Do Dutch Politicians Work?

An Empirical Investigation on Legislative Effort

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ABSTRACT: This paper empirically studies the drivers of legislative effort in the Dutch context. The paper uses a novel, repeated cross-sectional dataset containing observations of Dutch Members of Parliament. An aggregate legislative effort index for Dutch politicians is created and two hypotheses are formulated. The first hypothesis states that politicians will work less as their party size increases. This is most likely due to a specialization effect. Secondly, politicians with lower cost of effort, i.e. politicians coming from a public-sector background, will exert more effort. This paper finds strongly significant evidence for the specialization effect. Weak evidence is found for the cost of effort hypothesis.

KEYWORDS: *Legislative effort, Specialization, Political shirking*

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1. INTRODUCTION

The House of Parliament is the centre of a country's democracy. Politicians are elected for both Upper and Lower Chambers of parliament and are expected to serve their constituencies best in the collective decision and law-making process. As in any other job, politicians have to exert (costly) effort to attain their desired outcome. Some of such legislators' effort is easily observable for voters such as constituency casework in the country, campaigning work and/or media performances. But what exactly are politicians doing at the core of our democracy, behind the doors of the House of Parliament?

This empirical study investigates what drives legislative effort, i.e. effort exerted in parliament. Firstly, the different types of legislative effort are identified and studied to provide a genuine and complete understanding of the workings of Dutch parliament. Secondly, a comprehensive legislative effort index is constructed in which one can observe the overall provision of effort and compare the different types of effort per politician adequately.

Two hypotheses are formulated to address the drivers of legislative effort: The first hypothesis deals with effort provision in groups. It argues that as the size of the group increases, the less willing is an individual member of a group to exert effort to advance the group's common goals. Group theory is a widely applicable phenomenon across cultures, sectors and organizations. In this paper, the interaction between Members of Parliament[1] ('the individual agent') and their political parties ('the group') is studied. In particular, the effect of an increase in a party's size (i.e. the party gains more seats in parliament) on the effort behavior is found to be negative. It is suggested that this is due to the fact that politicians in larger political parties tend to specialize more in one specific topic, leading to a reduction of their effort in other topics and/or legislative activities.

Secondly, a hypothesis is formed concerning the legislator's cost of effort. It states that legislators with lower costs, due to some information advantage for example, will exert more effort. Politicians might achieve such an information advantage as a result of having worked in the public-sector prior to entering parliament. Therefore, the background of each Member of Parliament is examined and categorized as public-sector, political-sector or private-sector accordingly. No evidence is found for the argument that these background characteristics are a factor of importance in the effort-decision of MPs. Only weak evidence is found for legislators with a public-sector background being more active using particular types of political instruments for parliamentary oversight (Braendle & Stutzler, 2012).

[1] Member of Parliament (MP), legislator and politician are used interchangeably throughout this study. In all cases, they refer to a Member of the Dutch House of Representatives.

The results of this paper may provide new insights on discussions concerning the role of specialists, generalists and their respective financial compensation, and on the ongoing debate of the optimal size (defined by the number of total seats) of the Dutch parliament.

For this empirical study a unique, repeated cross-sectional dataset is assembled from both internal and public sources of the legislative years of 2008/2009 and 2010/2011 for the Dutch House of Representatives. Nine different quantitative legislative effort measures are used and complemented with several individual and party-related control variables.

First, in section 2 a selection of the available literature is described. In section 3, the empirical framework is outlined. Results and analysis are presented in section 4, while section 5 contains several robustness checks. Section 6 provides a discussion of the results. Finally, section 7 has some concluding remarks.

2. RELATED LITERATURE

This section provides a selection of some relevant theories of the existing body of literature. Some general theories on effort provision in groups are discussed as well as studies performed in a parliamentary context. Lastly, some specific studies on political career concerns are covered.

2.1 Group size theory

Olson (1971) challenged the conventional 'group theory' which was based on the notion that groups of individuals will act when necessary to further their common goals. In other words, the group theory states that if the members of some group have a common interest or objective, and they would be all better off if that objective were achieved, rational and self-interested individuals in that group would indeed act to achieve that objective. Olson (1971) was the first to raise critical conceptual questions on the relation between the size of a group and individual incentives to contribute toward the final group goals. He concluded that the larger the group, the less effective the group is in advancing its common interests. This is because economic incentives are not the only incentives, as people are also motivated by a desire to win prestige, respect, friendship and other social and psychological objectives. These social incentives operate only in groups of smaller size, where members have face-to-face contact with one another. Moreover, in smaller groups each member gets a substantial portion of the total gain simply because there are few others in the group. Therefore, Olson (1971) concludes that rational, self-interested individuals will not act to achieve their common or group interests unless the number of individuals in a group is quite small, or unless there is coercion or some other special device to make individuals act in their common interest. Secondly, Olson (1971) states that the larger the group, the farther it will fall short of providing an optimal amount of the collective good.

Chamberlin (1974) further outlines the relationship between group size and the provision of collective goods. Although Chamberlin (1974) agrees with Olson (1971) to a large extent, he points out that Olson (1971) fails to differentiate between the two characteristics of a public good: i.e. the non-rivalrous and the non-exclusion properties. Chamberlin (1974) argues that for a good that is non-excludable but is rivalrous of consumption, the fraction of the total gain received by the individual plays an important role in his decision. This consideration might lead to the inverse relationship between group size and amount of the good provided. For a good that is both non-excludable and non-rivalrous, however, the fraction of the total benefit received by a single individual is not so important, since there exists no rivalness of consumption (Chamberlin, 1974). Another difference with Olson (1971) is the overemphasis in Olson's book on the degree of sub optimality of group performance rather than on the amount of the collective good actually provided. Chamberlin (1974) argues that the

political process may be a sphere in which the amount actually provided is the appropriate criterion, particularly if several groups are involved and are in opposition to one another.

Isaac & Walker (1988) achieve similar results in an experimental setting. After having controlled for the distinction between pure public goods and impure public goods (Chamberlin, 1974) they find that larger groups will have more problems in providing public goods. They find that the main driver for this result is the decreasing Marginal Per Capita Return (MPCR) as the size of the group increases. Increasing the actual number of members in the group does not lead to a reduction in allocative efficiency (Isaac & Walker, 1988).

2.2 Specialization

A different perspective on group size is offered by the specialization theory. Adam Smith already advocated for specialization being central to economic growth as it is a source of increasing returns. In this sense, specialization is only limited by the extent of the market or group. However, Becker & Murphy (1992) argue that as specialization increases, the costs of coordinating those specialists working on a specific case increase. These coordination costs limit the scale of specialization even if the group or market size is very large.

In an empirical study Garicano & Hubbard (2003) examine to what extent lawyers in private law firms specialize in specific fields. They find that for most fields, the share of lawyers who specialize in the field increases with market size. In other words: individual specialization generally increases with market size (Garicano & Hubbard, 2003).

For the political sector, Gilligan & Krehbiel (1987) examine the degree of specialization in legislative committees. Specialization by committees can be an efficient way for the parent body, e.g. the Lower Chamber of Parliament, to obtain costly information about alternative policies. In most collective decision-making institutions, the relationship between a committee and the parent body is governed by a complex array of procedures. Gilligan & Krehbiel (1987) argue that the use of restrictive procedures results in policy outcomes that are more frequently mutually beneficial to the committee and parent chamber than those yielded via unrestrictive procedures. Furthermore, such restrictive procedures also increase the incentive for committees to specialize in policies within their jurisdictions.

In another paper by Gilligan & Krehbiel (1997), they zoom into a microeconomic level on the specialization decision of politicians. One of their goals is to address a common shortcoming in literature with regard to specialization-namely, imperfect measurement. As specialization is costly, an individually rational legislator will not specialize unless, given rational behavior by others, his cost of specialization is exceeded by his expected benefit from specialization. Gilligan & Krehbiel (1997) use a signaling-theoretic line of reasoning for their analysis of individual legislators' specialization

decisions. In their model they identify two major factors of influence in the specialization-decisions: costs of specialization and individual preference extremity to specialization.

