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Democratic Acceptance of Spatial Planning Policy Measures

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Contents

Abbreviations

AP	Freedom Party of Switzerland [*Freiheits-Partei der Schweiz*]
CBA	Cost-Benefit Analyses
CI	Credible Interval
CVP	Christian Democratic People's Party [*Christlichdemokratische Volkspartei*]
EU	European Union
EVP	Evangelical People's Party [*Evangelische Volkspartei*]
FDP	FDP.The Liberals [*FDP.Die Liberalen*]
FL	First Level
GLM	Generalized Linear Model
GPS	Green Party [*Grüne Partei der Schweiz*]
KPM	Center for Public Management [*Kompetenzzentrum für Public Management*]
MCMC	Markov Chain Monte Carlo
ML	Multilevel
OECD	Organisation for Economic Co-operation and Development
PI	Policy Instrument
PPP	Polluter Pays Principle
RPG	Federal Law on Spatial Planning [*Raumplanungsgesetz*]
SD	Standard Deviation
SE	Standard Error
SL	Second Level
SP	Social Democratic Party [*Sozialdemokratische Partei der Schweiz*]

SVP	Swiss People's Party [*Schweizerische Volkspartei*]
TDM	Travel Demand Management
TPI	Transport Policy Measures
USA	United States of America

Note: German terms supplied in square brackets.

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Chapter 1
Introduction

Abstract This chapter provides the introduction to the book "Democratic Acceptance Determinants of Spatial Planning Policy Measures". This chapter is composed of five sections and introduces the overall research requirement of acceptance of spatial planning policy measures. The chapter starts with developing the research question "Which Determinants Foster the Democratic Acceptance of Spatial Planning Policy Measures?" (Sect. 1.1). An overview of this book's research aims is then given (Sect. 1.2). The fourth section then is concerned with identifying current challenges surrounding the sustainable use of land and clarifying the requirement for spatial planning measures and their democratic acceptance (Sect. 1.3). The fifth section then sets out the empirical research design of this book (Sect. 1.4). This introductory chapter closes with a presentation of the structure of this book and the main findings of the incorporating empirical chapters (Sect. 1.5).

Keywords Sustainable spatial planning · Democratic acceptance
Spatial planning policy measures

Sustainability is an overarching term which is often used in connection with land use. Sustainable land use management is an increasingly important political issue, and is assessed to remain so for the foreseeable future. This is evidenced in a quote by Hindmarch and Pienkowski (2001, pp. 1–2) from the beginning of their book *Land Management: The Hidden Costs*,

> Our failure to deal adequately with the environmental impact of land-use intensification, however, has not been without its lessons; indeed, the severity of the problems we face in terms of pollution, disease and system breakdown, have thrown these into high relief. For example, we now know that […] there are natural limitations to the carrying capacity of the land, and that when we exceed these there are costs: we create a more fragile environment, and ultimately threaten our economic, social and physical well-being.

Although dating from 2001, the quote has not lost any of its relevance for today. Negative consequences of inefficient spatial planning such as pollution or urban

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sprawl can currently be observed in many industrialised countries (Hasse and Lathrop 2003; Irwin and Bockstael 2004; Peiser 1989; Richardson and Bae 2004).

In order to counter inefficient land use and achieve sustainable spatial planning, new and efficient policies are required. Sustainable spatial planning depends strongly on efficient policy measures, as "land-use and economic policies are potent instruments of environmental change" (Hindmarch and Pienkowski 2001, p. 2; see also Tánczos and Török 2012).

However, policy measures are only as good as their chance of being implemented. In direct democracies, the implementation of policy measures requires citizens' acceptance. At the same time, new policies often lack in citizens' support, which hinders a successful implementation. Lack of democratic acceptance is a particular challenge for the introduction of efficiency-enhancing environmental policies, meaning governments often shy away from their implementation. This raises the question of what factors influence public acceptance of new spatial planning policies.

Research so far has largely ignored the issue of factors influencing citizens' acceptance of spatial planning policy instruments. While the problems associated with non-sustainable spatial planning are well known, current developments suffer from an absence of solutions in terms of accepted spatial planning measures.

This book approaches this lack of research by addressing the question: What determines democratic acceptance of spatial planning policy measures? On the basis of three empirical studies, the aim of this book is to draw conclusions about what increases democratic acceptance of spatial planning measures. Findings of this book are intended to address the research gap from a theoretical perspective. They are also intended to assist in directing future practise by deriving recommendations from the empirical results that can help to foster democratic acceptance of new and efficient spatial planning policy instruments.

This chapter is composed of five sections and introduces the overall research requirement of acceptance of spatial planning policy measures.[1] The chapter starts with developing the research question (Sect. 1.1). An overview of this book's research aims is then given (Sect. 1.2). The fourth section then is concerned with identifying current challenges surrounding the sustainable use of land and clarifying the requirement for spatial planning measures and their democratic acceptance (Sect. 1.3). The fifth section then sets out the empirical research design of this book (Sect. 1.4). This introductory chapter closes with a presentation of the structure of this book and the main findings of the incorporating empirical chapters (Sect. 1.5).

[1]While other central concepts of this book require further clarification of their semantic content, the terms spatial planning policy measure, spatial planning measure, spatial planning policy instrument and spatial planning instrument are used interchangeably with each other throughout this book.

1.1 Research Question

"Why do governments so often fail to adopt policies that economists consider to be efficiency-enhancing? This is one of the fundamental questions of political economy" (Fernandez and Rodrik 1991, p. 1146). This question relates to the book question, but differs in one fundamental aspect. In contrast to the issue raised by Fernandez and Rodrik (1991), the focus of this book is not on reasons for the *failure* of implementing policies but instead aims to identify reasons for the *success* of policy proposals on new policies. Moreover, the research question can be further refined to the policy area of spatial planning.

This book contributes to political solutions for a sustainable land use management, and explains the acceptance of such solutions. To be more precise, the focus lies specifically on the *democratic* acceptance of spatial planning measures, and the political solutions embodied in policy instruments. Broadly speaking, democratic acceptance describes citizens' support of a policy measure. The inclusion of voters' preferences in spatial planning processes is crucial and can lead to several advantages and economic benefits (Bedford et al. 2002; Conrad et al. 2011; Gerber and Phillips 2004). As Burby (2003, p. 34) notes, a lack of inclusion of stakeholders involved in planning and publics is problematic for spatial planning relevant issues and "[w]hen issues lack publics, the formulation of planning proposals tend to be dominated by technical experts" (see also Eiter and Vik 2015; Koontz 2005). The probability of new policy measures being implemented crucially depends on their democratic acceptance. This applies particularly within direct democracies where direct-democratic decisions serve as a necessary precondition for a policy implementation. The required research for this book can therefore accurately be defined as determining the conditions and factors which best foster voters' acceptance of spatial planning policy instruments.

This research aim leads to the question of what gap in existing research exists that can be filled by the findings of this book. Voter behaviour has often been used to draw conclusions on factors which influence public policies' acceptance, for example in the area of environmental or transport policies. While such research has investigated direct-democratic decisions in areas such as tax referenda (e.g. Hamideh et al. 2008; Hannay and Wachs 2007; Richer 1995), studies often lack in individual data. Research consequently often depends upon the aggregated data of voting results, which does not permit analysis of the individual factors which influenced voters. In addition and despite the broad body of independent literature on both instruments for sustainable spatial planning and the democratic acceptance of different policy instruments, the research of these areas in combination has been largely neglected to date. The research question can therefore be stated as follows:

Which Determinants Foster the Democratic Acceptance of Spatial Planning Policy Measures?

