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Political Stubbornness and Online Local Budget Transparency in Croatia*[1]

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Abstract

Online local budget transparency (OLBT) has been recognized as an important feature of good governance. Accordingly, in this paper, OLBT is measured in all 128 cities and a sample of 100 municipalities in Croatia using several key local budget documents published on local government websites. Using a fixed effect Poisson panel model covering the 2013-2017 period, it is shown that along with residents' income and fiscal capacity of local governments, political ideology and political competition determine the level of OLBT. This paper contributes to the growing body of budget transparency literature by establishing the importance of political factors as determinants of OLBT in this former socialist, fiscally centralized EU member state and reveals the curious stubbornness of the citizens who consistently vote for non-transparent politicians. The main finding is that political factors (political ideology and political competition) matters in determining OLBT, resulting in suboptimal equilibrium of local governments with low levels of OLBT. The local incumbent concludes that OLBT is not a high priority and that his/her constituency will not hold it against him/her. In this environment such a conclusion stands owing to the fact that voters who are

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stubborn in their voting patterns refuse to change the incumbent who created nontransparency.

Key words: *online budget transparency, local government, Croatia, political economy, panel data model*

JEL classification: *H11, H70*

1. Introduction

Budget transparency (BT) and public participation are crucial for good governance (e.g., Lowatcharin and Menifield, 2015). A transparent budget can be properly analyzed, and its implementation can be easily monitored, enabling citizens to participate (meaningfully) in improving the efficiency and effectiveness of public policies, holding incumbents accountable for their electoral promises, and increasing citizens' trust in government (e.g., Piotrowski and Van Ryzin, 2007; Ríos, Benito, & Bastida, 2017). Although there are also some arguments against too much BT (see Kopits and Craig, 1998), BT has been encouraged or recommended by numerous international organizations (e.g., OECD, 2002).

Most existing research has focused on BT at the central government level (e.g., Ríos et al., 2013). However, one would expect the citizens to be more interested in local government expenditures, such as how much a local public transport system would cost or what could happen with a local playground.

The development of tools for disclosing financial information, enabled by information and communications technologies (ICT), has led to improvements in BT and accountability (Puron-Cid and Bolívar, 2017), and governments are increasingly publishing budget information online (Corella, 2011) using websites to inform citizens and/or for attempt to hear their voice.[5] Because of these changes, there is a growing interest focused on the determinants of online local fiscal/budget transparency (OLF/BT) (e.g., Lowatcharin and Menifield, 2015; Sedmihradská, 2015; Birskyte, 2018; Chen & Han, 2019). Unfortunately, so far, this trend has largely circumvented fiscally centralized post-socialist countries, such as Croatia. Possible explanations for the lack of interest in OLF/BT can be grouped into institutional design and citizens' attitude. Due to institutional settings, local government units (LGUs) in fiscally centralized post-socialist countries provide fewer public goods compared to their peers in fiscally decentralized countries. On the other side, citizens' themselves neglect their role in the budgetary process because they usually see public money as both "everybody's and nobody's" and think that there is no point in engaging into budgetary process (Ott and Bronić, 2015).

[5] The internationally comparable Open Budget Index recently also adopted online availability as the minimum necessary condition for determining the public availability of a key budget document International Budget Partnership (IBP) (2018).

But, due to importance of this topic, still since 2013 OLBT in Croatia is measured by the number of key local budget documents (executive budget proposal, citizens' guide and enacted budget) issued on time on local government websites (Ott et al., 2017). This paper contributes to the empirical assessment of OLF/BT by analyzing the importance of a set of political variables in Croatia and noting that citizens stubbornly vote for nontransparent politicians. The paper investigates two hypotheses. Firstly, that there is a negative and statistically significant relationship between a right-wing political incumbent and the level of OLBT. Secondly, that there is a positive and statistically significant relationship between political competition and the level of OLBT.

The paper is organized as follows. First, we present literature review regarding definition and determinants of OLF/BT and then, we present the methodology, empirical data and analysis, results and conclusions.

2. Literature review

2.1. Definition/measurement of OLF/BT

The first and probably the largest problem in the analysis of the determinants of OLF/BT most likely arises from the fact that there is no unique measure of OLF/BT, with authors defining and measuring it differently. Some authors argue that fiscal transparency (FT) "is a complex phenomenon to be measured by single variable or indicator" (Puron-Cid and Bolívar, 2017: 4) and that results, to some degree, always depend on the context in which the research is performed (e.g. Muñoz et al., 2016). Therefore, it is not easy to compare different results or determine whether the results could be valid for all or numerous LGUs in different countries. Several questions also arise as follows: should one focus on fiscal and/or budget transparency, online and/or hardcopy transparency, or mandatory and/or voluntary transparency?

Most studies in the literature focus on FT (e.g. Esteller-Moré and Otero, 2012), which is a broader concept than BT, although many authors use these concepts synonymously.[6] Other authors focus on even broader concepts, including corporate and social planning, decision making, policy information and/or policy outcome

[6] For example, OECD (2002: 7), defines BT as "the full disclosure of all relevant fiscal information in a timely and systematic manner", which rather resembles what a definition of FT should be. Kopits and Craig (1998: 1) define FT as "openness toward the public at large about government structure and functions, fiscal policy intentions, public sector accounts, and projections. It involves ready access to reliable, comprehensive, timely, understandable, and internationally comparable information on government activities – whether undertaken inside or outside the government sector – so that the electorate and financial markets can accurately assess the government's financial position and the true costs and benefits of government activities, including their present and future economic and social implications."

transparency (e.g., del Sol, 2013; Grimmelikhuijsen and Welch, 2012). Our research focuses only on budgets and budget transparency, similar to the research of the International Budget Partnership (IBP) (2018) and World Bank (2015).[7]

We have focused our research only on online local budget transparency owing to the fact that numerous authors focus only on OLF/BT (e.g. Esteller-Moré and Otero, 2012; Gandía and Archidona, 2008; García-Tabuyo et al., 2016; Gesuele and Metallo, 2017; Lowatcharin and Menifield, 2015; Pina et al., 2010; Serrano-Cinca et al., 2008; Styles and Tennyson, 2007; Tavares and da Cruz, 2014; Sedmihradská, 2015; Birskyte, 2018). However, there are some authors who analyze both online and hardcopy formats of information (e.g., Guillamón et al., 2011; Laswad et al., 2005), but some scholars pinpoint the fact that the determinants of each format vary and that this should be considered (see Muñoz et al., 2016).

Finally, Guillamón et al. (2011), del Sol (2013), Araujo and Tejedo-Romero (2016), and Araujo and Tejedo-Romero (2017) analyze both mandatory and voluntary transparency. Some authors distinguish between mandatory and voluntary transparency (e.g. Gandía et al., 2016; Gesuele and Metallo, 2017), while only a few authors focus entirely on voluntary disclosure (e.g., Laswad et al., 2005; Serrano-Cinca et al., 2008). This paper focuses on both mandatory and voluntary OLBT, defined as the possibility for citizens to obtain complete, accurate, and timely information presented in an understandable form about an LGU's budgets from its website (Ott et al., 2017). However, similar to da Cruz et al. (2016), this paper analyzes only the timely availability of documents, assuming that the disclosed information is complete, accurate and presented in an understandable form.

