The determinants of budget transparency of Croatian municipalities

Stanić, Branko

University of Zagreb

Faculty of Economics and Business

Branko Stanić

THE DETERMINANTS OF BUDGET TRANSPARENCY OF CROATIAN MUNICIPALITIES

DOCTORAL DISSERTATION

Zagreb, 2020

University of Zagreb

Faculty of Economics and Business

Branko Stanić

THE DETERMINANTS OF BUDGET TRANSPARENCY OF CROATIAN MUNICIPALITIES

DOCTORAL DISSERTATION

Supervisor(s):

Velibor Mačkić, PhD

Katarina Ott, PhD

Zagreb, 2020

Sveučilište u Zagrebu

Ekonomski fakultet

Branko Stanić

ODREDNICE PRORAČUNSKE TRANSPARENTNOSTI HRVATSKIH OPĆINA

DOKTORSKI RAD

Mentor(i):

doc.dr.sc. Velibor Mačkić

prof.dr.sc. Katarina Ott

Zagreb, 2020.

Information about the doctoral candidate

Name and surname: Branko Stanić

Date and place of birth: December 02, 1989, Sarajevo

Bachelor's degree: Faculty of Economics and Business, University of Sarajevo

Master's degree: School of Economics and Business, University of Ljubljana

Information about the doctoral dissertation

Title: The determinants of budget transparency of Croatian municipalities

Faculty where the dissertation was defended: Faculty of Economics and Business, University of Zagreb

Dissertation defence Committee:

1. prof. dr. sc. Hrvoje Šimović
2. doc. dr. sc. Velibor Mačkić
3. prof. dr. sc. Katarina Ott
4. doc. dr. sc. Valentina Vučković
5. Paulo Reis Mourão, Ph.D.

Date of defence: May 15, 2020

Information about supervisors

Velibor Mačkić, PhD

Velibor Mačkić (vmackic@efzg.hr), Assistant Professor, Chair of Political Economy and Political Economy of Growth, Faculty of Economics & Business, University of Zagreb. Special Advisor to the President of Croatia for the Economy. Principal researcher in two projects financed by the University of Zagreb and an active researcher in one research project financed by the Croatian Science Foundation. Interests, projects and publications in the fields of (new) political economy, election cycles theory, budget transparency and price and non-price competitiveness analysis.
More at https://www.bib.irb.hr/pregled/znanstvenici/316174?autor=316174

Katarina Ott, PhD

Katarina Ott (kott@ijf.hr), researcher, Institute of Public Finance, Zagreb; professor, Faculty of Mathematics and Faculty of Political Science, University of Zagreb, Croatia. Interests, projects and publications in the fields of public sector economics, national/sub-national fiscal/budget transparency, accountability and public participation, EU integrations, structural reforms. Member of the OUN Committee of Experts on Public Administration (CEPA). Active in Global Initiative for Fiscal Transparency (GIFT) and Open Government Partnership (OGP). Ex-member of the Economic Council of the President of Croatia and of Government committees (pension reform, development of islands, etc.) and of management boards (Croatian Retirement Fund, University of Zagreb, etc.).
More at http://www.ijf.hr/eng/employees/researchers/7/katarina-ott-phd/1494/.

Acknowledgments

I would first like to thank the Croatian Science Foundation for funding my four years of work, in which I had the opportunity to attend summer schools and conferences that have greatly benefited me in shaping this dissertation. I want to thank a few people who have made significant contributions to the design and structuring of this dissertation. First, to my supervisors - Katarina Ott and Velibor Mačkić - who were available to me for any queries and concerns from the outset, giving me valuable advice and guidance. Then, to my colleague from the Institute - Mihaela Bronić - for very helpful advice, comments and willingness to help at any time. I thank my colleague Paulo Mourão from the University of Minho for his assistance and for always helpful and inspiring comments and ideas. Finally, the literature review of this dissertation was inspired by the insightful comments of the two experts in the field - Joachim Wehner and Paolo de Renzio. Thank you!

Gratefully, Branko

AUTHORSHIP STATEMENT

I declare and confirm with my signature that the doctoral dissertation entitled „The determinants of budget transparency of Croatian municipalities“ is exclusively the result of my own work based on my research and relies on the published literature, as shown by the used bibliography.

I declare that no part of the dissertation has been written in an unauthorized manner, i.e. that it has been copied from an unquoted source, and that no part of the dissertation infringes anyone's copyright.

I also declare that no part of the dissertation has been used for any other thesis in any other higher education, scientific or educational institution.

Zagreb, May 22, 2020

(signature)

Summary

This doctoral dissertation classifies the existing theoretical approaches in the analysis of budget transparency and empirically examines determinants of the online budget transparency of Croatian municipalities. It starts with a summary of the development of budget transparency through underlying transparency theories. Theoretical approaches to the analysis of budget transparency are systematically presented, i.e. theories based on information asymmetry and theories of social responsibility. In line with theoretical knowledge and based on the established core account of determinants in previous studies, the empirical part uses a unique panel database from 2014-18 and explores the determinants of budget transparency in Croatian municipalities. The dependent variable is the Open Local Budget Index (OLBI), which shows the annual availability of key budget documents on municipal official websites. A total of six hypotheses were tested to produce the optimal combination of policy instruments (determinants) that increase local budget transparency. Robust empirical analysis is based on Poisson, logistic and spatial regression. The results show that to strengthen municipal budgetary transparency and political accountability, it is crucial to enhance the following instruments: residents' income per capita, municipal fiscal capacity per capita, political competition, women's representation in local politics, and politicians' education. Also, the results indicate that legal regulation of budgetary reporting is an effective instrument for increasing overall (mandatory and voluntary) budget transparency. Finally, the spatial analysis proved the existence of positive spatial spillovers, showing that the wider environment of the municipality (neighbors) affects the level of budget transparency of the observed municipality. Accordingly, the municipality cannot be viewed as an isolated entity but as part of a larger environment and influence. The implications of these results for the next steps at all levels of government and the general public are also outlined, focusing in particular on the possible application of the results of this research to the inevitable reform of the territorial and fiscal organization of the Republic of Croatia.

Keywords: transparency theories; budget transparency determinants; Poisson regression; logistic regression; spatial regression; Croatian municipalities

Prošireni sažetak

Ova doktorska disertacija klasificira postojeće teorijske pristupe u analizi transparentnosti proračuna i empirijski ispituje odrednice proračunske transparentnosti hrvatskih općina. Najprije je predstavljena definicija i razvoj proračunske transparentnosti – od teorija javne uprave i javnog izbora do novog javnog upravljanja i pritisaka za veću proračunsku transparentnost nakon svjetske financijske krize. Sveobuhvatno se predstavlja teorijski okvir za razumijevanje sklonosti lokalnih vlasti prema nižim ili višim razinama proračunske transparentnosti. Najprije se predstavljaju teorije zasnovane na informacijskoj asimetriji – teorija principala i agenta, moralni hazard i fiskalna iluzija – koje objašnjavaju zašto političari ne žele objavljivati više informacija, a zatim i teorije društvene odgovornosti – teorija legitimiteta, institucionalna teorija i izomorfizam – koje objašnjavaju zašto su neke lokalne vlasti motivirane povećavati svoju transparentnost. Nudi se i kritički osvrt na navedene teorije.

Prije empirijskog dijela disertacije, analizira se proračunska transparentnost isključivo na lokalnoj razini vlasti. Predstavljaju se unutarnje snage i vanjski pritisci kao dvije osnovne „struje“ za veću lokalnu proračunsku transparentnost, gdje su unutarnje snage karakteristike samih lokalnih vlasti (npr. fiskalni kapacitet, ljudski resursi itd.), a vanjski pritisci za veću proračunsku transparentnost dolaze od javnosti, medija, organizacija civilnog društva i središnje države. Tu se naglašava važnost korištenja informacijske i komunikacijske tehnologije, te prednosti i nedostatci *online* proračunskog izvještavanja.

U skladu s teorijskim saznanjima i na temelju utvrđenih glavnih odrednica u prethodnim studijama, u empirijskom dijelu disertacije koristi se jedinstvena panel baza podataka u razdoblju od 2014. do 2018. i istražuju odrednice proračunske transparentnosti hrvatskih općina. Zavisna varijabla je indeks otvorenosti lokalnih proračuna (engl. *Open Local Budget Index*; OLBI), koji prikazuje godišnju dostupnost ključnih proračunskih dokumenata na službenim općinskim mrežnim stranicama. Ukupno je testirano šest hipoteza kako bi se došlo do optimalne kombinacije instrumenata (odrednica) koje povećavaju transparentnost lokalnih proračuna. Robusna empirijska analiza temelji se na Poissonovoj, logističkoj i prostornoj regresiji. Rezultati pokazuju da je za jačanje transparentnosti općinskog proračuna ključno poboljšati sljedeće instrumente: dohodak lokalnog stanovništva, općinski fiskalni kapacitet po glavi stanovnika, političku konkurenciju, zastupljenost žena u lokalnoj politici i obrazovanje političara. Također, rezultati ukazuju da je pravna regulacija proračunskog izvještavanja učinkovit instrument za povećanje ukupne (obvezne i dobrovoljne) transparentnosti proračuna.

Konačno, prostorna analiza dokazala je postojanje pozitivnih prostornih prelijevanja (engl. *positive spatial spillovers*), pokazujući da prakse transparentnosti u širem okruženju općine (susjedi) utječu na razinu njene proračunske transparentnosti. U skladu s tim, povećanja proračunske transparentnosti susjednih općina pozitivno utječu na razinu proračunske transparentnosti promatrane općine. Prema tome, općinu se ne može promatrati kao izoliranu jedinicu, već kao dio šireg okruženja i utjecaja susjeda, čije se prakse proračunske transparentnosti kontinuirano isprepliću.

Donose se i preporuke svim razinama vlasti – lokalnoj izvršnoj i predstavničkoj, županijama, središnjoj – te javnosti, medijima i organizacijama civilnog društva za poboljšanje lokalne proračunske transparentnosti. Navode se i implikacije rezultata istraživanja na oblikovanje reforme teritorijalnog i fiskalnog ustroja Republike Hrvatske, naročito preispitivanje održivosti velikog broja općina s niskom proračunskom transparentnosti, fiskalnim kapacitetom i dohotkom po stanovniku. Među mogućim rješenjima navodi se i reorganizacija, zajedničko pružanje usluga više općina, te optimizacija i bolje upravljanje ljudskim resursima, a ako se ne iznađe odgovarajuće rješenje, spajanje općina ili njihovo ukidanje.

Buduća istraživanja bi mogla proširiti zavisnu varijablu, te osim kvantitativne dimenzije promatrati i kvalitativnu. Također, s obzirom na nedostatak podataka za promatrano razdoblje na općinskoj razini, buduća bi istraživanja, u skladu s dostupnosti podataka, mogla istražiti transparentnost javnih poduzeća koja su u cijelosti ili djelomično u vlasništvu općina, zatim utjecaj broja zaposlenih u općinskom odjelu za proračun, njihovog obrazovanja i spola, te utjecaj (lokalnog) medijskog izvještavanja na razinu općinske proračunske transparentnosti.

Ukratko, disertacija nudi sistematizaciju i kritički prikaz postojećih teorijskih pristupa u analizi proračunske, posebice *online* proračunske transparentnosti, te jasnu empirijsku identifikaciju odrednica lokalne proračunske transparentnosti na primjeru bivše socijalističke, fiskalno centralizirane države, s relativno kratkim iskustvom demokracije i članstva u Europskoj uniji. Ističe se i prva empirijska procjena utjecaja pravnih odrednica i zastupljenosti žena u lokalnoj predstavničkoj vlasti, te fokus istraživanja na općine kao najnižu razinu vlasti. Saznanja doprinose raspravi o optimalnom uređenju teritorijalne i fiskalne strukture Republike Hrvatske, te su dobiveni nalazi istraživanja posebice relevantni za znanstvenu zajednicu, nositelje ekonomske politike i jedinice lokalne samouprave.

Ključne riječi: teorije transparentnosti; odrednice proračunske transparentnosti; Poissonova regresijska analiza; logistička regresijska analiza; prostorna regresijska analiza; hrvatske općine

This doctoral dissertation is conducted within the project "Understanding, monitoring and analysing local government budget transparency: Case study of Croatia and Slovenia – Open local budget index (OLBI)" funded by the Croatian Science Foundation (CSF) research project IP-09-2014. The CSF also funded the work of doctoral candidate Branko Stanić.

TABLE OF CONTENTS

List of Tables

List of figures

List of graphs

1 INTRODUCTION

The relationship between citizens and authorities in representative democracies has been undergoing various improvements over the last three decades. In developed countries, progress has been made, to a large extent, due to the implementation of the New Public Management (NPM) way of dealing with public organizations. It highlighted the importance of improving financial control, public administration efficiency and government transparency at all levels. While the definition and evolution of budget transparency and its underpinning theories will be presented later, this dissertation first clarifies the area and subject of research, research objectives, hypotheses, methods, expected scientific contribution, and structure of the dissertation.

1.1 Area and subject of research

The dissertation addresses the problem of low average budget transparency of all 428 Croatian municipalities (Ott, Bronić, Petrušić, *et al.*, 2019), and significant differences in individual budget transparency across municipalities. Area of research fits under the scope of political economy as it analyzes the economic and political effects of the impact of incumbents, citizens and the local level of bureocracy on the online municipal budget transparency. There are several reasons for focusing on municipalities. First, municipalities are the lowest level of government in Croatia, whose services to citizens are most visible and tangible. Second, citizens are more motivated to participate in local processes, as they can more easily see their true influence. Third, greater transparency and political accountability of municipal authorities can serve as one of the indicators for understanding the reasons for population migration from smaller to larger communities. In the context of Tiebout's economic model of local government, the population leaves the unsuitable situation and moves to another environment that should bring more benefits (voting-with-the-feet). Accordingly, a focus on municipal budget transparency could shed some light on the importance of further exploring the issue.

While certain municipalities publish key budget documents in a timely manner, many are lagging behind and do not even show minimal transparency (Ott, Bronić, Petrušić, *et al.*, 2019). Therefore, the aim of the dissertation is to examine and identify which economic, legal and political characteristics of municipalities determine their ability to achieve a higher level of budget transparency. In other words, the goal is to identify the optimal combination of determinants that increase local budget transparency.

Budget transparency implies access to complete, accurate, timely and understandable budget information (Ott, Bronić and Petrušić, 2014). Understanding, monitoring and analyzing budget transparency can determine the capacity and willingness of local governments to democratize their budget process, which involves timely, comprehensive and understandable budget reporting, and direct participation of all interested citizens throughout the budget cycle. There are a number of benefits of timely publication of comprehensive and simplified budget information. The availability of information enables citizens and representative authorities to monitor, examine and control the planning, allocation and use of funds, and discourage the local executive from ineffective and unfair management of public funds, thus reducing the possibility of corrupt activities. Also, scrutinizing budget documents can identify the real reasons behind deviations of executed from planned activities (budget credibility), which can facilitate the provision of public goods and services more efficiently. All of these benefits of disclosing budget information can enhance the reputation of local governments, making them more accountable, while reducing citizens' distrust in local authorities.

The relationship between citizens and government in representative democracies has changed significantly over the last three decades. In developed countries, progress has largely been made due to the implementation of the NPM model, which perceives citizens as beneficiaries and public servants as public administrators. In addition, the basic features of the model - transparency and accountability - are considered to be primal components of good governance (Caba-Pérez, Rodríguez Bolívar and López Hernández, 2008). In the countries that have introduced the NPM, the transparency of the budget can be partly attributed to its implementation (e.g., in the United Kingdom, U.S., Australia, and New Zealand). Unlike the more established, older public administrations, Croatia, as an ex-socialist country with a relatively young democracy, bases the principles of good governance, i.e. transparency and accountability, within an ongoing effort for public administration reforms. Accordingly, in such countries that have not yet implemented the NPM reforms, the behavior of local authorities, their relationship and communication with citizens, the state of budget transparency and accountability can be explained by the theories of political economy.

The basic theoretical models for studying the relationship and behavior of local authorities towards budget transparency are based on information asymmetry (principal-agent, moral hazard, and fiscal illusion) and social responsibility theories (legitimacy and institutional theory).

With technological advances, the Internet is further encouraging the proactive disclosure of information, enabling extensive disclosure of budget data and continuous improvement of consultation processes at local government levels. Internet has improved budget transparency in a sense that information can be published quickly and at a low cost (Darbishire, 2010). However, local government websites differ considerably when it comes to information available, completeness, timeliness, and interactivity (Galli, Rizzo and Scaglioni, 2017). While some local governments have an open budget policy and publish extensive budget informations, others rarely take advantage of proactive online publication. Therefore, based on the transparency theoretical underpinnings, this dissertation examines the determinants of budget transparency in Croatian municipalities to explain why the budgets of some municipalities are more transparent than others. By identifying variables and characteristics of local governments that have greater propensity to publish budget documents, the dissertation seeks to offer the optimal combination of determinants that enhances the local government budget transparency.

1.2 Research objectives

The overall, main research objective of this dissertation is to classify the existing theoretical approaches in the analysis of budget transparency, with special reference to the online budget transparency of local governments, and to empirically examine the basic determinants of the online budget transparency of Croatian municipalities.

The main objective can be broken down into several scientific and applicative ones. The scientific objectives are to:

i) theoretically systematize current knowledge of budget transparency at national and local level of government, in particular online budgetary transparency;

ii) apply theoretical approaches that explain the tendency for higher or lower budget transparency at the local level of government;

iii) empirically examine, model and analyze the impact of economic, legal and political factors on the budget transparency of Croatian municipalities;

iv) analyze and explain how different drivers of isomorphism (coercive, normative and mimetic) affect the level of budget transparency of Croatian municipalities.

The dissertation also has applicative significance, offering recommendations to economic policy makers at the national level, but also to municipal executive and representative authorities. The potential applicability of this research is reflected in two basic applicative objectives:

i) to recommend to public policy makers the instruments for increasing the budget transparency of municipalities;
ii) to indicate the implications of the dissertation results for a possible reform of the territorial and fiscal organisation of the Republic of Croatia.

1.3 Research hypotheses

In order to explore the determinants of municipal budget transparency, six hypotheses are tested:

H_1: There is a positive and statistically significant relationship between fiscal capacity of the municipality and its online budget transparency.

The main objective of this hypothesis is to determine whether a municipality's fiscal capacity affects its level of budget transparency. The fiscal capacity is measured by the municipality's own revenues, that is, operating revenues other than grants. In this sense, greater fiscal capacity implies greater taxation of citizens who, according to the principal-agent theory, should be interested in how their money is spent. In addition, legitimacy theory suggests that higher tax revenues should encourage local governments to justify their spending by disclosing budgetary information.

H_2: There is a positive and statistically significant relationship between adherence to the legal regulation of the publication of budget information and voluntary online budget transparency.

The aim is to test whether the legal regulation of the publication of budget information affects the voluntary budget transparency of a municipality. The Budget Act and Act on the Right of Access to Information require the publication of three budget documents - the Year-end report, the Mid-year report, and the Enacted budget. Accordingly, a dummy variable is placed on the right side of the regression equation, which assumes a value 1 if the municipality has published all three mandatory budget documents, while a dependent variable takes a value 1 if the municipality has published both voluntary documents, i.e. Budget proposal and Citizens budget. The main objective is to determine whether legal regulation of the disclosure of budget documents is a good instrument for improving overall budget transparency.

H$_3$: There is a positive and statistically significant relationship between the financial audit carried out in the municipality and the level of online budget transparency.

The main objective is to determine whether a financial audit conducted in a municipality influences its preference for greater budgetary transparency. The financial audit of local governments is conducted by the State Audit Office (SAO) every year for a selected number of municipalities. The SAO publishes an annual audit plan with the total number of local governments whose financial statements are planned to be audited. However, it is not known which municipalities will be audited, so they can all expect to have their financial statements audited. The auditing process takes four to six months and generally begins by June of the current year. For example, from June to October 2018, the SAO audits financial documents related to 2017. As budget transparency mainly refers to the second half of the current year, i.e. the budget documents are mainly published as of June of the current year, a dummy variable takes a value 1 if the municipality has had an audit procedure that year.

H$_4$: There is a positive and statistically significant relationship between political competition in the municipality and the level of online budget transparency.

The aim is to examine the impact of political competition in a municipality on the level of its budget transparency. Political competition is measured as the percentage difference between the votes of the first and second candidates on the municipality head list. The smaller the difference between the first and second candidates on the list, the greater the political competition. In this case, the local executive faces more pressure from the opposition for displaying higher budget transparency as an indicator of good governance.

H$_5$: There is a positive and statistically significant relationship between the representation of women in the municipal council and the level of online budget transparency.

The purpose is to test whether the greater number of women in a municipal council positively affects the level of municipal budget transparency. The representation of women is shown as the proportion of women in the total number of municipal councilors. Fox & Schuhmann (1999) point out that women in political positions encourage citizen participation and communication more than men in these positions. Greater representation of women is expected to enhance municipal's transparency practices (De Araújo and Tejedo-Romero, 2018).

H_6: There is a positive and statistically significant relationship between the level of online budget transparency of neighbouring municipalities and the level of budget transparency of the observed municipality.

The goal is to test whether there are positive spatial spillovers of the levels of budget transparency of neighboring municipalities. According to the literature, mimetic pressures arise from local governments that apply what is considered as "best" or "good" practices, leading to municipal competition in pursuing best transparency practices (Salmon, 1987; Scott and Bloss, 1988). The main objective of this hypothesis is to determine whether there are spatial dependencies in the budget transparency of Croatian municipalities. Proving this hypothesis would show that the municipality should not be viewed as an isolated entity but as a member of other surrounding communities whose experiences, practices and examples of budgetary transparency are constantly intertwined.

1.4 Research methods

The dissertation is based on theoretical and empirical analysis. Theoretical analysis systematically presents theories based on information asymmetry and social responsibility that explain why local authorities are more or less motivated to disclose budget information. Both approaches are elaborated in detail within three major theoretical models: (1) Principal-agent theory; (2) Legitimacy theory; and (3) Institutional theory. This analysis is based on a study of existing scientific literature (desk research). In the empirical part of the research, of the standard methods for designing scientific research work, the following applies: descriptive method, method of analysis and synthesis, and statistical and econometric methods. The descriptive method is used to describe research problem and initial empirical data analysis, while methods of analysis and synthesis study existing knowledge and insights about the research problem available in the scientific literature.

The dependent variable is the Open Local Budget Index (OLBI), which shows the availability of five key budget documents on the official web pages of local governments (Ott, Bronić and Petrušić, 2015; Ott *et al.*, 2016, 2017, 2018; Ott, Bronić, Petrušić, *et al.*, 2019). These documents are: “Year-end report, Mid-year report, Budget proposal, Enacted budget, and Citizens budget” (Ott, Bronić and Petrušić, 2015, p. 2). Mid-year and Year-end reports and Enacted budget are mandatory documents, i.e. they are regulated by the Budget Act and Act on the Right of Access to Information, while Budget proposal and Citizens budget are voluntary documents.

Since OLBI is defined as a count data index that takes values from 0-5 (number of published budget documents), Poisson's regression model is used to prove hypotheses H_1, H_3, H_4 and H_5. In addition, to test the robustness of the results, these hypotheses are also tested by panel logistic regression. Accordingly, the dependent variable is transformed into a binary variable, taking a value of 1 if the municipality publishes 4 or 5 budget documents, which denotes transparent municipality, and 0 for other cases. Such a classification is made because if municipality publishes 4 or 5 budget documents it means that it publishes at least one voluntary document and is considered to be more transparent, proactive and open to citizens. Panel logistic regression is also used to prove hypothesis H_2.

Spatial regression analysis is used to prove hypothesis H_6. In this analysis it is crucial to ascertain how the budget transparency of the observed municipality is influenced by: its past values (τ), the budget transparency of neighboring municipalities (ρ), and the past values of budget transparency of neighboring municipalities (η). The impact of exogenous dimensions (control variables) on the budget transparency of the municipality is also examined. The direct effect, that is, the influence of exogenous dimensions within a municipality on its budget transparency (β), and the indirect effect, that is, the influence of exogenous dimensions of neighboring municipalities on the budget transparency of the observed municipality (θ) are observed.

For the empirical analysis of the doctoral dissertation, a unique panel database is prepared, which includes all 428 municipalities, variables of interest and control variables with time span 2014-2018, and political variables from the 2013 and 2017 local elections.

1.5 Expected scientific contribution

This dissertation adds to the knowledge of local budget transparency in several ways. First, it systematizes existing theoretical approaches in the analysis of budget transparency with particular reference to online budget transparency, i.e. it offers a comprehensive overview of theories that largely explain the reasons for (non)disclosure of budget data. Second, it clearly identifies the determinants of municipal budget transparency in Croatia, i.e. establishes an optimal combination of policy instruments to increase local government budget transparency. Third, although spatial regression analysis was used within the CSF's "Understanding, monitoring and analysing local government budget transparency" project, examining spatial spillovers and the influence of neighbors in exploring the determinants of local budget transparency is at its very beginnings. Therefore, its application in the dissertation represents an important contribution in strengthening the foundations for future similar research. Fourth, this research is conducted on the example of Croatian municipalities, analyzing the determinants of local government budget transparency of a former socialist, fiscally centralized state, with rather small democracy experience. The example of Croatia is also unique as the newest EU member state. Namely, Croatia has been struggling for many years with the implementation of public sector reforms, which were partly imposed by EU membership requirements. Therefore, this dissertation could serve as an example and motivation for other EU countries and other, contextually similar countries for conducting comparable or similar studies to evaluate these countries' efforts to increase transparency of local budgets.

Since this dissertation is conducted within the CSF project, it is necessary to highlight the approaches, methods and elements that contribute to the work carried out so far within the project. First, looking at the methodological approach, several methods are used in exploring the determinants of municipal budget transparency, as it was not previously approached. Such an approach enables the establishment of an optimal mix of policy instruments that increase local budget transparency. Second, the dissertation examines the impact of legal determinants (Budget Act and SAO) and the representation of women in local representative (hypotheses H_2, H_3, and H_5), which were not examined within the project. Third, while the project looks at counties, cities and municipalities, the dissertation uses a unique panel dataset including the 2014-2018 period and focuses solely on municipalities as the lowest level of government.

1.6 Structure of dissertation

The dissertation consists of six chapters, together with introduction and conclusion. The introductory part highlights the importance of exploring the determinants of budget transparency, defining the area and subject of research. It also covers research objectives and hypotheses, and the methods of scientific research that prove the particular hypothesis. It ends with a concise description of the expected scientific contribution and the structure of the dissertation.

Chapter 2 begins with different approaches to the definition of budget transparency, and since they are often intertwined in the literature, the distinction between budget and fiscal transparency will be particularly emphasized, as well as the importance of a clear definition of budget transparency for its measurements. Therefore, the author offers his own definition of local budgetary transparency. The chapter also explains why transparency alone is not enough, but is just a first step towards more accountable government and greater citizen participation in budget processes. The development of budget transparency at all levels of government is presented in detail, with a clear discourse and focus on lower levels of government in recent research. The development of transparency is presented ranging from theories of public administration and public choice, to New Public Management in developed countries, to the impact and pressures of the global financial crisis on greater fiscal transparency around the world. This chapter concludes by presenting reactive and proactive transparency as two basic ways of budgetary reporting, the interaction with the development of e-government, and the impact of legislation on the disclosure of budgetary information.

Chapter 3 comprehensively presents a theoretical framework for understanding local governments' preferences for lower or higher budget transparency levels. The theories are divided into two parts. The first part explains why local authorities do not want to publish more information, while the second explains why some local authorities are motivated to be more transparent. Accordingly, the first part of this chapter presents theories based on information asymmetry between the public and local authorities (the principal-agent theory, the theory of moral hazard and fiscal illusion). The second part presents legitimacy theory and institutional theory, specifically addressing institutional isomorphism and key external pressures that influence its emergence - coercive, normative, and mimetic. The theoretical framework presented in this chapter forms the basis for conducting the empirical analysis in Chapter 5.

Chapter 4 concentrate on budget transparency exclusively at the local government level. It explains how and why the increasing importance is given to local authorities, highlighting the benefits of a bottom-up approach. It presents internal forces and external pressures as two basic "currents" for higher budget transparency at the local level. Internal forces represent certain characteristics within the local governments themselves, that is, their capacity to offer greater levels of transparency, such as financial capacity, human resources, etc. At the same time, local governments face pressures from the public, the media, civil society organizations (CSOs) and central government for higher budget transparency. Finally, the chapter emphasizes the importance of using information and communication technology, the advantages and disadvantages of online budget disclosure, and the use of the second generation of web (2.0) as a platform for future actions to strengthen budget transparency and effective public participation in budget processes at the local level.

Chapter 5 focuses on the research that is carried out with the aim of proving the hypotheses. The existing empirical research on the determinants of budget transparency at subnational levels of government is first classified, including different ways of measuring the transparency. The overview's output includes summaries of the basic variables that have had the most significant impact on determining budget transparency factors. The review concludes with a synthesis of the results and an indication of the limitations of the research. The chapter then focuses on the Croatian context, outlining the basic features of its local government, and legal framework for budgetary reporting. An econometric analysis is presented after describing the research, methodological framework, the dependent variable, independent variables and data sources. The results of Poisson regression, logistic regression and spatial regression analysis are presented. The end result of this analysis is the optimal combination of determinants, i.e. the optimal mix of policy instruments, that increase municipal budget transparency. The chapter concludes with an explanation of the implications of the results of this research on shaping the reform of the territorial and fiscal organization of the Republic of Croatia.

In the last, concluding chapter, the theoretical and practical insights gained from the analysis of existing scientific literature and the results of the empirical research conducted are linked. This chapter synthesizes the empirical results, policy implications, outlines the limitations of this research, and provides some directions and challenges for future research.

The appendix contains the accompanying results of the entire econometric analysis.

2 DEFINITION AND EVOLUTION OF BUDGET TRANSPARENCY

This chapter presents different approaches to the definition of budget transparency, and the distinction between budget and fiscal transparency. Accordingly, due to frequent ambiguities, the author offers his own definition of local budget transparency. Continued by definition, the development of budget transparency at all levels of government is presented in detail, with a clear discourse and focus on lower levels of government in recent research. This overview ranges from theories of public administration and public choice, to New Public Management in developed countries, to the impact and pressures of the global financial crisis on greater fiscal transparency around the world. The chapter concludes by presenting reactive and proactive transparency as two basic ways of budgetary reporting.

2.1 Definition of budget transparency

The 1997 Asian financial crisis triggered the importance of the internationally-established definition of budget transparency and generally principles of transparent governance. Since then, numerous definitions of budgetary and fiscal transparency have been made. This section presents the existing definitions and scope of budget transparency, the distinction between fiscal and budget transparency, and explains the objectives of budget transparency.

2.1.1 Conceptual definition and scope of budget transparency

In 1998, International Monetary Fund (IMF) published “Code of Good Practices on Fiscal Transparency”, which presented the first effort to define fiscal transparency in a comprehensive way (IMF, 2007a). IMF's definition stresses that any public reporting must contain elements of “comprehensiveness, clarity, reliability, timeliness, and relevance” (IMF, 2007a, p. 10). It implies openness to the general public on past, present and future fiscal activities and the general state of public finances. The Organization for Economic Co-operation and Development (OECD) in 2002 published “OECD Best Practices for Budget Transparency” which defines budget transparency as a "full disclosure of all relevant fiscal information in a timely and systematic manner" (OECD, 2002, p. 7). In addition to the OECD and IMF definitions, Kopits & Craig (1998) emphasized the importance of the possibilities of international comparison of fiscal information. For, this enables “the electorate and financial markets to more accurately assess the government's financial position” (Kopits and Craig, 1998, p. 1), but also activities, and its social and economic implications, compared to some other governments. In 2017, the OECD issued a *Budget transparency toolkit*, which notably simplifies the definition of budget transparency: "Being fully open with people about how public money is raised and used" (OECD, 2017, p. 9).

All definitions emphasize a significant benefit of publishing budget information. Transparent budgets can serve as an important input to ex-ante political control, ex-post monitoring and evaluation, as well as in daily reactions to government resource allocation (Guillamón, Bastida and Benito, 2011). In the context of the scope of budget transparency research, several basic advantages of improving budget transparency levels can be highlighted. *First*, clarity of public spending is needed so that politicians can be responsible for the efficiency and effectiveness of allocation and spending of public resources. *Second*, by being fully open and transparent, the possibility of corruptive actions is reduced, which increases overall integrity in the use and management of public funds. *Third*, budget transparency needs to be sufficiently developed to enable different people and groups to get involved and understand the budgetary process, and constructively discuss budget policy impacts. *Fourth*, transparent budgets and the budgetary process reduce the often-present public distrust in the use of public funds that is in the best interests of citizens. *Fifth*, budget transparency contributes to improved budget outcomes and more equitable fiscal policies.

While the scope of budget transparency is difficult to observe separately from wider fiscal policies, when it comes to definition, it should be distinguished between budget and fiscal transparency. Since the focus of this dissertation is on budget transparency, the next section explains the difference between these two terms, and concludes with the author's definition of budget transparency.

2.1.2 Budget versus fiscal transparency

In literature, the concepts of budgetary and fiscal transparency are often used as synonyms. However, fiscal transparency is a wider concept that, apart from revenues and expenditures, includes public assets, liabilities, and contingent liabilities. It also includes “activities undertaken outside the budget sector (e.g. by autonomous government agencies or extra-budgetary funds), and 'quasi-fiscal activities', undertaken by public and private corporations, and the central bank” (Global Initiative for Fiscal Transparency (GIFT), 2015, p. 50). These activities have a fiscal character, and since they are outside the budget and the government sector they are not financed directly by the government, but indirectly through public corporations. The main aim of these activities is to reduce transactions outside the budget (IMF, 1996). On the other hand, budget transparency is a narrower term, which includes the presentation of key reports within a budget cycle that are centered around the budget. Budget transparency does not include activities outside the budget sector, but rather focuses on a tighter budget sector. Although the concept of budget transparency is generally not used to denote a broad term such as fiscal transparency, one can still find, especially in empirical research, these two terms used interchangeably.

2.1.3 Goals and functions of budget transparency

Budget transparency is not an end in itself. On the contrary, opening budgets to citizens is the very first step towards the democratization of the budgetary process. Therefore, this section outlines some of the basic goals and benefits of increased budget transparency.

The *first* goal of improving budget transparency is to open the door to a better quality budget analysis. For, only transparent, accessible and accurate budget information can be subject to quality independent scrutiny. Experts in the field, CSOs and the media are a crucial part in the initial analysis and dissemination of government budget data. Their analyzes of published budget data in the phase of budget preparation and adoption, as well as monitoring of budget execution in the implementation phase, can significantly bring the budget process closer to citizens, and increase their level of budget literacy. Therefore, the *second* important goal is to serve as a basis for effective and efficient public participation in the budget process. Given the technical nature of budget documents, all stakeholders need to work on simplifying budgetary information so that citizens can analyze and give feedback in a timely manner, thus affecting the more efficient and equitable allocation and spending of public resources. Greater public engagement mechanisms and possibilities to give a feedback on the quality and sufficiency of public services, increase the ability of citizens to hold governments accountable. On the other hand, governments need to provide a feedback on citizens' inputs so that citizens can consider participation a meaningful process, remaining motivated to participate in the future.

The *third* goal is to discourage politicians and officials from fraud, waste and misuse of public funds through allowing improved public scrutiny and participation opportunities. If there are possibilities for examining and analyzing open budgets, there is less room for deviations from the planned allocation and spending of resources, which reduces the possibility of corruptive activities.

The *fourth* goal is to improve communication between governments and citizens and to reduce citizens' distrust in government. Namely, insufficient transparency and openness, along with high corruption perceptions and poor public services, are one of the main reasons for the low citizens' trust in governments (World Bank, n.d.). In this sense, higher budget transparency levels may even serve as an instrument for generating higher revenues. Since transparency increases trust in government activities, citizens are willing to pay higher taxes and donate more funds if they have the ability to control the spending of those funds. In this context, greater transparency and citizens' trust is especially important in developing countries, where the lack of revenues needed to invest in development programs and poverty reduction can be compensated through donations and higher taxes.

This section presented the conceptual definition of budget transparency, its basic goals, functions and benefits from the perspective of the scope of research. Finally, given the continuing intertwining of the concepts of budgetary and fiscal transparency, the author offers a clear definition of budgetary transparency at the local level, in order to distinguish it from broader fiscal terms:

Local budget transparency implies *timely* publication of all relevant budget documents within the local budget process, i.e. at the moment when the executive sends them to the representative for adoption (except Enacted budget). These activities relate to *local government* revenue and expenditure, but not to activities outside the budgetary sector. Budget documents should include all relevant elements, including the general part and budget classifications, and supporting budgetary explanations. Budget information must be complete, accurate, reliable and simplified for better understanding. Given the digital age, published budget documents should be searchable, downloadable, and processable, taking into account their web navigability, presence and accessibility.

2.2 Evolution of budget transparency

This section gives a brief overview of the development of underpinning theories of budget transparency. It starts with public administration and public choice theories, through new public management (NPM), right down to the global financial crisis and the current state of budgetary reporting.

2.2.1 Public administration theory

Conceptually, public administration can be seen as an apparatus that continually supports the organization, functioning and implementation of government policies. In this sense, the study of public administration involves finding the most efficient ways in which the functioning of the executive branch of government can be established, as well as other related institutions and procedures (Akindele and Olaopa, 2005). Akpan (1982) stresses that public administration is the driver and building block of the execution of programs and activities promised by the politicians to citizens during the election campaigns. In this context, he perceives public administration as the "executor" of political promises, viewing it as a broad span of activities within the public policy area.

The public administration theory has been shaped through Classical Public Administration Theory and New Public Management Theory (Dong, 2015). When it comes to the former, for most of the 20th century it was influenced by a bureaucracy model inspired by Max Weber's principles, emphasizing the importance of bureaucracy in legal exertions. Weber's approach emphasizes that theory cannot be developed solely on the basis of empirical observations, but must first establish value judgments that will guide empirical analysis, and finally, the interpretation of those observations. Value judgments in public administration theory are considered important because they take into account the ethical and philosophical principles of a particular culture (Dong, 2015). These ethical and philosophical preferences are considered crucial for the insurance of suitable theory practice.

Furthermore, Woodrow Wilson emphasized in his 1887 ‘The Study of Administration’ paper that bureaucracy should be viewed more from the business side (Wilson, 1887). He emphasized that it was essential in public administration to establish merit-based promotions and professionalisation that would be separate and independent from the political system. According to him, government institutions are made up of two separate but complementary sectors - administration and politics. In other words, political action is focused on understanding and formulating policies, while administration itself represents the execution of formulated policies (Wilson, 1887). The old public administration was a frontrunner until the 1980s, when a New Public Management (NPM) model was developed in response to “adjusting to the demands of a market economy” (Robinson, 2015, p. 7). However, until then, the bureaucratic model was based on centralized control and hierarchical structures, clear, strict rules, and a separation of design from public policy implementation. In short, the conceptual framework of traditional administrative theory portrays the top-down and elitist approach guided by the values of hierarchy and meritocracy (Robinson, 2015). These settings reflect basic criticisms of public administration theory, also underpinned by the view that public administration is obsolete for policy analysis given its institutional focus (Lynn, 1996). Furthermore, Thompson (1993) made two basic criticisms of public administration methods: i) logical positivism that speaks of 'one best way' for conducting public administration research, and ii) a lack of analytical approach to research without strong empirical strongholds, and sometimes even not concerned with theory.

Tullock (2017) outlined several shortcomings of the bureaucratic governance model. He said that the motive of bureaucrats is not to work too hard, and that there is a tendency in the bureaucratic model to expand the government department constantly, which is in conflict with integrated policies, and brings too much heterogeneity and dispersion into its functioning system. At the same time, when public administration becomes too large, it becomes a powerful voting body. In this regard, a politician should view members of the bureaucracy as their employer and not just employees; because the masses of bureaucrats are more likely to fire a politician than vice versa (Tullock, 2017).

Nevertheless, even in the old public administration, efficiency and effectiveness in managing the budgetary resources was at the core of the model. Public administration theory has evolved through different schools of thought mainly based on administrative law. However, the last phase of the development of this theory reflects the importance of openness and participation in public decision-making, as well as access to all information on administrative operations and decisions (Bugarič, 2004). In this context of public administration development, more consideration was paid to the use of certain economic tools in dealing with affairs of a political nature. This has given rise to the development of a public-choice theory that examines voter-incumbent relationships and the general political behavior of self-interested agents (politicians) and principals (voters).

2.2.2 Public choice theory

Public choice theory (PCT) was developed by James Buchanan and Gordon Tullock. The basic function of this theory is the application of economic methods in political theory and practice. Through the interaction of voters, politicians, officials and bureaucracy, it seeks to explain the process of democratic decision-making (Wagner, 2018). In other words, at the heart of PCT lies the non-market decision-making – by means of a public choice, not a market choice.

The basic postulate is that bureaucrats are motivated by their own interests. In the economic and political context, people can be seen as voters, politicians, officials, lobby groups whose goal is to maximize their utility with minimal effort. Therefore, they all want to make decisions that serve their greatest benefit, thus being rational and self-interested. Furthermore, PCT is characterized by the methodological individualism, meaning that individual motivation is preferred in relation to the expected unanimity of group dynamics (Ostrom, 1975). Groups are considered illusory, and can not adequately explain market phenomena.

On the other hand, rational choices of individuals are implied even when it comes to collective decisions. In some areas, and especially in budgetary concerns, collective decisions are required. Collective political decisions, such as whether to increase certain taxes to finance the construction of a new hospital, are also economic in nature. Such decisions include a cost benefit analysis, but also an opportunity cost, i.e. all the alternatives that remained unfulfilled to meet the set goal. Yet, there is a distinction between economic and public choices. In an economic choice, the individual has both costs and benefits, while in public choices, groups that benefit from a particular service or product do not necessarily bear the cost of that product or service. In other words, in a political context, minorities are sometimes forced to accept decisions of the majority, and thus bear the costs of such public choices. The majority acting in their own interests can exploit minorities by voting for their own benefits (rent-seeking), while the costs will be borne by the minority (free-riding) (Butler, 2012). In some cases, governments can even use coercion on minorities so that their decisions are in line with the majority.

Tullock (2017) discussed the main actors and processes in public choice settings, i.e. voters, politicians and the voting process, which is a fundamental link between voters and politicians. He pointed out that the behavior of politicians is not necessarily aimed at maximizing public welfare. Politicians will act in accordance with what they think electorate *will* reward; in other words, politicians will not behave in accordance with what they think electorate *should* reward (Tullock, 2017). In the context of information asymmetry between politicians and voters, knowing that voters are less informed, the outcomes of the two approaches may be vastly different. Although not stated in the public choice theory, increasing government transparency also increases voter awareness, making the outcomes of such behaviors of politicians more likely to change in favor of voters.

By using economic postulates and methods in exploring the efficiency, effectiveness and legitimacy of government activities, the PCT is seen as a guide in understanding the public decision-making process, problem identification, government failures, self-interested and self-motivated groups of people, and recognizing exploitation and use of coercion over minorities. It focuses on identifying problems, and providing solutions to reduce such deficiencies. In this context, greater government transparency and openness in the decision-making is often seen as a remedy for the failures of governments. Greater transparency of policy documents and consultations on all changes with stakeholders and individuals has the power to improve the legitimacy of the decision-making process and hence the management of public funds (Laboutková and Žák, 2016). Two basic transparency functions can be identified in reducing government failures and improving public choices (Buijze, 2013):

i) decision-making facilitator – transparency improves the quality of decision-making by economic actors, thus enhancing the functioning of the whole market;

ii) empowering individuals – more transparent environment inspires individuals to realize their own rights, and make more effective and efficient decisions that will help them achieve their own goals.

When it comes to putting pressure on the government for better governance, the PCT has discussed the need to encourage competition in the system, especially among government departments that traditionally have had a monopoly on certain functions (Tullock, 2017). This is in line with institutional theory and isomorphism, and more specifically with the emergence of yardstick competition, as shown in the theoretical analysis of budget transparency in Chapter 3.

It has been argued that transparency in public policy and political discourse generally enables the creation of a comprehensive intellectual structure for debate, reducing costs caused by inefficiency and contributing to the clarity of establishing appropriate performance indicators (Higgins, 1997). However, the government's deliberate omission of transparency (especially in fiscal policies) is often associated with an attempt to avoid public examination of its activities and behavior. This is particularly present in pre-election campaigns to avoid unwanted reactions from voters (reduction of political support) and the financial market (withdrawal or difficulties in financing the government deficit) (Kopits and Craig, 1998). Furthermore, the PCT stresses that governments want to underestimate the actual costs and overestimate the benefits of their specific policy decisions, thus creating a fiscal illusion among voters (Buchanan and Wagner, 2000). This will be explained in detail in Chapter 3, together with other theories based on information asymmetry.

The PCT raises the question of the supremacy of the political process over the market process, and highlights the importance of restructuring of the electoral process, legislature and bureaucracy. Under the assumptions and arguments of PCT, the foundations of many reforms to modernize the public sector can be found, but also much of the criticism about traditional public administration theory. Promberger and Rauskala (2003) state several basic criticisms of traditional public administration, i.e. elements in which it differs from PCT: i) bureaucrats are primarily motivated by self-interest, ii) lack of effective organizational structures and processes, i.e. market forces, and iii) threat to efficiency, effectiveness and organizational performance due to monopolistic market structures and the excessive number and size of government agencies.

At the same time, some basic criticisms of PCT (mostly given by the interventionist's scholars) can be highlighted. First, there is a lack of stronger empirical evidence that politicians are self-interested and rational individuals than they are in practice (Lewis-Beck, 1986). Second, it can not be said that all public goods managed by individual agents for collective benefit are necessarily inefficiently used. Thirdly, the model is based on the assertion that the individual is the basic unit of analysis, ignoring the fact that many decisions are actually made collectively (Ostrom, 1975). Finally, the PCT's claim to enforce coercion against minority for the benefit of the majority can be considered irrational, as it is considered irrational to judge agents' and individual actions with the same moral principles (Huemer, 2013).

2.2.3 New public management

The new public management (NPM) movement to change the ways of running public organizations began in the early 1980s. As a reaction to the economic recession, it first appeared in the United Kingdom and United States. Then the movement spread to Australia and New Zealand, whose successful NPM reforms prompted most OECD countries to implement such agendas (OECD, 1995). However, only after the implementation of these reforms, experts and academics shared the common features of this movement and called it NPM.

The NPM's primary goal is to improve the capability of public service organizations by applying management models from the private sector. As the private sector focuses on the customer, the NPM in the same way focuses on citizens who are users of services or 'customers' in the public sector. Although the NPM was considered a new concept, several authors held that its basic features are actually rooted in public choice theory and managerialism (Aucoin, 1990; Dunsire, 1995). Nevertheless, it is undisputed that the NPM is oriented to reinventing public sector activities and tackling the problems of traditional public administration. In this respect, some of the key features of the NPM identified by most academics can be highlighted (Gruening, 2001). These are budget cuts, accountability for performance, citizens as consumers and public servants as public managers, decentralization, strategic planning and management, competition, improved accounting and financial management, disjunction of politics and administration, and greater use of information technology. Furthermore, some observers have indicated that the NPM system enables greater democratization and citizen participation (Gruening, 2001).

Given the multitude of features of the NPM model it can not be said that it represents only one management approach, but rather a set of different approaches and techniques. It is designed to stimulate constant public sector competitiveness, responsive public services, flexibility of choice and transparency (Kalimullah, Ashraf Alam and Nour, 2012).

There are several ways in which NPM differentiates from traditional public administration. First, introduced budget cuts have helped large and expensive public sectors to increase their efficiency. Second, encouraging the use of information technology appeared in response to a new external environment. Third, the liberalization of the economic sector has occurred in response to mismanagement of public funds, corruption in the public sector, and inefficiencies in allocation and spending of resources. In this respect, NPM's efforts towards strengthening of competitiveness and transparency in the public sector encourages greater efficiency. Finally, in a competitive, globalized world, citizens compare the quality of services in their environment with others, thus making a real pressure on governments to enhance and ensure the quality of goods and services (Borins, 1995).

One of NPM's biggest criticisms is the implementation of private sector managerial methods to the public sector. Pollitt (1990) and Armstrong (1998) have pointed out that public administration, structures and processes have different social, political and ethical dimensions that differentiate them from the private sector. These contextual differences are accompanied by less leeway in the public sector, more complex processes and responsibilities, and a tempestuous political environment (Savoie, 1995). Finally, NPM structures have expanded worldwide, from OECD countries to developing countries. However, it is noted that a large number of developing countries only apply certain aspects of the NPM principles (Turner, 2002; Mongkol, 2008). Transparency can be one of them, while omitting comprehensive public sector reform. This partial convergence of developing countries is likely to grow over time, as traditional approaches to public administration lack efficiency and effectiveness in performing public tasks under new market conditions (Osborne and Gaebler, 1992). Together with the NPM reforms, the focus on budget transparency has been especially pronounced since the global financial crisis. For this reason, the next subsection summarizes the state of budgetary transparency starting from the pressures created by the financial crisis.

2.2.4 Global financial crisis and pressures for greater budget transparency

In the ascent and after the global financial crisis, much pressure has been placed on governments to increase their accountability, transparency and openness. But why the need for change comes from international institutions and CSOs rather than governments themselves?