As this research question is general, a more detailed approach is still required. As detailed in Sect. 1.4, this book comprises three empirical studies that build upon

one another. The three studies offer a different emphasis on the overarching research question and are targeted at generating as encompassing as possible an overview of aspects that increase the chance of a spatial planning policy measure being accepted by citizens. By doing so, an identified research gap is met by using both individual data to draw conclusions from voters' perspectives and merging two strands of research which have developed largely independently from each other so far, namely research on the acceptance of policy instruments (in form of direct-democratic voting decisions) and research on sustainable spatial planning policies. Moreover, each of the three empirical studies contains specific research questions which can be assigned to different aspects of the main research question and thereby help to develop a general picture on acceptance determinants of spatial planning measures. These research foci and their theoretical embedding will be clarified within the empirical chapters of this book.

In addition to the identification of a gap in research, emphasis on the innovation, novelty and relevance of the research is essential. Section 1.2 therefore details both the empirical studies' separate and joined research goals and their integration into the overarching research purpose.

1.2 Research Aims and Contribution

As stated in Sect. 1.1, the base book aim of gaining insights into reasons for policy support by voters can be clearly distinguished from previous research into why a policy is *not* successful. It can be distinguished between research on democratic acceptance and research on democratic opposition. These contrasting aims help to clarify the research intent.

One famous and well established concept is the so-called *NIMBY* (*Not In My Backyard) phenomenon*, explaining why local residents oppose services or policies which are deemed to be beneficial for the majority of people (Dear 1992; van der Horst 2007). "NIMBY refers to the protectionist attitudes of and oppositional tactics adopted by community groups facing an unwelcome development in their neighbourhood" (Dear 1992, p. 288). Particularly found in research on environmental policies but also in land use policies, there is widespread literature on the NIMBY syndrome (see e.g. Dear 1992; van der Horst 2007; Warren et al. 2005; Wester-Herber 2004;). Hence, Jobert et al. (2007, p. 2751) conclude that "[n]umerous studies have since examined the factors affecting public resistance". Compared to research on policy resistance such as NIMBY, disproportionately less research exists on policy support,

> [a]lthough there are always two sides in these conflicts, research has focused almost exclusively on the nimby side; however, analysing only the attitudes of opponents and ignoring those of supporters in the disputes tells only half the story (Wüstenhagen et al. 2007, p. 2686).

In the light of this, a main aim of this book is to illuminate a side of conflict which has previously received little attention in research, namely the proponents of spatial planning policies. This will allow findings to add to the picture of spatial planning policy conflict and help remedy the knowledge gap lamented by Wüstenhagen et al. (2007). Nevertheless, both approaches, democratic acceptance and democratic resistance, cannot be treated as being independent. Instead, they are complementary and have several intersections.

The object of research itself is relevant as while research lacks in studies on acceptance of spatial planning policies, acceptance has been investigated in related policies such as environmental policies (Sect. 1.1). Contrary to the research aim of this book, however, many studies focus on the acceptance of one specific policy instrument rather than drawing more general conclusions. These two research foci represent two diverging research strategies.

These two research strategies have been described as *X-centred perspective* versus *Y-centred perspective* (Ganghof 2005, p. 77). An *X-centred perspective* embraces one or a few independent variables and asks *what does X lead to?* In contrast, a *Y-centred perspective* assumes a variance of the dependent variable and asks *what explains a variance of Y?* Hence, a *Y-centred* research strategy attempts to explain the variance of the dependent variable by including, if possible, all central explanatory variables. Conversely, an *X-centred* research strategy seeks to estimate partial effects from one single (or a few) explanatory variable of the dependent variable (Ganghof 2005, p. 77).

This distinction clarifies the research aim of this book. Transferring the two research strategies to the research aim of this book, allows research that follow an *X-centred perspective* to identify a single policy instrument as the focus, and to analyse the acceptance of different arrangements of different features of that instrument. This type of *X-centred perspective* is often found in research into acceptance of specific transport policy measures (see e.g. Harrington et al. 2001; Jakobsson et al. 2000) or environmental policy measures (e.g. Steg et al. 2006). *Y-centred perspectives* can rarely be found in these areas of research with few exceptions (see e.g. Stadelmann-Steffen 2011; Vatter et al. 2000).

The research strategy of this book therefore follows a *Y-centred perspective* as opposed to an *X-centred perspective* as the research aim is designed to generate conclusions about the acceptance of a broad range of spatial planning instruments instead of selected individual policy instruments.

Figure 1.1 provides a depiction of the research aims with the three circles representing the three empirical studies. This highlights that the three outcomes of the empirical studies are not independent but instead have several intersections.

The first study has the strongest *Y-centred perspective* as it analyses several policy measures simultaneously. By including context determinants in the analysis, Study I answers the question, *which context determinants matter*. Study II then goes beyond the context by taking into account the content of a policy measure by examining the question whether the *content of a policy and content related input such as arguments play a role in democratic acceptance*. Based on the first and

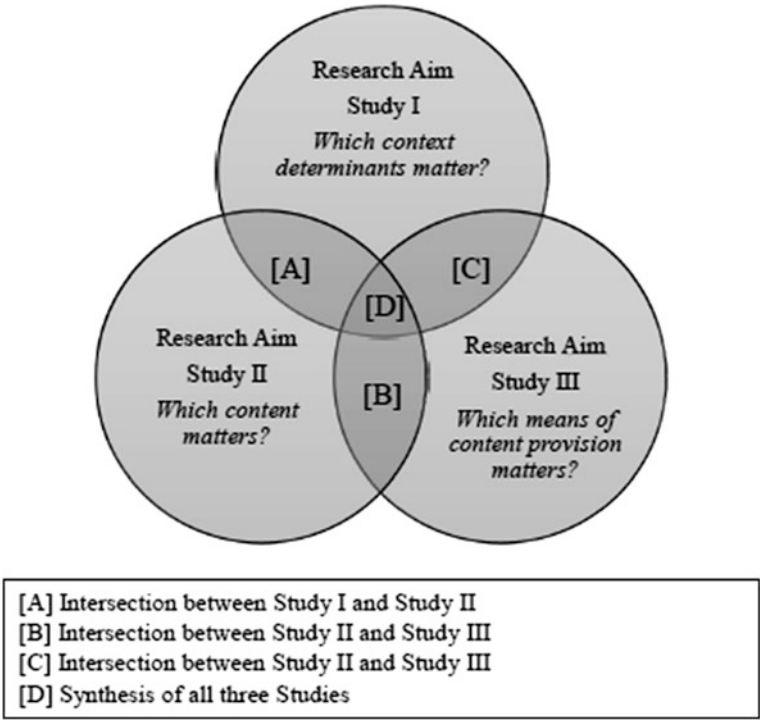

Fig. 1.1 Conceptual aims of research

second study, the third study contemplates whether *the way in which voters are provided with information on a policy measure may impact their acceptance of it*.

The intersection [A] between study I and study II consist primarily of the relative importance of socio-demographic characteristic for the democratic acceptance of spatial planning measures compared to either contextual determinants or content determinants. The intersection [B] between Study II and Study III is the assumption that a policy measure's content might impact upon its acceptance. This assumption implies that information about the content has to be consumed by voters. Hence, this intersection [B] addresses both the relevance of content information about a policy and the provision of that information. From a theoretical perspective, the intersection [B] reveals that studies I and II are both based on political psychology theories. The intersection [C] between study I and study III shows that information provision represents one type of contextual determinants.

