

Public and Private Interest Politics

MASTER THESIS

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University of the Basque Country UPV/EHU: Faculty of Economics and Business

Alba Miguélez García

Supervisors: Aitor Ciarreta and María Paz Espinosa

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Abstract

This paper analyses the factors that influence politicians to enter politics. The objective of the project is to examine if the main motivation of politicians to enter politics is public interest or private interest. In order to do, we use data from the Spanish Congress of Deputies that includes personal and professional information about members of Congress of three different legislatures. We construct a multinomial logistic model so as to check the interest to enter politics by education and we find some evidence that lawyers enter politics because of private interest and the motivation of the rest of members with studies different from law, is public interest.



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1. Introduction and motivation

When analysing how markets work and which are the effects of public regulation on industries, the economic regulation is an important topic of research.

It is believed that certain markets do not work well by their own, markets do not always behave efficiently, and the social welfare is not necessarily maximized. The main reason for this is the existence of market failures. Therefore, a justification for regulation is to correct market failures; economic regulation is essential to make markets work well by reducing the inefficiencies generated by market failures and maximize the wellbeing of society.

The Government is seen as a benevolent planner who maximizes the society's wellbeing and intercedes in many ways in order to increase the efficiency and the competitiveness of markets but to what extent does the Government benefit some industries and disfavour others when it makes an intervention in the market?

There exist several types of market failures such as,

- Asymmetrical information: when consumers and producers do not have the same information about a product or a service. For instance, when signing an insurance contract, the company has less information about the behaviour of the consumer than the own consumer.
- Monopoly: when a producer has a lot of market power and it is the only producer of a product in the market, this implies that the price and the quantity produced is determined by the monopolist and not by the market.
- Externalities: situations where prices do not reflect the real cost because it is not clear the property of the resource. An example can be an industry that uses the water of the river to produce.

Applying regulation in these cases involves price controls, requirements to give the same information to consumers and producers, application of restrictions and this would involve big companies to lose market power or reduce benefits. As a result, companies would want to influence legislators to maintain their position at the market and not to be harmed (O. James; 1999).

Regulatory capture occurs when individuals or industries influence the legislation to obtain their objectives, when special interests of industries affect the state intervention and finally, industries end up manipulating the regulation. This may include monetary policy, the legislation that involves R&D or setting of prices and taxes (E. Dal Bó; 2006). So, when legislators are going to apply many mechanisms to correct market failures and prevent the abuse of monopolies, firms influence them to change the legislation in order to promote their interests and the regulation ends up being captured because politicians give preference to industries' interests (Cohn, 2019, in the Banking sector, Li et.al, 2019). Groups who put pressure on Government and use persuasion to achieve their objectives are known as lobbies (M.R. Borges; 2013).

Nevertheless, in other cases the Government does not meet the objectives of regulation of maximizing the social welfare and it is not because it is influenced by industries or groups of individuals. An explanation for this, is that the Government is formed by regulators who are influenced by their own interests and therefore, they give preference to their interests rather than the society's interests, this is the case of regulatory failure (M.R. Borges; 2013).

Market failures are not the only problem in the market and are related with regulatory capture which happens when regulators are influenced by lobbies and regulatory failure, when the regulators take into account their personal interests rather than public interests. Hence, applying regulation in order to correct market failures, involves other failures such as regulatory failure and regulatory capture.

Stigler's theory of economic regulation

George Joseph Stigler is known as the pioneer in public regulation, (Alcántara Sáez, M.; 2017), he is the author of the paper *The theory of economic regulation* (G.J. Stigler, 1971) in which states that industries and other groups use public resources and public regulation as a way to obtain a private benefit from it. Stigler believes that regulation serves private interests (G. Tullock; 1967).

The Government has the power to help some specific groups of industries or individuals at the expense of others, this is called the *power of coerce*. The main question that arises from the theory of economic regulation is who is going to benefit from the regulation, and what will be the effects of the regulation on the allocation of resources. Stigler argues that regulation is mainly designed and constructed for the benefit of some industries and this will have a positive effect on those industries but a negative effect on other industries. The reason why regulation favours private interests is because political institutions usually create incentives for politicians to focus on industries' interests and set aside society's interests. Regulation can be viewed as a mechanism to pursue your objectives.

Fundamentally, industries use four mechanisms from the Government to obtain benefits from the regulation and improve their economic status.

1. Subsidies: this is the most direct way in which firms can obtain profits from the Government. However, they are not the most demanded because firms usually must share the quantity they receive with other firms of the sector (G.J. Stigler, 1971).
2. Control over competitive entry: this type of regulation is much more preferred by firms than subsidies. Entry barriers allows industries of the market to protect their products and their status preventing the success of new firms. Also, this mechanism implies price controls which is related with the regulation of fixing prices. It is usual to set a higher price than the competitive price (G.J. Stigler, 1971).

3. Regulation of substitutes and complements: firms want a coercive power to control products that can be substitutes or complements to their products. This mechanism would favour monopolists (G.J. Stigler, 1971).
4. Fixing of prices: implies that the regulator administration is able to fix prices so that it can benefit some industries (G.J. Stigler, 1971).

Evidently, uncertainty is an important factor when firms make decisions and consider what will be the effects of regulation. Hence, firms when choosing the mechanisms have expectations about what will happen and the benefits that they will obtain with those mechanisms. However, powerful businesses and firms typically get in touch with political parties, to finance them on condition that regulation goes in their desire way. This process reduces the uncertainty of firms about the effects of regulation.

Taking into account the question formulated by Stigler, politicians' decision to enter politics is influenced by many factors that can be distinguished between public interest or political ambition and private interest.

Public interest to enter politics is represented by the motivation to serve the Government. People who enter politics because of public interest do not want something in exchange for politics and the only objective is to serve the legislation and the Government.