To answer this question, one should look at the large differences in the degree of development of democratic societies among countries. While in democratic societies budget transparency and access to information are considered as a human right, in some other, less democratic countries, implementation of institutional reforms, in the form of improved financial transparency and political accountability, can encounter many obstacles. In countries with the ubiquitous systemic political corruption, better known as the state capture (Kaufmann and Bellver, 2005) these reforms are likely to be resisted by certain groups even within the institutions. Taking into account the resistance of individual groups, and often the lack of financial capacity in these countries, the entry points for the implementation of such reforms would lie in international initiatives and their co-operation with domestic CSOs.

According to Koh, The and Tan (2016) one of the main causes of many financial crises can be found in the existence of a moral hazard, especially when excessive liquidity has the potential to affect a sudden change in the direction of capital flows. Moral hazard is based on information asymmetry between the interested parties, where one party goes into high-risk investments knowing that the other party will bear the costs of such risks. In the political context, incumbents take on risks as long as poorly informed voters pay the consequences. However, by increasing transparency, the possibility of moral hazard is reduced, as potential risk carriers (voters) are better informed, thus reducing the resulting information asymmetry.

Between the two financial crises

A ten-year period between the Asian financial crisis and the global financial crisis has been marked by numerous efforts to improve internationalization of standards and good practices of fiscal transparency. The “IMF's 1998 Code of Good Practices on Fiscal Transparency” facilitated the establishment of voluntary self-assessment program of countries, called “fiscal transparency modules of the Reports on the Observance of Standards and Codes (fiscal ROSCs)”. Three years later, the Public Expenditure and Financial Accountability (PEFA) program was launched to harmonize country level assessment and enhance the features of public financial management (PFM) in governments receiving international development aid. Indicators on the state of PFM system include, inter alia, the breadth and comprehensiveness of budget documents, availability and access to key budget and fiscal information, audit reports, and the scope of unpublished operations and activities.

In 2002, the OECD has issued the “Best Practices for Budget Transparency” (OECD, 2002) with three main pillars, including key budget documents, specific disclosures, and insurance of integrity, control and accountability. Key budget documents also include the year-end and mid-year reports, which are an integral part of the budget transparency measure in this dissertation.

In 2006, the International Budget Partnership (IBP), with the assistance of CSOs from around the world, began to publish the Open Budget Survey (OBS), considered the world's only comparative assessment of the budget accountability. It comprises three pillars – transparency, oversight and public participation. The budget transparency pillar (Open Budget Index – OBI) explores the central government's availability and timeliness of published budget documents. Although OBI showed improvements in budget transparency, the progress remained uneven and in many countries very slow (IBP, 2018) (showed in more detail in the next section).

The aftermath of the global financial crisis

In the ascent of the 2008 global financial crisis, the IMF revised the Fiscal Transparency Code to improve the international fiscal transparency standards. Nine new practices were added, mainly related to the public consultation processes. However, the four basic pillars of the 1998 Code remained unchanged: “clarity of roles and responsibilities; open budget preparation, execution and reporting; public availability of information; and independent assurances of integrity”(IMF, 2007a). The Code was revised again in 2014 to clearly define monitoring arrangements and in 2019 to integrate resource revenue management issues.

The global financial crisis has also prompted a re-examination of the strength of present international initiatives that encourage fiscal transparency. Such activities gave rise to the Global Initiative for Fiscal Transparency (GIFT) in 2011, to address the challenges of fiscal transparency through a more co-ordinated approach. GIFT’s purpose is to strengthen, enhance and institutionalize fiscal transparency standards, and to foster citizen engagements and government accountability. In 2012, GIFT issued “High-level principles on fiscal transparency, participation, and accountability”, with the aim of promoting greater coherence between existing standards, as well as popularizing new standards that previously were not covered. Two fundamental rights of these high-level principles can be highlighted: (i) the right of access to fiscal information and (ii) the right to direct participation in the plan and implementation of fiscal policies (GIFT, 2012).

Open Government Partnership (OGP) is another initiative that have emerged after the financial crisis. The OGP was formed in 2011 with the aim of ensuring and controlling the implementation of commitments of governments to encourage open government, combat corruption, and foster new technological solutions. Due to the initiative’s strong advocacy, a total of 78 countries announced their action plans. Given the increasing discourse on local governments, in 2016, fifteen municipalities entered the pilot program and proposed their action plans to be implemeted in 2017. In 2019, 20 local governments around the world became members of the OGP.

In the 2014-2019 period, in addition to the above mentioned revised versions of IMF fiscal transparency code, there were several additional activities. PEFA launched their new check criteria as part of enhanced standards for PEFA reports. In 2017, the OECD, in cooperation with the IMF, the World Bank, IBP, GIFT and PEFA, published “Budget transparency toolkit – practical steps for supporting openness, integrity and accountability in PFM”. Table 2 provides an overview of the development of fiscal transparency standards and norms, starting with the Asian financial crisis in 1997.

Table 1 Overview of the development of fiscal transparency standards and norms

Year	**Activity**
1997	Asian financial crisis → encouraged codification on fiscal transparency
1998	IMF Code of Good Practices on Fiscal Transparency → facilitated the establishment of ROSC – voluntary self-assessment program of countries on compliance with international financial standards
2001	Public Expenditure and Financial Accountability (PEFA) program to harmonize country level assessment and enhance the quality of PFM in governments receiving international development aid
2002	OECD Best Practices for Budget Transparency
2006	IBP's Open Budget Survey (OBS) and Open Budget Index (OBI) to assess budget accountability and improve governance
2008	Global financial crisis
2008	IMF revised Fiscal Transparency Code to improve the international fiscal transparency standards
2011	OGP’s commitments from governments at all levels to foster open government, combat corruption, and foster new technological solutions

2012	GIFT's High-level principles on fiscal transparency, participation, and accountability to promote greater cohesion between existing standards, as well as popularizing new standards that were not covered previously
2014-2019	IMF revised the Code to clearly define monitoring arrangements (2014); PEFA launched their new check criteria as part of enhanced standards for PEFA reports (2016); OECD published Budget transparency toolkit (2017); IMF revised the Code to integrate resource revenue management issues (2019).

Source: Author

2.2.5 Current state of budget information disclosure

There are various reasons for different levels of public sector budget transparency across countries. The degree of transparency and accountability processes in a particular country can depend on different society characteristics and different cultural values (Fornes, 2014). According to some authors, common fiscal transparency boosters can be found in political turmoils and / or transitions, or in response to the resulting financial crisis, as can be seen in the past (Khagram, Fung and de Renzio, 2013). On the other hand, publishing budget information online comes with rather low additional costs, since governments already prepare most of the budget documents for their internal use.

When it comes to assessing and comparing budget transparency across countries, IBP's Open Budget Index (OBI) – calculated as part of the Open Budget Survey (OBS) – is considered the only impartial, independent and internationally comparable measure of budgetary transparency. OBS has been published since 2006, every other year, and the data are collected with the help of national institutions and CSOs. In addition to the budget transparency, OBS consists of two more pillars – public participation and oversight. Public participation reflects possibilities for citizens to take part in the budget process, while oversight implies the degree to which the legislature and supreme audit institution provide oversight during the planning and implementation stages of the budget cycle.

Based on questions on the quantity and timeliness of the budgetary information obtainable, the OBI ranks countries in accordance with their transparency result, ranging between 0 and 100. The index examines the availability and timeliness of eight key budget documents in line with international standards and the OECD and IMF recommendations. These documents are: "Pre-Budget Statement, Executive's Budget Proposal and supporting documents for the Executive's

Budget Proposal, Enacted Budget, Citizens Budget, In-Year Reports, Mid-Year Review, Year-End Report, and Audit Report” (IBP, 2018, p. 10).

OBI 2017 covered 115 countries. The average global budget transparency score was 43/100, which is a slight deterioration compared to the previous cycle of 2015 (45/100), calculated for the 102 countries that were surveyed in both rounds. Table 2 presents the OBI since its inception in 2006. It shows the share of countries according to the score achieved in the total number of countries surveyed for each research cycle. Budget transparency is sufficient if governments publish extensive (81-100 points) or substantial information (61-80). On the other hand, insufficient budget transparency implies limited (41-60), minimal (21-40) or scant information available (0-20).

Table 2 Open Budget Index (OBI) scores (in%)

		2006	**2008**	**2010**	**2012**	**2015**	**2017**	**Average**
	Countries covered	59	85	94	100	102	115	93
	Global average OBI	46	40	42	43	45	43	43
1	Extensive	10	6	7	6	5	4	6
2	Substantial	15	16	14	17	19	18	17
3	Sufficient (1+2)	25	22	21	23	24	23	23
4	Limited	36	29	35	36	43	37	36
5	Minimal	25	19	20	15	17	17	19
6	Scant or zero	14	29	23	26	17	23	22
7	Insufficent (4+5+6)	75	78	79	77	76	77	77
8	Total (3+7)	100	100	100	100	100	100	100

Source: Author's calculations based on IBP (2019)

Since the beginning of measurements, the number of countries involved in the survey almost doubled and most of them disclose insufficient budget information, while only a small number of countries have sufficient budget transparency (Table 2). Furthermore, 22% of countries have scant or no information available, while only 6% of countries declare extensive budget information. In the last research cycle, extensive availability of budget data is shown only by New Zealand, South Africa, Sweden, Norway and Georgia. However, it can not be said that countries do not achieve improvements in budget transparency. In the period from 2008 to 2015, global budget transparency increased in each round by an average of 2 points. The exception is the last round of research that records a decrease in average global budget transparency (from 45/100 in 2015 to 43/100 in 2017). Since the beginning of the measurement, Croatia has provided the public with limited budget information, with the exception of 2012, when the central government's budget transparency was substantial.

When it comes to assessing fiscal transparency at the local government level, there are certain efforts in the direction of international standardization of measurements. Since 2013, PEFA has started a pilot analysis of the quality of public expenditure management and financial accountability systems of the cities. The aim of the analysis is to identify measures to improve public expenditure management and adjust the legislative framework for local financial management. PEFA's seven pillars include: “budget reliability, transparency of public finances, management of assets and liabilities, policy-based fiscal strategy and budgeting, predictability and control in budget execution, accounting and reporting, and external scrutiny and audit” (PEFA, 2019, p. 2). In Croatia, PEFA assessments were conducted in 2013 and 2014 in four cities – Crikvenica, Koprivnica, Labin and Sisak. According to Bajo, Primorac & Runtić (2017) some of the key issues identified are the unpredictability of revenues, poor financial reporting and audit, the lack of successful medium-term fiscal planning, and the need for internal audit. On the other hand, these cities can boast of establishing strategic development plans and improving the management of city assets.

Over the last two decades, significant efforts have been made to improve the government's budgetary transparency. IBP's OBI - the only standardized international indicator of central government's budget transparency - has shown that the level of budget transparency is generally insufficient. On average, 77% of the countries surveyed have limited, minimal or scant availability of budget information. More recently, there is a growing discourse on the establishment of international standards of budget transparency of local governments. Since pilot studies are still being carried out, it is expected that they will provide the basis for the establishment of a harmonized and internationally recognized budget transparency measure with the aim of applying it to the local governments of different countries.

2.3 Reactive and proactive budget transparency

There are two manners in which citizens can obtain budgetary information. The first relates to *reactive disclosure* when an individual requests and ultimately gain access to the budget information, i.e. the *demand-side transparency*. On the other hand, publishing budget information by government bodies without prior request from individual members of the public refers to *proactive disclosure,* i.e. the *supply-side transparency*. The latter can be further classified as *mandatory*, which implies the disclosure of the budget information required by law and finally, the *voluntary* disclosure. However, both proactive and reactive transparency form an open data[1] policy and are interrelated, i.e. the greater the proactive transparency, the less need for requesting information, and vice versa. This section brings the advantages and disadvantages of both proactive and reactive budget transparency, and their relationship with public services, e-government, and legislation.

2.3.1 Advantages and disadvantages of reactive budget transparency

In the demand-side (reactive) transparency citizens request information from public authorities. In such a situation, one who seeks certain information refers to the law that allows to obtain the information sought. Approximately 120 countries have right to information (RTI) law, under which citizens can request information. However, according to Transparency International (TI) (2018), just having a law is not enough. In this respect, based on TI's insights and findings and those of Transparency & Accountability Initiative (2011), the main shortcomings of relying on reactive disclosure can be highlighted:

- many RTI laws fail to meet international standards, from design and implementation to promotion;
- if there is a low capacity of public officials responding to citizen demands, and if they are under-educated or subject to secrecy culture, even well-established RTI laws may be ineffective;
- in an environment of complicated public administration and bureaucracy, citizens are often unaware of their rights;
- timeframes for responding to inquiries are often not respected;
- information is often not delivered in a format required by a requester, and governments often introduce copyright rules to restrict reuse of public information unless the requester pays the fee.

However, there are also some advantages of reactive disclosure:

- reactive transparency followed by informed and knowledgeable citizens and RTI laws complying with international standards sometimes can have better effects than proactive transparency – especially in the case of lack of clarity in the proactive disclosure, which result in the opaque or zombie transparency (Fox, 2007; Michener, 2015).
- citizens can not drown in the 'sea of information', as they seek specific information;

[1] More broadly, open data policy means taking care of the availability, accessibility and utilization of information resources. The European Commission states that open data represents public sector information that can be promptly and widely accessible and re-used.

- direct communication of citizens with the information commissioner's office can have a motivating effect for greater citizen engagement in budget processes.

The following subsection shows the pros and cons of proactive budgetary reporting.

2.3.2 Advantages and disadvantages of proactive budget transparency

In addition to reactive disclosure, open government policies are also expressed through proactive transparency. Where regulated, proactive disclosure is an obligation to public institutions, the part of the right of access to information. Unlike reactive transparency, proactive revelation implies that the government publishes information on portals and websites without waiting for a public to request for that information. The development of information and communications technology (ICT), such as Web 2.0 (in more detail in Chapter 4), has made it possible for governments to publish large amounts of information in re-usable formats, thus giving citizens freedom in how to use this information. Accordingly, the open data policies of many governments are based on the proactive disclosure of information. The advantages of proactive approach can be summarized as follows:

- all budget information that is required to be published in accordance with freedom of information (FOI) law can be proactively published with a searchable database, thus reducing the cost and time needed to respond to each individual query;
- once established, proactive disclosure facilitates practices that lead to greater government accountability and integrity;
- proactive publishing of different data formats and raw data enables more effective re-use of information and scrutiny by citizens, providing greater opportunities for more effective public engagement in budgetary processes;
- proactiveness in disclosing information can change the way citizens perceive power, contributing to greater public trust in government;
- if well-organized and presented, proactive disclosure contributes to greater visibility and availability of information on past, present and future budget data, thus greatly facilitating citizen participation, scrutiny, and monitoring.

However, there are also some disadvantages of proactive transparency:

- if the government does not manage databases and paper files properly, citizens can lose themselves in an unorganized sea of information. Therefore, it is necessary to answer the question of what information is needed and for what purpose (de Marilac Félix, 2011);

- proactive publishing can sometimes be exploited by politicians, especially in pre-election campaigns, to demonstrate good governance practices to citizens. In these cases, information overload can be seen as a cheap cosmetics that conceals the necessary fundamental reforms, budgetary control and oversight (Cruz Prieto, 2013).

2.3.3 Public services, e-government, and budget transparency

It is already known that increasing budget transparency brings many benefits. But, how does it specifically relate to the quality of public services and the establishment of e-government? The publication of clear, accurate and timely budget information and the establishment of appropriate mechanisms for direct citizen involvement in budgetary processes may have an impact on reducing the potential for corruptive activities and thus reducing budget waste. In that case, it is more likely that tax revenues will be used to provide enhanced public services in order to attain tangible amelioration in the quality of life of citizens.

In addition to promoting tax-funded public services, budget transparency and direct public participation play a role in strengthening the feedback delivery mechanisms on quality of service provision. In this context, based on the feedback from people who receive specific services, governments can gain insight into the quality of budget execution and accordingly develop new programs and activities to strengthen budget utilization for the next period. In addition, supreme audit institutions (SAIs) also benefit from receiving feedback, especially when designing audit programs (OECD, 2017). Transparency and accountability initiatives stress that service delivery mechanisms and feedback from people are particularly important in less developed areas. In poorer areas, services are largely dependent on budgets, budgets on levels of aid, while the accountability for each service depends on the level of available budget information (McGee and Gaventa, 2010).

Since government expenditures are particularly visible and tangible to citizens at the subnational government level, more and more open government concepts and initiatives are directed at lower levels of government. As in many countries subnational governments are crucial public service providers, open government strategies focus on local and regional authorities. In the broader sense, the lack of supervision in remote areas as one of the problems of decentralization has prompted reforms in many countries where e-governance is seen as a new tool for managing accountability, transparency and efficiency. E-government implies the use of ICT in providing and enhancing the delivery of public services to citizens, but also providing information, fostering public engagement, and bi-directional communication. As a much wider concept of budget transparency, e-government includes improvements in effectiveness, efficiency, public service quality, and transformation of government operations. In this respect, although budget information disclosure is an ineluctable part of e-government and closely related to the e-government concept, fiscal/budget transparency is slowly becoming a separate subfield of public administration research.

2.3.4 Impact of legislation on budget information disclosure

The legal regulation of the publication of budget information increases the probability of government's compliance with set principles and practices of transparency. On the other hand, less formal arrangements, such as the recommendations of certain ministries to local authorities for publishing certain budget information, have significantly less impact on implementation than legal regulation. Including transparency obligations in budget laws increases the probability that implementation will be consistent, equitable, and sustainable (de Renzio and Kroth, 2011). When publication of budget information is regulated by law, citizens may, on the basis of law, demand from the government the disclosure of such information. This further reduces the possibility of abuse of power while increases the advocacy power of citizens. Transparency regulated by the budget law, often referred to as mandatory transparency, should include information on when, where and how governments should publish specific budget documents. In this regard, the budget legislation serves as the basis for establishing specific rules to ensure that the budget cycle is transparent at all its phases.

Key budget documents whose disclosure should be legally regulated are (OECD, 2002; Ramkumar and Shapiro, 2010, pp. 6-24):

- "Pre-budget statement
- Executive's budget proposal
- Citizens budget
- Enacted budget

Budget formulation and approval

- In-year reports
- Mid-year review
- Year-end report
- Audit report"

Budget execution and oversight

The first four documents refer to the formulation and approval phases of the budget process, and the remaining four to government's budget execution and oversight. Since all eight reports are considered key budget documents, their disclosure should be legally binding. However, de Renzio & Kroth (2011) observed the countries with very extensive mentions of transparency in the budget legislation and found that none of them prescribe in their budget laws that the disclosure of all eight budget documents is mandatory. They found that most countries publish in-year reports, year-end reports, and audit reports, which only allow for ex-post public scrutiny. None of the observed countries have legally regulated the mid-year review. On the other hand, all countries are worse off in the legal regulation of publishing budget documents from the budget formation and approval stages, thus reducing the ability of the public to engage in the process of formulation and adoption of the budget.

Since budget transparency is the first step towards direct public engagement in the budget process, well-designed budget legislation should also include mechanisms to better inform non-state actors and involve them in all phases of the budget cycle. However, public participation clauses in budget law are rather rare. In this regard, the OECD and IMF budget transparency guidelines can be updated with a greater focus on citizen engagement mechanisms. These mechanisms could be arranged as: free participation of citizens and CSOs in budget discussions; the possibility to provide suggestions and objections to specific budget issues; organizing public consultations on specific budget issues; the possibility to provide inputs in all phases of the budget cycle (e.g. on public forums), etc.

To summarize, numerous countries today include transparency clauses in the budget law and considerably less public participation clauses. De Renzio & Kroth (2011) concluded that countries differ significantly in the scope of inclusion of budget transparency provisions in their respective budget laws. Countries with well-regulated legal framework in the context of budgetary provisions are not necessarily good in implementing these clauses. Similarly, in countries with a weak or unclear legal framework, sometimes transparency practices are stronger than in countries with strict laws and incorporated transparency clauses. However, as they concluded, countries that show high levels of budget transparency that are without budget transparency legislations are mostly countries with a long tradition of democracy, openness and participatory societies. On the other hand, in countries with weaker democratization processes, the inclusion of budgetary provisions into the law has proven to make a significant contribution to higher budget transparency levels and general transparency reforms. These findings are in line with the IMF's allegations that fiscal laws and regulations are important as their implementation in practice (IMF, 2007b). In other words, legislation is inadequate if there is a lack of effective implementation in practice. This could trigger a debate on introducing sanctions for non-compliance with legal provisions, especially when it comes to subnational government budget transparency. It could also be questioned whether law and mandatory disclosure affect the government's voluntary revelation of information.

This chapter presented different definitions of budgetary transparency, pointing to the intersection of the use of different concepts of budgetary and fiscal transparency. Accordingly, the author presented his own definition of budget transparency, which underlies the calculation of the dependent variable, and conduction of an empirical analysis in Chapter 5. The chapter also outlined the evolution of budget transparency, from traditional public administration to New Public Management to the current state of budget reporting. Finally, two basic types of budget reporting – reactive and proactive - are presented, the importance of applying them to the delivery of public services, and the importance of legal provisions to increase budgetary transparency.

Given the advantages and disadvantages of proactive and reactive transparency identified above, the further approach and empirical analysis of this dissertation is based on proactive transparency, which can be mandatory and voluntary. Continuing on the definition and development of budget transparency, the following section details the theoretical framework for approaching budget transparency analysis.

3 THEORETICAL APPROACH TO THE ANALYSIS OF BUDGET TRANSPARENCY

This chapter presents theoretical basis for conducting empirical analysis in this dissertation, i.e. finding the optimal mix of determinants that promotes higher local budget transparency. The first part of the chapter introduces theories based on information asymmetry – principal-agent problem, theory of moral hazard, and fiscal illusion – which can help to understand the reasons why governments are not motivated to be more budgetary transparent. The second part presents legitimacy and institutional theories, which can help in finding out what encourages / pushes governments towards higher levels of budget transparency.

3.1 Theories based on information asymmetry

The three basic theories that carry information failure as their common component are the principal-agent problem, the theory of moral hazard and the fiscal illusion. In all of them, one side (agent or politicians) has more or better information than the other (principal or citizens). Therefore, in a knowledge transaction, information failure creates an imbalance of power, affecting that one party has far fewer opportunities for quality decisions than the other.

3.1.1 Principal-agent problem

The principal-agent theory (also referred to as agency dilemma, or just agency problem) was developed in the 1970s within the disciplinary mix of economics and institutional studies, i.e. political economy. Barro (1973) adapted the agency model to the representative democracy settings, focusing on the existence of different interests of citizens and their political representatives, stating that the electoral process and certain political structures could be used as mechanisms to balance these interests. These mechanisms would put the incumbent in a position where an increase in his self-interest is approximately equal to an increase in the electorate's interest. Jensen & Meckling (1976) stressed that the principal-agent connection can be seen as an agreement in which individuals (principals) hire a third party (agent) to carry out and provide certain services on their behalf. This relationship implies that the principals give the agent some authority to make decisions on their behalf. However, if both the principals and the agent are utility maximizers, it is likely that the agent will not always work for the principal's best interests, but rather for his own self-interest. In the context of agency dilemma, Ferejohn (1986) considered different mechanisms of the elecotral control of agent when the electorate is homogeneous or heterogeneous in their preferences. He also concluded that the greater the transparency in the public sector, the greater the willingness of voters to participate in financing public sector activities. Today, the principal-agent theory has gone far beyond economics and institutionalism, and has interfered with different contexts of information asymmetry, risk and uncertainty.

In conditions of perfect information, without hidden actions and knowledge, voters would elect their political representatives on the basis of a proximity rule, that is, minimizing the distance between their policy preferences and those of politicians in government (Lane, 2013). In Max Weber's ideal agent-politician model, the agent would hire several bureaucrats on long-term contracts who should specialize in the affairs they perform, to be able to offer excellent public services. These bureaucrats would concentrate on accomplishing goals, proficiency and productivity, and would show political neutrality. Therefore, without rents, opportunism would not be the agent's main goal. However, in reality, where asymmetric information exists, the agent's main preoccupation is the pursuit of rent and opportunistic action.

In representative democracies an agency issue happen when agents (politicians) make decisions that have an effect on the behavior and life of the principal (citizens). This relationship implies that the agent will make such decisions that are in the principal's best interests. However, the problem arises in circumstances where agents are self-interested individuals guided by their own interests, which are opposite to the ones of the principal. What is considered in this theory as an additional incentive for such an agent's behavior is information failure, or assymetrical information, when, unlike principal, agents have much more knowledge and information in decision-making processes. In terms of asymmetric information, Hart and Holmström (1987) stressed that the principal-agent relationship is determined by two difficulties – moral hazard (hidden action) and adverse selection (hidden knowledge). Moral hazard implies that one party (agent) enters risky activities, knowing that the other party (principal) will bear the potential cost of the risk (discussed in detail in the next subchapter). Similar is the case with adverse selection, where one party assumes more risk due to more knowledge and information, knowing that the other party (with less knowledge and information available) will bear the cost of the risk. In such circumstances, a risk exposed principal interacts with self-interested risk-avoidant agents. In this interchange, principal employs an agent and pays him on the basis of the agent's delivered output (Lane, 2013). As Lane (2013) stresses, the greater the effort of an agent, the greater the likelihood of his higher output. Accordingly, the principal wants to sign a contract that encourages a high effort of an agent to make the output as big as possible. However, in terms of asymmetric information, it is difficult to meet the incentive compatibility requirement, which is why one has to face suboptimal solutions. This can be seen in the public choice school of thought, more precisely in public administration literature, where Niskanen's budget maximizing model points out that agents use the advantages of having more knowledge and information from the principals to offer non-optimal public services (Blais and Dion, 1990). Hidden information and actions from principals enable opportunistic agents to engage in rent seeking, i.e. to increase their own existing wealth and benefits, without creating any wealth or benefits for society.

In this sense, citizens, as a principal, bear two types of agency costs. The first is the direct costs, which include all the tangible and intangible rewards of politicians, that is, their remuneration. Other, indirect costs come from the mismanagement and poor performance of agents and their mistakes. These costs can be very high, such as a failure in public procurement processes or the complete loss of huge national assets (Lane, 2013). The greater the asymmetry of information, the greater the likelihood of these costs being higher and vice versa. Jensen & Meckling (1976, p. 6) have introduced three types of agency costs: (i) “principal's monitoring expenditures, (ii) agent's bonding expenditures, and (iii) residual loss”.

Agency relationship points to the divergence of interests of the principal and the agent. The principal has the ability to reduce this divergence by providing certain incentives to the agent and introducing improved and more powerful control mechanisms that will reduce the agent's unwanted behaviour (principal's monitoring costs). Principal's monitoring expenditures imply a broader concept than merely observing an agent's behavior. They also include ways in which a principal can control an agent, e.g. through compensation packages, budget constraints, compliance and operating rules, etc. The agent's bonding expenditures arise in situations where he wants to tell the principal that he will not take any action that will harm the principal, and that the principal will be compensated if he accidentally takes such action. Given the optimal monitoring and bonding costs of the principal and the agent, there will be a divergence between the agent's actual decisions and those expected by the principal. In such a situation, the agent's self-interest will emerge, which will diminish the principal's expectation of his welfare. This resulting impairment of the principal's welfare is called residual loss and also represents an expense arising from agency relationship.

Nevertheless, it can be said that politicians and citizens are interdependent. Their welfare depends on each other. According to Gandía & Archidona (2008), politicians are able to maximize their wealth by being re-elected by voters. On the other hand, the wealth of voters depends directly on the actions and moves of their agents, which is why they have an additional incentive to track the agents' pace. In the context of reducing information asymmetry and self-interest of agents, some studies have proposed appropriate control mechanisms to increase public sector accountability and transparency (Soudry, 2006). These mechanisms consist of ex ante (increased monitoring in administrative procedures) and ex post measures (the existence of oversight of some superior authorities). Furthermore, traditional principal-agent theory lists two basic forms of incentives (in reducing corruption and policy distortions): premiums and rewards for good governance (referred to as 'carrots'), and penalties for misgovernance (referred to as 'sticks'). However, Dabla-Norris & Paul (2006) report that traditional types of incentive tools are ineffective in combating rent seeking. In this regard, they state that certain external factors, such as increasing transparency, can significantly affect the quality of public outcomes at different levels. Higher transparency can allow citizens greater bargaining power over the agent, facilitate the implementation of control mechanisms, and enhance the overall political environment (Dabla-Norris and Paul, 2006).

Holmström, (1979) said that asymmetry of information between individuals arises because they cannot observe each other's actions, and it naturally implies that the solution to this problem lies in greater monitoring of their actions. In this regard, the introduction of a mechanism of complete control (in simple contexts) implies optimal risk sharing among the parties involved. This can be achieved by introducing a clause in the contract to penalize the improper and dysfunctional behavior of individuals. However, complete monitoring of the actions of agents and principals is either impossible or overly expensive. In such circumstances, the interest of individuals is created around how imperfect estimators of actions will be accessed and used. It may also be asked how the publication of additional information will be optimally used. Accordingly, increasing transparency, i.e. reducing information asymmetry, reduces the principal-agent problem and increases the efficiency of resource allocation (Holmström, 1979).

It is widely discussed that the volunatry provision of budgetary information can reduce information asymmetry and thereby limit potential conflicts between agent and principal that are present in the context of hidden actions and kowledge (García and García-García, 2010; Birskyte, 2019). According to agency theory, a more active principal, i.e. more active electorate, will require greater accountability and transparency of the agent (government). On the other side, in order to increase the possibility of re-election, politicians seek to create an image of a more transparent and accountable governance. However, by providing more information, they are facing a trade-off. On the one hand, re-election as a result of greater transparency will allow them to get higher rents, as the electorate is ready to pay higher taxes. This is well explained by Lassen (2000) in his principal-agent model of government. He empirically tested a relationship between political accountability and general government tax revenue and showed that transparency and accountability increase the validity of public goods' benefits, which affects voters to support higher taxes. On the other side of the trade-off, delivering more information reduces the agent's ability to extract rents (Esteller-Moré and Polo Otero, 2012). Also, greater transparency leaves less opportunity for the agent to pursue self-interested goals, which leaves more room for maximizing the principal's welfare. For transparency to serve as a cornerstone in reducing information asymmetry, Alt, Lassen, & Skilling (2002) point out that:

a) voters should be informed in a timely and clear way about the actions of the politicians they have elected. In this context, Ferejohn (1999) also stresses that in a democratic environment, voters need a high level of transparency so that elected political representatives (primarily citizens' representative bodies) have greater opportunities to control public resources throughout the political process.
b) efforts are needed to facilitate coordination and a comprehensive analysis of budget outcomes between different political parties that alternate in power. In this way, voters would have better insight into the implementation of the planned goals of different political parties, which would facilitate their decision-making in the elections.

Esteller-Moré & Polo Otero (2012) indicated that political competition largely determines agents' behavior. In the case of uncertain re-election, i.e. when fierce competition, a politician's strategy may be a higher transparency level, but when a victory or loss is certain, delivering more information ceases to be their strategic re-election instrument. In any case, insufficient transparency can produce dominance of agents in the pursuit of their own interests (Guillamón, Bastida and Benito, 2011). On the other hand, fostering transparency contributes to the resolution of agency issues by increasing the awareness of principals and strengthening its trust in agents (Laswad, Fisher and Oyelere, 2005; De Araújo and Tejedo-Romero, 2016a).

However, the role of transparency is much broader, and does not necessarily relate to the control of agent activity by principals. In developed democratic countries, not only access to information (reactive transparency) but also voluntary disclosure of government information (proactive transparency) can be considered as a human right. But in addition to human rights, there are other reasons why governments should independently move towards greater transparency. First, a low level of transparency, i.e. the existence of imperfect information, can lead to market failures, or inefficiencies in the functioning of the market. Second, encouraging and achieving greater transparency provides incentives for more efficient redistribution and greater inclusiveness of all stakeholders (Kaufmann and Bellver, 2005). However, without incentives, the challenge is to carry out any institutional reform. Because, if agents know that they are subject to principal scrutiny and if they know that successful reforms will be rewarded with greater public support, they will have more incentives to engage in improving government transparency and accountability. Kaufmann & Bellver (2005) said that this principal-agent relationship in which citizens empower their political representatives to make decisions on their behalf and in turn demand the accountability of the government lies at the heart of the development process.

Some of the basic criticisms of principal-agent theory can be found in some of its assumptions (Zogning, 2017); for example, that the market is not affected by social relations, that the behavior of one party is purely self-interested and that cooperation implies a contract between the parties, that the behavior of the parties is rather homogeneous and predictable. However, in the real world, parties are not only interested in the financial aspect but also in their status, complacency and community (Hirsch, Friedman and Koza, 1990). Also, in the complex environment in which the parties reside, their actions are rarely homogeneous and not easy to control (Zogning, 2017).

Nonetheless, agency theory has found its grounding in public sector research, the relationship of politicians and government with citizens, in particular relying on public sector accountability and transparency (e.g. Alt, Lassen and Rose, 2006; Bastida and Benito, 2007; del Sol, 2013; Cucciniello, Porumbescu and Grimmelikhuijsen, 2017). Therefore, the principal-agent theory is still influential in public sector reforms. Moreover, the main elements of the NPM were built on the basic ideas of an agency dilemma (Alcaide Muñoz, Rodríguez Bolívar and López Hernández, 2017a). In other words, the key issues of the principal-agent framework are deeply embedded in the essence of public administration and public management. This agency relationship is also evident in the various incentives and rationality in today's government operations.

3.1.2 Theory of moral hazard

Another theoretical underpinning for the analysis of budget transparency based on information asymmetry is a moral hazard theory. The term moral hazard was used as early as the end of the 19th century by English insurance companies to denote negative activity associated mainly with fraud or immoral behavior. In their research, Rowell & Connelly (2012) presented a history of the concept of moral hazard, ranging from historical and theological literature, probability, insurance-industry literature, to economic literature. The term has been revived by economists in the 1960s, not necessarily implying immoral behavior or fraud, but rather inefficiencies in situations where risk is dispersed or when it cannot be fully assessed. In conditions of risk dispersal, in economics, moral hazard remains a term for activities in which one person takes on more risk because the other will bear the cost of such risky behavior. Also, moral hazard can be observed in financial transactions, where the conduct of one changes to the harm of the other, after the arrangement has been completed.

According to the conventional theory of moral hazard, people behave according to the different knowledge they have about the real world. In this sense, an association between agency dilemma and moral hazard can be established, i.e. one increases the other. Therefore, in conditions of information asymmetry and hidden activities, the agent, with more information and knowledge, will take more risks, bearing in mind that the principal will pay for the consequences of such activities. When it comes to agency relationship, moral hazard often arises within the argument of disjointed ownership and control. Namely, when the economic good is not adequately controlled by its owner (principal) but rather by the agent, information asymmetry (agent having more knowledge and information than the principal) will produce moral hazard (Hülsmann, 2006). In such cases, where the principal does not have effective control of the agent, the agent's activities will be directed to his own interest and he will take risky activities at the principal's expense.

In the context of agency dilemma and moral hazard theory, several authors have looked at different segments of the electoral accountability models (Ferejohn, 1986; Austen-Smith and Banks, 1989). The basic premise of these models is imperfect (incomplete) information. On the one hand, there is incomplete information about the agent's actions, however with perceived motivations, suggesting moral hazard. On the other hand, the agent's behavior is visible, but his motivation remains unclear, indicating adverse selection. One of the significant influences in agency literature and literature on electoral accountability in political economy was the study by Ferejohn (1986). He stressed that the accountability of the authorities towards the public begins to be created by competitive elections. In this context, political representatives can improve the outcome for voters by devoting their mandate to acting in the interests of the citizens. However, if politicians do not act in the interest of citizens, or if their performance is below the expectations of voters, voters can turn to a retrospective voting strategy and oust the government. Ferejohn (1986) states that these awards and punishments are enforced on election day. Dogan (2010) pointed out that political moral hazard occurs as a result of the existence of two components. First, the politician gains power from the electorate to enforce his / her policies in the resulting political mandate. Second, due to the existence of information asymmetry, in most cases voters are not aware of all the decisions made by their political representatives. As voters vote according to the outcomes of policies in the previous period, the upcoming elections can serve as a mechanism to control politicians' promises.

When it comes to monitoring and controlling politicians, two streams of research can be distinguished, given the different levels of transparency of certain politicians' policies (Hülsmann, 2006):

a) models in which policies implemented by politicians are assumed to be visible and perceived by voters. Accordingly, the voter makes the decision to re-elect a politician according to his / her policies implemented in the previous term (Barro, 1973; Rogoff and Sibert, 1988; Rogoff, 1990);
b) models where policies are not visible to citizens, so they cannot be observed and evaluated. In such circumstances of information asymmetry, the re-election of politicians by voters is not based on the policies implemented in the previous term, but based on the outcomes of those policies, which will only be visible subsequently (Ferejohn, 1986; Austen-Smith and Banks, 1989; Alesina and Cukierman, 1990).

In short, in activities involving two or more stakeholders, moral hazard encourages those activities in which one party takes advantage of the other. If the other party realizes that it has been expropriated, it will be empowered to act against it. The consequences of moral hazard vary depending on the situations in which they arise. In general terms they include market failures and inefficient allocation of resources, which can cause market disequilibrium (Hülsmann, 2006). The most common source of moral hazard is the asymmetry of information, as described in conventional moral hazard theory. However, some studies have referred to government failure rather than market failure, stating that government interventionism can also be considered as the cause of moral hazard (Hülsmann, 2006).

As information asymmetry is a major cause of moral hazard, a better supply of information to all stakeholders on each of their activities contributes to reducing this problem. In other words, in the context of agency relationship, increasing transparency reduces the possibility of moral hazard in the interaction between voters and politicians, and facilitates electorate controls on the activities and decisions of political representatives. Government disclosure of information can mitigate the resulting market inefficiencies and improve resource allocation distorted by moral hazard (Kaufmann and Bellver, 2005). In other words, moral hazard issues arising from information asymmetry could be partially or completely avoided by introducing comprehensive transparency requirements. Some research suggest that while transparency increases government legitimacy and reduces the possibility of moral hazard, overloading citizens with full transparency throughout the decision-making process can create frustrations and counter-effects on government legitimacy (De Fine Licht *et al.*, 2014).

Nevertheless, the introduction of transparency rules and regulations should have a positive effect on agent behavior, and limit unobserved information by principals. In this context, the improvement of existing transparency mechanisms, i.e. rules and regulations and the implementation of appropriate accounting practices, i.e. the quality, accuracy and reliability of reporting information, are the basis for achieving greater levels of transparency (Vishwanath and Kaufmann, 1999). Greater transparency of the budget process is particularly important at times when new fiscal rules are introduced. Low levels of fiscal transparency confine the citizens' capacity to monitor and control an agent's behavior. In these circumstances, the introduction of fiscal rules encourages authorities to participate in fiscal gimmickry and creative accounting, thus manipulating reporting fiscal information (Alt, Lassen and Wehner, 2012). On the other hand, higher transparency in the budget process allows for greater principal control of the agent's activities, reducing the motivation of the authorities to engage in moral hazard activities.

Although moral hazard theory has been accepted as an economic concept, it should be emphasized that there are currents in the literature that examine its moral implications. McCaffrey (2016) states that it is unclear whether the term moral hazard is an economic and scientific formulation or an instrument for condemning public policies. He pointed out that actions in moral hazard do not have a specific moral content, as economic thought often dictates. In other words, the rationality of a particular action does not justify its morality. Western (2005) has come up with empirical and methodological criticisms, stating that there is a scarce literature that illustrates the usefulness of this theory. Also, intervention norms are not necessarily superfluous as set in theory, but in some cases may help suppress and resolve problems (Western, 2005). Although the agency problem has been more commonly used as a formal model of transparency, moral hazard theory has also been used in research on political agency models, including research on government transparency (e.g., Besley, 2007; Besley and Smart, 2007; Alt and Lowry, 2010).

3.1.3 Fiscal illusion

In his book Theory of Financial Illusion, Puviani (1903) first developed the theory of fiscal illusion in 1903, describing it as the inability of the public to properly and accurately perceive government expenditures. He stressed that the illusion arises from insufficient information on budget revenues, which cannot then be fully observed by citizens. This leads to a failure in perceiving the right amount of budget expenditures. As a consequence, citizens perceive that public expenditures are lower than they really are. Since the amount and quality of public services rely on the width of public expenditures, and given the hidden revenues, the public has an increasing urge for more public services, thus increasing budget expenditures. In other words, if the public had complete, accurate and comprehensive information on budget revenues, there would be no incentive to spend more on more public services. However, in circumstances of incomplete information, opportunistic and self-interested agents are given the impetus to expand the size of government.

Several authors have somewhat different definitions of fiscal illusion, but they all boil down to the same cause – insufficient transparency of government, which creates information asymmetry:

- Politicians' failure to give timely and accurate details on the future consequences of current expenditure decisions (Guillamón, Bastida and Benito, 2011).
- The lack of citizens' knowledge on budget expenditures, which increases the possibility of their deceit by opportunistic politicians (Jordan *et al.*, 2017).
- Divergence between government promises and what citizens effectively get (De Simone, 2009).

Alesina & Perotti (1996) said that politicians choose to be ambiguous to be able to create confusion about the real state of public finances. In this way, they hide the prevalent and future tax burden, overestimating the convenience of spending, while underestimating the extent of government liabilities. Self-interested, opportunistic and reelection-seeking politicians increase spending more than taxes. At the same time, information failure causes increased demand for public goods from 'fiscally-illuded' citizens (Alesina and Perotti, 1996) which goes beyond their willingness to pay for those goods in taxes (Gerunov, 2016). It is argued that one of the leading causes for inefficacy of resource allocation emanates in the fiscal illusion (Sedmihradská and Haas, 2013).

Dollery & Worthington (1996) have clearly and concisely explained and illustrated the fiscal illusion effect (Figure 1). In the absence of this effect, the area $0Q_2aP_2$ represents a balanced budget where total revenue equals total expenditure at the tax level or tax price P_2 and the preferred amount of public good Q_2. In the event of fiscal illusion, citizens underestimate the real price of public good, which is why the perceived tax price falls to P_1. The desired quantity of this public good grows to Q_1 which causes its oversupply. In such circumstances, the perceived budget is $0Q_1cP_1$, while the actual budget is $0Q_1dP_2$. Since governments have offered a higher quantity of public good at the same tax price, the Q_2Q_1 area is a deficit, where total expenditures are higher than total revenues.

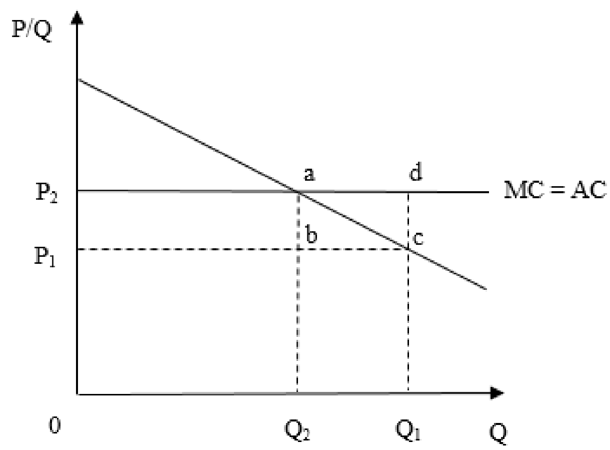


Figure 1 Fiscal illusion

Source: Dollery and Worthington (1996)

As Dollery and Worthington (1996, p. 4) stressed, "increased budget transparency reduces the difference between the real tax price P_2 and the perceived tax price P_1, which leads to a smaller excessive budget", i.e. towards a more balanced budget. Moreover, greater citizens' knowledge of the budget process and their enhanced capability of controlling political actions limit politicians in using the fiscal illusion strategies to achieve opportunistic goals, particularly their re-election (Sedmihradská and Haas, 2013).

Fiscal illusion cannot be construed as a short-term budgetary issue, but rather as consistent and persistent agent's behavior in budgetary decisions. In other words, it is a recurring, systematic misperception of key fiscal parameters (Oates, 1985). Such an agent behavior can significantly disrupt the fiscal preferences of voters. Downs (1957) finds that agents, given their opportunistic behavior and self-interest, have no motivation to correct the fiscal illusion. In that context, agents crave for higher public spending and want to invest in projects whose outcomes will be visible within their tenure, thus amplifying their likelihood of re-election. He stressed that citizens generally ignore the government benefits they receive, while being particularly vulnerable to paying taxes, since they have to give up their private benefits to pay for these costs.

There are a number of studies that have investigated the implications of fiscal illusion. Gérard & Ngangué (2015) found that fiscal illusion affects budgetary policies and outcomes, that is, there is a positive and significant relationship between fiscal illusion and budget deficit. On the other hand, an agent's application of fiscal illusion practices can have a deleterious upshot on economic growth (Mourão, 2008). Lack of information and fiscal illusion also have a negative effect on public sector financial management. In particular, persistent and consistent agent's behavior associated with fiscal illusion activities reflects negatively on local government property assesment (Ross and Mughan, 2018). On the other hand, fiscal illusion literature is united with the traditional idea that incomplete information is the reason why fiscal illusion occurs. However, Baekgaard, Serritzlew, & Blom-Hansen (2016) have introduced a new theoretical framework for examining fiscal illusion underpinnings. They said that fiscal illusion is caused primarily by lack of attention, rather than lack of information. In other words, taxpayers' behavior and preferences are influenced by the fiscal system and the framing of issues and activities, which is why taxpayers pay attention to the true cost of public programs, services and agents' activities. Oates (1985, p. 66) highlighted five major sources of fiscal illusion: “complexity of the tax structure, renter illusion (in property taxation), income elasticity of the tax structure, debt illusion, and the flypaper effect”. Several authors have more or less confirmed these sources of fiscal illusion at subnational government levels (Heyndels and Smolders, 1994; Mitias and Turnbull, 2001; Gemmell, Morrissey and Pinar, 2002). They all found evidence of a flypaper effect or grant illusion. The flypaper effect suggests that greater public spending is caused by increases in intergovernmental grants, rather than increases in residents' income (Turnbull, 1992). Since politicians are budget maximizers, they want to hide information about received intergovernmental grants, in order to deceive taxpayers into supporting higher fundings.

Either way, presenting information in a clear, comprehensive, understandable and streamlined manner, and timely disclosure, will reduce the likelihood that citizens will fail to understand published budget information and act in a timely manner. According to Sedmihradská & Haas (2013) the intricacy of contemporary budgets permits politicians to use the effects of fiscal illusion in order to avoid expenditure reforms. Additionally, extensive and complex accounting procedures and the ability to use accounting tacticization (stratagems) may be perceived as a new sources of fiscal illusion. However, they can be reduced by introducing and implementing appropriate control mechanisms, audit reforms, and by providing comprehensive, accurate and timely information on public finances (Irwin, 2012). Moreover, in line with the institutional theory, the implementation of e-government systems and the use of new technologies to increase budget transparency can contribute to simplifying budgets and increasing citizens interest in tracking budget expenditures.

The basic critique of fiscal illusion theory lies in the inability of governments to internalize the cost of their processes, especially not in the way it is accomplished in the private sector. In addition, governments are failing to maintain a balance between compensation measures and regulatory burden (Serkin, 2017). Berger (2016) states that local governments use property taxes to internalize both costs and benefits, however, introducing compensation in this case may undermine such settings, placing a burden on government actions. Levinson (2000) noted that fiscal illusion contains asymmetry where there is a disproportionate way in which governments internalize costs and benefits. He added that the fiscal illusion theory has the misleading assumption that governments only internalize costs that have an immediate budgetary impact, while internalizing benefits on the other hand is also implemented politically. In other words, the internalisation of benefits as well as costs should be visible in the balance sheets of governments (Levinson, 2000).

Although principal-agent and moral hazard theories are more widely represented in the literature when investigating the causes of government transparency, some studies have also used fiscal illusion theory as a framework for their transparency model (see e.g. Guillamón, Bastida and Benito, 2011; Sedmihradská and Haas, 2013). In short, these three theories that carry information failure as their common component, can serve as a basic theoretical framework to answer why governments favor lower levels of transparency. Since the low level of average budgetary transparency of municipalities has been established in Croatia (Ott, Bronić, Petrušić, *et al.*, 2019), these information asymmetry theories serve as a starting point for examining the determinants of municipal budgetary transparency, but also for explaining the results obtained. However, there are still large differences between municipalities, and there are municipalities that have achieved significantly higher levels of budget transparency than others (ott et al.). Therefore, the following section presents theories on social responsibility that could explain why certain municipalities are more proactive in achieving higher levels of budget transparency than others.

3.2 Theories of social responsibility

Unlike the three above-mentioned theories – principal agent theory, moral hazard theory, and fiscal illusion – which imply the existence of an opportunistic, self-interested agent, this section explains theories based on the agent's appropriate responses to the expectations of the principal (society). First, legitimacy theory is presented, and then institutional theory together with isomorphism as it's special phenomenon.