2.3 Parliamentary effort

Bowler & Farrel (2007) conduct an empirical social study on campaigning effort of Members of European Parliament (MEP). Firstly, they argue that European Parliament elections are rated second order when compared with national elections. Therefore, incentives on the individual level might prevail over party related objectives in the MEP's decision to exert effort for campaigning. In short, variations in campaign activity and effort may well be tied to individual MEP tastes rather than anything else (Bowler& Farrel, 2007). Firstly, Bowler & Farrel (2007) identify the different types of activities that can be characterized as campaign effort: they find that *public meetings*, *media relations*, *party meetings* and *press conferences* are among the most prominent campaign activities. Among those individual factors determining campaign effort, Bowler & Farrel (2007) find that newcomers to the European Parliament are more active than others. This could be due to the fact that newcomers 'feel they have something to prove'. This type of career concerns is discussed later in this section. A second noteworthy result concerns the impact of differences in ideology between the MEP and the party. It seems that the larger the difference between the ideology of the party and the individual MEP on a left-right scale, the less willing the MEP is to exert effort for the campaign. This result seems intuitively correct, since candidates may be more likely to work harder for a party with which they agree than one they are in disagreement with (Bowler & Farrel, 2007). Thirdly, a positive effect is found on the intensity of MEP's campaigning activities when the MEP's national party holds office back in the home country. It is suggested that government parties, being mindful of the referendum nature of European Parliament elections, prod their MEPs to work hard (Bowler & Farrel, 2007). Lastly, a number of other relevant factors for this study were included as control variables. These various factors include a measure of size of member state delegation, as smaller delegations might be more competitive, retirement concerns, as soon-to-be-retired MEPs might have fewer incentives to exert effort, and whether the MEP has a background as public-sector official or has previously been involved in politics. For none of the abovementioned factors a significant relationship was found.

Braendle & Stutzler investigate in a working paper (2012) how the background of a politician (i.e. a private or public sector background) influences the intensity of his parliamentary activities. More specifically, they examine how the fraction of politicians with a public sector background impacts the oversight activities[2] in German regional parliaments. Braendle & Stutzler (2012) analyze

[2] The oversight of the government is one of the constitutional core duties of the members of parliament in a democracy. The oversight function implies first and foremost prevention, detection and restriction of discretionary executive abuse. Second, oversight is meant to ensure the policies announced by the government

the interpellations and questions in parliament, who serve as proxies for oversight activities, of MP's from 1946 to 2009. They find that the lower the individual costs of parliamentary control are, the more frequently instruments of oversight will be used. Due to their public sector-specific information advantage, (former) public servants in parliament are identified as legislators with lower control costs. Accordingly, Braendle & Stutzler (2012) predict that in legislatures with a larger proportion of public servants, more parliamentary oversight activities are undertaken.

2.4 Career concerns

Dal Bo & Rossi (2011) investigate the effect of legislators' term length on their functioning in parliament. They explore this matter empirically by exploiting two natural experiments in the history of Argentine legislature. Politicians are assigned different term lengths through a randomized procedure. Dal Bo & Rossi (2011) then construct an aggregate index of legislative effort and compare the politicians with different term lengths. They find that a longer term length gives an MP more incentives to exert legislative effort. Their results indicate that the effects of term length are unlikely to come as a result of campaigning crowding out legislative effort, but instead they seem to be driven by the payback horizon effect: If legislative effort yields rewards that accrue over time, a shorter term lowers the expectation of reaping such rewards, which again discourages effort. (Dal Bo & Rossi, 2011)

Ashworth (2005) studies a model of repeated elections involving symmetric learning about candidate ability as well as moral hard. Based on a finite horizon, US-congressional setting, Ashworth's (2005) model lets candidates choose their effort levels of constituency service and policy work. Voters then may use elections to select the better candidates. Ashworth (2005) finds that incumbents have an advantage when facing elections and that new politicians devote more resources to constituency service to influence voters' believes than do experienced legislators. As voters learn about the effort provided by politicians in office, they select those who have exerted the most effort. This partly explains the incumbency advantage. Due to this established incumbency advantage (which is a form of reputation building); senior politicians have fewer concerns for re-elections. Therefore, the re-elected politician will continue to lower his constituency service level compensated for by a higher level of policy work. This makes senior politicians, all else being equal, relatively cheaper for policy work (Ashworth, 2005).

Finally, Zaller (1998) constructs a model that distinguishes three phases in US congressional careers. After having won their first elections by a marginal victory, Members of Congress go immediately to work to consolidate their position. In a furious round of activity, they contact as many voters, activists, and group members as possible in an effort to increase their margin of electoral safety

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and authorized by parliament are properly implemented (i.e. efficiency control). Finally, oversight involves the critical examination of government proposals (i.e. political control) (Braendle & Strutzler, 2012).

(Fenno, 1978). When having been re-elected, Members of Congress continue intensive activities for several more elections which Zaller (1998) calls the ‘expansionist’ phase of their careers. Later, in the "protectionist" phase of their careers, many members become more interested in law-making in Washington, and so scale back their district-oriented activities. This final phase supports the findings of Ashworth (2005) on senior politicians.

3. EMPIRICAL FRAMEWORK

3.1 The dataset

For this study a novel dataset is composed based on both internal and public sources from the Dutch House of Representatives. This repeated cross-sectional dataset contains information on all suitable Dutch Members of Parliament (MP) for the legislative years of 2008/2009 and 2010/2011[3]. From the Dutch Parliament's internal databases *Parlis* and *VIP*[4] various indicators for legislative effort are derived and merged with information concerning individual characteristics of Dutch MPs. The latter are obtained from the publicly available database *Parlement.com*. The legislative years of 2008/2009 and 2010/2011 turn out to be the best-suited options for the purposes of this research. There are two main reasons these parliamentary years are selected for the analysis. Firstly, the usage of the internal databases *VIP* and particularly *Parlis* have limitations in the retrieval of data before 2008. Secondly, as this study sets out to examine legislator's behaviour in a regular parliamentary year, i.e. a year unaffected by upcoming elections and subsequent campaigning work[5], the focus of this study is restricted to the years of 2008/2009 and 2010/2011. Moreover, due to elections for the Lower Chamber in June 2010, the composition of Parliament differs between the two samples, what allows controlling for time-specific variation. Finally, the richness of the dataset on the individual level is noteworthy. This is a valuable addition to the existing body of research as described in section 2.

In both waves, politicians who have not completed the full legislative year (e.g. due to resignation, maternal leave, etc) are omitted from the analysis. Furthermore, Ms Gerdi Verbeet, MP serving as chairman of the Lower Chamber, is excluded from the dataset as well, since her duties as chairman are significantly different from a regular legislator's activities. After having corrected the datasets for these cases, there are 144 observations left for 2008/2009 and 138 observations for 2010/2011 out of a maximum potential number of observations of 150 per legislature. The summary statistics can be found below in table 1.

[3] A parliamentary year is defined as running from September 1st in calendar year t, till August 31st in year $t+1$.
[4] *Parlis* and *VIP* are the Chamber's internal databases registering all legislative activities and are predominantly used by MP's for internal purposes. Although both databases are not publicly available, they are accessible upon appointment at the *Centraal Informatie Punt (CIP)*, the information department of the Dutch Parliament.
[5] In years when elections are due, politicians might behave differently as they allocate their time and effort over both legislative and campaigning work. This phenomenon is known as the 'campaigning effect' and is investigated in Dal Bo & Rossi (2011).

Table 1: Summary statistics

	Year	Mean	Std. Dev.	Maximum	Minimum	Sum
General committee attendance	*2008/2009*	23.33333	16.15528	84	0	3360
	2010/2011	23.27536	13.30373	55	0	3212
Nota committee attendance	*2008/2009*	0.819444	1.576279	9	0	118
	2010/2011	0.536232	0.802909	4	0	74
Legislative committee attendance	*2008/2009*	1.708333	1.471762	7	0	246
	2010/2011	1.797101	1.804938	9	0	248
Procedural committee attendance	*2008/2009*	6.597222	7.433923	36	0	950
	2010/2011	20.86957	10.10733	51	0	2880
Plenary attendance	*2008/2009*	16.67361	13.97242	96	0	2401
	2010/2011	17.68116	12.16192	66	1	2440
Motions introduced	*2008/2009*	17.38194	15.99956	87	0	2503
	2010/2011	20.24638	21.71676	123	0	2794
Motions approved	*2008/2009*	5.833333	5.54448	33	0	840
	2010/2011	6.405797	6.267327	33	0	884
Petitions	*2008/2009*	1.888889	2.81383	14	0	272
	2010/2011	4.507246	4.602834	22	0	622
Questions	*2008/2009*	28.77083	26.72908	147	0	4143
	2010/2011	31.74638	26.50081	142	0	4381
Index effort	*2008/2009*	1.39E-07	0.610305	2.377109	-1.002	2.00E-05
	2010/2011	-4.57E-08	0.687768	2.062607	-1.171	-6.30E-06
Party size	*2008/2009*	27.09028	12.33728	41	2	3901
	2010/2011	22.02899	8.954827	31	2	3040
Age	*2008/2009*	45.69444	9.930724	72	20	6580
	2010/2011	43.65942	9.201314	64	22	6025
Freshman	*2008/2009*	0.458333	0.5	1	0	66
	2010/2011	0.398551	0.491383	1	0	55
Lawyers	*2008/2009*	0.208333	0.407534	1	0	30
	2010/2011	0.210145	0.408896	1	0	29
Leader	*2008/2009*	0.0625	0.242906	1	0	9
	2010/2011	0.057971	0.23454	1	0	8
Male	*2008/2009*	0.597222	0.492169	1	0	86
	2010/2011	0.615942	0.488144	1	0	85
Slackness	*2008/2009*	0.604167	0.490736	1	0	87
	2010/2011	0.557971	1.100883	1	0	77
University degree	*2008/2009*	0.694444	0.46225	1	0	100
	2010/2011	0.681159	0.467725	1	0	94
Government party	*2008/2009*	0.534722	0.500534	1	0	77
	2010/2011	0.347826	0.478016	1	0	48
Replace	*2010/2011*	0.072464	0.260199	1	0	10

