Revisiting Responsibility Attribution within Multilevel Governments: The Role of Information[*]

ANA HERRERO-ALCALDE
JOSÉ MANUEL TRÁNCHEZ MARTÍN
Universidad Nacional de Educación a Distancia

MARÍA GOENAGA RUIZ DE ZUAZU
Universidad Complutense de Madrid

Abstract

Recent research has shown that citizens living in decentralized countries struggle to identify which level of government is designing and implementing public policies, thus hindering the due accountability process of democracy. This paper contributes to the literature on the determinants of citizens´ responsibility attribution by analyzing the Spanish case. A novel methodological approach is used by separately analyzing those citizens who fail to identify the competent level of government and those who did not even give an answer. Besides, two novel hypotheses are tested regarding the process by which information is transmitted to and absorbed by citizens: the impact of regional media and the territorial group bias. After confirming that the methodological strategy is correct, we find strong evidence that the existence of regional media helps responsibility attribution, thus fostering accountability; while co-official languages, used as a proxy of a group bias, hamper the process by which citizens identify the competent level of government.

Keywords: Visibility, responsibility attribution, decentralization, regional governments.

JEL Classification: H71, H72, H77

1. Introduction

Economic literature (Musgrave, 1959; Oates, 1972; Buchanan, 1965) suggests that a decentralized provision of public services can be more efficient than a uniform central provi-

important results of the different estimations will be shown in section four. Section five summarizes the main conclusions.

2. Theoretical framework and literature review

The literature on responsibility attribution within multilevel governments has been extensively developed after the seminal works of Anderson (2006), Arceneaux (2006), Cutler (2004 and 2008) and Rudolph (2003a and 2003b). The starting point of this literature was the theory of the retrospective economic vote (Powell and Whitten, 1993): citizens evaluate whether the current economic situation is better or worse than at the beginning of the legislature, and vote for or against the incumbent accordingly.

Therefore, information about public policies becomes a critical element of that accountability process. It is essential that citizens know which public agent is doing what. The reception of that information by citizens is contingent on three basic elements: institutional framework clarity (information at the point of origin), the saliency and framing of public affairs in the political debate and media (the transmission of that information), and the credibility of those agents transmitting the information from each citizen´s individual perspective.

1. Starting with *institutional clarity,* it seems impossible to have accountability if citizens do not know who to blame to. For that reason, the clearer the institutional design, the more intense the economic vote will be (De Vries and Giger, 2013; Cutler 2004 and 2008; Rudolph, 2003b; Anderson, 2006). It appears that when information is scarce or badly organized, partisan vote is activated (Malhotra and Kuo, 2008; Gómez and Wilson, 2007; Maestas *et al.*, 2008). Previous literature has extensively studied which characteristics of the political system can erode institutional clarity and thus hamper citizens' responsibility attribution (Powell and Whitten, 1993; Whitten and Palmer, 1999; Anderson, 2000 and 2006; Nadeau, Niemi and Yoshinak, 2002). For instance, when the legislative and executive powers are not clearly separated, citizens can struggle to identify which of them has made those decisions affecting their respective welfares. For the same reason, coalition governments can blur political responsibility.

   The economic vote is more complex when two or more levels of government are at place (decentralization), and even more in those cases in which several of them share powers over the same issue (Anderson, 2006; Cutler, 2004 and 2008; Wlezien and Soroka, 2011). Citizens' confusion can also be fostered by the existence of intergovernmental institutions. Furthermore, it seems that in a decentralized context, politicians have strong incentives to promote voters' confusion through a blaming-each-other game (Arcenaux, 2006; Hobolt and Tilley 2014a). According to León (2010a and 2010b), this game is less successful when the level of decentralization is very low or very high, with one level of government predominating over the other.

León (2010b) and Herrero, Goenaga and Ruiz-Huerta (2015), show that visibility is also affected by the kind of policies citizens are asked about. Accuracy in answers is larger when asked about monetary transfers than when asked about in-kind transfers. Differences are also observed among the latter, health care and education being closer and more visible than other public policies such as transportation or infrastructures. On the contrary, citizens struggle to visualize shared powers (León, 2015 and Herrero, Goenaga and Ruiz-Huerta (2015).

2. Even when institutional clarity exists, citizens absorb information mainly through media, which are the ones that select, frame it and transmit it. *Saliency* and *framing* of public policies will ultimately influence the amount of information reaching voters and will condition the ability of the latter to evaluate politicians (Arcenaux, 2006; Lago and Cordero, 2016, Ben-Porah and Shaker, 2010; de Vries and Giger, 2013). More specifically, Rudolph (2003a and 2003b) shows that media help citizens´ responsibility attribution by providing them information cues. In the case of decentralized frameworks, the presence of regional media -that devote a larger share of their broadcasts to local information- can foster the visibility of sub-central authorities and policies.

Media select and frame information largely influenced by contextual circumstances. One thing that has recently been studied is the impact of the economic crisis on the saliency of information and its effect on the visibility of public policies. Lago and Cordero (2016) have found that the saliency of the crisis has fostered economic vote, especially among those more affected by the economic downturn. And yet another thing that can boost saliency and help responsibility attribution is the presence of national or sub-central elections. Citizens can be more interested in public affairs during election campaigns, thus becoming more aware of the institutional framework; or even when they are not, at least they are more exposed to the information through the media.

Nevertheless, empirical evidence has been found that citizens can improve their knowledge about the institutional framework with a longer exposure to information. For the Spanish case, León and Ferrín (2007), Lago and Lago (2010 and 2013) and León (2012) offer some evidence on citizens´ learning process: the longer the devolution of powers, the higher the visibility of Autonomous Communities (ACs hereafter).