3.2.1 Legitimacy theory

The source of legitimacy theory can be found in corporate social responsibility literature and organizational legitimacy. One of the first definitions of organizational legitimacy was presented by Dowling & Pfeffer (1975, p. 122) as "a condition in which the value system of a particular unit coincides with the value system of the broader social environment of which the unit is a part“. Another, often cited definition, says: „legitimacy is a generalized perception or assumption that the actions of an entity are desirable, proper or appropriate within some socially constructed system of norms, values, beliefs, and definitions“ (Suchman, 1995, p. 574). Formed within the framework of organizational legitimacy, this theory assumes that all organizations seek to align their operations following the bounds, standards and rules that exist in the social environment in which they are located. Accordingly, organizations will voluntarily publish information about their activities if they find that society expects them to do so (Denis and Gordon, 2001; Deegan, 2002). In other words, social expectations and pressures are intertwined with the social perception of organizational operations. On the other hand, if an organization does not align its operations with the social system of values, beliefs and norms through economic and social actions, there is a high probability of sanctioning such behavior by society. This social punishment can even lead to the organization's downfall (Schiopoiu Burlea and Popa, 2013).

Several authors have pointed out that legitimacy theory implies some form of 'social contract' between the entity and the culture in which it is located (Shocker and Sethi, 1973; Patten, 1992; Deegan, 2002). The survival, quality and growth of all relationships within this contract depend on the coherence of their social value systems. While, the survival of an entity can be said to depend on two conditions being met (Cuganesan, Ward and Guthrie, 2007):

- meeting the expectations of society, and

- providing financial, communal and political benefits to certain categories the entity derives its power from.

More generally, the legitimacy proposes that the endurance and growth of an entity rely on the way the entity manages constant change and upcoming challenges, and how it responds to the constant pressures of society.

Although this two-party relationship (entity / organization and society) arose from corporate social responsibility, the same arguments apply to governmental legitimacy, which can be interpreted through a principal-agent relationship. In the context of government transparency, this theory explains the behavior of agents in meeting principal’s demands for higher transparency and accountability levels. Since they can be penalized in the case of disrespect for such values, politicians opt to voluntary disclosure to ensure their political survival. If government legitimacy is disrupted, politicians increase transparency in order to restore citizen confidence and the legitimacy of elected public officials, thus securing a good reputation of the government (De Araújo and Tejedo-Romero, 2016a).

Mathews (1993) emphasizes the importance of lessening the space between agent's activity and the values and norms expected by principals, in order to achieve greater matching of value systems in more homogenized structures. In this sense, the gap can be reduced by promoting the legitimacy of the agent's decisions and activities, which can be enhanced by providing information on these activities to citizens. Several authors have found a positive relationship between increased disclosure of government information and levels of citizen confidence in government, thus suggesting a positive effect of promoting government legitimacy through transparency (Welch, Hinnant and Moon, 2004; Kim and Lee, 2012). In this regard, public authorities and government institutions are increasingly recognizing the importance of transparency for accountability. Efforts are being made to increase the transparency of the entire political process, and in particular fiscal issues and the budget cycle, to explain the legitimacy of political actions and decisions. Greater transparency and its adequate measurement can significantly affect the perceived government's accountability and legitimacy, and citizens' trust in government (Hood and Heald, 2006).

Fiscal transparency, as a separate segment of government transparency, particularly enhances the legitimacy of government, given its instrumental nature to contribute to improved governance. This instrumental nature of fiscal transparency is best represented through two streams:

- its incentive to help divert the focus of attention from inputs to outcomes, and

- enhancing the credibility of fiscal policies, giving political and economic actors some power in predicting fiscal activities, which makes them more effective in making decisions (Heald, 2003; De Simone, 2009).

Accordingly, greater fiscal transparency, emerged in response to external pressures, fosters citizens' confidence in government and the modernity of its operations, which underpins good governance. The greater the pressure and demands of the public, the more likely it is that authorities will apply structures and practices that are perceived by society as legitimate and acceptable, thus homogenizing governance practices (DiMaggio and Powell, 1983). In this context, increasing transparency and strengthening accountability policies come from the influence of environmental factors, as opposed to institutional factors where internal government decisions foster greater transparency levels (in more detail in the next section).

When it comes to subnational governments, many studies have examined the impact of population size as an environmental factor on the level of government transparency (Baber, 1983; McLelland and Giroux, 2000; Serrano-Cinca, Rueda-Tomás and Portillo-Tarragona, 2009). In general, they have concluded that, in accordance with the theory of legitimacy, a larger population implies more government funding to provide services to their citizens. In such an environment, citizens are more incentivized to request information about government activities, making larger municipalities more likely to respond to such pressures and offer more information than smaller ones. Likewise, municipalities with more population generally have a greater public administration and the number of councilors in local councils. Empirical studies have shown a positive relationship between the size of local government public administration and the level of transparency (Christiaens, 1999; Ryan, Stanley and Nelson, 2002), which is consistent with the legitimacy theory, i.e. the pressures on more transparent city councils are bigger in sizable councils (Serrano-Cinca, Rueda-Tomás and Portillo-Tarragona, 2009).

Jorna (2015) stressed the importance of legitimacy at the local government level. He said that budget transparency and public procurement openness enable effective citizens' engagements which can increase the legitimacy and efficacy of cities. Many local governments have improved transparency to legitimize the actions and decisions of local incumbents towards their citizens (De Araújo and Tejedo-Romero, 2018). Similarly, it is argued that budget transparency and citizen participation increase government's democratic legitimacy by enhancing accountability and promoting integrity (Gerunov, 2016).

Nevertheless, local governments, regardless of their size, can use many website features to enhance their transparency and accountability, which can increase legitimacy and public trust (Pina, Torres and Royo, 2007). In this context, whether it is voluntary disclosure of government information (looking at comprehensiveness, clarity and user-friendliness) or disclosure on request (looking at the timeliness and legitimacy of government response), new technologies and online publishing and interactivity are a great facilitator. Therefore, municipalities can use a variety of new, enhanced ways in which they can express their accountability to citizens, thus gaining more legitimacy as "online distribution channels can reach and influence a large number of citizens" (Mourao, Bronić and Stanić, 2020, p. 3). However, these are decisions made within the government that represent institutional factors in improving transparency and accountability policies. Finally, the limitations of legitimacy theory are reflected in the agent's constant response to social norms and waiting for the 'approval' of principals to perform socially desirable activities, thus neglecting the agent's proactiveness (Guthrie and Parker, 1989). In the next section, the institutional factors for improving transparency and accountability policies are presented in more detail within the institutional theory.

3.2.2 Institutional theory and isomorphism

Similar to the legitimacy theory, the central argument of institutional theory is the process within which certain norms, rules, practices and structures are established. However, unlike legitimacy theory, in which politicians respond to voter expectations more reactively, within institutional theory, agents are rather proactively oriented towards society's expectations and pressures. Accordingly, institutional arguments do not arise from multiple individual actions or interactions between individuals on the basis of behavioral patterns, but rather because institutions themselves structure particular actions (Clemens and Cook, 1999). Within institutional theory, two streams, or schools of thought, can be distinguished (Tridico, 2011):

1) old institutionalism, and
2) new institutionalism.

Old institutionalism focused on formal political institutions and comparative analysis of these institutions and governments of different countries. The focus on behavioral elements at the time brought new insights into politics and political and economic actors, resulting in new perspectives on policy analysis, such as rational choice theory and behavioralism. However, the emergence of behavioralism has led to the center of analysis becoming individuals, and no more the political institutions that surround them. Such topics with political institutions and the behavioral characteristics of individuals in the focus of analysis were dominant in the field of political science until the 1950s.

The turning point for the emergence of new or neo institutionalism is the study of Meyer & Rowan (1977) who introduced a new interpretation of institutionalism, thus influencing the further course of institutional analysis. This was presented through a new institutional framework with two basic components (Meyer and Rowan, 1977):

- institutional practices or standards that are rooted in the organization and truly accepted from the beginning, and
- institutional practices or standards that are only formally accepted in order for an organization to retain legitimacy in its functioning environment; called institutional myths.

Institutional myths reflect the desire of organizations to maintain their legitimacy, thus adopting certain expressions and popular vocabulary from existing structures in their environment. These are, for example, specific practices, standards, procedures, organizational roles, or policies, such as gender diversity in the workplace. However, the acceptance of such a policy is mostly formal and ceremonial in nature, without any implementation in reality. In this context, such institutional practices and behavior can in reality reflect organizational unwillingness, reluctance, and resistance to real change (Greve and Argote, 2015).

Greve & Argote (2015) presented a conceptual framework for institutional theory, motivated by answering the question of why and how organizational reluctance and resistance to change arises in different environments. This conceptual framework, which can be understood as an interwoven network of different influences and contexts, stresses that the organizational attitude to the proposed changes is in line with the existing combination of individual, organizational, social and institutional factors. The basic feature of this framework is the existence and continuous functioning and operation of bidirectional and multidirectional connections between the presented combination of existing factors in the internal and external environment (Figure 2).

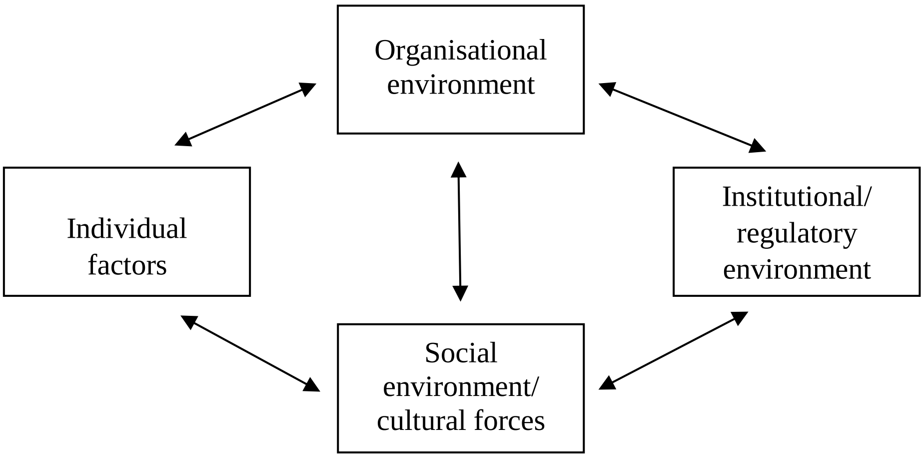


Figure 2 Conceptual framework of institutional theory
Source: Greve & Argote (2015)

There are several important characteristics of this conceptual framework (Greve and Argote, 2015):

- social and organizational elements and cultural specificities both influence and are influenced by the individual factors;
- regulatory norms, standards and rules have an impact on the organizational mechanism, and on the other hand the organization itself can influence the creation of specific regulatory elements;
- attitudes, behaviors, beliefs, and expectations of individuals working within an organization influence institutional mechanism and governance and vice versa, institutional networks influence individual formation;
- finally, the individual, organizational and institutional (regulatory) environment are part of a broader social environment under the constant influence of cultural differences; but also the formation of the social environment (which is under constant change) continuously affects the attitudes and preferences of individuals, the functioning of organizations and the regulatory institutional network.

This conceptual framework and its many internal and external networks and interactions can explain why not all organizations respond equally to certain upcoming changes, why their level of resistance to these changes is less or greater, or why there is a different pace in different organizations when it comes to implementing new systems and procedures (Oliver, 1991; Ingram and Simons, 1995).

Neverthelsess, apart from the agency problem, the institutional theory has also contributed in explaining the public sector reforms, particularly relying on the execution of e-government processes. In this context, institutions are perceived as social norms, rules and regulations that determine the way society functions. They can also be seen as agents' resources in achieving certain goals (Vargas-Hernández, 2008). Therefore, institutional theory is interested in the implementation of management models, socially conditioned norms of behavior, with which politicians react to outer pressures by adapting existing structures to new challenges (Ríos, Benito and Bastida, 2013). In this context, it is essential to discern the causes of institutional change. For, knowing the true cause of the change, it will be clear to determine whether the institution initiated the changes independently from within, or whether external players played a key role in initiating and implementing these changes. Furthermore, institutions do not change as often as policies, so knowing the causes of the changes will allow examining the effects of institutional mechanisms on choosing the right policies and their outcomes (Alt, Lassen and Rose, 2006).

When it comes to transparency concerns, the application of e-governance can be seen as a government answer to social pressures and environmental forces in establishing a modern and accountable model of governance (Alcaide Munoz and Rodriguez Bolivar, 2015; Alcaide Muñoz, Rodríguez Bolívar and López Hernández, 2017a). However, the success of such changes depends on the institutional quality, i.e. existing institutional norms, rules and standards, but also on the existing governance mode. In other words, the higher the level of institutional quality and governance, the better the foundations and possibilities for implementing transparency reforms (Andreula, Chong and Guillén, 2009). This is well explained by Kaufmann, Mehrez, & Gurgur (2002), saying that an individual working in an institutional setting with clearly defined and high level rules, standards, and policies, will provide a higher level of service quality and respond better to external requirements than an individual employed in an institution with unclear service delivery mechanisms. Furthermore, the adoption of accountability policies and the continued improvement of fiscal transparency, as well as the resulting improvement in fiscal performance, may well depend on the economic and institutional characteristics and progress of the country or entity observed (Glennerster and Shin, 2008; Arbatli and Escolano, 2015). In particular, when it comes to budget transparency, institutions imply all the rules and norms that affect budgetary procedures and the decisions that politicians make on these budgetary issues. Accordingly, well-established budget institutions, rules and procedures around all four phases of the budget cycle – preparation, approval, execution and evaluation – and good relations between the executive and legislative authorities and the State Audit Institution (SAO) contribute to faster and easier adoption of transparency policies, and improves government's fiscal performance (Alesina and Perotti, 1999; Sedmihradská and Haas, 2013).

More recently, neo-institutionalism has become a common theoretical background when it comes to explaining government behavior, practices and decisions about online transparency measures (e-disclosure) within e-government strategies. Also, certain areas of institutional theory, particularly prominent in new institutionalism, have come much closer to behavioral theory, emphasizing the significance of societal and environmental forces in the diffusion of practices and established, successful patterns of behaviors between different entities. Under such circumstances, governments' e-disclosure decisions are influenced by the decisions of neighboring governments and broader societal and environmental pressures (Lounsbury and Zhao, 2014). In literature, this phenomenon is known as institutional isomorphism, which implies the similarity of existing processes within one unit with the processes and structures of other units. These similarities may arise from mimicking what is perceived as good practice or their self-development within similar influences and environments. Institutional isomorphism was first mentioned in DiMaggio & Powell's (1983) classical paper “The iron cage revisited: institutional isomorphism and collective rationality in organizational fields”, in which the authors explain how isomorphic changes relocated from a competitive marketplace to a state apparatus and its units. In this way, organizations in alike surroundings come to be resembling (DiMaggio and Powell, 1983). Accordingly, alike operations and structures among national and subnational governments, and the external pressures and forces, affect their accountability policies and transparency ventures (Gesuele, Metallo and Longobardi, 2018).

DiMaggio & Powell (1983) have also highlighted the persistence of the three main forms of institutional pressures that make organizations resemble one another. These are:

- coercive,
- normative, and
- mimetic.

Coercive pressures occur when a superior organization has the power to create pressure on its hierarchical subordinates. In other words, a superior organization uses legal and political power to influence lower levels to adhere to certain processes and structures in their management and / or governance mode. Coercive pressures come from the organizational (governmental) legal environment and higher political forces, activities and influences, which affect lower levels through enacted laws, directives, norms and other regulations. However, in certain circumstances and environments, institutional isomorphism conditioned by political and legal influences can affect lower level entities in such a way that they show symbolic actions rather than original and real changes. Accordingly, in certain situations coercive forces only lead to the formal fulfillment of legal obligations, which does not bring about real changes in entity's behavioral patterns. Meyer & Rowan (1977) pointed out that at times when organizations create strategies to meet external commitments and pressure from the top, their actions can range from authentic change to the formation of "rational myths" (particularly pronounced in times of uncertainty and intricacy). In this context, if changes are introduced solely for the sake of external forces and to gain legitimacy, implementation may be delayed, because such an approach does not involve the intrinsic motivation and crucial change in the mindset of the stakeholders involved.

When it comes to accountability and transparency policies and budgetary issues, coercive pressures are particularly prominent in cases where national authorities impose laws, regulations, provisions or recommendations that affect the way in which local authorities demonstrate their ability, capacity and willingness to comply with these obligations. Less stringent forms of coercive pressures can also be found in the country's affiliation to a particular political or economic union or organization (such as the EU, OECD or the IMF recommendations and provisions).

Normative pressures come in the form of professional standards or good practices, most often presented by influential professional communities. The effectiveness of normative pressures and the successful implementation of normative professional practices depends largely on the professional and educational background of individuals in the observed entity, as well as their willingness and commitment to encourage the implementation of professional norms of behavior. In this regard, organizational networking with other units within the same professional field is very important, as it enables the exchange of new ideas and practices, storytellings, insights and up-to-date information and models (DiMaggio and Powell, 1983). Unlike coercive pressures, normative isomorphism contributes to a genuine change in the mindset of the individuals involved, including the general acceptance of well-defined methods and patterns of behavior within the observed entity (Seyfried, Ansmann and Pohlenz, 2019).

In the context of budget transparency, normative pressures in the form of good practices, standards and models come from different networks and groups, such as accountability and transparency initiatives (e.g. GIFT, IBP, OGP) or domestic civil society organizations dealing with transparency issues. These organizations and initiatives can, through their norms, networking capacity and advocacy capabilities, influence the creation of transparency policies at both national and lower levels of government.

The existence of mimetic pressures implies that certain organizations carry out good or best practices in the environment, which is why other organizations follow such behavior. Since leadership behaviors are considered desirable, serving as a performance indicator in the appropriate field, other organizations are beginning to imitate and copy the leader. However, it should be noted that mimetic pressures come from uncertain and evasive situations and conditions within the observed entity. Namely, every entity (organization or government) faces many challenges, problems and more or less risky decisions. But often, the entity is incapable or unable to generate methods and techniques that can help address emerging problems and challenges. For this reason, such an entity observes other units in its field of activity, seeking to discover their structures and the way in which they solve similar existing problems. In this way, the observed entity, without much hesitation, imitates the operation and governance mode of other units, considering it a beneficial and adequate solution (DiMaggio and Powell, 1983). This imitative behavior often leads to "performance comparisons among organizations (governments), i.e. yardstick competition" (Mourao, Bronić and Stanić, 2020, p. 4). Salmon (1987) explained such mimetic behavior in the frame of voters and elections. Namely, a voter in a particular community who is attentive to a particular policy, compares the outputs of his / her municipality in that policy area relative to the output of neighboring municipalities in that same policy area. If s(he) realizes that his / her community attains worse results in that particular policy area compared to neighboring municipalities, the likelihood that s(he) will vote for the incumbent at the following elections decreases and vice versa, better outcomes would lead to increased probability.

Unlike coercive isomorphism where entities are forced to make changes due to external pressures, and normative isomorphism where professional norms and network organizations drive these changes, in mimetic isomorphism entities act proactively and independently seek solutions to emerging challenges and problems. In this sense, mimetic isomorphism is perceived as one of the possibilities of overcoming challenges in times of organizational restructuring, transformation or governance reform.

When it comes to the flaws of institutional theory, it is generally objected that theory over-emphasizes the role of institutions, while neglecting its primary task - understanding the structures, processes and governance of organizations (Greenwood, Hinings and Whetten, 2014). Greenwood, Hinings and Whetten (2014) also stated that institutional theory, while emphasizing the importance of similarities between organizations for their true understanding, actually neglected differences among organizations, thus reducing added value from potential comparative studies.

This chapter presented the main theories for the analysis of budget transparency - information asymmetry based theories and the social responsibility theory. Given that the average budget transparency of municipalities in Croatia is low and that there are a large number of municipalities with extremely low proactive transparency, theories based on the asymmetry of information between principals and agents serve to explain such a trend. On the other hand, there are municipalities that have achieved significantly higher levels of proactive budget transparency. Their behavior is described by social responsibility theories, explaining what drove them to be more transparent. The next chapter lowers the discussion to the local government level in order to understand more about the scope of local budget transparency, which is an overture for the empirical analysis in Chapter Five.

4 BUDGET TRANSPARENCY AT LOCAL GOVERNMENT LEVEL

This chapter deals with budget transparency at lower levels of government, more specifically at local government level. First, the importance of fostering budget transparency to improve government accountability and citizens' confidence in government is outlined. Furthermore, timely disclosure of budget information is emphasized as essential for public engagements in budgetary processes, as well as continuous action in the field of increasing the budget literacy of citizens in order to make participation more effective and efficient. The chapter continues by outlining supply- and demand-side factors in exploring external pressures and internal capacity of local governments for achieving higher levels of budget transparency. The chapter concludes by highlighting information and communication technology and its impact on budget reporting capabilities, with an emphasis on online disclosures in an interactive Web 2.0 environment.

4.1 Interaction of budget transparency, accountability of politicians and citizen participation

This section discusses the importance of constant interaction between local government's fostering of budget transparency and political actions that promote greater accountability, and the importance of these forces in reducing citizens' distrust in government. Also, the section notes that budget transparency is not sufficient in itself, but together with promoting budget literacy of all stakeholders, affects more effective public participation with the aim of better and fairer allocation of public resources and better public services.

4.1.1 Budget transparency as a trigger for political accountability and trust in government

In recent years, more and more citizens are beginning to demand greater accountability of the government, i.e. elected politicians, in the management and use of public funds. Government accountability in this context can be defined as the degree to which politicians are held responsible for the decisions they make and the way they conduct budgetary policies (Khagram, Fung and de Renzio, 2013). Accordingly, a key feature of sound budgetary management is budget balance or, in certain situations, budget surplus, with the aim of reducing indebtedness, generating better allocation of public resources and providing better public services. However, in order to establish a better and fairer local government's budgetary policy and management of public funds, and to improve decision-making, the opinions, views, suggestions and comments of all stakeholders involved – citizens, media, professional groups, CSOs and other actors – must be taken into account. But, they are not able to make their comments and suggestions unless they have understandable, timely and accurate budget information. This is why the first step is to create a good foundation and mechanisms to encourage and maintain a high level of budget transparency, especially by relying on possibilities offered by online platforms and interactive tools. In this way, all stakeholders can respond in a timely manner and influence budgetary decisions, thus controlling and holding the local government accountable throughout the process, from design to implementation of budgetary policies.

Within the principal-agent relationship, it has been discussed how citizens can use elections to control politicians and hold them accountable for their actions (Alt and Lowry, 2010). In other words, the question is how government transparency can help increase the accountability of politicians, that is, the capacity of citizens to hold politicians accountable through the possibility of their re-election. Bearing in mind that increasing transparency can reveal whether incumbents are 'good' or 'bad' (Besley, 2007), it has been found that greater budget transparency can boost accountability by helping voters to distinguish 'good' from 'bad' politicians and their policy actions, thus deciding on their retention on elections (Alt and Lowry, 2010).

Hood (2010) has identified three ways in which transparency and accountability – as two important elements of good governance – can be linked:

- 'Siamese twins': transparency and accountability are perceived as one, as inseparable units, so interconnected that they cannot be distinguished from one another. Because they are inextricably linked, encouraging and enhancing transparency automatically entails greater accountability.
- 'Matching parts': transparency and accountability are not perceived as one, they are separable. However, the basic feature of their relationship is complementarity, thus promoting good governance only if they work in combination.
- 'Awkward couple': transparency and accountability include elements that are completely separable from each other, and their combination in no way contributes to better governance. On the contrary, there is a certain intolerance in their interaction. Namely, the combination of different ideas of transparency on the one hand and different views on accountability on the other, and the implementation of such incompatible cultural features can either lead to 'clumsy institutions' with major governance failures or to institutional innovation by taking full advantage of the new diversity (Farazmand, 2004).

However, the level of interdependence of transparency and accountability is not the same in all circumstances. In certain cases, accountability is possible without full transparency. Incumbents can be held accountable to representative authority even without full transparency about every element in the matter. In other words, the accountability argument is not necessarily violated if it is not known who has given some advice or guidelines in the decision-making process; or if certain information is not available now but after the completion of a particular process or event (Hood, 2010). On the other hand, there are cases where transparency is high but there is a lack of accountability. This was mainly present in authoritative and other regimes, such as the Soviet Union, Nazi Germany or South Africa under apartheid regime. All of these state formations had some degree of transparency in government activities, operations, structures and available statistical reports, but were not democratically and politically accountable (Hood and Heald, 2006).

However, in democratic, developed structures, budget transparency is generally seen as a prerequisite and a first step for adequate political accountability processes. In this context, there are several basic elements supporting the argument that budget transparency can be considered as a precondition for enhanced political accountability:

- Within the principal-agent framework, budget transparency gives greater power to the principal in monitoring the agent's actions and responding promptly to the observed deviations and agent's distorted behavior (Prat, 2005);
- More comprehensive and simplified disclosure of budget information across all four phases of the budget cycle facilitates easier monitoring and tracking of the budgetary funds, thus deterring the agent from engaging in corrupt activities (Murphy, Eckersley and Ferry, 2017);
- Greater budget transparency can also enhance horizontal accountability, especially in structures that have carried out NPM reforms, i.e. that have implemented governance models from the private sector. In such new governance structures, horizontal accountability depends on the level of transparency and competitiveness;
- Finally, budget transparency has a positive impact on vertical accountability, enabling citizens to have accurate, timely and comprehensive supply of budgetary information. In this way, citizens are able to act more efficiently and effectively and point to the perceived failures (Mabillard and Zumofen, 2015).

For transparency to serve as a cornerstone of increased accountability, published budget information needs to meet several conditions – to be comprehensive, reliable, relevant, accurate, timely, unambiguous and understandable, thus fitting into coherent budgetary policies.

However, the mere availability of information is not sufficient to achieve political accountability. In this regard, greater institutional support and willingness to cooperate with citizens is needed. The positive impact of transparency on political accountability is particularly pronounced in cases where there is an increased responsiveness and answerability of governments to the citizenry (Fox, 2007).

Furthermore, accountability is not able to emerge from so-called zombie transparency, where there is no proper flow of information among stakeholders, but rather a lot of ambiguity, clutter, opacity, and fuzziness. In such cases, the information is published, but there is no adequate freedom to use, analyze and provide feedback on the disclosed data by citizens, media and CSOs who should hold the government accountable. In such a state of suppression of freedom of expression of the media and CSOs, mere publication of information is not effective, i.e. it does not lead to enhanced accountability (Zúñiga, 2018).

The accountability of incumbents stems not only from their responsiveness, but also from the ability and power of the electorate to sanction the misconduct and maladministration of the agent, and the misuse of public funds. While the power of sanction also depends on governance mode and regimes, in developed, democratic states, it is not uncommon for public officials to arbitrarily resign because of public pressure caused by the publication of certain information and the analysis of this information by professional groups and the media. In this regard, achieving this level of accountability depends on the agent's willingness to use answerability mechanisms, and on the principal's capacity to interpret, analyze and review questionable agent operations (Bovens, 2007).

Whether transparency will serve as a trigger for political accountability also depends on the context within which principal-agent relations take place. In this sense, the literature outlines three basic contextual elements (Kosack and Fung, 2014):

- Political competition in elections; publishing more information gives voters the opportunity to vote for politicians who have achieved or have the potential to achieve better results, which is why incumbents increase their accountability to gain more voter support;
- Political will; voters gave the incumbents the power to decide for them whether, how, and when, to implement the existing mechanisms and the changes introduced. It also depends on the agent's will how transparency will be perceived – mere fulfillment of statutory obligations or as a mechanism for achieving greater accountability;

- Agency relationship; a principal-agent relationship can take two forms – cooperation (e.g. politicians who want to implement transparency reforms work together with citizens who expect better services) or conflict (self-interested public servants will conduct malpractices unless monitored and controlled by principals).

Although the link between transparency and accountability rely on the context in which these processes take place, in general, and especially in democratic societies, transparency can be interpreted as a trigger and cornerstone for more successful accountability processes. In doing so, the published information should be reliable, without the opaque and ambiguous elements, with free media, professional groups and CSOs, and existing mechanisms of institutional answerability. In addition, transparency has a stronger positive effect on accountability in the context of greater political competitiveness, a cooperative principal-agent relationship, and a pronounced political will for greater accountability.

In terms of citizens' trust in government, the importance of the constant interaction of transparency and political accountability cannot be neglected. In other words, these three elements – budget transparency, political accountability and citizen trust in government – are in constant cohesion and complementarity. However, in recent decades, there has been a notable expansion of citizens' distrust in government, which is considered to be one of the major aggravating factors in democratic governance. This is especially relevant because citizens' trust is intangible and not easy to quantify. In this sense, reduction of confidence in the government contributes to reducing government legitimacy, thus making it more complex for politicians and citizens to co-operate and compromise on certain public policies and budgetary decisions and measures (Bouckaert and van de Walle, 2003).

On the other hand, it is argued that trust is a concept that is not easy to define, given its complexity and often ambiguity, suggesting its different interpretations by different interest groups. A more general approach suggests that the trust involves the willingness of the principal to make certain decisions and take risks based on positive expectations about the agent's operations, activities, intentions or behavior (Yang, 2006).

The second approach to defining the concept of trust states that expectations are a strong argument and involve individuals' engagement in making certain decisions based on the trustee's expected outcomes, which entails indulging in probability calculations. Therefore, trust is a concept that rather includes beliefs than expectations, in the context that principals simply believe that the agent makes the right decisions in the interests of the principal, that is, the government 'does the right thing' (Thomas, 1998). If there is some disproportion, that is, a mismatch between the principal's beliefs and / or expectations and actual actions of the government, the public's perception of the government's performance and quality of public service delivery will be rather negative. Some authors stress that the public not only 'assess' the quality of public services, but also the guidelines, efficiency and fairness of budgetary policies and government ethical behavior and work practices within governance mode (Yang and Holzer, 2006). Accordingly, restoring citizens' confidence in government is viewed as a result of good government performance and efficient and fair implementation of budgetary policies, which in combination reinforces the basic tenets of the political and administrative framework (Yousaf, Ihsan and Ellahi, 2016). In this regard, there is a constant interweaving and interplay of good governance and citizen confidence in government. Therefore, citizens' trust in government can be perceived not only as a precondition for good governance, but also as a consequence, i.e. the result of high-quality government performance.

Concerning the relationship between budget transparency and citizens' trust, the literature establishes a coherent approach that greater transparency in information disclosure and the associated increased accountability contribute to reducing citizens' distrust in power (Park and Blenkinsopp, 2011; Bauhr and Grimes, 2014). In other words, transparency of budget information gives citizens the space and time to become familiar with government budget policies and decisions, allowing for greater openness, interaction and citizen participation in the budget process. In this way, citizens have a greater ability to control the government and, by participating in the budget process, become part of the overall political and administrative mechanism.

Local government budgets are particularly tangible and visible to citizens, and their content (expenditures directly affecting citizens) enables easier understanding of otherwise complex budgetary elements. Accordingly, local governments have the greatest opportunity and good starting point for demonstrating transparency and openness in order to restore citizens' trust in government. They also have a more accessible infrastructure to engage citizens in the budget process, and a suitable opportunity for establishing an adequate interaction mechanism, thus demonstrating their responsiveness and answerability. In short, local governments are the main executors of policy decisions, and their actions in this context can be seen as a test of democracy and citizens' rights (Farazmand, 2004). Beshi & Kaur (2019) outline three basic governance principles that local governments should adhere to in order to restore citizens' trust in government – transparency, accountability, and responsiveness (Figure 3).

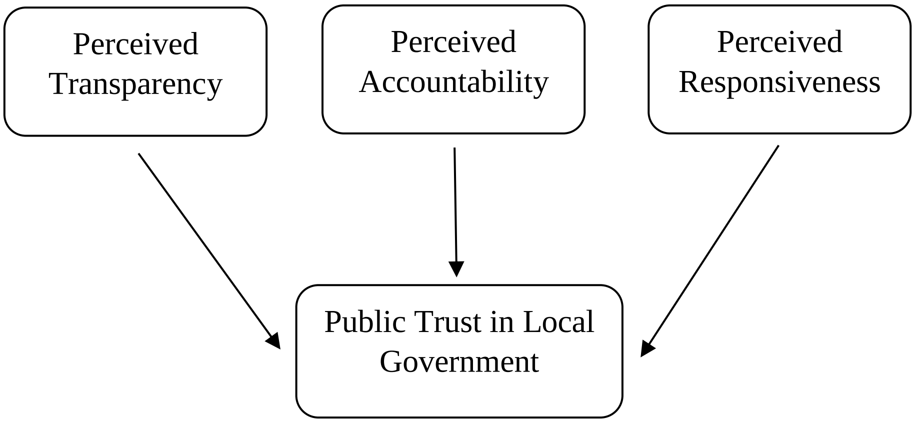


Figure 3 Conceptual Framework of Trust in Local Government

Source: Beshi and Kaur (2019)

As elements of good governance, transparency, accountability and local government responsiveness (answerability) are generally perceived as the answer, i.e. the solution to the growing mistrust of citizens in power (Grimmelikhuijsen, 2012). Higher local government budget transparency will reduce the government's secrecy about the planning, allocation and spending of budget funds, and allow citizens access and insight into the budgetary policy, thus demonstrating all actions and inactions of agents in all phases of the budget cycle. Furthermore, if politicians are accountable for all their actions and inactions, and if they care about the accountability practices and demands of citizens in their local community, then they intentionally work to increase citizens' trust in local government (Gordon, 2000). Finally, to create citizens' trust in government, greater answerability of local officials is required. The local government should at all times be prepared to respond to citizens' requests and queries through certain established mechanisms and channels. In other words, if the local government is sluggish and does not respond timely or in any way to the needs of its citizens, there is a high likelihood of outburst of citizens' distrust in such a government (Brillantes and Fernandez, 2011).

In short, budget transparency at the local government level can serve as a considerable trigger for increasing the political accountability of agents. Furthermore, by establishing quality mechanisms of local government responsiveness, higher transparency of budgetary information can lead to improved local government legitimacy and reduce citizens' distrust in power. Accordingly, in order to increase budget credibility, local governments, professional groups, media, CSOs and the general public should constantly promote higher levels of local government budget transparency. This creates the basis for participatory mechanisms and related adequate management of citizens' demands and needs.

4.1.2 Budget transparency as a prerequisite for citizen participation in the budget process

In order for budget transparency to contribute to greater accountability of the local government and increase citizens' trust in the government, it is necessary to monitor and control the planning and execution of the local budget, and to take advantage of all existing possibilities for involvement in decision-making within the budget process. In this regard, timely publication of accurate, reliable, comprehensive and understandable budget information is a prerequisite for citizens' participation in all phases of the budget cycle. It is also recognized that budget transparency, combined with effective public participation, can contribute not only to increasing government accountability, but also to reducing maladministration and the agent's ability to engage in corrupt practices (OECD, 2002). In other words, budget transparency and local population engagement in budget processes can contribute to reducing budget manipulation, creative accounting and budget deviations. Citizens' participation and consistent control and response to suspicious and potentially irregular elements can also reduce budgetary deviations between planned and executed budgetary resources. Large deviations are particularly undesirable if, for example, spending on public sector wages and transfers comes at the expense of capital investment or increasing funding for defense at the expense of the environment and housing (de Renzio, Lakin and Cho, 2019).

There are various mechanisms through which local population can be involved in local budget decision making. By establishing such mechanisms, the local executive is working to make the community as open as possible, encouraging ethical behavior and a citizen-oriented approach. Some of the basic ways of citizen participation are (Council of Europe, 2017):

- Complaints mechanisms: local authorities should provide citizens with an appropriate platform through which they can express opinions on the quality of delivered public services. In this way, local government employees are more likely to find anomalies and / or inefficiencies in the delivery of public services. Timely responses by local authorities to citizens' complaints can contribute to greater accountability and citizens' confidence in local government;
- Open policy making: local government budget policies and decision-making processes should be open to the public and include appropriate online interactive tools through which citizens can express their opinions and participate at every stage of the process.

The development of budgetary policies, from planning to execution, should be transparent and participatory;

- Participatory budgeting: local authorities can provide citizens with the appropriate infrastructure, capacities and resources to participate directly in decisions on how to allocate and spend a specific part of the budget. Developing a transparent budget process and good participation practices can improve government credibility, affect the greater community affiliation, improve communication between citizens and government, and raise citizens' political culture and education about the budget process. Literature and past experience establish two basic models of participatory budgeting – the consultative model and direct participation. In the consultative model, citizens are perceived as advisors, not decision makers, and they make their own suggestions regarding the entire local budget. However, often these proposals cannot be accepted because they are contrary to previous decisions of the local council or to certain political promises (e.g. the promise of local authorities that the budget for culture will not be reduced). On the other hand, direct participation implies pre-defined budgetary funds for ideas of citizens, whose allocation and spending are directly decided by citizens;
- Public consultation: participation in budgetary policies can be aided by a formal, regulatory process in the form of citizen consultation, where citizens provide inputs, comments and suggestions at crucial stages of the budget policy process. Consultations can be conducted on both online and offline platforms, with the objective to upgrade the quality of decision making, thus reducing the enforcement costs, and increasing the efficiency of local government service delivery;
- Public petitions: citizens, often led by civil societies, may point to a particular problem or propose a change by collecting a number of citizens' signatures. The number of signatures required is prescribed by law. Signatures can be submitted officially to the appropriate competent authority, or through online platforms. If the threshold is met, the local government is obliged to make an official announcement on the matter.

When it comes to participation mechanisms, it is argued that deliberate and concerted citizens' action is one of the most effective ways to influence local budget decision making (Cooper, Bryer and Meek, 2006). Accordingly, for citizen-oriented and cooperative local government budget management to be successfully implemented in practice, it should be supported by the following elements (Figure 4) (Cooper, Bryer and Meek, 2006):

- continuous improvement and encouragement of higher levels of budget transparency;
- strengthening local government legitimacy mechanisms in providing public services to citizens;
- effective and timely answerability mechanisms, i.e. enhancing and empowering local government responsiveness;
- continuous efforts to increase budget literacy, knowledge and competence of all interested, especially active citizens, media, local councilors, etc.
- empowerment of networking between different stakeholders, citizens, CSOs, professional groups and organizations, and reinforcement of citizens' capacity to realize the intended ideas;
- fostering constant collaboration between citizens and local authorities throughout the budget process, with the aim of strengthening citizens' confidence in government, as well as the trust of local officials in their citizens.

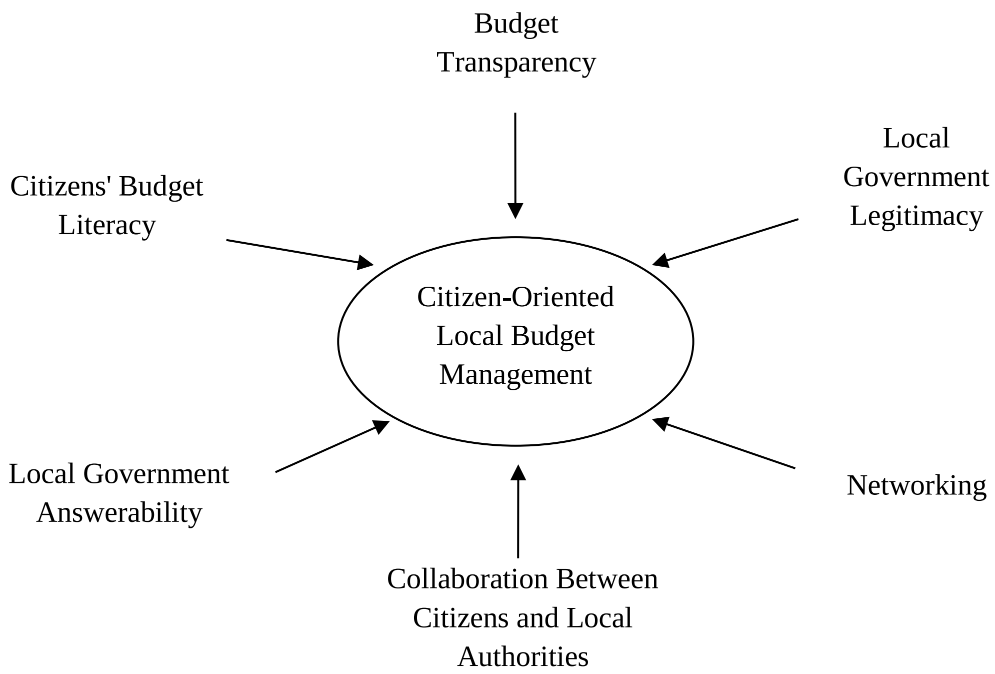


Figure 4 Conceptual Elements of Citizen-Oriented Local Government Budget Management

Source: Author based on Cooper et al. (2006)

Either way, ICT development and increasing global discourse towards adopting a local governance model based on NPM settings have led to an increasing number of local authorities using online tools to promote budget transparency, accountability, and citizen participation. In this regard, the OECD stresses the importance of implementing the e-government processes, and the usefulness of local government websites as a basic tool to promote and encourage the publication of timely and comprehensive budget information at low cost. In addition to posting budget information online, the establishment of an e-government process has many other benefits, as it can transform the structures, processes and culture of local governance toward greater accessibility, user-centeredness and efficiency in providing local services (OECD, 2008). Accordingly, publishing transparent budget information online can also facilitate the promotion of numerous online tools through which citizens can participate in all phases of the budget cycle, and create better and vigorous exchanges of information between the local population and the local executive (Norris, 1999; Macintosh and Whyte, 2008). In this regard, some local governments have already adopted certain electronic participation (e-participation) mechanisms in budget processes, such as online forums, consultations, ratings, virtual discussion rooms, or online polls (OECD, 2005).

On the other hand, experience to date highlights several basic, most common barriers to effective citizen participation in the local budget process (World Bank, 2007; Giering, 2011):

- Citizens, the media, CSOs and the general public do not always have reliable, timely and simplified information on local government budgets. Namely, local government budget documents are often complex and technically demanding for the average citizen.
- There is insufficient information and education of citizens on their rights and obligations in the participation process. Generally, rules of participation are non-transparent, which diminishes the motivation for the engagement. In addition, the mindset of the public is often focused on the inability and helplessness to effect change in the local community.
- Although there are an increasing number of online formal participatory mechanisms, it is still insufficient for citizens to express their concerns at any given time, or to provide suggestions and comments to possibly improve the efficiency of budgetary allocations.
- Local governments often do not have sufficient technical and / or human capacity to effectively implement participatory processes. Also, increasing budget transparency and citizen participation, especially when it comes to online, low-cost mechanisms, often depends on the political will of the executive. For these reasons, budget documents themselves are often prepared at the last minute.

Since budget is a key economic tool of local governments in implementing public policies and meeting the needs of the local population, the planning and implementation of budgetary policies should be aligned with the available and sufficient budgetary resources. In this context, encouraging and empowering the continued high level of budget transparency sets the cornerstone for implementing meaningful citizen participation in budget processes. However, effective public participation is not possible without constant improvement of budget literacy and participatory competences of the general public concerned. Therefore, when there are well-established mechanisms and opportunities for participation, encouraged by local executive, and accompanied by good skills and budget literacy of citizens, the interaction of citizens and local authorities can lead to significant improvements in governance, fairer distribution of resources and improved quality of local government service delivery.

4.1.3 Importance and relevance of budget literacy

Budget transparency is not sufficient in itself, but is, among other things, a first step towards citizen participation. But for the participation to be effective, all stakeholders - including local governments, the media, experts, CSOs - need to make continuous efforts to improve budget literacy and raise awareness of the importance of effective direct participation. In order for public participation in local budget processes to be effective, two basic conditions should be met:

- the persistence of reliable, comprehensive, timely and simplified budget information;
- improved budget literacy, knowledge and competences of the local population.

In this context, budget literacy can be simply defined as the “ability to read, decipher, and understand public budgets to enable and enhance meaningful citizen participation in the budget process” (Masud, Pfeil, Agarwal, & Gonzalez Briseno, 2017, p. 1). In addition, the World Bank notes the importance of education and the ability of young people to understand complex and technically demanding budget documents so that they can be properly integrated into budget processes. Accordingly, the objective of budget literacy for young people is to empower them to analyze, scrutinize, and discuss the basic elements of budget policies and government measures, and to raise their awareness of the social responsibility through their existing ability to participate in the allocation of budgetary resources.

In the conceptual framework of effective participation in the budget process, local governments as a supply-side stakeholder publish budget information which should then be analyzed by the interested public as a demad-side stakeholder, thus addressing relevant issues and proposing changes (Figure 5). The budget transparency feedback loop is based on the following two assumptions (Alton and Agarwal, 2013):

- local government first publishes comprehensive, reliable, relevant and accessible budget information during all four phases of the budget cycle; then the local officials streamline technically demanding and complex budget documents so that the average citizen can understand what is being published; finally local government disseminates budget information through various channels – online and offline – to reach as many interested local inhabitants as possible;
- elected local representatives (municipal or city council) and all interested citizens analyze and scrutinize published budget documents; after that, at various organized, formal and informal gatherings and meetings, they discuss the current situation, priority areas and possible changes; and finally, they provide feedback in the form of pointing out possible omissions, proposals for a more efficient and equitable distribution of budget funds, comments and suggestions, etc.

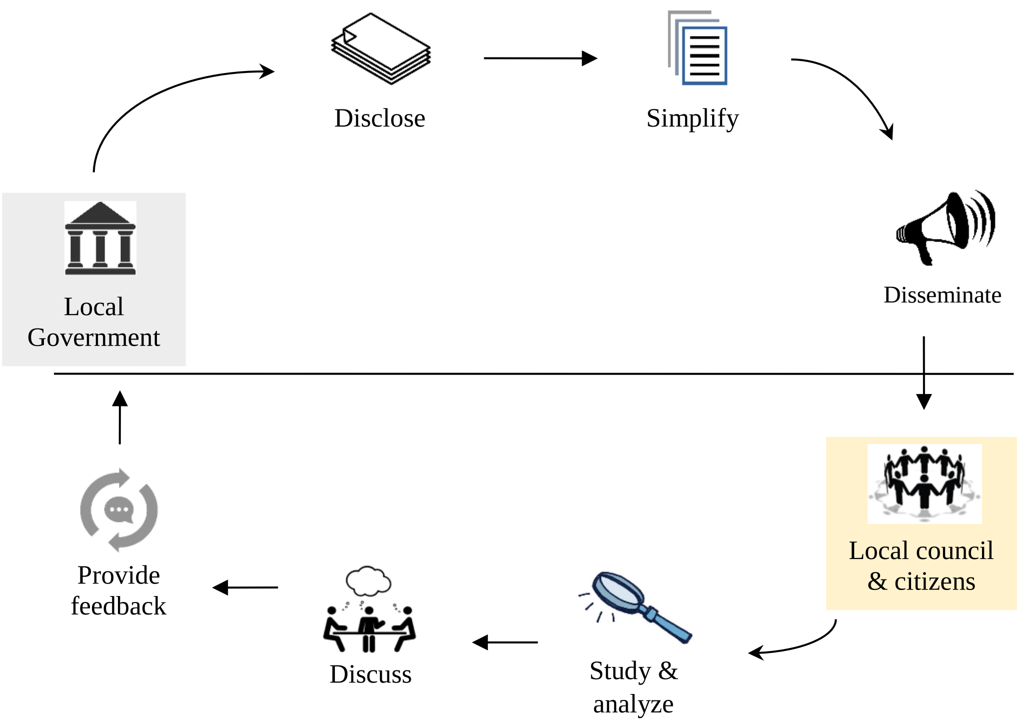


Figure 5 Budget Transparency Feedback Loop

Source: Alton & Agarwal (2013)

Often the supply-side makes simplified budget information widely available, however, a deadlock arises on the demand-side. Namely, citizens and elected representatives in the local council often lack basic knowledge of reading, analyzing and discussing local budgets, which makes it difficult for them to engage meaningfully in decision-making within the local budget process. Masud et al. (2017) emphasize the importance of introducing education and training on budgets and citizenship within the school curriculum, in order to strengthen budget literacy at an early age. Early acquaintance with budgetary vocabulary and basic budgetary elements can serve as a foundation for successful and constructive participation and scrutiny, as well as for controlling allocation and use of budget resources. Accordingly, long-term investment in budget literacy will contribute to closing the demand-side gap, thereby improving overall government-citizen communication and influencing better governance through a more efficient and equitable distribution of local budgetary resources.

The literature on the importance and impact of budget literacy on governance quality is growing. Davies (2006) believes that the economic and financial literacy of citizens contributes to the quality of governance in a way that the government makes more decisions and provides more services that are in line with voters' wishes. Furthermore, greater economic literacy of citizens increases their comprehension of the long-term implications of budgetary and economic policies, which allows the government to carry out the necessary reforms. In other words, if citizens understand that by introducing adequate reforms in public policies, short-term downturns often bring long-term growth, politicians may be more free to make changes without fearing that short-term downturn will disrupt their presidency. Greater understanding of fiscal and economic policies and concepts, and their effects, acts as a trigger for increased public involvement in government decision-making, in an environment, that is, the legal framework that enables it (Schug and Wood, 2011).

Familiarizing citizens, especially the younger population, with budgets, budgetary outcomes and public debt enables them to gain better insights into contextual frameworks and their impact on the economic decision-making process (Ramkumar, 2008). Without this knowledge and knowledge of participation opportunities in different contexts, citizens cannot have a significant and constructive influence on the formulation and implementation of budgetary policies (Forsyth, 2006). The budget literacy of the interested public is a key link for effective and constructive participation based on previously published transparent budget information. Improving budget reporting and public scrutiny, and overseeing the budget process by professional groups and CSOs contributes to more efficient budget execution and better budget policy outcomes (World Bank, 2013). In this context, coherence and continuous improvement of the process between supply and demand side factors is crucial. Accordingly, the availability of reliable, relevant, accurate, comprehensive and simplified budget information (supply-side factors) should be accompanied by adequate capacity, knowledge, budget literacy, and skills of the general public to participate constructively in local budget processes (demand-side factors).

