8	247.5	.25	1	495.1	.
Legal	34	599.8	1693.6	.35	12	1699.5	2562.7
Lobbying / Consulting	43	79.5	303.7	.09	4	854.4	639.1
Media & Communication	54	553.4	1727.5	.22	12	2490.4	3019.2
Defence & Security	2	.	.	.0	0	.	.
Political assistant	40	268.7	877.3	.20	8	1343.3	1624.2
Politician	97	296.5	1221.6	.12	12	2397.0	2744.3
Public service	47	695.6	2116.0	.28	13	2515.0	3493.8
Self-employed	20	655.5	2385.4	.20	4	3277.6	4957.8
Other / retired / NA	37	151.0	442.6	.14	5	1117.2	643.1
Full sample	650	459.2	1702.5	.20	132	2261.4	3202.1

Notes: Results presented in the regression tables are robust to the respective exclusion of the highest earning job groups.

Supplementary information D. Individual Measure Results

In Table SI.9 we present the results for our negative binomial regressions for all 10 output measures. Following Allison and Waterman (2002), we work with country dummies in the unconditional negative binomial regression to represent fixed effects. As highlighted in the article, the effect of *outside earnings* is largely negative and typically significant among tasks that relate to the production of draft documents.

The *political group* dummies reflect the groups' preferences and constraints in focusing their members' efforts on the different parliamentary tasks. However, a strong caveat applies for the production of reports, opinions, and the related shadow rapporteurships. The significant differences between the larger political groups (particularly EPP and S&D) and the smaller groups reflect the allocation system used within Committees. While Committee chairs have some influence on the choice of system, allocation is typically based on the share of seats the political groups hold. Larger groups thus, by definition, prepare more reports and opinions than smaller groups, which consequently act more frequently as shadows. Men are less productive than women. The coefficients for *male* MEPs' output are negative for nine measures, and significant for four. Older MEPs and those with more experience in the EP tend to be less productive than their younger and less experienced peers. The coefficient for *accredited assistants* is regularly positive and significant. This may imply that more assistants lead to greater productivity of the MEP, or that already motivated and productive MEPs are the ones who hire more assistants. The number of *accredited assistants* is fully within the discretion of each MEP, as they all receive (and are limited to) the same monthly budget for this purpose. More motivated MEPs will most likely also be the ones to hire more assistants in Brussels and Strasbourg to assist with their legislative tasks rather than local assistants in their constituency. Finally, we confirm the results of Hurka et al. (2015), that Committee chairs produce more reports, and MEPs from *post 2004 accession* states produce fewer than their peers (see Table SI.10). Considering the other nine measures, it becomes clear that Committee chairs face a trade-off with other tasks.