3. Finally, the selection of relevant information by citizens is also conditioned by the *credibility* they assign to politicians and media. Individual beliefs and ideology filter information, lowering opponents´ credibility and raising that of their own partisans. Partisan and group biases tend to reduce the use of information by citizens when they evaluate public policies and government responses to crises (Ben-Porah and Shaker, 2010; Hobolt, Tilley and Wittrock, 2013; Maholtra and Kuo, 2008; León, 2010b). In this context, we claim that individuals living in pro-devolution territories might absorb information regarding the vertical distribution of powers in a different way than

those residing in regions more reluctant to decentralized public sectors, irrespective of their individual beliefs.

On top of that, empirical literature has extensively demonstrated that individual heterogeneity explains a big share of the amount of information absorbed by citizens. Age, gender, race, habitat, human capital, income, political sophistication and several other individual characteristics condition the way information is absorbed by voters. Regarding the Spanish case, the high-skilled, most concerned about politics and public affairs, and with larger pro-decentralization preferences, tend to better identify the level of government responsible for providing public services and collecting taxes (León and Ferrín, 2007; López and Rodrigo, 2013, 2014 and 2015).
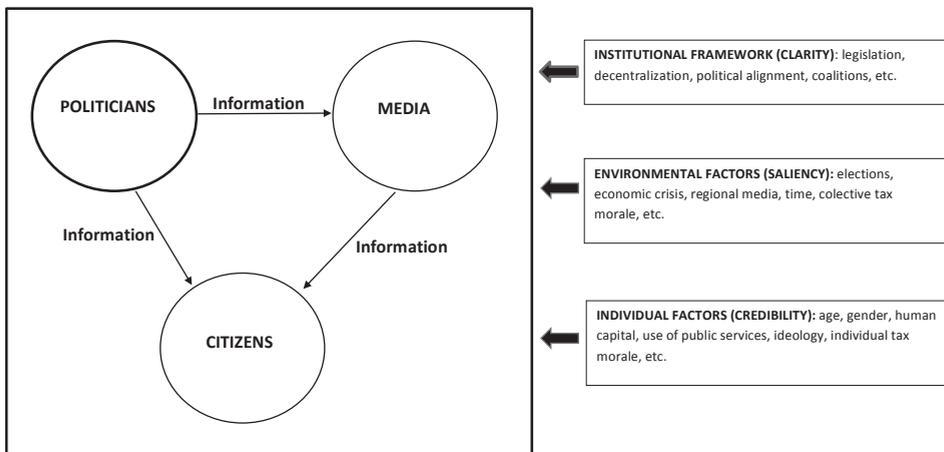

Figure 1: Information flow

Table 1
MAIN FINDINGS OF THE EMPIRICAL LITERATURE

	Geographical framework	Main findings
Anderson (2006)	Citizens from 33 countries	Institutional clarity fosters economic vote. Decentralization weakens responsibility attribution
Arcenaux (2006)	USA citizens	Institutional clarity helps responsibility attribution
Ben-Porah and Shaker (2010)	Experiment with USA citizens	Framing affects visibility. Evidence of group bias
Brown (2008, 2010)	USA citizens	Citizens use partisan shortcuts when attributing responsibilities when there is no political alignment of sub-central and central governments

(Continued)

	Geographical framework	Main findings
Cutler (2004, 2008, 2013)	Canadian citizens	Decentralization blurs responsibility attribution Institutional clarity helps visibility
Gómez and Wilson (2007)	Louisiana residents	Political sophistication leads to a more complex blame attribution
Hobolt, Tilley and Wittrock (2013)	Experiment with British citizens	Evidence on group bias among Eurosceptic voters Credibility of the source is critical for blame attribution
Hobolt and Tilley (2014a, 2014b)	European citizens from 27 UE members	Exclusive powers are easier to identify. Support for the EU generates group biases. Coalitions and low cohesion humper responsibility attribution
Lago and Cordero (2016)	Spanish citizens from 5 regions	Evidence on group bias. Institutional clarity and saliency of issues help responsibility attribution
Lago and Lago (2010, 2013)	Spanish citizens	Citizens learn. Exclusive powers or political alignment foster visibility. Coalitions hinder visibility
León (2010a, 2010b, 2012)	Spanish citizens	Citizens learn. The influence of decentralization on responsibility attribution has a U shape. Institutional clarity helps visibility. Evidence on group bias in pro-decentralization territories
León and Ferrín (2007)	Galician citizens	Citizens' learning is selective, more intensive in high-skilled and more concerned about politics citizens
León and Orriols (2016)	Spanish citizens	Clarity of responsibility improves regions' visibility
López and Rodrigo (2013, 2014, 2015)	Spanish citizens	Educated, older, working, concerned about regional or public affairs, living in more decentralized regions, citizens and public service users identify responsibilities the best
Maestas *et al.* (2008)	USA citizens	Evidence on ideological bias in blame attribution
Malhotra and Kuo (2008)	USA citizens	Ideology biases blame attribution, but citizens use information when available to avoid that bias
Rudolph (2003a, 2003b)	USA citizens	Evidence on ideological and partisan bias when lack of institutional clarity. Media provide information cues that help responsibility attribution
Schneider (2008)	USA citizens	Lack of institutional clarity hampers responsibility attribution
Tilley and Hobolt (2011)	Experiment with British citizens	Ideology biases responsibility attribution, although political sophistication reduces its effect
de Vries and Giger (2013)	Citizens from 26 countries	Political sophistication boosts economic vote, but the effect is minimized when saliency is large
Wlezien and Soroka (2011)	Canadian citizens	Federalism blurs responsibility

3. Responsibility attribution to Spanish regional governments: empirical strategy

3.1. Hypotheses, dependent and independent variables

As it has already been said before, the purpose of this paper is to enlarge our knowledge about which circumstances drive citizens´ responsibility attribution when evaluating public policies. To do so, data from the "Fiscal Opinion and Attitudes of Spanish Citizens" poll *Opiniones y Actitudes Fiscales de los Españoles*) published by the Spanish Institute of Fiscal Studies will be used. The analysis will focus on one question regarding the visibility of the three different levels of government that was included in its 2005, 2006, 2007 and 2010 waves[1]. As a result of pooling those four waves, 5,811 observations were available for the study.