The overall aim of this book is conceptualised by [D], representing the comprehensive research intersections, which combine the findings of all three studies. Precisely, [D] refers to the *Y-centred* research strategy of pursuing general conclusions about the acceptance of spatial planning measures. Thus, [D] relates directly back to the main research question and aims to answer *what explains democratic acceptance of spatial planning measures?*

1.3 Current Challenges

Sustainable use of land is a global challenge, which has also become a topic of relevance in the public debate and politics (Carsjens and Ligtenberg 2007; Daniels 1999; Johnson 2001). Sustainable land use is closely linked with environmental sustainability, defined as "a paradigm for the future in which the four dimensions such as environment, society, culture, and economy are balanced to improve the quality of life" (Thangavel and Sridevi 2015, vii). Sustainable spatial planning, also called "comprehensive planning", refers to an "increasingly used instrument for land-use regulation and growth control" (Feiock 2004, p. 363).

Land use which does not pursue sustainability is often characterised by inefficiency. One problematic aspect of inefficient land use is urban sprawl. Sprawl can be defined as "a term often used to describe non-compact features of urban land use pattern" (Irwin and Bockstael 2004, p. 705) and characterised by "[i]ncreasing low-density development" (Carrion-Flores and Irwin 2004, p. 890). When considering sustainability, current settlement development can generate a pessimistic assessment.

Sprawl and other negative externalities, caused by increased construction and population growth have in recent decades become important drivers for sustainable land use management in the United States and Europe (Brody et al. 2006; Hasse and Lathrop 2003; Irwin and Bockstael 2004; Richardson and Bae 2004; Ramírez de la Cruz 2009). In the late 1970s and early 1980s, strategic spatial planning was "met with great criticism" (Mastop 1997, p. 808). However, inefficient land use development led to an increased interest in ways of managing sustainable land use. One reason why sustainable spatial planning became such a "phenomenon of interest" is because of segregated land uses (Johnson 2001, p. 719). Growing urban sprawl and its negative consequences led to an increase in research into its causes and implications (see Johnson 2001 for a literature overview; Downs 2005).

Previous research on urban sprawl largely consisted of a broad variety of approaches, from analysing urban sprawl's ecological impact to the costs resulting from sprawl (e.g. Carrion-Flores and Irwin 2004; Downs 2005; Groot 2006; Johnson 2001; Nechyba and Walsh 2004; Peiser 1989). The focus of this research was on spatial planning consequences such as environment impact or economic efficiency. However, these studies agreed that inefficient land use has a negative influence on the landscape.

It is therefore not surprising that urban sprawl and other negative land-use externalities, which impact the landscape and environment, are not only considered relevant in scientific research. These challenges have also entered the political agenda in an attempt to target those externalities by means of public policies, in conjunction with wider governmental strategic spatial development efforts (Albrechts 2004; Bengston et al. 2004; Bento et al. 2006). To put it in the words by Bengston et al. (2004, p. 282), "[t]he challenges planners and policy makers face in managing urban growth and protecting open space in the 21st century are daunting."

Both research and political practice have developed several policy measures for a sustainable spatial planning which address the question of how land should be used. Such instruments serve as a theoretical basis for a policy, as land use policies can help counter urban sprawl by implementing efficient solutions. There is a broad range of literature on the effectiveness and efficiency of "policy mechanisms for encouraging environmentally beneficial land-use change" (Bento et al. 2006; Pannell 2008, p. 225). Over decades, policies in environmental politics used policy instruments on the basis of command-and-control. More recently, a debate over alternative policy instruments has arisen (Böcher 2012). One of these alternatives consists of incentive-based economic instruments, which "use the market-based coordination mechanism of prices to influence actors' behaviour" (Böcher 2012, p. 14; see also Dargusch and Griffiths 2008). Market-based instruments serve as an efficient solution for environmental policy problems as it is argued that they lead to the lowest costs because of their incentive-based structure (Lockie and Tennent 2010; Lockie 2013).

In practice, however, an ideal spatial planning policy measure that could prove to be the perfect tool for desired land use might fail due to a lack of public support. Eriksson et al. (2008, p. 1117) argue that "[i]n addition to selecting effective policy measures, there is a need to consider the publics' acceptability of the measures since a low level of public acceptability is a barrier for implementation" (Eriksson et al. 2008, p. 1117). Along similar lines, Bengston et al. (2004, p. 282) emphasise that "[m]eaningful, grassroots participation from the outset of the planning process and throughout implementation of plans is needed." Consequently, "participation by citizens and other stakeholders has often been identified as a vital element for success of growth management and open space protection efforts" (Bengston et al. 2004, p. 282). Nelson and Duncan (1995, pp. 144–145) state this aspect even explicitly, claiming that "[t]he cornerstone of any effective growth management policymaking process is citizen involvement." A lack of public support can therefore hinder the successful implementation of a new policy measure. Conversely, the successful implementation of a policy measure may require the support of the public.

In democracies, public support is expressed by citizens' voting decisions. As voters in representative democracies usually vote for parties only and not for specific policy measures, voters' preferences of policy measures remain hidden. Contrastingly, citizens in direct democracies vote on identifiable issues, enabling them to express their acceptance of a specific measure. Participation in a direct democracy is therefore institutionalised, and this in turn requires direct-democratic decisions. The citizens' vote of acceptance for policy implementation therefore represents the *sine qua non*. This book's focus of identifying the determinants required for a successful implementation of spatial planning policy measures therefore lies with direct-democratic decisions, as voter acceptance serves as a necessary—because institutionalised—requirement for the implementation of new policies.

This means that the considerations of new spatial planning policy measures must include the analysis of their potential political acceptance. Several studies have

investigated public acceptance of new environmental policies (see Steg et al. 2012; for an overview see also Steg and Vlek 2009; Wüstenhagen et al. 2007) or transport policies (see Gärling and Schuitema 2007 for an overview). Policy makers seem to also having realised that public acceptance is beneficial. For instance, Nadaï (2007, p. 2718) refers to a decree by the French Ministry of Environment from 1999, which "issued explaining to prefects how to better take account of public acceptance and environmental issues in the development of the projects".

Although research agrees that market-based spatial planning instruments are more efficient than instruments based upon command-and-control, findings on the acceptance of policy measures in policy areas such as environmental and transport policies, are less conclusive. There is empirical evidence that people tend to oppose efficiency-enhancing policy instruments in environmental policies (e.g. Cherry et al. 2012; Stadelmann-Steffen 2011), which allows "a possible trade-off between acceptability and efficiency" to be assumed (Cherry et al. 2012, p. 90). However, opposing evidence exists that market-based policy instruments are more likely to be accepted than command-and-control policies (e.g. Steg et al. 2006). Such aspects of the efficiency of different policy measures and empirical research on acceptance of different types of policy instruments are discussed in more detail in Sect. 2.3.

An understanding of the relationship between spatial planning measures and acceptance does not only have theoretical value, but may also generate important practical implications for governments. This aim underpins all three empirical studies of this book. To this end, the threefold empirical approach has been organised such that it is composed of studies which do not only provide intersections but also build upon one another. This aspect is clarified by the empirical research design in Sect. 1.4.