The participation of the public and / or giving feedback should be provided in all four phases of the budget cycle. Accordingly, it is essential that citizens are aware of all the opportunities for participation within each phase, and of the key budgetary documents that are prepared and related to the specific phase. Ramkumar (2008) stressed the importance of knowledge and education on processes, phases and key budget documents within the budget cycle (Figure 6). The budget cycle consists of four basic phases (Ramkumar, 2008):

1) Budget formulation – the executive produces and publishes a draft budget;
2) Budget approval – the representative authority discusses, makes any amendments, and finally enacts and publishes the budget plan;
3) Budget execution – the executive distributes and spends budget appropriations as foreseen in the budget plan;
4) Budget oversight – the State Audit Office publishes audit reports, which are then reviewed by the representative body, and their joint reports and instructions are used by the executive to meet the statutory budgetary reporting obligation.

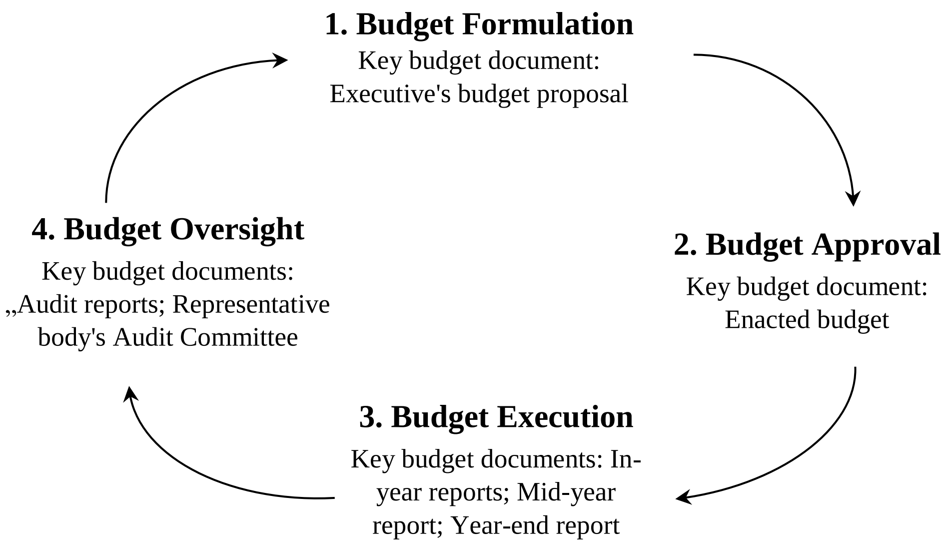


Figure 6 Phases of the Budget Cycle and the Accompanying Key Budget Documents

Source: Ramkumar (2008)

In order for public participation to be as effective as possible, the general public, and in particular professional groups, CSOs, the media and educational structures, should work together to promote greater local budget transparency and budget literacy. In this context, as stated in GIFT's Principles of Public Participation in Fiscal Policy, local government should proactively use multiple mechanisms of citizen involvement, “including traditionally excluded and vulnerable groups and individuals, and the voices of those who are rarely heard” (GIFT, 2016, p. 5).

In this way, local government increases citizens 'sense of belonging to the local community, which in turn reduces citizens' distrust in local government. In such circumstances, timely and transparent publication of key budget documents combined with continued efforts to improve budget literacy among citizens and local representative increases the likelihood of more effective and constructive participation and principal-agent dialogue. Under such conditions, the literature and previous practices are fairly consistent, indicating the achievement of better local governance, better and fairer distribution and use of budgetary resources, and improved delivery of local public services.

4.2 The internal capacity and external pressures for greater budget transparency

When it comes to circumstances and conditions in which the local government is more likely to encourage greater budget transparency, the literature highlights two basic triggers – internal forces, i.e. supply-side factors and external pressures, i.e. demand-side factors (Tavares and da Cruz, 2017). Supply-side factors represent certain characteristics of local governments, that is, their capacity to offer greater levels of budget transparency. These characteristics are, for example, the financial capacity of local governments, their human resources, political characteristics, governance type and style, etc. Local executive, on the other hand, faces pressures from the public, local elected representatives, the media, CSOs and the central government for greater budget transparency – demand-side factors. These factors, for example, are characteristics of the local population (age, education, political engagement), certain professional norms by CSOs, or the recommendations and legal obligations of higher levels of government. However, for more successful outcomes in increasing budgetary transparency, the interrelation and coherence of both factors is crucial. In other words, the most successful initiatives for greater transparency and accountability are accompanied by interflow of supply and demand-side factors (Carlitz, 2013).

4.2.1 Supply side factors – organizational characteristics of local governments

Budget documents are often extensive, complex and incomprehensible to citizens. Therefore, a local executive who drafts and submits budget documents to a local representative authority, should publish comprehensive, clear, accurate, reliable, understandable and simplified budget information. However, not all local governments have the same opportunities to ensure a high level of budget transparency, nor is there the same political will among local incumbents. While there are numerous opportunities to publish budget information and documents online, local governments do not take advantage of these benefits in the same way. On the other hand, good and well-established infrastructure for continuous transparent reporting sometimes requires additional financial and human resources. In this context, local governments with greater financial and human capacity are more likely to adopt certain technical and governance innovations more quickly (Smith and Taebel, 1985; Norris and Kraemer, 1996). In such local governments, employees who produce budget documents are more likely to have continuous training in budget reporting. Also, local governments with greater financial and human capacity often have their own IT department, which makes it much easier for them to introduce and implement changes in the form of new and improved e-government practices (Moon and Norris, 2005). Furthermore, local governments with more resources available have greater possibilities to continuously and permanently maintain and improve their websites, thus 'listening' and following technological developments. Unlike the traditional system of public administration, the Internet also allows for continuous interaction between citizens and local authorities on the planning, allocation, spending and monitoring of budgetary resources (Chadwick, 2003). In this context, the administrative capacity and the opportunity for continuous staff improvement and training play a significant role in the effective implementation of transparency and accountability initiatives. Yavuz & Welch (2014) point out that in order to increase transparency through greater openness and accessibility of government official websites, it is crucial to have the technical capacity and the person responsible and dedicated to managing the website.

Local government financial capacity is also an important predictor of its successful implementation of transparency initiatives and reforms. It is argued that greater financial autonomy of local government, such as a larger share of own source revenues, empowers local authorities to introduce and implement new transparency policies (Tavares and da Cruz, 2017). In other words, greater reliance on external assistance, i.e. intergovernmental grants, leaves less room for the introduction of procedures and processes that would act as an accelerator in enhancing budget transparency (Geys, Heinemann and Kalb, 2010).

In addition to financial and human capacity, the characteristics of the executive are also a significant component of the budget transparency supply, since the executive branch drafts and proposes budget documents. In this context, the way local government is governed and the approach to democratization of the budget process determines what attitudes the head of the executive will have on budget transparency initiatives. However, it should be borne in mind that the political system of the country in question also influences the incumbent's way of running the local government. Accordingly, different attitudes of local leaders towards transparency are expected in hard and soft governance structures, and in varying degrees of local executive authority and political independence. These features are particularly pronounced in countries that have implemented or initiated NPM reforms, such as strong-mayor vs. weak-mayor system in the United States and Canada, where local leaders have varying levels of formal authority and independence in decision making. Therefore, the profile of the executive head and the political system may be particularly relevant to the local government's general attitude to transparency, and its dedication, will and commitment to transparency and accountability reforms (Tavares and da Cruz, 2017).

In countries that have implemented NPM reforms, such as the United States, Canada or Ireland, there are two basic local governance structures – council-manager and mayor-council government form. In general, larger cities are run under mayor-council stricter government form, while in smaller cities it is predominantly council-manager form with a politically impartial employee or manager in charge of administrative affairs (Eagly and Johnson, 1990). This political independence in preparing budget documents can be considered as one of the reasons why council-managers in the United States are generally more open to new e-government solutions and transparency (Lowatcharin and Menifield, 2015). However, in such a governance mode, transparency is not a primary goal, but rather a result of increased efforts to invest in web technologies (Moon, 2002). Still, incumbents who listen and value the voices of their citizens, and who desire greater citizen participation, social justice and the general public interest, are more likely to set transparency issues as priorities (Yang and Callahan, 2007).

It is also argued that the existing electoral / political competition and the way local elections are conducted affect the supply of budget information. Wehner & de Renzio (2013) stressed that free and fair elections are a good basis for empowering transparency. Furthermore, in an election environment with weak political competition, transparency issues will be difficult to come to the fore, since there is a lack of appropriate opposition pressure to introduce changes in the methods, structure and functioning of government operations. If incumbent's leadership is not supported by a permanent majority in the council, there is greater pressure from internal political structures for deliberative democracy in the form of enhanced legitimacy, increased accountability, and voter interaction (Thomas, 2010). In the context of widely recognized transparency and accountability initiatives and advocacy, competitive political environments have the power to accelerate the introduction of transparency reforms. Tavares & da Cruz (2017) argued that greater political competitiveness can increase budget credibility, understanding of citizens' suggestions and inputs, but also strengthen participatory mechanisms.

When it comes to political perspective, the affiliation of a local executive to a particular political party within the political spectrum is also considered to determine the level and quality of budget information supply. The literature generally indicates that the left is more transparent, explaining that leftist policy options have a greater tendency to expand the scope and quantity of public services, which is why they face greater pressures and public demands for transparency (Guillamón, Bastida and Benito, 2011; Caamaño-Alegre *et al.*, 2013; del Sol, 2013). On the other hand, it has also been argued that budget transparency is a bipartisan issue, and that it is promoted by both the left and right political options, given the general agreement that budget transparency brings benefits (Wehner and de Renzio, 2013). In addition, the political spectrum of the local representative authority also plays an important role in explaining transparency achievements. Grimmelikhuijsen & Welch (2012) note that the publication of budget information cannot be perceived to be completely neutral since it reflects political interests. In this context, politicians, as representatives of certain political parties, will emphasize budgetary policies only if they perceive that the voters find them competent in them (Gibbons, 2004). Voters, on the other hand, will elect representatives of those political parties that they perceive as high quality performers in the policies that are most important to them (Petrocik, 1996).

Within supply-side factors, executive head traits can also be considered to affect the level of transparency of budget information. In this regard, the gender of the local executive head is most commonly represented executive feature in the literature. Political science literature points out that there are some differences in political expressions and social understanding between men and women, suggesting a gender issue in the public sector and in managing public affairs (Ferguson, 1984; Stivers, 1991). These differences are particularly reflected in their governance mode and different views on changes, interventions and policies. Fox & Schuhmann (1999) conclude that female leaders conduct better communication with citizens and are more committed to citizens' inputs and participatory mechanisms in achieving better local decision-making.

Furthermore, it is argued that female incumbents are less prone to unethical behavior in the performance of their duties, thereby reducing the likelihood of a principal-agent outbreak (Khazanchi, 1995). In this context, greater representation of women in local executive and representative structures can influence the improved ethical behavior of local employees, but also lead to necessary changes and serve as a prelude to the implementation of transparency and accountability measures. Rodríguez-Garcia (2015) point out that the local government, which has a certain percentage of female employees, is more likely to promote transparency and adopt answerability and responsiveness mechanisms. Accordingly, the leadership style of men and women may differ significantly. Female incumbents are perceived to be more open and democratically minded, ready for the hearings, suggestions and inputs of others, while male leaders are more prone to autocratic expression, with limited additional space for participatory activities (Eagly and Johnson, 1990).

In short, the literature has identified several key supply-side factors that could have a significant impact on the supply of local government's budget information. These factors include local government's financial and human (administrative) capacity, governance style and type, political structure and spectrum, and executive head traits (primarily gender).

4.2.2 Demand side factors – pressures from citizens and policymakers

Although the initiation and execution of reforms in the public sector has traditionally been determined by institutional traits, i.e. supply-side factors, in recent years there has been an increasing number of actions involving demand-side factors. In other words, there is a growing discourse towards demand-side initiatives that empower non-executive stakeholders to demand greater transparency in budget information and hold local executive accountable for actions taken and decisions made. In this way, more space is given to citizens to express their real needs, influence budgetary decision-making and the quality of public service delivery. When it comes to implementing budget transparency and accountability reforms, the combination of supply- and demand-side actions brings several benefits (Abakerli, 2007):

- greater knowledge and awareness of citizens on budget information and budget constraints, which reduces ineffective and unfounded citizen demands;
- increased citizen engagement and insight into the budget process, enhances public confidence in government activities, which gives politicians greater legitimacy and credibility;

- encouraged cooperation, entrenched arguments and constructive and effective dialogue between citizens and authorities, which reduces the likelihood of expressing citizen dissatisfaction through demonstrations and unrest.

Either way, it is necessary to highlight the key stakeholders in the local government environment who play a significant role in creating and putting pressure for higher levels of budget transparency of the local executive:

- local elected representatives / local councillors, with the role of approving the budget provided by the local executive and controlling or overseeing budget execution. Their budgetary knowledge, analytical thinking ability, responsiveness and promptness are considered to be the key features of the democratic quality of the budget process.
- citizens and CSOs, considered as major drivers of change and mechanisms of government accountability. They can also be organized to represent non-elected representatives who can provide the public with key information on a specific topic, such as doctors representing patients and thus advocating for their improved conditions. However, these non-elected representatives, structures and organizations may bring many challenges to the long-standing electoral democracy (van de Bovenkamp and Vollaard, 2019).
- external budget oversight bodies; Supreme Audit Institutions (SAIs) are also involved in overseeing the allocation and execution of local government budgets. They have the role of controlling the effectiveness and efficiency of the local budget process, thus indicating if there are any deviations from the legal framework. In addition, they can provide recommendations and suggestions for improving the quality of budget reporting. However, in some countries with complex administrative divisions, SAIs annual control involves only a certain number of local governments. In addition to SAIs, in some countries there are other institutions in charge of overseeing local budgets, such as ombudsman or anti-corruption commissions.
- higher levels of government; regional and / or national government or a competent ministry can significantly influence the level of local government budget transparency. This is reflected in particular by the legal provisions on budget transparency (coercive pressures), but also by the budget reporting recommendations of higher levels of government.

- the media; given the frequent advocacy for the benefit of the community, media work and reporting can sometimes be considered as part of CSOs activities. However, the media are generally commercial and some state-owned, which makes their objectivity and studiously unbiased analysis questionable. In this context, it is difficult to see media activities as mechanisms for improving government accountability. However, on the other hand, local and national media have great power and influence over public discourse. Norris (2010) points out that the main roles of media in governance are watchdog, agenda setter and gatekeeper in the public forum. Therefore, the effectiveness of civil societies' advocacy for specific changes (e.g. transparency and accountability reforms) is significantly increased in combination with consistent media pressure.

To identify the demand-side pressures for greater budget transparency, it is important to consider the characteristics of these key stakeholders. According to the literature, one looks at, for example:

- what is the political competition in the local representative, the political structure, and the age or education of the elected representatives;
- socio-economic and demographic attributes of the local population;
- the frequency and manner of conducting the external audit;
- the existence of a legal framework for budgetary reporting - as defined by law, and recommendations for improved practices by competent authorities;
- the state of media reporting on budgetary matters and its visibility.

Empirical results on the impact of such characteristics are presented in Chapter 5. Nevertheless, all these impacts can play a significant role in creating demand-side capacity to put more pressure on local executive to improve local government's budget transparency. Yavuz & Welch (2014) note that greater pressure from civil society and the ability and willingness of citizens to be more engaged in the budget process not only contribute to greater transparency but also to the overall openness (denoting the combination of transparency and participatory opportunities) of government official websites.

This section outlined two approaches to looking at environmental perspectives of local budget transparency - internal strength and the ability of local governments to offer higher levels of budget transparency (demand side factors), and external pressures from citizens and policymakers to increase local budget transparency (supply side factors). Such a classification has been established on the basis of a literature review and has already been used in some empirical studies on the determinants of budget transparency (see, for example, Tavares and da Cruz, 2017). Because this dissertation looks at online budget transparency, the following section discusses the position of budget transparency in the Web 2.0 environment, and highlights the advantages and disadvantages of online disclosures.

4.3 Information and communications technology and budget transparency

Information and communication technologies (ICTs) have made the implementation of the goals of the budget transparency and accountability initiatives much easier in recent years. ICTs are generally perceived as a meaningful, cost-effective and appropriate tool to strengthen budget transparency and openness of governments. Furthermore, many countries have embraced these changes as part of e-government reform programs, thus addressing efficiency, transparency and innovation in governments' operational activities. This has resulted in an open data movement, forcing governments to increasingly use low-cost technologies to publish information on their websites or on special data portals. Such a movement, combined with the growing citizens' use of the internet, mobile technologies and social media, has transformed the relationship between citizens and local governments in ways that allow greater accessibility, answerability, instant reactions, feedback, and direct two-way communication. This section first outlines the advantages, but also the specific disadvantages, of online disclosures, and then provides insight into the relationship between budget transparency and the web 2.0 environment.

4.3.1 Advantages and disadvantages of online publication of information

The effective use of ICTs in the mechanisms of budgetary reporting, accountability and the empowerment of participatory activities depends on several elements, including:

- ICT achievements and infrastructure at national and local level;
- availability and speed of broadband internet connection in the country and locally;
- level of general literacy of citizens, especially budget and digital literacy.

In this context, Kuriyan, Bailur, Gigler, & Park (n.d.) outline key prerequisites for the effective implementation of ICT based transparency and accountability initiatives. They state the importance of cohesion between supply and demand-side forces and structural mechanisms (Figure 7).

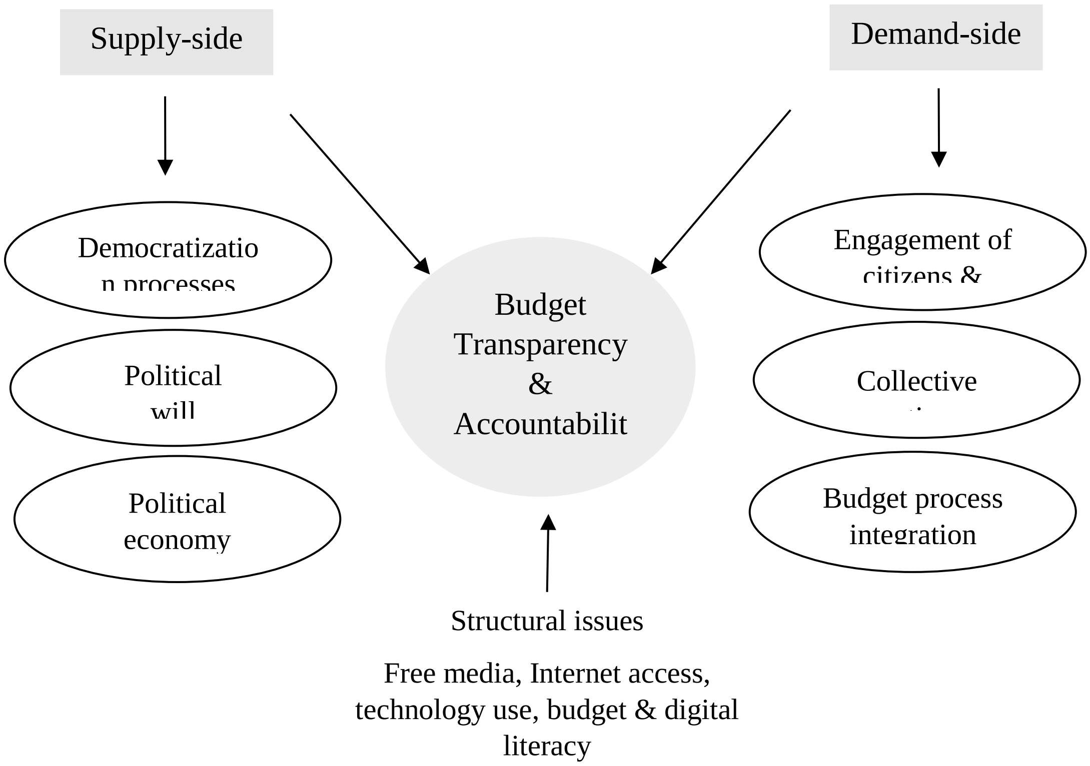


Figure 7 Factors that influence the effectiveness of ICT based transparency and accountability mechanisms

Source: Kuriyan et al. (n.d.)

On the supply side, the effective provision of budget information by local executive depends on the level of democratization of society, structures and processes; political will of the local executive, that is, support and recognition of the importance of these initiatives; and broader picture and relationships within the country's political economy. Demand-side factors, on the other hand, relate mainly to citizens' engagement and ability to use and analyze published information; their networking, advocacy and mobilization skills; and the ability to advocate for integration of existing infrastructures at all phases of the budget cycle. These supply and demand side elements need to be integrated with the structural elements of the particular community, such as free media, quality internet access, use of mobile technologies and social media, budget and digital literacy.

Current practices of using ICT in promoting greater local government budget transparency have shown that by using web and mobile technologies, local governments and citizens can jointly contribute to (Chambers, Dimitrova and Pollock, 2012): the publication of more comprehensive, high-quality, and comprehensible citizen-oriented budget information; a better understanding of simplified budget information, using data visualization, data analytics and other open-source data tools; greater budgetary and digital literacy of citizens and empowerment of CSOs for better communication with the authorities; encouragement of participatory practices of the local population in the budget process, such as participatory budgeting, citizen participatory audits, etc.; better, more comprehensive and reliable budget information, which can be used by higher levels of government and policy makers in making better decisions.

In this context, in line with current practices and theoretical underpinnings, several key benefits of using online technologies to enhance local goverment's budget transparency and accountability mechanisms can be highlighted:

- the presence of updated websites and other online platforms with available budget information enables citizens to become more familiar with local budgets and to make their suggestions and requests more concise. This reduces the perceived communication gap between citizens and local government;
- enables the use of multiple low-cost online platforms to inform the public as effectively as possible, thus encouraging interactive methods of action;
- online technologies empower the visualization of local budgets. This simplifies traditionally complex budget documents to citizens, the media, the local council and other stakeholders;
- consistent online availability of transparent budget information, visualizations, analytical tools, citizens' budgets, etc., gives citizens a better insight into the budgetary situation of their local government (e.g. comparing budget items by year, department, or with other local governments and so on);
- online platforms facilitate the timely publication of key budget documents, i.e. when the local executive sends them to the representative for adoption;
- timely publication also allows the public to be informed of budget information in a timely manner, which enhances citizens' engagement, interaction, feedback and participation in the budget process;
- local governments have the opportunity to improve their perceived accountability by using popular two-way communication platforms, such as social media, and responding to each individual citizen's input in a timely and understandable manner;

- the ubiquity of mobile technologies enables all interested citizens, regardless of their geographical location, to use these popular platforms and express their opinions on budget allocation, make specific suggestions and / or comments on improving efficiency, give feedback on services provided, etc.;
- the combination of independent media reporting with the effective use of online technologies ensures that citizens are attracted to locally relevant topics, enabling their instantaneous reaction and feedback.

However, before implementing budget transparency and accountability initiatives, the broader picture and policy implications of such strategies need to be considered. In this respect, it can be said that the use of online technologies in implementing transparency measures has some drawbacks:

- online technology, online budget information, and online participation are often inaccessible to the poor, given their living conditions, internet access, associated costs and the problem of infrastructure and connectivity of geographically remote places. In such cases, Kuriyan et al. (n.d.) propose to use traditional methods of informing citizens, such as radio, TV, SMS, etc., but at the same time investing in internet infrastructure and citizens' digital literacy;
- in a period of growing budget transparency and accountability initiatives, local governments want to show that their governance is transparent, accessible and open to citizens, thus embracing transparency initiatives. In this context, local governments can exploit such circumstances and build the image of good governance for political points rather than truly improve their openness. Cruz Prieto (2013) points out that such disclosure of a large amount of information can be 'cheap cosmetics' to the genuine transparency reforms;
- given that one of the primary goals of online budget transparency is to encourage public participation in the budget process, complaints, comments, suggestions and feedback from individuals may be biased. In other words, individuals can give false or incorrect information about certain items, processes or cases due to personal motivation rather than the well-being of the community. In such cases, it is a challenge for local governments to verify the validity of this information and to respond appropriately to such individual inputs. There is also a concern that the same, elite groups of people participate, while marginalized, vulnerable groups lack the courage, confidence or space to express themselves (Kuriyan *et al.*, n.d.);

- in the case of opaque budget transparency (Fox, 2007), where local governments publish information that is unclear, incomprehensible, and knowingly intricate, online disclosure may have a counter-effect and contribute to the diminished perceived legitimacy of local government. It is therefore essential that local governments, from the outset of their efforts to increase budget transparency, publish reliable, accurate, comprehensive, and simplified and accessible budget information. This can be done by publishing accompanying data visualization, citizens' budgets, clear budget explanations, various open-format analytical tools that allow citizens to view, sort and analyze data, etc.

Although investing in online transparency mechanisms may also entail some costs for local government, such as administrative costs and training, it is generally perceived as a powerful instrument for promoting government legitimacy and accountability. In this context, local governments need to publish accurate, reliable, comprehensive and simplified budget information in a timely manner; establish answerability mechanisms and respond timely to each individual input; and facilitate the direct participation of all citizens, including marginalized, vulnerable groups of the local population.

4.3.2 Budget transparency in the Web 2.0 environment

Although the use of the Internet for budget transparency has been around for some years now, the presence of Web 2.0 budget reporting tools is much smaller and still emerging. Unlike Web 1.0 as the first generation of the web with mostly static settings and no interactive elements, Web 2.0 implies a dynamic environment in which users have a much greater opportunity for interactivity and information sharing, promoting a participatory culture. While in Web 1.0, the user was a passive content observer, Web 2.0 content can be created by users. Web 2.0 platforms include, for example, social networking or social media sites, web applications and other collaborative platforms. Accordingly, more recent studies argue if such websites can be used as a platform for enhanced transparency and accountability, and as a tool to strengthen dialogue between local governments and citizens (Chua, Goh and Ang, 2012). In other words, by using web 2.0 tools in cohesion with the static elements of the previous web generation, local governments have the opportunity to improve the visibility of published information and enhance the interaction between citizens and authorities through the information dissemination on social media, networks and other participatory tools (Gandía, Marrahí and Huguet, 2016).

Web 2.0 has brought to the public institutions a new ambience and approach in dealing with transparency, accountability and public participation. In such a new environment, citizens feel more influential and effective in planning and implementing institutional change, such as transparency or accountability initiatives or reforms. Chun, Shulman, Sandoval, & Hovy (2010) point out that in this environment the user is not only a visitor to the site, but an active participant, a content proponent and sharer, thus playing a significant role in creating the web content itself and the flow of interactive communication.

When it comes to publishing budget information, local governments can, for example, leave all site visitors with the opportunity to participate directly in the form of inputs, comments and suggestions on specific budget items, by using web comment forms or deliberation forms such as online consultations. In such a transformative approach, local governments are given the opportunity to advance the key issues of budget transparency, accountability and citizen engagement in the budget process. In this sense, e-government 2.0 tools are used extensively to provide external services, i.e. citizen engagements, improving the communication and interactivity between citizens and government (Mergel, Schweik and Fountain, 2009), greater and more effective cooperation and dissemination of information, e.g. through social platforms (Chadwick and Stromer-Galley, 2016). However, there is very little literature on the basic features of using Web 2.0 technology within local governments themselves, and on the impact of these tools on local government operational and internal affairs, which requires extensive research efforts in this direction (Sivarajah, Irani and Weerakkody, 2015).

As more and more local governments take advantage of publishing information and using interactive tools in the context of eGov. 2.0, and as more and more citizens see the possibility of more effective participation in budgetary processes, it is generally necessary to establish clearer normative rules, the democratic 'weight' of forms of participation and their impacts. As citizens perceive budget transparency requirements and participation as an integral part of their political expression, Chadwick & Stromer-Galley (2016) raise the question and issues related to the distribution of political power, since granular online participation in essence represents the dispersal of power. In this context, Schudson (1999) developed the concept of 'monitorial citizen', saying that citizens should constantly and permanently be the watchdog of political events, but leave a more significant role to professional groups and media, CSOs, and other intermediary entities. Either way, the application of Web 2.0 tools in budget reporting, accountability and citizen participation at the local government level is still in its infancy, and much empirical, normative, and practical knowledge is needed about its overarching effects, advantages and disadvantages, in both external and intra-organisational local government contexts.

This chapter emphasized that local budgetary transparency can be a trigger for increasing political accountability of politicians and reducing citizens' distrust in government. Also, it was emphasized that increasing local budget transparency can affect greater direct citizen participation, which will only be effective if there is a will to invest continuously in the budget literacy programs of all concerned. Two classifications on the determinants of budget transparency, demand- and supply-side factors, are also presented to better understand the environmental perspective of local budget transparency. Finally, since the empirical analysis in this dissertation deals with online budget transparency, this chapter has outlined the advantages and disadvantages of online reporting and the web 2.0 environment. Based on the established definition of budget transparency, the theories presented for analyzing budget transparency, and the environmental perspective of local budget transparency, the following chapter presents a comprehensive empirical analysis of the determinants of budget transparency in Croatian municipalities.

5 EMPIRICAL ANALYSIS OF THE DETERMINANTS OF BUDGET TRANSPARENCY OF CROATIAN MUNICIPALITIES

This chapter will first present an overview of empirical research to date on the determinants of budget transparency at subnational levels of government. The review includes the different approaches identified in measuring budget transparency, the basic determinants of budget transparency in previous research at subnational government level, summarizing results, and presenting limitations and challenges for future research. The chapter then focuses on the basic features of Croatian local government and its legal framework for budgetary reporting. Then, a description of the research, data sources and methodology used are presented, together with the results of an empirical analysis of the determinants of budget transparency of Croatian municipalities. Finally, the chapter ends with an interpretation of the results and the implications that the results have on the formation of the reform of the territorial and fiscal organization of the Republic of Croatia.

5.1 Empirical overview of the determinants of subnational budget transparency

This section presents the empirical research to date on the factors that determine the level of budget transparency at subnational levels of government. Subnational levels of government include, for example, provinces, states, regions, and local governments such as municipalities and cities. Since the notion of budget transparency is used almost interchangeably with the broader term of fiscal transparency (explained in detail in Chapter 2), this overview incorporates all papers that in their budget transparency measure have at least one budgetary category, i.e. local government revenue and expenditure. This section focuses on quantitative studies that use a certain measure of budget transparency for a dependent variable. As research on the determinants of budget transparency at subnational levels of government began to be conducted more frequently in the early 21st century, the emphasis in this section is naturally on online publication of budget information. Accordingly, studies published from 2000 to 2020 in English have been included in the literature review. Studies only include journal articles because no useful sources have been found on the determinants of budget transparency when it comes to books. Some of the search keywords were: “budget transparency determinants”, “fiscal transparency determinants”, “budget transparency causes”, “fiscal transparency causes”, “local government budget transparency”, etc. The search interfaces used are Web of Science, Scopus, ProQuest, EBSCO Host, and additionally Google Scholar. The section continues by presenting different measures of budget transparency in different contextual frameworks and countries, as well as challenges and opportunities for future endeavors.

5.1.1 Different approaches to measuring budget transparency

Building on different definitions of budget transparency (presented in Chapter 2) and different interpretations and understandings, measuring budget transparency can be perceived as a complex task. In this regard, one of the key prerequisites for establishing an appropriate measure of budget transparency is to improve the quality and accessibility of budget data, in order to allow comparisons between different entities. The difference between availability and accessibility should be emphasized here. Namely, accessible information not only means that information is available, but also easily retrieved. However, self-interested agents are not always motivated to disclose additional accessible budget information in a timely manner. By improving quality and accessibility, such information is more likely to be empirically trackable and tractable. In other words, these improvements could enhance the systematic measurement of budget transparency and facilitate the examination of its determinants and impacts.

Before summarizing the various ways of measuring and interpreting budget information, it should be noted that the specificities and contextual features of the country under consideration play a major role in this. Specifically, different budget laws, levels of development and implementation of e-government reforms, public pressures and demands, the political environment, and established budget reporting practices can significantly determine the level of data accessibility, and thus the way and approach to its measurement. In this context, the analysis of budget transparency and comparisons at subnational government level may be more significant within the country rather than between countries. Accordingly, this overview of budget transparency measures is sorted by different countries. First, different approaches to measuring budget transparency in Spain and the USA are presented, since most papers have analyzed the determinants of budget transparency in the subnational governments of the two countries. Subsequently, other studies using samples from subnational governments of other countries will be presented.

Spain

When it comes to exploring the determinants of budget transparency at the subnational level, most of the quantitative studies come from Spain[2]. All authors used a certain measure of budget

---

[2] „Spain consists of 17 autonomous communities and 2 autonomous cities - Ceuta and Melilla, which are divided into 50 provinces; with a total of 8,124 municipalities” (Spanish Statistical Office, 2019)

/ fiscal / financial transparency as a dependent variable. Gandía & Archidona (2008) explored the website transparency of major Spanish cities. They put the focus on researching the quality of websites by developing the web quality model, but also included the web content, thus covering the quantity and type of information available. Accordingly, they have developed a disclosure index, consisting of five subindexes: i) general information on the cultural, political and social environment; ii) budgetary information – available budget information in 2006, including 22 items, such as consolidated budget, budget classifications, etc.; iii) financial information – including balance sheets, annual financial statements, etc.; iv) presentation and navigation – ease of access and search of published information; v) relational web – representing the behaviour of the authorities towards citizens, inclusivity and the ability to achieve two-way communication. A similar measure of transparency was used by Caba-Pérez et al. (2008) on a sample of Spanish local governments in 2007. However, in their index they included a smaller number of budget items, adding non-financial indicators, such as governance efficiency and effectiveness. Unlike Gandía & Archidona (2008), they focused more on the qualitative characteristics of published information, such as completeness, comparability, timeliness, intelligibility, reliability, and data accessibility.
On the other hand, Serrano-Cinca et al. (2009) remained focused on a purely quantitative level - the availability of budget / financial information, not including a qualitative dimension, such as the characteristics of published information and relational web presence. In line with the Spanish legislative framework for local financial reporting, in 2006, they observed the availability of nine items on the official websites of local governments, including consolidated and unconsolidated budgets, budgets of companies owned by local governments, budget classifications, and an audit report.

Some studies have made use of the availability of an already developed transparency index for Spanish local governments (Guillamón, Bastida and Benito, 2011; del Sol, 2013; De Araújo and Tejedo-Romero, 2016a, 2016b). Namely, the non-governmental organization Transparency International (TI) Spain has developed in 2008 a transparency index of Spanish local authorities. They sent a questionnaire to the 100 largest Spanish local governments, containing a wide range of questions about local government transparency. After receiving the response, they formed a transparency index consisting of five categories: i) corporate transparency - basic information about employees and internal organization, rules and regulation; ii) social transparency - information and accessibility of services to citizens; iii) financial transparency - budgetary information, revenue and expenditure information (accounting for about 20% of the total index); iv) services contracting transparency; and v) urban planning and procurement transparency. While De Araújo & Tejedo-Romero (2016a, 2016b) presented only the overall index as the dependent variable, del Sol (2013) performed analysis for each individual sub-index as well. In contrast, Guillamón et al. (2011) focused entirely on financial transparency indicators, including the availability of budget documents and information.

Esteller-Moré & Polo Otero (2012) performed a more comprehensive analysis, with panel data 2001-2007 on a sample of 691 Catalan municipalities. Their transparency measure included the timely availability of nine budget information. This information is an integral part of the Public Audit Office for Catalonia report and includes: "budget approval, final budget, budget balances, closed settlement budgets, cash flow statement, cash flow surplus, balance sheet, result statement, and indebtedness" (Esteller-Moré and Polo Otero, 2012, p. 1159). Caamaño-Alegre, Lago-Peñas, Reyes-Santias, & Santiago-Boubeta (2013) have observed Galician local governments. But, unlike Esteller-Moré & Polo Otero (2012), they had a significantly smaller sample (40 municipalities) and one year of observation. They measured transparency using questionnaires sent to municipalities. The questionnaire consisted of 15 items with questions formulated in a Likert scale and in accordance with the IMF Fiscal Transparency Code and good budget transparency practices. These items included basic information and documents within the budget process, timeliness, auditing process, as well as opportunities for consultation and citizen participation.

Because they measured the Web 2.0 transparency index, i.e. frequency of use of Web 2.0 publishing by Spanish local governments, Gandía et al. (2016) focused more on relational web presence, accessibility, navigability and web interactivity, and general information. However, the overall index also included a section on the availability of budgetary and financial information, such as budget law, enacted budgets for the current and previous years, budget amendments, etc. Finally, Gesuele et al. (2018) presented one of the few efforts to promote standardization of budget transparency measurements, on a sample of Italian and Spanish local governments. Although their transparency measure included some useful information, such as a list of local government owned companies, their relationships, processes and activities, only a small portion was devoted to local government budget and financial information, including financial statements and budget revenues.

In short, in the case of Spain, three categories of papers could be established, i.e. those that measured: i) budget transparency (Serrano-Cinca, Rueda-Tomás and Portillo-Tarragona, 2009;

Esteller-Moré and Polo Otero, 2012; Caamaño-Alegre *et al.*, 2013), ii) fiscal transparency (Caba-Pérez, Rodríguez Bolívar and López Hernández, 2008; Gandía and Archidona, 2008), and iii) broader local government transparency (Guillamón, Bastida and Benito, 2011; del Sol, 2013; De Araújo and Tejedo-Romero, 2016a, 2016b; Gandía, Marrahí and Huguet, 2016; Gesuele, Metallo and Longobardi, 2018).

United States[3]

One of the most influential and cited papers in exploring determinants of budget transparency is the pioneering study by Alt et al. (2006). Namely, based on the study by Alt et al. (2002), Alt et al. (2006) have constructed a unique panel dataset on US states' budget procedures, covering as many as 30 years (1972-2002). Their transparency measure was based on survey responses to a questionnaire sent to US states' budget officers. The questionnaire included 9 questions about budgetary procedures, such as whether multi-year expenditure forecasts are prepared, whether revenue forecasts are binding, or whether nonpartisan staff write appropriations bills. Positive answers to such questions entailed transparent procedures. Because all nine questions are dichotomous items, the transparency index could also range from 0 to 9. In addition to the empirical analysis, they presented four case studies, i.e. the political and economic context and environment of four states – Delaware, North Carolina, Rhode Island, and Wyoming – which, thanks to the reforms implemented, in the relatively short period showed major improvements in budget transparency. One of the basic advantages of this study is the long period of observation. However, given the time of observation, they were unable to include online budget dislosures and procedures. On the other hand, more recent studies have looked at online budget transparency, but with limited time variation.

Bernick, Birds, Brekken, Gourrier, & Kellogg (2014) observed a website fiscal transparency of 400 US counties in 2014. Their measure of fiscal transparency had four categories: i) no fiscal information available (0 points); ii) simple line-item presentation of budget revenues and expenditures or published Comprehensive Annual Financial Report (CAFR) (1 point); iii) simple line-item disclosure and CAFR or more comprehensive budget reporting (2 points); iv) both CAFR and a comprehensive final budget published (3 points). Styles & Tennyson (2007) have also observed the online availability of a CAFR document at one point in time. However, they applied their research to a sample of 300 US municipalities of different sizes. In addition

[3] The US consists of a total of 50 states. Local governments are below the state level. There are two types of local governments - counties and municipalities; some counties have townships, while the municipal level includes city, town, borough and village. There are 89,004 local governments in the US (US Census Bureau, 2012).

to data availability, they also constructed an accessibility index. This index reflected the ease of access to the CAFR document on municipal websites, such as the ability to find a CAFR document through a search engine, the appropriate document format, the number of clicks from a homepage to a CAFR document, etc. Finally, Lowatcharin & Menifield (2015) observed the website transparency of a sample of US counties in the twelve Midwestern states. However, their measure of government transparency – taken from the nonprofit Sunshine Review – included 10 items, only one of which relates to the budget, i.e. current and past budgets and simplified budget information with graphs for citizens. Other elements are part of broader government transparency, such as open public meetings, information about elected and administrative officials, contracts, taxes, etc.

Finally, given the method of measuring the dependent variable, two categories of papers can be distinguished, i.e. those who put in focus: i) fiscal transparency (Alt, Lassen and Rose, 2006; Bernick *et al.*, 2014), and ii) broader local government transparency (Lowatcharin and Menifield, 2015). However, as noted at the beginning of this chapter, there is at least one budget category in each of these papers.

Other countries

One of the first papers on the determinants of voluntary online local government financial transparency was presented by Laswad et al. (2005). They observed New Zealand's local governments, finding that of the total number of local governments that have websites, half of them do not publish financial information online. Accordingly, they formed a dichotomous variable, categorizing, on the one hand, local governments that do not publish financial information online, and on the other, local governments, which publish at least one of the financial documents. Observed financial documents / information are “financial highlights, annual plan, annual report, and certain combinations of financial highlights, annual plans and reports” (Laswad, Fisher and Oyelere, 2005, p. 110). García-Tabuyo et al. (2016) investigated the transparency of local governments in five Central American countries – El Salvador, Nicaragua, Panama, Guatemala and Honduras. They separately observed online mandatory and voluntary transparency. Mandatory elements were customized for each country in accordance with the law, while voluntary information was set up in accordance with good transparency practices. However, their transparency measure is rather extensive, exceeding budgetary context. It includes four basic categories: i) general information on municipal government; ii) relational web, i.e. relations with citizens and society; iii) service-procurement transparency;

and iv) economic-financial transparency, including encated budgets, year-end reports, consolidated budgets, budget amendments, audit reports, public debt, etc. Accordingly, budget information accounted for less than one-quarter of the total transparency index.

On the other hand, Zuccolotto & Teixeira (2014) focused solely on budgetary transparency. For the sample of Brazilian municipalities, they used the transparency index developed by Biderman & Pottomatti (2010). The index included three key dimensions: i) data availability, including final budget and budget classifications, revenue side details, year-end report, and other information within the budget execution phase; ii) availability of time series (up to five years) and frequency and regularity of publication; and iii) data usability, including publishing in open and machine-readable formats, the ability to download and rearrange data. Ma & Wu (2011) used a two-year panel dataset on a sample of Chinese provinces. They used a measure of transparency from the Center for Public Policy Studies. The transparency index was developed in such a way that volunteers individually requested fiscal information from provincial governments, including information related to government accounts, social security, and state-owned companies. Although they measured the answerability and extensiveness of the information provided, they omitted timeliness and accuracy. Similar to the Spanish TI transparency index, Tavares & da Cruz (2017) used an index developed by the Portuguese TI. The categories are similar to those of the Spanish version, including a total of 76 indicators, of which the economic and financial category (including e.g. enacted budget, balance sheet, year-end report, budget amendments, etc.) account for 15% of the overall index. Designing the index and assigning weights to each category was a participatory process involving practitioners, academicians and activists. However, the index considered only the online availability of individual items, but not the accessibility, reliability, accuracy and quality of the information available.

The Open Local Budget Index (OLBI) measure, which implies the online availability of five key budget documents – year-end report, mid-year report, enacted budget, budget proposal and citizens budget – has been used in several papers on a sample of Croatian and Slovenian local governments (Ott, Bronić, Stanić, *et al.*, 2019; Ott, Mačkić, *et al.*, 2019; Mourao, Bronić and Stanić, 2020). Finally, Birskyte (2019) observed budget transparency of Lithuanian municipalities at one point in time. She looked at the online availability and accessibility of 20 budget information for each municipality; 13 items (questions) related to the budget preparation phase and 7 to the budget execution phase, finding that budget reporting differs considerably among the observed municipalities.

In short, three categories of measurement of a dependent variable can be distinguished, i.e. ones that focus on: i) budget transparency (Zuccolotto and Teixeira, 2014; Birskyte, 2019), ii) financial transparency (Laswad, Fisher and Oyelere, 2005), and iii) broader local government transparency (Ma and Wu, 2011; García-Tabuyo, Sáez-Martín and Caba-Pérez, 2016; Tavares and da Cruz, 2017).

This section outlined the various measures used by different authors to develop budget / fiscal transparency indexes. In this context, several key points, challenges and opportunities for future research should be highlighted. First, greater consistency and focus on standardization of measures within the country would allow greater comparability and better explanation of existing ambiguous results and heterogeneity in exploring the determinants of budget transparency. According to the literature and past practices, it has been shown that certain institutions and non-governmental organizations could play a major role in establishing a standardized measure of local government budget transparency within the country. An example of this is Transparency International's measure of government transparency in Spain and Portugal. However, it is an extensive measure that involves a wider range of government activities. In this respect, it would be useful for such and similar organizations and institutions to develop exclusively a measure / index for budgetary transparency. Secondly, most studies have considered transparency only at one point in time, while the existence of longer time series could enrich the overall analysis, including the examination of causality. In this respect, a standardized measure of transparency within a country could allow for a longer time series by clearly identifying from the outset of the survey / website search the mandatory (regulated by law) and voluntary disclosure requirements (according to good budget transparency practices). Thirdly, more studies are needed that investigate only budget transparency. Specifically, most studies look at broader government transparency, within which only a small percentage is related to budget information. Focusing solely on the measure of budget transparency as a dependent variable reduces ambiguity and improves the overall analysis, interpretation and possible implications of the results obtained.

Finally, it can be argued that one of the great challenges is to devise an appropriate standardized measure of local budgetary transparency applicable in different countries. Given the different systems of local governments, legal, empirical, conceptual and contextual specificities, such a measure could leave room for adaptation to a particular country (especially when it comes to mandatory transparency). Nevertheless, such a measure should follow international best practices (e.g. OECD, 2002) and include timely publication of relevant budget documents within the budget process, with information that is complete, accurate and reliable. As defined in section 2.1, budget documents should include all relevant elements, including the general part and budget classifications, and supporting budgetary explanations. Additionally, budget information must be simplified, searchable, downloadable, and processable. The very process of designing such a measure (similar to the IBP's national Open Budget Index) could offer additional insights into the importance of contextual frameworks, and results based on established standardized measures could increase credibility and reliability in determining the causes of different levels of budget transparency.

A brief, concise overview of the various measurements of budget transparency, including the sample used, the time period, the type of transparency, the methodology for exploring determinants, and the basic results, is available in Stanić (2018), while an updated version of it is available upon request.

5.1.2 Main determinants of subnational budget transparency in previous research

Before identifying the key determinants of budget transparency in research to date, this subsection will first highlight certain features in the use of variables, and the rules of review itself. Specifically, when employing certain variables in empirical analyses, different studies tend to use different definitions and ways of measuring these variables. Given the diversity of legal frameworks, practices, supply- and demand-side factors, and types of data in different countries, differences in the definition and measurement of the same variable across countries are somewhat expected. However, different approaches to defining and measuring the same variable on a sample of local governments within a country can lead to ambiguity, ostensible variability, and confusion in the interpretation and implications of the results. In this sense, the leverage variable was measured in several ways: the "ratio of long-term liabilities to total assets" (Laswad, Fisher and Oyelere, 2005); expenditures per capita (Gandía and Archidona, 2008); or unspecified leverage per capita (Gesuele, Metallo and Longobardi, 2018). The definitions and measurements of political competition also differ. Some studies define it as a margin of victory, measuring it as "the difference between the votes of the first and second candidate on the list" (De Araújo and Tejedo-Romero, 2016a, 2018; Tavares and da Cruz, 2017). Thus, the smaller the difference, the greater the political competition. Others define it as a measure of statistical dispersion, measuring it as the "standard deviation of the percentage of votes won in elections from each political option" (Caba-Pérez, Rodríguez Bolívar and López Hernández, 2008; Esteller-Moré and Polo Otero, 2012). Accordingly, the greater the dispersion of votes, the greater the political competition. It is also measured as a minority executive, when the head of the executive's party does not have a majority of seats in the local council (Tavares & da Cruz, 2017), which strengthens the opposition and encourages competitive pressures. Therefore, given the heterogeneity of definitions and measurements of certain variables, it is necessary to be cautious in summarizing and interpreting the results of individual studies.

Table 3 shows the frequency of use of each independent variable in the 26 studies analyzed. In other words, it shows how many studies used each individual independent variable; for example, 40% of the analyzed papers used the public debt variable. This contributes to understanding the centrality and position of each variable in exploring the determinants of local government budget transparency.

Table 3 Centrality (frequency of use) of each particular independent variable in previous studies

Financial variables	%
Public debt	40
Government's financial wealth	35
Budget balance	35
Measures of leverage	20
Intergovernmental grants	15
Budget size	10
Political variables	
Political and electoral competition	55
Ideologies of political parties	55
Electoral turnout	45
Head of the executive characteristics	35
Forms of government	20
E-governance	15
Citizens- and media-related variables	
Number of inhabitants	60
Citizen features	45
Residents' income and financial condition	35
Internet access infrastructure	30
Unemployment rate	25
Media presence, usage intensity and representation	25

Source: Author

However, the review is based on establishing a single stable account, with variables showing a significant result, highlighting those that show consistency in results[4] even though they are differently defined or measured. In this direction, the review identifies three basic categories: fiscal / financial variables, political variables, and citizens- and media-related variables.

[4] Included are those variables used in at least two studies, for which a significant result was obtained in more than 50% of cases.