Unlike previous literature on the topic, our subject of study will be those people who do not answer and those who answer incorrectly questions about which level of government is in charge of providing health care and education services in Spain. We claim that estimations in which non-response is coded as a missing value could result in biased results. Including the non-respondents is based on the idea that, to a good extent, those are the most extreme cases of low visibility regarding the vertical distribution of powers. Moreover, separately analyzing those who do not answer questions at all from those who give failed answers can improve our knowledge about the far from perfect process through which information reaches citizens[2].

The decision of choosing questions regarding health care and education services was based on their quantitative and qualitative importance within the regional public budget: they absorb more than sixty percent of regional expenditure, and they are supposed to be the closest and most visible ones for citizens[3].

Two different econometric approaches have been used to test our hypotheses[4]:

MODEL 1: Our dependent variable will be, in the first place, a dichotomous with the value 1 when one individual does not answer and/or misses the question and 0 otherwise. Due to the qualitative and dichotomous nature or the dependent variable, several logit specifications will be estimated to analyze which institutional and environmental character-istics influence the lack of visibility of regional governments. As it is well known, logit models solve the non-linearity problem of dichotomous dependent variables, in our case giving as outcomes the probability that a citizen i does not respond or fails to respond one question:

$$P[Y = 1|X] = \frac{e^{\beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \cdots + \beta_k X_{ki}}}{1 + e^{\beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \cdots + \beta_k X_{ki}}} \tag{1}$$

MODEL 2: Another approach that allows testing the robustness of the previous results is to run a multinomial logit model in which the dependent variable will be constructed by

classifying respondents into three groups. The reference group (0) would include those who do not answer one of the questions (either the health care or the education one), while group 1 would address those people failing to identify the competent level of government, and group 2 would include those who succeed in answering the question. The final target of this estimation would be to detect whether there are significant differences between groups 0 and 1, considering that most previous literature has studied them from an aggregated perspective. The multinomial logit model estimates as many equations as groups exist (j) and the resulting coefficients inform about the increase of probability of an outcome as compared to the reference group[5].

$$P_{ij} = \frac{e^{\beta_{0j}+\beta_{1j}X_{i1}+\beta_2 X_{i2}+\cdots+\beta_{kj}X_{ik}}}{1+\sum_{j=1}^{J-1} e^{\beta_{0j}+\beta_{1j}X_{i1}+\beta_2 X_{i2}+\cdots+\beta_{kj}X_{ik}}} \tag{2}$$

Regarding the explanatory variables, and connecting with the theoretical framework introduced in section number two, they can be classified into several groups:

1. From the perspective of institutional clarity, the influence of the institutional framework on the visibility of regional public policies has been tested with the following hypotheses:

– *Hypothesis 1: political alignment and coalition governments hamper responsibility attribution:* following previous literature, we claim that political circumstances can affect visibility. Voters can struggle in identifying which level of government is deciding public policies when there is political alignment of regional and national governments. For the same reasons, logrolling and coalitions make it more difficult to visualize agents taking decisions. To test this hypothesis, two dummy variables were included: Alignment and Coalition.

– *Hypothesis 2: the level of decentralization affects citizens' responsibility attribution.* The level and format of fiscal decentralization can also be a critical element in the way citizens evaluate information regarding public policies. Fiscal Federalism literature has always pointed out the need to decentralize both spending and taxing powers in order for citizens to better internalize the cost of public policies, thus fostering the economic vote we referred to above. As it is well known, one of the most relevant characteristics of the Spanish system of fiscal federalism is its asymmetric design: two regions (the Basque Country and Navarre) enjoy a much larger level of autonomy, collecting all the taxes in their respective territories. To test this hypothesis, we introduced a dummy variable (*Foral*) that captures the effect of a higher level of fiscal autonomy on citizens´ visibility of public policies.

2. From the perspective of saliency, there are multiple factors that can make information about regional public policies more abundant:

– *Hypothesis 3: political cycles help responsibility attribution:* one can expect that the political cycle increases saliency at certain points of time, due to larger amounts of

information available right before the elections, and a deeper interest of citizens in public policy. To test this hypothesis, we will be including a dummy variable referred to the regional electoral cycle, with the value 1 when it is an election year and 0 otherwise (Elections)[6].

– *Hypothesis 4: Regional media favor responsibility attribution*. Another element that could affect regional governments' visibility in the long term is their presence in media. Rudolph (2003b) claims that local media devote a larger share of their broadcasts to local information, including sub-central authorities´ activity, thus contributing to a larger visibility of regional policies. A dummy variable specified in two different ways will be included to test this hypothesis. First, it will take value 1 when the specific region had a TV station in that year, and 0 otherwise (*TVreg*). And second, and trying to address the fact that this media could have a long term effect, this variable will take value 1 for regions with a "first generation" regional TV station (those created during the 80´s), and 0 for the rest (*TVreg1G*)[7].