3.2 The aggregate legislative effort index

The purpose of this study is to investigate the drivers of parliamentary effort exerted by Dutch Members of Parliament. For this reason, an aggregate legislative effort index is constructed similar to Dal Bo & Rossi (2011). The internal databases of the Lower Chamber provide nine objective measures of legislative effort by a Member of Parliament: *plenary debate attendance*, a *committee's general meeting attendance*, *committee's nota meeting attendance*, *committee's legislative meeting attendance*, *committee's procedural meeting attendance*, the number of *petitions* offered to the Chamber, the number of *motions introduced* by the MP, the number of those *motions approved*, and finally, the number of (written) *questions* submitted by the MP to government members.

The plenary debate is the centre of legislative activities. In plenary debates, legislation is discussed, motions are introduced, questions are answered and it often is the final step in the process of approving a new legislation. During plenary debates ordinary MPs are allowed to enter and leave the plenary room as they please. They must be present at the end of the debate for the voting process while their attendance is not necessarily required in earlier stages of the debate. Depending on the specific topic of the plenary debate, spokespersons, fraction leaders and/or relevant party specialists are formally required to attend the entire length of the debate. The attendance rates of those MPs are recorded and used as measure for *plenary debate attendance* in the analysis of this paper.

Before a topic is discussed in the plenary debate, it often has travelled a long way through various types of committee meetings. The committee's *general meeting* is defined as a regular meeting between a minister or secretary of state and the parliamentary committee specialized in the minister's policy area. A list of the various parliamentary committees can be found in figure XXX of the Appendix.

In the committee's *nota meeting* a specific note or letter from the minister or government is discussed. A nota meeting can be characterized as more important than a general meeting of a committee and are organized less frequently.

Thirdly, a committee's *legislative meeting* is exclusively devoted to the discussion of a policy proposal. In this type of meeting the technical details of a specific proposal are worked out preceding the plenary debate in which the general outline of the proposal is discussed in the final stage of the law-making process.

Lastly, in the committee's *procedural meeting* procedures related to legislative notes, proposals and letters are discussed. Furthermore, it is decided which topics will be adopted on the agenda. For all abovementioned types of meetings, MP's attendance rates are recorded and used as indicators of legislative effort.

In addition to attendance rates, which can be distinguished as a passive form of effort, the remaining four indicators of legislative effort capture the output of individual MPs. Firstly, *petitions* cover specific points of criticism on government's policy and are set-up by collective pressure groups.

A petition must be adopted by a Member of Parliament who will become the spokesperson and parliamentary representative of the petition. Through the instrument of petitions direct contact between the MP and his constituencies is maintained. Additionally, petitions often trigger some attention from media.

The sixth indicator of legislative effort is the number of *motions introduced* by an MP. A motion is the most commonly used instrument to introduce a point of discussion or to lead the debate towards a specific direction. Motions need to be approved by the majority of the Chamber, i.e. 76 votes or more, in order to come into effect.

The number of *motions approved* is taken as the seventh legislative indicator and directly measures the effectiveness of an MP's parliamentary effort.

Lastly, the number of (written) *questions* submitted by an MP to the government is taken as final measure of parliamentary effort and is a Dutch equivalent of an instrument for parliamentary oversight (Braendle & Stutzer, 2012).

These measures of legislative effort have been confirmed and discussed over with a Member of Parliament and support staff of the Lower Chamber. These individuals were identified through personal contacts and in no way constitute a representative sample[6]. Their qualitative information on the workings of the Dutch Lower Chamber and opinions on appropriate measures for legislative effort have been used as valuable input for constructing an aggregate legislative effort index. The index takes into account the variety of different types of legislative effort: Some legislators may seek to capture the attention of constituents by offering petitions or introducing a high number of motions, while others may focus more on policy, which is captured by the number of motions approved or attendance in nota and legislative committee meetings.

Table 2 shows the correlation matrix of the measures used. Comparing the correlations from both 2008/2009 and 2010/2011 waves, it can be observed that *plenary attendance* rates correlate with *general committee meeting* attendance and *motions introduced* in both years. Potential multicollinearity issues concerning these indicators are addressed in the robustness checks in section 5. Secondly, there seem to be some additional correlation issues in the 2010/2011 wave, but as these are not confirmed in the 2008/2009 wave, these are ignored. Although the measures used in this study are noisy, they do serve as proxies for relevant and various dimensions of parliamentary effort.

In order to draw general conclusions in a context of multiple outcomes, an index of legislative effort that aggregates the nine measures described above is used. The index is the equally weighted average of the yearly z-scores of its components (see Kling, Liebman and Katz, 2007). The z-scores are levels standardized using the mean and standard deviation for all legislators in both waves. In all cases, higher-effort measures have higher z-scores (Dal Bo & Rossi, 2011).

[6] The Member of Parliament and support staff of the Dutch Lower Chamber who have contributed to this paper are mentioned in the acknowledgements.

Table 2: Correlations among measures of legislative effort

	Com general attendance	Com nota attendance	Com procedural attendance	Com legislative attendance	Plenary debate attendance	Motions introduced	Motions approved	Petitions	Questions
Com general attendance	1								
2008/2009									
2010/2011									
Com nota attendance		1							
2008/2009	0.339052								
2010/2011	0.357815								
Com procedural attendance			1						
2008/2009	0.388283	-0.045040							
2010/2011	0.661662	0.320791							
Com legislative attendance				1					
2008/2009	0.458226	0.296662	0.138111						
2010/2011	0.418795	0.438271	0.385846						
Plenary debate attendance					1				
2008/2009	0.703788	0.330375	0.116005	0.391508					
2010/2011	0.711937	0.239644	0.302201	0.469872					
Motions introduced						1			
2008/2009	0.483051	0.316638	0,080322	0.286889	0.707018				
2010/2011	0.581024	0.383776	0.304225	0.463292	0.756903				
Motions approved							1		
2008/2009	0.348118	0.395006	0,129339	0.228811	0.408295	0.429246			
2010/2011	0.562605	0.464132	0.372454	0.497084	0.698669	0.789327			
Petitions								1	
2008/2009	0.440477	0.168876	0.469556	0.198130	0.237946	0.246217	0.289709		
2010/2011	0.553538	0.184600	0.425999	0.331411	0.484710	0.485803	0.412336		
Questions									1
2008/2009	0.371824	0.067061	-0.038829	0.111880	0.475680	0.589893	0.012670	0.014350	
2010/2011	0.204213	0.008840	0.055577	0.051411	0.409212	0.435710	0.321356	0.112485	

3.3 Independent variables

The first part of this study focuses on the influence of party size on the legislative effort Members of Parliament exert. In line with Olson (1971), it is expected that politicians from larger parties devote less time and effort on their jobs than those from smaller parties. Therefore, the variable *party size*, which is defined as the number of seats the politician's party holds in the Dutch Lower Chamber in the years of 2008/2009 and 2010/2011 respectively, is included in the analysis. An overview of this variable can be found in table 3.

Secondly, the hypothesis as proposed in Braendle & Stutzler (2012) is applied on the Dutch context. In order to test whether Members of Parliament with a public-sector background make more use of instruments of oversight due to their information advantage (Braendle & Stutzler, 2012), three dummy variables are constructed. Using the definitions used in Merlo et al. (2010) [7], Dutch legislators can be categorized as coming from either a public, private or political-sector background: *public* is defined as being an employee from the public sector (e.g. ministries, police force), *political* as being full-time involved within the party or active as a member of a council at municipality or state level, and *private* accounts for the remaining professions. In the analysis, attention is paid to the impact of a politician's background on the aggregate legislative effort index as well as to the specific instruments of parliamentary oversight as defined in Braendle & Stutzler (2012).