It can be vocational when someone feels politics as part of his life, altruism because the politician really wants to help society, familial legacy when being part of political family and you have a huge background in politics. In these cases, the main objectives are maximizing the social welfare or proposing several initiatives, promoting social laws, protecting public institutions, encourage climate change laws...that is, promoting social interests.

Regarding the private interest, the main motivation to enter politics is to obtain benefits from politics for the private life, to improve their economic status, obtain benefits from the regulation for the private practice, improve their labour status, and take advantage of being the authority to guide politics to their personal benefit. In these cases, they can use some mechanisms to their personal benefit.

Other important factors that politicians consider to stay in politics or not are: the probability of being named to a committee, the career opportunities in the private sector with respect to the public administration, the level of success as a member of Congress, (Keane and Merlo, 2007). Politicians compare their political position to the position that they would have in the private sector and evaluate which is the best option.

The term of duration of politicians in politics can be a good reference to look at and to check for example whether there is a tendency to be less time at the Congress or not, when politicians look for private interest. We can obtain additional information by analysing the reasons why politicians go out from politics and why people enter politics.

In the paper of Keane and Merlo, (2007) they analyse which is the impact of many policies on career decisions of members of U.S. Congress taking as reference the paper

by Diermeier, Keane and Merlo (2005). The policies alter wages of politicians. In this way, the objective is to check how monetary incentives and political ambition affects the career decisions of politicians. They found that *“20% reduction in the congressional wage disproportionately induces skilled politicians to exit Congress and the reduction of wages reduce the duration of congressional careers.”* Also, that congressional experience significantly increases wages in the private sector.

Besley, (2004) constructs a political agency model to see the effect of modifying the remuneration of politicians and if the modification affects the behaviour of politicians taking data about wages and the behaviour of members of parliament of the U.S. for over 40 years. They reach the conclusion that wages may not be the most relevant factor to enter politics but increasing wages increase the quality of politicians.

2. The Spanish Electoral System

In Spain the electoral system legislation is regulated by the Spanish Constitution of 1978 and it is formed by the General Electoral Regime Organic Law of 2011 (LOREG in Spanish) which is the updated version of the General Electoral Regime Organic Law of 1985.

There exist four types of elections: European elections, general elections, elections of the autonomous communities and local elections. In this paper we are going to focus on general elections which are held for the construction of the General Courts that are formed by the Congress of Deputies and the Senate which are the most important legislative organizations.

General elections are held every 4 years although the president of the Government of Spain can dissolve the General Courts and call for elections whenever is considered appropriate after a year of the last elections; this would be the case of motion of censure. Therefore, the term of members of parliament finishes after 4 years when the legislature finishes or when the General Courts are dissolved.

The Spanish Congress is formed by 350 Members in a legislature who represent 50 provinces and 2 Autonomic Cities, Ceuta and Melilla. The members are elected by universal suffrage, free, equal, direct and secret. Members are elected using the D'Hondt method at the province level to allocate seats. Each province has a minimum representation of two members of Congress but for Ceuta and Melilla that are represented by one member of Congress respectively and the rest are allocated proportionally to the citizens of each province. For all parties there is a minimum of 3% of valid votes (not null votes) in constituency, the province, to have a seat in Congress in order to represent a province.

The D'Hondt method has been criticized because it disadvantages small parties to obtain a seat and favours biggest parties. This method gives more possibilities to govern to more powerful parties than to small parties, an example for this is that at national level, a party with less votes can obtain more seats than a party with more votes.

X Legislature

The X legislature corresponds officially to the period from the 13th of December of 2011 to the 20th of December of 2015. However, the legislature lasted until the 13th of January of 2016. The Conservative political party, *Partido Popular (PP)* won the elections by absolute majority and Mariano Rajoy became the Prime Minister of Spain after Jose Luis Rodriguez Zapatero from the Socialist political party, *Partido Socialista Obrero Español (PSOE)* in the IX legislature. At this moment, Spain had been through the economic crisis of 2007 and this was an important factor which had an influence on the electoral results of the X legislature. Moreover, the Government had to focus on the problems caused by the economic crisis. The distribution of members of Congress by parties was: 185 members from the conservative party (*PP*), 110 members from the socialist party (*PSOE*), 11 members from the left party (*IU*), 5 members from the liberal party (*UPyD*), 21 from nationalists parties (*PNV and Convergència I Unió*) and 18 members from the mixed block.

XII Legislature

The legislature corresponds to the period from the 19th of July of 2016 to the 5th of March of 2019 after the dissolution of the General Courts due to anticipated call of elections. Before this legislature there was the XI legislature, but this legislature failed since it was not possible to invest a President of the Government, so it led to call for new elections and the XII legislature started with Mariano Rajoy as a president because the Conservative Party won with majority. However, during this legislature the Congress called a motion of censure against Mariano Rajoy by Pedro Sánchez from the Socialist Party and won the motion of censure which lead him to be the new president of the Government. The representation by parties at the Congress in this legislature with Pedro Sánchez as president was: 134 members from the conservative party (*PP*), 84 members from the socialist party (*PSOE*), 67 members from the left party (*Podemos*), 32 from the liberal party (*Ciudadanos*), 14 members from the nationalists parties (*ERC and PNV*) and 19 members from the mixed block.

XIII Legislature

The XIII legislature started the 21st of May of 2019. Given that this is the more recent legislature, the data about the members of Congress is limited. In this legislature, the socialist political party won the elections although no party obtain absolute majority and the political party VOX entered at the Congress for the first time. The distribution by parties at the Congress is as follows: 123 members from the socialist party (*PSOE*), 65 members from the conservative party (*PP*), 57 from the liberal party (*Ciudadanos*), 42 members from the left party (*Podemos*), 24 members from the far right party (*VOX*), 20 members from the nationalists parties (*ERC and PNV*) and 18 members from the mixed block.