1.4 Empirical Research Design

This book is composed of three empirical parts, which explore the determinants for spatial planning measures acceptance at three levels, following a hierarchical logic from macro-towards micro-determinants. It is important to emphasise that the three studies do not vary among their units of investigation. The units of investigation remain the same throughout the whole analyses, namely individual voting decisions by Swiss citizens. The hierarchical order of the studies follows from the general to the specific with regard to acceptance determinants. The first empirical study examines acceptance determinants over several different ballot proposals and by including contextual determinants in the analysis (the macro level). The second empirical study then investigates acceptance of one single ballot proposal (the meso level). The third study draws conclusions from specific statements regarding a single policy measure (the micro level). Figure 1.2 illustrates the conceptual research design of the empirical analyses of this book.

While the field of research remains the same throughout this book, namely spatial planning measures, the dependent variable varies on a conceptual basis

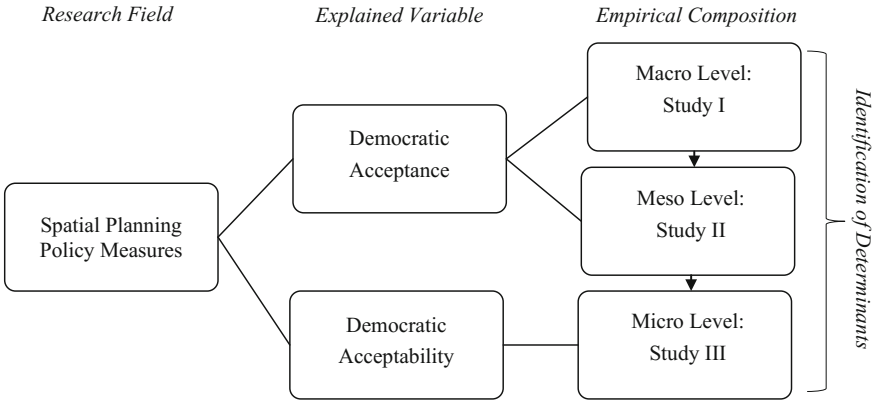

Fig. 1.2 Conceptual research design of empirical analysis

within the empirical parts, although its operationalization does not change. Study I and study II analyse democratic *acceptance* while study III examines democratic *acceptability*, which, contrary to acceptance, refers to hypothetical voting decisions (see Chap. 3 for a clarification of these concepts). As highlighted by the arrows in Fig. 1.2, the studies not only follow a hierarchical order but also build upon the previous study's results. Findings from study I provide the starting point for study II and, in turn, results from study II provide the starting point for study III. The sample sizes also decrease from study I through to study III.

With respect to the empirical procedure, Table 1.1 gives an overview of the empirical composition of this book. A detailed review of the variables and their theoretical framework will be given in detail within each empirical part of this book. However, a commonality between the studies is that all respondents and participants are Swiss citizens. Switzerland serves as the ideal venue to examine democratic acceptance in terms of direct-democratic decisions.

For the entirety of this book, Switzerland serves as the central case of interest. Switzerland is a particularly suitable case for the analysis of democratic acceptance of spatial planning measures for several reasons, but one in particular: Switzerland's well-established direct-democratic political system. As Switzerland has the largest incidence of direct-democratic decisions, Swiss citizens are particularly suited for this analysis (Christin et al. 2002; Kriesi, 2005, p. 14; Trechsel and Kriesi, 1996). Section 3.2 provides further detail on the Swiss direct-democratic system.

Regarding the units of observation and the survey periods, study I investigates 18 direct-democratic votes on spatial planning measures taken between 1984 and 2008, while study II focuses on a single ballot proposal, the *Amendment of Spatial Planning Law*, which took place in March 2013. Study III addresses a fictitious spatial planning measure and was conducted in May 2016. For studies I and II, data was taken from the *Vox surveys*, conducted during the two to three week period following each federal direct-democratic vote in Switzerland. Vox surveys include a representative sample of approximately 1,000 eligible Swiss voters. In addition to

Table 1.1 Detailed research design

	Study I [Chap. 4]	Study II [Chap. 5]	Study III [Chap. 6]
Research aim	Identification of democratic acceptance determinants		
Dependent variable	Acceptance		Acceptability
Theoretical framework	Combination of different voting-behaviour theories; proximity theory	Dual-processing theories	Framing theories
Independent variables	See Appendices A.1.3–A.1.4; A.2.1–A.2.3; A.3.2–A.3.3 for a detailed overview of all variables and their operationalization.		
Units of observation	18 ballot measures	Single case of ballot measure	Fictional ballot measure
Survey period	1984–2008	March 2013	May 2016
Data	Survey data (VoxIt-data) [cross-sectional data]	Survey data (Vox-data) [cross-sectional data]	Survey experiment (own survey data) [cross-sectional data]
Sample size [revised data set]	9,836 Swiss citizens	846 Swiss citizens	644 Swiss citizens
Data analysis techniques	Multilevel modelling with a Bayesian estimation approach	Logit regression models with a Bayesian estimation approach and a descriptive complement	Logit regression models with a Bayesian estimation approach, Chi-square and Fisher's exact tests

asking Swiss citizens for their voting decisions, the questionnaires include respondents' characteristics, their knowledge of the popular votes, reasons for their voting decisions and other socio-demography related characteristics. Vox surveys have been conducted since 1977. Due to minor and major questionnaire changes, the data has been standardised to permit comparison of data from different Vox surveys. This standardised data set is called *VoxIt* (Vox surveys 2013). While study I is based on VoxIt-data, study II analyses Vox-data. Study III is based on data which was collected via an online experiment in May 2016. Sample sizes among the studies of this book differ: The revised data set amounts to 9,836 Swiss citizens in study I, 846 Swiss citizens in study II and 644 Swiss citizens in study III. The studies apply quantitative methods, and study II contains an additional descriptive section for analysing citizens' reasons for their voting decisions. All three studies apply different theories and are therefore embedded in different theoretical frameworks. Applicable theoretical frameworks are introduced and clarified in each empirical chapter containing a study separately.

1.5 Structure of the Book

This book is composed of eight chapters and is grouped into five themed parts. This chapter provides the introduction. The first themed part is the conceptual framework (Chaps. 2 and 3), followed by parts two to four, comprising the empirical studies (Chaps. 4–6). This is followed by part five, consisting of a discussion (Chap. 7), and conclusions drawn from the empirical findings (Chap. 8).

The book begins with a clarification of the two central concepts, that is sustainable spatial planning (Chap. 2) and democratic acceptance (Chap. 3). Chapter 2 introduces the object of interest, the policy area, while Chap. 3 introduces the dependent variable, i.e. the phenomenon which the findings of this book intend to explain. Both chapters are structured to allow the concepts to approach from a general perspective towards a narrower one.

Chapter 2, *Sustainable Spatial Planning in Direct Democracies: The Case of Switzerland*, begins by defining the central concept of spatial planning. It outlines the recent history of the establishment and challenges of spatial planning, and relates the concept to sustainability (Sect. 2.1). The chapter then clarifies spatial planning in the context of public policies (Sect. 2.2) followed by a review of sustainable spatial planning policies by effectiveness (Sect. 2.3). The last section of Chap. 2 assigns spatial planning to the case of Switzerland (Sect. 2.4).

Chapter 3 is entitled *Democratic Acceptance of Spatial Planning Policies*. This chapter defines the second central concept of acceptance by emphasising the distinction between acceptance and acceptability. It presents both potential methods to measure public policy acceptance as well as the acceptance operationalization applied in this book (Sect. 3.1). In this chapter, the institutional anchorage of direct democracy in Switzerland and the domestic usage of direct-democratic instruments are also discussed (Sect. 3.2). Chapter 3 closes with an overview of the state of research, also covering research on democratic acceptance in environmental and transport policies (Sect. 3.3).