Table 3: Overview of Dutch House of Representatives composition

Party	Seats 2008/2009	Seats 2010/2011	gain/loss
Volkspartij voor Vrijheid en Democratie (VVD)	22	31	9
Partij van de Arbeid (PVDA)	33	30	-3
Partij voor de Vrijheid (PVV)	9	24	15
Christelijk Democratisch Appel (CDA)	41	21	-20
Socialistische Partij (SP)	25	15	-10
Democraten '66 (D66)	3	10	7
Groenlinks (GL)	7	10	3
Christenunie (CU)	6	5	-1
Staatkundig Gereformeerde Partij (SGP)	2	2	0
Partij voor de Dieren (PVDD)	2	2	0
Total	150	150	0

Source: parlement.com

[7] Merlo et al. (2010) classify Members of Parliament in Italy by their last occupation held immediately prior to entering Parliament.

3.4 Control variables

Several additional variables are included in the regression to control for external factors. As is argued in Bowler & Farrel (2007), Ashworth (2005), and Zaller (1998), it can be expected that personal career ambitions may shape the amount of effort MPs are willing to make in parliament. It is possible that MPs who are expecting to retire soon may be inclined to exert less legislative effort compared with MPs who are the beginning of their political careers. To control for this effect the control variable *age* is included.

The literature is divided on whether freshmen would exert more effort. On the hand, one may argue that new Members of Parliament will feel pressure to prove themselves and thus are relatively more active in the various legislative activities (Bowler & Farrel, 2007). On the other hand, Ashworth (2005) and Zaller (1998) point out that in the U.S. congress setting, freshmen focus more on constituency service than on policy work. The aggregate legislative effort index used in this paper does not include indicators for constituency service outside parliament and is thus not counted for as legislative effort. A dummy variable *freshman* is included as a control. The variable has a value of *1* if it is the politician's first term in parliament and *0* otherwise.

Another potential factor of importance may be that legislators with a judicial background may have some advantage in legislative activities. Dealing more easily and effectively with legal matters, those MPs are expected to be able to put in more effort as compared with legislators with non-judicial backgrounds: they have lower costs of effort. At the same time though, lawyers tend to have more knowledge which could imply less effort in equilibrium. The dummy variable *lawyer* is included to control for any of the abovementioned influences. It has value *1* when the politician has completed a study in law and *0* otherwise.

As in Dal Bo & Rossi (2011), a dummy variable *slackness* is created to serve as proxy for electoral safety. They argue that a legislator is safe if he entered parliament within the top half of the party's election list, in which case the dummy is equal to *0*. If the legislator was put on the bottom half of the election list, the dummy variable is equal to *1*. Even though campaigning effort and re-election concerns fall outside the scope of this paper, the *slackness* variable is included to capture any potential influences by such factors.

There might be differences in effort provision between MPs whose party belongs to the government coalition and those whose party does not. Therefore, the dummy variable *government party* is created. It is argued that members of coalition parties have little incentive to effectively control their own governmental representatives. According to this argument, the larger the majority or the coalition is, the less frequently parliamentary control instruments, such as *questions*, are used. However, the constituency of the governing majority holds its representatives responsible for the provision of public goods. Following this line of reasoning, coalition party politicians thus have an incentive to ensure efficient provision of public services, leading to more legislative effort.

Furthermore, parties in opposition might have stronger incentives to execute monitoring when they can distinguish themselves from other parties. Summing up, no definite theoretical predictions are possible on the relation between government parties and provision of legislative effort (Braendle & Stutzler, 2012).

Lastly, a string of other control variables are included. These include *male*, to take gender issues into account, *unidegree*, a dummy variable to control for education level (i.e. equal to *1* if the legislator has completed an academic study and *0* otherwise), and *leader*, to filter out the fraction leaders who typically have additional duties outside parliament such as representing the party at debates, media shows, etc. For the 2010/2011 sample, the dummy variable *replace* is created as several Members of Parliament took up a position as minister or secretary of state in the newly formed government in October 2010. Their replacements in parliament thus have spent 2 months less in the Lower Chamber than other members and are therefore expected to have a lower index of legislative effort.

3.5 Hypotheses

To conclude this section a number of hypotheses are formulated. The focal points of the analysis in the following section can be found below. Other related and relevant findings will also be presented.

Hypothesis 1 (specialization):

The larger the size of the political party to which the legislator belongs, the less legislative effort he exerts given the political competition. Party size is defined as the number of seats the political party holds in the Lower Chamber. Accordingly, politicians of small political parties exert more legislative effort. It is expected that this is due to the specialization effect.

Hypothesis 2 (effort cost):

The lower the individual costs of parliamentary control are, the more frequently instruments of oversight will be used. Public servants in parliament are identified as legislators with lower control costs; in particular, due to their public sector-specific information advantage. Furthermore, it is expected that legislators with a political background will be more active, due to their previous experience and the fact that they are more likely, all else equal, than other MPs to want to remain on good terms with their political principals.

4. RESULTS AND ANALYSIS

4.1 Specialization

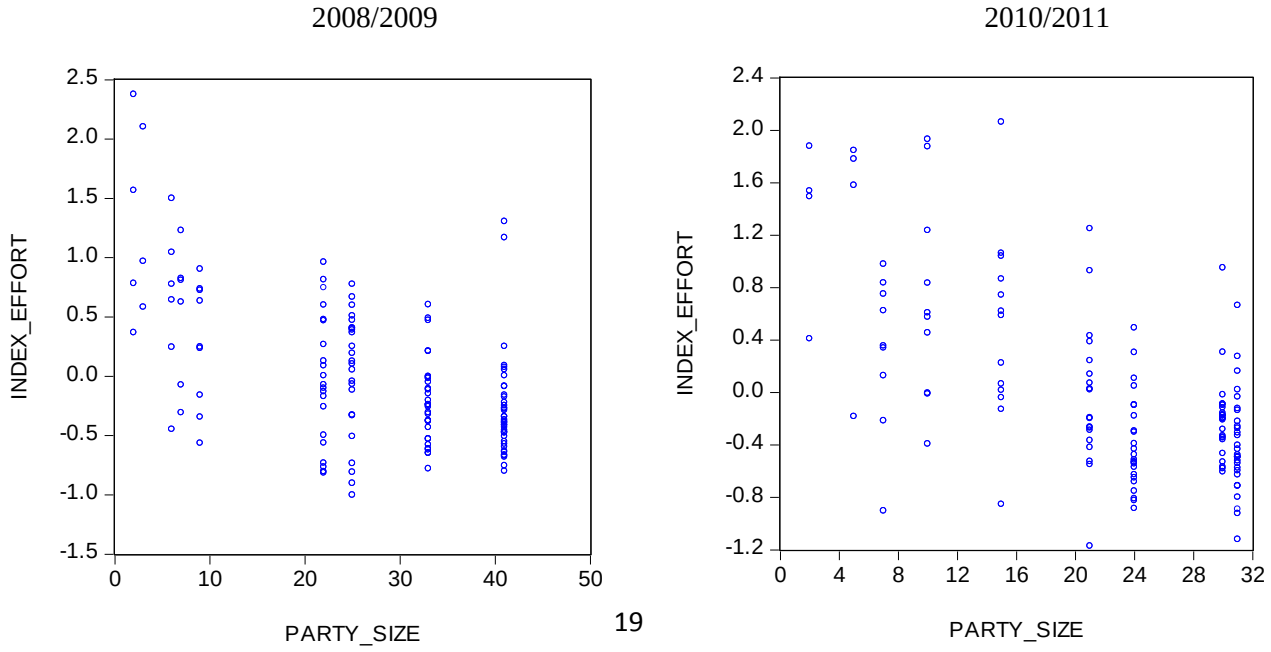
To test the hypotheses formulated in the previous section, some econometric models are employed. First, hypothesis 1 is tested to examine whether party size has an impact on legislative effort. The following method is utilized:

$$Y_i = \beta_0 + \beta_1 partysize_i + \beta_2 partysize_i^2 + \beta_3 X_i + \varepsilon_i \quad (1)$$

where Y_i is any of the effort measures specified in section 3 or the aggregate effort index for legislator i, β_1 is the parameter of interest which captures the effect of the size of the party, β_2 captures the decreasing marginal nature of the relationship, X_i is a matrix of time-invariant legislator characteristics as outlined in section 3 and ε_i is an error term. The equation is estimated by using OLS with White heteroskedastic-robust standard errors.