3. Methods

In this section we present the data used for the empirical analysis which is obtained by the Transparency portal of the Spanish Congress of the Deputies¹ and then, we make a brief descriptive analysis.

3.1 Data

The Transparency portal of the Spanish Congress of the Deputies was established in 1979. Its aim is to give information about the General Courts and its Members to citizens and other organisms so that there is transparency. In the webpage it is available a huge amount of political information of the Congress and the Congress' Members such as the listing of all members from all legislatures, the salary obtained by each public service position, publications, political news, results of different elections, information about near events...

The data is obtained from the Members and Former Members: consolidated list and The Records of Members' Interests at the Spanish Congress which is available at The Transparency portal of the Spanish Congress of the Deputies. The enormous amount of information at the webpage allows us to make a study about the Congress Members and to construct different models to test various hypothesis.

We use data of three legislatures, the X legislature corresponding to the period 2011-2016, the XII legislature that corresponds to the period 2016-2019 and the XIII legislature, the current legislature. We do not use the data of the XI legislature because as it has been mentioned, in this legislature political parties were not able to form majority to form a Government and the legislature failed.

We have collected information about the 350 Congress' members in the X legislature, about the 393 Congress' members in the XII legislature and some information about the 349 Congress' members in the XIII legislature. Since in the XII legislature there were two different Governments, we have collected the total members of the Congress in that legislature, that is, the members that dropped out and the new members.

In this dataset there is information about each member of the Congress of the X and XII legislature, there is personal information as their age, gender, marital status, number of kids and professional information like the level of education, labour status, their political party, the province that they represent, the salary...

In the case of the more recent legislature, the XIII legislature, the dataset contains information about the political party, the age, the province that they represent and if they have been in other legislatures or not. However, there is no information about the education, profession, salary...of the members of Congress for the moment. Hence, we use data of the XIII legislature only for the descriptive analysis.

¹ Information about the Members of the Spanish Congress available at www.congreso.es

Next, we present descriptive statistics of the variables. Since we are going to estimate models to find out relationships between the variables, we distinguish dependent variables from explanatory variables.

Dependent variables:

- $educ_i$: it is a categorical variable with nominal outcomes. The categories represent the field of education of the members of Congress and cannot be ordered. The categories are coded as follows:
 - 1. Law: bachelor's degree in law.
 - 2. Business: bachelor's degree in business administration or economics.
 - 3. Arts: bachelor's degree in philosophy, philology, history, geography, journalism, political studies, teaching and sociology.
 - 4. Science: bachelor's degree in engineering, physics, chemistry, medicine, psychology, biology, architecture and informatics.
 - 5. Not university studies: if the person has not university studies.
- $Politician_i$: takes value 1 if the member of Congress is a professional politician and 0 otherwise. We consider a professional politician is the one who only works in politics during the legislature and has been in politics for 3 years or more.

Explanatory variables:

- $Lawyer_i$: it takes value 1 if the member of Congress has a bachelor's degree in Law and 0 otherwise.
- $Economist_i$: it takes value 1 if the member of Congress has a bachelor's degree in Economics and 0 otherwise.
- $Difeconlaw_i$: it takes value 1 if the member of Congress has a bachelor's degree different from Law and Economics such as teacher, philology, medicine, engineering...
- Age_i : is a continuous variable. Age of each member of the Congress in years.
- $Female_i$: takes value 1 if the member of Congress is female and 0 otherwise.
- $Married_i$: takes value 1 if the member of Congress is married and 0 otherwise.
- $kids_i$: the number of kids of each member of Congress.
- $Salary_i$: monthly salary of each member of Congress, it depends on the number of commissions and the position of the deputy, if it is president, vice-president, prolocutor or secretary of commissions or of the Congress, that is, the public service position.
- $Proposals_i$: number of total initiatives of each member of Congress during the legislature examined.
- CEO_i : takes value 1 if the member of Congress owns a firm or is a high executive and 0 otherwise.
- $Conservative_i$: takes value 1 if the member of Congress is elected by the conservative political party and 0 otherwise.
- $Socialist_i$: takes value 1 if the member of Congress is elected by the socialist political party and 0 otherwise.

- $Numberdeputies_i$: number of members of Congress in the province represented by the member.
- Rep_i : takes value 1 if the member has been in previous legislatures and 0 otherwise.
- $PublicSector_i$: takes value 1 if the member of Congress worked for the Public Sector before being a member of Congress and 0 otherwise.
- $Politics_i$: takes value 1 if a member from the X legislature has left the Congress and continues working in politics and 0 otherwise.

3.2 Descriptive analysis

In this section we make a descriptive analysis of the variables to have an idea of the composition and the values that can take each of them. Moreover, this is useful to the empirical analysis and the interpretation of the results. Table 1 reports the descriptive statistics for the X legislature and the XII legislature. There are 350 observations in the X legislature and 393 observations in the XII legislature although we do not have all observations for all variables.

Table 1: Descriptive statistics

Variable	Mean		Min. Max				N: number of observations	
	X	XII	X	XII	X	XII	X	XII
Age_i	49.49	53.54	26	74	25	77	349	393
$Female_i$	0.39	0.41	0	1	0	1	350	393
$Married_i$	-	0.38	0	1	0	1	0	393
$kids_i$	1.73	1.96	0	7	0	1	296	171
$Politician_i$	0.73	0.55	0	1	0	1	350	393
$Salary_i$	7005.04	6743.34	4637.7	37280.2	3889.97	38383.9	350	393
$Proposals_i$	56.36	215.33	0	1337	0	1	350	393
CEO_i	0.17	0.10	0	1	0	1	350	393
PP_i	0.57	0.39	0	1	0	1	350	393
$PSOE_i$	0.30	0.24	0	1	0	1	350	393
$Lawyer_i$	0.41	0.37	0	1	0	1	350	393
$Economist_i$	0.09	0.13	0	1	0	1	350	393
$Difeconlaw_i$	0.45	0.48	0	1	0	1	320	368

In the following illustrations we represent the percentages of economists, lawyers, professional politicians, CEO, people with university studies different from economics and law and the members of the conservative and socialist parties, respectively, in each legislature X and XII.