2.2. Explanatory theories of budget transparency

Numerous theories/hypotheses have been used to explain the differences in OLF/BT (principal-agent, neo-institutional, stewardship, fiscal illusion, legitimacy, rule-of law theory, and bureaucratic behavior model); however, for this work, principal-agent, legitimacy and rule-of-law theories are the most useful.

Principal-agent theory argues that the problem between a principal (citizens) and agent (politician) arises when a politician (better informed than citizens) puts his/her own interests before the contrary interests of the citizens whom s/he represents (e.g., Ferejohn, 1986). A politician's interests might include rents, such as re-election, the advancement of his/her political career, and the increase of his/her income (Zimmerman, 1977). Ferejohn (1986) notes that the politician chooses how to make his actions evident to the principal and assumes that the

[7] The World Bank (2015: 1) defines BT as "the extent and ease with which citizens can access information about and provide feedback on government revenues, allocations, and expenditures". A similar view has been described by the International Budget Partnership (IBP) (2018).

politician's compensation is derived in the form of rents that are proportional to the scale of government. Citizens are also self-interested, wanting to know what agents are doing with their money, and thus under the threat of being replaced, a politician is incentivized to choose a level of transparency above zero, leading to larger budgets. Similarly, to the principal-agent theory second generation of fiscal federalism models explain principals' motives assuming that politicians have goals that often diverge from maximizing citizens welfare and thus elections could allow citizens to influence their destiny by throwing bad politicians out. That threat of being thrown out of office incentivizes politicians to make decisions that honor citizens rights (Weingast, 2009). Furthermore, (Ferejohn, 1999) also argues that left-wing governments, wanting a larger public sector, are expected to implement even greater levels of transparency. Lassen (2000) notes that, in accordance with principal-agent theory, voters prefer more public goods and larger budgets when transparency increases.

Legitimacy theory claims that if an LGU's legitimacy is threatened, the LGU will disclose its information hoping that this will increase the LGU's legitimacy and the reputation of local public officials (e.g., Araujo and Tejedo-Romero, 2016; Hoffman, 2001). Alternatively, it could be argued that offering an image of good governance, as a response to external pressure is a way to secure the legitimacy of the LGU (Pina et al., 2010). Incumbents in LGUs with higher budgetary revenues might be more concerned about losing their positions and, consequently, have more interest in proving their efficient management by voluntarily disseminating information (Muñoz et al., 2016).

Rule-of-law theory argues that all government units must act in accordance with and within the limits of the law. It is further argued that the law should govern a nation (government) and not the arbitrary decisions of individual government officials (IAS Score, 2018). Accordingly, it is expected that if the publication of a key budget document is stipulated by law, more LGUs will publish it.

2.3. Development of hypotheses

The dominant drivers of OLF/BT have still not been identified, although different authors have used numerous socio-demographic, fiscal, and political variables (please see the remaining part of the section for these conclusions). The most commonly used socio-demographic variables are number/density of population, residents' wealth (income), and other characteristics of population, such as age, education, gender, unemployment, and access to the internet. Usually, the used fiscal variables are measures of a LGUs' wealth, debt, surplus/deficit, intergovernmental transfers, and tax revenues. Regarding political variables, authors use the ideology of the executive/legislative body in LGUs, different measures of political competition, and characteristics of a political leader (tenure, age, gender, etc.).

OLF/BT research mostly focuses on fiscally decentralized countries and rarely on fiscally centralized countries. Although the results are mixed, the following variables emerge as the most likely determinants: residents' income per capita (p.c.), LGUs' wealth (fiscal capacity)[8], access to the internet, political ideology, political competition, and population (see Stanić, 2018). Thus, by controlling for four socio-demographic and fiscal variables which will be explained under the methodology section (population, residents' income per capita, LGU's fiscal capacity, internet access), this work focuses on two political variables (ideology and competition), establishing their importance and effect on OLBT. Accordingly, two following hypotheses are developed.

2.3.1. Political ideology

It is argued that both left- and right-wing parties promote BT and that alteration of power motivates BT, as all parties want to ensure that they will have access to information should they be voted out of power (Wehner and de Renzio, 2013). In contrast, Gesuele and Metallo (2017) argue that the ruling party's political ideology may support a different e-government style and differently influence OLF/BT. Some other authors argue that left-wing parties are more transparent because they are more likely to expand public services and face greater transparency requirements from citizens (Caamaño-Alegre et al., 2013; Guillamón et al., 2011). del Sol (2013) also stressed that left-wing governments might be more sensitive to the need to provide BT. It is argued that according to both principal-agent and legitimacy theory, it is expected that LGUs that provide more public services publish more budget documents online.

Most authors find political ideology insignificant for OLF/BT (e.g., Esteller-Moré and Otero, 2012; García-Tabuyo et al., 2016), while Gandía et al. (2016) find that left-wing governments are more transparent. Accordingly, the following hypothesis is advanced:

H1. There is a negative and statistically significant relationship between a right-wing political incumbent and the level of OLBT.

2.3.2. Political competition

Several authors have found that different measures of political competition encourage incumbents to be more responsive to the electorate and offer more OLF/BT (e.g., Araujo and Tejedo-Romero, 2016; Esteller-Moré and Otero, 2012; Gandía and Archidona, 2008), while others have found political competition insignificant

[8] Fiscal capacity can be defined as the ability of an LGU to raise revenues for public spending on its territory Martinez-Vazquez and Timofeev (2008).

(Araujo and Tejedo-Romero, 2017; García-Tabuyo et al., 2016) or negatively correlated with OLF/BT (Laswad et al., 2005; Serrano-Cinca et al., 2008; Tavares and da Cruz, 2014). On the one hand, Piotrowski and Van Ryzin (2007) suggest that the voter turnout levels can be regarded as indicators of citizen involvement and commitment to participate in political matters, thus positively affecting OLF/BT. On the other hand Birskyte (2018) argues that higher local turnout does not necessary mean that pro-reform officials are elected, and that this is especially true when local elites are proficient in securing local votes for themselves and Araujo and Tejedo-Romero (2017) argue that lower levels of voter turnout may be incentives for incumbents to increase transparency.

Three measures of political competition (voter turnout, winning margin, and a Herfindahl-Hirschman-based measure of partisan fragmentation) are investigated. Some authors analyzing voter turnout find this variable insignificant (Serrano-Cinca et al., 2008; Tavares and da Cruz, 2014), while García-Tabuyo et al. (2016) obtained negative (for mandatory disclosure) and insignificant results (for voluntary disclosure). Birskyte(2018) again analyzing 60 Lithuanian municipalities reports that turnout at local election is negatively related to budget transparency. Esteller-Moré and Otero (2012) report that only in large municipalities (with more than 5,000 inhabitants) greater voter turnout is associated with higher OLF/BT. Da Cruz et al. (2016) report that higher margin of victory (i.e. lower political competition) negatively affects OLF/BT. García and García (2008) report that the Herfindahl-Hirschman-based measure of partisan fragmentation positively affects OLF/BT. Assuming that all three measures of political competition positively affect OLF/BT results, the following hypothesis is advanced:

H2. There is a positive and statistically significant relationship between political competition and the level of OLBT.