– *Hypothesis 5: the economic crisis increases saliency and helps citizens in identifying the competent level of government*. After the outbreak of the economic crisis in 2008, important cutbacks took place, increasing the saliency of regional health care and education policies, which were largely affected by them. A dummy variable (*Crisis*) amounting 1 in 2010 (first year in which cutbacks were implemented) and 0 otherwise (2005, 2006 and 2007) was included in the estimations[8].

3. Finally, from the perspective of credibility, we claim that both individual and group characteristics influence citizens´ visibility of regional governments. More specifically, we test whether living in a more pro-decentralization territory affects how citizens perceive sub-central policies (*Hypothesis 6: There is a group bias in pro-devolution regions*)[9]. Previous literature has found empirical evidence about the existence of a group bias that promotes citizens´ confusion in the responsibility attribution process. We think that, in the Spanish case, the main group bias to be found is the one existing in some of the so-called "historical regions", in which there is more support for the devolution process. This is a different approach than the one in, for instance, León (several papers), in which territories are classified as fast-track and slow-track devolution ones. We claim that the environment that biases citizens´ perceptions in Andalusia is not similar to that in Catalonia, both regions belonging to the first group.

Considering that a distinct co-official language is spoken in those territories in which pro-devolution preferences are prevalent, it could be used as a good proxy variable to capture the effect of this regionalist bias. Therefore, another dichotomous variable will be included, amounting 1 in those regions in which a co-official language exists (Balearic Islands, Catalonia, Valencia, Galicia, Navarre and the Basque Country), and 0 otherwise (*Language*).

Finally, several variables regarding individual and social characteristics will be used as controls: gender (*Gender*), age (*Age and Age*[2], to address an eventual nonlinear function), place of residence (*Rural*), human capital (*HCap*), ideology (*Ideology*), whether citizens are

users of the service or not (*UserHe* and *UserEdu*), citizens' evaluation of public services (*ServEval*) and their respective individual preference for centralization of the service (*CentHe* and *CentEdu*).

Finally, and after detecting collinearity between TVreg1G and Language in the correlation matrix, an interaction term has been generated (*TV*Language*) that will capture the simultaneous effect of the former variables.

3.2. Results

Tables 2 through 4 present the logit and multinomial model results (the respective odds ratios can be found in the Appendix). With respect to the first one[10], control variables have the expected signs and are significant in most of the cases. Age reduces the probability of no response or incorrect answer, but the relationship between both variables is nonlinear, becoming positive at a certain point. As previous research has suggested, men, high-skilled people, users and those who value public services the most, pro-decentralization citizens tend to answer correctly to a larger extent.

Regarding the hypotheses we wanted to test in this paper, there is strong evidence that institutional clarity affects visibility. First of all, and regarding Hypothesis 1, results suggest that political alignment of regional and central governments hamper citizens´ responsibility attribution regarding health care and education policies. However, we observe that political alignment fosters no response, but does not have an effect on failing the answer. Regarding coalitions at the regional level, results suggest that they do not affect responsibility attribution.

 About Hypothesis 2 (the level of fiscal decentralization affects citizens' responsibility attribution), results in Table 2 show that the special financial regime of Navarre and the Basque Country explains the higher visibility of regional governments in those territories. More specifically, the statistical significance and the negative sign of Foral points to the idea that a higher level of fiscal decentralization reduces the probability of a failed answer, while the lack of statistical significance suggests that it does not seem to affect no-response.

Our hypotheses 3, 4 and 5 intended to test the effect of saliency on citizens' responsibility attribution when analyzing regional policies. Regarding Hypothesis 3 (Political cycles help responsibility attribution), we observe that regional elections increase confusion (the odds ratio is 1.55 for health care and 1.40 for education services). This outcome, opposite to the expected one, could be explained by the blaming-each-other game played by regional politicians during election campaigns.

As for Hypothesis 4 (Regional media favor responsibility attribution), it seems that the existence of a first generation regional TV station clearly boosts the visibility of health care and education policies, thus reducing the probability of failing to attribute responsibility to

regional governments. Our results suggest that those exposed to local information the most reduce their probability of failure in a 31 and 26 percent for health care and education respectively.

Time effects were firstly introduced in the different specifications. However, none of them, with the exception of the dummy referred to 2010, was statistically significant. As a result of this, we reformulated the strategy and introduced Hypothesis 5 (The economic crisis increased saliency and helped citizens in identifying the competent level of government). The reason to proceed this way is that the outbreak of the economic crisis in 2008 lead to the implementation of important cutbacks in regional budgets. We hypothesized that a larger saliency of public policies due to those cutbacks could have affected sub-central governments' visibility. Evidence on this positive effect of austerity policies is shown in Table 2. Odds ratios in the Appendix suggest that the probability of failing to answer the questions about who is managing health care and educations policies is reduced around 50 percent.

Finally, the effects of credibility on citizens' lack of knowledge about the vertical distribution of powers were tested with the introduction of Hypothesis 6 (There is a group bias in pro-devolution regions). We claim that residents living in the most pro-devolution territories might have a perception group bias irrespective of their individual preferences for decentralization. This hypothesis was addressed with the introduction of a co-official language variable, the results of which suggest that there is a distorted perception of the devolution process: individuals living in pro-decentralization regions tend to underestimate sub-central powers. The probability of failing to identify the competent level of government is much bigger for both health care (the odds ratio amounts 3.08) and education (1.69) services

As we stated above, the correlation matrix points to the existence of a multicollinearity problem between *TVreg1G* and *Language*. To capture the simultaneous effect of both variables, an interaction term was introduced in the estimations. What we find is that the net effect in territories in which a first generation regional tv station and a co-official language co-exist is positive in terms of visibility: citizens living in those regions (Galicia, the Basque Country, Valencia and Catalonia) show a lower probability of failing the answer, with odds ratios of 0.46 and 0.52 for health care and education respectively.