Illustration 1: Percentage of lawyers

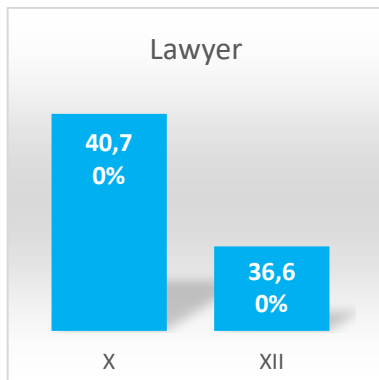


Illustration 2: Percentage of economists

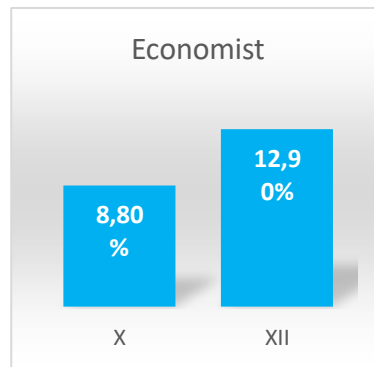


Illustration 3: percentage of people with studies different from economics and law

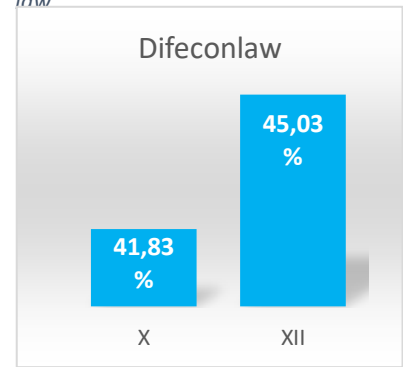


Illustration 4: Percentage of politicians

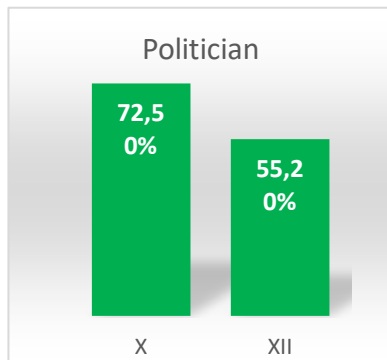


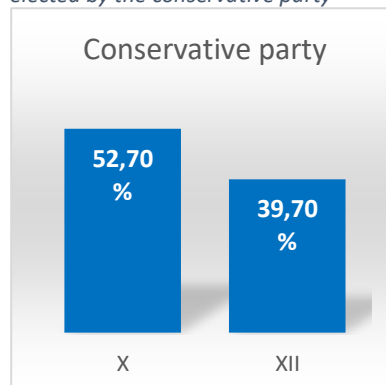
Illustration 5: Percentage of CEOs



Illustration 6: Percentage of members elected by the socialist party



Illustration 7: Percentage of members elected by the conservative party



In the XII legislature the number of females, economists, the number of kids, the age and members with studies different from law and economics increased. So, in this legislature there were more females and economists, and the members of Congress were older and had more kids on average with respect to the X legislature. Members with law studies decreased whereas the number of economists and people with studies different from law and economics increased.

An 8.6% of the members of Congress in the X legislature and a 5.4% of the members of Congress in the XII legislature had no university studies.

In the XII legislature there were fewer professional politicians, which means that less people worked only in politics. Specially, the percentage of professional politicians was reduced by 17% approximately. Also, the number of CEOs, high executives, was reduced in the XII legislature.

Note the difference in means of the number of proposals between both legislatures. In order to make a comparison between the proposals of each legislature, we divide the number of proposals by the number of months of each legislature. In the X legislature the deputies made on average 1.174 proposals monthly and in the XII legislature 8.26. However, the salary in the XII legislature was lower than in the X legislature, in the X legislature was about 7005.04€ and in the XII legislature was approximately 6743.34€ on average.

The salary is connected with the number of commissions and the position at the Congress; it is not related with the number of proposals. Moreover, there are two types of commissions, permanent commissions and not permanent commissions. Not permanent commissions are created for something specific and finishes when the work is completed. Nevertheless, the salary is the same for all commissions.

The number of members of Congress elected by Socialist and Conservative Parties was reduced in the XII legislature, the main reason for this is the entrance of new parties in Congress such as *Podemos* (left party), *Ciudadanos* (liberal centre party) or *ERC, PNV* (nationalist parties), we classify these parties as other political parties. Before the XI legislature most members of Congress were from the two main parties, Conservative or Socialist, because of the two-party predominance or bipartisanship.

Table 2 shows the percentage of deputies that have repeated legislature by political parties and legislature.

Table 2: Members of Congress by parties and legislatures

	Conservative party		Socialist party		Other political parties (left, liberal, nationalist)	
	XII	XIII	XII	XIII	XII	XIII
Legislature						
Number of deputies	156	66	98	124	139	160
Number of deputies who have repeated	65	39	33	39	16	55
Percentage of deputies who have repeated	41.6%	59%	33.6%	31%	11.5%	34%

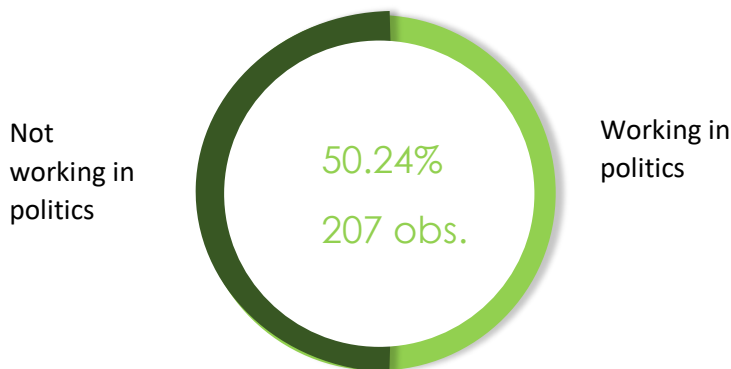
In the XII legislature the majority of members of Congress who have repeated legislature are from the socialist and conservative parties. A 41.6% of members of Congress from the conservative party were in other legislatures and a 33.6% from the socialist party, whereas only 11.5% members of Congress from other political parties have repeated.