3. Methodology

The dependent variable (OLBT) is a count data variable ranging from 0 to 3. For each examined year, the variable measures if a LGU published on its website the executive budget proposal, the enacted budget, and the citizens' guide. If all three documents are published, then OLBT is equal to 3 for the respective LGU. The OLBT has a Poisson distribution, and the resulting model is a fixed effects panel data model. The following logic was used with respect to the fixed effect model. The paper was concerned with the fixed effects themselves (e.g. political ideology of the local incumbent) and thus the aim was to place interpretation on exactly this as the possible explanation of low level of OLBT. Additionally, one could reasonably expect that fixed effects (e.g. ideology) have a relationship with other right-hand side variables (e.g. income per capita, winning margin, etc.). Since

there are no strict rules regarding when deciding whether to use fixed or random effects, empirical research rests on several econometric tests. The majority of papers uses Hausman (1978) test, but by using this test they neglect some serious problems that come with the test (e.g. the test relies on iid error terms and in panel data this is rarely the case, it cannot be used with clustered or robust standard errors, it cannot include time-invariant variables, it is a chi-squared distributed variable and yet it can be negative, etc.). In order to address these problems, the paper used Mundlak Alternative as the best available test. Mundlak (1978) argues that if there is any correlation between the unit fixed effects and the covariates then the fixed effects model should be favoured over the random effects model. This was the rationale in this paper, when deciding on the appropriate model (fixed versus random effect). Mundlak (1978) suggests modelling the unit-specific effects as:

$$\alpha_i = \bar{x}_i\theta + v_i \tag{1}$$

$$E(\alpha_i \mid \bar{x}_i) = \bar{x}_i\theta \tag{2}$$

If $\theta = 0$ then there is no correlation between α_i and x_i. Results of the diagnostic tests are provided in the Appendix 2.

Furthermore, baseline Poisson regression equation with robust variance estimates is used:

$$OLBT_{it} = \alpha_0 + \beta_1 INC_{it} + \beta_2 FC_{it} + \beta_3 RIGHT_{it} + \beta_4 WM_{it} + u_{it} \tag{3}$$

where i denotes local unit and t time, α_0 indicates a constant, and β_i, i =1, 2, 3, 4 indicates the estimated coefficients of independent variables. Independent variables are: political ideology of right-wing parties (*RIGHT*) and winning margin (*WM*). Control variables residents' income per capita (*INC*) and fiscal capacity per capita (*FC*) have one-time lag, i.e., the OLBT in 2013 is explained by the 2012 *INC*. Although the OLBT variable is named e.g. OLBT 2013 because we are looking for the 2013 budget proposal, the 2013 enacted budget and the 2013 citizens' guide these documents should have been published in 2012, thus we are using one-time lag for all variables (except political). All political variables (ideology and competition) stem from the local elections held in 2009 (determining data for 2013) and 2013 (determining data for the 2014-2017 period). State and local elections are held every four years in Croatia. Since the local elections are always carried out in May, their effect on the examined publication of budget documents is shown only in the following year (the fiscal year in Croatia starts on January 1). Detailed description of independent variables is provided in Table 1 under Section 4.2.

Together with the baseline model, additional models are estimated that differ from the baseline model in the sense that they do not include *RIGHT*, which is

substituted with other ideological variables (*LEFT* – political ideology of left-wing party and *LIBERAL* – political ideology of liberal party) or an interaction variable (*RFCRIGHT* – the level of fiscal capacity in the richer LGUs with a right-wing incumbent).

Empirical controls

Fiscal control variable. Adequate fiscal resources are critical to enable LGUs to promote fiscal transparency online, and in that sense higher LGUs wealth enable LGUs to recruit better ICT equipment and skilled labor (Chen & Han, 2019). Attempting to determine whether an LGU's wealth has any impact on OLF/BT, authors have used different proxies e.g. own per capita revenues (Gandía and Archidona, 2008; Laswad, Fisher, & Oyelere, 2005; Chen & Han, 2019; Gandía, Marrahí, & Huguet, 2016) or budget/tax revenues per capita (Guillamón, Bastida, & Benito, 2011; Ma & Wu, 2011). Laswad et al. (2005) argued that LGUs with better fiscal conditions usually provide more budget information. Laswad et al. (2005) and Guillamón et al. (2011) find a positive relationship between LGUs wealth and OLF/BT, while others find this variable insignificant in all or only some models (e.g., Gandía and Archidona, 2008; Ma & Wu, 2011). Since all Croatian LGUs have relatively own per capita revenues, and negligible tax autonomy, i.e. they can autonomy decide about only one tax (public land use tax) and similar applies for non-tax revenues which usually earmarked we decided to use a measure of fiscal capacity as a proxy for LGU's wealth. Actually Laswad et al. (2005) also use as a proxy for LGUs wealth own revenue per capita (measured as general revenues other than intergovernmental transfers) which is very similar to our measure of fiscal capacity. Fiscal capacity in this work is measured by an LGU's per capita current (operating) revenues minus grants. It is expected that LGU's fiscal capacity enhances its level of OLBT.

Socio-demographic control variables. We employ residents' income, population and internet access as control variables. According to Piotrowski and Van Ryzin (2007) and Styles and Tennyson (2007), residents with higher incomes have more access to and experience with the internet and, thus, demand more OLF/BT. As several authors have shown that residents' per capita income is an important determinant of OLF/BT (e.g., Lowatcharin and Menifield, 2015; Styles and Tennyson, 2007), it is used as a control variable. Mentioned authors find a positive impact of residents' per capita income on OLF/BT; therefore, it is expected that higher residents' income per capita is associated with higher the level of OLBT. Most authors argue that larger populations have larger budgets, more access to the internet and the ability to demand greater OLF/BT (e.g., García-Tabuyo et al., 2016); thus, this variable is used as a control variable. Larger cities usually have higher budgets for IT and larger administrative staffs, enabling them to achieve higher levels of OLF/BT (e.g., Caamaño-Alegre et al., 2013). Serrano-Cinca et al. (2008), Styles and Tennyson (2007) and Gesuele

and Metallo (2017) find a positive and statistically significant relationship between OLF/BT and the number of inhabitants. However, Esteller-Moré and Otero (2012) find a nonlinear relationship (in small municipalities, the relationship is negative, while it becomes positive for larger populations – arguing that this might reflect the greater capabilities of very big municipalities to fulfil their legal obligations), while García-Tabuyo et al. (2016) and Gandía and Archidona (2008) find population to be insignificant. In Croatia, most LGUs experience depopulation, and thus it is excepted that higher population size is associated with lower level of OLBT. Araujo and Tejedo-Romero (2017), among several other authors, argue that there is a positive relationship between internet access and the demand for OLF/BT. As the focus of this work is on the internet availability of budget documents, and several authors report that internet availability positively affects OLF/BT (e.g. Lowatcharin and Menifield, 2015), internet access is included as a control variable. However, it should be noted that García-Tabuyo et al. (2016) reported a positive effect of internet access on mandatory disclosures and a negative effect on voluntary disclosures. Still it is expected that access to the internet enhances the level of OLBT.