All logit models show evidence that the drivers of no-response and failed answers are quite different. In order to test the robustness of this heterogeneity, a multinomial logit was estimated in which the reference group (0) included non-respondents, group 1 included those who gave an incorrect to answer one of the questions, and group 2 included the ones who correctly identified the competent level of government (see Table 3).

Table 4 repeats the former analysis, but separately analyzing the answers given to the two questions: columns 2 and 3 show the results of the model for the health care question, while columns 4 and 5 include the results of the model for the education one. Once again, the reference group (0) is non-respondents, while group 1 includes those giving a failed answer and group 2 includes citizens correctly identifying the competent level of government.

Table 2
RESPONSIBILITY ATTRIBUTION (LOGIT)

	No response + Incorrect answer Health Care	No response Health Care	Incorrect answer Health Care	No response + Incorrect answer Education	No response Education	Incorrect answer Education
Age	–.0484***	–.0934***	–.0166	–.0210*	–.1017***	.0116
Age²	.0004***	.0010***	.0001	.0002*	.0011***	–.0001
Rural	.0705	.1408	.0314	.1765*	.0567	.1616*
Gender	–.0979	–.3413**	–.0011	–.0457	–.2240	.0074
HCap	–.3899***	–.8054***	–.2020**	–.3648***	–.8245***	–.2008**
User (He/Edu)	–.3221***	–.0414	–.3149***	–.0857	–.2855*	–.0240
ServEval	–.4490***	–.2001	–.3875***	–.2913***	–.3726**	–.1964**
Cent (He/Edu)	1.4104***	–.8392***	1.5651***	1.2086***	–1.0341***	1.3786***
Elections	.4422***	.0522	.4220***	.3990***	–.0442	.4094***
TVreg1G	–.3580***	–.0123	–.3528***	–.2892***	–.0520	–.2770***
Language	1.1268***	.8859***	.6605***	.5258**	.9538***	.1663
Crisis	–.6395***	–.9632***	–.4306***	–.7232***	–1.5639***	–.4659***
Foral	–.5934***	–.4746	–.4420**	–.5605***	–.4727	–.4092**
Alignment	.1278	.2649*	.0521	.0389	.3238*	–.0339
Coalition	–.0077	.2264	–.0900	.1926*	.2722	.1059
TV*Language	–1.49.9***	–.7351*	–1.0918***	–.8545***	–.8362**	–.5432**
N	5811	5811	5811	5811	5811	5811
LR Chi²(16)	1104.15 (0.000)	210.93 (0.000)	1144.92 (0.000)	849.30 (0.000)	275.46 (0.000)	852.00 (0.000)

*Note: * $P<0,05$; ** $P<0,01$; *** $P<0,001$.*

Table 3
RESPONSIBILITY ATTRIBUTION (MULTINOMIAL LOGIT)
Reference Group: 0 (No response)

	Health Care		Education	
	Group 1	**Group 2**	**Group 1**	**Group 2**
Age	.0744***	.1089***	.0992***	.1037***
Age^2	−.0008***	-.0011***	−.0011***	−.0011***
Rural	−.1023	−.1571	.0402	−.1408
Gender	.3165**	.3667***	.2148	.2324*
HCap	.6235***	.9331***	.6627***	.9547***
User (He/Edu)	−.1346	.2055	.2503*	.3068**
ServEval	−.0214	.4305***	.2417	.5035***
Cent (He/Edu)	1.4955***	−.0747	1.5899***	.2399
Elections	.1727	−.2985*	.2572	−.1816
TVreg1G	−.1515	.2328	−.0837	.2183
Language	−.4865	−1.5358***	−.7804**	−1.1932***
Crisis	.6580***	1.2135***	1.2143***	1.8174***
Foral	.0909	.6476*	.1535	.6683*
Alignment	−.2350	−.3291*	−.3242*	−.3248*
Coalition	−.2423	−.1819	−.1907	−.3430*
TV*Language	.0766	1.5559***	.4516	1.2409***
N	5811		5811	
LR Chi^2(32)	1388.11 (0.000)		1148.19 (0.000)	

Notes: *P<0,05; ** P<0,01; ***P<0,001
Group 0: no response; Group 1: incorrect answer; Group 2: correct answer.

Once again, we observe significant differences among the three groups. Environmental and institutional variables seem to be almost irrelevant, while individual characteristics have strong explanatory power when comparing groups 0 and 1. However, when comparing groups 0 and 2 results suggest quite the opposite: external and environmental factors such as regional elections, regional media, etc., have a higher impact than individual ones on the probability of not answering the question.

4. Conclusions

Democratic systems need politicians being accountable to citizens. And for accountability to take place, it is essential that citizens are able to identify which public agent and which level of government is making collective decisions. That identification can be hindered by a

number of circumstances such as the institutional framework, the political environment, the existence and operation of media, and the individual characteristics of voters, to name only a few.

This paper tries to contribute to the literature on the visibility of sub-central governments within decentralized countries by presenting new evidence on the factors that influence responsibility attribution in Spain. Most of previous work on the topic has focused on the individual heterogeneity of voters and the influence of individual characteristics in the process of using information to decide the vote. On top of that, most of the existing research is focused on the characteristics of those individuals that succeed in identifying the competent level of government.