In the XIII legislature the composition of the Congress by parties changes significantly. The number of deputies from the socialist party and other political parties increased relevantly, whereas the number of members of Congress from the conservative party was reduced. This change is caused partly by the entrance of new parties at the Congress.

In the XIII legislature a 34% of members of Congress from other political parties have repeated legislature. More than a half of members of Congress from the conservative party were in another legislature and a 31% from the socialist party repeated legislature.

On the other hand, we have collected data about the job of people who have left the Congress (*Politics_i*). Particularly, we have data about 207 members of Congress from the X legislature who have left the Congress since there is no information available for the rest of people about their current job. In the following illustration we can see the proportion of people who continue working in politics and the proportion of people who is not working in politics.

Illustration 1: Politics: Proportion of people who have left the Congress working in politics



We can observe that a 49.76% are not working in political position and a 50.24% continue in politics.

The proportion is very symmetric, approximately, half of the people who left the Congress are working in politics and the other half are not. Most people who left the Congress and continues working in political position are senators, Government advisers and councillors. Before being members of Congress the majority of them were mayors, Government advisers, councillors, university professors and Government assessors. So, most of them were working for the Public Sector before being a congressman.

Table 3 displays all provinces and the percentage of lawyers and economists over the total number of deputies in each province at Congress in each legislature. Highlighted provinces are those where there are more deputies. In the X legislature Madrid, Barcelona, Valencia and the Canary Islands had 35, 31, 16 and 15 members of Congress respectively and in the XII legislature 43, 36, 19 and 17 deputies. Is there any relationship between the province and the number of lawyers? Are there more lawyers in provinces with more deputies?

Table 3: Percentage of lawyers and economists by province and legislature

Province	X Legislature		XII Legislature	
	% Lawyers	% Economists	% Lawyers	% Economists
Alava	75.0%	0.0%	40.0%	40.0%
Albacete	25.0%	25.0%	40.0%	20.0%
Alicante	33.3%	8.3%	38.5%	30.8%
Almería	33.3%	0.0%	42.9%	0.0%
Asturias	25.0%	0.0%	22.2%	22.2%
Avila	100.0%	0.0%	66.7%	66.7%
Badajoz	33.3%	0.0%	37.5%	12.5%
Barcelona	51.6%	3.2%	38.9%	5.6%
Bizkaia	62.5%	12.5%	40.0%	20.0%
Burgos	50.0%	0.0%	50.0%	0.0%
Caceres	25.0%	0.0%	25.0%	0.0%
Cadiz	22.2%	0.0%	54.5%	0.0%
Cantabria	20.0%	20.0%	28.6%	28.6%
Castellón	40.0%	0.0%	33.3%	33.3%
Ceuta	100.0%	0.0%	100.0%	0.0%
Ciudad Real	40.0%	0.0%	40.0%	0.0%
Cordoba	66.7%	16.7%	62.5%	0.0%
Coruña	0.0%	25.0%	37.5%	25.0%
Cuenca	66.7%	0.0%	66.7%	0.0%
Gipuzkoa	50.0%	16.7%	16.7%	0.0%
Girona	50.0%	0.0%	14.3%	0.0%
Granada	42.9%	0.0%	42.9%	0.0%
Guadalajara	66.7%	0.0%	66.7%	0.0%
Huelva	80.0%	0.0%	40.0%	20.0%
Huesca	66.7%	0.0%	0.0%	33.3%
Islas Baleares	37.5%	0.0%	37.5%	12.5%
Islas Canarias	20.0%	13.3%	17.6%	11.8%
Jaen	50.0%	16.7%	42.9%	0.0%
La Rioja	25.0%	25.0%	50.0%	25.0%
Leon	100.0%	0.0%	25.0%	0.0%
Lleida	0.0%	0.0%	50.0%	0.0%
Lugo	50.0%	0.0%	25.0%	0.0%
Madrid	22.9%	17.1%	27.9%	23.3%
Malaga	40.0%	20.0%	18.2%	18.2%
Melilla	0.0%	0.0%	100.0%	0.0%
Murcia	30.0%	20.0%	30.8%	15.4%
Navarra	40.0%	20.0%	40.0%	0.0%
Ourense	75.0%	0.0%	75.0%	0.0%
Palencia	66.7%	0.0%	33.3%	33.3%
Pontevedra	0.0%	14.3%	12.5%	25.0%
Salamanca	75.0%	0.0%	75.0%	0.0%

Segovia	66.7%	0.0%	66.7%	0.0%
Sevilla	25.0%	16.7%	58.3%	8.3%
Soria	0.0%	50.0%	0.0%	50.0%
Tarragona	33.3%	0.0%	0.0%	16.7%
Teruel	66.7%	33.3%	0.0%	0.0%
Toledo	50.0%	0.0%	42.9%	0.0%
Valencia	43.8%	6.3%	36.8%	5.3%
Valladolid	80.0%	20.0%	33.3%	0.0%
Zamora	66.7%	0.0%	66.7%	0.0%

The percentage of lawyers was reduced in the XII legislature in provinces with more representation at the Congress, that is, the highlighted provinces, but for Madrid where the percentage of lawyers and economists increased from 22.9% to 17.1% and from 17.1% to 23.3% respectively.

In the case of Barcelona only the percentage of economists increased approximately by 2.4%.