Fiscal / financial variables

Of the fiscal / financial variables, financial leverage and public debt have the greatest impact on the budget transparency of subnational governments. Although, these two terms are sometimes difficult to differentiate, since financial leverage involves borrowing on certain assets that are expected to bring added value. In this context, greater financial leverage carries a greater burden for agents to justify their activities to citizens and stakeholders, in order to maintain their trust. Therefore, by increasing its transparency, the executive makes it easier for creditors to monitor agents' activites, which reduces the total cost of debt (Ingram, 1984). Empirical findings have confirmed the positive relationship between financial leverage and budget transparency, even when using different leverage measures, thus reinforcing the results obtained (Laswad, Fisher and Oyelere, 2005; Gandía, Marrahí and Huguet, 2016; Gesuele, Metallo and Longobardi, 2018). Zimmerman (1977) argued that agents want to reduce the cost of borrowing to avoid high interest payments and thus divert these funds to more beneficial activities. In this regard, by publishing more information, creditors' risk assessment becomes more effective, faster and efficient, which in turn reduces the cost of debt. In addition, in line with the principal-agent relationship, local governments tend to be more indebted in cases where there is greater information asymmetry, or less opportunity for principal's scrutinizing activities. Therefore, the higher the public debt, i.e. the external source of financing, the greater the pressures and needs for transparency (Ingram, 1984). By using different measures for the debt variable, studies to date have largely confirmed that higher public debt has a positive effect on the level of budget transparency (Styles and Tennyson, 2007; Caba-Pérez, Rodríguez Bolívar and López Hernández, 2008; Caamaño-Alegre *et al.*, 2013; De Araújo and Tejedo-Romero, 2018).

Table 4 Basic determinants of budget transparency

Dimension	Variable name	Measurement method
Financial	Financial leverage	Long-term liabilities divided by total assets
		Long-term liabilities divided by total public equity
		Executed expenses divided by population
	Public debt	The share of public debt in total revenues
		Total public debt divided by population
		Borrowing cost to finance total expenditures divided by population
Political	Political and electoral competition	The level of division of government (measured in different ways): 1 if different political parties are present in the executive and legislative branches; competition in gubernatorial elections, measured as a proportion of

		Democratic votes; legislative competition, i.e. representation of Democrats in the lower and upper house.
		A dichotomous variable indicating if a local council is led by one of the major national political parties
		Dispersion measure (standard deviation), showing how many votes each political option won in local elections
		Laakso & Taagepera's (1979) measure for the effective number of parties
		Margin of victory, i.e. the difference between the votes of the first and second candidate on the list
	Head of the executive characteristics	Gender
		Tenure in office
	Form (type) of government	District councils vs. regional and city councils
		1 if the capital of the province
		Council-manager vs. mayor council
Citizens- and media-related	Population	Number of inhabitants
		Density, i.e. number of inhabitants per square kilometer
	Internet access infrastructure	Percentage of the municipality's population with internet access
		Number of internet connections at speeds above 200 Kbps per thousand households
		Internet penetration
	Unemployment rate	Number of unemployed as a percentage of the total labor force
	Media presence, usage intensity and representation	Frequency of using social networks as measured by the number of tweets
		Total visibility in the press, i.e. the number of press releases related to the local government
		Total internet visibility, i.e. the number of local government related news stories on google search

Source: Author based on Stanić (2018)

Although Table 4 presents the basic determinants of budget transparency in studies to date, some of the variables have not been used in the empirical analysis of this dissertation. The variable 'unemployment rate' was not used due to the lack of an official municipal data series for 2014-18 and the variable 'media presence' due to the complexity, ambiguity and subjectivity of establishing the measure (e.g. how to determine positive from negative news, etc.). However, future studies are encouraged to address these variables.

Political variables

Of the political variables, electoral competition, head of the executive characteristics, and different forms of government have the greatest impact on subnational budget transparency.

Evans & Patton (1987) stressed that greater electoral competition strengthens executive accountability. In other words, agents are willing to bear the greater monitoring costs resulting from information asymmetry, since there is a fear of long-term costs, i.e. the loss of re-election if they do not keep their promises to electorate. Political competition is therefore particularly relevant in circumstances of electoral uncertainty. According to social responsibility theories, when electoral competition is strong, politicians resort to disclosing fiscal information in order to raise their level of perceived accountability and citizens' confidence in government, thereby increasing the likelihood of their re-election. On the other hand, when competition is weak, agents are less motivated to disclose information, since their election victory is more certain. Ferejohn (1986) points out that satisfying the electorate with greater fiscal disclosure gives agents room to raise their salaries, since tax payers are now more willing to pay more taxes.

It has also been discussed that politicians in power are more motivated to publish budget information, regardless of the degree of electoral competition. Namely, when competition is high, politicians want to justify to the electorate actions taken and to show good governance in public financial management (Caba Pérez, Rodríguez Bolívar and López Hernández, 2014). On the other hand, when competition is weakened, politicians in power expect re-election, making them more free to publish information regardless of the possible consequences of such disclosure (Grimmelikhuijsen & Welch, 2012). However, other political options competing for power – given their somewhat inferior electoral position – in circumstances of high electoral competition do not resort to transparency, as it carries the risk of losing their direction and ability to cope with the consequences of this disclosure (Caba Pérez, Rodríguez Bolívar and López Hernández, 2014).

Empirical studies have shown that political / electoral competition has a significant impact on the level of budgetary reporting. However, the results are not consistent. Some conclude that stronger political competition boosts budget transparency (Caamaño-Alegre et al., 2013; Gandía & Archidona, 2008; Tavares & da Cruz, 2017), while others show a negative relationship (Alt, Lassen and Rose, 2006; De Araújo and Tejedo-Romero, 2016a; Gandía, Marrahí and Huguet, 2016). Accordingly, in interpreting the results, one should also consider different ways of measuring both political competition and dependent variable of budget / fiscal transparency, different contextual frameworks, and the data used. Nevertheless, despite its inconsistency, electoral competition has proven to be a significant variable for explaining different levels of subnational budget transparency, making it important for future research.

When it comes to head of the executive characteristics, the two most influential variables are gender and tenure. Previous studies have explored the difference between male and female leadership, hypothesizing that women have a milder and more accessible management style, which mitigates the effects of principal-agent dilemma. Fox & Schuhmann (1999) point out that women have a more participatory governance style, empowering better communication and more effective citizen involvement in the decision-making process. Furthermore, it is argued that women are less prone to unethical decisions and activities, unlike men who are more driven by financial goals (Bernardi and Arnold, 1997; Krishnan and Parsons, 2008). Rodríguez-Garcia (2015) states that more women in the local representative and other governmental functions can influence the style of governance and relationship with the electorate, making the local government more transparent and generally more 'sensitive' to citizens' demands. In this context, several studies have confirmed that women-led subnational governments have greater budgetary transparency (De Araújo & Tejedo-Romero, 2016b, 2018; Tavares & da Cruz, 2017).

Fewer studies have looked at the impact of incumbent's office tenure. It is generally argued that repeated re-election reduces competitive challenges and reinforces incumbent's position, thus reducing the perceived pressure from opposition and electorate for greater transparency. In this regard, consecutive tenures are considered to jeopardize the possibility of progress in transparency (Tavares & da Cruz, 2017), while more frequent turnover encourages the adoption of laws that enhance budgetary transparency, such as freedom of information (Berliner, 2014). On the other hand, Ma & Wu (2011) found that longer tenures in office contribute to improving the budget transparency, arguing that politicians need more time to be supported to initiate transparency and accountability reforms. Either way, more studies are needed to make general conclusions about the effects of tenure on subnational budget transparency.

Some authors have questioned whether the form of government or council type has an effect on subnational budget transparency. Laswad et al. (2005) found that metropolitan areas (regional and city councils) disclose more budget information than rural areas (district councils), concluding that the level of urbanization of a municipality matters. On the other hand, the Spanish provincial capitals are less transparent than other Spanish governments (del Sol, 2013). Namely, the provincial capitals are branches of the Spanish central government, which enjoy greater political power than other cities, providing additional services to citizens. In this context, del Sol (2013) explains that it is precisely this 'closeness' of central government and provincial capitals that prevents impartial monitoring and effective coercive pressures, giving them 'freedom' to be less transparent. Lowatcharin & Menifield (2015) investigated the impact of government type on a sample of US counties, concluding that council-managers with their more participatory and proactive leadership styles show greater transparency, unlike mayor-council government forms.

Citizens- and media-related variables

In terms of citizen features, population size, i.e. the number of inhabitants of a particular city or municipality, has often been used in previous studies to explain the different levels of subnational budgetary transparency. Namely, larger subnational governments, in terms of larger populations, also have more taxpayers, and thus more financial and human resources in their structures. All these elements help them to move more quickly to reforms, and technical and governance improvements (Norris & Kraemer, 1996; Smith & Taebel, 1985). In this context, Moon & Norris (2005) state that larger governments have a better financial basis to set up IT departments, and to train their employees to adapt to the e-governance environment. In addition, more populous subnational governments are also facing greater demad-side pressures from the public, the media and CSOs. This is in line with several papers which have found a positive relationship between population size and local government budget transparency (Serrano-Cinca, Rueda-Tomás and Portillo-Tarragona, 2009; Guillamón, Bastida and Benito, 2011; del Sol, 2013; Ott, Bronić, Stanić, *et al.*, 2019; Ott, Mačkić, *et al.*, 2019).

Internet acces infrastructure has also proven to be a significant determinant of budget transparency. In times of increasing digitalization and continuous improvements in ICT infrastructure, the Internet has contributed to the development of citizen-government relations, but also to a different way of approaching budgetary transparency. On the demand side, the increasing use of the internet has enabled citizens to access existing information faster and easier, as well as to advocate for additional online disclosures. On the other hand, in response to citizens' demands, more and more governments are using online platforms to publish mandatory, but also voluntary, budgetary information, seeking to demonstrate the accountability and legitimacy of their actions. Additionally, by publishing budget information online, governments significantly reduce the cost and time to disseminate this information to citizens (Pina, Torres and Royo, 2010). Several empirical studies have confirmed that better Internet infrastructure and access, and faster connectivity, contribute to greater budgetary transparency (Caba-Pérez, Rodríguez Bolívar and López Hernández, 2008; Gandía and Archidona, 2008; De Araújo and Tejedo-Romero, 2018; Ott, Mačkić, *et al.*, 2019). García-Tabuyo et al. (2016) also showed a positive relationship between internet access and mandatory disclosure. However, in the case of voluntary revelation of information, they found that the municipalities with the best internet connection did not show the highest transparency levels.

When it comes to unemployment, that is, an unfavorable economic situation, it is generally assumed that such circumstances have a negative effect on citizen participation, reducing the opportunities for citizen involvement in local government's decision-making process. In line with such settings, several studies have confirmed that higher unemployment rates have a negative impact on the development of budgetary transparency (Caamaño-Alegre *et al.*, 2013; del Sol, 2013; Tavares and da Cruz, 2017; Ott, Bronić, Stanić, *et al.*, 2019). Piotrowski & Van Ryzin (2007) employed the unemployment rate as an indicator of the economic development status of a municipality, showing that better economic conditions in the municipality, i.e. lower unemployment rates, contribute to improving transparency levels.

It is argued that greater media coverage, i.e. the greater the number of news stories associated with government activities, contributes to greater disclosure of information (Ingram, 1984; Laswad et al., 2005; Zimmerman, 1977). In this context, the media is perceived as a mediator between citizens and authorities. The media can put more pressure on the authorities for greater disclosure, but also publish information and analyses themselves that can contribute to reducing information asymmetry from principal-agent relationships. But it should also be borne in mind that in a competitive environment, the media also have their own interests, often yearning for exclusive information and scandals. Such an approach can influence government decisions, which no longer wish to disclose information because of fears of their media misuse (Laswad, Fisher and Oyelere, 2005; García and García-García, 2010; Cuadrado-Ballesteros *et al.*, 2017). However, previous empirical findings have shown that local governments with greater press and internet presence, and with greater use of social media, show higher levels of budget transparency (Laswad, Fisher and Oyelere, 2005; Gandía and Archidona, 2008; Gandía, Marrahí and Huguet, 2016; Gesuele, Metallo and Longobardi, 2018).

A complete overview of the sub-national budget transparency determinants, including measurement method and results achieved, is available in Stanić (2018), while an updated version of it is available upon request.

5.1.3 Synthesis of results, limitations and challenges

The previous section presented an empirical overview of exploring the determinants of subnational budget transparency. Accordingly, several insights can be provided. First, there is generally a need for greater agreement on the definition of budget transparency, so that it can be adequately measured and compared between different countries. Currently, there are various definitions of budget transparency, which prevent greater consistency in its measurement. In addition, budgetary and fiscal transparency are often used as synonyms, making it even more difficult to establish the necessary clarity of definitions. In this context, the ambiguity of definitions may further cast doubt on the credibility of the results achieved. This is especially relevant when it comes to measuring subnational budget transparency within a country, as different measures can increase inconsistencies and lead to wrong conclusions. Accordingly, as shown in section 2.1, this dissertation offers a definition of local government budget transparency, which can be applied in local governments of different countries. Second, when synthesizing the results, it is important to take different definitions and measures of independent variables into account, as this heterogeneity may also lead to the wrong direction in the interpretation of the results, the conclusions and the implications.

Accordingly, this section presented a balanced account of the key determinants of subnational budgetary transparency, which, despite differences in the definition and measurement of variables, show significant results. The key categories and associated variables are as follows: i) Financial (financial leverage; public debt); ii) Political (political and electoral competition; head of the executive characteristics; form (type) of government); iii) Citizens- and media-related (population; Internet access infrastructure; unemployment rate; media presence, usage intensity and representation).

When it comes to the broader view, i.e. the determinants of national budgetary transparency, the results indicate consistency with respect to political variables. Namely, in a national context, political variables also affect the level of budget transparency, particularly political and electoral competition, and the level of democratization of government processes and structures (Hollyer, Rosendorff and Vreeland, 2011; Wehner and de Renzio, 2013). However, at the central-government level, the impact of the financial and citizens- and media-related variables is much smaller. Such results may reflect the assumption that demand-side pressures are much stronger at the subnational level, given the greater 'closeness' and 'tangibility' of local budgets. Furthermore, the insignificant impact of financial variables may be due to different funding arrangements and sources of funding between subnational and national levels of government. When looking at the determinants of overall public sector transparency, all three established dimensions play a significant role (Bakar and Saleh, 2015).

There are three key limitations. First, while the focus of this dissertation is on local governments, it should be noted that the budgetary / fiscal transparency of companies owned by subnational governments, as well as quasi government organizations, is generally disregarded in the literature. Likewise, this dissertation focuses solely on the budgetary transparency of local governments, not their companies and institutions. Second, this review includes only individual studies but not meta analyzes. Specifically, meta-analyses could further clarify the variability found in the previous findings. Accordingly, several studies employed meta-analyses techniques to find the causes of these inconsistencies in the case of financial condition, intergovernmental grants, political competition, organization size, and municipal wealth (Rodríguez Bolívar, Alcaide Muñoz and López Hernández, 2013; Alcaide Munoz and Rodriguez Bolivar, 2015; Alcaide Muñoz, Rodríguez Bolívar and López Hernández, 2017b). However, in order to draw conclusions based on the increase of the explanatory power of the error variance it is necessary to have more of similar research, which would include some other independent variables and a larger sample of studies. Third, it can be said that given the characteristics of the data, the context and the political and social environment, it is more important to observe within-country comparisons than sub-national comparisons across countries. However, in order to better understand the variability of the results, more studies involving samples from subnational governments of multiple countries are needed.

The biggest challenge for leading organizations and budget transparency and accountability initiatives is to devise a single, harmonized index for subnational budget transparency. This index could serve as a dependent variable in future research on the determinants of subnational budgetary transparency, which would open up new perspectives on the relevance of the country's context, laws, regulations and other features. Also, greater consistency in the definition and measurement of independent variables, especially within the country, would reduce ambiguity and contribute to explaining variability in previous studies. Finally, more studies with a longer time span of the dependent variable are needed, which would open up opportunities for additional methodological approaches, observations, and insights.

The following sections of this chapter focus on the context of Croatia, first by presenting the basic characteristics of local government in Croatia, and then conducting an empirical analysis on the determinants of budget transparency of Croatian municipalities.

5.2 Local-self government and legal framework of budget transparency in Croatia

This section will outline the basic features, scope and functioning of local government in Croatia. Also, the legal framework for budgetary reporting will be presented as a basis for understanding the measurement of budgetary transparency of Croatian local government units.

5.2.1 Scope, bodies, and funding of local-self government

The establishment of the current system of local self-government in the Republic of Croatia began in 1992 with the basic legislative framework, while the system was established in 1993 with a law regulating territorial organization, self-governing scope, electoral system, and the method of financing local self-government. According to the "Law on Local and Regional Self-Government" – entered into force in 2001 – the "units of local self-government are municipalities and cities, while the units of regional self-government are counties" (Law on Local and Regional Self-Government, 2019). The number of municipalities and cities has been constantly changing since the beginning of the establishment of the legislative framework (Table 5). Today, based on the "Law on Areas of Counties, Cities, and Municipalities in the Republic of Croatia", there are 576 units, i.e. 428 municipalities, 127 cities, 20 counties and the City of Zagreb, which has the status of both cities and counties.

Table 5 Number of local and regional self-government units in Croatia

Year	Municipalities	Cities	Counties	City-county	Total
1991.	102	-	-	-	102
1992.	418	68	20	1	507
2001.	424	122	20	1	567
2011.	429	126	20	1	576
2013. -	428	127	20	1	576

Source: Law on Areas of Counties, Cities, and Municipalities in the Republic of Croatia

"The Law on Local and Regional Self-Government" also establishes different purposes and functions of municipalities, cities and counties. Municipalities and cities carry out activities of local importance that directly meet the needs of citizens, while counties perform tasks of regional importance. In addition, large cities – which are the "economic, financial, cultural, health, transport and scientific centers of the wider environment and have more than 35,000 inhabitants" (Law on Local and Regional Self-Government, 2019) – take on certain responsibilities / activities of regional importance. In this context, areas within the scope of local self-government units (municipalities and cities) and counties can be identified (Table 6).

Table 6 Self-governing scope of activities of municipalities, cities and counties

Municipalities and cities	Counties	Big cities
Settlement and housing services	Education	Maintenance of public roads
Spatial and urban planning	Health care	Issuance of building and location permits, other acts related to construction, and implementation of physical planning documents
Utilities	Spatial and urban planning	
Primary health care	Economic development	
Childcare	Transport and transport infrastructure	
Preschool and elementary education	Maintenance of public roads	
Social care	Planning and development of a network of educational, health, social and cultural institutions	
Culture, physical culture and sports	Issuance of building and location permits, other acts related to construction, and implementation of physical planning documents	
Protecting and improving the natural environment		
Local traffic		
Consumer protection		
Fire and civil protection		

Source: Law on Local and Regional Self-Government (2019)

However, when it comes to more detailed obligations of municipalities, cities and counties within their self-governing field, the special (sectoral) laws establish specific tasks that local and regional self-government units are obliged to organize and the tasks that they can perform. Also, outside the scope of "Law on Local and Regional Self-Government", special laws determine the affairs of state administration that are performed in local and regional self-government units.

Local and regional self-government units have a representative and executive body. The representative bodies are the municipal council, city council and county assembly. In the City of Zagreb, as a unit with special city-county status, the representative body is the City Assembly. The executive bodies are: in the municipality - head of the municipality, in the city - the mayor, in the county - the county prefect. Members of representative bodies, municipal heads, mayors and prefects are elected directly, by secret ballot. In the context of this dissertation, it should be emphasized that the municipality head, mayor and county prefect, or their respective finance departments, compose and propose budget documents, which should then be adopted by the representative body. Furthermore, the executive body executes or ensures the execution of documents adopted by the representative body.

According to “Law on the Financing of Local and Regional Self-Government Units (2019)”, their basic sources of financing are tax revenue, grants and own and earmarked revenues in accordance with special regulations. There are national, county, city, and municipal taxes, as well as income tax which is divided between the municipalities, cities, and counties (Table 7).

Table 7 Tax revenues of different levels of government

National	**County**	**City or municipal**	**Joint**
Value added tax	Inheritance and gifts tax	Surtax on income tax	Income tax
Profit tax	The tax on road motor vehicles	The consumption tax	
Special taxes and excise duties	The tax on vessels	Tax on holiday houses	
	The tax on coin operated machines for games for amusement	Tax on the use of public land	
		Real estate transfer tax	

Source: Tax Administration (2019)

Income tax is the largest source of local budget funds and is distributed as follows:

c) share of municipality or city 60%;
d) county share 17%;
e) fiscal equalization share 17%;
f) share for decentralized functions 6%.

Municipalities, cities and counties whose capacity of generated tax revenue is less than the reference value exercise the right to fiscal equalization funds. Detailed information on the reference value calculations, generally on fiscal equalization, and financing of decentralized functions goes beyond the scope and goal of this sub-section, but can be found in Articles 8-12 of the “Law on the Financing of Local and Regional Self-Government Units”.

In addition to tax revenues, local government funding sources are grants and own and earmarked revenues. Grants include assistance from abroad (mostly EU grants), and intergovernmental grants. Other own revenues are revenues from the sale of own property, fines and fees, while earmarked revenues are autonomous revenues of local units that have a predetermined purpose. Most earmarked revenues relate to utility charges, the level of which is determined by the local unit, while the central government determines its maximum rate.

5.2.2 Legal framework of budget transparency

There are two basic laws in Croatia that regulate budget transparency of local governments – "Budget Act (2015)" and "Act on the Right of Access to Information (2015)". In accordance with budgetary principles, the Budget Act states that the budget is adopted and implemented, inter alia, respecting the principles of unity and accuracy, balance, universality, budget specification or appropriate classifications, sound financial management and transparency.

These laws regulate the publication of three budget documents – the enacted budget (budget plan), when adopted by the representative authority, the year-end and mid-year reports on the budget execution. The Budget Act also describes the content of these documents (Table 8).

In accordance with the principle of transparency of the Budget Act, an enacted budget and projections for the next two years or decision on interim financing (in case the representative body does not adopt the budget by the beginning of the budget year), local authorities should publish in the official gazette. Furthermore, local units are required to publish mid-year and year-end reports in the official gazette and on their respective official websites. In addition, Article 10 of the "Act on the Right of Access to Information (2015)" states that local units are required to publish on their web pages in a searchable and machine-readable form a budget and financial plan, budget and financial plan execution reports, and information on sources of funding.

Table 8 Content of mandatory budget documents

Mandatory documents		Content	Deadline*
Enacted budget	General part	The Revenue and Expenditure Account	November 15
		Financing account	
	Special section	Expenditures and outlays plan by budget classifications	
	Development programs plan		
Year-end and mid-year reports	General part	The Revenue and Expenditure Account	June 1 (year-end report); September 15 (mid-year report)
		Financing account	
	Special section	Expenditures and outlays plan by budget classifications	
	Borrowing Report		
	Guarantee report		

	A report on the use of budget reserves
	Budget explanation
	Report on the implementation of the development programs plan

* Refers to the time by which the executive body should submit the document to the representative body

Source: Budget Act (2015)

Local executive is required to publish the three budget documents within eight days from the date of their submission to the representative authority. The local executive should submit the budget proposal and projections to the representative authority for adoption by November 15 of the current year, the draft year-end report by June 1, and the draft mid-year report by September 15 of the current year.

As a member of the Open Government Partnership (OGP) – a multilateral initiative aimed at promoting transparency, accountability, citizen participation and the use of new technologies and innovation to improve public services – within the 2020 Action Plan, Croatia committed to implement several measures and activities in five key areas. These are related to transparency, openness, participation of citizens / civil society in the processes of policy making, implementation and monitoring, implementation of the OGP at local and regional level, sustainability of the OGP initiative.

Furthermore, in line with the Action Plan for the period 2014-2016, Croatian Ministry of Finance proposes that local and regional self-government units also publish on their respective official websites a budget proposal with projections when it is submitted by the executive to the representative for adoption (Action Plan, 2014). Therefore, in addition to the enacted budget with projections, local units should also publish a budget proposal with projections no later than November 15 of the current year, in accordance with the Budget Act. Also, in line with the OGP Action Plan, the Ministry of Finance proposes that local units should publish mid-year and year-end reports proposals, at the moment when the executive bodies send them to the representatives for adoption (see deadlines in Table 8).

Finally, in order to strengthen citizen participation in local budget processes, the Ministry of Finance, in accordance with the OGP Action Plan, proposes to local units to publish a simplified form of budget, i.e. citizens budget, in addition to the budget proposal, so that citizens are more quickly and easily acquainted with basic budget concepts and planned activities. In this regard, the Ministry has also published on its website the indicative content of the Citizens' Guide to the Budget with six main parts: i) introductory words of the municipal head, mayor, or prefect; ii) some general words about the budget and its content; iii) a summary of the budget proposal with projections; iv) budget revenues with visualizations; v) key budget-funded programs, projects and activities, presented in an easily understandable manner; vi) important contacts and useful information.

Accordingly, in Croatia three budget documents are mandatory – enacted budget, mid-year and year-end reports – since their publication is regulated by the "Budget Act" and "Act on the Right of Access to Information". On the other hand, two documents can be considered voluntary – budget proposal and citizens budget – since their publication is not regulated by law, but by the Ministry of Finance's recommendations.

5.3 Description of research, data and methodology

The study of the determinants of online local budget transparency is conducted on the example of Croatian municipalities, using a unique panel database for the period 2014-18. The section first outlines the dependent variable, i.e. the measure of budget transparency of Croatian municipalities – Open Local Budget Index (OLBI) – describing the method of measurement and relevance of the observed budget information. Then, all the independent variables used, their method of measurement, and the data source will be displayed. Finally, a methodological framework for analysis will be presented, including model specifications for Poisson regression, logistic regression and spatial regression, as an introduction to the research findings obtained.

5.3.1 Open local budget index

The Open Local Budget Index (OLBI), developed and applied by the Institute of Public Finance (IPF) since 2014, is used as a dependent variable in the study of the determinants of budget transparency in Croatian municipalities. OLBI is measured by the number of key budget documents published on the official web pages of municipalities, cities and counties, i.e.:

1. Year-end report
2. Mid-year report
3. Enacted budget

Mandatory disclosure (regulated by „Budget Act" and „Act on the Right of Access to Information")

4. Budget proposal
5. Citizens budget

Voluntary disclosure (recommendations of the Ministry of Finance)

IPF researchers survey the websites of counties, cities and municipalities in November and December looking for year-end and mid-year reports, and in February and March looking for budget proposal, enacted budget and citizens budget. This leaves some time for local governments to publish requested documents online. For example, a local executive is obliged to submit a mid-year report proposal to a representative body by September 15, and researchers will only begin browsing the websites on November 1. Or, a budget proposal should be submitted by a local executive to a representative by November 15, and researchers will only begin browsing the websites on February 1.

Search and evaluation rules have also been set up to decide whether or not a budget document is considered published. Rules are set for each individual document and the same rules apply in each research cycle. They are as follows (Ott, Bronić, Petrušić, *et al.*, 2019):

- Year-end and Mid-year reports are considered published if they can be found on the municipality's official website under such titles or are published as proposals or drafts when submitted by the local executive – as part of session materials – to the representative authority for adoption. Reports are considered published even when there is a direct link on the municipal website (with the titles described above) to the website or official gazette where these documents are located. Due to the opacity of the official gazette, the reports are not considered published if they are in the official gazette without a prominent direct link on the municipality's website. The Reports are searched every year in November and December and are considered to be published only if they are available under the above rules on the day of the search of the website of the particular municipality.
- Enacted budget is considered published if it can be found on the municipality's website under this title or as a 'Enacted Budget', or e.g. '2019 Budget', which clearly indicates that the document was adopted at a municipal council meeting, thus differentiating it from the Budget proposal. It is also considered published when there is a direct link on the municipal website (with the titles described above) to the website or official gazette where the document is located. The Enacted budget is searched every year in February and March and is considered published only if it is available under the above rules on the day of the search of the municipality's website.
- Budget proposal is considered published if it can be found on the municipal website under this title or as a 'Draft budget proposal', which clearly shows that the document is

prepared and proposed by the executive (as part of session materials) for adoption by the municipal council, thus differentiating it from the Enacted budget. It is also considered published when there is a direct link on the municipal website (with the title described above) to the website where the document is located. The Budget proposal is searched every year in February and March and is considered published only if it is available under the above rules on the day of the search of the municipality's website.

- Citizens budget accompanying a Budget proposal or Enacted budget is considered published if there is a document on the municipality's official website with such a name containing a concise, simplified and understandable account of budget revenues and expenditures. It is also considered published when there is a direct link on the municipal website (with the titles e.g. 'Citizens budget or 'Citizens guide') to the website where the document is located. The Citizens budget is searched every year in February and March and is considered published only if it is available under the above rules on the day of the search of the municipality's website.

OLBI is calculated annually, e.g. OLBI 2018 includes the 2017 Year-end report, the 2018 Mid-year report, the 2019 Budget proposal, 2019 Enacted budget, and 2019 Citizens budget. All these documents are to be published by the municipalities in 2018. Therefore, OLBI 2018 represents the level of municipal budget transparency in 2018. It should also be noted that the key budget documents searched were selected not only because of the Croatian legal framework, but primarily because of international budget reporting practices (OECD, 2002; IBP, 2015). Accordingly, each of the five documents cited has relevance and purpose within the budget process.

The executive's Budget proposal allows CSOs, the media and the general public to be informed about the annual policy goals of local government. Because the Budget proposal is part of the formulation phase of the budget process, this is a time when interested public can get involved in decision-making about the design and implementation of key policy areas such as health, urban planning, education or environmental protection. Transparent disclosure of the executive's Budget proposal, including full justification of the revenue and expenditure plan before being approved by the representative body, is also essential for constructive and effective public discussion and for informing elected representatives in the local representative body in order to improve the quality of these discussions prior to the budget approval stage.

The importance of the Enacted budget as part of the approved stage of the budget process lies in the fact that it is the basis for carrying out all the analyzes in the subsequent stages of the budget process, i.e. in the implementation of the budget (execution stage) and the auditing stage. Furthermore, the Enacted budget is the basis for determining the existence of budgetary deviations. First, it shows whether it differs from the Budget proposal. Second, it is the starting point for determining possible budgetary deviations through the budget execution phase, pointing to the local government's budget credibility. Accordingly, if deviations are present, they should be highlighted and fully explained.

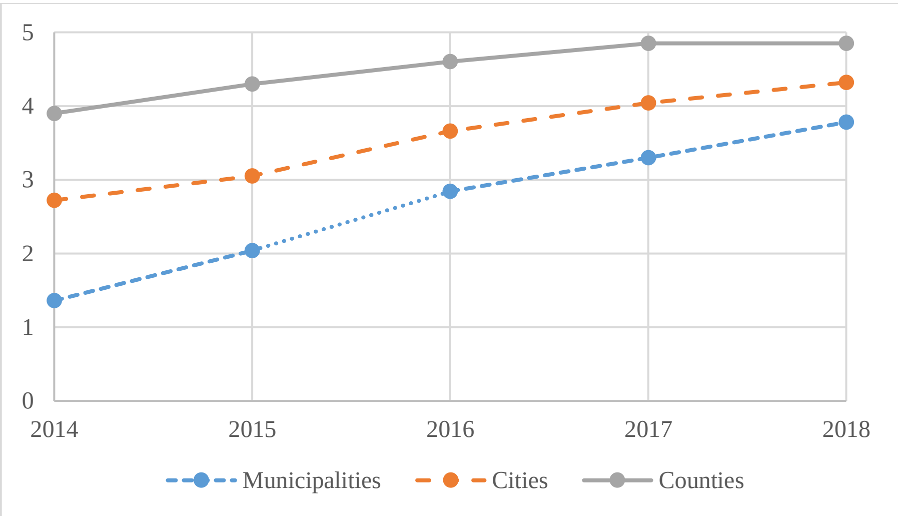
Because budget documents are complex and some parts are often incomprehensible to the general public, the Citizens budget helps to establish the clarity and understanding of key budget information by all concerned. The Citizens budget exists to make budget information accessible, and not only available to the average citizen. As its purpose is also to stimulate budgetary discussion, it should be published by the local executive with the proposals of budget documents, before being adopted by the representative body. Namely, since local executive produces budget documents, it has the capacity and relevance of data to produce Citizens budgets with each budget document. However, publishing a Citizens budget with each budget document is an advanced practice of transparency. This study looks at the publication of Citizens budget with a Budget proposal or with an Enacted budget.

By publishing the Year-end report, the local government explains to the public the execution of the budget in relation to the Enacted budget as well as to existing budget amendments. A Year-end report is often a comprehensive document, including explanations of collected and spent budgetary funds in relation to the initially planned budget. This document gives an insight into the possible budgetary deviations between the planned and executed budget. It also shows whether the local government has succeeded in implementing the planned policy goals, programs and activities. In addition, the Year-end report provides a basis for conducting a local government performance comparison analysis against previous years.

The Mid-year report presents a semi-annual review of local government fiscal position and budgetary performance against the goals set in the Enacted budget. It addresses the possible need for budget amendments, i.e. certain adjustments and reallocations of funds relative to the initial allocation. Finally, this document can identify deviations in the allocation of budget resources. In such circumstances, the Mid-year report should include clarifications of all significant deviations from the Enacted budget, i.e. present their causes, be it policy changes, difficulties in budget execution, or other factors. It also serves for better planning of the next year budget proposal.

The average budget transparency, expressed by OLBI, has improved significantly for all Croatian municipalities, cities and counties since the beginning of the measurement (from 1.75 in 2014 to 3.94 in 2018, out of the maximum 5). However, there is a different starting position / baseline among local and regional units. In 2014, municipalities showed the lowest levels of budget transparency, followed by cities and the most transparent were counties (1.36, 2.72 and 3.90 respectively). But when it comes to the pace of progress, municipalities show the biggest annual improvements (Graph 1).

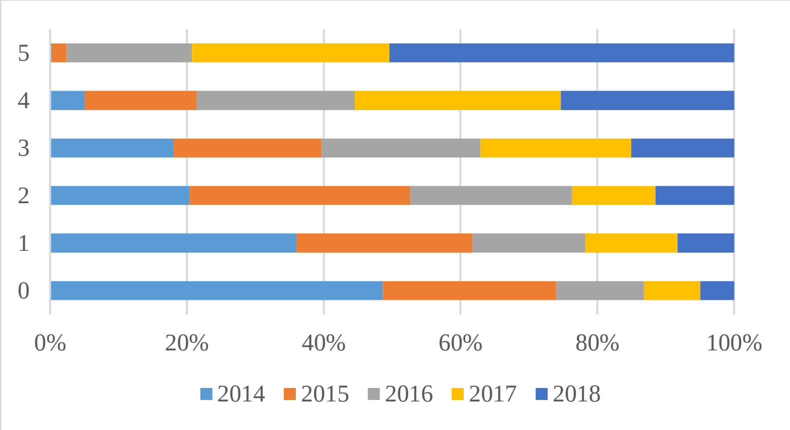
Graph 1 Average level of budget transparency in Croatian municipalities, cities and counties, measured by OLBI, 2014-18



Source: Ott et al. (2019)

Nevertheless, there are large differences in budget transparency within a total of 428 municipalities. The differences are even greater when looking at annual shifts. For example, in 2014, as many as 35% of municipalities did not publish any of the five key budget documents, and only one municipality – Viškovo – published all five requested documents. On the other hand, in 2018, as many as 44% of municipalities published all five documents, and less than 4% did not publish a single document (Graph 2).

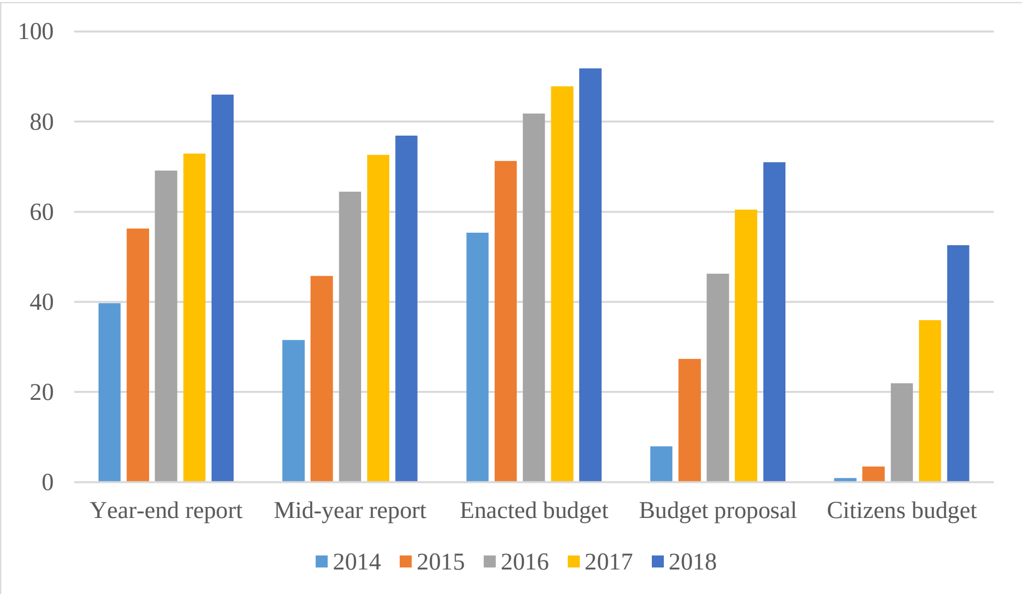
Graph 2 The level of budget transparency of Croatian municipalities as measured by OLBI, expressed as a percentage, 2014-18



Source: Ott et al. (2019)

Year after year, municipalities publish more of all budget documents observed. However, the intensity of publication of individual documents varies. The most commonly published are mandatory documents, especially Enacted budget, and the fewest available are voluntary documents, especially Citizens budget (Graph 3).

Graph 3 Intensity of publishing individual budget documents of Croatian municipalities, expressed as a percentage, 2014-18



Source: Ott et al. (2019)

Based on the characteristics of the dependent variable data, it can be concluded that, despite the general improvements in the publication of budget documents, there are still major differences between municipalities in online budgetary reporting. Accordingly, independent variables and hypotheses will be presented below, on the basis of which an empirical analysis will be conducted to investigate the factors that determine the level of budget transparency of Croatian municipalities.

5.3.2 Independent variables and data sources

In accordance with the theories of social responsibility and theories based on information asymmetry, and based on the empirical findings to date, six hypotheses have been set in exploring the determinants of budget transparency of Croatian municipalities. Hypotheses include the dependent variable – Open Local Budget Index (OLBI) and variables of interest. The hypotheses are as follows:

H_1: There is a positive and statistically significant relationship between fiscal capacity of the municipality and its online budget transparency.

H_2: There is a positive and statistically significant relationship between adherence to the legal regulation of the publication of budget information and voluntary online budget transparency.

H_3: There is a positive and statistically significant relationship between the financial audit carried out in the municipality and the level of online budget transparency.

H_4: There is a positive and statistically significant relationship between political competition in the municipality and the level of online budget transparency.

H_5: There is a positive and statistically significant relationship between the representation of women in the municipal council and the level of online budget transparency.

H_6: There is a positive and statistically significant relationship between the level of online budget transparency of neighbouring municipalities and the level of budget transparency of the observed municipality.

Table 9 presents all independent variables, i.e. variables of interest and controlled variables, including their measurement method, data source, and years of observation.

Table 9 Definition of independent variables

Variable name	**Measurement**	**Data source**	**Years of observation**
Variables of interest			
Fiscal capacity (*fiscal_cap*)	Own revenues per capita; calculated as operating revenues minus all grants (intergovernmental and from abroad) divided by population estimate.	Ministry of Finance (2019) Population estimate from Croatian Bureau of Statistics (2019)	2014-18

Variable name	Measurement	Data source	Years of observation
Financial audit (*audit*)	A dummy variable, taking a value of 1 if a financial audit has been conducted in the municipality by the State Audit Office for the year under review.	State Audit Office (2019)	2014-18
Political competition (*pol_comp*)	Difference in percentage of votes between the first and second candidate on the municipal head list – smaller difference denotes greater competition.	State Electoral Commission (2019)	Local elections 2013 and 2017
Women representation (*women_repr*)	Number of women in the municipal council, expressed as a share of the total number of councilors.	State Electoral Commission (2019)	Local elections 2013 and 2017
Controlled variables			
Population estimate (*est_pop*)	Population estimate for each municipality based on data from the Ministry of the Interior.	Croatian Bureau of Statistics (2019)	2014-18
Residents' income (*income_pc*)	Average annual residents' income per capita for each municipality.	Ministry of Regional Development and EU Funds (2019)	2014-18
Internet access (*int_acc*)	Percentage of households in a municipality with broadband Internet access with data transmission rates of 2 Mbit / s or more.	Croatian Regulatory Authority for Network Industries (HAKOM) (2019)	2014-18
Budget balance (*balance*)	The amount of surplus or deficit, expressed as the share of surplus / deficit in the total revenues of the municipality.	Ministry of Finance (2019)	2014-18
Direct debt (*debt_pc*)	Sum of all budget deficits from current and previous periods financed by short-term and long-term borrowing, i.e. credits, loans and issuance of securities.	Ministry of Finance (2019)	2014-18
Age of the executive head (*age*)	Dummy variable that takes a value of 1 if the municipal head is up to 50 years old, and 0 otherwise.	State Electoral Commission (2019)	Local elections 2013 and 2017
Education of the executive head (*education*)	Level of education achieved by the head of the municipality according to the classification of the Croatian Bureau of Statistics (SSS, VŠS, VSS); taking a value of 1 if the municipality head has a VSS (denoting a higher education) and 0 in other cases (VŠS, SSS or lower).	State Electoral Commission and Conflict of Interest Commission (2019)	Local elections 2013 and 2017
Gender of the executive head (*gender*)	Dummy variable showing whether the executive head is female or male, taking a value of 1 if female and 0 if male.	State Electoral Commission (2019)	Local elections 2013 and 2017
Political orientation (*pol_orient*)	A dummy variable that takes a value of 1 if the municipality head comes from the left political spectrum (left or left center) and 0 in the other cases.	State Electoral Commission (2019)	Local elections 2013 and 2017

Source: Author

The variables of interest were selected on the basis of several arguments: i) in line with previous empirical research and presented theoretical models of transparency; ii) the environmental perspective of local budget transparency, i.e. supply-side factors (e.g. fiscal capacity) and demand-side factors (e.g. financial audit or women's representation in the municipal council); iii) the context of local governments in the Republic of Croatia, the legal framework and the availability of relevant data at the municipal level. Likewise, the selected control variables follow the same arguments, but also taking into account the specifics of each variable of interest and the possible multicollinearity issue among the independent variables.

5.3.3 Methodological framework for analysis

Since OLBI is defined as a count data index that receives values from 0-5 (given the number of published budget documents), Poisson's regression model will be used to analyze these numerical data to prove hypotheses H_1, H_3, H_4 and H_5. These four hypotheses will each include three basic control variables – population estimate, residents' income per capita, and internet access. In addition, H_1 will be controlled for budget balance and direct debt; H_4 for age and education of the municipality head; and H_5 for the average age of women councilors, gender, age and education of the municipality head, and the executive's political orientation. The specification of the Poisson model for proving these hypotheses is represented by the following regression equation:

$$OLBI_{it} = \mu_0 + \mu_m X_{it} + \sum_{n=1}^{z} \mu_n Y_{it} + \varepsilon_{it}, i = 1, \dots N; t = 1, \dots T; m = 1, \dots 4 \qquad (1)$$

where,

$OLBI_{it}$ represents the level of budget transparency of the municipality *i* in year *t*, expressed by the count data index ranging from 0-5;

μ_0 are time-invariant fixed effects;

X_{it} is the vector of variables of interest (independent variables) for the municipality *i* in year *t*;

μ_m is the vector of estimated parameters of the variables of interest;

Y_{it} is the vector of basic and additional control variables for the municipality *i* in year *t*;

μ_n is the vector of estimated parameters of control variables;

ε is an error term.

In addition, to test the robustness of the model, these hypotheses will also be tested using the logistic regression. Accordingly, the dependent variable will be transformed into a binary variable, which will take a value of 1 if the municipality publishes 4 or 5 budget documents (denoting transparent municipality) and 0 for other cases. This classification is made because a municipality that publishes 4 or 5 budget documents, in addition to mandatory documents, publishes at least one voluntary document, which makes it more transparent and open to citizens.

The logistic regression model specification is as follows:

$$P\ (OLBI_{it} = 1) = \mu_0 + \mu_m X_{it} + \sum_{n=1}^{z} \mu_n Y_{it} + \varepsilon_{it}, i = 1, \dots N; t = 1, \dots T; m = 1, \dots 4 \qquad (2)$$

where $P\ (OLBI_{it} = 1)$ represents the likelihood of the municipality *i* achieving higher levels of budget transparency in year *t*. It is a dummy variable that takes a value 1 if a municipality publishes 4 or 5 budget documents online, and 0 otherwise. Other elements are defined as in the equation 1.

Hypotheses H_2 will also be tested using the logistic regression analysis. This hypothesis seeks to test whether the legal regulation of budget information disclosure affects the voluntary budget transparency of a municipality. Accordingly, a dummy variable will be placed on the right side of the regression equation, taking the value of 1 if the municipality has published all three mandatory budget documents, while the dependent variable will be a dummy taking the value of 1 if the municipality has published both voluntary documents. The primary objective of this hypothesis is to determine whether the legal regulation of the publication of budgetary documents is a good instrument for improving overall budget transparency. The model specification is as follows:

$$P\ (OLBI\_vol_{it} = 1) = \mu_0 + \mu_1 OLBI\_mand_{it} + \sum_{n=1}^{3} \mu_n Y_{it} + \varepsilon_{it}, i = 1, \ \dots N, \ t = 1, \ \dots T \qquad (3)$$

where,

$P\ (OLBI\_vol_{it} = 1)$ represents the likelihood of the municipality publishing both voluntary budget documents. It is a dummy variable that takes the value 1 if the municipality *i* published online two voluntary budget documents in year *t*;

μ_0 are time-invariant fixed effects;

$OLBI\_mand_{it}$ is a dummy variable that takes a value of 1 if the municipality *i* published online all three mandatory budget documents in year *t*;

μ_1 is the estimated parameter of the variable of interest;

Y_{it} is the vector of three basic control variables (population estimate, residents' income per capita, and internet access) for the municipality *i* in year *t*;

μ_n is the vector of estimated parameters of the control variables;

ε is an error term.

Finally, hypothesis H_6 will be tested by spatial regression analysis. In this analysis it is crucial to determine how the level of budget transparency of the observed municipality is influenced: i) by its past values (τ), ii) by the budget transparency levels of neighboring municipalities (ρ), and iii) by the past values of budget transparency of neighboring municipalities (η). The impact of exogenous dimensions (controlled variables) on the budget transparency levels will also be examined, i.e. the direct effect, that is, the influence of exogenous dimensions within the municipality itself on its budget transparency (β), and the indirect effect, that is, the influence of exogenous dimensions of neighboring municipalities on the budget transparency of the observed municipality (θ). Exogenous dimensions will include variables from previous hypotheses that will show the greatest impact on the municipal budget transparency.

The model specification is as follows:

$$\begin{aligned} OLBI_{it} = \mu + \tau OLBI_{i,t-1} + \rho WOLBI_{i,t} + \eta WOLBI_{i,t-1} + X_{i,t}\beta + WX_{i,t}\theta \\ + \varepsilon_{i,t}, \qquad i = 1, \ldots N,\ t = 1, \ldots T \end{aligned} \tag{4}$$

where,

$OLBI_{it}$ is the level of budget transparency of the municipality *i* in year *t*, ranging from 0-5;

μ are time-invariant fixed effects;

$X_{i,t}$ and $WX_{i,t}$ are matrices of exogenous dimensions, β and θ are their estimated parameters;

W is the matrix of constants of neighboring municipalities;

β are estimated parameters of exogenous dimensions of the observed municipality;

θ are estimated parameters of exogenous dimensions of neighboring municipalities;

τ is the estimated parameter of the lagged OLBI;

ρ is a spatial autoregressive coefficient;

η is a space–time parameter;

ε is an error term.

Accordingly, a unique panel database – a total of 428 Croatian municipalities and listed independent variables with a time span of 2014-18 – is used to perform the empirical analysis, including one-year lagged values of independent variables (except political ones), and political variables from local elections 2013 and 2017. The results of the empirical analysis are presented below.

5.4 Results of empirical analysis

This section presents the results of an empirical analysis of research on the determinants of budget transparency of Croatian municipalities. First, the results of Poisson and logistic regression, i.e. the results of testing hypotheses H_1, H_3, H_4 and H_5, will be presented. Also, within the logistic regression, the results of testing the hypothesis H_2 will be presented. Finally, the results of the spatial regression analysis will present the outcomes of testing the hypothesis H_6. The ultimate outcome and goal of this analysis is to obtain the optimal combination of determinants that increases municipal budget transparency.