Table SI.9: Negative binomial regression results with country effects

	Attendance	Speeches	Reports	Reports, shadow	Opinions	Opinions, shadow	Amendments	Motions	Declarations	Questions
Outside earnings (PPP, ths)	-0.00	0.03	-0.08***	-0.09**	-0.03	-0.09***	-0.01	-0.05	0.03	-0.02
	(0.00)	(0.03)	(0.03)	(0.04)	(0.03)	(0.03)	(0.02)	(0.04)	(0.02)	(0.02)
Prior income (PPP, ths)	-0.00	-0.01	0.02	-0.00	-0.01	0.02	0.00	-0.03*	-0.02	-0.00
	(0.00)	(0.01)	(0.02)	(0.02)	(0.01)	(0.02)	(0.01)	(0.02)	(0.01)	(0.01)
Newcomer 2009	0.03***	-0.15*	-0.20*	0.02	0.26***	0.26**	0.12**	-0.33***	-0.19*	-0.11
	(0.01)	(0.08)	(0.11)	(0.11)	(0.09)	(0.10)	(0.06)	(0.13)	(0.10)	(0.08)
Male	-0.01	-0.02	-0.09	0.01	-0.20**	-0.14*	-0.20***	-0.10	-0.22**	-0.06
	(0.01)	(0.08)	(0.11)	(0.10)	(0.09)	(0.08)	(0.05)	(0.13)	(0.10)	(0.08)
Age	0.00	-0.02***	-0.01	-0.00	-0.00	-0.00	-0.00	-0.00	-0.01	-0.03***
	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)	(0.01)	(0.01)	(0.00)
University degree	0.03*	0.05	0.31**	-0.03	0.06	-0.25*	0.10	-0.12	0.19	0.10
	(0.01)	(0.11)	(0.13)	(0.13)	(0.11)	(0.13)	(0.08)	(0.16)	(0.12)	(0.10)
Years experience	-0.00***	0.00	-0.01	-0.03***	-0.01	-0.01	-0.02***	-0.01	-0.01*	-0.01
	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Accredited assistants	0.01	-0.00	0.16***	0.22***	0.10*	0.06	0.14***	-0.03	0.09*	0.02
	(0.01)	(0.05)	(0.06)	(0.07)	(0.06)	(0.06)	(0.04)	(0.07)	(0.05)	(0.05)
Committee chair	-0.01	-0.41***	0.77***	-0.16	1.05***	-0.74***	-0.03	0.43	-0.04	-0.40***
	(0.02)	(0.15)	(0.19)	(0.26)	(0.28)	(0.25)	(0.12)	(0.29)	(0.25)	(0.15)
					EPP is reference group					
ALDE	-0.02	-0.15	-0.22	1.49***	0.06	1.16***	0.03	0.89***	0.52***	0.43***
	(0.02)	(0.12)	(0.15)	(0.16)	(0.14)	(0.14)	(0.09)	(0.20)	(0.15)	(0.13)
ECR	-0.04*	-0.47***	-0.20	1.80***	0.08	1.30***	0.14	0.57**	-0.30	0.12
	(0.02)	(0.18)	(0.21)	(0.29)	(0.19)	(0.22)	(0.13)	(0.25)	(0.23)	(0.18)
EFD	-0.11***	0.07	-1.42***	1.50***	-1.12***	0.67*	-0.64***	-0.20	-0.26	0.52***
	(0.04)	(0.20)	(0.34)	(0.34)	(0.31)	(0.38)	(0.21)	(0.32)	(0.19)	(0.20)
GUE-NGL	-0.04**	0.37	-0.69**	2.21***	-0.12	1.56***	0.05	0.81***	0.68***	0.58**
	(0.02)	(0.26)	(0.30)	(0.25)	(0.21)	(0.23)	(0.14)	(0.25)	(0.23)	(0.24)
Greens/EFA	0.00	-0.19	-0.27*	1.53***	0.05	1.34***	-0.27***	0.85***	0.67***	0.21
	(0.01)	(0.23)	(0.15)	(0.22)	(0.19)	(0.17)	(0.09)	(0.21)	(0.18)	(0.15)
NI	-0.06*	-0.03	-1.46***	-0.46	-1.20***	-1.55***	-0.62**	-1.70***	0.24	0.75***
	(0.03)	(0.21)	(0.33)	(0.48)	(0.44)	(0.48)	(0.27)	(0.38)	(0.29)	(0.25)
S&D	0.01	-0.18	-0.13	0.46***	0.11	0.30***	-0.13**	-0.36**	0.08	-0.07
	(0.01)	(0.11)	(0.13)	(0.13)	(0.10)	(0.11)	(0.07)	(0.16)	(0.12)	(0.10)
Constant	4.44***	7.18***	1.45***	2.12***	0.78	1.02**	4.91***	3.84***	1.43***	6.31***
	(0.05)	(0.46)	(0.51)	(0.71)	(0.52)	(0.47)	(0.32)	(0.65)	(0.51)	(0.41)
Work field dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	650	650	650	650	650	650	650	650	650	650

Notes: Negative binomial regression model estimates with standard errors in parentheses; $^{*}p < 0.10$,** $p < 0.05$,*** $p < 0.01$.

Supplementary information E. Robustness Checks

In this section we present tables and details on some of the robustness checks discussed in the article.