The structures of the subsequent Chaps. 4, 5 and 6 follow the logic of scientific articles. The empirical parts of the book start in Chap. 4, *Contextual Determinants of Democratic Acceptance: A Two-Level Analysis*. This chapter analyses democratic acceptance by applying a two-level model, and using a Bayesian multilevel modelling approach. This involves analyses of 18 popular votes on spatial planning measures between 1984 and 2008 in Switzerland, implying potential acceptance determinants at the individual as well as at the contextual level. The chapter opens with an overview of the applied theoretical framework for the concept of acceptance, before the theory behind individual determinants and contextual determinants, including hypotheses is discussed (Sect. 4.1). Subsequently, the data, model and methods are presented (Sects. 4.2 and 4.3), followed by the results (Sect. 4.4). The results demonstrate that determinants at both the individual and contextual level impact voters' acceptance of spatial planning measures. At the individual level, voters' political affiliations are an important factor for their voting decisions, as well as whether they are a homeowner or not. At the contextual level, policy

measures which contain incentive-based instruments have a higher probability of being accepted than ones that are based on bans and rules. Moreover, the degree of organisational capacity and conflict capability of interests concerned as well as the policy area of the popular vote seem to influence voter decisions. Chapter 4 closes with a discussion on the results and resulting conclusions (Sect. 4.5).

Chapter 5, *The Motivation behind Voters' Acceptance: A Case Study*, focuses on one particular spatial planning measure, namely the *Amendment of Spatial Planning Law* which was accepted by Swiss citizens in 2013. The main issue addressed in this chapter is whether the assumption from literature holds true that voters are politically uninformed and prefer the status quo over uncertain alternatives. Secondly, the chapter investigates the reasons behind citizens' voting decisions. The chapter clarifies the components of the Amendment of Spatial Planning Law (Sect. 5.1), followed by a theoretical introduction to dual-processing theories (Sect. 5.2). The research design is presented in Sect. 5.3, including the data, method, and statistical models. The findings reveal that information and arguments concerning the ballot proposal played a crucial role in voters' acceptance of the Amendment of Spatial Planning Law. Moreover, results indicate that the way information is processed by voters differs depending on the voting decision: Whereas 'yes'-voters appear to have formed their opinion by applying systematic processing paths, 'no'-voters appear to have formed their opinion primarily via heuristics. Following a discussion of the results (Sect. 5.4), the chapter concludes with a summary of the main findings and their interpretation against the initial hypotheses and theoretical framework (Sects. 5.5 and 5.6).

Chapter 6, *Framing Effects on Democratic Acceptability: An Experimental Approach*, considers whether the way the public is provided with information on spatial planning policies influences democratic acceptability towards an incentive-based policy instrument. In a survey experiment involving Swiss participants, goal and attribute framing effects are tested by combining framing theory with a causal model for public policies. The chapter starts with a theoretical framework, including a review of the state of research in framing theories combined with theoretical considerations of public policy modes of action (Sect. 6.1). Hypotheses are then derived on this basis (Sect. 6.2). The experimental design is explained (Sect. 6.3), followed by a discussion of the results (Sect. 6.4). The results suggest that the provision of information on a new spatial planning measure in either a positive or negative frame can impact citizen acceptance of the policy measure. Additional findings indicate that the target group of landowners reacts to frames differently, compared to the less directly affected sample population. Presented evidence shows that framing effects differ depending on the type of frame which is applied. Interpretations of the results and their broader implications are then presented (Sects. 6.5 and 6.6). Chapter 6 contains an additional (Sect. 6.7), in which further survey experiment findings are presented. These provide additional insights into democratic acceptability of spatial planning policy measures, and are not directly related to the framing.

The empirical Chaps. 4 and 5 also contain a final section with an introduction to the next empirical chapter. This enables the relationship between the empirical chapters to be detailed.

Chapter 7 incorporates the *Discussion*, and consists of two parts: Firstly, the findings of all three studies are combined to provide a comprehensive synthesis (Sects. 7.1 and 7.2). Secondly, the overall findings are placed in perspective by providing possible explanations for them and by linking them to other concepts (Sect. 7.3).

The remaining part of the book, Chap. 8, contains *Conclusions*, divided into research implications and lessons for practice. This chapter starts with conceptual implications for research, including a review of future research potential (Sect. 8.1). The book closes with ten practical lessons for fostering democratic acceptance of spatial planning measures, derived from the empirical findings (Sect. 8.2).

Part I
Sustainable Spatial Planning and Democratic Acceptance

Conceptual Framework

Chapter 2
Sustainable Spatial Planning in Direct Democracies: The Case of Switzerland

Abstract This chapter provides a stepwise approach towards the policy area of spatial planning as a central concept of this book. In addition, the central case of spatial planning is introduced in the context of Switzerland. The chapter is structured as follows: First, the term spatial planning is defined. The first section outlines the recent history of the establishment and challenges of spatial planning, and relates the concept to sustainability (Sect. 2.1). The chapter then clarifies what is understood by spatial planning as a public policy (Sect. 2.2). To do so, the mode of action of public policies transferred to spatial planning is presented and a model capturing the involvement pattern of the affected parties by a spatial planning measure is proposed. Moreover, a clarification is then made to define policy instruments in general and spatial planning policy instruments in detail. Building on that, the effectiveness of spatial planning measures are addressed (Sect. 2.3). The chapter closes with a section covering spatial planning in Switzerland, including its characteristics, origin, establishment and examples of Swiss spatial planning measures (Sect. 2.4).

Keywords Land use · Spatial planning · Spatial planning policies
Involvement · Causal model a public policy

The aim of this chapter is to provide a stepwise approach towards the policy area of *spatial planning* as a central concept of this book. Moreover, the central case of spatial planning is introduced in the context of Switzerland. This chapter is structured as follows: First, the term *spatial planning* is defined, followed by a discussion of its origin and associated challenges. Subsequently, the issue of sustainability against the background of spatial planning is raised (Sect. 2.1). It is then clarified what is understood by spatial planning as a public policy (Sect. 2.2). To do so, the mode of action of public policies transferred to spatial planning is presented and a model capturing the involvement pattern of the affected parties by a spatial planning measure is proposed. Moreover, a clarification is then made to define policy instruments in general and spatial planning policy instruments in detail. Building on that, the effectiveness of spatial planning measures are addressed

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(Sect. 2.3). The chapter closes with a section covering spatial planning in Switzerland, including its characteristics, origin, establishment and examples of Swiss spatial planning measures (Sect. 2.4).

2.1 Spatial Planning

Spatial planning is a broad concept with various components and unifies several disciplines. It provides approaches for a large number of disciplines ranging from natural science toward social science and to philosophy (e.g. Akkerman 2012; Albrechts 2004; Brueckner 1990; Tánczos and Török 2012; van Assche et al. 2013). Spatial planning comprises different perspectives, for example computer based spatial planning modelling (see, for example Burian 2012; Ligtenberg et al. 2001) as part of geosciences but also refers to territorial governance and public policies focusing on states or transnational cooperation, such as within the European Union (EU) (Dühr et al. 2010).