In this paper the focus is on those elements that affect the clarity of the institutional framework, those environmental factors that increase the saliency of regional public policies and those circumstances that affect the credibility of agents transmitting the relevant information. We found robust evidence that clarity, saliency and credibility are critical when citizens are absorbing information about the vertical distribution of powers.

Our groups of interest were both non-respondents and those who failed their answer, finding evidence that they are very heterogeneous groups. While the former are heavily influenced by individual characteristics, the latter are more affected by institutional and environmental factors.

Contrary to our expectations, results suggest that regional elections tend to confuse citizens, probably due to the blaming-each-other game played by regional politicians. Political alignment of central and regional governments seems to hamper responsibility attribution as well. On the contrary, results show that austerity policies applied during the crisis have fostered the accountability process, in line with previous literature on the topic (Lago and Cordero, 2016). This is probably due to the higher repercussion of public policy in the media.

Regarding the novel hypotheses we test in the paper, robust evidence was found that regional TV stations favor a correct responsibility attribution. And more specifically, the longer the exposure of citizens to regional information, the easier they identify who is providing health care and education services. Conversely, the existence of a co-official language seems to distort regional governments´ visibility, pointing to a group bias of citizens living in those territories in which pro-devolution preferences are more prevalent.

All in all, the results obtained in this paper confirm the previous empirical evidence that institutional clarity and saliency of intergovernmental affairs are critical in the process of responsibility attribution. Therefore, it seems that there is room to improve citizen's knowledge on the vertical distribution of powers by creating a more transparent institutional framework and by exposing them to more information about it.

Appendix

Table A.1
RESPONSIBILITY ATTRIBUTION (LOGIT). ODDS RATIOS

	No response + Incorrect answer Health Care	No response Health Care	Incorrect answer Health Care	No response + Incorrect answer Education	No response Education	Incorrect answer Education
Age	.9526	.9107	.9834	.9791	.9032	1.0116
Age^2	1.0004	1.0010	1.0001	1.0002	1.0011	.9998
Rural	1.0730	1.1512	1.0319	1.1931	1.0584	1.1754
Gender	.9067	.7108	.9988	.9552	.7992	1.0075
HCap	.6770	.4469	.8170	.6942	.4384	.8180
User (He/Edu)	.7245	.9594	.7297	.9178	.7516	.9761
ServEval	.6382	.8186	.6787	.7472	.6889	.8216
Cent (He/Edu)	4.0977	.4320	4.7831	3.3490	.3555	3.9695
Elections	1.5562	1.0536	1.5250	1.4903	.9567	1.5059
TVreg1G	.6990	.9877	.7026	.7487	.9492	.7579
Language	3.0859	2.4251	1.9358	1.6918	2.5956	1.1809
Crisis	.5275	.3816	.6500	.4851	.2093	.6275
Foral	.5524	.6220	.6427	.5708	.6232	.6641
Alignment	1.1363	1.3033	1.0534	1.0397	1.3824	.9665
Coalition	.9923	1.2541	.9139	1.2124	1.3128	1.1117
TV*Language	.2251	.4794	.3355	.4254	.4333	.5808

Table A.2
RESPONSIBILITY ATTRIBUTION (MULTINOMIAL LOGIT). ODDS RATIOS
Reference Group: 3 (double failure)

	Group 0	Group 1	Group 2
Age	1.0506	1.0386	.9957
Age^2	.9994	.9995	.9999
Rural	.8378	1.0416	.8519
Gender	1.1145	1.0845	1.0029
HCap	1.6664	1.0199	1.0150
UserHe	1.5957	1.1594	1.2209
UserEdu	1.0409	1.0369	1.1471
ServEval	1.6370	1.6970	1.2668
CentHe	.2583	.2638	1.7867
CentEdu	.5925	2.0356	.2521
Elections	.5732	.8395	.9137
TVreg1G	1.5210	2.0247	1.6695
Language	.3359	.2710	.9096
TV*Language	4.7977	4.0236	1.0652
Crisis	2.7341	2.1324	2.3968
Foral	2.2593	1.3960	1.3611
Alignment	.8995	.7310	.8776
Coalition	.8597	1.3014	.8722

Notes: Group 0: double success; Group 1: success only in the health care question; Group 2: success only in the education question; Group 3: double failure.

Table A.3
RESPONSIBILITY ATTRIBUTION (MULTINOMIAL LOGIT). ODDS RATIOS
REFERENCE GROUP: 0 (NO RESPONSE)

	Health Care		Education	
Age	1.0772	1.1151	1.1043	1.1093
Age^2	.9991	.9988	.9988	.9988
Rural	.9026	.8545	1.0410	.8685
Gender	1.3724	1.4430	1.2396	1.2617
HCap	1.8655	2.5423	1.9401	2.5980
User (He/Edu)	.8740	1.2282	1.2845	1.3591
ServEval	.9788	1.5381	1.2735	1.6546
Cent (He/Edu)	4.4617	.9279	4.9032	1.2712
Elections	1.1886	.7419	1.2933	.8339
TVreg1G	.8593	1.2622	.9196	1.2439
Language	.6147	.2152	.4581	.3032
Crisis	1.9309	3.3655	3.3679	6.1562
Foral	1.0951	1.9110	1.1659	1.9509
Alignment	.7905	.7195	.7230	.7226
Coalition	.7848	.8336	.8263	.7095
TV*Language	1.0796	4.7392	1.5708	3.4587

Notes: Group 0: no response; Group 1: incorrect answer; Group 2: correct answer.