5.4.1 Poisson regression

This subsection presents the results of Poisson regression for testing hypotheses H_1, H_3, H_4, and H_5. Stata 14.2 – statistical and data science software – was used to test all hypotheses. Since the dependent variable – OLBI – is a count data, a panel Poisson regression will be conducted. Panel data were compiled for all 428 municipalities and the 2014-18 period with strongly balanced panel settings. Since the existing free parameter of the Poisson distribution holds the variance dependent on the mean, for the initial modeling of count data it is necessary to first check for the existence of overdispersion. Specifically, the basic criterion for implementing models based on Poisson distribution is equidispersion, that is, variance equals mean. Accordingly, summary statistics of the dependent variable are shown first. Table 10 shows that the variance of OLBI (2.74) is slightly larger than its mean value (2.66). Therefore, the model and the results obtained will be interpreted within the robust standard errors, to avoid misinterpretations due to the existence of slight overdispersion.

Table 10 OLBI summary statistics

	Percentiles / Smallest-largest		
1%	0/0		
5%	0/0	Obs	2,140
10%	0/0	Sum of Wgt.	2,140
25%	1/0	Mean	2.663
50%	3/-	Std. Dev.	1.654
75%	4/5	Variance	2.736
90%	5/5	Skewness	-0.167
95%	5/5	Kurtosis	1.867
99%	5/5		

Source: Author

Furthermore, Table 11 shows the frequencies of the dependent variable OLBI. It indicates that over the five-year period, municipalities most frequently published three budget documents.

Table 11 OLBI frequency table

OLBI	Frequency	Percent	Cumulative
0	304	14.21	14.21
1	303	14.16	28.36
2	304	14.21	42.57
3	499	23.32	65.89
4	359	16.78	82.66
5	371	17.34	100.00
Total	2,140	100.00	

Source: Author

Hypothesis H_1

Hypothesis H_1 was tested by the Poisson regression equation with the following specification:

$$\begin{aligned} OLBI_{it} = \; & \mu_0 + \mu_1 fisc\_cap_{it} + \mu_2 est\_pop_{it} + \mu_3 income\_pc_{it} + \mu_4 int\_acc_{it} \\ & + \mu_5 debt\_pc_{it} + \mu_6 balance_{it} + \varepsilon_{it}, i = 1, \dots N; t = 1, \dots T \end{aligned} \tag{5}$$

where $OLBI$ is a count data dependent variable, i.e., a measure of budget transparency ranging from 0-5; μ_0 is a constant term; i denotes municipality; t is time; μ are the parameters to be estimated; ε is the error term. Variable of interest - fiscal capacity per capita - (*fisc_cap*) is calculated as operating revenues other than grants (intergovernmental and from abroad), while the description for controlled variables is available in Table 10.

The descriptive statistics for independent variables are presented in Table 13. When it comes to the variable of interest - fiscal capacity - there are large differences between municipalities, from HRK 302 to over HRK 16,000 per capita.

Table 12 Descriptive statistics for independent variables – H_1

Variable	Obs	Mean	Std. Dev.	Min	Max
fiscal_cap	2,140	2,586	2,143	302	16,353
est_pop	2,140	2,785	1,940	130	16,352
income_pc	2,140	24,049	6,281	8,686	49,230
int_acc	2,140	41	17	0	169
debt_pc	2,140	351	910	0	11,623
balance	2,140	13	15	0	186

Source: Author

Also, the basic control variables - population estimate, income per capita and internet access - reveal large differences between municipalities. The municipality of Civljane, for example, has about 130 inhabitants and Viškovo over 16,000. It is also noticeable that the percentage of households with internet access in some municipalities is more than 100%, but these are tourist places where there are many apartments with internet access. The *balance* variable indicates that although there are municipalities that have a balanced budget, there are a large number of municipalities with budgetary imbalances, i.e. with pronounced annual surpluses or deficits[5].

Before estimating the regression equation, the presence of a multicollinearity issue was tested. Although this is not by itself a test of multicolinearity, the correlation matrix (Appendix A) does not indicate the problem of multicollinearity among explanatory variables. In other words, although some correlations are high (such as *fiscal_cap* with *income_pc* and *int_acc*), they do not go above 0.75, which is considered the recommended limit (Gesuele, Metallo and Longobardi, 2018).

After conducting the Hausman test (Appendix A) on the choice between fixed- vs. random-effects model, the validity of using fixed-effects Poisson regression was confirmed.

[5] Note that the budget balance variable is measured as the share of surplus / deficit (as an absolute value) in the total revenues of the municipality, to denote deviations from budgetary balance.

Accordingly, a fixed-effects panel Poisson regression was estimated, displaying results with both default and robust standard errors.

Table 13 Panel Poisson regression results for H_1

OLBI	Default standard errors	Robust standard errors
fiscal_cap	0.000042	0.000042
	(2.10)**	(2.34)**
est_pop	-0.000435	-0.000435
	(-2.54)**	(-1.95)*
income_pc	0.000160	0.000160
	(14.55)***	(9.49)***
int_acc	0.006502	0.006502
	(2.81)***	(1.57)
debt_pc	-0.000004	-0.000004
	(-0.13)	(-0.17)
balance	-0.000123	-0.000123
	(-0.10)	(-0.15)
Wald chi2	439.04***	321.16***
Observations	2,105	2,105

Source: Author

Z-values in parentheses. Significance: ***1%, **5%, *10%.

Note: 35 observations dropped because of all zero outcomes.

The results in Table 13 confirm hypothesis H_1 on the positive and significant relationship between fiscal capacity and budget transparency of the municipality[6]. In other words, municipalities with higher fiscal capacity show higher levels of budget transparency. These results hold with both default and robust standard errors. The interpretation is as follows: increasing the municipal fiscal capacity per capita by HRK 1,000 increases the OLBI by 0.04 points.

The results are also in line with the principal-agent theory, i.e. higher fiscal capacity implies greater taxation, which is why citizens should be more interested in how their money is spent. In addition, legitimacy theory states that higher tax revenues should encourage municipalities to justify their spending through greater provision of budgetary information. Furthermore,

[6] The regression equation without debt and budget balance was also performed, and the results did not change.

(Ferejohn, 1999) noted that taxpayers allow governments to collect and manage large financial resources, however, in turn requiring high transparency levels. Previous empirical studies also confirm the positive relationship between fiscal capacity and municipal budget transparency (Laswad, Fisher and Oyelere, 2005; Guillamón, Bastida and Benito, 2011; Gandía, Marrahí and Huguet, 2016; Ott, Mačkić, *et al.*, 2019; Mourao, Bronić and Stanić, 2020). Similarly, Birskyte (2019) on a sample of Lithuanian municipalities found that the greater the intergovernmental grants (the smaller the fiscal capacity), the lower the budgetary transparency.

Of the control variables, income per capita shows the highest correlation. Namely, higher residents' income often implies higher tax revenues for the municipality. It is also discussed that citizens with higher incomes expect improved public services and seek greater transparency (Giroux and McLelland, 2003; Piotrowski and Van Ryzin, 2007). The results show that greater residents' income per capita contributes to greater online municipal budget transparency, which is in line with several previous studies (Styles and Tennyson, 2007; Serrano-Cinca, Rueda-Tomás and Portillo-Tarragona, 2009; Lowatcharin and Menifield, 2015; Ott, Mačkić and Bronić, 2018; Ott, Mačkić, *et al.*, 2019; Mourao, Bronić and Stanić, 2020). Accordingly, an increase in income per capita by HRK 1,000 will increase OLBI by 0.16 points. The results for population estimate show a negative relationship between number of inhabitants and budget transparency. In the model with robust standard errors, the significance level is only at 0.10. Nevertheless, in this analysis, this is only a control variable, and if evaluated as a variable of interest, it would be useful to examine whether this relationship is linear or nonlinear (see, e.g., Esteller-Moré & Polo Otero, 2012). However, such results need to be interpreted with caution since there are generally high emigration trends in Croatia, especially since joining the EU in 2013.

Better access to the Internet also has a positive effect on the disclosure of budget information. However, this relationship becomes insignificant in the model with robust standard errors. Finally, debt per capita and budget balance show insignificant results in explaining municipal budget transparency levels.

Hypothesis H_3

Hypothesis H_3 was tested by Poisson regression equation with the following specification:

$$OLBI_{it} = \mu_0 + \mu_1 audit_{it} + \mu_2 est\_pop_{it} + \mu_3 income\_pc_{it} + \mu_4 int\_acc_{it} + \varepsilon_{it}, i = 1, \dots N; t = 1, \dots T \tag{6}$$

where the variable of interest - financial audit - (*audit*) represents a dummy variable, taking a value of 1 if a financial audit has been conducted in the municipality by the State Audit Office for the year under review. Years of observation relate to 2014-18 reports, where for example the 2014 report includes an audit of the 2013 municipal financial documents. Other components of the equation have been presented in previous hypothesis.

The descriptive statistics in Table 14 indicate that on average just over 11% of municipalities was audited in 2014-18 period. However, there are large differences in the number of municipalities audited - in 2015, 83 municipalities were audited, and in 2016, only 12.

Table 14 Descriptive statistics for independent variables – H_3

Variable	Obs	Mean	Std. Dev.	Min	Max
Continuous					
est_pop	2,140	2,785	1,940	130	16,352
income_pc	2,140	24,049	6,281	8,686	49,230
int_acc	2,140	41	17	0	169
Discrete					
audit	Freq.	Percent	Cum.		
1	245	11.45	11.45		
0	1,895	88.55	100.00		

Source: Author

The correlation matrix (Appendix A) shows that there is no multicollinearity issue among the explanatory variables. Also, Hausman test (Appendix A) indicates that the fixed-effects model is a suitable estimation approach. Therefore, a fixed-effects panel Poisson regression was estimated. Given the slight overdispersion of the dependent variable and to control for heteroscedasticity, the results are presented with both default and robust standard errors.

Table 15 Panel Poisson regression results for H_3

OLBI	Default standard errors	Robust standard errors
audit	-0.001612	-0.001612
	(-0.04)	(-0.05)
est_pop	-0.000473	-0.000473
	(-2.77)***	(-2.05)**

income_pc	0.000166	0.000166
	(15.44)***	(10.03)***
int_acc	0.006840	0.006840
	(2.96)***	(1.63)
Wald chi2	432.46***	432.46***
Observations	2,105	2,105

Source: Author

Z-values in parentheses. Significance: ***1%, **5%, *10%.

Note: 35 observations dropped because of all zero outcomes.

The results in Table 15 show that there is no significant relationship between financial audit and the level of municipal budget transparency. In other words, conducting a financial audit in a municipality is not associated with a change in municipal budget transparency. However, it should be borne in mind that on average only 11.5% of municipalities were audited in 2014-18 period and in 2016 only 2.8%. Therefore, the limited number of observations of the variable of interest may play an important role in testing this hypothesis, which is a definite drawback for better quality analysis. This can also serve as a motivation for the State Audit Office to strengthen audits of the financial documents of a greater number of municipalities. Given the results obtained for the *audit* variable, hypothesis H_3 cannot be accepted, while the results for the control variables are consistent with the ones obtained in hypothesis H_1.

Hypothesis H_4

Hypothesis H_4 was tested by Poisson regression equation with the following specification:

$$\begin{aligned} OLBI_{it} = {} & \mu_0 + \mu_1 pol\_comp_{it} + \mu_2 est\_pop_{it} + \mu_3 income\_pc_{it} + \mu_4 int\_acc_{it} \\ & + \mu_5 edu_{it} + \mu_6 age_{it} + \varepsilon_{it}, i = 1, \dots N; t = 1, \dots T \end{aligned} \quad (7)$$

where the variable of interest - political competition - (*pol_comp*) represents the difference in percentage of votes between the first and second candidate on the municipal head list. The smaller the difference the greater the competition. Education (*edu*) is a dummy that takes a value of 1 if the municipal head has a university degree (VSS) and 0 otherwise; *age* is a dummy that takes a value of 1 if the municipal head is up to 50 years old. Other components of the equation have been presented in previous hypotheses.

The descriptive statistics in Table 16 show that there are major differences between municipalities when it comes to political competition variable. The difference between the percentage of votes won by the first and second candidates on the municipal head list ranges from only 0.16 in Smokvica municipality (highest competition) to as high as 98.26 in Rakovec municipality (lowest competition). When it comes to discrete variables, 45% of municipal leaders have a university degree, and more than half are under 50 years old.

Table 16 Descriptive statistics for independent variables – H_4

Variable	Obs	Mean	Std. Dev.	Min	Max
Continuous					
pol_comp	2,140	30.63	23.01	0.16	98.26
est_pop	2,140	2,785	1,940	130	16,352
income_pc	2,140	24,049	6,281	8,686	49,230
int_acc	2,140	41	17	0	169
Discrete					
edu	Freq.	Percent	Cum.		
1	963	45.00	45.00		
0	1,177	55.00	100.00		
age					
1	1,192	55.70	55.70		
0	948	44.30	100.00		

Source: Author

The correlation matrix (Appendix A) shows that there is no multicollinearity issue among the independent variables. Also, Hausman test (Appendix A) indicates that the fixed-effects model is suitable for parameter estimation. Therefore, a fixed-effects panel Poisson regression was estimated. Given the slight overdispersion of the dependent variable and to control for heteroscedasticity, the results are presented with both default and robust standard errors.

Table 17 Panel Poisson regression results for H_4

OLBI	Default standard errors	Robust standard errors
pol_comp	-0.001687	-0.001687
	(-1.65)*	(-1.97)**
est_pop	-0.000471	-0.000471
	(-2.74)***	(-2.04)**

income_pc	0.000165	0.000165
	(14.63)***	(9.28)***
int_acc	0.006819	0.006819
	(2.94)***	(1.63)
edu	0.095778	0.095778
	(1.81)*	(1.92)*
age	-0.085606	-0.078417
	(-1.58)	(-1.58)*
Wald chi2	438.70***	318.80***
Observations	2,105	2,105

Source: Author

Z-values in parentheses. Significance: ***1%, **5%, *10%.

Note: 35 observations dropped because of all zero outcomes.

The results in Table 17 confirm the hypothesis H_4 that political competition contributes to greater budget transparency levels. The obtained coefficient is negative, which means that the smaller the difference between the first and second candidates on the list (i.e., the more competition), the greater the budget transparency of the municipality. In other words, municipalities with more intensified political competition in local elections also show greater levels of budget transparency. The results are significant with both default and robust standard errors. The interpretation of the results shows that if political competition increases by 10% (reducing the gap between the first and second on the list by 10%), the budget transparency of the municipality will increase by 0.02 points. When it comes to local executive, in addition to greater political competition, higher education of the local incumbent also enhances budget transparency.

This is consistent with the agency theory, which states that in election years, agents use fiscal reporting as an instrument to increase the likelihood of a better election result. In other words, in circumstances of less competition, politicians are more likely to be re-elected, which is why transparency here ceases to be their strategic instrument (Piotrowski & Bertelli, 2010). In this regard, citizens should also be more active in the local socio-political environment, especially in local elections, thus encouraging electoral competition. Namely, the average voter turnout in Croatian municipalities in the last local elections in 2017 was only 53.19% (State Electoral Commission, 2019).

The results obtained are consistent with several previous empirical studies (Caamaño-Alegre et al., 2013; Gandía & Archidona, 2008; Tavares & da Cruz, 2017). Furthermore, using the same measure of budget transparency as this doctoral dissertation, Ott et al. (2018) found that greater political competition in local elections significantly contributes to the development of budget transparency of municipalities.

When it comes to the basic control variables - *est_pop, income_pc* and *int_acc* - the results are the same as in the hypothesis H_1, followed by the same explanations. Here again, the biggest contribution to transparency is the larger residents' income pc. Of the other control variables, education indicates that municipal heads with a university degree are more likely to publish more budget information. Also, senior executives show greater budgetary transparency (although this correlation was only achieved in the model with robust standard errors and with a significance level of 0.10).

Hypothesis H_5

Hypothesis H_5 was tested by Poisson regression equation with the following specification:

$$\begin{aligned} OLBI_{it} = {} & \mu_0 + \mu_1 women\_repr_{it} + \mu_2 est\_pop_{it} + \mu_3 income\_pc_{it} + \mu_4 int\_acc_{it} \\ & + \mu_5 edu_{it} + \mu_6 age_{it} + \mu_7 pol\_orient_{it} + \mu_8 gender_{it} + \varepsilon_{it}, i \\ & = 1, \dots N; t = 1, \dots T \end{aligned} \tag{8}$$

where the variable of interest – representation of women in the municipal council – (*women_repr*) represents the proportion of women in the municipal council in local elections. Political orientation of the executive is a dummy variable that takes a value of 1 if the municipality head comes from the left political spectrum (left or left center) and 0 in the other cases. Gender is a dummy showing whether the executive head is female or male, taking a value of 1 if female. Other components of the equation have been presented in previous hypotheses.

The descriptive statistics in Table 18 show that there is generally a low representation of women in municipal councils (mean 19.32%). Many municipalities do not have female representatives, with the largest share of women in the local council in the municipality of Dekanovec (67%). It is similar to the gender variable, i.e. only 7% of municipal heads are female. When it comes to political orientation, the left-wing covers one quarter of the political spectrum, while 75% are right-wing, non-partisan and others.

Table 18 Descriptive statistics for independent variables – H_5

Variable	Obs	Mean	Std. Dev.	Min	Max
Continuous					
women_repr	2,140	19.32	13.05	0	66.67
est_pop	2,140	2,785	1,940	130	16,352
income_pc	2,140	24,049	6,281	8,686	49,230
int_acc	2,140	41	17	0	169
Discrete					
edu	Freq.	Percent	Cum.		
1	963	45.00	45.00		
0	1,177	55.00	100.00		
age					
1	1,192	55.70	55.70		
0	948	44.30	100.00		
pol_orient					
1	538	25.14	25.14		
0	1,602	74.86	100.00		
gender					
1	149	6.96	6.96		
0	1,991	93.04	100.00		

Source: Author

The correlation matrix (Appendix A) shows that there is no multicollinearity issue among the explanatory variables. When it comes to the Hausman test, the rank of the differenced variance matrix is not equal to the number of coefficients being tested, which is why the test may indicate incorrect conclusions. Accordingly, the choice of estimators should not only be supported by the Hausman test, but also by the data characteristics, including the within- and between-groups estimators (Greene, 2002). In this sense, the within- and between-groups estimators show that among the independent variables, there are greater between effects than within effects (Appendix A). Therefore, the fixed effects model is not suitable here, since it is based on the assumption of homogeneity, while random effects takes into account the existing heterogeneity among municipalities. Also, random effects allow the use of time invariant variables (*gender*, *age* and *edu*), while in fixed effects models these variables are absorbed by the intercept. Table 19 presents the results of the random-effects panel Poisson regression. Given the slight overdispersion of the dependent variable and to control for heteroscedasticity, the results are presented with both default and robust standard errors.

Table 19 Panel Poisson regression results for H_5

OLBI	Default standard errors	Robust standard errors
women_repr	0.010257	0.010257
	(7.49)***	(6.80)***
est_pop	0.000013	0.000013
	(1.15)	(1.24)
income_pc	0.000028	0.000028
	(6.77)***	(2.88)***
int_acc	0.001131	0.001131
	(0.84)	(0.89)
edu	0.176997	0.176997
	(4.73)***	(4.60)***
age	-0.021684	-0.021684
	(-0.58)	(-0.57)
pol_orient	0.015093	0.015093
	(0.33)	(0.34)
gender	-0.081221	-0.081221
	(-1.08)	(-1.19)
_cons	-0.046385	-0.046385
	(-0.48)	(-0.17)
Wald chi2	183.78***	760.76***
Observations	2,140	2,140

Source: Author

Z-values in parentheses. Significance: ***1%, **5%, *10%.

The results presented in Table 19 confirm the hypothesis H_5 that the greater representation of women in municipal council positively affects the levels of municipal budgetary transparency. Therefore, hypothesis H5 is accepted. The significance level for both default and robust standard erorrs models is 0.01, indicating that greater representation of female councilors significantly contributes to improving the budget transparency of the municipality. If the proportion of women in the municipal council increases by 10%, budget transparency will increase by 0.10 points.

These results are in line with Fox & Schuhmann (1999) standpoint who stressed that women in political positions encourage citizen participation and communication more than men in these positions. Also, De Araújo & Tejedo-Romero (2018) point out that greater representation of women in local politics brings a more transparent modus operandi to the municipality. The obtained positive effect of women councillors on increasing budgetary transparency and thus reducing information asymmetry is in line with some previous empirical studies (De Araújo & Tejedo-Romero, 2016b, 2018; Tavares & da Cruz, 2017). Of the control variables, two are significant - income per capita and education. This suggests that greater residents' income per capita and greater executive head education contribute significantly to improved municipal budgetary reporting.

5.4.2 Logistic regression

After performing Poisson regression analysis, the same hypotheses - H_1, H_3, H_4 and H_5 - are tested using the panel logistic regression. But before that, the results for testing the hypothesis H_2 are presented first. Hypothesis H_2 states: "There is a positive and statistically significant relationship between adherence to legal regulation of publication of budget information and voluntary online budget transparency." Accordingly, the panel logistic regression equation has the following specification:

$$\begin{aligned} P\ (OLBI\_vol_{it} = 1) & \\ &= \mu_0 + \mu_1 OLBI\_mand_{it} + \mu_2 est\_pop_{it} + \mu_3 income\_pc_{it} \\ &\quad + \mu_4 int\_acc_{it} + \varepsilon_{it}, i = 1, \ldots N; t = 1, \ldots T \end{aligned} \tag{9}$$

where $P\ (OLBI\_vol_{it} = 1)$ represents the likelihood of the municipality publishing both voluntary budget documents. It is a dummy variable that takes the value 1 if the municipality *i* published online two voluntary budget documents in year *t*;

$OLBI\_mand_{it}$ is a dummy variable that takes a value of 1 if the municipality *i* published online all three mandatory budget documents in year *t*. Description of basic control variables – *est_pop*, *income_pc* and *int_acc* - has been presented in previous hypotheses.

Since descriptive statistics for the basic control variables were presented in the previous hypotheses, table 20 shows the frequencies for the dependent variable - *OLBI_vol* and the variable of interest *OLBI_mand*. Municipalities publish significantly less voluntary budget documents than mandatory ones. Both voluntary documents for the period 2014-18 were published by an average of 20% of municipalities, while three mandatory budget documents were published by almost half of the municipalities.

Table 20 Frequency table – H_2

OLBI_vol	Freq.	Percent	Cum.
1	436	20.37	20.37
0	1,704	79.63	100.00
OLBI_mand			
1	1,048	48.97	48.97
0	1,092	51.03	100.00

Source: Author

The correlation matrix (Appendix B) shows that there is no multicollinearity issue among the independent variables. Hausman test (Appendix B) indicates that the fixed-effects is a suitable model. However, in the fixed-effects model there are multiple positive outcomes within groups encountered, which is why almost half of the observations were dropped. Furthermore, when it comes to within- and between-groups estimators, the data characteristics point to a random-effects model, since the data of the independent variables indicate that they are larger between- than within effects (Appendix B). Accordingly, Table 21 presents both fixed-effects and random-effects models, which can reflect the robustness of the results obtained.

Table 21 Panel logistic regression results for H_2

OLBI	(FE)	(RE)
OLBI_mand	1.734646	2.500778
	(6.26)***	(13.20)***
est_pop	-0.010298	0.000021
	(-2.70)***	(0.39)
income_pc	0.001110	0.000102
	(7.82)***	(4.65)***
int_acc	0.058837	0.004488
	(2.42)**	(0.71)
_cons		-6.21
		(-10.12)***
LR/Wald chi2	581.69***	189.95***

Observations	1,130	2,140

Source: Author

Z-values in parentheses. Significance: ***1%, **5%, *10%.

Note: in FE, 202 groups dropped - multiple positive outcomes within groups encountered.

The results presented in Table 21 confirm the hypothesis H_2 on positive relationship between adherence to the legal regulation of the publication of budget information and voluntary online budget transparency. In other words, those municipalities that publish all mandatory documents have a tendency to publish voluntary documents as well, i.e. they have greater overall budget transparency levels. In both models - fixed effects and random effects - the results are statistically significant at the level of 0.01, indicating the robustness of the results obtained. The log odds values (1.73 in FE and 2.5 in RE) suggest that as the independent variable increases so does the likelihood of the municipality publishing both voluntary documents. For instance, following the FE model, municipalities that publish all three mandatory budget documents are 73% more likely to publish the remaining two voluntary documents than municipalities that do not publish all three mandatory documents.

As noted, to test the robustness of the results obtained, hypotheses H_1, H_3, H_4, and H_5, in addition to Poisson regression, are also tested by logistic regression. Accordingly, the count-data dependent variable is transformed into a binary variable, which takes a value of 1 if the municipality publishes 4 or 5 budget documents (denoting transparent municipality) and 0 for other cases. This classification is made because a municipality that publishes 4 or 5 budget documents, in addition to mandatory documents, publishes at least one voluntary document, which makes it more transparent and open to citizens. The logistic regression model specification is as follows:

$$P\ (OLBI\_transf_{it} = 1) = \mu_0 + \mu_m X_{it} + \sum_{n=1}^{z} \mu_n Y_{it} + \varepsilon_{it}, i = 1, \ldots N; t = 1, \ldots T; m = 1, \ldots 4 \quad (10)$$

where $P\ (OLBI\_transf_{it} = 1)$ represents the likelihood of the municipality *i* achieving higher levels of budget transparency in year *t*, i.e. a dummy variable that takes a value 1 if a municipality publishes 4 or 5 budget documents online, and 0 otherwise; μ_0 are time-invariant fixed effects; X_{it} is the vector of variables of interest (independent variables) for the municipality *i* in year *t*; μ_m is the vector of estimated parameters of the variables of interest; Y_{it}

is the vector of basic and additional control variables for the municipality i in year t; μ_n is the vector of estimated parameters of control variables; ε is an error term.

Since descriptive statistics and correlation matrices are already presented in Poisson regression analysis, only the frequency table of the transformed dependent variable is shown in this case.

Table 22 Frequency table for *OLBI_transf* variable

OLBI_transf	Freq.	Percent	Cum.
1	730	34.11	34.11
0	1,410	65.89	100.00

Source: Author

In the period 2014-18, on average, 34% of municipalities can be perceived as more transparent, i.e. they publish 4 or 5 budget documents, while the remaining 66% fail to reach higher levels of budget transparency (Table 22). Because the variance of the variable *OLBI_transf* is slightly less than its mean (Appendix B), there is no overdispersion problem, so the results will include default standard errors. In other words, there is no indication of heteroscedasticity isssue in this binary dependent variable, so there is no need to include robust standard errors. Tables 23 and 24 show both fixed- and random-effects panel logistic regression results with calculated marginal effects for hypotheses H_1, H_3, H_4, and H_5.

Table 23 Panel logistic regression results for H_1 and H_3

OLBI	(FE)		(RE)		(FE)		(RE)	
	Logistic regression	Marginal effects	Logistic regression	Marginal effects	Logistic regression	Marginal effects	Logistic regression	Marginal effects
	H_1				**H_3**			
fiscal_cap	0.000450	0.000009	0.000112	0.000016				
	(4.29)***	(2.64)***	(2.24)**	(2.29)**				
audit					-0.076444	-0.00170	-0.145185	-0.02129
					(-0.34)	(-0.34)	(-0.82)	(-0.82)
est_pop	-0.004872	-0.00010	0.000072	0.00001	-0.005198	-0.00012	0.000053	0.00000
	(-3.28)***	(-1.66)*	(1.45)	(1.44)	(-3.51)***	(-2.18)**	(1.11)	(1.1)
income_pc	0.000787	0.000017	0.000158	0.000023	0.000831	0.000019	0.000164	0.000024
	(10.75)***	(3.98)***	(7.34)***	(9.96)***	(11.47)***	(7.43)***	(7.91)***	(11.21)***
int_acc	0.0856	0.001833	-0.000424	-0.00006	0.088024	0.001959	0.004779	0.000701
	(4.58)***	(2.84)***	(-0.07)	(-0.07)	(4.59)***	(4.0)***	(0.84)	(0.84)
debt_pc	-0.000034	-0.00000	-0.000101	-0.00001				
	(-0.21)	(-0.21)	(-1.11)	(-1.12)				

balance	0.002540	0.000054	-0.000764	-0.00011				
	(0.41)	(0.41)	(-0.18)	(-0.18)				
_cons			-5.21				-5.24	
			(-9.3)***				(-9.8)***	
LR/Wald chi2	550.62***		74.70***		530.00***		75.85***	
Observations	1,545		2,140		1,545	1,545	2,140	2,140

Source: Author

Z-values in parentheses. Significance: ***1%, **5%, *10%.

Note: observations in FE models are lower as groups dropped because of all positive or all negative outcomes.

Logistic regression confirms the robustness of the results obtained in Poisson regression analysis. In other words, the logistic regression results for the three variables of interest – *fiscal_cap, pol_comp,* and *women_repr* – confirm the hypotheses set and indicate the robustness of the results obtained. There is a positive and statistically significant relationship between municipal fiscal capacity and its budget transparency levels. Those municipalities that achieve higher levels of own revenues are more capable to provide improved budgetary reporting. These results are consistent in both fixed- and random-effects models. Table 23 also confirms that financial audit conducted in the municipality does not influence the level of budgetary documents published online, which is consistent in both FE and RE models and in line with Poisson regression results. Therefore, the hypothesis H_3 cannot be accepted. The results also show marginal effects, so in the case of the *fiscal_cap* variable in the RE model, the interpretation would be: if the fiscal capacity per capita is increased by HRK 1,000, OLBI will increase by 0.016 points on average, with other variables held fixed at the average level. When it comes to control variables, residents' income per capita has the biggest impact, as with the Poisson regression analysis. The relationship between *income_pc* and municipal budget transparency is positive at a significance level of 0.01 in all models. Eg. in the RE model in hypothesis H_3, if residents' income pc in the municipality increases by HRK 1,000, OLBI will increase by 0.024 points on average, with other variables held constant at the average level. Estimated population and Internet access are significant only in the FE model, showing the same effects as in the Poisson regression, while municipal debt per capita and budget balance do not significantly affect budget transparency levels.

Table 24 Panel logistic regression results for H_4 and H_5

OLBI	(FE)		(RE)		(FE)		(RE)	
	Logistic regression	Marginal effects	Logistic regression	Marginal effects	Logistic regression	Marginal effects	Logistic regression	Marginal effects

	H_4				H_5			
pol_comp	-0.011733	-0.00026	-0.005472	-0.00077				
	(-2.06)**	(-1.91)*	(-1.69)*	(-1.70)*				
women_repr					0.036847	0.00085	0.054152	0.007007
					(3.12)***	(2.16)**	(7.96)***	(9.06)***
est_pop	-0.005138	-0.00011	0.000070	0.00000	-0.004904	-0.00011	0.000078	0.00001
	(-3.48)***	(-2.11)**	(1.40)	(1.40)	(-3.29)***	(-1.64)	(1.43)	(1.42)
income_pc	0.000833	0.000018	0.000157	0.000022	0.000719	0.000017	0.000144	0.000019
	(10.87)***	(6.66)***	(7.53)***	(10.22)***	(9.12)***	(3.95)***	(6.80)***	(8.52)***
int_acc	0.090192	0.001992	0.005618	0.000792	0.096604	0.00223	0.008489	0.0011
	(4.66)***	(3.91)***	(0.95)	(0.96)	(4.86)***	(2.89)***	(1.32)	(1.33)
edu	0.487289	0.010763	0.847136	0.119378	0.384955	0.0089	0.801601	0.103722
	(1.54)	(1.48)	(5.12)***	(5.45)***	(1.20)	(1.13)	(4.58)***	(4.80)***
age	-0.077943	-0.00172	0.125226	0.017647	0.026933	0.0006	0.123058	0.0159
	(-0.25)	(-0.25)	(0.79)	(0.79)	(0.08)	(0.08)	(0.73)	(0.73)
pol_orient					-0.095580	-0.0022	-0.029211	-0.0038
					(-0.22)	(-0.22)	(-0.14)	(-0.14)
gender					0.772595	0.0178	-0.014581	-0.0019
					(0.93)	(0.92)	(-0.04)	(-0.04)
_cons			-5.82				-6.57	
			-(10.08)***				(-10.61)***	
LR/Wald chi2	536.47***		91.36***		544.76***		125.30***	
Observations	1,545	1,545	2,140		1,545	1,545	2,140	2,140

Source: Author

Z-values in parentheses. Significance: ***1%, **5%, *10%.

Note: observations in FE models are lower as groups dropped because of all positive or all negative outcomes.

Table 24 shows that there is a positive and statistically significant relationship between municipal political competition and its budget transparency levels. A negative coefficient was obtained in all models, suggesting that the smaller the percentage difference between political candidates in municipal head elections (the greater political competition), the higher the budget transparency. In other words, greater political competitiveness contributes to the development of higher levels of budget transparency of the municipality. Hypothesis H_5 was also confirmed and consistent with Poisson regression results, showing that greater representation of women in the municipal council significantly contributes to greater municipal budget transparency. If the representation of women in the municipal council increases by 10%, OLBI will increase by 0.07 points on average, other variables held constant at the average level. When it comes to basic control variables (*est_pop*, *income_pc* and *int_acc*), the results are consistent. It should be noted that greater education of the municipal head (*edu*) contributes to greater budgetary transparency of the municipality. But, although the coefficients are positive in all models, they are significant only in RE models. As with the Poisson regression, the political orientation and gender of the municipal head do not affect the level of budget transparency of the municipality.

5.4.3 Spatial regression

The main objective of the spatial analysis is to determine the possible impact of the level of budget transparency of neighboring municipalities on the observed municipality. In other words, the analysis examines whether there is pressure from neighboring municipalities on the budget transparency practices of the observed municipality. Such relationships are supported by institutional theory, suggesting that in an environment of ongoing ICT development and an ever-connecting world, online communication and influence cannot be contested (Ríos, Benito and Bastida, 2013). Also, the theoretical background for conducting this analysis can be found in the work of Grewal & Mathews (1977) who discussed common spatial restriction theory in the context of fiscal competition in sub-national governments, but also in the theory of spatial competition (Cairns, 1977; Scott and Bloss, 1988).

Accordingly, hypothesis H_6 is tested by spatial regression analysis. Control variables include those that have shown the greatest impact on local budget transparency in Poisson and logistic regression. These variables are: political competition, women representation, income per capita, estimated population, internet access, and fiscal capacity. Spatial regression analysis examines how budget transparency of the observed municipality is affected by: i) its past values (τ), ii) the levels of budget transparency of neighboring municipalities (ρ), and iii) past values of budget transparency of neighboring municipalities (η). The impact of exogenous dimensions (controlled variables) includes the examination of the direct effect, that is, the influence of exogenous dimensions within the municipality itself on its budget transparency (β), and the indirect effect, that is, the influence of exogenous dimensions of neighboring municipalities on the budget transparency of the observed municipality (θ).

The model specification is as follows:

$$\begin{aligned} OLBI_{it} = \mu + \tau OLBI_{i,t-1} + \rho WOLBI_{i,t} + \eta WOLBI_{i,t-1} + X_{i,t}\beta + WX_{i,t}\theta \\ + \varepsilon_{i,t}, \qquad i = 1, \dots N, \; t = 1, \dots T \end{aligned} \tag{11}$$

where,

$OLBI_{it}$ is the level of budget transparency of the municipality *i* in year *t*, ranging from 0-5;

μ are time-invariant fixed effects;

$X_{i,t}$ and $WX_{i,t}$ are matrices of exogenous dimensions, β and θ are their estimated parameters;

W is the matrix of constants of neighboring municipalities;

β are estimated parameters of exogenous dimensions of the observed municipality;

θ are estimated parameters of exogenous dimensions of neighboring municipalities;

τ is the estimated parameter of the lagged OLBI;

ρ is a spatial autoregressive coefficient;

η is a space–time parameter;

ε is an error term.

By implementing a technique to select the appropriate model, the first order contiguity matrix suggests that the regression equation be estimated with the Spatial Durbin Model (SDM) (Appendix C). Table 25 presents the results of spatial regression analysis.

Table 25 Results of spatial regression analysis for H_6: estimated dynamic Spatial Durbin Model (SDM) with spatial fixed-effects

			Short run			Long run		
	Coefficient	Neighbours' estimates	Direct effects	Indirect effects	Total effects	Direct effects	Indirect effects	Total effects
pol_comp	-0.0039***	0.0009	-0.0037***	-0.0007	-0.0044	-0.0057**	-0.0036	-0.0093
	(-2.57)	(0.09)	(-2.58)	(-0.17)	(-1.04)	(-2.55)	(-0.99)	(-0.99)
women_repr	0.0067**	-0.0127	0.0066**	-0.0026	0.0039	0.0098**	-0.0019	0.0079
	(2.46)	(-0.70)	(2.47)	(-0.39)	(0.52)	(2.37)	(-0.13)	(0.46)
income_pc	0.00007***	0.0002*	0.0001***	0.00008**	0.0002***	0.0001***	0.0002***	0.0003***
	(4.45)	(1.67)	(4.91)	(2.34)	(4.49)	(5.18)	(3.00)	(4.38)
est_pop	0.00002	0.0002	0.00002	0.0001	0.0001	0.00005	0.0002	0.0002
	(0.36)	(0.51)	(0.46)	(0.56)	(0.68)	(0.52)	(0.60)	(0.67)
int_acc	0.0004	0.0378	0.0009	0.0155	0.0164	0.0026	0.0341	0.0367
	(0.08)	(1.40)	(0.18)	(1.45)	(1.52)	(0.35)	(1.48)	(1.50)
fiscal_cap	-0.000005	0.0005***	-0.000002	0.0002***	0.0002***	0.000004	0.0003***	0.0003***
	(-0.16)	(3.25)	(-0.05)	(3.57)	(3.74)	(0.09)	(3.63)	(3.70)
Spatial lag (ρ)	0.611***							
	(6.46)							

Time lag (τ)	0.331*** (16.13)
Space-time lag (η)	0.256** (1.95)
Log-likelihood	-2958.68
R^2	0.246

Source: Author

Z-values in parentheses. Significance: ***1%, **5%, *10%.

The second column in Table 25 presents the results of estimated parameters that show the effects coming from within municipality itself. The third column on neighbours' estimates includes also the effects that come from neighbouring municipalities. When it comes to the effects coming from within each municipality (second column) the results are in line with those obtained from Poisson and logistic regression analysis. Political competition within the municipality has a positive effect on increasing budget transparency. Also, more women in the local representative and higher income per capita within the municipality contribute to greater budgetary transparency. On the other hand, population, internet access and fiscal capacity are not significant.

However, when it comes to neighbors' impacts, fiscal capacity becomes significant, showing that the greater fiscal capacity of neighboring municipalities contributes to greater transparency of the observed municipality. In addition, the income per capita of neighboring municipalities also contributes to increasing the budget transparency of the observed municipality (although the significance level is only 0.1).

The results for the three basic indicators of spatial analysis - space, time, and space-time lag of the dependent variable - show a positive and significant impact. Spatial lag ($\rho = 0.61$) shows that the level of budget transparency of neighboring municipalities at time *t* has a positive effect on the transparency of the observed municipality. The results for time lag ($\tau = 0.33$) confirm the claims of Ott et al. (2018) on the increasing annual budgetary transparency of Croatian municipalities. Finally, the space-time lag ($\eta = 0.26$) confirms the presence of positive spatial spillovers among municipalities. In other words, by observing the budget transparency levels of neighboring municipalities at time *t-1*, the municipality *i* also establishes its own transparency level at time *t* in accordance with the observed past values of neighboring municipalities. Therefore, since positive spatial spillovers have been confirmed, hypothesis H_6 is accepted.

In addition to the estimated coefficients and neighbors' effects, Table 26 also shows the simulated short- and long-term effects of both direct and indirect impacts. The direct effects represent the effects of the exogenous dimensions of the municipality itself on its budget transparency. On the other hand, indirect effects can be interpreted as feedback responses, where exogenous dimensions pass through neighboring municipalities and return and leave an effect on the observed municipality (LeSage and Pace, 2009). The results for the indirect effects are consistent with the neighborings' estimates, showing significantly less influence of exogenous dimensions than those observed in the direct effects. However, the neighboring values of income per capita and fiscal capacity per capita positively influence budget transparency level of the observed municipality (feedback effect). In short, when it comes to exogenous dimensions, the results generally show that the budget transparency of Croatian municipalities depends on changes and realities within the municipality itself, rather than on effects coming from outside.

The results for the short-run and long-run simulated effects show consistency with the same direction and similar strength of the estimated coefficients. This is in line with the expected outcomes, given the panel length, i.e. the relatively short period of observation. Finally, the results of spatial analysis highlight the income per capita variable, which in all observations - individual coefficient estimates, neighbors' estimates, short-term and long-term direct and indirect effects - shows a significant and positive impact. For example, the short-run effect is 0.0002, which means that an increase in the average annual residents' income per capita by HRK 1,000 leads to an increase in the average municipal budget transparency (OLBI) level of 0.2 points. Similar results for income per capita were also observed in Poisson and logistic regression, where this variable showed the highest coefficient magnitudes.

5.4.4 Synthesis of results

The empirical analysis of this dissertation involved the application of the Poisson, logistic and spatial regression. This section summarizes the results obtained in all the analyzes, first for the variables of interest, i.e. the hypotheses set, and then for the other control variables, to obtain the optimal combination of policy instruments that enhances local budgetary transparency.

Hypothesis H_1

The results for hypothesis H_1 confirm that the higher fiscal capacity of a municipality contributes to an increase in its budget transparency. The fiscal capacity in this dissertation was measured as operating revenues other than all grants (intergovernmental and from abroad) divided by the municipality's population. The results are robust. In Poisson regression, fiscal capacity per capita is positive and significant in the case of both default and robust standard errors. The same is true for logistic regression for both fixed- and random-effects models. In addition, the calculated marginal effects also confirm the positive relationship between fiscal capacity and municipal budgetary transparency. So, in the RE model, the interpretation would be: if the fiscal capacity per capita is increased by HRK 1,000, OLBI will increase by 0.016 points on average, with other variables held fixed at the average level. However, in the spatial regression analysis, the level of neighboring fiscal capacity plays a significant role. In other words, fiscal capacity indirectly contributes to increasing the budget transparency of the observed municipality. The indirect effect in this case can be interpreted as feedback responses, where exogenous dimensions pass through neighboring municipalities and return and leave an effect on the observed municipalities (LeSage and Pace, 2009). These results are consistent with Ferejohn (1999) argument that taxpayers demand high transparency in returns for allowing governments to collect and manage large financial resources. Also, the principal-agent theory suggests that citizens are more interested in how their money is spent if there is greater taxation. In addition, legitimacy theory says that higher tax revenues encourage local governments to justify their spending by disclosing budgetary information. The obtained results are in line with the findings of Gandía et al. (2016) and Laswad et al. (2005) who observed the impact of municipality's own revenue per capita, demonstrating a positive and significant results. Similarly, Guillamón et al. (2011) on a sample of 100 largest Spanish municipalities in 2008, found that higher tax revenues per capita significantly contribute to improved budgetary transparency.

The results for hypothesis H_1 are in line with information asymmetry theories, more precisely fiscal illusion and principal-agent theories. Namely, if there is no insight into the real state of local government revenue, that is, if they are not fully transparent, expenditures appear to be less than they actually are (fiscal illusion). Therefore, if the local government increases its fiscal capacity (its own revenues), it contributes to greater budgetary transparency, which could solve the problem of the principal's inability to perceive the agent's actual revenue (i.e. agency dilemma). Also, in the context of the environmental perspective of the local government, these results indicate the importance of the internal capacity of the local government (supply-side factors) to increase local budgetary transparency.

Hypothesis H_2

The results for hypothesis H_2 confirm that there is a positive and statistically significant relationship between adherence to legal regulation of publication of budget information and voluntary online budget transparency. The results are robust and in both fixed- and random-effect logistic regression models show a strong magnitude of the coefficient. Accordingly, the legal regulation of the release of budget documents can be seen as a good instrument for increasing the overall budget transparency. However, it should be noted that many municipalities do not even publish legally required budget documents. In this sense, the central government could further regulate transparency and consider imposing sanctions on non-compliant local governments.

These results are in line with the external influences that affect local budgetary transparency. Specifically, increasing the level of local budget transparency can be sought by various stakeholders, including the central government (demand-side factors). The results also indicate that by establishing a legal framework, central government can significantly promote the proactive transparency of local governments. Additionally, this hypothesis is supported by coercive pressures from institutional theory.

Hypothesis H_3

The results for hypothesis H_3 do not confirm that there is a positive and statistically significant relationship between the financial audit carried out in the municipality and the level of online budget transparency, i.e. the hypothesis H_3 cannot be accepted. The impact of the financial audit was tested by Poisson and logistic regression, with both default and robust standard errors and fixed- and random-effects models, with a non-significant outcome. However, it should be noted that the characteristics of the financial audit data may affect the results. Specifically, a financial audit included a dummy variable if an audit of the financial statements was performed that year. The number of audited municipalities varies, from almost 20% in 2015 to only 2.8% in 2016. Therefore, the limited number of observations of this variable of interest may play an important role in testing this hypothesis. This can serve as a trigger for the State Audit Office to strengthen audits of financial documents of a larger number of municipalities, which in this context could better explain a more realistic effect of external pressures (demand-side factors) for greater budget transparency.

Hypothesis H_4

The results for hypothesis H_4 confirm that higher political competition contributes to improved municipal budget transparency. Political competition was measured as the difference in the percentage of votes between the first and second candidates on the municipal head list, meaning that smaller difference denotes greater competition. The estimated negative coefficient parameter means that the smaller the difference in the percentage of votes (i.e. higher competition), the greater the budgetary transparency. The results are robust across different model specifications in Poisson (default and robust standard errors), logistic (fixed and random effects) and spatial regression analysis. However, the magnitude of the estimated parameter is slightly lower in Poisson and logistic regression (mainly at a significance level of 0.1). The calculated marginal effects for the logistic regression fixed-effect model suggest that if political competition increases by 10%, the budget transparency of the municipality will increase by 0.12 points on average. Spatial regression analysis shows a higher magnitude of the coefficient, pointing out that political competition within the municipality (direct effects) is crucial, rather than that coming through feedback effects from neighboring municipalities (indirect effect). Also, the direct effect of political competition positively and significantly affects municipal budgetary transparency in both short- and long-term observations. Therefore, greater political competitiveness in local elections contributes to the development of higher levels of budget transparency of the municipality. In such circumstances, it is expected that the local executive faces more pressure from the opposition for displaying higher budget transparency. These results are consistent with several previous studies (Caamaño-Alegre et al., 2013; Esteller-Moré & Polo Otero, 2012; Gandía & Archidona, 2008; Ott et al., 2018; Tavares & da Cruz, 2017).

The results obtained for the hypothesis H_4 are consistent with the principal-agent relationship; the information asymmetry between the principal and the agent will diminish in circumstances of greater political competition. Namely, when political competition is high, the agents bear greater monitoring costs, since if they ignore the principals and do not show greater budgetary transparency, they are at risk of not being re-elected (Evans and Patton, 1987). Also, in accordance with the theory of legitimacy, in the context of greater political competition there is more pressure on agents to express legitimacy of the local government. In other words, greater political competition imposes more pressure to seek "the consent of the governed" (Thomas, 2010).

Hypothesis H_5

The results for hypothesis H_5 confirm that greater representation of women in the municipal council, expressed as a share of the total number of councilors, positively affects the level of municipal budgetary transparency. These results are robust and with a strong magnitude of estimated parameter coefficients (significance levels of 0.01 and 0.05) for all Poisson, logistic and spatial estimates. Random-effects logistic regression indicates that if the representation of women in the municipal council increases by 10%, OLBI will increase by 0.07 points on average, other variables held constant at the average level. These effects refer to individual within-municipality effects, but not to the impact of the number of women councilors coming from neighboring municipalities, as suggested by the spatial regression outcome. The obtained results are consistent with a study by De Araújo & Tejedo-Romero (2016b, 2018) who also found that women's political representation in the local council contributes to the improved levels of local governmet transparency.

These results are in line with the environmental perspective of local budget transparency, i.e. demand-side factors. Specifically, the diverse composition of local representative can influence local executive behavior and increase local budget transparency. This is consistent with social role theory, which emphasizes that each individual's daily activity is conditioned by social categorization. Each role implies appropriate behavior, in accordance with societal expectations, norms and obligations for a particular category (e.g. teacher, mayor, voter). In this context, it is argued that women and men have certain characteristics that direct them toward particular types of roles (Birgit, 2007). Gilligan (1982) pointed out that women and men have different moral commitments, different perceptions and understandings of reality conditioned by social norms, which is why they express different systems of values and behavior. In this sense, women are more likely to resolve the agency's dilemma and information asymmetry, as they are more willing to have their actions monitored and controlled; female leaders are more willing to cooperate and are readier for compromise, which enables them to resolve conflict situations faster than their male counterparts (Rosenthal, 2000).

Hypothesis H_6

The results for hypothesis H_6 confirm the existence of positive spatial spillover effects among Croatian municipalities. The level of budget transparency of a municipality is influenced by its past values (lagged OLBI), present values of neighboring municipalities (spatial autoregressive coefficient), and past values of neighboring municipalities (space-time parameter). When it comes to spatial exogenous dimensions (control variables), the results showed the importance of characteristics of each individual municipality (direct effects) rather than neighboring municipalities (indirect effects). The control variables were the ones that showed the greatest significance in Poisson and logistic regression, confirming the positive impact of within municipal political competition and women's representation on the level of budgetary transparency. On the other hand, fiscal capacity positively affects budget transparency through the feedback effect, i.e. it contributes to increasing the budget transparency of the observed municipality by indirectly passing through neighboring municipalities and leaving an effect on the observed municipality. The results are in line with Galli, Rizzo & Scaglioni (2018) who found significant spatial dependence on a sample of Italian municipalities, using a wider measure of local government transparency. The results also confirm the findings of Mourao, Bronić and Stanić (2020) who found positive spatial spillovers of budget transparency in Croatian cities and municipalities.