The concept of spatial planning is closely related to several similar concepts such as *land-use planning*, *urban development strategies*, *soil use policy making, landscape planning, environmental planning* and *strategic spatial planning* (Am Breure et al. 2012; Dühr et al. 2010; Faludi 2000; Mastop 1997; New Zealand Ministry for the Environment 2010). Further related concepts are *comprehensive planning* (Feiock 2004) and *growth management* (Bengston et al. 2004; Feiock et al. 2008).

The common ground of all concepts is that they centre on sustainable land use. The underlying concept of sustainability will be defined further on in this chapter, after differentiating the term of interest for the present book, namely *spatial planning* from other related concepts. Due to sustainable land use being the underlying main purpose of interest across those different concepts, a strict and unambiguously semantic distinction is difficult. It is apparent, however, that the concepts differ in their foci of interests, disciplines and approaches. In contrast to other concepts, *spatial planning* is an integrated approach consisting of economic, social and environmental aspects on spatial development. The closest related concept to spatial planning is *land-use planning*, but its meaning is more limited to land use only (New Zealand Ministry for the Environment 2010). A systematic distinction between those two concepts is provided by the New Zealand Ministry for the Environment (2010). Table 2.1 contains a compressed summary of the differences between spatial planning and land-use planning. Regarding the form, purpose and process of the two concepts, it becomes evident that spatial planning describes a broader concept than land-use planning. While land-use planning appears as policies or decision rules limited to the administrative area, spatial planning appears as a strategy with a normative component regarding desired outcomes. Moreover, spatial planning has the purpose of continuous shaping of the spatial development, including economic, social and environmental effects. In

Table 2.1 Differences between land-use planning and spatial planning

	Spatial planning	Land-use planning
Form	Strategy identifying critical spatial development issues and defining clear desired outcomes across functional areas	Schedule of policies and decision rules to regulate land use for the administrative area
Purpose	Shaping spatial development through the coordination of the spatial impacts of sector policies and decisions. Considers economic, social and environmental effects of development	Regulating land use and development through designation of areas of development and protection, and application of performance criteria
Process	Continuous process of plan review and adjustment	Discrete process leading to adoption of final blueprint plan

Source Own representation, content taken from New Zealand Ministry for the Environment (2010, pp. 59–61)

contrast, land-use planning is characterised by a discrete process to regulate land use (New Zealand Ministry for the Environment 2010, pp. 59–61).

After this approximation of the different concepts surrounding sustainable land use, a more precise definition of the concept of *spatial planning*, can now be given.

2.1.1 Terminology and Meaning of Spatial Planning

Due to the diversity of attempts to capture the concept of spatial planning and its implications, many definitions of spatial planning exist and an all-embracing definition is difficult. Generally speaking, it can be stated that spatial planning "is concerned with the ways in which people shape and govern spaces and takes into account social, economic, and environmental issues" (van Assche et al. 2013, p. 180). Another example for a definition which is formulated in a rather general manner is the following,

> Spatial planning is facilitating a change of emphasis by governments in the way they think about the role of planning to support and manage economic growth and improve quality of life through a growing understanding of the dynamics of development, including where and when it occurs. Spatial planning emphasises that planning can be more than the traditional regulatory and zoning practices of land use (New Zealand Ministry for the Environment, 2010, p. 59).

Dühr et al. (2010, pp. 26–27) argue that confusion about the term spatial planning exists because it is used in different ways with different meanings. Therefore, it is important to clarify the meaning of spatial planning within this book against the background of spatial planning policies. One well suited definition which incorporates the variety of aspects of spatial planning captured by this book is given by the Organisation for Economic Co-operation and Development (OECD) (2001, p. 11) which declares,

> Spatial planning considers the interaction among policy sector according to different territorial units, national, regional and local, across a wide range of policy sectors addressing different kinds of problems, economic, social and environmental. Spatial planning primarily concerns the coordination of policies.

This definition is particularly suited for the present analysis of citizens' acceptance of spatial planning measures because it takes into account that spatial planning is not necessarily limited to a specific policy sector but comprises different sectors instead. Moreover, the definition underlines two additional important aspects: First, it underpins the relevance of policies associated with spatial planning. Second, it implies the intention of spatial planning, which is "addressing different kinds of problems". Emphasising the relevance of public policies for spatial planning and their goal to solve a problem is essential for the clarification of the aim of this book and the importance of citizens' policy acceptance. Danielli et al. (2014, p. 43) claim that spatial planning can be understood as public planning aiming at a coordination of different policy areas such as soil policy, transport policy, housing policy and agricultural policy. The aspect of coordination is closely related to the origin and establishing of spatial planning because spatial planning has not always been a policy area of interest.

2.1.2 Origin and Establishing of Spatial Planning

For a long time, spatial planning was not paid any attention because it was simply not required. This disregard of spatial planning changed when settlement development led to new land use challenges. There are many causes for settlement development such as population growth, increasing demands for living space or increasing prosperity (Danielli et al. 2014, p. 12). As a consequence, land becomes an increasingly scarce resource caused by increasing settlement development. Spatial planning, however, was lacking in strategic approaches but mainly was implemented through regulations or focused on projects (Albrechts et al. 2003, p. 113).

Spatial planning has its historical roots in simple regulations and rules such as zoning. In the United States, professionalised spatial planning began in the beginning of the 20th century by establishing the *American Planning Institute*, which has led to the implementation of zoning as a new policy tool by local governments. The first land use planning related ordinance was issued in 1916 but until the middle of the 20th century, land use planning mainly consisted of zoning regulations (Feiock 2004, p. 364; see also van Assche et al. 2013). Following the United States, strategic spatial planning entered the European political agenda towards the end of the 20th century by attempts to develop strategies for cities and regions aiming at "coherent spatial logic for land use regulation, resource protection, and investments in regeneration and infrastructure" (Albrechts et al. 2003, p. 113; see also Carsjens and Ligtenberg 2007).

During the second half of the last century, the public sector has increasingly turned its interest towards spatial planning. Caused by a changing of the context which was characterised by the "dynamic nature of modern economic and social life", traditional spatial planning, which assumed a static environment was not compatible anymore (OECD 2001, p. 15). In the United States, this change took place in the 1960s by an expansion of house building and the highway system (Feiock 2004, p. 364). The US cities grew rapidly and simultaneously so did the urban population (Nechyba and Walsh 2004). Nechyba and Walsh (2004, pp. 181–182) argue that one driving factor for sprawling cities during the 20th century were automobiles because they enabled lower transportation costs. Both, the number of car-owners and people who drove by car increased. While 64% of workers drove to work in 1960, this share rose up to 78% within one decade and up to 84% in 1980. New challenges such as urban sprawl "strip development" appeared, which could not be countered by the existing regulations (Feiock 2004, p. 364). The acquisition of a car was expensive, so income played a crucial factor for urban sprawl, too. Margo (1992, p. 301) maintains that "[s]lightly less than half of population sub-urbanization between 1950 and 1980 can be attributed to rising household incomes."

During this period of a rapid settlement development, concerns regarding negative consequences and potential costs of sprawl arose and greater attention was given to land use as a policy area (Bengston et al. 2004, p. 272; see also Mastop 1997; Nechyba and Walsh 2004).