Notes

1. No other years of the poll were available with the same responsibility attribution questions. We have been suggested to use data from the annual CIS poll in order to have a longer period of analysis. However, that poll includes questions that do not refer to specific regional powers such as the ones we analyze.

2. To our knowledge, previous literature has always specified the dependent variable as a dichotomous one (coding successful answers with 1 and 0 otherwise).

3. The exact question is: "Which level of government would you say is responsible, for example when filing a complaint, in the following services? a) The central government; b) The autonomous communities; c) the municipalities; d) It is a shared power."

4. The reason of using those two different econometric strategies is the need to check the robustness of the results. With model 1 we see that the drivers of non-responding and of giving failed answers are different. Once we have checked that heterogeneity in model 1, we have a case to use the second model.

5. We also run several ordered logit models, classifying citizens into three groups: those who did not answer the questions, those who answered incorrectly, and those who answered correctly. This was based on the assumption that non-responses represent more extreme cases of low visibility than incorrect answers. However, it is not such a straight forward assumption, because the drivers of not answering could be quite different from those of giving an incorrect answer, as the results of the logit and multinomial models suggested.

6. National elections were not included in the estimations because they were not held in none of the years under study.

7. Ideally, a continuous variable reflecting the annual share of regional tv stations should have been included instead. Moreover, local press figures could also be used. However, the association that offers these figures refused to share this information for our research, since it is only accessible for their clients.

8. After introducing temporal effects in the estimations, we observed that the year variables were not significant in any of the specifications, with the exception of the dummy of year 2010, possibly due to the crisis effect. This result pointed to the need to formulate this hypothesis. Although we have been suggested that 2010 could be too early to analyze the effect of the crisis, we claim that cutbacks –and their respective impact in media– had already been implemented for a while, thus helping citizens to identify the competent level of government in health care and education.

9. This is a quite different hypothesis than the one that tests whether individual preferences for decentralization biases citizens´ perception of public policies (that has already been tested in previous literature and that will be also included as a control variable). In our estimations, the contextual influence wants to be tested, while in the latter it is the individual preferences that are at stake.

10. The specification of the respective dependent variables goes as follows: results of column 2 refer to a model that uses as a reference group both non respondents and those giving wrong answers to the health care question; column 3 refers to the case in which the explanatory drivers of no response to that same question are analyzed; in column 4 the determinants of giving an incorrect answer are analyzed. Columns 5, 6 and 7 follow the same logic, but regarding the education question of the poll.

References

Anderson, C. (2000), "Economic voting and political context: a comparative perspective", *Electoral Studies* 19(2-3): 151-170.

Anderson, C. (2006), "Economic voting and multi-level governance: an individual-level analysis", *American Journal of Political Science,* 50(2): 449-463.

Arceneaux, K. (2006), "The federal face of voting: are elected officials held accountable for the functions relevant to their office?", *Political Psychology,* 27(5): 731-754.

Ben-Porath, E. and Shaker, L. (2010), "New images, race, and attribution in the wake of hurricane Katrina", *Journal of Communication,* 60(3): 466-490.

Brown, A. (2008), "Partisanship, blame, and divided federalism: how voters assess gubernatorial responsibility for the state economy", In: *8th Annual State Policy and Politics Conference*, Philadelphia, USA, 30-31 May 2008.

Brown, A. (2010), "Are governors responsible for the state economy? Partisanship, blame and divided federalism", *The Journal of Politics,* 72(3): 605-615.

Buchanan, J. (1965), "An economic theory of clubs", *Economica*, 32(125): 1-14.

Cutler, F. (2004), "Government responsibility and electoral accountability in federations", *Publius: The Journal of Federalism,* 34(2): 19-38.

Cutler, F. (2008) "Whodunnit? Voters and responsibility in Canadian federalism", *Canadian Journal of Political Science,* 41(3): 627-654.

Cutler, F. (2010), "The space between worlds: Federalism, public issues and election issues", *Regional & Federal Studies,* 20(4-5): 487-514.

Cutler, F. (2013), "Political conditions for voting with responsibility under multi-level governance", In: *European Consortium for Political Research General Conference*, Burdeaux, France, September 2013.

De Vries, C. and Giger, N. (2013), "Holding governments accountable: Individual heterogeneity in performance voting", *European Journal of Political Research,* 53(2): 345-362.

Gómez, B and Wilson, J. (2007), "Help us, please! Attributions of governmental responsibility in the wake of hurricane Katrina", In: *Annual Meeting of the Southern Political Science Association,* New Orleans, USA, 4-6 January 2007.

Herrero, A., Goenaga, M. and Ruiz-Huerta, J. (2015), "Finanzas autonómicas: visibilidad, transparencia y atribución de responsabilidades", *Papeles de Economía Española,* 143: 185-204.

Hobolt, S. and Tilley, J. (2014a), "Who's in charge? How voters attribute responsibility in the European Union", *Comparative Political Studies,* 47(6): 795-819.

Hobolt, S. and Tilley, J. (2014b) *Blaming Europe. Responsibility Without Accountability In The European Union*. Oxford: Oxford University Press.

Hobolt, S., Tilley, J. and Wittrock, J. 2013. Listening to the government: How information shapes responsibility attributions. Political Behavior 35(1): 153-174.

Lago, I. and Cordero, S. (2016) "The bright side of the economic crisis: the attribution of political responsibilities in hard times", *Canadian Journal of Political Science,* 49(1), 151-170.

Lago, I. and Lago, S. (2010), "Decentralization and electoral accountability", *Environment and Planning C: Government and Policy,* 28: 318-334.