The results for hypothesis H_6 are in line with institutional theory settings and isomorphism. Specifically, the established positive spatial spillovers in Croatian municipalities can be described through DiMaggio and Powell's (1983) three institutional pressures. First, the *coercive* pressures to increase local budget transparency come from the legal framework of the central government. Second, *normative* pressures come from certain budget transparency standards and practices, and in Croatia they come from the Institute of Public Finance (OLBI measure). Third, *mimetic* pressures come from neighboring municipalities that show good budget transparency practices. This was demonstrated in spatial analysis through the presence of budget transparency spatial dependence of Croatian municipalities.

When it comes to control variables, there are two that stand out for consistent results – the level of education of municipal head (showing a positive impact on budget transparency) and residents' income per capita (strong evidence of positive relationship). While the level of education of politicians is linked to the capacity of local government to deliver higher levels of budget transparency (supply-side factors), residents' income per capita is linked to demand-side pressures. Namely, residents with higher incomes also expect more public services, and therefore require greater transparency (Giroux and McLelland, 2003). Also, in the context of online budget transparency, higher-income residents have the ability to access the Internet and have better prerequisites for using it (Styles and Tennyson, 2007).

In line with the basic objective of this dissertation, and based on a comprehensive empirical analysis, Table 26 provides the optimal combination of determinants to increase local budget transparency. This mix of determinants includes both variables of interest and control variables that have shown significant results in Poisson, logistic, and spatial analysis, i.e. an optimal mix of policy instruments that contribute to higher levels of local government budget transparency.

Table 26 Optimal combination of determinants that increase municipal budget transparency

	Determinant (policy instrument)
	Financial
1.	Municipal fiscal capacity per capita
2.	Residents' income per capita
	Political
3.	Political competition
4.	Women political representation
5.	Politicians' education
	Central government competency
6.	Legal regulation of the publication of budget information
7.	Spatial dependence

Source: Author

As Table 26 shows, this dissertation has, on the basis of a comprehensive empirical analysis, introduced seven key instruments for strengthening local budgetary transparency. These seven determinants can be grouped into three categories of instruments: (i) financial, (ii) political, and (iii) central government. Financial instruments include municipal fiscal capacity and residents' income. In order to increase the budgetary transparency of the municipalities and thus provide a better basis for citizen participation in local budgetary processes, it is necessary to increase the overall economic situation of the municipalities. The functioning and scope of municipalities should be less dependent on both intergovernmental and foreign grants. Municipalities need to be able to raise sufficient amounts of their own revenues to have greater fiscal capacity. Furthermore, from the financial point of view of the local community, it is crucial that all levels of government encourage greater economic development of municipalities, especially the least developed ones, in order to influence income increases, which enhances budgetary transparency.

When it comes to political instruments, higher political competition in local elections should be encouraged. Although the focus of this dissertation was on competition in the executive, the same could be applied to the local representative. Furthermore, in order to strengthen budget transparency and good governance, it is necessary to implement measures aimed at increasing the number of women in the municipal councils, but also in the local executive. Finally, the general public should act in favor of more educated leaders, as this will increase the likelihood of improving the budgetary transparency. All stakeholders should be involved. Governments, CSOs and the media should encourage greater political engagement of the better-educated, especially female candidates for both executive and representative powers, and thus promote greater political competition. On the other hand, more educated, especially female citizens need to recognize for themselves the importance of their political engagement in order to bring about appropriate changes in significant shifts towards higher levels of budget transparency and local political accountability.

The last set of policy instruments - legal regulation of the publication of budget information and spatial spillovers - can be attributed to the central government. In order to move towards higher levels of municipal budget transparency, central government need to better control compliance with the present laws on budgetary reporting. Although many municipalities do not yet publish all legally required budgetary documents, the results show that legislation is a good instrument for increasing overall budget transparency. Accordingly, in addition to the existing three, the remaining two key budgetary documents – Budget proposal and Citizens budget – can be legislated. Also, central authorities should put in place control mechanisms for their timely publication. They might also consider imposing sanctions for non-compliance. Finally, when adopting budget transparency and accountability policies, the central government should bear in mind that no municipality is isolated entity but rather a part of a (larger or smaller) community of municipalities. Except for its own space, each municipality is imbued with influences from neighboring municipalities. In this regard, the central government should accordingly adjust the design and implementation of its budget transparency policies. In the next section, the implications of these results for the next steps of all levels of government and the general public are further outlined, focusing in particular on the possible application of the results of this research on forming the reform of the territorial and fiscal organization of the Republic of Croatia.

5.5 Implications of research results on forming the reform of the territoral and fiscal organisation of the Republic of Croatia

Measured by the number of key budget documents published on their respective websites, the average budget transparency of municipalities is improving - from 1.36 in 2014 to 3.78 in 2018, with a maximum of five points. However, there are still major differences between the municipalities, with many of them not even publishing the legally prescribed budgetary documents. Furthermore, in the period 2014-18, seven municipalities did not publish a single budget document. These are the municipalities of Gorjani, Pojezerje, Prgomet, Proložac, Punitovci, Sućuraj and Zrinski Topolovac. Accordingly, the implications of this research first relate to recommendations to all interested groups - local executive, counties, central government, and the general public including citizens, CSOs, media, local representative, etc.

In order to move towards a better foundation for citizen participation and the democratization of the budget process, the municipal executives should adhere to the legislation and recommendations of the Ministry of Finance, and start publishing all five key budget documents in a timely manner. Timely disclosure is when a local executive submits a document to a representative authority for adoption. This way citizens can be informed in a timely manner and constructively engage in the enactment process. The exception is the Enacted budget, which is published when approved by the local representative. Furthermore, in line with the Ministry's recommendations, published key budget documents should be searchable (not scanned), disclosed in Excel or Word, and in machine-readable format, so that they can be further rearranged, processed, analyzed and scrutinized.

Given their higher budget transparency (Ott, Bronić, Petrušić, *et al.*, 2019), but also their competent role, counties could continuously support, encourage and raise awareness of municipalities in their area about the importance of increasing budget transparency, especially those with low fiscal capacity and residents' income. For example, each county for municipalities in its territory could carry out annual monitoring of the timely publication of five key budget documents; large cities that have been comfortable with publishing key budget documents for years could also help. Associations of counties, cities and particularly of municipalities can also play an important role in fostering higher municipal budget transparency levels by continuously promoting good budget transparency practices.

Central government should, in line with the recommendations of the European Commission (2018), more effectively regulate local budgetary transparency and citizen participation in budgetary processes. As the Commission states, the central government should strengthen the budgetary framework and adopt new, more effective, fiscal responsibility and budget acts. Since the publication of three key budget documents is regulated by law, and for the other two, there is a recommendation from the Ministry of Finance to publish them on local government websites, and penalties for non-compliance are prescribed, the central government should take appropriate measures to establish and enforce better compliance supervision. As noted, law enforcement monitoring can be taken over by the competent counties (as well as larger cities with good budget transparency practices). For those municipalities that will not be able to meet the timely publication of key budget documents, a further analysis of their capabilities, i.e. human, financial and IT capacities, should be developed to identify the reasons for the backlog and propose measures to address this. One measure may be the provision of shared services by more than one municipality, optimization of service delivery, better management of human resources, etc.; and ultimately reducing the number of municipalities for which no suitable optimization solution is found.

The general public, including the media and CSOs, should continue to work to make citizens aware of the importance of fostering budget transparency and political accountability, and to increase budget literacy for both citizens and the local representative. Accordingly, municipalities should work together and apply for EU funds to implement such policies, i.e. to improve citizens' literacy, budgetary transparency and effective citizens participation. Several neighboring municipalities could participate together, along with experts who will give lectures and train citizens on local budgets and participation opportunities. Local boards, where citizens would meet and train, could play a significant role in organizing and implementing such projects. For, such initiatives would increase the likelihood of more constructive budget discussions and, ultimately, of higher quality, fairer and better delivered local public services. As there are already municipalities that seek to simplify and bring complex budget documents closer to citizens through budget guides, visualizations and budget games (Ott, Bronić, Petrušić, *et al.*, 2019), if they want better public services, citizens should take advantage of such opportunities, be informed and participate in budgetary decisions.

The results of this dissertation can serve as one of the starting points for designing the reform of the territorial and fiscal structure of the Republic of Croatia. Namely, reaching a consensus on the design and implementation of territorial and fiscal reforms requires the active engagement of all stakeholders. However, their effective and constructive participation is only possible if certain conditions are met, i.e. timely publication of comprehensive, reliable, accurate and simplified budget information, as well as the existence of effective participation mechanisms that enable such participation.

According to the European Commission's (2018) country report on the assessment of progress on structural reforms, one of the basic recommendations to the Croatian government is to address the existing challenge of fragmentation and functional distribution of competences of subnational governments. In this respect, the empirical results of this dissertation can provide the basis for reviewing the sustainability of a large number of municipalities that are not able to satisfy even the legally prescribed publication of budgetary documents. These are generally municipalities with low fiscal capacity, i.e. lower own revenues and higher levels of intergovernmental grants. Municipalities with low economic status (lower residents' income per capita) show low levels of budget transparency, so they could be reorganized or merged with more successful ones. And if this is impracticable, two or more municipalities may, according to the “Law on Local and Regional Self-Government (2019)”, arrange jointly the carrying out of individual tasks within their respective fields of competence. This is supported by the results of the spatial analysis, which shows that municipalities cannot be viewed as separate entities but as part of a larger environment of neighboring municipalities whose experiences and practices of budget transparency and governance are constantly intertwined.

When it comes to political factors, citizens also need to take responsibility and favor more educated and knowledgeable politicians and women in local elections, in order to foster greater budgetary transparency and political accountability. On the other hand, the central government could facilitate this by amending the “Law on Local Elections (2019)”, incorporating minimum requirements for the head of executive, such as a university degree. Likewise, a minimum number of female representatives in a municipal council may be included in the same law, thus promoting gender equality as detailed in the “Gender Equality Act (2017)”. For example, if a sufficient number of female representatives in the council is not secured, the man with the least votes will come out of the council, and the next ranked woman will enter. Also, political parties themselves should promote gender equality, and equal representation of women should be respected within them. However, it is difficult to expect that municipalities with low fiscal capacity and residents' income will have sufficient human and material resources to create an environment in which political competition, greater representation of women in local politics and the importance of choosing more educated politicians will be fostered. For, these are all features that increase local budget transparency. Also, it would be difficult for these municipalities to set aside funds to pay fines for non-compliance with budgetary reporting legislation, which is an additional reason for them to provide services with other municipalities, or to merge.

Finally, just as there are demand-side pressures for greater budgetary transparency, broadly speaking, the general public, including experts in the field, the media, CSOs, entrepreneurs and others, could put more pressure on the Government and require appropriate implementation of Commission's recommendations on addressing the problem of “the fragmentation and functional distribution of competences of sub-national governments”.

6 CONCLUSION

On the path to democratization of the budget process, greater political accountability and direct citizen participation, budget transparency is imposed as a starting point. This doctoral dissertation addressed the problem of relatively low average budget transparency of all 428 Croatian municipalities in the period 2014-18, and significant differences in individual budget transparency across municipalities. The overall, main research objective of this dissertation was to classify the existing theoretical approaches in the analysis of budget transparency and to empirically examine the basic determinants of the online budget transparency of Croatian municipalities. The existing different definitions of budget transparency and its basic goals and purpose are first presented. Given the often vague and ambiguous definitions, the author presented his own definition of local budgetary transparency:

Local budget transparency implies *timely* publication of all relevant budget documents within the local budget process, i.e. at the moment when the executive sends them to the representative for adoption (except Enacted budget). These activities relate to *local government* revenue and expenditure, but not to activities outside the budgetary sector. Budget documents should include all relevant elements, including the general part and budget classifications, and supporting budgetary explanations. Budget information must be complete, accurate, reliable and simplified for better understanding. Given the digital age, published budget documents should be searchable, downloadable, and processable, taking into account their web navigability, presence and accessibility.

Then, the evolution of budget transparency, from public administration and public choice theory to its expansion in the new public management, is comprehensively presented. The chapter 2 also presented the recent pressures for greater budgetary transparency since the global financial crisis. The current state of budget reporting is also outlined, with reference to the advantages and disadvantages of proactive and reactive budget transparency in an e-government environment.

The third chapter has extensively outlined the basic theoretical underpinnings of budget transparency, based on two streams of literature - information asymmetry based theories and social responsibility theories. As part of information asymmetry theories the dissertation presented a principal-agent problem, moral hazard theory, and fiscal illusion that explain why incumbents are not motivated to publish budget information. On the other hand, as theories of social responsibility, legitimacy and institutional theories speak about why some politicians embrace greater budgetary transparency. Chapter four focused on budget transparency at local government level, outlining the importance of local budget transparency for improving political accountability and direct citizen participation in local budget processes. Internal strengths and external pressures for greater local budgetary transparency were also presented, as well as the role of ICTs in the ongoing development of budgetary reporting and participation approaches. As outlined in subsection 5.4.4, each hypothesis and the results obtained are linked to the transparency theories presented. Hypothesis H_1 is explained through fiscal illusion and principal-agent theories, and through supply-side factors of local budget transparency. Hypotheses H_2 and H_3 are based on demand-side factors and coercive pressures within institutional theory; hypothesis H_4 on principal-agent and legitimacy theories; hypothesis H_5 on demand-side pressures, supported by social-role theory; and hypothesis H_6 on institutional theory and isomorphism.

Based on theoretical settings, the empirical analysis was conducted in Chapter 5 on the determinants of budget transparency of Croatian municipalities. An empirical overview of the determinants of subnational budget transparency has identified three basic dimensions of determinants in the research to date. These are financial (leverage and public debt), political (political competition, executive characteristics and type of government), and citizens and media-related (population, internet access, unemployment, and press and media visibility). Accordingly, based on empirical overview and transparency theories, the examination of the determinants of budgetary transparency of Croatian municipalities has been initiated. The basic features of local self-government in Croatia and the legal framework of budgetary reporting are outlined. Then the research description, the dependent variable - Open Local Budget Index (OLBI) - the independent variables and the methodological framework for analysis were explained.

The dependent variable in this analysis - OLBI - shows the number of key budget documents published on the municipal official website: Enacted budget, Year-end report, Mid-year report (mandatory documents), Budget proposal and Citizens budget (voluntary documents). A total of six hypotheses were tested, including the impact of (i) fiscal capacity, (ii) legal regulation of the publication of budget information, (iii) financial audit, (iv) political competition, (v) representation of women councilors, and (vi) the existence of spatial spillovers. A panel database was arranged, including the dependent variable, variables of interest, and control variables over the 2014-18 time period.

The main objective of the empirical analysis was to determine the optimal combination of determinants (policy instruments) that increase local budget transparency. Accordingly, three basic methodological approaches were used to prove the hypotheses - Poisson regression, logistic regression, and spatial regression analysis. Following robust empirical analysis, seven key determinants that increase municipal budget transparency have been identified, showing consistent significant results. They can be classified into three categories: financial (municipal fiscal capacity and residents' income per capita); political (political competition, women's political representation, and politicians' education); and central government oriented (legal regulation of the publication of budget information, and positive spatial spillovers). The results confirm that the theories of information asymmetry (principal-agent and fiscal illusion) and social responsibility (legitimacy and institutional theory) are the optimal theoretical framework for considering low average budget transparency at the municipal level in the Republic of Croatia. However, it is important to emphasize that all stakeholders should work to ensure that the principal-agent relationship in Croatia takes the form of cooperation. This means that politicians who want to implement transparency reforms work together with citizens who expect better services. Otherwise, that relationship takes the form of conflict (self-interested public servants will conduct malpractices unless monitored and controlled by principals). In any case, it is a great responsibility on the citizens themselves, whether it comes to choosing political representatives or in-depth examination (scrutinization) of budgetary policies and information.

The results showing that greater municipal fiscal capacity and municipal income per capita contribute positively to greater budgetary transparency of municipalities are in line with principal-agent and legitimacy theory statements. According to the principal-agent theory, higher fiscal capacity implies greater taxation, which is why citizens should be more interested in how their money is spent. In addition, legitimacy theory states that higher tax revenues should encourage municipalities to justify their spending through greater provision of budgetary information, thus reducing the information asymmetry. These results are also observed in several previous studies (e.g. Gandía et al., 2016; Guillamón et al., 2011; Laswad et al., 2005). Furthermore, these theories suggest that higher residents' incomes affect citizens' behavior in the sense that they require better and more efficient public services (Giroux & McLelland, 2003; Piotrowski & Van Ryzin, 2007). In other words, higher-income residents are more stimulated to actively engage in local government's socio-political surrounding, thus putting more pressure on local authorities to reduce information asymmetry and release government information in a timely manner.

In addition to financial, political factors also play an important role in increasing budgetary transparency. Specifically, the empirical findings confirmed that greater political competition in local elections, greater representation of women in the local council, and higher levels of municipal head education all contribute to improved budget transparency. Evans & Patton (1987) discussed that higher political competition also carries greater control of agents (politicians) by principals (citizens). For, if agents neglect the needs and demands of their constituents, they are at greater risk of not being re-elected. This has been proven in previous research (e.g. Caamaño-Alegre et al., 2013; Esteller-Moré & Polo Otero, 2012; Gandía & Archidona, 2008). A positive effect of women's representation in local government has been also observed in other studies. Fox & Schuhmann (1999) point out that women in political positions encourage citizen participation and communication more than their men counterparts. Greater female representation brings a more transparent way of working for the municipality (De Araújo and Tejedo-Romero, 2016b, 2018).

Finally, there are two determinants that can be attributed to the central government. Namely, legal regulation of the publication of budgetary information has a positive effect on improving overall budget transparency, which is in the hands of the central government. Also, positive spatial spillovers show that no municipality can be regarded as isolated, since spatial analysis shows significant influence of neighboring municipalities.

The recommendations and implications of this research are presented in the previous section, so only the key ones are highlighted here, addressed to the main stakeholders. First, municipal executives should adhere to the legislation and recommendations of the Ministry of Finance, and start publishing all five key budget documents in a timely manner. Second, the central government should reinforce and enhance the budgetary framework and adopt new, more effective, fiscal responsibilities and budgetary acts. Third, the general public, including the media, experts and CSOs, should continue to foster budget transparency and political accountability. It should also increase budget literacy for both citizens and the local representatives, in order to achieve a more efficient, effective and equitable allocation of public funds and better quality public services. When it comes to the challenge of fragmentation and functional distribution of competences of subnational governments (European Commission, 2018), the empirical results of this dissertation can provide the basis for reviewing the sustainability of specific municipalities. Namely, a large number of municipalities are not able

to satisfy even the legally prescribed publication of budgetary documents, and these are generally municipalities with low fiscal capacity and economic status (residents' income per capita). Accordingly, these jurisdictions could be reorganized or merged with more successful ones. Also, two or more municipalities may, according to the Law on Local and Regional Self-Government (2019), arrange jointly the carrying out of individual tasks within their respective fields of competence. Such reorganizations and changes are also supported by the results of the spatial analysis, which show that municipalities cannot be viewed as separate entities but as part of a larger surroundings of neighboring municipalities. For, their experiences and practices of budget transparency, functioning and governance are constantly intertwined.
When it comes to political factors, citizens should also be more active in the local socio-political environment, especially in local elections, encouraging electoral competition. Namely, the average voter turnout in Croatian municipalities in the last local elections in 2017 was only 53.19% (State Electoral Commission, 2019) Citizens also need to take responsibility and prioritize more educated and knowledgeable politicians and women in local elections, in order to foster higher levels of budget transparency and local political accountability. On the other hand, the central government could introduce minimum requirements for the head of the executive, such as holding a university degree; and a minimum number of female representatives in a municipal council, as discussed in the previous section.

When it comes to the limitations of this research, it is first necessary to state the quantitative nature of the dependent variable. Accordingly, guidance for future research can be reflected in the extension of OLBI to include other elements of budget transparency, such as the quality and comprehensiveness of budget reporting, and navigability, presence and accessibility of published documents. For example, it can be observed whether the municipality has published all budget classifications (organizational, functional, economic, program) in the special section, borrowing report, report on the use of budget reserves, guarantees given, etc. Also, due to the unavailability of data, this dissertation did not include information on the companies that are wholly or partly owned by the municipality. Therefore, the challenge remains to consolidate such data and to examine the transparency of these companies themselves, but also how their operations (e.g. indebtedness) affect the budget transparency of municipalities. Also, due to the complexity and lack of data, some variables are not covered in this research, but could be used in future similar studies. For example, of supply-side factors, number of people in the municipal budget department, level of education and gender of the person in charge of that department; from the demand-side factors, the impact of media reporting (especially local) on the level of municipal budget transparency, thus observing separately how positive and negative disclosures affect a municipality's tendency to disclose budget information, etc. Nonetheless, OLBI is already an established measure of local budgetary transparency, and its application to local governments in other countries, especially with different cultural-contextual factors, should be promoted. More such studies could offer new insights into local budgetary transparency, highlighting the importance of country context, existing regulatory measures, or the different nature, type and characteristics of the available data.

BIBLIOGRAPHY

Abakerli, S. (2007) ‘Strengthening Relationships of Accountability between Government and Citizens: Lessons from a TFESSD-financed Initiative in Ecuador’. The World Bank, p. 7.

Act on the Right of Access to Information (2015) ‘Zakon o pravu na pristup informacijama, pročišćeni tekst zakona NN 25/13, 85/15.’ Available at: https://www.zakon.hr/z/126/Zakon-o-pravu-na-pristup-informacijama.

Action Plan (2014) ‘Akcijski plan za provedbu inicijative Partnerstvo za otvorenu vlast u Republici Hrvatskoj za razdoblje od 2014. do 2016. godine’. Available at: https://udruge.gov.hr/UserDocsImages/dokumenti/Akcijski plan-POV-8-7-2014-final.pdf.

Akindele, S. T. and Olaopa, O. R. (2005) ‘A Critical Assessment of the Issue of a Macro-paradigmatic Influence in Comparative Politcal Analysis’, *Journal of Social Sciences*. Routledge, 10(2), pp. 89–98. doi: 10.1080/09718923.2005.11892463.

Akpan, N. U. (1982) *Public Administration in Nigeria*. Longman Nigeria. Available at: https://books.google.hr/books?id=MpRlQgAACAAJ.

Alcaide Munoz, L. and Rodriguez Bolivar, M. P. (2015) ‘Determining Factors of Transparency and Accountability in Local Governments: A Meta-Analytic Study’, *Lex Localis-Journal of Local Self-Government*, 13(2), pp. 129–160. doi: 10.4335/13.2.129-160.

Alcaide Muñoz, L., Rodríguez Bolívar, M. P. and López Hernández, A. M. (2017a) ‘Transparency in Governments: A Meta-Analytic Review of Incentives for Digital Versus Hard-Copy Public Financial Disclosures’, *The American Review of Public Administration*. SAGE PublicationsSage CA: Los Angeles, CA, 47(5), pp. 550–573. doi: 10.1177/0275074016629008.

Alcaide Muñoz, L., Rodríguez Bolívar, M. P. and López Hernández, A. M. (2017b) ‘Transparency in Governments: A Meta-Analytic Review of Incentives for Digital Versus Hard-Copy Public Financial Disclosures’, *American Review of Public Administration*, 47(5), pp. 550–573. doi: 10.1177/0275074016629008.

Alesina, A. and Cukierman, A. (1990) ‘The Politics of Ambiguity’, *The Quarterly Journal of Economics*, 105(4), pp. 829–850. Available at:

https://www.jstor.org/stable/pdf/2937875.pdf?refreqid=excelsior%3A228a373e3d4a0780bfbcff1d6d974b7e.

Alesina, A. and Perotti, R. (1996) 'Income distribution, political instability, and investment', *European Economic Review*, 40(6), pp. 1203–1228. doi: 10.1016/0014-2921(95)00030-5.

Alesina, A. and Perotti, R. (1999) 'Budget deficits and budget institutions', *Fiscal institutions and Fiscal Performance*, I(January), pp. 13–36. doi: 10.3386/w5556.

Alt, J. E., Lassen, D. D. and Rose, S. (2006) 'The causes of fiscal transparency: evidence from the US states', *IMF Staff Papers*, pp. 30–57. doi: 0908-7745.

Alt, J. E., Lassen, D. D. and Skilling, D. (2002) 'Fiscal Transparency, Gubernatorial Approval, and the Scale of Government: Evidence from the States', *State Politics & Policy Quarterly*, 2(3), pp. 230–250.

Alt, J. E., Lassen, D. D. and Wehner, J. (2012) *Moral Hazard in an Economic Union: Politics, Economics, and Fiscal Gimmickry in Europe*. 5. London. Available at: http://www.lse.ac.uk/government/Assets/Documents/pdf/research-groups/pspe/working-papers/PSPE-WP5-12.pdf.

Alt, J. E. and Lowry, R. C. (2010) *Transparency and accountability: Empirical results for US states, Journal of Theoretical Politics*. doi: 10.1177/0951629810375641.

Alton, M. L. and Agarwal, S. (2013) 'Budget transparency initiative: increasing accountability through budget transparency at the subnational level in Cameroon'. The World Bank, p. 16. Available at: http://documents.worldbank.org/curated/en/388321468163158363/pdf/898280WP0P11950Box0385294B00PUBLIC0.pdf.

Andreula, N., Chong, A. and Guillén, J. (2009) 'Institutional Quality and Fiscal Transparency', *IDB Working Paper Series No. IDB-WP-125*, (December), p. 32. Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1817228.

De Araújo, J. F. F. E. and Tejedo-Romero, F. (2016a) 'Local government transparency index: determinants of municipalities' rankings', *International Journal of Public Sector Management*, 29(4), pp. 327–347. doi: http://dx.doi.org/10.1108/MRR-09-2015-0216.

De Araújo, J. F. F. E. and Tejedo-Romero, F. (2016b) ‘Women’s political representation and transparency in local governance’, *Local Government Studies*. Routledge, 42(6), pp. 885–906. doi: 10.1080/03003930.2016.1194266.

De Araújo, J. F. F. E. and Tejedo-Romero, F. (2018) ‘Does Gender Equality Affect Municipal Transparency: The Case of Spain’, *Public Performance and Management Review*. Taylor & Francis, 41(1), pp. 69–99. doi: 10.1080/15309576.2017.1362350.

Arbatli, E. and Escolano, J. (2015) ‘Fiscal transparecy, fiscal performance and credit ratings’, *Fiscal Studies*, 36(2), pp. 237–270.

Armstrong, A. (1998) ‘A Comparative Analysis: New Public Management — The Way Ahead?’, *Australian Journal of Public Administration*, 57(2), pp. 12–24. doi: 10.1111/j.1467-8500.1998.tb01379.x.

Aucoin, P. (1990) ‘Administrative Reform in Public Management: Paradigms, Principles, Paradoxes and Pendulums’, *Governance: An International Journal of Policy and Administration*, 3(2), pp. 115–137. doi: 10.1111/j.1468-0491.1990.tb00111.x.

Austen-Smith, D. and Banks, J. S. (1989) ‘Electoral accountability and incumbency’, in Ordeshook, P. (ed.) *Models of Strategic Choice in Politics*. Ann Arbor: University of Michigan Press, pp. 121–149.

Baber, W. R. (1983) ‘Toward understanding the role of auditing in the public sector’, *Journal of Accounting and Economics*, 5, pp. 213–227. doi: https://doi.org/10.1016/0165-4101(83)90013-7.

Baekgaard, M., Serritzlew, S. and Blom-Hansen, J. (2016) ‘Causes of Fiscal Illusion: Lack of Information or Lack of Attention?’, *Public Budgeting & Finance*, 36(2), pp. 26–44. doi: 10.1111/pbaf.12091.

Bajo, A., Primorac, M. and Runtić, D. (2017) ‘Public Financial Management, Accountability, and Citizens ’ Trust’, *Croatian and Comparative Public Administration*, 17(3), pp. 389–405. Available at: https://bib.irb.hr/datoteka/898926.bajo.pdf.

Bakar, N. B. A. and Saleh, Z. (2015) ‘Review of literature on factors influencing public sector disclosure: The way forward’, *Asian Journal of Business and Accounting*, 8(2), pp. 155–184.

Barro, R. J. (1973) 'The control of politicians: An economic model', *Public Choice*, 14(1), pp. 19–42. doi: 10.1007/BF01718440.

Bastida, F. and Benito, B. (2007) 'Central government budget practices and transparency: An international comparison', *Public Administration*, 85(3), pp. 667–716. doi: 10.1111/j.1467-9299.2007.00664.x.

Bauhr, M. and Grimes, M. (2014) 'Indignation or Resignation: The Implications of Transparency for Societal Accountability', *Governance*, 27(2), pp. 291–320. doi: 10.1111/gove.12033.

Berger, B. (2016) 'The Illusion of Fiscal Illusion in Regulatory Takings', *American University Law Review,* 66(1). Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2765130#.

Berliner, D. (2014) 'The political origins of transparency', *Journal of Politics*, 76(2), pp. 479–491. doi: 10.1017/S0022381613001412.

Bernardi, R. A. and Arnold, D. F. (1997) 'An Examination of Moral Development within Public Accounting by Gender, Staff Level, and Firm', *Contemporary Accounting Research*, 14(4), pp. 653–668. doi: 10.1111/j.1911-3846.1997.tb00545.x.

Bernick, E. L. *et al.* (2014) 'Explaining County Government Fiscal Transparency in an Age of e-Government', *State and Local Government Review*, 46(3), pp. 173–183. doi: 10.1177/0160323X14556819.

Beshi, T. D. and Kaur, R. (2019) 'Public Trust in Local Government: Explaining the Role of Good Governance Practices', *Public Organization Review*, pp. 1–14. doi: 10.1007/s11115-019-00444-6.

Besley, T. (2007) *Principled Agents?: The Political Economy of Good Government*, *The Lindahl Lectures*. Oxford: Oxford University Press. doi: 10.1093/acprof:oso/9780199283910.001.0001.

Besley, T. and Smart, M. (2007) 'Fiscal restraints and voter welfare', *Journal of Public Economics*, 91(3), pp. 755–773. doi: https://doi.org/10.1016/j.jpubeco.2006.09.009.

Biderman, C. and Pottomatti, G. (2010) 'Metodologia para construção de índice de transparência. Indice de transparencia.’ Available at: https://indicedetransparencia.com/metodologia/.

Birgit, W. (2007) ‘Twenty years later: explaining the persistence of the glass ceiling for women leaders’, *Women in Management Review*. Edited by A. Broadbridge. Emerald Group Publishing Limited, 22(6), pp. 482–496. doi: 10.1108/09649420710778718.

Birskyte, L. (2019) ‘Determinants of Budget Transparency in Lithuanian Municipalities’, *Public Performance & Management Review*. Routledge, 42(3), pp. 707–731. doi: 10.1080/15309576.2018.1507915.

Blais, A. and Dion, S. (1990) ‘Are Bureaucrats Budget Maximizers? The Niskanen Model & Its Critics’, *Polity*. Palgrave Macmillan Journals, 22(4), pp. 655–674. Available at: http://www.jstor.org/stable/3234823.

Borins, S. (1995) ‘The new public management is here to stay’, *Canadian Public Administration*, 38(1), pp. 122–132. doi: 10.1111/j.1754-7121.1995.tb01133.x.

Bouckaert, G. and van de Walle, S. (2003) ‘Comparing Measures of Citizen Trust and User Satisfaction as Indicators of “Good Governance”: Difficulties in Linking Trust and Satisfaction Indicators’, *International Review of Administrative Sciences*, 69(3), pp. 329–343. doi: 10.1177/0020852303693003.

van de Bovenkamp, H. M. and Vollaard, H. (2019) ‘Strengthening the local representative system: the importance of electoral and non-electoral representation’, *Local Government Studies*. Routledge, 45(2), pp. 196–218. doi: 10.1080/03003930.2018.1548351.

Bovens, M. (2007) ‘Analysing and Assessing Accountability: A Conceptual Framework1’, *European Law Journal*, 13(4), pp. 447–468. doi: 10.1111/j.1468-0386.2007.00378.x.

Brillantes, A. B. and Fernandez, M. T. (2011) ‘Restoring Trust and Building Integrity in Government: Issues and Concerns in the Philippines and Areas for Reform’, *International Public Management Review*, 12(2), pp. 55–80. Available at: http://journals.sfu.ca/ipmr/index.php/ipmr/article/view/102/102.

Buchanan, J. M. and Wagner, R. E. (2000) *Democracy in Deficit: The Political Legacy of Lord Keynes*. Vol. 8 of. Indianapolis: Academic Press, Inc. Available at: http://ollresources.s3.amazonaws.com/titles/1097/Buchanan_0102-08_EBk_v6.0.pdf.

Budget Act (2015) ‘Zakon o proračunu pročišćeni tekst zakona NN 87/08, 136/12, 15/15’. Available at: https://www.zakon.hr/z/283/Zakon-o-proračunu.

Bugarič, B. (2004) ‘Openness and transparency in public administration : challenges for public law’, *Wisconsin international law journal*, 22(3), pp. 483–521.

Buijze, A. (2013) ‘The Six Faces of Transparency’, *Utrecht Law Review*, 9(3), pp. 3–25. doi: http://doi.org/10.18352/ulr.233.

Butler, E. (2012) ‘Public Choice – A Primer’. The Institute of Economic Affairs, pp. 1–68.

Caamaño-Alegre, J. *et al.* (2013) ‘Budget Transparency in Local Governments : An Empirical Analysis’, *Local Government Studies*, 39(2), pp. 182–207. doi: https://doi.org/10.1080/03003930.2012.693075.

Caba-Pérez, C., Rodríguez Bolívar, M. P. and López Hernández, A. M. (2008) ‘e-Government process and initiatives for online public financial information’, *Online Information Review*, 32(3), pp. 379–400. doi: 10.1108/JFM-03-2013-0017.

Caba Pérez, M. del C., Rodríguez Bolívar, M. P. and López Hernández, A. M. (2014) ‘The determinants of government financial reports online’, *Transylvanian Review of Administrative Sciences*, (42), pp. 5–31.

Cairns, A. C. (1977) ‘The Governments and Societies of Canadian Federalism’, *Canadian Journal of Political Science*, 10(4), pp. 695–725.

Carlitz, R. (2013) ‘Improving Transparency and Accountability in the Budget Process: An Assessment of Recent Initiatives’, *Development Policy Review*, 31(s1), pp. 49–67. doi: 10.1111/dpr.12019.

Chadwick, A. (2003) ‘Bringing E-Democracy Back In: Why it Matters for Future Research on E-Governance’, *Social Science Computer Review*, 21(4), pp. 443–455. doi: 10.1177/0894439303256372.

Chadwick, A. and Stromer-Galley, J. (2016) ‘Digital Media, Power, and Democracy in Parties and Election Campaigns: Party Decline or Party Renewal?’, *The International Journal of*

Press/Politics, 21(3), pp. 283–293. doi: 10.1177/1940161216646731.

Chambers, L., Dimitrova, V. and Pollock, R. (2012) *Technology for Transparent and Accountable Public Finance (TTAPF)*. Cambridge. Available at: https://community.openspending.org/resources/gift/pdf/ttapf_report_20120530.pdf.

Christiaens, J. (1999) 'Financial Accounting Reform in Flemish Municipalities: An Empirical Investigation', *Financial Accountability & Management*, 15(1), pp. 21–40. doi: 10.1111/1468-0408.00072.

Chua, A. Y. K., Goh, D. H. and Ang, R. P. (2012) 'Web 2.0 applications in government web sites', *Online Information Review*. Edited by G. D. H. Emerald Group Publishing Limited, 36(2), pp. 175–195. doi: 10.1108/14684521211229020.

Chun, S. A. *et al.* (2010) 'Government 2.0: Making Connections between Citizens, Data and Government', *Information Polity*, 15(1,2), pp. 1–9.

Clemens, E. S. and Cook, J. M. (1999) 'Politics and Institutionalism: Explaining Durability and Change', *Annual Review of Sociology*. Annual Reviews, 25, pp. 441–466. Available at: http://www.jstor.org/stable/223512.

Cooper, T. L., Bryer, T. A. and Meek, J. W. (2006) 'Citizen-Centered Collaborative Public Management', *Public Administration Review*. [American Society for Public Administration, Wiley], 66, pp. 76–88. Available at: http://www.jstor.org/stable/4096572.

Council of Europe (2017) 'Georgia: Handbook on Transparency and Citizen Participation'. European Union and the Council of Europe, p. 46. Available at: https://rm.coe.int/georgia-handbook-on-transparency-and-citizen-participation-en/168078938d.

Cruz Prieto, R. (2013) 'On the Disadvantages of Transparency for Government Reflections on Some Arguments Against Transparency as a Democratic Reform', *Melbourne Journal of Politics*. Utrecht, 36. Available at: http://mjp.arts.unimelb.edu.au/article/view/136.

Cuadrado-Ballesteros, B. *et al.* (2017) 'The Role of Media Pressure in Promoting Transparency of Local Governments', *Transylvanian Review of Administrative Sciences*, 2017(51E), pp. 20–37. doi: 10.24193/tras.51E.2.

Cucciniello, M., Porumbescu, G. A. and Grimmelikhuijsen, S. (2017) '25 Years of

Transparency Research: Evidence and Future Directions', *Public Administration Review*. doi: 10.1111/puar.12685.

Cuganesan, S., Ward, L. and Guthrie, J. (2007) 'Legitimacy Theory: A Story of Reporting Social and Environmental Matters within the Australian Food and Beverage Industry', in *5th Asian Pacific Interdisciplinary Research in Accounting (APIRA) Conference*. Auckland, New Zealand. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1360518#.

Dabla-Norris, E. and Paul, E. (2006) *What Transparency Can Do When Incentives Fail: An Analysis of Rent Capture*. 146. Available at: https://www.imf.org/external/pubs/ft/wp/2006/wp06146.pdf.

Darbishire, H. (2010) 'Proactive Transparency: The future of the right to information?', *World Bank Institute Working Paper*, p. 60. Available at: http://scholar.google.com/scholar?hl=en&btnG=Search&q=intitle:Proactive+Transparency:+The+future+of+the+right+to+information?#0.

Davies, P. (2006) 'Educating citizens for changing economies', *Journal of Curriculum Studies*, 38(1), pp. 15–30. doi: 10.1080/00220270500185122.

Deegan, C. (2002) 'Introduction: The legitimising effect of social and environmental disclosures – a theoretical foundation', *Accounting, Auditing & Accountability Journal*. MCB UP Ltd, 15(3), pp. 282–311. doi: 10.1108/09513570210435852.

Denis, C. and Gordon, I. M. (2001) 'An examination of social and environmental reporting strategies', *Accounting, Auditing & Accountability Journal*. Edited by G. I. M. MCB UP Ltd, 14(5), pp. 587–617. doi: 10.1108/EUM0000000006264.

DiMaggio, P. J. and Powell, W. W. (1983) 'The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields', *American Sociological Review*. [American Sociological Association, Sage Publications, Inc.], 48(2), pp. 147–160. doi: 10.2307/2095101.

Dogan, M. K. (2010) 'Transparency and political moral hazard', *Public Choice*, 142(1), p. 215. doi: 10.1007/s11127-009-9485-0.

Dollery, B. and Worthington, A. (1996) 'The Empirical Analysis of Fiscal Illusion', *Journal* *of Economic Surveys*, 10(3), pp. 261–297. Available at: https://econpapers.repec.org/RePEc:bla:jecsur:v:10:y:1996:i:3:p:261-97.

Dong, L. (2015) *Public administration theories: Instrumental and value rationalities*. New York, NY: Palgrave Macmillan.

Dowling, J. and Pfeffer, J. (1975) 'Organizational Legitimacy: Social Values and Organizational Behavior', *The Pacific Sociological Review*. [Sage Publications, Inc., University of California Press], 18(1), pp. 122–136. Available at: http://www.jstor.org/stable/1388226.

Downs, A. (1957) 'An Economic Theory of Political Action in a Democracy', *Journal of Political Economy*, 65(2), pp. 135–150. Available at: https://www.jstor.org/stable/pdf/1827369.pdf?refreqid=excelsior%3Ae7c7c3f74d9999a85c06954272ad3355.

Dunsire, A. (1995) 'Administrative Theory in the 1980s: A Viewpoint', *Public Administration*, 73(1), pp. 17–40. doi: 10.1111/j.1467-9299.1995.tb00815.x.

Eagly, A. H. and Johnson, B. T. (1990) 'Gender and leadership style: A meta-analysis', *Psychological Bulletin*, 108(2), pp. 233–256. doi: https://doi.org/10.1037/0033-2909.108.2.233.

Esteller-Moré, A. and Polo Otero, J. (2012) 'Fiscal Transparency: (Why) does your local government respond?', *Public Management Review*, 14(8), pp. 1153–1173. doi: 10.1080/14719037.2012.657839.

European Commission (2018) *Country Report Croatia 2018. 2018 European Semester: Assessment of progress on structural reforms, prevention and correction of macroeconomic imbalances, and results of in-depth reviews under Regulation (EU) No 1176/2011*. Brussels. Available at: https://ec.europa.eu/info/sites/info/files/2018-european-semester-country-report-croatia-en.pdf.

Evans, J. H. and Patton, J. M. (1987) 'Signaling and Monitoring in Public-Sector Accounting', *Journal of Accounting Research*, 25, pp. 130–158. Available at: https://www.jstor.org/stable/pdf/2491083.pdf?refreqid=excelsior%3A40c74f8aeab4c49912ac1a1b634a4226.

Farazmand, A. (2004) ‘Sound Governance in the Age of Globalization: A Conceptual Framework’, in Farazmand, A. and Carter, R. (eds) *Sound Governance: Policy and Administrative Innovations*. 1st edn. Greenwood Publishing Group, p. 330.

Ferejohn, J. (1986) ‘Incumbent performance and electoral control’, *Public Choice*, 50, pp. 5–25. doi: 10.1007/BF00124924.

Ferejohn, J. (1999) ‘Accountability and Authority: Toward a Theory of Political Accountability’, in Przeworski, A., Stokes, S. C., and Manin, B. (eds) *Democracy, Accountability, and Representation*. Cambridge University Press (Cambridge Studies in the Theory of Democracy), pp. 131–153. doi: 10.1017/CBO9781139175104.005.

Ferguson, K. E. (1984) *The Feminist Case Against Bureaucracy*. Temple University. doi: 10.2307/1956765.

De Fine Licht, J. *et al.* (2014) ‘When Does Transparency Generate Legitimacy? Experimenting on a Context-Bound Relationship’, *Governance*, 27(1), pp. 111–134. doi: 10.1111/gove.12021.

Fornes, D. G. (2014) ‘The Current State and Development of Budget Transparency’. Universitat Jaume, pp. 1–28. Available at: http://repositori.uji.es/xmlui/bitstream/handle/10234/108218/TFG_2013_gallenD.pdf?sequence=1&isAllowed=y.

Forsyth, A. P. (2006) ‘Economic literacy - an essential dimension in the social education curriculum for the twenty-first century’, *The Social Educator*, 24(2), pp. 29–33. Available at: http://search.informit.com.au/documentSummary.

Fox, J. (2007) ‘The uncertain relationship between transparency and accountability’, *Development in Practice*, 17(4–5), pp. 663–671. doi: 10.1080/09614520701469955.

Fox, R. L. and Schuhmann, R. A. (1999) ‘Gender and Local Government : A Comparison of Women and Men City Managers’, *Public Administration Review*, 59(3), pp. 231–242.

Galli, E., Rizzo, I. and Scaglioni, C. (2017) ‘Transparency , quality of institutions and performance in the Italian Municipalities’, *Working Papers 11/2017, ISEG - Lisbon School of Economics and Management, Department of Economics*. Available at:

http://pascal.iseg.utl.pt/~depeco/wp/wp112017.pdf.

Galli, E., Rizzo, I. and Scaglioni, C. (2018) *Is transparency spatially determined? An empirical test for the Italian Municipalities*. 6/2018. Rome.

Gandía, J. L. and Archidona, M. C. (2008) 'Determinants of web site information by Spanish city councils', *Online Information Review*, 32(1), pp. 35–57. doi: 10.1108/14684520810865976.

Gandía, J. L., Marrahí, L. and Huguet, D. (2016) 'Digital transparency and Web 2.0 in Spanish city councils', *Government Information Quarterly*. Elsevier Inc., 33(1), pp. 28–39. doi: 10.1016/j.giq.2015.12.004.

García-Tabuyo, M., Sáez-Martín, A. and Caba-Pérez, M. D. C. (2016) 'Mandatory versus voluntary disclosures: Drivers of proactive information provision by local governments in Central America', *Information Development*, 32(4), pp. 1199–1215. doi: 10.1177/0266666915595260.

García, A. C. and García-García, J. (2010) 'Determinants of Online Reporting of Accounting Information by Spanish Local Government Authorities', *Local Government Studies*. Routledge, 36(5), pp. 679–695. doi: 10.1080/03003930.2010.506980.

Gemmell, N., Morrissey, O. and Pinar, A. (2002) 'Fiscal Illusion and Political Accountability: Theory and Evidence from Two Local Tax Regimes in Britain', *Public Choice*, 110(3), pp. 199–224. doi: 10.1023/A:1013015330173.

Gender Equality Act (2017) 'Zakon o ravnopravnosti spolova'. Available at: https://www.zakon.hr/z/388/Zakon-o-ravnopravnosti-spolova.

Gérard, T. and Ngangué, N. (2015) 'Does Fiscal Illusion Impact Budget Policy? A Panel Data Analysis', *International Journal of Economics and Financial Issues*, 5(1), pp. 240–248. Available at: https://pdfs.semanticscholar.org/aa63/f433bc40ea988ab12d7fafbba3154ced972f.pdf.

Gerunov, A. (2016) 'Financial Effects of Fiscal Transparency : A Critique', *Bulgarian Economic Papers, bep-01-2016, St Kliment Ohridski University of Sofia, Faculty of Economics and Business Administration / Center for Economic Theories and Policies*.

Available at: ftp://ftp.repec.org/opt/ReDIF/RePEc/sko/wpaper/BEP-2016-01.pdf.

Gesuele, B., Metallo, C. and Longobardi, S. (2018) 'The Determinants of E-Disclosure Attitude: Empirical Evidences from Italian and Spanish Municipalities', *International Journal of Public Administration*. Routledge, 41(11), pp. 921–934. doi: 10.1080/01900692.2017.1300917.

Geys, B., Heinemann, F. and Kalb, A. (2010) 'Voter involvement, fiscal autonomy and public sector efficiency: Evidence from German municipalities', *European Journal of Political Economy*, 26(2), pp. 265–278. doi: https://doi.org/10.1016/j.ejpoleco.2009.11.002.

Gibbons, M. (2004) 'Parties, policies, and democracy', *European Political Science*, 3(3), pp. 23–38. doi: 10.1057/eps.2004.15.

Giering, S. (2011) *Public Participation Strategies for Transit*. Washington, DC: The National Academies Press. doi: 10.17226/22865.

GIFT (2012) 'High-Level Principles on Fiscal Transparency, Participation and Accountability'. Available at: http://www.fiscaltransparency.net/ft_principles/.

GIFT (2016) 'Principles of Public Participation in Fiscal Policies: As approved by the GIFT General Stewards Meeting (December 1-2, 2015)', pp. 1–7. Available at: http://www.fiscaltransparency.net/pp_principles/#toggle-id-1.

Gilligan, C. (1982) *In a Different Voice: Psychological Theory and Women's Development*. Cambridge: Harvard University Press.

Giroux, G. and McLelland, A. J. (2003) 'Governance structures and accounting at large municipalities', *Journal of Accounting and Public Policy*, 22(3), pp. 203–230. doi: 10.1016/S0278-4254(03)00020-6.

Glennerster, R. and Shin, Y. (2008) 'Does transparency pay?', *IMF Staff Papers*, 55(1), pp. 183–209. doi: 10.1057/palgrave.imfsp.9450028.

Global Initiative for Fiscal Transparency (GIFT) (2015) 'Background Paper prepared for the Open Government Partnership-GIFT Fiscal Openness Working Group: Africa Regional Meeting', (May), pp. 1–51. Available at: http://www.fiscaltransparency.net/resourcesfiles/files/20150707118.pdf.

Gordon, M. T. (2000) ‘Public Trust in Government: The US Media as an Agent of Accountability?’, *International Review of Administrative Sciences*, 66(2), pp. 297–310. doi: 10.1177/0020852300662006.

Greene, W. H. (2002) *Econometric Analysis*. Fifth edit. Edited by R. Banister et al. New Jersey: Pearson Education LTD.

Greenwood, R., Hinings, C. R. and Whetten, D. (2014) ‘Rethinking Institutions and Organizations’, *Journal of Management Studies*, 51(7), pp. 1206–1220. doi: 10.1111/joms.12070.

Greve, H. R. and Argote, L. (2015) ‘Behavioral Theories of Organization’, in Wright, J. D. (ed.) *International Encyclopedia of the Social & Behavioral Sciences*. 2nd edn. Orlando, FL, USA, pp. 481–486. doi: 10.1016/B978-0-08-097086-8.73121-7.