Figure 1 shows a scatter plot of the two main variables. The number of seats hold by the political parties is depicted on the horizontal axis, while the aggregate legislative effort index is measured on the vertical axis. Having a first glance at the data, a decreasing convex relationship can be observed between legislative effort and the size of the political party in both samples. I.e. the more seats political parties hold in the Lower Chamber, the lower the scores of individual politicians on the aggregate effort index. This effect appears to be more prominent when focusing on parties with a small number of seats.

Figure 1: Relationship between party size and the aggregate legislative effort index



In table 4 the results of the OLS estimation of equation (1) are presented. Specification 1 contains the most parsimonious specification while specification (2) includes the control variables outlined in the previous section. Both samples of parliamentary years 2008/2009 and 2010/2011 are included.

Table 4: Effects of party size on legislative effort

	(1)		(2)	
	2008/2009	*2010/2011*	*2008/2009*	*2010/2011*
Constant	1.070171	1.662721	1.145317	2.117343
	(0.207858)	(0.278057)	(0.304856)	(0.305115)
Party size	-0.06665***	-0.123007***	-0.084647***	-0.158612***
	(0.0174)	(0.029322)	(0.017416)	(0.025416)
Party size^2	0.000831**	0.001885***	0.001236***	0.002681***
	(0.000334)	(0.000715)	(0.000368)	(0.000615)
Age			0.003153	-0.001022
			(0.005173)	(0.005282)
Freshman			0.0399	-0.197044**
			(0.080773)	(0.084206)
Lawyer			-0.140926	-0.099593
			(0.100289)	(0.100585)
Leader			-0.618828***	-1.051810***
			(0.208292)	(0.162559)
Male			0.056091	0.153749*
			(0.07939)	(0.085720)
Slackness			-0.064989	-0.032022
			(0.089743)	(0.019539)
University degree			0.056071	0.019657
			(0.099638)	(0.092036)
Government party			-0.138257	0.011763
			(0.155344)	(0.088164)
Replace				-0.067406
				(0.134854)
Adjusted R-squared	0.336314	0.428783	0.362677	0.534278
Durbin-Watson stat	2.033747	2.186532	1.932958	2.018397
Observations	144	138	144	138

Notes: Standard errors are in parentheses. *Significant at the 10% level; ** Significant at the 5% level; *** Significant at the 1% level.

The decreasing convex relationship between the legislative index and party size as identified in figure 1 is strongly confirmed in table 4. In all the specifications the main variable of interest, i.e. *party size*, turns out to be significant. As can be observed from table 4, there exists a diminishing negative relationship between party size and legislative effort. I.e. an additional seat in parliament for a political party leads to a decrease of legislative effort of that parties' politician. As an example one can infer that an increase of the party size of 1 seat in 2008/2009, has a negative effect of 0.0847 on the

politician's aggregate legislative effort index. Since the aggregate legislative effort index is a standardized score with mean 0 and minimum and maximum values of approximately -1 and +2 this effect is substantial (see table 1). See the appendix for the entire distribution of the effort index.

A second noteworthy observation is the significant impact of the *leader* dummy. This control variable has a profound negative influence on the effort index. A feasible explanation for this result is the fact that party leaders often have many obligations and activities outside parliament (e.g. media coverage, etc) which may act as substitutes for the regular parliamentary work. The constructed aggregate legislative effort index does not include those outside parliament-activities and therefore this seems a logical explanation for the lack of legislative effort of party leaders.

Furthermore, there are some indications that freshmen in parliament work less and male politicians work more. However, this evidence is ambiguous since these effects are only significant for the 2010/2011 wave and the freshman coefficient has an opposite sign in the 2008/2009 sample. Therefore, based on these data, it is not possible to state final conclusions on gender or career concerns.

4.2 Individual indicators

In table 5 the effects of party size on each separate effort component are denoted. Virtually all point estimates in both 2008/2009 and 2010/2011 samples have the expected signs. Furthermore, six out of the nine effort indicators are significant. As can be seen, the significant variables indicate both input-related effort measures (i.e. attendance) as well as output-related effort measures (i.e. motions introduced/approved). Therefore, it may be concluded that the main result for party size on the aggregate legislative effort index is driven both by input and output measures.

The coefficients in table 5 can be interpreted as follows: By an increase of one seat in parliament of party *x*, the number of plenary debates that legislator *i* from party *x* attends decreases with -2.3, on average, in the 2008/2009 parliamentary year. Accordingly, with an increase of one seat of party *x*, the number of motions that legislator *i* submits decreases with -4.9, on average, in the 2010/2011 parliamentary year. Lastly to illustrate the size of the effect, when a party would gain ten seats in parliament, this implies that a MP of that party attends, on average, 24.8 general committee meetings less in the 2010/2011 parliamentary year.

In order to be able to compare the different indicators with one another, the z-scores of the measures are taken and reported as described in section XXX and in Kling, Katz & Liebig (2007). This method enables to determine whether the results on the aggregate level are driven by a wide array of indicators or by a concentration in just one or two outcomes. It appears that the effects are quite general (see appendix). The two indicators that have the largest impact on the results are *plenary debate attendance* and *motions introduced.* However, differences with the other effort measures are not of a substantial nature.

Table 5: Seperate variables effects

	Plenary attendance				General committee attendance				Nota committee attendance			
	2008/2009		2010/2011		2008/2009		2010/2011		2008/2009		2010/2011	
Party size	-2.058***	-2.311***	-2.592***	-3.036***	-1.176**	-1.694***	-1.709***	-2.478***	-0.105*	-0.117**	-0.059	-0.096**
	(0.435769)	(0.426489)	(0.616908)	(0.565983)	(0.529606)	(0.510292)	(0.639224)	(0.478083)	(0.055593)	(0.054188)	(0.046559)	(0.046434)
Controls	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
	Legislative committee attendance				Procedural committee attendance				Motions introduced			
	2008/2009		2010/2011		2008/2009		2010/2011		2008/2009		2010/2011	
Party size	-0.038	-0.088*	-0.275***	-0.345***	0.111	-0.071	-0.336	-0.869	-1.436***	-2.048***	-4.250***	-4.874***
	(0.050210)	(0.047128)	(0.103316)	(0.101033)	(0.216079)	(0.245680)	(0.482824)	(0.550667)	(0.461327)	(0.445140)	(1.222575)	(1.084211)
Controls	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
	Motions ractified				Petitions				Questions			
	2008/2009		2010/2011		2008/2009		2010/2011		2008/2009		2010/2011	
Party size	-0.683***	-0.510***	-1.031***	-1.348***	-0.135	-0.165	-0.398*	-0.483**	-1.073	-1.893**	-1.540	-1.289
	(0.181145)	(0.165025)	(0.352805)	(0.307033)	(0.095808)	(0.101031)	(0.237069)	(0.233661)	(0.889034)	(0.739754)	(1.621219)	(1.423553)
Controls	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes

4.3 Effort cost

A second driver of parliamentary effort could be ascribed to information asymmetries amongst Members of Parliament. These information asymmetries are caused by differences in MPs' backgrounds (i.e. a public or private sector background) and lead to differences in costs of exerting legislative effort. This hypothesis has been advocated by Braendle & Stuztler (2012) and will be applied on the Dutch context. This will be done in twofold: Firstly, the impact of a legislator's background on aggregate legislative effort will be analyzed. Secondly, written or oral inquiries to the government, is used as one of the three main measures of parliamentary oversight, the other two being major and minor interpellations, by Braendle & Stuztler (2012) to empirically support their hypothesis. Due to differences in the workings of Dutch national parliament and German regional parliaments, written inquiries[8] are the best measure for direct comparison with Braendle & Stuztler (2012)[9].

Taking above into account, this leads to the following equation:

$$Y_i = \beta_0 + \beta_1 public_i + \beta_2 political_i + \beta_3 X_i + \varepsilon_i \quad (2)$$

where Y_i is either the aggregate effort index or the number of *questions* submitted by legislator *i*, β_1 measures the impact of a public-sector background, β_2 does so for legislators with a political-sector background, X_i is a matrix of time-invariant legislator characteristics as outlined in section 3 and ε_i is an error term.

[8] 'Written inquiries' are denoted as the variable *questions* in this study and used as one of the nine components of the aggregate legislative effort index.

[9] Interpellations and oral inquiries are both instruments far less utilized in Dutch parliament compared to German regional parliaments. For the legislative year of 2008/2009 there have been 12 interpellations in total. In the same period there have been 131 oral inquiries. On the total number of 150 MPs in the Dutch Lower Chamber this is a small amount and therefore not suitable as a measure for direct comparison with Braendle & Stuztler (2012). Alternatively, the instrument of written questions does share the same purpose as earlier mentioned instruments and is practiced more regularly: 4244 written questions have been submitted by MPs in the legislative year 2008/2009.