4. Empirical data and analysis

4.1. Local governments in Croatia

Croatia is divided into 20 counties (regional level), 128 cities and 428 municipalities (local level).[9] LGUs' obligations to publish their enacted budgets and midyear and year-end budget reports online is regulated by the Budget Act (2012) and the Act on the Right of Access to Information (2013), while the recommendation for publishing executive budget proposals and citizens' guides online can be found in the Ministry of Finance (2012) Recommendation. However, there are no sanctions for LGUs that do not fulfill these legal requirements or recommendations. In this work, the online publication of one mandatory document (enacted budget) and two recommended (voluntary) documents (the executive budget proposal and citizens' guide) are investigated because, for the 2013-2014 period, we do not have data about the publication of relevant midyear and year-end budget reports.

4.2. Sample, independent and dependent variables

The sample includes all Croatian cities (128) and a random sample of 100 municipalities.[10] To confirm or reject the stated hypothesis, the independent variables

[9] As the capital, Zagreb has a special status as both a city and county. In this work, Zagreb is classified as a city.

[10] For more details about the selected sample, see (Ott et al., 2017). Counties were excluded in this article due to the small variability in their levels of OLBT, while the number of 100 municipalities is

are collected and classified into the following three groups: control, political ideology and political competition variables as shown in Table 1.

Table 1: Definition of variables

Variable	Description	Source
Independent, control		
POP	a logarithm of the population estimates for the municipality/city (2012-2016)	Croatian Bureau of Statistics (CBS) (2017)
INC	a logarithm of the average residents' income per capita (2012-2016)	(Croatian Bureau of Statistics (CBS), 2017; Ministry of Regional Development and EU Funds 2017)
FC	a logarithm of annual fiscal capacity per capita calculated as operating revenues minus all grants (after the changes in the personal income tax system in 2015 and 2016)*	(Croatian Bureau of Statistics (CBS), 2017; Ministry of Finance 2017)
INTERNET	the percentage of households with broadband internet access and data transmission speeds of 2 Mbit and more (2012-2016)	Croatian Regulatory Authority for Network Industries (2018)
Independent, political ideology		
RIGHT	dummy variable denoting the political ideology of right-wing parties, with a value of 1 if the incumbent is a member of the Croatian Democratic Union (HDZ), Croatian Peasant Party (HSS) or a coalition in which these parties participate (2009 and 2013 local elections)	State Electoral Commission (2009), State Electoral Commission (2013)
LEFT	dummy variable denoting the political ideology of left-wing party, with a value of 1 if the incumbent is a member of the Social Democratic Party (SDP) or a coalition in which this party participates (2009 and 2013 local elections)	State Electoral Commission (2009), State Electoral Commission (2013)
LIBERAL	dummy variable denoting the political ideology of liberal party, with a value of 1 if the incumbent is a member of the Istrian Democratic Assembly (IDS) or a coalition in which this party participates (2009 and 2013 local elections)	State Electoral Commission (2009), State Electoral Commission (2013)
RFCRIGHT	the level of FC in the richer LGUs with a right-wing incumbent* (2009 and 2013 local elections)	Ministry of Finance (2017) and State Electoral Commission (2009), State Electoral Commission (2013)

determined by the fact that, in 2013, a random sample of 100 municipalities was chosen for measuring the dependent variable (OLBT). In 2013 and 2014, there was simply no capacity to measure OLBT for all 428 Croatian municipalities.

Variable	Description	Source
Independent, political competition		
WM	winning margin or difference in the percentage points between the incumbent and the runner up in the first round of elections (2009 and 2013 local elections)	State Electoral Commission (2009), State Electoral Commission (2013)
TOV	turnout of voters in percentages in the local elections (2009 and 2013 local elections)	State Electoral Commission (2009), State Electoral Commission (2013)
HHGOV	Herfindahl-Hirschman index of the local assembly calculated as the sum of the squared seat shares of two biggest parties/coalitions in the government (2009 and 2013 local elections)	State Electoral Commission (2009), State Electoral Commission (2013)
Dependent variable		
OLBT	a simply constructed data count index ranging from 0 to 3 measured by the annual number of the three local documents – executive budget proposal, enacted budget and citizens' guide – published on the website of each municipality and city (2013-2017)	Ott et al. (2017)

Note: *From January 1, 2015, to January 1, 2016, there were two changes in the personal income tax sharing system between central and local governments (one big and the other smaller one affecting only a small fragment of LGUs).

Source: Authors' systematization

The control variables include population (*POP*), residents' income per capita (*INC*), fiscal capacity per capita (*FC*), and internet access (*INTERNET*). The political ideology variables are political ideology of right-wing parties (*RIGHT*), political ideology of left-wing party (*LEFT*), political ideology of liberal party (*LIBERAL*), and the level of fiscal capacity in the richer LGUs with a right-wing incumbent (*RFCRIGHT*). Political competition variables are winning margin (*WM*), turnout of voters in percentages in the local elections (*TOV*), and a Herfindahl-Hirschman index of the local assembly (*HHGOV*).

Table 2 provides descriptive statistics for the dependent variable OLBT and the remaining nine independent variables in the 2013-2017 period. The first part refers to the total sample (128 cities and 100 municipalities), while the second and third parts refer to the city and the municipality sample, respectively. Variables *TOV* and *HHGOV* are not included in the further analysis since they do not significantly contribute to the explanation of the dependent variable.

Table 2: Descriptive statistics

	Obs.	Mean	Std. Dev.	Min.	Max.
OLBT	1135	1.179736	0.9216837	0	3
INC	1135	10.10154	0.2850981	9.100087	10.87998
FC	1135	3.074513	3.788127	0	9.307621
RIGHT	1135	0.5127753	0.5000571	0	1
WM	1135	23.26525	21.32724	0	100
POP	1135	8.65628	1.119838	5.666427	13.59692
INTERNET	1135	46.02301	15.67744	0	116.3099
City sample*					
OLBT	635	1.407874	0.9342422	0	3
INC	635	10.22643	0.1925057	9.719073	10.73738
FC	635	3.150535	3.876562	0	9.307621
RIGHT	635	0.4897638	0.5002893	0	1
WM	635	19.71543	16.29036	0	100
POP	635	9.325669	0.9700605	7.31322	13.59692
INTERNET	635	49.86477	13.59638	12.60288	112.6886
LEFT	635	0.2062992	0.4049668	0	1
RLFCPCRIGHT	635	2.235401	3.592336	0	10.17448
Municipality sample					
OLBT	500	0.89	0.8192939	0	3
INC	500	9.942934	0.3042644	9.100087	10.87998
FC	500	2.977965	3.674339	0	9.080471
RIGHT	500	0.542	0.4987319	0	1
WM	500	27.77352	25.69238	0	100
POP	500	7.806155	0.5999088	5.666427	9.350711
INTERNET	500	41.14398	16.76762	0	116.3099
LIBERAL	500	0.026	0.1592945	0	1

Note: *Popovača was classified as a municipality in 2013 when the project started (collecting the data and observing on-line local budget transparency) and remained in that sample in this analysis. Consequently, there are 127 cities in our sample.