Grewal, B. and Mathews, R. (1977) ‘Intergovernmental competition and co-ordination’, *in Mathews, R. (ed.), State and Local Taxation, Australian National University Press, Canberra.*

Grimmelikhuijsen, S. (2012) ‘Linking transparency, knowledge and citizen trust in government: an experiment’, *International Review of Administrative Sciences*, 78(1), pp. 50–73. doi: 10.1177/0020852311429667.

Grimmelikhuijsen, S. G. and Welch, E. W. (2012) ‘Developing and Testing a Theoretical Framework for Computer-Mediated Transparency of Local Governments’, *Public Administration Review*, 78(1), pp. 562–571. doi: 10.2307/41506806.

Gruening, G. (2001) ‘Origin and theoretical basis of New Public Management’, *International Public Management Journal*, 4, pp. 1–25.

Guillamón, M.-D., Bastida, F. and Benito, B. (2011) ‘The Determinants of Local Government’s Financial Transparency’, *Local Government Studies*, 37(4), pp. 391–406. doi: 10.1080/03003930.2011.588704.

Guthrie, J. and Parker, L. D. (1989) ‘Corporate Social Reporting: A Rebuttal of Legitimacy Theory’, *Accounting and Business Research*. Routledge, 19(76), pp. 343–352. doi: 10.1080/00014788.1989.9728863.

Hart, O. and Holmström, B. (1987) ‘The theory of contracts’, in Bewley, T. F. (ed.) *Advances* *in Economic Theory: Fifth World Congress*. Cambridge University Press (Econometric Society Monographs), pp. 71–156. doi: 10.1017/CCOL0521340446.003.

Heald, D. (2003) ‘Fiscal transparency: Concepts, measurement and UK practice’, *Public Administration*, 81(4), pp. 723–759. doi: 10.1111/j.0033-3298.2003.00369.x.

Heyndels, B. and Smolders, C. (1994) ‘Fiscal illusion at the local level: Empirical evidence for the Flemish municipalities’, *Public Choice*, 80(3), pp. 325–338. doi: 10.1007/BF01053224.

Higgins, J. (1997) ‘Transparency and Trade-Offs in Policy Discourse: A Case Study of Social Service Contracting’, *Social Policy Journal of New Zealand*, (9), pp. 1–15.

Hirsch, P. M., Friedman, R. and Koza, M. P. (1990) ‘Collaboration or paradigm shift?: Caveat emptor and the risk of romance with economic models for strategy and policy research’, *Organization Science*, 1(1), pp. 87–97.

Hollyer, J. R., Rosendorff, B. P. and Vreeland, J. R. (2011) ‘Democracy and transparency’, *Journal of Politics,* 73(4), pp. 1191–1205. doi: 10.1017/S0022381611000880.

Holmström, B. (1979) ‘Moral Hazard and Observability’, *The Bell Journal of Economics,* 10(1), pp. 74–91. Available at: https://personal.utdallas.edu/~nina.baranchuk/Fin7310/papers/Holmstrom1979.pdf.

Hood, C. (2010) ‘Accountability and Transparency: Siamese Twins, Matching Parts, Awkward Couple?’, *West European Politics*. Routledge, 33(5), pp. 989–1009. doi: 10.1080/01402382.2010.486122.

Hood, C. and Heald, D. (2006) *Transparency: The Key to Better Governance?, Proceedings of the British Academy*. Oxford: British Academy. doi: 10.5871/bacad/9780197263839.001.0001.

Huemer, M. (2013) *The Problem of Political Authority: An Examination of the Right to Coerce and the Duty to Obey*. 1st edn. Palgrave Macmillan UK. doi: 10.1017/S0841820900006172.

Hülsmann, G. J. (2006) ‘The Political Economy of Moral Hazard’, *Politická ekonomie*, p. 13. Available at: http://www.guidohulsmann.com/pdf/PE_Moral_Hazard.pdf.

IBP (2015) ‘Open Budget’, *Open Budget Survey 2015*, (9), pp. 1–71.

IBP (2018) ‘Open Budget Survey 2017’. Available at: https://www.internationalbudget.org/wp-content/uploads/open-budget-survey-2017-report-english.pdf.

IMF (1996) ‘World Economic Outlook: A Survey by the Staff of the International Monetary Fund’, (202), pp. 1–22. Available at: https://www.imf.org/external/pubs/weo/chapter1.pdf.

IMF (2007a) ‘Code of Good Practices on Fiscal Transparency’. International Monetary Fund. Available at: https://www.imf.org/external/np/fad/trans/code.htm.

IMF (2007b) ‘Manual on Fiscal Transparency’, p. 164. Available at: https://www.imf.org/external/np/pp/2007/eng/051507m.pdf.

Ingram, P. and Simons, T. (1995) ‘Institutional and Resource Dependence Determinants of Responsiveness to Work-Family Issues’, *The Academy of Management Journal*. Academy of Management, 38(5), pp. 1466–1482. Available at: http://www.jstor.org/stable/256866.

Ingram, R. W. (1984) ‘Economic Incentives and the Choice of State Government Accounting Practices’, 22(1), pp. 126–144.

Irwin, T. C. (2012) *Accounting Devices and Fiscal Illusions*. Available at: https://www.imf.org/external/pubs/ft/sdn/2012/sdn1202.pdf.

Jensen, M. C. and Meckling, W. H. (1976) ‘Theory of the firm: Managerial behavior, agency costs and ownership structure’, *Journal of Financial Economics*, 3(4), pp. 305–360. doi: https://doi.org/10.1016/0304-405X(76)90026-X.

Jordan, M. M. *et al.* (2017) ‘Popular Financial Reports as Fiscal Transparency Mechanisms: An Assessment Using the Fiscal Transparency Index for the Citizen User’, *International Journal of Public Administration*. Routledge, 40(8), pp. 625–636. doi: 10.1080/01900692.2016.1186175.

Jorna, F. (2015) ‘Openness and Urban Governance: How Transparency Erodes Local Government’, *International Public Administration Review*, 13(3–4), pp. 161–183. doi: 10.17573/ipar.2015.3-4.07.

Kalimullah, N. A., Ashraf Alam, K. M. and Nour, A. M. M. (2012) ‘New Public Management: Emergence and Principles’, *BUP Journal*, 1(1), pp. 1–22.

Kaufmann, D. and Bellver, A. (2005) ‘Transparenting Transparency: Initial Empirics and Policy Applications’, *SSRN Electronic Journal*, pp. 1–73. doi: 10.2139/ssrn.808664.

Kaufmann, D., Mehrez, G. and Gurgur, T. (2002) ‘Voice or Public Sector Management? An Empirical Investigation of Determinants of Public Sector Performance based on a Survey of Public Officials’, *SSRN Electronic Journal*. doi: 10.2139/ssrn.316865.

Khagram, S., Fung, A. and de Renzio, P. (2013) *Open Budgets: The Political Economy of Transparency, Participation, and Accountability*. Brookings Institution Press. Available at: http://www.jstor.org/stable/10.7864/j.ctt1262zx.

Khazanchi, D. (1995) ‘Unethical behavior in information systems: The gender factor’, *Journal of Business Ethics*, 14(9), pp. 741–749. doi: 10.1007/BF00872327.

Kim, S. and Lee, J. (2012) ‘E-Participation, Transparency, and Trust in Local Government’, *Public Administration Review*, 72(6), pp. 819–828. doi: 10.1111/j.1540-6210.2012.02593.x.

Kopits, G. and Craig, J. (1998) *Transparency in government operations*, *IMF Occasional Papers*. 158. doi: 10.5089/9781557756978.084 U6 - http://dx.doi.org/10.5089/9781557756978.084 M4 - Citavi.

Kosack, S. and Fung, A. (2014) ‘Does Transparency Improve Governance?’, *Annual Review of Political Science*, 17(1), pp. 65–87. doi: 10.1146/annurev-polisci-032210-144356.

Krishnan, G. V. and Parsons, L. M. (2008) ‘Getting to the bottom line: An exploration of gender and earnings quality’, *Journal of Business Ethics*, 78(1–2), pp. 65–76. doi: 10.1007/s10551-006-9314-z.

Kuriyan, R. *et al.* (no date) *Technologies for Transparency and Accountability: Implications for ICT Policy and Implementation*.

Laakso, M. and Taagepera, R. (1979) ‘“Effective” Number of Parties: A Measure with Application to West Europe’, *Comparative Political Studies*, 12(1), pp. 3–27. doi: 10.1177/001041407901200101.

Laboutková, Š. and Žák, M. (2016) ‘Transparency of Lobbying: a Theoretical Approach’, in Majerová, I. and Kotlánová, E. (eds) *14th International Conference Economic Policy in the European Union Member Countries*. Karviná: Silesian University, pp. 368–377.

Lane, J.-E. (2013) ‘The Principal-Agent Approach to Politics: Policy Implementation and Public Policy-Making’, *Open Journal of Political Science*, 3(2), pp. 85–89. doi: http://dx.doi.org/10.4236/ojps.2013.32012.

Lassen, D. D. (2000) *Political Accountability and the Size of Government: Theory and Cross-Country Evidence*. Copenhagen: University of Copenhagen, Economic Policy Research Unit (EPRU). Available at: http://hdl.handle.net/10419/81957.

Laswad, F., Fisher, R. and Oyelere, P. (2005) ‘Determinants of voluntary Internet financial reporting by local government authorities’, *Journal of Accounting and Public Policy*, 24(2), pp. 101–121. doi: 10.1016/j.jaccpubpol.2004.12.006.

Law on Local and Regional Self-Government (2019) ‘Zakon o lokalnoj i područnoj (regionalnoj) samoupravi’. Available at: https://www.zakon.hr/z/132/Zakon-o-lokalnoj-i-područnoj-(regionalnoj)-samoupravi.

Law on Local Elections (2019) ‘Zakon o lokalnim izborima’. Available at: https://www.zakon.hr/z/559/Zakon-o-lokalnim-izborima.

Law on the Financing of Local and Regional Self-Government Units (2019) ‘Zakon o financiranju jedinica lokalne i područne (regionalne) samouprave’. Available at: https://www.zakon.hr/z/411/Zakon-o-financiranju-jedinica-lokalne-i-područne-(regionalne)-samouprave.

LeSage, J. P. and Pace, K. R. (2009) *An Introduction to Spatial Econometrics, Revue d’économie industrielle*. doi: 10.4000/rei.3887.

Levinson, D. J. (2000) ‘Making Government Pay: Markets, Politics, and the Allocation of Constitutional Costs’, *The University of Chicago Law Review*, 67(2). Available at: https://chicagounbound.uchicago.edu/uclrev/vol67/iss2/2/.

Lewis-Beck, M. S. (1986) ‘Comparative Economic Voting: Britain, France, Germany, Italy’, *American Journal of Political Science*. [Midwest Political Science Association, Wiley], 30(2), pp. 315–346. doi: 10.2307/2111099.

Lounsbury, M. and Zhao, E. Y. (2014) *Neo-institutional Theory, Oxford Bibliographies*. doi: 10.1093/OBO/9780199846740.

Lowatcharin, G. and Menifield, C. E. (2015) ‘Determinants of Internet-enabled Transparency at the Local Level: A Study of Midwestern County Web Sites’, *State and Local Government Review*, 47(2), pp. 102–115. doi: 10.1177/0160323X15593384.

Lynn, L. E. (1996) *Public Management as Art, Science, and Profession*. Chatham: Chatham House Publishers.

Ma, L. and Wu, J. (2011) *What Drives Fiscal Transparency? Evidence from Provincial Governments in China, SSRN Electronic Journal*. doi: 10.2139/ssrn.1807767.

Mabillard, V. and Zumofen, R. (2015) *The uncertain relationship between transparency and accountability revisited through four Swiss cases*. 8. Available at: https://serval.unil.ch/resource/serval:BIB_E242DE5C0E09.P001/REF.

Macintosh, A. and Whyte, A. (2008) ‘Towards an evaluation framework for eParticipation’, *Transforming Government: People, Process and Policy*. Edited by W. Angus. Emerald Group Publishing Limited, 2(1), pp. 16–30. doi: 10.1108/17506160810862928.

de Marilac Félix, L. (2011) ‘Proactive Transparency: What has been done in Brazil’. Washington, DC: George Washington University, p. 38. Available at: https://www2.gwu.edu/~ibi/minerva/Spring2011/Leodelma_Felix.pdf.

Masud, H. *et al.* (2017) *International Practices to Promote Budget Literacy: Key Findings and Lessons Learned*. Washington, DC: The World Bank. Available at: http://documents.worldbank.org/curated/en/966641496910520307/pdf/115788-PUB-PUBLIC-PUBDATE-6-5-17.pdf.

Mathews, M. R. (1993) *Socially responsible accounting*. 1st edn. Chapman & Hall.

McCaffrey, M. (2016) ‘The Morals of Moral Hazard: a Contracts Approach’. Available at: https://www.academia.edu/25612649/The_Morals_of_Moral_Hazard_a_Contracts_Approach.

McGee, R. and Gaventa, J. (2010) *Synthesis report: Review of impact and effectiveness of* *transparency and accountability initiatives*. London.

McLelland, A. J. and Giroux, G. (2000) ‘An empirical analysis of auditor report timing by large municipalities’, *Journal of Accounting and Public Policy*, 19(3), pp. 263–281. doi: https://doi.org/10.1016/S0278-4254(00)00011-9.

Mergel, I., Schweik, C. M. and Fountain, J. E. (2009) ‘The Transformational Effect of Web 2.0 Technologies on Government’. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1412796.

Meyer, J. W. and Rowan, B. (1977) ‘Institutionalized Organizations: Formal Structure as Myth and Ceremony’, *American Journal of Sociology*. University of Chicago Press, 83(2), pp. 340–363. Available at: http://www.jstor.org/stable/2778293.

Michener, G. (2015) ‘Transparency, Incentives Research: Why Policymakers Commit to Transparency’, (March).

Mitias, P. M. and Turnbull, G. K. (2001) ‘Grant Illusion, Tax Illusion, and Local Government Spending’, *Public Finance Review*, 29(5), pp. 347–368. doi: 10.1177/109114210102900501.

Mongkol, K. (2008) ‘Change management in public sector management in the 21st century’, *Gov. Official*, 53, pp. 84–87.

Moon, M. J. (2002) ‘The Evolution of E-Government among Municipalities: Rhetoric or Reality?’, *Public Administration Review*, 62(4), pp. 424–433. doi: 10.1111/0033-3352.00196.

Moon, M. J. and Norris, D. F. (2005) ‘Does managerial orientation matter? The adoption of reinventing government and e-government at the municipal level’, *Information Systems Journal*. Wiley/Blackwell (10.1111), 15(1), pp. 43–60. doi: 10.1111/j.1365-2575.2005.00185.x.

Mourão, P. R. (2008) ‘The Consequences of Fiscal Illusion on Economic Growth’, *eJournal of Tax Research*, 6(2), pp. 82–89. Available at: https://www.uat.business.unsw.edu.au/research-site/publications-site/ejournaloftaxresearch-site/Documents/paper1_v6n2.pdf.

Mourao, P. R., Bronić, M. and Stanić, B. (2020) ‘Discussing the determinants of online budget transparency based on a spatial regression analysis of Croatian cities and municipalities: Do good neighbours make you better?', *International Area Studies Review*. doi: 10.1177/2233865919895854.

Murphy, P., Eckersley, P. and Ferry, L. (2017) 'Accountability and transparency: Police forces in England and Wales', *Public Policy and Administration*, 32(3), pp. 197–213. doi: 10.1177/0952076716671033.

Norris, D. F. and Kraemer, K. L. (1996) 'Mainframe and PC computing in American cities : Myths and realities', *Public Administration Review*, 56(6), pp. 568–576.

Norris, P. (1999) *Critical Citizens: Global Support for Democratic Government*. Oxford: Oxford University Press. doi: 10.1093/0198295685.001.0001.

Norris, P. (2010) *Public Sentinel: News Media & Governance Reform*. Edited by P. Norris. Washington, DC: The World Bank. doi: 10.1596/978-0-8213-8200-4.

Oates, W. E. (1985) *On the Nature and Measurement of Fiscal Illusion: A Survey*. Department of Economics, University of Maryland. Available at: https://books.google.hr/books?id=S6BHGwAACAAJ.

OECD (1995) *Governance in Transition: Public Management Reforms in OECD Countries*. Organisation for Economic Co-operation and Development. Available at: https://books.google.hr/books?id=TACcD2r0wDYC.

OECD (2002) 'OECD Best Practices for Budget Transparency', *OECD Journal on Budgeting*, 1, pp. 7–14. doi: 10.1787/budget-v1-art14-en.

OECD (2005) *E-Government for Better Government*. Paris. Available at: http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=GOV/PGC/EGOV(2005)1&docLanguage=En.

OECD (2008) *Background paper: implementing e-government in OECD countries: experiences and challenges*. Available at: http://www.oecd.org/mena/governance/36853121.pdf.

OECD (2017) 'Budget Transparency Toolkit: Practical steps for supporting openness, integrity and accountability in Public Financial Management'. OECD Publishing, p. 102. Available at: http://www.oecd.org/gov/budgeting/Budgeting-Transparency-Toolkit.pdf.

Oliver, C. (1991) ‘Strategic Responses to Institutional Processes’, *The Academy of Management Review*. Academy of Management, 16(1), pp. 145–179. Available at: http://www.jstor.org/stable/258610.

Osborne, D. and Gaebler, T. (1992) *Reinventing Government: How the Entrepreneurial Spirit is Transforming the Public Sector*. Reading, MA: Addison-Wesley Publishing Company.

Ostrom, V. (1975) ‘Public Choice Theory: A New Approach to Institutional Economics’, *American Journal of Agricultural Economics*, 57(5), pp. 844–850. doi: 10.2307/1239090.

Ott, K. *et al.* (2016) ‘Budget transparency in Croatian counties, cities and municipalities (November 2015 – March 2016)’, *Newsletter - an occasional publication of the Institute of public finance*, 17(107), pp. 1–14. doi: 10.3326/nle.2015.97.

Ott, K. *et al.* (2017) ‘Budget transparency in Croatian counties, cities and municipalities (November 2016 – March 2017)’, *Newsletter - an occasional publication of the Institute of public finance*, 18(112), pp. 1–13. doi: 10.3326/nle.2017.112.

Ott, K. *et al.* (2018) ‘Budget transparency in Croatian counties, cities and municipalities (November 2017 – March 2018)’, *Newsletter - an occasional publication of the Institute of public finance*, (115), pp. 1–14. doi: doi: 10.3326/nle.2018.115.

Ott, K., Bronić, M., Petrušić, M., *et al.* (2019) ‘Budget transparency in Croatian counties, cities and municipalities (November 2018 – March 2019)’, *Newsletter - an occasional publication of the Institute of public finance*, (117), pp. 1–15. doi: 10.3326/nle.2019.117.

Ott, K., Bronić, M., Stanić, B., *et al.* (2019) ‘Determinants of Online Local Budget Transparency in Croatia and Slovenia’, *Central European Public Administration Review*, 17(2), pp. 167–187. doi: 10.17573/cepar.2019.2.08.

Ott, K., Mačkić, V., *et al.* (2019) ‘Determinants of Voluntary Online Local Budget Transparency’, *Ekonomski pregled*, 70(2), pp. 145–172. Available at: http://www.hde.hr/sadrzaj_en.aspx?Podrucje=1604.

Ott, K., Bronić, M. and Petrušić, M. (2014) *Budget transparency of Croatian counties, cities and municipalities in 2013/2014*, *Newsletter - an occasional publication of the Institute of public finance*. doi: 10.3326/nle.2014.87.

Ott, K., Bronić, M. and Petrušić, M. (2015) ‘Budget transparency in Croatian counties, cities and municipalities (November 2014 – March 2015)’, *Newsletter - an occasional publication of the Institute of public finance*, 16(97), pp. 1–13. doi: 10.3326/nle.2015.97.

Ott, K., Mačkić, V. and Bronić, M. (2018) ‘Budget Transparency of Local Governments: The Political Economy of City and Municipality Budgets in Croatia’, *Društvena istraživanja*, 27(4), pp. 629–647. Available at: https://hrcak.srce.hr/index.php?show=clanak&id_clanak_jezik=305285.

Park, H. and Blenkinsopp, J. (2011) ‘The roles of transparency and trust in the relationship between corruption and citizen satisfaction’, *International Review of Administrative Sciences*, 77(2), pp. 254–274. doi: 10.1177/0020852311399230.

Patten, D. M. (1992) ‘Intra-industry environmental disclosures in response to the Alaskan oil spill: A note on legitimacy theory’, *Accounting, Organizations and Society*. Pergamon, 17(5), pp. 471–475. doi: 10.1016/0361-3682(92)90042-Q.

PEFA (2019) ‘Framework for assessing public financial management: Improving public financial management; Supporting sustainable development’. Washington DC. Available at: https://pefa.org/sites/default/files/resources/downloads/PEFA 2016_latest version_with links %282%29.pdf.

Petrocik, J. R. (1996) ‘Issue Ownership in Presidential Elections, with a 1980 Case Study’, *American Journal of Political Science*. [Midwest Political Science Association, Wiley], 40(3), pp. 825–850. Available at: http://www.jstor.org/stable/2111797.

Pina, V., Torres, L. and Royo, S. (2007) ‘Are ICTs improving transparency and accountability in the EU regional and local governments? An empirical study’, *Public Administration*, 85(2), pp. 449–472. doi: 10.1111/j.1467-9299.2007.00654.x.

Pina, V., Torres, L. and Royo, S. (2010) ‘Is E-Government Leading To More Accountable and Transparent Local Governments? an Overall View’, *Financial Accountability & Management*, 26(1), pp. 3–20. doi: 10.1111/j.1468-0408.2009.00488.x.

Piotrowski, S. and Bertelli, A. (2010) ‘Measuring municipal transparency’, in *14th International Research Society for Public Management Conference*. Bern, Switzerland.

Piotrowski, S. J. and Van Ryzin, G. G. (2007) ‘Citizen Attitudes Toward Transparency in Local Government’, *American Review of Public Administration*, 37(3), pp. 306–323. doi: 10.1177/0275074006296777.

Pollitt, C. (1990) *Managerialism and the Public Services: The Anglo-American Experience*. Cambridge, MA: Basil Blackwell.

Prat, A. (2005) ‘The Wrong Kind of Transparency’, *The American Economic Review*. American Economic Association, 95(3), pp. 862–877. Available at: http://www.jstor.org/stable/4132745.

Promberger, K. and Rauskala, I. (2003) *New Public Management – An Introduction from the UK Perspective*. 6. Innsbruck. Available at: http://edoc.vifapol.de/opus/volltexte/2010/2273/pdf/10657009510.pdf.

Puviani, A. (1903) *Teoria della illusione finanziaria*. Palermo.

Ramkumar, V. (2008) ‘Our money, our responsibility: A Citizens’ Guide to Monitoring Government Expenditures’. International Budget Partnership, p. 180. Available at: https://www.internationalbudget.org/wp-content/uploads/Our-Money-Our-Responsibility-A-Citizens-Guide-to-Monitoring-Government-Expenditures-English.pdf.

Ramkumar, V. and Shapiro, I. (2010) *Guide to Transparency in Government Budget Reports: Why are Budget Reports Important, and What Should They Include?* Washington, DC.

de Renzio, P. and Kroth, V. (2011) *Transparency and Participation in Public Financial Management: What Do Budget Laws Say?* Available at: https://www.internationalbudget.org/wp-content/uploads/Research-Note-1-Transparency-in-Public-Finance-Laws1.pdf.

de Renzio, P., Lakin, J. and Cho, C. (2019) *Budget Credibility Across Countries: How Deviations are Affecting Spending on Social Priorities*. Available at: https://www.internationalbudget.org/wp-content/uploads/Budget-Credibility-Across-Countries.pdf.

Ríos, A. M., Benito, B. and Bastida, F. (2013) ‘Determinants of Central Government Budget Disclosure: An International Comparative Analysis’, *Journal of Comparative Policy Analysis:*

Research and Practice, 15(3), pp. 235–254. doi: 10.1080/13876988.2013.798449.

Robinson, M. (2015) ‘From Old Public Administration to the New Public Service: Implications for Public Sector Reform in Developing Countries’, pp. 1–20. Available at: https://www.undp.org/content/dam/undp/library/capacity-development/English/Singapore Centre/PS-Reform_Paper.pdf.

Rodríguez-Garcia, M. J. (2015) ‘Local women’s coalitions: Critical actors and substantive representation in Spanish municipalities’, *European Journal of Women's Studies*, 22(2), pp. 223–240. doi: 10.1177/1350506814549424.

Rodríguez Bolívar, M. P., Alcaide Muñoz, L. and López Hernández, A. M. (2013) ‘Determinants of Financial Transparency in Government’, *International Public Management Journal*, 16(4), pp. 557–602. doi: 10.1080/10967494.2013.849169.

Rogoff, K. (1990) ‘Equilibrium Political Budget Cycles’, *The American Economic Review*, 80(1), pp. 21–36. Available at: https://www.jstor.org/stable/pdf/2006731.pdf?refreqid=excelsior%3Af111b9a47a9825e3bd6edee84cc166f7.

Rogoff, K. and Sibert, A. (1988) ‘Elections and Macroeconomic Policy Cycles’, *The Review of Economic Studies*, 55(1), pp. 1–16. Available at: https://scholar.harvard.edu/files/rogoff/files/elections_and_macroeconomic_policy_cycles.pdf.

Rosenthal, C. S. (2000) ‘Gender Styles in State Legislative Committees’, *Women & Politics*. Routledge, 21(2), pp. 21–45. doi: 10.1300/J014v21n02_02.

Ross, J. M. and Mughan, S. (2018) ‘The Effect of Fiscal Illusion on Public Sector Financial Management: Evidence from Local Government Property Assessment’, *Public Finance Review*, 46(4), pp. 635–664. doi: https://doi.org/10.1177/1091142116676360.

Rowell, D. and Connelly, L. B. (2012) ‘A History of the Term “Moral Hazard”’, *The Journal of Risk and Insurance*, 79(4), pp. 1051–1075. doi: 10.1111/j.1539-6975.2011.01448.x.

Ryan, C., Stanley, T. and Nelson, M. (2002) ‘Accountability Disclosures by Queensland Local Government Councils: 1997–1999’, *Financial Accountability & Management*, 18(3), pp. 261–289. doi: 10.1111/1468-0408.00153.

Salmon, P. (1987) ‘Decentralisation as an Incentive Scheme’, *Oxford Review of Economic Policy*, 3(2), pp. 24–43. Available at: https://econpapers.repec.org/RePEc:oup:oxford:v:3:y:1987:i:2:p:24-43.

Savoie, D. J. (1995) ‘What is wrong with the new public management?’, *Canadian Public Administration*, 38(1), pp. 112–121. doi: 10.1111/j.1754-7121.1995.tb01132.x.

Schiopoiu Burlea, A. and Popa, I. (2013) ‘Legitimacy Theory’, in Idowu, S. O. et al. (eds) *Encyclopedia of Corporate Social Responsibility*. Berlin, Heidelberg: Springer Berlin Heidelberg, pp. 1579–1584. doi: 10.1007/978-3-642-28036-8_471.

Schudson, M. (1999) *The Good Citizen: A History of American Civic Life*. Harvard University Press.

Schug, M. C. and Wood, W. C. (2011) *Teaching economics in troubled times: theory and practice for secondary social studies*. New York: Routledge.

Scott, A. and Bloss, G. (1988) ‘Inter-provincial competition In Brennan, G., Grewal, B. and P. Groenewegen, eds. (1988) Taxation and Fiscal Federalism (Essays in honour of Russell Mathews), Australian National University Press, Canberra’, in *In Brennan, G., Grewal, B. and P. Groenewegen, eds. (1988) Taxation and Fiscal Federalism (Essays in honour of Russell Mathews), Australian National University Press, Canberra*.

Sedmihradská, L. and Haas, J. (2013) ‘Budget Transparency and Fiscal Performance: Do Open Budgets Matter?’, *ACTA VŠFS, Economic Studies and Analyses*, 7(2), pp. 109–122. Available at: http://www.vsfs.cz/periodika/acta-2013-02.pdf.

Serkin, C. (2017) ‘The Fiscal Illusion Zombie: The Undead Theory of Government Regulatory Incentives’, *American University Law Review*, 66(6). Available at: http://www.aulawreview.org/the-fiscal-illusion-zombie-the-undead-theory-of-government-regulatory-incentives/.

Serrano-Cinca, C., Rueda-Tomás, M. and Portillo-Tarragona, P. (2009) ‘Factors Influencing E-Disclosure in Local Public Administrations’, *Environment and Planning C: Government and Policy*. SAGE PublicationsSage UK: London, England, 27(2), pp. 355–378. doi:

10.1068/c07116r.

Seyfried, M., Ansmann, M. and Pohlenz, P. (2019) ‘Institutional isomorphism, entrepreneurship and effectiveness: the adoption and implementation of quality management in teaching and learning in Germany’, *Tertiary Education and Management*, 25(2), pp. 115–129. doi: 10.1007/s11233-019-09022-3.

Shocker, A. D. and Sethi, S. P. (1973) ‘An Approach to Incorporating Societal Preferences in Developing Corporate Action Strategies’, *California Management Review*, 15(4), pp. 97–105. doi: 10.2307/41164466.

De Simone, E. (2009) *The Concept of Budget Transparency: Between Democracy and Fiscal Ilussion*. Pavia. Available at: http://www.siepweb.it/siep/oldDoc/2009/200931.pdf.

Sivarajah, U., Irani, Z. and Weerakkody, V. (2015) ‘Evaluating the use and impact of Web 2.0 technologies in local government’, *Government Information Quarterly*, 32(4), pp. 473–487. doi: https://doi.org/10.1016/j.giq.2015.06.004.

Smith, A. C. and Taebel, D. A. (1985) ‘Administrative innovation in municipal government’, *International Journal of Public Administration*. Routledge, 7(2), pp. 149–177. doi: 10.1080/01900698508524487.

del Sol, D. A. (2013) ‘The institutional, economic and social determinants of local government transparency’, *Journal of Economic Policy Reform*, 16(1), pp. 90–107. doi: 10.1080/17487870.2012.759422.

Soudry, O. (2006) ‘A Principal-Agent Analysis of Accountability in Public Procurement’, in Thai, K. V. and Piga, G. (eds) *Advancing Public Procurement: Experiences, Innovation and Knowledge Sharing*. Boca Raton: PrAcademics Press.

Spanish Statistical Office (2019) ‘Municipal Register’. Available at: https://www.ine.es/dynt3/inebase/en/index.html?padre=517&dh=1.

Stanić, B. (2018) ‘Determinants of subnational budget / fiscal transparency: a review of empirical evidence’, *Public Sector Economics*, 42(4), pp. 449–486. Available at: http://www.pse-journal.hr/upload/files/pse/2018/4/4.pdf.

State Electoral Commission (2019) ‘Arhiva izbora Republike Hrvatske; Lokalni izbori 2013. i

2017.’ Zagreb. Available at: https://www.izbori.hr/arhiva-izbora/index.html#/app/home.

Stivers, C. (1991) ‘Toward a Feminist Perspective in Public Administration Theory’, *Women & Politics*. Routledge, 10(4), pp. 49–65. doi: 10.1300/J014v10n04_03.

Styles, A. K. and Tennyson, M. (2007) ‘the Accessibility of Financial Reporting of U. S. Municipalities on the Internet’, *Journal of Public Budgeting, Accounting & Financial Management*, 19(1), pp. 56–92.

Suchman, M. C. (1995) ‘Managing Legitimacy : Strategic and Institutional Approaches Author (s): Mark C . Suchman Source : The Academy of Management Review , Vol . 20 , No . 3 (Jul ., 1995), pp . 571-610 Published by : Academy of Management Stable URL : http://www.jstor.org/’, 20(3), pp. 571–610.

Tavares, A. F. and da Cruz, N. F. (2017) ‘Explaining the transparency of local government websites through a political market framework’, *Government Information Quarterly*. doi: https://doi.org/10.1016/j.giq.2017.08.005.

Tavares, A. F. and da Cruz, N. F. (2017) ‘Explaining the transparency of local government websites through a political market framework’, *Government Information Quarterly*. doi: doi.org/10.1016/j.giq.2017.08.005.

Tax Administration, M. of F. (2019) ‘The Croatian Tax System’. Available at: https://www.porezna-uprava.hr/en/EN_porezni_sustav/Pages/THE-CROATIAN-TAX-SYSTEM.aspx.

Thomas, C. W. (1998) ‘Maintaining and Restoring Public Trust in Government Agencies and their Employees’, *Administration & Society*, 30(2), pp. 166–193. doi: 10.1177/0095399798302003.

Thomas, J. C. (2010) ‘When should the public be involved in public management? Design principles with case applications’, in *In R. O’Leary, D. Van Slyke, & Soonhee Kim (Eds.) The future of public administration around the world: The Minnowbrook perspective. G*.

Thompson, F. J. (1993) ‘Public Administration and Post-Reagan Reform: Boon or Barrier to Theory’, *Administration and Politics*, 3, pp. 12–16.

Transparency & Accountability Initiative (2011) ‘Right to information: A guide to best practice in transparency, accountability and civic engagement across the public sector'. London: Open Society Foundation, p. 8.

Transparency International (2018) 'Right to Information: Knowledge is Power'. Available at: https://www.transparency.org/news/feature/Right_to_information_knowledge_is_power.

Tridico, P. (2011) 'Institutional Change: Old and New Institutionalism', in *Institutions, Human Development and Economic Growth in Transition Economies*. London: Palgrave Macmillan UK, pp. 117–135. doi: 10.1057/9780230313880_4.

Tullock, G. (2017) 'Public Choice', in *The New Palgrave Dictionary of Economics*. London: Palgrave Macmillan UK, pp. 1–8. doi: 10.1057/978-1-349-95121-5_1400-2.

Turnbull, G. K. (1992) 'Fiscal illusion, uncertainty, and the flypaper effect', *Journal of Public Economics*, 48(2), pp. 207–223. doi: https://doi.org/10.1016/0047-2727(92)90027-D.

Turner, M. (2002) 'Choosing items from the menu: New public management in South East Asia', *International Journal of Public Administration*, 25, pp. 1493–1512.

US Census Bureau (2012) 'U.S. Census Bureau page for local government'.

Vargas-Hernández, J. G. (2008) *Institutional and Neo-Institutionalism Theory in the International Management of Organizations*. Zapopan.

Vishwanath, T. and Kaufmann, D. (1999) 'Towards Transparency in Finance and Governance'.

Wagner, R. E. (2018) *James M. Buchanan: A Theorist of Political Economy and Social Philosophy*. Palgrave Macmillan, Cham. doi: https://doi.org/10.1007/978-3-030-03080-3.

Wehner, J. and de Renzio, P. (2013) 'Citizens, Legislators, and Executive Disclosure: The Political Determinants of Fiscal Transparency', *World Development*. Elsevier Ltd, 41(1), pp. 96–108. doi: 10.1016/j.worlddev.2012.06.005.

Welch, E. W., Hinnant, C. C. and Moon, M. J. (2004) 'Linking Citizen Satisfaction with E-Government and Trust in Government', *Journal of Public Administration Research and Theory*, 15(3), pp. 371–391. doi: 10.1093/jopart/mui021.

Western, J. (2005) 'Illusions of Moral Hazard: A Conceptual and Empirical Critique', *Ethnopolitics*, 4(2), pp. 225–236. Available at: https://www.tandfonline.com/doi/pdf/10.1080/17449050500147416.

Wilson, W. (1887) 'The Study of Administration', *Political Science Quarterly*. [Academy of Political Science, Wiley], 2(2), pp. 197–222. doi: 10.2307/2139277.

World Bank (2007) *Participatory Budgeting*. Edited by A. Shah. Washington, DC: The World Bank. Available at: http://siteresources.worldbank.org/PSGLP/Resources/ParticipatoryBudgeting.pdf.

World Bank (2013) *Global Stock-Take of Social Accountability Initiatives for Budget Transparency and Monitoring: Key Challenges and Lessons Learned*. Washington, DC. Available at: http://documents.worldbank.org/curated/en/457241468340847491/pdf/815430REVISED00ocktake0Report0Final.pdf.

World Bank (no date) *Budget Transparency Initiative. Budget Transparency: What, Why, and How? Using Budgets to Empower People*. Available at: https://siteresources.worldbank.org/EXTSOCIALDEVELOPMENT/Resources/244362-1193949504055/4348035-1352736698664/BT_What_Why_How.pdf.

Yang, K. (2006) 'Trust and Citizen Involvement Decisions: Trust in Citizens, Trust in Institutions, and Propensity to Trust', *Administration & Society*, 38(5), pp. 573–595. doi: 10.1177/0095399706292095.

Yang, K. and Callahan, K. (2007) 'Citizen Involvement Efforts and Bureaucratic Responsiveness: Participatory Values, Stakeholder Pressures, and Administrative Practicality', *Public Administration Review*. [American Society for Public Administration, Wiley], 67(2), pp. 249–264. Available at: http://www.jstor.org/stable/4624562.

Yang, K. and Holzer, M. (2006) 'The Performance–Trust Link: Implications for Performance Measurement', *Public Administration Review*, 66(1), pp. 114–126. doi: 10.1111/j.1540-6210.2006.00560.x.

Yavuz, N. and Welch, E. W. (2014) 'Factors affecting openness of local government websites: Examining the differences across planning, finance and police departments', *Government Information Quarterly*, 31(4), pp. 574–583. doi:

https://doi.org/10.1016/j.giq.2014.07.004.

Yousaf, M., Ihsan, F. and Ellahi, A. (2016) ‘Exploring the impact of good governance on citizens’ trust in Pakistan’, *Government Information Quarterly*, 33(1), pp. 200–209. doi: https://doi.org/10.1016/j.giq.2015.06.001.

Zimmerman, J. L. (1977) ‘The Municipal Accounting Maze : An Analysis of Political Incentives’, *Journal of Accounting Research*, 15, pp. 107–144. Available at: http://www.jstor.org/stable/2490636.

Zogning, F. (2017) ‘Agency Theory: A Critical Review’, *European Journal of Business and Management*, 9(2). Available at: https://iiste.org/Journals/index.php/EJBM/article/download/34900/35901.

Zuccolotto, R. and Teixeira, M. A. C. (2014) ‘The Causes of Fiscal Transparency: Evidence in the Brazilian States’, *Revista Contabilidade & Finanças*, 25(66), pp. 242–254. doi: 10.1590/1808-057x201410820.

Zúñiga, N. (2018) *Does more transparency improve accountability?* Available at: https://www.u4.no/publications/does-more-transparency-improve-accountability.

Appendix A Poisson regression

Hausman test – H_1

b = consistent under Ho and Ha; obtained from xtpoisson

B = inconsistent under Ha, efficient under Ho; obtained from xtpoisson

Test: Ho: difference in coefficients not systematic

chi2(6) = (b-B)'[(V_b-V_B)^(-1)](b-B)

= 362.72

Prob>chi2 = 0.0000

Correlation matrix – H_1

	fiscal_cap	est_pop	income_pc	int_acc	debt_pc	balance
fiscal_cap	1.00					
est_pop	-0.09	1.00				
income_pc	0.48	0.11	1.00			
int_acc	0.57	0.20	0.46	1.00		
debt_pc	0.30	-0.05	0.19	0.14	1.00	
balance	0.02	-0.08	-0.02	0.02	0.18	1.00

Correlation matrix – H_3

	audit	est_pop	income_pc	int_acc
audit	1.00			
est_pop	0.03	1.00		
income_pc	0.02	0.11	1.00	
int_acc	0.00	0.20	0.46	1.00

Hausman test – H_3

b = consistent under Ho and Ha; obtained from xtpoisson

B = inconsistent under Ha, efficient under Ho; obtained from xtpoisson

Test: Ho: difference in coefficients not systematic

chi2(6) = (b-B)'[(V_b-V_B)^(-1)](b-B)

= 345.28

Prob>chi2 = 0.0000

Correlation matrix – H_4

	pol_comp	est_pop	income_pc	int_acc	edu	age
pol_comp	1.00					
est_pop	-0.11	1.00				
income_pc	0.04	0.11	1.00			
int_acc	-0.05	0.20	0.46	1.00		
edu	0.00	-0.02	0.15	0.09	1.00	
age	-0.04	0.00	0.01	0.03	0.18	1.00

Hausman test – H_4

b = consistent under Ho and Ha; obtained from xtpoisson

B = inconsistent under Ha, efficient under Ho; obtained from xtpoisson

Test: Ho: difference in coefficients not systematic

chi2(6) = (b-B)'[(V_b-V_B)^(-1)](b-B)

= 321.84

Prob>chi2 = 0.0000

Correlation matrix – H_4

	women_repr	est_pop	income_pc	int_acc	edu	age	pol_orient	gender
women_repr	1.00							
est_pop	0.01	1.00						
income_pc	0.18	0.11	1.00					
int_acc	0.06	0.20	0.46	1.00				
edu	0.11	-0.02	0.15	0.09	1.00			
age	0.04	0.00	0.01	0.03	0.18	1.00		
pol_orient	0.16	0.09	0.15	0.09	-0.01	0.06	1.00	
gender	0.25	-0.00	0.08	0.00	0.11	0.07	0.01	1.00

Within- and between-groups estimators – H_5

Variable		Mean	Std. Dev.	Min	Max	Observations
women_repr	overall	19.32	13.05	0	66.67	N = 2,140
	between		10.33	0	60	n = 428
	within		8.00	-7.35	52.65	T = 5
est_pop	overall	2,785	1,940	130	16,352	N = 2,140
	between		1,939	134	16,227	n = 428
	within		98	1,398	3,746	T = 5
income_pc	overall	24,049	6,281	8,686	49,230	N = 2,140
	between		6,079	9,168	42,738	n = 428
	within		1,600	11,640	39,080	T = 5
int_acc	overall	41.13	16.71	0	168.66	N = 2,140
	between		15.87	2.97	102.22	n = 428
	within		5.28	8.04	139.23	T = 5
edu	overall	0.45	0.50	0	1	N = 2,140
	between		0.42	0	1	n = 428
	within		0.26	-0.15	1.05	T = 5
age	overall	0.56	0.50	0	1	N = 2,140
	between		0.43	0	1	n = 428
	within		0.25	-0.24	1.36	T = 5
pol_orient	overall	0.25	0.43	0	1	N = 2,140
	between		0.41	0	1	n = 428
	within		0.15	-0.35	0.85	T = 5
gender	overall	0.07	0.25	0	1	N = 2,140
	between		0.23	0	1	n = 428
	within		0.12	-0.53	0.67	T = 5

Appendix B Logistic regression

Correlation matrix – H_2

	OLBI_mand	est_pop	income_pc	int_acc
OLBI_mand	1.00			
est_pop	0.09	1.00		
income_pc	0.20	0.11	1.00	
int_acc	0.10	0.20	0.46	1.00

Hausman test – H_2

b = consistent under Ho and Ha; obtained from xtpoisson

B = inconsistent under Ha, efficient under Ho; obtained from xtpoisson

Test: Ho: difference in coefficients not systematic

chi2(6) = (b-B)'[(V_b-V_B)^(-1)](b-B)

= 148.11

Prob>chi2 = 0.0000

Within- and between-groups estimators – H_2

Variable		Mean	Std. Dev.	Min	Max	Observations
OLBI_mand	overall	0.49	0.50	0	1	N = 2,140
	between		0.31	0	1	n = 428
	within		0.40	-0.31	1.29	T = 5
est_pop	overall	2,785	1,940	130	16,352	N = 2,140
	between		1,939	134	16,227	n = 428
	within		98	1,398	3,746	T = 5
income_pc	overall	24,049	6,281	8,686	49,230	N = 2,140
	between		6,079	9,168	42,738	n = 428
	within		1,600	11,640	39,080	T = 5
int_acc	overall	41.13	16.71	0	168.66	N = 2,140
	between		15.87	2.97	102.22	n = 428
	within		5.28	8.04	139.23	T = 5

OLBI_transf summary statistics – H_1

	Percentiles / Smallest-largest		
1%	0/0		
5%	0/0	Obs	2,140
10%	0/0	Sum of Wgt.	2,140
25%	0/0	Mean	0.341
50%	0/-	Std. Dev.	0.474
75%	1/1	Variance	0.225
90%	1/1	Skewness	0.670
95%	1/1	Kurtosis	1.449
99%	1/1		

Appendix C Spatial regression

Model selection

W	Spatial model		Spatial weight matrix		Spatial model		Spatial weight matrix	
	SDM	SLM	SEM	SDEM	SDM	SLM	SEM	SDEM
Knn = 2	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Knn = 3	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Knn = 5	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Knn = 15	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cut-off = 5 km	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cut-off = 20 km	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cut-off = 100 km	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1st order contiguity	1.00	0.00	0.00	0.00	1.00	0.00	0.00	1.00
2nd order contiguity	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Note: k-nearest neighbour matrices. SDM = dynamic Spatial Durbin Model; SLM = dynamic Spatial Lag Model; SEM = dynamic Spatial Error Model; SDEM = dynamic Spatial Durbin Error Model.

Curriculum vitae

Branko Stanić finished his bachelor studies at the Faculty of Economics and Business, University of Sarajevo and master studies in Public Sector and Environmental Economics at the School of Economics and Business, University of Ljubljana. He began his research career as a young professional at the Institute of Public Finance, Zagreb in 2015. In 2016 he enrolled in a doctoral study at the Faculty of Economics and Business, University of Zagreb. As a research assistant, he is actively involved in the projects and activities of the Institute and has co-authored several scientific, professional and popular papers. His fields of interest are public sector transparency, government accountability and citizen participation, local finance and budgetary process.
More at http://www.ijf.hr/eng/employees/researchers/7/branko-stanic-phd/1189/

List of publications

Mourão, P., Bronić, M. and Stanić, B. (2020). Discussing the Determinants of Online Budget Transparency Based on a Spatial Regression Analysis of Croatian Cities and Municipalities: Do Good Neighbours Make You Better? *International Area Studies Review*. 10.1177/2233865919895854

Pezer, M., Stanić, B. and Perić, T. (2019). Decomposition of the Gini Inequality Coefficient Using the Shapley Value Approach: An Illustration Using Croatian Data. *Zbornik Ekonomskog fakulteta u Zagrebu*, *17*(2), 19-37.

Ott, K., Bronić, M., Stanić, B. Klun, M. and Benčina J. (2019). Determinants of Online Local Budget Transparency in Croatia and Slovenia. *Central European Public Administration Review*, *17*(2), 167-188. 10.17573/cepar.2019.2.08

Mačkić, V., Bronić, M. and Stanić, B. (2019). Political Accountability and "Voting-With-the-Feet": Eastern Croatia vs. Remaining Croatian Regions. *Proceedings of 8th International Scientific Symposium „Economy of eastern Croatia – vision and growth*"; 1117-1130. Available at http://www.efos.unios.hr/gospodarstvo-istocne-hrvatske/en/proceedings/

Ott, K., Mačkić, V., Bronić, M. and Stanić, B. (2019**).** Determinants of voluntary online local budget transparency: a case study from Croatia. *Ekonomski pregled*, *70*(2), 145-172. 10.32910/ep.70.2.1

Stanić, B. (2018), “Determinants of subnational budget/fiscal transparency: a review of empirical evidence”, *Public Sector Economics, 42*(4), 449-486. 10.3326.pse.42.4.4

Stanić, B. (2015), „The Impact of Environmental Regulation on Export of Dirty Industries in CEE Countries“, *Environmental economics and policy research providing information for decision making: Young scholars' perspective*. Šauer, Petr ; Šauerová, Jana (ur.). Prag: Litomysl Seminar Publishing: 7-21.

Newsletter of the Institute of Public Finance:

Ott, K., Bronić, M., Petrušić, M., Stanić, B. and Prijaković, S. (2019). Budget transparency in Croatian counties, cities and municipalities (November 2018 – March 2019). *Newsletter, 117,* 1-15.

Ott, K., Bronić, M. and Stanić B. (2018). Budget outturns of Croatian municipalities, cities and counties for 2017. *Newsletter, 116,* 1-16.

Ott, K., Bronić, M., Petrušić, M. and Stanić, B. (2018). Budget transparency in Croatian counties, cities and municipalities (November 2017 – March 2018), *Newsletter, 115*, 1-13.

Ott, K., Bronić, M. and Stanić, B. (2018). EU grants to Croatian counties, cities and municipalities 2015-2016. *Newsletter, 114*, 1-12.

Ott, K., Bronić, M. and Stanić, B. (2018). Budget outturns of Croatian municipalities, cities and counties for 2016. *Newsletter, 113,* 1-15.

Ott, K., Bronić, M., Petrušić, M. and Stanić, B. (2017). Budget transparency of Croatian counties, cities and municipalities (November 2016-March 2017). *Newsletter, 112,* 1–13.

Ott, K., Bronić, M. and Stanić, B. (2016). Budget outturns of Croatian municipalities, cities and counties for 2015. *Newsletter, 108,* 1-14.

Ott, K., Bronić, M., Petrušić, M. and Stanić, B. (2016). Budget transparency of Croatian counties, cities and municipalities (November 2015-March 2016). *Newsletter, 107,* 1–14.

Ott, K., Bronić, M. and Stanić, B. (2016). EU grants to Croatian counties, cities and municipalities, 2011-14. *Newsletter, 105*, 1-13.