Table 6: Effects of politicians' backgrounds on legislative effort

	2008/2009	*2010/2011*
Constant	-0.081454	-0.074810
	(0.064706)	(0.072827)
Public	0.131921	0.091624
	(0.123372)	(0.151564)
Political	0.112909	0.141197
	(0.107574)	(0.130913)
Adjusted R-squared	-0.005774	-0.006287
Durbin-Watson stat	2.061186	2.037246
Observations	144	138

Notes: Standard errors are in parentheses. *Significant at the 10% level; ** Significant at the 5% level; *** Significant at the 1% level.

Table 6 reports results using the aggregate legislative effort index as dependent variable. As can be observed, none of the main variables proves to be significant. Furthermore, the value of the adjusted R-squared indicates that this model holds very limited explanatory power. It may therefore be concluded that, at least for The Netherlands and for the two legislatures for which data is collected, a politician's public sector-background does not have any strong impact on the overall parliamentary effort they exert.

When focusing on the log of the number of *questions* submitted as dependent variable, so as to have evidence that is directly comparable with that in Braendle & Stutzler (2012), several conclusions can be made. Table 7 shows some weak evidence for their hypothesis. In the parsimonious specification (1) there seems to be a significant positive difference on the number of written questions submitted by politicians with a public-sector background as compared to those with a private-sector background (the baseline category). For example, according to specification (1) year 2008/2009, a legislator with a public-sector background directs 36% more questions to the government. There is also an indication that politicians with a political-sector background have an advantage compared with politicians with a private-sector background. However, when including all control variables in the equation, these results no longer hold. Therefore, there is at best weak evidence for the hypothesis that legislators coming from the public-sector use instruments for parliamentary oversight more commonly (Braendle & Stutzler, 2012).

Noteworthy is the strong significant effect of the government party dummy on the number of questions submitted. Politicians whose party is member of the government coalition seem to direct fewer questions to the government than other Members of Parliament. This is an intuitive result and consistent with one of the theories mentioned in section 2 as the fractions in the Lower Chamber typically defend policies executed by their fellow party-members in government office, whereas members of the opposition will use this instrument to criticize the government's actions. However,

this does not comply with the argument made by Bowler & Ferrel (2007), which suggests that in the European Parliament context government parties prod their MEPs to work harder.

Table 7: Effects of politicians' backgrounds on (log) number of questions submitted

	(1)		(2)	
	2008/2009	*2010/2011*	*2008/2009*	*2010/2011*
Constant	2.896473	2.871235	4.081944	3.881006
	(0.089244)	(0.117677)	(0.424344)	(0.442500)
Public	0.357960**	0.327868*	0.180569	0.118613
	(0.179489)	(0.175315)	(0.167777)	(0.160295)
Political	0.117813	0.433644**	-0.095079	0.252176
	(0.154486)	(0.195414)	(0.135666)	(0.197219)
Age			-0.017993**	-0.010764
			(0.008290)	(0.006991)
Freshman			0.078612	-0.385001**
			(0.143556)	(0.153112)
Lawyer			0.113396	0.175602
			(0.184236)	(0.199909)
Leader			-0.313050	-0.652008
			(0.709918)	(0.618359)
Male			-0.027758	0.026886
			(0.122339)	(0.146339)
Slackness			-0.228811	0.030631
			(0.146018)	(0.053954)
University degree			0.270970	0.033794
			(0.147187)	(0.142946)
Government party			-0.577024***	-0.918373***
			(0.136148)	(0.175775)
Replace				-0,067406
				(0.335681)
Adjusted R-squared	0.006296	0.028546	0.187353	0.262648
Durbin-Watson stat	1.862553	2.052522	1.691113	2.069030
Observations	144	138	144	138

Notes: Standard errors are in parentheses. *Significant at the 10% level; ** Significant at the 5% level; *** Significant at the 1% level.

5. ROBUSTNESS CHECKS

5.1 Panel estimation

As a first robustness check, a panel dataset containing all politicians being involved in parliament in both 2007/2008 and 2010/2011 years is created. This short panel dataset consists of 73 politicians active in both samples leading to 146 observations out of a potential of 300. A similar regression as in section 4 is estimated, now including a time dimension as well. The formal equation is denoted below.

$$Y_{it} = \beta_0 + \beta_1 partysize_i + \beta_2 partysize_i^2 + \beta_3 X_i + \phi_t + \varepsilon_{it} \quad (3)$$

Y_{it} is the aggregate effort index for legislator *i* in period *t* (where *t*=2008/2009, 2010/2011), β_1 is the parameter of interest which captures the effect of the size of the party, β_2 captures the decreasing marginal nature of the relationship, X_i is a matrix of time-invariant legislator characteristics as outlined in section 3, ϕ_t is a period-specific fixed effect to capture all time-related (un)observable variation, and ε_{it} is an error term. Furthermore, White periodic standard errors & covariance (d.f. corrected) are used to avoid heteroskedasticity issues. The estimations of equation 3 are depicted in table 8.

It can be observed from table 8 that the main variables of interest, *party size* and *party size^2*, remain significant in this panel estimation. Signs and magnitude of the main coefficients are preserved in comparison with the original OLS estimation in table 4. There is small evidence of left-wing politicians working slightly harder than right-wing politicians, captured by the *ideology* variable. The estimation has gained some explanatory power with an increased adjusted R-squared of 0.68529. Finally, this estimation suggests that the party size effect still holds when focusing on a panel of legislators across time and working in different parliamentary compositions.

One should be careful with selection effects surrounding this panel, as legislators in this sample are not randomly selected. I.e. all politicians in this panel are re-elected at least once and therefore do not wholly represent the Dutch Lower Chamber.

The additional control variable *ideology* is included as well. *Ideology* is a party level control variable that places each party on a left-right scale ranging from -10 for extreme left-wing parties and +10 for

extreme right-wing parties. The left-right scale is based on the kieskompas[10] used at the elections of 2006 and 2010. The original two-dimensional political landscape graph and the corresponding values for each party on the one-dimensional left-right scale can be found in the appendix.

Table 8: Panel estimation: Effects of party size on legislative effort

	(1)	(2)
Constant	1.855329	1.977638
	(0.224277)	(0.311569)
Party size	-0.079161***	-0.102265***
	(0.019506)	(0.01741)
Party size^2	0.001058***	0.001459***
	(0.000397)	(0.000361)
Age		0.006265
		(0.005693)
Freshman		-0.044054
		(0.113598)
Lawyer		-0.044298
		(0.124512)
Leader		-0.884573***
		(0.169945)
Male		0.125187
		(0.104339)
Slackness		-0.035197*
		(0.018352)
University degree		-0.154871
		(0.143316)
Government party		0.009712
		(0.127281)
Ideology		-0.020662*
		(0.010906)
Adjusted R-squared	0.610578	0.68529
Durbin-Watson stat	1.018238	1.249548
Observations	146	146

Notes: Standard errors are in parentheses. *Significant at the 10% level; ** Significant at the 5% level; *** Significant at the 1% level.

[10] Vote Compass is a non-partisan web application that aims to engage voters in elections by informing them which political party is closest to their own political preferences (kieskompas.nl). In The Netherlands, It is one of the most widely used tools for voters to determine their political preferences.

5.2 Remaining robustness checks

To test whether the results from the previous section hold in different specifications, a number of robustness checks are performed. The robustness checks mainly focus on hypothesis one.

A potential concern about these data is that observations are not independently drawn. Looking at equations (1) and (2), it is assumed that the error term is independently and identically distributed (iid). However, this assumption often does not hold in similar samples. There is a possibility that observations within political party *i* are correlated in some unknown way, but that political parties *i* and *j* do not have correlated errors. This might lead to incorrect inference of the results. To control for this, an OLS estimation is performed with clustered standard errors at the party level. The results can be found in table 9, specification (1). Qualitively, the results remain unchanged. Due to the stronger correction for standard errors, the significance level of the main variables decreases slightly, but the estimation remains valid for causal interpretation.

A second robustness check is performed by using an alternative estimation method. As can be derived from table 2 in section 3, some of the main indicators used for the construction of the aggregate legislative effort index are highly correlated. This might cause problems in the inference of the results and therefore to correct for potential multicollinearity issues a principal component analysis is performed. The results of the analysis are denoted in table 9, specification (2). The principal component is taken as dependent variable and accounts for 40% and 50% of the total variance for the 2008/2009 and 2010/2011 parliamentary years respectively. Again, for both years the *party size* coefficient is negative and significant at the 1% level. This implies that the results are not significantly affected by multicollinearity issues. Further details of the principal component analysis can be found in the appendix.