Source: Authors' calculations

In the 2013-2017 period, cities and municipalities, on average, published 1.2 out of 3 documents (so, it can be concluded that they are not very transparent). The mean value of OLBT is almost 50% higher in the city sample than in the municipality sample, while the mean value of the total sample is situated between them. The similar finding applies for two control variables (*INC* and *FC*), while in the case of variables that denote ideology (*RIGHT*) and political competition (*WM*), one can

report exactly the opposite. The mean value of right-wing ideology (*RIGHT*), and especially of the variable (*WM*), is higher in the municipality sample than in the city sample, pointing to lower political competition and the stronger presence of right-wing ideology at the municipality level. Additionally, in approximately 50% of the analyzed LGUs in both the 2009 and 2013 elections, the right-wing incumbent was elected.[11] Mean values of POP (log value of population) and INTERNET point to the expected conclusion since they are higher in city sample compared to the municipality sample

In addition, on average, in the period 2013-2017, 33% of the analyzed LGUs published budget proposals, 70% enacted budgets and only 12% citizens' guides. Obviously, in accordance with rule-of-law theory, more LGUs have published mandatory documents (enacted budget) than voluntary documents (budget proposal and citizens' guide).

Table 3 shows the results of panel model estimations with fixed effects based on the Poisson distribution.[12]

Six models are presented; of these, a baseline model is estimated in all three samples: total (city plus municipality), city, and municipality subsamples. In addition, two models are estimated in the city sample and one model in the municipality sample. These additional models differ with respect to ideology (they capture the effect of left-wing and liberal parties) or include an interaction variable connected to ideology (*RFCRIGHT* – level of fiscal capacity in the richer LGUs with a right-wing incumbent). With respect to the ideological variables (denoting leftist and liberal political views), a positive coefficient based on the theoretical and empirical literature is expected to be obtained. On the other hand, the goal of the interaction variable is to test whether ideology triumphs over economics, i.e., the intention is to check whether richer LGUs actually do increase their OLBT regardless of the ideological stance of the incumbent, or as is expected, richer units with right-wing incumbents actually reduce their level of OLBT.

[11] In 2009, the right-wing incumbent was elected in 109 LGUs, while, in 2013, in local elections, the right-wing incumbent was elected in 107 LGUs.

[12] The empirical investigation also included ordered probit and multinominal logit models. Since the goodness-of-fit tests confirmed that the fixed effect Poisson panel models are optimal, these results are presented in the Appendix 3. In the remainder of the paper we analysed results from the FE Poisson model.

Table 3: Panel data models with fixed effects based on Poisson distribution

Dependent variable	Independent variable	TOTAL (Model 1)	CITY (Model 2)	CITY (Model 3)	CITY (Model 4)	MUNICIPALITY (Model 5)	MUNICIPALITY (Model 6)
OLBT	INC	2.629	3.884	4.089	3.905	1.764	1.752
		(0.688)***	(0.541)***	(0.552)***	(0.534)***	(0.492)***	(0.478)***
	FC	0.049	0.032	0.032	0.032	0.082	0.082
		(0.006)***	(0.005)***	(0.005)***	(0.005)***	(0.010)***	(0.010)***
	RIGHT	-0.196	-0.230			0.087	
		(0.094)**	(0.112)**			(0.211)	
	WM	0.000	-0.005	-0.006	-0.006	0.006	0.007
		(0.002)	(0.002)**	(0.002)**	(0.002)***	(0.003)**	(0.003)**
	RFCRIGHT			-0.031			
				(0.016)*			
	LEFT				0.195		
					(0.113)*		
	LIBERAL						0.737
							(0.279)***
N		1,115.0	630.0	630.0	630.0	485.0	485.0
AIC		1641.816	1002.414	1002.364	1002.733	635.5301	634.3607
BIC		1661.882	1020.196	1020.147	1020.515	652.2667	651.0973

Note: $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$; Numbers in brackets represent standard deviations.

Source: Authors' calculations

In the total sample, baseline model 1 confirms the expected negative and statistically significant influence of a right-wing incumbent (*RIGHT*) on the level of OLBT. As expected, both control variables (*INC* and *FC*) have a positive influence on the level of OLBT.

At the city level, baseline model 2, confirms the significant results obtained in the total sample (regarding *RIGHT, INC* and *FC*) and additionally reports a negative effect of the *WM* on the level of OLBT. The higher the *WM* (i.e. lower political competition) between the incumbent and the runner up is, the lower the level of OLBT. Model 3 includes an interaction variable that connects FC in richer cities (with FC higher than the average value of all units in the city sample) that have a right-wing incumbent (variable *RFCRIGHT*). The results again confirm a negative effect of a right-wing incumbent, with all the remaining variables (*INC*, *FC*, and *WM*) holding their signs and the level of significance, as in baseline model 2. Model 4 includes an ideological variable that examines the effect of a left-wing incumbent on the level of OLBT and reports a positive effect. Of course, as was the case in the previous model 3, all the remaining variables (*INC*, *FC*, and *WM*) kept their signs and level of significance vis-à-vis OLBT.

At the municipality level, baseline model 5, tells a different story vis-à-vis rightwing political ideology – it does not matter, although both control variables (*INC* and *FC*) maintain their expected positive relationship with the level of OLBT. The last "expanded" model 6, includes an ideological variable that looks at the effect of a liberal incumbent and the level of OLBT. This model indicates a positive effect of the political ideology of a liberal party *(LIBERAL*) on the level of OLBT, with all the other control variables in the model (*INC* and *FC*) holding their positive and statistically significant effects on the level of OLBT in the municipality sample. Another interesting result on this level concerns WM. On the municipality level (in both model 5 and 6) unexpectedly it shows positive effects on OLBT.

5. Results and discussion

With respect to the results presented in the Table 3 we can summarize the following conclusions. Paper presents three important results that add to the literature.

First, results on the total and the city level confirm, for the first time, our hypothesis that there is a negative and statistically significant relationship between a right-wing political incumbent (*RIGHT*) and the level of OLBT. Theoretical underpinnings for this conclusion can be found within the agency theory. Previous research (Ott, Mačkić & Bronić, 2018; Ott et al., 2019) shows mixed results probably due to different methodology and time period investigated. This paper adds to the literature since it uses the longest available time period thus allowing for local elections and their effect on the OLBT to be properly included in the analysis.

It is also shown that political stubbornness, sticking to the right-wing ideology, is actually detrimental to OLBT in the total and city samples in Croatia. This conclusion stems from the below-average OLBT result in the 2013-2017 period and from the fact that approximately half of the local incumbents elected in both the 2009 and 2013 local elections were right-wing incumbents. Our conclusion about political stubbornness and sticking to the right-wing ideology, expands the existing literature on incumbents' behavior (Mačkić, 2014) and fits well with larger literature that examines the effect of partisanship on LBT. Vuković (2017) explains how local incumbents in Croatia maximize their chances of staying in power for long periods of time by creating a small group of loyal but powerful supporters (the winning coalition). He argues that most likely because of low accountability and low transparency, local incumbents and the winning coalition can stay in power for long periods of time. Furthermore (Brender, 2003) also points that the local voting process might not reflect voters' evaluation of local government performance, because local elections are decided, in most cases, on the basis of national party preferences and, in many cases voters do not possess the required information to evaluate the performance of local governments.