Supplementary information E.1. OLS regressions results for MEP's legislative output

Table SI.10 presents OLS regression estimates for all 10 of our effort measures. The direction and significances of effects remain stable compared to the results of the negative binomial regressions. For our *outside earnings* variable the only qualitative difference occurs for parliamentary questions, with the coefficient becoming marginally significant in the OLS specification.

Supplementary information E.2. Alternative operationalisations of electoral systems

Table SI.11 presents the regression results for our combined written output measure with two additional operationalisations of the electoral systems in use across the Member States of the EU.

In the first two columns we use the modified Shugart index as coded by Farrell and Scully (2010). Column (1) presents the same interaction term as specified in equation 1, and column (2) an interaction without main effect as specified in equation 2 to facilitate interpretation. Due to the low number of observations, we are however forced to collapse Farrell and Scully's (2010) scores '8' and '9' into one. The original Shugart (2001) index provides a measure of electoral 'efficiency' by taking into account inter- and intra-party aspects of electoral competition. The index captures the reliance of individual candidates on their personal reputation, the ballot structure, the structure of the vote (list or nominal), and the district magnitude (Shugart, 2001). A higher score reflects candidate-based systems with voter digression on the ranking of candidates, and lower scores are indicative of party-centred, closed-list systems (Farrell and Scully, 2010). In columns (3) and (4) we present the split results for the dummies for decentralisation and candidate vs. party based systems, respectively. Column (5) reports a three-way interaction, which effectively reproduces the results we obtain with the categorical coding following Hix (2004). The coding of all our three electoral system indicators is presented in Table SI.7.

Given that all three variables measure the same underlying aspects of electoral systems, it is unsurprising that the results largely correspond. We choose to emphasise the categorical coding of Hix (2004) throughout the paper for two reasons. On the theoretical side, it differentiates electoral systems along the same lines countries must consider in deciding which basic approach to take in enabling voters to influence the different aspects of representation. On the technical side, it affords enough variation while group sizes remain large enough to obtain meaningful results for our analysis of moonlighting.