2.1.3 Challenges, Fundamentals and Goals of Spatial Planning

The problems caused by a rapid settlement development characterised by urban sprawl and other negative externalities led to a broad range of costs. Sprawl can be understood as "segregated land use" or a "push for growth at the boundary of the metropolitan area" (Johnson 2001, p. 721). Sprawl has been well studied by researchers and especially its negative environmental impact could be shown repeatedly (see Johnson 2001 for an literature overview). One problem with urban sprawl is, that it is not perceived as something negative per se but many people have an ambivalent attitude towards it (Bengston et al. 2004, p. 271; Downs 2005). Using the words of Johnson (2001, p. 717), "[t]here is no agreement […] on the desirability or undesirability of urban sprawl." This ambivalence stems from private interest and benefit versus public costs. Some consequences of sprawl cannot easily be estimated by welfare calculations because they appear more indirectly and might be "favorable for some people and unfavorable for others" (Nechyba and Walsh 2004, p. 186).

On the one hand, one main driver for sprawl are people's preferences for single-family houses because they imply private benefits such as lower costs for

building outside of urban centres (Bengston et al. 2004, p. 272; see also Kahn 2001; Zollinger 2005). Nechyba and Walsh (2004, p. 186) argue that a greater quantity of low-density housing developments "suggest social benefits of urban sprawl since they involve a greater consumption of land and housing." From that private benefit perspective, i.e. from those who have a direct benefit from sprawl, it is perceived as something positive. In line with these arguments, Wassmer and Lascher, p. 625 (2006, p. 624) maintain that growth in general can lead to a number of benefits such as an "increase in the income of current residents" or an increase in "the property values of current houseowners" caused by, among others, "an increase in demand for locally produces goods and services".

On the other hand, sprawl and its consequences such as "urban decay" lead to a large number social and environmental public costs (Nechyba and Walsh 2004, p. 186). Examples for these costs are "congestion, pollution and reduction of open space" (Kahn 2001, p. 727). The costs of sprawl are diverse and do not only contain obvious but also indirect costs. Bengston et al. (2004, p. 272) make reference to a study, which found evidence "that in many US cities […] residents paid more for transportation than shelter." Further negative consequences of sprawl, which can be characterised as being rather indirect are "increasing reliance on the automobile", "the separation of residential and work locations", a "general spreading of urbanized development across the landscape" or an "inefficient use of energy" (Nechyba and Walsh 2004, p. 186; Ramírez de la Cruz 2009, p. 219). Also Wassmer and Lascher (Wassmer et al. 2006, p. 625) point out that growth does not only produce benefits but can also "generate sizable costs to existing residents". Those negative consequences of growth and sprawl "increase the long term costs of the public infrastructure and, thus, amplifies the financial burden in the long run" (Müller et al. 2010, p. 191; see also Wassmer and Lascher 2006, pp. 625–626).

Therefore, from the public perspective, inefficient land use generates public costs. Due to the raising awareness of negative externalities of an insufficient land use management, spatial planning became a public policy issue of interest.

This new focus of interest led to an identification and definition of planning goals, which were initially contained in policies based on "rigid pattern" such as development plans (OECD 2001, p. 15). This focus on static land use strategies assumed a constant environment which was not compliant with the requirements of dynamic and developing environment. Hence, efficiency and effectiveness became increasing purposes of interest in the context of spatial planning (Albrechts 2004; OECD 2001; Tánczos and Török 2012). The shift of spatial planning objectives towards a more efficient manner can be described as aiming at "securing sustainable development and encouraging local endogenous development" (OECD 2001, p. 15). Accompanied by the inclusion of effectiveness and efficiency as central components of spatial planning processes was also incorporating sustainability as an integral component for different areas of spatial planning such as transport or urban development (Albrechts 2004; Tánczos and Török 2012; Williams 2005).

2.1.4 Sustainability in the Context of Spatial Planning

As argued above, spatial planning is closely related to several similar concepts, but differs in some aspects. One aspect, however, that current land use management approaches have in common, is sustainability. Similar to spatial planning, sustainability is a broad term which can generally be describes as "the quality of the physical and social environment in a territory" (van der Valk 2002, p. 201).

Sustainability in the context of spatial planning is closely linked to *sustainable development*, which "has become a widely used term expressing the concept of potential for creating a positive-sum strategy combining economic, environmental, and social objectives in their spatial manifestation" (Albrechts et al. 2003, p. 114). Beside *sustainable development*, which implies a strategic planning component, sustainable spatial planning also addresses the *use* of land and is generally referred to as *sustainable use of land*, which "means using landscapes, ecosystems, species and genes in a way that meets both present and future needs" (Hindmarch and Pienkowski 2001, p. 2). A more detailed definition of sustainable land use is provided by Am Breure et al. (2012) by clarifying that,

> Sustainable use means the need for a broadening of the focus from natural science towards societal insights and a longterm vision of durable land use. To consider the societal, economic and planetary aspects of sustainable use of ecosystem services a multidisciplinary approach is necessary, which uses a common language. This also means, that valuation of ecosystem services can not always be in economic value but may also be valued in (gain in) well-being of a population or society and in public health (Am Breure et al. 2012, p. 2).

The latter part of the quote, which underlines that the environmental value is pursued by a sustainable land use, is of particular importance. Hence, sustainable land use aims at more than just an ascertainable value of the environment based on ecosystem services. Instead, sustainability also refers to extended values of the environment such as the well-being of a whole society. Carsjens and Ligtenberg (2007, p. 72) point out that "[g]rowth management and sustainable development are widely considered essential to maintain the quality of life in metropolitan landscapes." Tánczos and Török (2012, p. 47) summarise the relevance of sustainability in the context of urban development by arguing that "sustainable urban development has constituted a crucial element affecting the long-term outlook of humanity." Sustainability as a desired component and goal of spatial planning raises the question of how it can be achieved. Tánczos and Török (2012, p. 48) claim that "[f]or sustainable urban development it is inevitable to constitute policies". In this vein, Hindmarch and Pienkowski (2001, p. 2) maintain that "[s]ustainability, it seems, is replacing productivity as the new policy imperative, and this is because it makes good sense." However, corresponding policies must fulfil different requirements which will be discussed later on in this chapter. Prior to that, the political framework in which a public policy takes place needs conceptual embedding.

2.2 Spatial Planning as a Public Policy

A public policy is required if a policy problem exists and needs to be solved. Knoepfel et al. (2011, p. 21) underline that "[a]ll policies aim to resolve a public problem that is identified as such on the governmental agenda." A *public problem* or *policy problem*, in turn, can be defined as "an unrealized need, value, or opportunity for improvement attainable through action" (Dunn 2016, p. 5). Existing public problems and current challenges in the area of spatial planning such as sprawl or pollution have been discussed in the previous sections thus the requirement for public policies in this area is met. In the following sections, the mode of action *how* a public policy solves a public problem is explained by focusing on the parties involved in the design of public policies in general and for spatial planning measures in detail.

2.2.1 Mode of Action of Spatial Planning Policies

Public policy analysis assumes a causal relationship between a public problem and a public policy (Dunn 2016; Knoepfel et al. 2011; Rossi and Freeman 1993). Formally, this causal relationship of public policies can be expressed by the *causal model of public policies* by Sager (2016, pp. 119–123; see also Rossi and Freeman 1993). Figure 2.1 illustrates the causal relationship between a spatial planning policy and a public problem. Within the area of spatial planning, the social problems are negative externalities of inefficient land use such as urban sprawl. To solve the problem, a public policy must first identify and then change the behaviour of those subjects who are responsible for the social problem, which are referred to as *policy addressees*. When considering spatial planning policies, policy addressees are mainly landowners, homeowners or building contractors. The causal relationship between the policy intervention and the intended behavioural change of the target group is known as the *intervention hypothesis*. The causal relationship between the policy addressees' intended behaviour change and the resulting impact on those who benefit from that behaviour and therefore from the policy (*policy beneficiaries*) can be described as the *causal hypothesis* (Rossi and Freeman 1993, pp. 119–122; see also Sager 2016).