Second important result, on the city level, confirms a positive relationship between a left-wing incumbent (*LEFT*) and the level of OLBT. This result has theoretical roots in Ferejohn (1999) model and is in line with Gandía et al. (2016). Furthermore, legitimacy theory argues that transparency has a positive impact on the public's perception of the incumbent; thus, left-wing incumbents defending larger budgets should be more anxious for their constituencies to ascribe legitimacy to their actions. In line with legitimacy theory – model 6, estimated at the municipality level, also indicates a positive effect of the political ideology of a liberal party (*LIBERAL*) on the level of OLBT – our third important result.

Our hypothesis that there is a positive and statistically significant relationship between political competition and the level of OLBT is confirmed only on the city level. The higher the *WM* between the incumbent and the runner up is (i.e. lower competition), the lower the level of OLBT. This result is theoretically expected and in line with da Cruz et al. (2016). Agents respond to the principal's demands under the threat of being replaced if they act otherwise. However, models estimated on the municipality level report different story and point to positive effect of the *WM* on the level of OLBT (the lower the competition, the higher level of OLBT). Since this is not theoretically excepted result; more research is needed in order to further investigate the effect of *WM* on the level of OLBT.

Furthermore, the positive effect of residents' income per capita (*INC*) in all three samples is an established result in the literature, as shown by Giroux and McLelland (2003), Piotrowski and Van Ryzin (2007) and Styles and Tennyson (2007). It might be that, as argued by previous authors, residents with higher incomes have more access to and experience with the internet and, thus, demand more OLBT. If one

assumes self-interest on behalf of citizens, as agency theory does, then it follows logically that high-earning individuals who face higher marginal tax rates are more interested in budget transparency.

In line with studies conducted by Laswad et al. (2005) and Guillamón et al. (2011) this paper also confirms the positive relationship between the measure of fiscal capacity (*FC*) and OLBT in all three samples. In other words, richer LGUs with better fiscal conditions offer more online budget information. Muñoz et al. (2016) state that, according to the agency and legitimacy theory, incumbents in richer LGUs have more interest in signaling efficient management skills by increasing the voluntary dissemination of information due to higher concerns about losing their appointments.

The paper offers three types of policy recommendations. First, the government should find a way to stimulate "less wealthy" LGUs and those with citizens of lower incomes to publish more key local budget documents online. Second, the online publication of key local budget documents should be prescribed by law since in, accordance with rule-of-law theory, LGUs are more willing to publish documents if they are prescribed by law. Third, since right-wing political parties publish fewer key local budget documents online, voters should think more about whom they are voting for and central government how to encourage political competition on the local level (e.g. introducing term limits to local incumbents).

6. Conclusion

This study empirically pinpoints determinants of OLBT in Croatia from 2013-2017 for a unique dataset of 128 cities and 100 municipalities. Using a fixed effects Poisson model, this research indicates that political ideology (hypothesis 1) and political competition (hypothesis 2) determine the level of OLBT. The paper reports a negative and statistically significant relationship, on a total and the city level, between a right-wing political incumbent and the level of OLBT. At the same time, only at the city level results indicate a positive relationship between political competition and OLBT. The two control variables (residents' income per capita and LGU's fiscal capacity) show a positive relationship with the level of OLBT. This work contributes to the literature in several ways. First, these results represent an initial attempt at empirically validating these links on a sample that is still largely neglected in empirical research – a fiscally centralized, post-socialist, EU member state. Second, this research uses the original measure of OLBT, which can easily be replicated and collected for other countries and/or regions. Third, the results are calculated by applying a novel methodology to this unique and new dataset. Fourth, the results are robust since they show both the clear negative effect of right-wing incumbents at the total and city levels on the one side and the positive effect of left-wing (at the city level) and liberal incumbents (at the municipality level).

This effect was not achieved by any previous studies on OLF/BT. Finally, this research confirms that political competition has an impact on the local level online budget transparency. Limitations of the research stem foremost from the narrow municipality base (only 100 units) which can be corrected for in the upcoming time period. Also it would be interesting to see would the results of the analysis change if the City of Zagreb, which has a unique status of city and county and it is the largest city in Croatia, is excluded. More research is needed in order to further investigate the effect of political competition variables on the level of OLBT/BT. Also, future research might focus more on the puzzling issues of the institutional and political economy aspect of OLBT, i.e., the factors that might better explain the consistent stubbornness of citizens voting for nontransparent politicians. However, the obtained results do indicate certain areas that should be addressed by the public policy officials. Mandatory prescription of online budget documents and limitations of term in office at the local level are only part of those that could and should be accompanied by incentives aimed at economically underdeveloped local units in Croatia. The combination of sticks and carrots should result in optimal outcomes vis-à-vis online local budget transparency in Croatia.

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Politička tvrdoglavost i online proračunska transparentnost lokalnih jedinica[1]

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Sažetak

Online proračunska transparentnost lokalnih jedinica (OLBT) prepoznata je kao važna značajka dobrog upravljanja. U skladu s tim, OLBT se u ovom radu mjeri u svih 128 gradova i na uzorku od 100 općina u Hrvatskoj koristeći nekoliko ključnih lokalnih proračunskih dokumenata objavljenih na web stranicama lokalnih jedinica. Koristeći Poissonov panel model s fiksnim učinkom u razdoblju 2013. – 2017., pokazalo se da osim dohotka stanovnika i fiskalnog kapaciteta lokalnih jedinica, razinu OLBT-a određuju politička ideologija i politička konkurencija. Ovaj rad pridonosi rastućoj literaturi o proračunskoj transparentnosti utvrđivanjem važnosti političkih faktora kao odrednica OLBT-a u bivšoj socijalističkoj, fiskalno centraliziranoj, članici EU-a i otkriva zanimljivu tvrdoglavost građana koji dosljedno glasaju za netransparentne političare. Glavni nalaz je da su politički faktori (politička ideologija i politička konkurencija) važni kao odrednice OLBT-a, što u lokalnim jedinicama rezultira suboptimalnom ravnotežom s niskim razinama OLBT-a. Lokalni političar na vlasti zaključuje da OLBT nije od posebne važnost da bi mu izborna jedinica zamjerila netransparentnost. U takvom je okruženju navedeni zaključak valjan, jer ovaj rad dokazuje da birači, koji su tvrdoglavi u svojim glasačkim obrascima, odbijaju promijeniti lokalnog političara na vlasti iako je netransparentan.