Table 9: Robustness checks

	SE-clustered (1)		Principal component (2)		6 Indicators (3)		Interaction (4)	
	2008/2009	*2010/2011*	*2008/2009*	*2010/2011*	*2008/2009*	*2010/2011*	*2008/2009*	*2010/2011*
Constant	1,145317	2.117343	3.778107	6.581760	1,470261	2.245390	1.198128	2.176026
	(.3065093)	(.2483411)	(0.895693)	(0.938820)	(0.304927)	(0.337770)	(0.323387)	(0.346105)
Party size	-0.084647***	-0.158612***	-0.277018***	-0.505526***	-0.100761***	-0.176509***	-0.096680***	-0.176335***
	(.0174327)	(.0181853)	(0.052030)	(0.077336)	(0.016559)	(0.026980)	(0.025121)	(0.025947)
Party size^2	0.001236**	0.002681***	0.004005***	0.008617***	0.00151***	0.003092***	0.001516***	0.003056***
	(.0003884)	(.0004546)	(0.001090)	(0.001867)	(0.000359)	(0.000653)	(0.000552)	(0.000617)
Age	0,003153	-0.001022	0.009849	-0.001131	0,001465	-0.001799	0.004055	-0.000836
	(.0045715)	(.0050856)	(0.015353)	(0.016068)	(0.004779)	(0.005321)	(0.005272)	(0.005387)
Freshman	0,0399	-0.197044***	0.147811	-0.572467**	0,066679	-0.173147*	0.020065	-0.115349
	(.0957679)	(.0520608)	(0.239360)	(0.257669)	(0.08164)	(0.088593)	(0.081826)	(0.088859)
Lawyer	-0,140926	-0.099593	-0.422050	-0.329000	-0,097212	-0.043052	-0.115688	-0.090723
	(.0966528)	(.1273419)	(0.303854)	(0.308586)	(0.101596)	(0.097749)	(0.104314)	(0.098483)
Leader	-0.618828**	-1.051810***	-1.894699***	-3.335543***	-0.538245***	-0.853180***	-0.658762***	-1.015903***
	(.2442092)	(.1716386)	(0.648072)	(0.479490)	(0.194993)	(0.210868)	(0.193776)	(0.174347)
Male	0,056091	0.153749*	0.131985	0.471382*	0,024302	0.122378	0.063346	0.173965**
	(.0799281)	(.0646187)	(0.232433)	(0.256219)	(0.080554)	(0.091889)	(0.079073)	(0.087758)
Slackness	-0,064989	-0.032022	-0.242406	-0.092978	-0,103357	-0.023577	-0.069997	-0.037211*
	(.1747271)	(.0257893)	(0.267996)	(0.059573)	(0.095961)	(0.023797)	(0.090217)	(0.018981)
University	0,056071	0,019657	0.247503	0.067683	-0,001843	-0.027917	0.065330	-0.028074
	(.0833601)	(.08420280)	(0.289171)	(0.275357)	(0.101473)	(0.091052)	(0.100896)	(0.094659)
Gov party	-0,138257	0,011763	-0.437916	0.108879	-0,155442	0.250964	-0.204304	0.367058*
	(.1423905)	(.0818528)	(0.470848)	(0.265830)	(0.164229)	(0.203774)	(0.178373)	(0.197333)
Replace		-0,06741		-0.350160		-0.092022		-0.076970
		(.0679459)		(0.391117)		(0.125605)		(0.133504)
Ideology					-0,012914	-0.038188*	0.001620	0.004066
					(0.009413)	(0.019525)	(0.024190)	(0.034853)
Ideology*party							-0.000756	-0.001586
							(0.001245)	(0.001254)
Adjusted R2	0,362677	0,534278	0.423139	0.551970	0,432465	0.561879	0.364681	0.542171
DW stat	1,932958	2,018397	1.936660	1.988877	1,898367	2.017615	1,909607	2.028808
Observations	144	138	144	138	144	138	144	138

Notes: Standard errors are in parentheses. *Significant at the 10% level; ** Significant at the 5% level; *** Significant at the 1% level.

Thirdly, one may argue that the used aggregate legislative effort index relies too much on politicians' committee meeting attendance rates and is thus not well-balanced. In the initial estimation (see table 4) the four different committee meetings identified in section 3 (i.e. general meetings, nota meetings, legislative meetings, procedural meetings) are standardized and carry all an equal weight in the final legislative index. As all nine legislative indicators are weighted equally in the index, this implies that committee attendance rates account for almost half of the total effort. To shift the focal point of the aggregate index away from committee attendance, another specification of the aggregate index is used. The four original committee meeting attendance rates are averaged out and merged into one committee meeting indicator. This new indicator is then added to the remaining five legislative measures. This leads to a use of six final indicators in the alternative specification of the aggregate legislative effort index: *plenary debate attendance*, *motions introduced*, *motions approved*, *petitions*, *questions* and the newly constructed *committee attendance* variable. As before, all measures are standardized and equally weighted in the aggregate index. The results of this specification are reported in table 9, specification (3). Overall, the results of a decreasing negative relationship for party size and legislative effort seem to hold under this new definition of effort. Moreover, the findings in table 9 actually point towards an even stronger relationship as the magnitude of the party size coefficients have increased vis-à-vis the initial estimation in table 4. Also, the overall explanatory power measured by the adjusted R-squared has increased slightly, indicating a better fit of the model. Lastly, in addition to the results discussed earlier in section 4, there is weak evidence that right-wing politicians work less. This is captured by the significant negative coefficient of the *ideology* control variable.

In the fourth and final specification, potential interaction effects between *ideology* and *party size* are tested. Both *ideology* and *party size* are party-related characteristics and hence might be correlated with one another. As can be observed from specification (4) in table 9, there is no evidence that ideology and party size are indeed correlated. Moreover, *ideology* does not seem to matter when explaining legislative effort. I.e. there is no significant difference between the levels of parliamentary activity of right-wing or left-wing politicians.

6. DISCUSSION

6.1 Caveats

Firstly, I would like to start this section by making a number of caveats. This paper seeks out to investigate the key drivers of legislative effort of politicians in Dutch parliament. One could imagine a wide array of potential factors and/or theories that could possibly influence legislative effort. This paper does not attempt nor pretend to encompass all these various sources of influence. Instead, a number of relevant theories from the existing body of literature are selected and tested on the Dutch parliamentary context. Naturally, there are other theories available that could be applicable on this unique dataset. Therefore, I would encourage other scholars to continue with this line of research.

As stated in section 3, this study exclusively focuses on legislative effort. I.e. all effort undertaken in the Dutch House of Representatives. It is important to stress that this measure does not comprise any effort outside parliament. This implies that other non-legislative but potentially relevant forms of effort are not taken into account for this analysis. Such alternative forms of effort may include constituency case work in the country, fraction-related political work, or campaigning work in the media. The latter should have been accounted for by carefully selecting the legislative years for the analysis and thereby avoiding years running up to elections, but one may argue that, in essence, politics require a constant amount of campaigning work. It is unknown to what extent these outside-parliament activities act as substitutes for legislative effort. This could potentially affect the results if, for example, a Dutch legislator is extremely diligent on constituency case work in the country but slacks in parliamentary effort. Ashworth (2005) argues that freshmen in particular are devoted to constituency work for reputation building at the cost of policy related activities. However, as it is hard to identify to what extent legislative effort can be substituted by other sorts of effort (e.g. constituency or campaigning effort), it seems not possible to provide a conclusive answer to Ashworth's (2005) statement.

Another caveat must be made on the relevance of attendance rates as appropriate measures for legislative effort. Given the extensive possibilities with current technological equipment, it can be argued that members of parliament can do substantial legislative work without attending parliamentary sessions. However, in the Dutch House of Representatives the quorum of 76/150 MPs present must be met in order for plenary debates to commence. This effectively ensures that the majority of MP's must come to office at least once a day. Summing up, as stated in Dal Bo & Rossi (2007) who use a similar index of legislative effort measures, I believe the metrics I used, while noisy, do serve as proxies for different and relevant dimensions of legislative effort.