In order to check if there exist any correlation between the number of deputies in the province and the percentage of lawyers the province, we estimate Model 1 by OLS (Ordinary Least Squares) for both legislatures. Then, we compute the significance tests to see if the number of deputies in the province is relevant to determine the number percentage of lawyers in that province.

$$\%Lawyers_i = \alpha + \beta deputies_i \quad (1)$$

We have tested before if there is any problem of heteroskedasticity in the models by computing the Breusch Pagan Test, in that case we would estimate the models by WLS (Weighted Least Squares),

$$\left\{ \begin{array}{l} H_0: \text{constant variance (homoskedasticity)} \\ H_A: \text{heteroskedasticity} \end{array} \right.$$

In both cases we fail to reject the null hypothesis of homoskedasticity since $p=0.14 > 0.05$ in the X legislature and $p=0.11 > 0.05$ in the XII legislature. Consequently, there is no problem of heteroskedasticity and the OLS estimation is consistent in both cases.

There are 52 observations that are the provinces and the autonomic cities of Spain.

The null hypothesis and the alternative hypothesis are,

$H_0: \beta = 0$ $deputies_i$ is irrelevant and there is no correlation between the number of deputies in the province and the percentage of lawyers.

$H_A: \beta \neq 0$ $deputies_i$ is relevant and there is a correlation between the number of deputies in the province and the percentage of lawyers.

Table 4 reports the estimation results of model 1.

Table 4: Estimation results of model (1)

$\%Lawyers_i$	X Legislature	XII Legislature
Constant	0.529 (0.05)	0.44 (0.05)
$deputies_i$	-0.009 (0.005)	-0.005 (0.003)

Notes: 51 observations. * denotes significance at 10% level, ** denotes significance at 5% level and *** denotes significance at 1% level. Standard errors in brackets.

In both cases, we do not reject the null hypothesis at 5% level of significance. Therefore, the coefficient of $deputies_i$ is not significant and there is no correlation between the number of deputies in the province and the percentage of lawyers in that province. We conclude that the number of lawyers in the province and the number of deputies in the province are independent.

4. Testing procedure

In this section we explain the methodology used to test the hypothesis that people enter politics because of private interest. Since we want to analyse if some studies are adequate for politics or if the person enter politics only because of private interest, we estimate a multinomial logistic model using a nominal variable $educ_i$ with nominal outcomes as dependent variable.

The initial model that we want to estimate is,

$$educ_i = \beta_1 + \beta_2 Politician_i + \beta_3 CEO_i + \beta_4 Proposals_i + \beta_5 Salary_i + \beta_5 Age_i + \beta_6 Female_i + \beta_7 kids_i + u_i \quad (2)$$

Nevertheless, we have tested if the variable $Politician_i$ is endogenous because being politician can be related with other variables related with the decision of being a professional politician or not such as, working at the public sector, the test is explained in the Appendix. We found that $p=0.046 < 0.05$ so we reject the null hypothesis that $Politician_i$ is exogenous in favour to the alternative hypothesis that the variable $Politician_i$ is endogenous. Then, the errors and the explanatory variable $Politician_i$ are correlated.

Thus, it is not consistent to include the variable $Politician_i$ in the model as an explanatory variable and we estimate the following logistic model in order to see if having worked in the public sector is significant to determine the variable $Politician_i$.

$$Politician_i = \beta_1 + \beta_2 PublicSector_i + u_i \quad (3)$$

The estimation results of the logit model are reported in Table 5.

Table 5: Estimation results of the equation (3)

Politician _i	Coefficient	Marginal effect, dx/dy
Constant	-0.088 (0.172)	
PublicSector _i	0.829*** (0.192)	0.186*** (0.041)

Notes: 731 observations. * denotes significance at 10% level, ** denotes significance at 5% level and *** denotes significance at 1% level. Standard errors in brackets.

The variable *PublicSector_i* is relevant at 0.1% level of significance, therefore having worked for the public sector before being member of Congress is significant to determine if the person is a professional politician or not. If the person has worked for the public sector the probability of being a professional politician increases, particularly, in 0.18.

Once we now the variable *PublicSector_i* is relevant to explain the variable *Politician_i*, it is possible to take it as an instrument of the variable *Politician_i* because most people who have worked in the public sector are professional politicians. Therefore, we estimate two models, model (4) excluding the variable *PublicSector_i* and model (5) with the variable *PublicSector_i* so as to compare the results. In addition, we have checked that there is no correlation between *PublicSector_i* and errors so as not to be a problem of specification.

The first model is,

$$educ_i = \beta_1 + \beta_2 CEO_i + \beta_3 Proposals_i + \beta_4 Salary_i + \beta_5 Age_i + \beta_6 Female_i + \beta_7 kids_i + u_i \quad (4)$$

The second model is,

$$educ_i = \beta_1 + \beta_2 CEO_i + \beta_3 Proposals_i + \beta_4 Salary_i + \beta_5 Age_i + \beta_6 Female_i + \beta_7 kids_i + PublicSector_i + u_i \quad (5)$$

We estimate the multinomial logistic model by Maximum Likelihood method (ML) and then, we make the following test for both models.

In order to test what is the motivation to enter politics we consider the following null and alternative hypothesis,

$H_0: \beta_3 = \beta_4 = 0$ the person enter politics because of private interest

$H_A: \beta_3 \neq \text{and/or } \beta_4 \neq 0$ the person does not enter politics because of private interest (public interest)

Proposals_i: the number of proposals represents the interest in politics of each member of Congress. If the person is looking for public interest rather than for private interest, we should obtain a positive and relevant coefficient is since the member would participate in more initiatives.

Salary_i: the salary is related with the number of commissions, the more commissions the higher salary, therefore, if the person enter politics because of public interest, the sign of the coefficient should be positive and significant. The salary is not related with the number of initiatives and the salary is the same for all commissions.