Table SI.10: OLS regression results for MEP's legislative output

	Attendance	Speeches	Reports	Reports, shadow	Opinions	Opinions, shadow	Amendments	Motions	Declarations	Questions
Outside earnings (PPP, ths)	-0.22	4.92	-0.19**	-0.57**	-0.04	-0.39***	-0.76	-1.74	0.04	-5.72*
	(0.37)	(3.29)	(0.08)	(0.24)	(0.09)	(0.14)	(1.07)	(1.46)	(0.04)	(3.09)
Prior income (PPP, ths)	-0.14	-5.00	0.08	0.13	-0.01	0.12	0.27	-0.36	-0.03	-1.79
	(0.09)	(3.18)	(0.10)	(0.08)	(0.02)	(0.08)	(0.42)	(0.88)	(0.02)	(1.08)
Newcomer 2009	2.17***	20.04	-0.18	-0.10	0.35	0.76	10.78***	-0.26	-0.24	-3.94
	(0.76)	(35.47)	(0.42)	(1.74)	(0.25)	(1.12)	(3.64)	(6.57)	(0.18)	(11.54)
Male	-0.62	-11.71	-0.24	1.30	-0.70**	-0.88	-17.16***	-6.94	-0.48**	2.99
	(0.70)	(35.52)	(0.44)	(1.62)	(0.29)	(0.54)	(4.90)	(6.50)	(0.21)	(19.58)
Age	0.06	-4.98**	-0.03	-0.09	-0.00	-0.01	-0.36	-0.16	-0.01	-2.88***
	(0.06)	(2.14)	(0.02)	(0.07)	(0.01)	(0.05)	(0.23)	(0.24)	(0.01)	(0.98)
University degree	1.71	9.30	0.93*	1.21	0.08	-1.66*	11.23**	0.53	0.33*	18.31
	(1.17)	(20.41)	(0.50)	(0.96)	(0.35)	(0.89)	(5.31)	(5.54)	(0.19)	(14.13)
Years experience	-0.21***	1.75	-0.01	-0.14*	-0.02	-0.06	-0.64**	-0.28	-0.01	0.33
	(0.07)	(1.53)	(0.02)	(0.08)	(0.01)	(0.04)	(0.27)	(0.27)	(0.01)	(1.02)
Accredited assistants	0.34	0.34	0.36**	1.33**	0.24*	0.74*	7.33***	-3.36	0.02	6.52
	(0.81)	(16.60)	(0.15)	(0.53)	(0.13)	(0.38)	(2.50)	(2.94)	(0.09)	(9.05)
Committee chair	-0.78	-85.07**	4.70**	-2.45	4.96***	-3.72***	-8.90	14.95	-0.20	-46.32***
	(1.79)	(38.13)	(2.12)	(1.53)	(1.34)	(1.04)	(8.86)	(16.05)	(0.30)	(12.46)
					EPP is reference group					
ALDE	-2.21	-99.57*	-0.51	9.40***	0.13	7.91***	3.70	36.28**	0.97***	40.37
	(1.78)	(57.46)	(0.69)	(2.32)	(0.37)	(1.53)	(6.54)	(17.58)	(0.29)	(30.08)
ECR	-3.00*	-123.47**	-0.78**	10.30***	0.08	9.32***	-6.08	25.59	-0.23	29.95
	(1.58)	(47.91)	(0.37)	(2.13)	(0.45)	(2.48)	(8.27)	(19.88)	(0.34)	(23.83)
EFD	-9.23	8.21	-2.21***	8.58***	-1.11**	5.10*	-24.39	-6.91	-0.05	97.27**
	(5.96)	(79.69)	(0.35)	(2.73)	(0.49)	(2.84)	(19.32)	(9.80)	(0.45)	(36.63)
GUE-NGL	-3.84**	43.01	-1.19*	19.17***	-0.15	13.18***	2.08	32.48	0.71	84.56
	(1.57)	(80.49)	(0.60)	(2.91)	(0.39)	(2.25)	(12.64)	(20.38)	(0.44)	(54.49)
Greens/EFA	0.49	-110.38	-0.92*	13.29**	0.44	10.44***	-26.91**	30.74**	0.78**	-9.38
	(1.47)	(97.68)	(0.47)	(5.24)	(0.52)	(1.96)	(9.87)	(13.63)	(0.35)	(34.46)
NI	-4.36	-26.82	-2.14***	6.48	-1.19**	-1.92*	-28.50*	-23.82***	0.53	156.46*
	(3.56)	(98.01)	(0.43)	(5.27)	(0.57)	(1.00)	(16.11)	(6.15)	(0.84)	(88.85)
S&D	0.26	-48.79	0.03	2.32***	0.51	1.33***	-10.84**	-12.06*	0.16	-23.35
	(1.00)	(42.97)	(0.49)	(0.71)	(0.33)	(0.39)	(5.23)	(6.85)	(0.26)	(18.35)
Corruption index	-4.30***	91.88**	0.44**	-2.07**	-0.26	-1.01	-7.27	-1.73	0.33	72.01***
	(0.87)	(41.30)	(0.19)	(0.78)	(0.20)	(0.62)	(4.99)	(5.55)	(0.30)	(17.24)
Image EP	0.14***	-1.43	0.00	0.10	0.01	0.04	0.28	0.82**	0.00	-0.06
	(0.03)	(1.34)	(0.01)	(0.09)	(0.01)	(0.04)	(0.28)	(0.35)	(0.01)	(0.91)
HHI	-0.07	-5.74**	0.01	0.01	-0.00	0.00	-0.22	0.03	0.00	1.15
	(0.08)	(2.68)	(0.01)	(0.10)	(0.02)	(0.05)	(0.40)	(0.57)	(0.01)	(1.24)
Post 2004 accession	4.78***	-86.11	-1.28***	-0.66	0.24	1.05	-10.56	5.28	0.00	-162.32***
	(1.35)	(79.15)	(0.28)	(0.80)	(0.32)	(1.10)	(7.91)	(8.64)	(0.35)	(24.14)
Constant	69.90***	827.44***	3.67*	-3.76	1.84	0.58	73.38***	15.82	2.32*	325.34***
	(4.67)	(196.20)	(1.98)	(6.54)	(1.42)	(5.39)	(23.22)	(24.61)	(1.16)	(82.60)
SE clustered at country level	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	650	650	650	650	650	650	650	650	650	650
R^2	0.146	0.085	0.091	0.129	0.117	0.220	0.162	0.081	0.075	0.163

Notes: Linear regression model estimates with standard errors in parentheses; $^{*}p < 0.10$,$^{**}p < 0.05$,$^{***}p < 0.01$.