Lago, S. and Lago, I. (2013), La atribución de responsabilidades políticas en Estados descentralizados. *Cuadernos Económicos del ICE,* 85: 44-63.

León, S. (2010a), "Who is responsible for what? Clarity of responsibilities in multilevel states: The case of Spain", *European Journal of Political Research,* 50: 80-109.

León, S. (2010b), "Leaking accountability on the way to federalism? The case of Spain", *Working Papers,* Centro de Estudios Políticos y Constitucionales, Spain, n.120/2010.

León, S. (2012), "How do citizens attribute responsibility in multilevel states? Learning, biases and asymmetric federalism. Evidence from Spain", *Electoral Studies,* 31: 120-130.

León, S. (Coord) (2015), L*a Financiación Autonómica. Claves Para Comprender Un (Interminable) Debate.* Madrid: Alianza.

León, S. and Ferrín, M. (2007), "La atribución de responsabilidades sobre las políticas públicas en un sistema de gobierno multinivel", *Administración & Ciudadanía,* 2(1): 49-75.

León, S. and Orriols, L. (2016), "Asymmetric federalism and economic voting", *European Journal of Political Research,* 55(4): 847-865.

López, J. (2011), *Beneficios y costes del Estado Autonómico.* Cuadernos Manuel Giménez Abad, 1: 34-42.

López, J. and Rodrigo, F. (2012), "¿Por qué los españoles son (moderadamente) autonomistas? Las ganancias regionales de eficiencia y la preferencia por la autonomía", *Ekonomiaz,* 81: 62-81.

López, J. and Rodrigo, F. (2013), "Nueva evidencia sobre atribución de responsabilidades sobre los servicios regionales y preferencia por la descentralización", *Working Papers,* Instituto de Estudios Fiscales, Spain, n.3/2013.

López, J. and Rodrigo, F. (2014), "Percepciones de los ciudadanos sobre las haciendas regionales: Quién es y quién debería ser responsable de los servicios e impuestos autonómicos", *Revista de Economía Aplicada,* 65: 1-28.

López, J. and Rodrigo, F. (2015), "Attribution of regional responsibilities for public services and citizen support of decentralization: Evidence from Spain", *Revista Española de Investigaciones Sociológicas,* 152: 65-86.

Maestas, C., Atkenson, L., Croom, T. and Bryant, L. (2008), "Shifting the blame: Federalism, media and public assignment of blame following hurricane Katrina", *Publius: The Journal of Federalism*, 38(4): 609-632.

Malhotra, N. and Kuo, A. (2008), "Attributing blame: The public´s response to hurricane Katrina", *The Journal of Politics,* 70(1): 120-135.

Musgrave, R. (1959), *The Theory of Public Finance: a Study in Political Economy*, New York: Mcgraw-Hill.

Nadeu, R., Niemi, R. and Yoshinak, A. (2002), "A cross-national analysis of economic voting: taking account of the political context across time and nations", *Electoral Studies,* 21: 403-423.

Oates, W. (1972), *Fiscal Federalism,* New York: Harcourt Brace Jovanovich.

Powell, G. and Whitten, G. (1993), "A cross national analysis of economic voting: Taking account of the political context", *American Journal of Political Science,* 37(2): 391-414.

Rudolph, T. (2003a), "Who's responsible for the economy? The formation and consequences of responsibility attributions", *American Journal of Political Science,* 47(4): 698-713.

Rudolph, T. (2003b), "Institutional context and the assignment of political responsibility", *The Journal of Politics,* 65(1): 190-215.

Schneider, S. (2008), "Who's to blame? (Mis) perceptions of the intergovernmental response to disasters", Publius: *The Journal of Federalism,* 38(4): 715-738.

Tilley, J. and Hobolt, S. (2011), "Is the government to blame? An experimental test of how partisanship shapes perceptions of performance and responsibility", *The Journal of Politics,* 73(2): 1-15.

Whitten, G. and Palmer, H. (1999), "Cross-national analyses of economic voting", *Electoral Studies,* 18: 49-67.

Wlezien, C. and Soroka, S. (2011), "Federalism and public responsiveness to policy", Publius: *The Journal of Federalism,* 41(1): 31-52.

Resumen

Recientes investigaciones han mostrado que los ciudadanos que residen en países descentralizados tienen dificultades para identificar qué nivel de gobierno diseña y ejecuta las políticas públicas, lo que erosiona el proceso de rendición de cuentas propio de la democracia. Este trabajo contribuye a la literatura que analiza los factores explicativos de la atribución de responsabilidades por parte de los ciudadanos, analizando el caso español. Para ello, se utiliza una estrategia novedosa, estudiando por separado a aquellos ciudadanos que identifican erróneamente al nivel de gobierno competente y a los que ni siquiera contestan a la pregunta. Además, se comprueban dos hipótesis novedosas relacionadas con el proceso por el cual la información es transmitida a y absorbida por los ciudadanos: el impacto de los medios de comunicación regionales y el sesgo territorial de grupo. Tras confirmar que la estrategia metodológica es correcta, encontramos evidencia de que los medios regionales contribuyen a una mejor atribución de responsabilidades, lo que refuerza la rendición de cuentas. Por otro lado, la existencia de lenguas cooficiales, utilizadas como proxy del sesgo territorial de grupo, dificulta el proceso por el cual los ciudadanos identifican al nivel de gobierno competente.

Palabras clave: visibilidad, atribución de responsabilidades, descentralización, gobiernos regionales

Clasificación JEL: H71, H72, H77