If the person enter politics because of private interest, we should obtain that the number of proposals and the salary are irrelevant because members in this case are not really interested in politics so, they are not going to take part in commissions and proposals.

On the other hand, we consider control variables, the age, the gender and the number of kids but these variables do not determine whether the person enter politics because of private interest or not.

Moreover, we cannot interpret the estimated coefficients, only their sign so, we compute the marginal changes of the variables for each category of the variable *educ_i* to see what the change in the probabilities is when there is a change in the variable. In the case of binary variables, the change is discrete from 0 to 1.

5. Results

The following table shows the estimation results from the multinomial logistic models.

The base outcome is outcome 1 (law studies); consequently, all coefficients are interpreted with respect to a person who has a bachelor's degree in law. We have 465 observations in the model excluding the variable *PublicSector_i*, model 4 and 459 observations in the model including *PublicSector_i*, model 5. The reason for not having 743 observations of the X and the XII legislatures, that is, all observations for each legislature, is that we do not have data for all observations of each explanatory variable.

Table 6. Estimation results of the models (4) and (5)

	Coefficient							
	2		3		4		5	
	Model (4)	Model (5)	Model (4)	Model (5)	Model (4)	Model (5)	Model (4)	Model (5)
Constant	-0.583 (0.758)	-0.45 (0.71)	0.368 (0.761)	-0.15 (0.83)	-1.63*** (0.456)	-1.13 (0.51)	-1.75 (0.572)	-1.64** (0.64)
CEO_i	0.708* (0.382)	0.63* (0.39)	-0.519 (0.412)	-0.52 (0.41)	-0.066 (0.405)	-0.19 (0.41)	-0.065 (0.44)	-0.075 (0.44)
$Proposals_i$	0.002** (0.0007)	0.002** (0.0007)	0.002** (0.0007)	0.002** (0.00)	0.001** (0.0007)	0.002** (0.00)	0.00077 (0.0009)	0.0008 (0.0008)
$Salary_i$	-0.152 * (0.08)	-0.15* (0.00)	0.03 (0.048)	0.04 (0.00)	0.05 (0.005)	0.46 (0.048)	-0.003 (0.00007)	0.035 (0.00)
Age_i	-0.002 (0.008)	-0.002 (0.005)	-0.033** (0.0149)	-0.034* (0.015)	-0.00048 (0.0019)	-0.0008 (0.001)	-0.0004 (0.002)	-0.00058 (0.002)
$Female_i$	0.133 (0.337)	0.11 (0.33)	-0.046 (0.278)	-0.054 (0.27)	0.168 (0.295)	0.189 (0.29)	0.589 (0.323)	0.58* (0.32)
$kids_i$	-0.045 (0.134)	-0.043 (0.14)	0.073 (0.121)	0.104 (0.12)	0.057 (0.115)	0.064 (0.12)	-0.056 (0.132)	-0.044 (0.13)
$PublicSector_i$		-0.22 (0.41)		0.62 (0.42)		-0.62* (0.34)		-0.162 (0.42)

Notes: 465 observations in model 4 and 459 observations in model 5. * denotes significance at 10% level, ** denotes significance at 5% level and *** denotes significance at 1% level. Standard errors in brackets.

For all categories but for the category of not university studies the more proposals the higher probability of having studies in business, arts and science with respect to law studies. Therefore, if the person has a bachelor's degree different from law, the probability of taking part in proposals increases. Note that the variable $Proposals_i$ is relevant at 5% level of significance in both models.

The salary and CEO_i are relevant at 10% level of significance only for people with business studies. The higher salary the lower probability to have business studies and if the person is a CEO the higher probability that the person has business studies.

For the rest of the categories, the salary is not relevant, so, the salary is not significant to determine the type of education at the Congress. There is no relationship between the studies and the salary.

Having worked for the Public Sector is relevant at 10% level of significance for science category (outcome 4). If the person has worked for the Public Sector reduces the probability of having science studies, that is to say, someone who has worked for the Public Sector is not probably that he has science studies.

These results imply a partial evidence of public interest for all members of Congress with university studies different from law because for all cases we obtain that $Proposals_i$ is relevant at 5% level of significance so, the more proposals the higher probability of having a bachelor's degree different from law and the salary is not significant in most cases. People who take part in more initiatives which means that they

are really interested in politics, are more probably to have business studies, arts studies or science studies.

The estimation results for not university studies category are not very clear, since we do not obtain significant results.

We also compute marginal changes for each outcome of the variable $educ_i$ in order to see what the change in the probability of each category is when there is a change in the explanatory variables. For binary variables the change is a discrete change from 0 to 1, this is the case of CEO_i , $Female_i$ and $PublicSector_i$.

In Table 7 are represented the marginal changes for each outcome of the variable $educ_i$, outcome 1 (law studies), outcome 2 (business studies), outcome 3 (arts studies) and outcome 4 (science studies). We do not compute the marginal effects for outcome 5, the category of not university studies, since we do not obtain significant results in the multinomial logit estimation.

Table 7. Marginal effects of models (4) and (5)

	Marginal effects, dx/dy							
	1		2		3		4	
	Model (4)	Model (5)	Model (4)	Model (5)	Model (4)	Model (5)	Model (4)	Model (5)
CEO_i	0.0051	0.004	0.103*	0.091*	-0.07	-0.07	-0.03	-0.02
$Proposals_i$	-0.0003**	-0.0004**	0.00008**	0.00008**	0.0001**	0.0001**	0.0001**	0.00015**
$Salary_i$	-0.0006	-0.0005	-0.017*	-0.016*	0.0061	0.0058	0.008	0.007
Age_i	0.003*	0.0027*	-0.0004	-0.0004	-0.004**	-0.005*	0.0008	0.0008
$Female_i$	-0.046	-0.046	0.003	0.00075	-0.025	-0.026	0.01	0.014
$kids_i$	-0.0048	-0.0078	-0.0061	-0.007	0.01	0.014	0.007	0.007
$PublicSector_i$		0.035		-0.016		0.093		-0.11*

Notes: 465 observations in model 4 and 459 observations in model 5. * denotes significance at 10% level, ** denotes significance at 5% level and *** denotes significance at 1% level. Standard errors in brackets.