6.2 Legislative effectiveness

One might argue that one of the measures of effort, *motions approved*, does not reflect true legislative effort. It can be advocated that this rather indicates the effectiveness of the motions proposed by a Member of Parliament. Furthermore, one might say that a measure such as *motions approved* is correlated with the party variable. I.e. politicians, whose parties are part of the government coalition, might be able to get their motions approved more easily. Looking in the data, the latter statement indeed seems true. Both in the 2008/2009 and the panel estimation, the dummy variable *government party* yields a significant positive effect on the motions approved. This is not observed for the 2010/2011 sample. Whether the measure of *motions approved* is more suitable as indicator of legislative effectiveness than legislative effort is an interesting debate. One could also view the indicator as a proxy for the lobbying effort that the politician must undertake in order to get a motion ratified. Irrespective of whether an MP belongs to a government party or not, he has to lobby amongst his fellow MPs in the corridors to create support for his particular motion. In this way, *motions approved* does not only measures legislative effectiveness, but also serves as proxy for the unobserved lobby effort by the legislator. Furthermore, while comparing the aggregate legislative effort index both including as well as excluding the motions approved indicator, no significant differences were found. More information on this variable can be found in table XXX of the appendix. Therefore, it seems to be a valid indicator of legislative effort, which is supported by Dal Bo & Rossi (2007).

6.3 Drivers of the party size effect

Sections 4 and 5 indicate a strongly significant negative effect of the main independent variable of interest, the party size, on legislative effort. A number of possible explanations for this result are discussed here.

Firstly, there is the direction Olson (1971) and Chamberlin (1974) offer: group size and collective good provision. Arguments that support this way of reasoning include; that as a group becomes larger in size, the free-rider problem becomes more dominant (Chamberlin, 1974), and that social coercive mechanisms will lose power as well (Olson, 1971). These factors could all contribute to the negative relationship between party size and the provision of legislative effort found in this study. However, a relevant question to ask is whether non-campaigning, non-fraction-related legislative work is a form of a (semi)collective good provision, as is studied in Olson (1971) and Chamberlin (1974).

An alternative driver of the negative party size effect could be caused by the fact that MPs of larger parties have a bigger opportunity to specialize in a particular topic as opposed to MPs of smaller parties who have to cover all topics simultaneously. This specialization effect implies that MPs of larger parties will only have to attend those meetings of their field of expertise and only

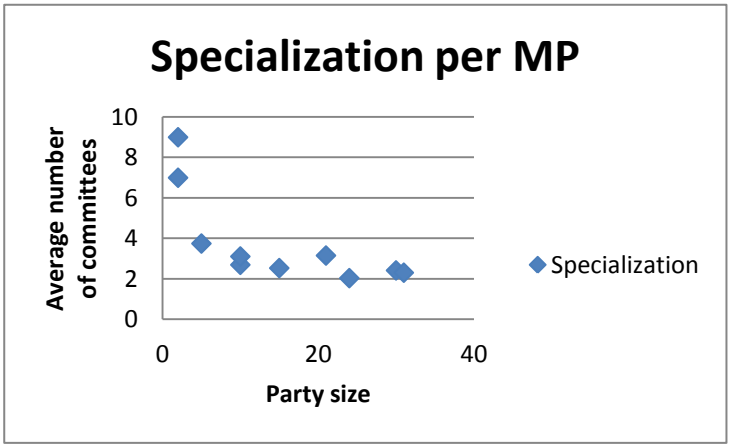
actively cooperate with bills and motions related to their area of interest. Accordingly, those MPs will score lower on the aggregate legislative effort index.

To examine whether the specialization hypothesis is feasible, the policy areas of specialization for all MPs of the 2010/2011 sample are investigated. In figure 2 found below, the average number of parliamentary committees in which an MP participates is specified per party. It can be observed that larger parties indeed seem to specialize more: i.e. the average MP of a large party is involved in fewer committees than the average MP of a small party. This seems to be related to the argument made by Garicano & Hubbard (2003) that individuals tend to specialize more as the market size increases. By no means can this be used as statistical significant evidence, but the figure does indicate towards specialization as a feasible explanation for what drives the party size effect.

Figure 2: Average number of committee's per politician, specified by party

Party	Party size	Average number of committees
CDA	21	3,1578947
CU	5	3,75
D66	10	2,7
GL	10	3,1111111
PVDA	30	2,4230769
PVDD	2	9
PVV	24	2,0416667
SGP	2	7
SP	15	2,5384615
VVD	31	2,3103448

Source: Parlement.com



6.4 Net earnings differences

Based on the indications of figure 2, I assume for now that large parties tend to specialize more and, as a consequence of that, MPs of those large parties exert less legislative effort. Taking into account that Dutch Members of Parliament get financed by taxpayers' money, it seems that there exists a discrepancy in net earnings between individual Members of Parliament. More specifically, a generalist of a small party who is involved in all meetings, motions and debates and thus exerts more legislative effort, receives the same compensation as a specialist of a large party who attends only debates related to his area of specialization and exerts less legislative effort accordingly. One might question whether this discrepancy in the earnings/effort ratio is fair and/or desirable. A comparison can be made with the private sector, in which there is also a degree of specialization amongst

employees. However, a private-sector specialist is often required to work as much as any other private-sector generalist. At least concerning pure legislative work, my data seems to suggest that this is not the case for the Dutch Lower Chamber. Since Dutch Members of Parliament are financed by general funds raised by taxpayers, it appears to be a justified question what and how MPs are doing for this compensation. A possible direction for future research could be to look further into the exact net earning differences between political party's generalists and specialists.

6.5 Reduction of total size

Another topic for discussion would be to lower the number of total seats in the Dutch Lower Chamber. This debate has recently gained relevance by the government's July 2012 proposal to decrease the Dutch Lower Chamber from 150 to 100 seats and the Dutch Upper Chamber from 100 to 75 seats respectively (Parlement.com, 2012). From an efficiency point of view, my results seem to suggest that politicians that work in smaller parties exert more legislative effort than those who operate in larger political parties. By decreasing the total number of seats, it is likely that the average party size also decreases. According to my results, average effort per politician then would increase. This seems to be an opportunity for an efficiency gain. The main point of concern is that the quality of the legislative work done by MPs is not maintained: With fewer seats left the workload might become too high to ensure the overall quality of legislation. However, there is little literature available that support this claim. Additionally, it cannot be stated with certainty that the average size of political parties would decrease when decreasing the total number of seats in the Chamber. It might be that in the new set-up of the Lower Chamber, small parties would fail to meet the (increased) minimum number of votes to obtain a seat in parliament. As a result, the larger parties may decrease in size, but this is set off by the disappearance of the smaller parties in parliament. The net efficiency gain is then unknown. Again, more research on this topic is desirable.

7. CONCLUDING REMARKS

This paper sets out to investigate the main drivers of legislative effort in a Dutch context. For this purpose, a unique dataset is composed of individual observations of legislative years 2008/2009 and 2010/2011 derived from both internal and public databases. Two hypotheses concerning legislative effort are formulated. One hypothesis argues that legislative effort exerted by a Member of Parliament falls as party size increases. This is mainly caused by a specialization effect. The second hypothesis claims that it is effort cost that is the determinant of legislative effort. This hypothesis states that legislators with a public-sector background face lower effort cost and thus exert more effort.

Firstly, an aggregate legislative effort index is constructed consisting of nine components that account for most important types of pure legislative effort. Then, the main variables *party size* and *politicians' background* are estimated making use of an OLS estimation technique. Several other potential relevant influences such as *age*, *ideology*, *freshman* and *government party*, are included as control variables.

A strongly significant diminishing negative relation is found between *party size* and legislative effort. Moreover, this result is similar across the nine separate measures for effort. Furthermore, the negative relationship is robust for various alternative specifications and estimation methods. The most plausible explanation for the party size effect is specialization. Legislators in large parties tend to specialize more in a specific field, which leads to an overall reduction of their legislative effort. Party leaders seem to exert less legislative effort, but this is probably due to their many other obligations (e.g. media) outside parliament.

For the second hypothesis, less conclusive evidence is found. The politician's professional background immediately prior to entering parliament does not seem to be a factor of importance in his aggregate legislative effort provision. When focusing on the specific use of instruments of parliamentary oversight, weak evidence is found for politicians with a public-sector background being more active. This is in accordance with Braendle & Stutzler (2012).

Based on above mentioned observations, it seems that, at least for the Dutch context studied here, legislative effort is more driven by specialization varying with group size, than by cost of effort caused by differences in legislators' backgrounds.

These findings give rise to a number of relevant political questions: Is it justified that political specialists seemingly work less than political generalists while both are paid the same wage from public resources? In addition, this study might be of use in the debate on the reduction of the total number of seats in the Dutch House of Representatives. Both topics are well-suited for further research.

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