Ključne riječi: *online proračunska transparentnost, lokalne jedinice, Hrvatska, politička ekonomija, analiza panel podataka*

JEL klasifikacija: *H11, H70*

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Appendices

Table 4: Panel summary of variables

Variable		Mean	Std. Dev.	Min.	Max.	Observations
TOTAL SAMPLE						
OLBI	overall	1.179736	0.9216837	0	3	N = 1135
	between		0.6852	0	3	n = 227
	within		0.6177846	-0.6202643	3.579736	t = 5
INC	overall	10.10154	.2850981	9.100087	10.87998	N = 1135
	between		0.2777634	9.351308	10.70162	n = 227
	within		0.0663366	9.529458	10.9464	t = 5
FC	overall	3.074513	3.788127	0	9.307621	N = 1135
	between		0.2501774	2.564352	3.702296	n = 227
	within		3.779886	-0.6277832	8.679837	t = 5
RIGHT	overall	0.5127753	0.5000571	0	1	N = 1135
	between		0.465029	0	1	n = 227
	within		0.1859245	-0.2872247	1.312775	t = 5
VM	overall	23.26525	21.32724	0	100	N = 1135
	between		19.1089	0.8	100	n = 227
	within		9.538837	-53.27075	99.94525	t = 5
POP	overall	8.65628	1.119838	5.666427	13.59692	N = 1135
	between		1.121387	5.694245	13.59135	n = 227
	within		0.0310595	8.491051	9.19339	t = 5
INTERNET	overall	46.02301	15.67744	0	116.3099	N = 1135
	between		15.05049	1.64983	94.32444	n = 227
	within		4.473731	13.30521	69.65945	t = 5
CITY SAMPLE						
OLBI	overall	1.407874	0.9342422	0	3	N = 635
	between		0.7101985	0	3	n = 127
	within		0.6095973	-0.392126	3.407874	t = 5
INC	overall	10.22643	0.1925057	9.719073	10.73738	N = 635
	between		0.1880488	9.792834	10.70162	n = 127
	within		0.0438083	10.05267	10.35409	t = 5
FC	overall	3.150535	3.876562	0	9.307621	N = 635
	between		0.2138668	2.709845	3.702296	n = 127
	within		3.870695	-0.5517611	8.755859	t = 5
RIGHT	overall	0.4897638	0.5002893	0	1	N = 635
	between		0.4609918	0	1	n = 127
	within		0.1977795	-0.3102362	1.289764	t = 5

Variable		Mean	Std. Dev.	Min.	Max.	Observations
VM	overall	19.71543	16.29036	0	100	N = 635
	between		14.27592	0.8	86.766	n = 127
	within		7.92842	-33.22057	93.00343	t = 5
POP	overall	9.325669	0.9700605	7.31322	13.59692	N = 635
	between		0.9726335	7.332029	13.59135	n = 127
	within		0.0311448	9.16044	9.862779	t = 5
INTERNET	overall	49.86477	13.59638	12.60288	112.6886	N = 635
	between		13.08431	23.89208	94.32444	n = 127
	within		3.830849	31.12332	68.22894	t = 5
LEFT	overall	0.2062992	0.4049668	0	1	N = 635
	between		0.3633504	0	1	n = 127
	within		0.1811286	-0.5937008	1.006299	t = 5
RFCRIGHT	overall	2.235401	3.592336	0	10.17448	N = 635
	between		3.292889	0	8.929113	n = 127
	within		1.459511	-4.566551	9.082016	t = 5
MUNICIPALITY SAMPLE						
OLBI	overall	0.89	0.8192939	0	3	N = 500
	between		0.5275252	0	2.4	n = 100
	within		0.6286417	-0.51	3.29	t = 5
INC	overall	9.942934	0.3042644	9.100087	10.87998	N = 500
	between		0.2927487	9.351308	10.60634	n = 100
	within		0.08696	9.370853	10.78779	t = 5
FC	overall	2.977965	3.674339	0	9.080471	N = 500
	between		0.2604542	2.564352	3.603766	n = 100
	within		3.66517	-0.6258008	8.45467	t = 5
RIGHT	overall	0.542	0.4987319	0	1	N = 500
	between		0.4707999	0	1	n = 100
	within		0.1698756	-0.258	1.342	t = 5
VM	overall	27.77352	25.69238	0	100	N = 500
	between		23.18395	3.276	100	n = 100
	within		11.2655	-48.76248	104.4535	t = 5
POP	overall	7.806155	0.5999088	5.666427	9.350711	N = 500
	between		0.601524	5.694245	9.342002	n = 100
	within		0.0309819	7.670096	7.994199	t = 5
INTERNET	overall	41.14398	16.76762	0	116.3099	N = 500
	between		16.00722	1.64983	92.67346	n = 100
	within		5.181544	8.426177	64.78042	t = 5
LIBERAL	overall	0.026	0.1592945	0	1	N = 500
	between		0.1382576	0	0.8	n = 100
	within		0.0800801	-0.774	0.826	t = 5

Source: Authors' calculations

Table 5: Model RE

Random-effects GLS regression	Number of obs = 1,135
Group variable: ID	Number of groups = 227
R-sq:	Obs per group:
within = 0.3013	min = 5
between = 0.2484	avg = 5.0
overall = 0.2712	max = 5
	Wald chi2(4) = 463.59
corr(u_i, X) = 0 (assumed)	Prob > chi2 = 0.0000

OLBT	Coef.	Std. Err.	z	P>z	[95% Conf. Interval]	
INC	1.257597	.1320288	9.53	0.000	.9988251	1.516.368
FC	.0738498	.0047085	15.68	0.000	.0646213	.0830782
RIGHT	-.0801826	.064091	-1.25	0.211	-.2057987	.0454336
WM	-.001849	.0013705	-1.35	0.177	-.0045351	.0008372
_cons	-11.66685	1.336858	-8.73	0.000	-14.28704	-9.046.656

sigma_u	.5399188
sigma_e	.57723139
rho	.46663742 (fraction of variance due to u_i)

Source: Authors' calculations

Table 6: Model Hybrid

Random-effects GLS regression	Number of obs = 1,135
Group variable: ID	Number of groups = 227
R-sq:	Obs per group:
within = 0.3040	min = 5
between = 0.2507	avg = 5.0
overall = 0.2746	max = 5
	Wald chi2(8) = 469.15
corr(u_i, X) = 0 (assumed)	Prob > chi2 = 0.0000

OLBI	Coef.	Std. Err.	z	P>z	[95% Conf. Interval]	
diff__INC	1.83498	.3021889	6.07	0.000	1.242701	2.42726
diff__FC	.0688333	.0052927	13.01	0.000	.0584598	.0792067
diff__RIGHT	-.0667035	.0930152	-0.72	0.473	-.24901	.1156029
diff__WM	-.0012479	.0018172	-0.69	0.492	-.0048095	.0023137
mean__INC	1.20279	.2091193	5.75	0.000	.792924	1.612656
mean__FC	-.06577	.2289895	-0.29	0.774	-.5145811	.3830411
mean__ RIGHT	-.1122455	.0889327	-1.26	0.207	-.2865503	.0620594
mean__WM	-.0020873	.0021234	-0.98	0.326	-.0062491	.0020745
_cons	-10.66197	170.595	-6.25	0.000	-14.00557	-7.318368

sigma_u	.53899336
sigma_e	.57723139
rho	.46578359 (fraction of variance due to u_i)

Source: Authors' calculations

Table 7: Mundlak test

. test	mean__INC=mean__FC=mean__ RIGHT=mean__WM==0
-1	mean__INC – mean__FC = 0
-2	mean__INC – mean__ RIGHT = 0
-3	mean__INC – mean__WM = 0
-4	mean__INC = 0
	chi2(4) = 74.43
	Prob > chi2 = 0.0000