Table SI.11: Comparison of OLS regression results for written output with different indicators of electoral systems

	Modified Shugart[a]		Dummies		
written output	(1)	(2)	(3)	(4)	(5)
Outside earnings (PPP, ths)	-1.66**		-1.64**	-1.04	-1.73*
	(0.80)		(0.76)	(1.02)	(0.98)
Shugart=3	*reference group*				
Shugart=5	1.87	1.87			
	(2.03)	(2.03)			
Shugart=7	2.24	2.24			
	(2.51)	(2.51)			
Shugart=8&9	-4.79***	-4.79***			
	(1.68)	(1.68)			
Shugart=3 × Earnings	*reference group*	-1.66**			
		(0.80)			
Shugart=5 × Earnings	-1.65	-3.31**			
	(1.39)	(1.47)			
Shugart=7 × Earnings	0.94	-0.72**			
	(0.81)	(0.28)			
Shugart=8&9 × Earnings	4.59***	2.93***			
	(0.76)	(0.78)			
Candidate-based			-0.67		-3.32*
			(1.78)		(1.73)
Candidate-based × Earnings			0.91		4.69***
			(0.81)		(1.60)
Decentralised				-4.23***	-5.41***
				(1.00)	(1.37)
Decentralised × Earnings				-0.33	-0.05
				(1.06)	(1.25)
Candidate-based × Decentralised					2.60
					(2.24)
Candidate-based × Decentralised × Earnings					-4.06**
					(1.81)
Prior income (PPP, ths)	0.08	0.08	0.08	0.20	0.17
	(0.22)	(0.22)	(0.22)	(0.22)	(0.23)
Newcomer 2009	3.64*	3.64*	2.93	3.37*	3.45*
	(1.86)	(1.86)	(1.74)	(1.78)	(1.74)
Male	-5.55***	-5.55***	-5.39***	-5.39***	-5.31***
	(1.49)	(1.49)	(1.42)	(1.41)	(1.42)
Age	-0.02	-0.02	-0.07	-0.04	-0.04
	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)
University degree	2.51	2.51	2.76	2.60	2.92*
	(1.67)	(1.67)	(1.71)	(1.55)	(1.60)
Years experience	-0.31**	-0.31**	-0.31**	-0.35***	-0.35***
	(0.13)	(0.13)	(0.12)	(0.12)	(0.12)
Accredited Assistants	3.23**	3.23**	3.54***	3.16***	3.12**
	(1.18)	(1.18)	(1.11)	(1.12)	(1.14)
Committee chair	7.02*	7.02*	6.55*	7.04*	7.02*
	(3.50)	(3.50)	(3.34)	(3.58)	(3.60)
Corruption index	-4.70***	-4.70***	-2.66**	-2.09**	-1.78*
	(1.31)	(1.31)	(1.21)	(0.90)	(0.89)
Image EP	-0.02	-0.02	0.05	0.03	0.03
	(0.09)	(0.09)	(0.09)	(0.06)	(0.06)
HHI	0.23**	0.23**	0.05	-0.01	-0.09
	(0.09)	(0.09)	(0.11)	(0.07)	(0.09)
Constant	25.73***	25.73***	31.78***	34.61***	37.67***
	(7.65)	(7.65)	(7.87)	(6.10)	(6.61)
Political group dummies	Yes	Yes	Yes	Yes	Yes
Observations	608	608	650	650	650
R^2	0.243	0.243	0.236	0.242	0.249

[a] *Source:* Farrell and Scully (2010)

Notes: Linear regression model estimates. Standard errors clustered at the country level in parentheses; $^{*}p < 0.10$,$^{**}p < 0.05$,$^{***}p < 0.01$.

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