We can observe that the marginal change of the number of proposals is very similar in all cases and in both models but for the category of law studies (outcome 1), because of the inverse relationship between the number of proposals and the category law studies.

Making 1 proposal more reduces the probability of being lawyer in 0.0003 in model 4, whereas increases the probability for the rest of the categories.

For science studies, an increase of 1 proposal more increases the probability of a member of Congress of having a bachelor's degree in science in 0.0001 in model 4 and having worked for the Public Sector before decreases the probability in 0.11.

In the case of lawyers there is a partial evidence of private interests, because they tend to make less proposals.

As we have mentioned, we find that in all categories of university studies but for law studies there is a partial evidence of public interest since the more proposals the more probability to have a bachelor's degree in business, arts or science. Members with business, arts and science studies are interested in politics because they tend to make more proposals.

6. Discussion

The aim of this paper was to analyse the motivation of people to enter politics. We have distinguished between public interest, which represents the real interest in politics and in maximising social welfare and private interest, which represents the use of politics as a way to obtain private benefits. This was previously discussed by many authors since regulation is an important element of politics and it is very related with regulatory failure and regulatory capture. Several researches about this topic suggested that economic benefits are not the most important factors of the motivation of people to enter politics.

In order to check what is the motivation to enter politics we have used a database about Spanish Congressmen of three different legislatures, X legislature, XII legislature and XIII legislature, which contains personal information about members of Congress and information about their professional career, to estimate two multinomial logistic models taking as a dependent variable $educ_i$, which has five categories of education. Like this, we have been able to observe if the type of education has an influence on the interest of people to enter politics, if some degrees are more desirable for politics than others or if there is a private interest behind it. Moreover, we have made a comparison between legislatures and we have observed that in the most recent legislatures the distribution of the Congress by parties has changed relevantly.

Along the estimating procedure we have dealt with endogeneity of the variable $Politician_i$, so we had to collect data about the decision of being a professional politician such as, if the person had been working in the Public Sector before being a congressman or not. We found that having worked for the Public Sector before was highly correlated with being a professional politician. Therefore, we estimated two models, a model excluding the variable $PublicSector_i$ and another model including it to compare the results. We also, computed the marginal changes of the probabilities to see what the change in the probabilities is when there is a change in the variable.

The estimation results indicated that the education is relevant to see what the motivation of people is to enter politics. Lawyers are partially motivated by the private interest since we have obtained that lawyers are less likely to make proposals whereas the rest of the education categories demonstrated a partial public interest in politics because they are more likely to make more proposals and take part in more initiatives. However, the salary is not relevant, so the education and the salary are not correlated.

Making one proposal more decreases the probability of being a lawyer at the Congress in 0.0003 and increases the probability of having a bachelor's degree in business in 0.00008, and arts and science in 0.0001.

In conclusion, in this paper we have detected significant differences between legislatures, and we have made an analysis about Spanish politicians' motivation. We have found evidence of the different influence of education on the interest to enter politics, depending on the type of education the interest in politics can vary. Another interesting study related with this paper would be to examine the factors that affect the decision of politicians to stay in politics.

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8. Appendix

Testing for endogeneity

In this section it is explained the testing procedure of endogeneity of the variable $Politician_i$.

If $Politician_i$ is endogenous, $Cov (Politician_i, u_i) \neq 0$.

The initial model is Model 2,

$$educ_i = \beta_1 + \beta_2 Politician_i + \beta_3 CEO_i + \beta_4 Proposals_i + \beta_5 Salary_i + \beta_5 Age_i + \beta_6 Female_i + \beta_7 kids_i + u_i$$

We take the reduced form for $Politician_i$, and estimate the reduced model taking all exogenous variables. $PublicSector_i$ is an additional variable which does not appear in the initial model.

$$Politician_i = \alpha_1 + \alpha_2 CEO_i + \alpha_3 Proposals_i + \alpha_4 Salary_i + \alpha_5 Age_i + \alpha_6 Female_i + \beta_7 kids_i + \alpha_8 PublicSector_i + \varepsilon_i$$

All explanatory variables of the reduced model are uncorrelated with u_i . Then, now $Politician_i$ is uncorrelated with u_i if and only if u_i and ε_i are uncorrelated. So, what we want to test is if u_i and ε_i are uncorrelated.

We introduce $\hat{\varepsilon}_i$ in the initial model, Model 2 and we estimate it. Finally, we check if the variable $Politician_i$ is endogenous or not by the test of endogeneity.

$$educ_i = \beta_1 + \beta_2 Politician_i + \beta_3 CEO_i + \beta_4 Proposals_i + \beta_5 Salary_i + \beta_5 Age_i + \beta_6 Female_i + \beta_7 kids_i + \beta_8 \hat{\varepsilon}_i + \epsilon_i$$

The hypotheses are,

$$H_0: E(\varepsilon_i, u_i) = 0 \text{ and/or } \widehat{\beta}_8 = 0 \text{ (} Politician_i \text{ is exogenous)}$$

$$H_A: E(\varepsilon_i, u_i) \neq 0 \text{ and/or } \widehat{\beta}_8 \neq 0 \text{ (} Politician_i \text{ is endogenous)}$$

We reject the null hypothesis that $Politician_i$ is exogenous in favour to the alternative hypothesis $Politician_i$ is endogenous since the estimated coefficient $\widehat{\beta}_8 \neq 0$ and the p-value of the test is $0.46 < 0.05$. Hence, the variable is endogenous.