Source: Authors' calculations

Table 8: Poisson, ordered probit and multinominal logit – total sample

	OLBT	POISSON		OPROBIT		MLOGIT	
	INC	2.629	(0.688)***	1.601	(0.134)***		
	FC	0.049	(0.006)***	0.101	(0.009)***		
	RIGHT	-0.196	(0.094)**	-0.135	(0.068)**		
	WM	0.000	(0.002)	-0.003	(0.002)**		
cut1	_cons			15.532	(1.352)***		
cut2	_cons			16.864	(1.363)***		
cut3	_cons			17.898	(1.370)***		
0	INC					-1.218	(0.263)***
	FC					-0.143	(0.025)***
	RIGHT					0.068	(0.160)
	WM					-0.001	(0.004)
	_cons					11.953	(2.657)***
2	INC					2.458	(0.417)***
	FC					0.077	(0.021)***
	RIGHT					-0.044	(0.171)
	WM					-0.014	(0.004)***
	_cons					-25.469	(4.268)***
3	INC					5.768	(0.764)***
	FC					0.231	(0.031)***
	RIGHT					-0.335	(0.252)
	WM					-0.008	(0.005)
	_cons					-61.156	(7.865)***
	N	1,115.0		1,135.0		1,135.0	
AIC		1641.816		2566.097		2544.469	
BIC		1661.882		2601.338		2619.985	

Note: * $p<0.1$; ** $p<0.05$; *** $p<0.01$; Numbers in brackets represent standard deviations.

Source: Authors' calculations

Table 9: Poisson and ordered probit– city sample

		POISSON						OPROBIT					
	OLBT	Model 1		Model 2		Model 3		OPROBIT – Model 1		OPROBIT – Model 2		OPROBIT – Model 3	
	INC	3.884	(0.541)***	4.089	(0.552)***	3.905	(0.534)***	3.216	(0.277)***	3.476	(0.272)***	3.404	(0.275)***
	FC	0.032	(0.005)***	0.032	(0.005)***	0.032	(0.005)***	0.091	(0.012)***	0.092	(0.012)***	0.090	(0.012)***
	RIGHT	-0.230	(0.112)**					-0.148	(0.094)				
	WM	-0.005	(0.002)**	-0.006	(0.002)**	-0.006	(0.002)***	-0.002	(0.003)	-0.002	(0.003)	-0.004	(0.003)
	RFCRIGHT			-0.031	(0.016)*					-0.030	(0.013)**		
	LEFT					0.195	(0.113)*					-0.116	(0.115)
cut1	_cons							31.870	(2.809)***	34.529	(2.745)***	33.813	(2.770)***
cut2	_cons							33.240	(2.830)***	35.897	(2.766)***	35.182	(2.792)***
cut3	_cons							34.427	(2.847)***	37.094	(2.784)***	36.366	(2.809)***
N		630.0		630.0		630.0		635.0		635.0		635.0	
AIC		1002.414		1002.364		1002.733		1415.532		1412.184		1416.943	
BIC		1020.196		1020.147		1020.515		1446.707		1443.359		1448.118	

Note: *p<0.1; **p<0.05; ***p<0.01; Numbers in brackets represent standard deviations.

Source: Authors' calculations

Table 10: Multinominal logit – city sample

	OLBT	Model 1		Model 2		Model 3	
0	INC	-3.374	(0.756)***	-3.830	(0.865)***	-3.891	(0.778)***
	FC	-0.134	(0.039)***	-0.131	(0.039)***	-0.126	(0.039)***
	RIGHT	0.286	(0.262)				
	WM	-0.007	(0.009)	-0.006	(0.009)	-0.002	(0.008)
	_cons	33.604	(7.671)***	38.309	(8.728)***	38.803	(7.837)***
2	INC	3.621	(0.649)***	3.573	(0.619)***	3.600	(0.639)***
	FC	0.065	(0.026)**	0.066	(0.026)**	0.066	(0.026)**
	RIGHT	0.082	(0.219)				
	WM	-0.013	(0.007)*	-0.013	(0.007)*	-0.013	(0.007)**
	_cons	-37.316	(6.672)***	-36.798	(6.325)***	-37.059	(6.520)***
3	INC	8.887	(1.195)***	9.086	(1.125)***	9.289	(1.193)***
	FC	0.230	(0.037)***	0.235	(0.038)***	0.227	(0.037)***
	RIGHT	-0.413	(0.319)				
	WM	-0.010	(0.008)	-0.010	(0.008)	-0.012	(0.008)
	RFCRIGHT			0.029	(0.042)		
	RFCRIGHT			0.000	(0.027)		
	RFCRIGHT			-0.088	(0.042)**		
	LEFT					0.551	(0.333)*
	LEFT					-0.034	(0.261)
	LEFT					0.035	(0.322)
	_cons	-93.192	(12.336)***	-95.211	(11.605)***	-97.458	(12.301)***
N		635.0		635.0		635.0	
AIC			1420.838		1418.118		1421.593
BIC			1487.643		1484.922		1488.397

Note: * $p<0.1$; ** $p<0.05$; *** $p<0.01$

Numbers in brackets represent standard deviations.

Source: Authors' calculations

Table 11: Poisson, ordered probit and multinominal logit – municipality sample

		POISSON		POISSON		OPROBIT		OPROBIT		MLOGIT		MLOGIT	
	OLBT	Model 1		Model 2		Model 1		Model 2		Model 1		Model 2	
	INC	1.764	(0.492)***	1.752	(0.478)***	0.484	(0.171)***	0.430	(0.176)**				
	FC	0.082	(0.010)***	0.082	(0.010)***	0.129	(0.014)***	0.130	(0.014)***				
	RIGHT	0.087	(0.211)			-0.035	(0.104)						
	WM	0.006	(0.003)**	0.007	(0.003)**	-0.002	(0.002)	-0.002	(0.002)				
	LIBERAL			0.737	(0.279)***			0.402	(0.259)				
cut1	_cons					4.667	(1.704)***	4.167	(1.733)**				
cut2	_cons					6.113	(1.713)***	5.619	(1.740)***				
cut3	_cons					7.036	(1.719)***	6.540	(1.743)***				
0	INC									-0.337	(0.337)	-0.180	(0.347)
	FC									-0.155	(0.033)***	-0.157	(0.033)***
	RIGHT									-0.134	(0.213)		
	WM									-0.002	(0.004)	-0.002	(0.004)
	LIBERAL											-1.506	(1.102)
	_cons									3.525	(3.355)	1.929	(3.420)
2	INC									0.880	(0.572)	0.722	(0.590)
	FC									0.137	(0.038)***	0.139	(0.039)***
	RIGHT									-0.311	(0.282)		
	WM									-0.014	(0.006)**	-0.013	(0.006)**
	LIBERAL											0.796	(0.709)
	_cons									-10.017	(5.720)*	-8.656	(5.854)
3	INC									1.715	(0.711)**	2.200	(0.765)***
	FC									0.392	(0.088)***	0.384	(0.087)***
	RIGHT									-0.183	(0.480)		
	WM									-0.006	(0.007)	-0.007	(0.007)
	LIBERAL											-13.334	(0.701)***
	_cons									-21.395	(7.292)***	-26.237	(7.700)***
N			485.0		485.0		500.0		500.0		500.0		500.00
AIC			635.5301		634.3607		1058.325		1056.816		1064.234		1056.674
BIC			652.2667		651.0973		1087.827		1086.318		1127.453		1119.894

Note: * $p<0.1$; ** $p<0.05$; *** $p<0.01$

Numbers in brackets represent standard deviations.

Source: Authors' calculations