Hence, the causal model of a public policy consists of two main aspects which tackle the questions *who causes a social problem?* on the one hand and *how can the behaviour of the subjects responsible be changed?* on the other. Regarding the effect of the policy on the involved parties, the policy addressees will be affected by the policy in a way that limits their sets of choices by either incentivising desired behaviour or sanctioning undesired behaviour. The policy beneficiaries, in contrast, will profit from the problem solution irrespective of the chosen intervention. At a

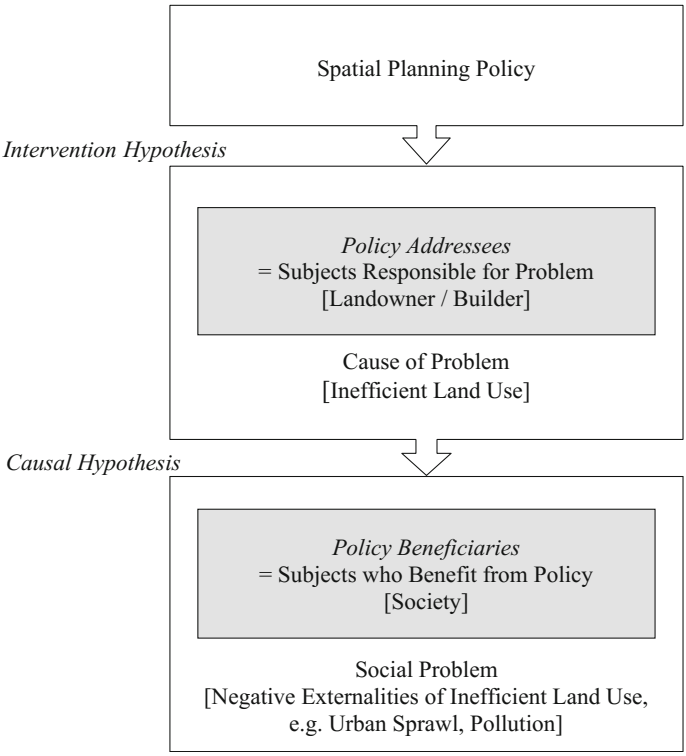

Fig. 2.1 Causal model of a spatial planning policy. *Source* Based on Sager (2016, p. 123)

very general level, policy addressees can therefore be considered negatively affected by a policy and policy beneficiaries can generally be considered positively affected. The target group population is therefore localised as the cause of the addressed social problem and is supposed to behave in a different way than it would to without the policy intervention (Sager 2013, pp. 4–6; see also Sager 2016).

Due to the broad spectrum of spatial planning measures, both the policy addressees and the policy beneficiaries may vary depending on the problem intended to be solved. Nevertheless, one peculiarity of the public policy area of spatial planning is that it usually affects people in a more direct manner compared to other policy areas. Hence, this direct effect on people, which I will refer to as *involvement*, enables only a superficial identification of policy addressees and policy beneficiaries. In the following section, this involvement aspect will be clarified in more detail by proposing a conceptual model of involvement of different affected parties in the context of spatial planning policies.

2.2.2 Involvement Pattern of Affected Parties

As demonstrated by the causal public policy model (Fig. 2.2), the implementation of a public policy affects different target groups differently. Within the model, the differentiation of the policy's impact on the target groups is based on the criterion of whether the target group benefits from the policy or not. For the area of spatial planning, another important criterion appears, namely the involvement of the target group.

One reason why involvement of the actors affected by a policy measure is important for spatial planning is because involvement refers to the different interests within spatial planning. The connection between involvement and interest becomes more apparent by taking a closer look at the task of spatial planning. Danielli et al. (2014, p. 43) maintain that spatial planning has two main tasks. Firstly, spatial planning must aim to harmonise different interests and demands towards the space. Secondly, spatial planning must offer a participation possibility for those who are affected by spatial planning related decisions. These two tasks are of particular importance, because they denote a core feature of spatial planning as a public policy, namely the existence of various different (conflicting) interests.[1] Feiock (2004, p. 365) states that "[l]and-use management involves conflicts of interest between groups and interests with opposing views" (see also Downs 2005; Feiock et al. 2008). Accordingly, different involved interests are characterised by conflicts thus the question of acceptance determinants of spatial planning measures always implies a pursuit of harmonising different interests to prevent these conflicts. To do so, the identification of different interests and their degrees of involvement is required.

For this reason, I propose the *conceptual layering model of involvement for spatial planning policies*, shown in Fig. 2.2. The model's contribution is twofold: On the one hand, it provides guidance for identifying different involved interests in the area of spatial planning as a public policy. On the other hand, the layering pattern illustrates the different degrees of involvement, which, in turn, may lead to different conflicts. Those conflicts can play an important role in the context of spatial planning measures and will be discussed in more detail later on in this section.

The conceptual layering model of involvement for spatial planning policies consists of different layers which are comparable with the onion-shell principle. An increasing number of layers can be understood as an increased intensity of how a spatial planning measure affects particular groups, which in turn, leads to an increasing degree of involvement. As a consequence, the affected party in the core is assumed to have the highest degree of involvement.

[1]Participation of those who are affected by spatial planning decisions as the second task is especially important in the context of a direct democracy. The Swiss case and its direct-democratic system will be discussed in more detail in Sect. 3.2.

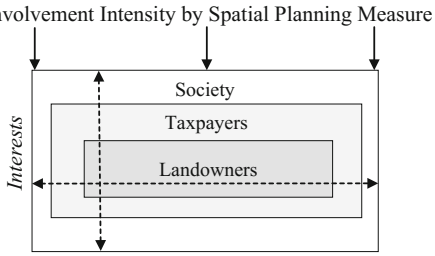

Fig. 2.2 Conceptual layering model of involvement for spatial planning policies. *Notes* Solid lines illustrate the impact of spatial planning measure on citizens' involvement. Dotted lines with arrows in opposite directions indicate the existence of different interests. Different shades of rectangles visualise different degrees of involvement intensity: the darker they grey, the higher the degree of involvement

The outermost layer of the model is *society* because the society as a whole is always affected by a spatial planning measure to some degree but often not very strongly. For instance, a society can be affected by the appearance of the landscape or by the improvement or deterioration of the air-quality. In sum, the society is involved by a spatial planning measure to that degree to which it is related of being a public good and implied negative externalities.[2]

The second layer of involvement intensity refers to *taxpayers*. Taxpayers are affected by a spatial planning measure in at least two different ways. Firstly, they are affected as part of the society (first layer). Secondly, they are additionally affected monetarily by the measure, as public policies are usually financed by taxes.

The innermost layer comprises *landowners*. Landowners are affected by a measure in at least three different ways: as part of the society; as taxpayers and as a landowners. The effect on landowners exists, because spatial planning measures are often related to regulations, laws or rules which directly or indirectly affect landowners' properties. For instance, if a spatial planning measure contains new zoning regulations or regulations regarding construction activities (see also Berli 2016; Fischel 2001).

It is important to emphasise, however, that the aim of the model is to put spatial planning in the perspective of public policies' target groups. In this context, it is worth noting that the layers in the model can vary from policy measure to policy measure. For instance, residents or homeowners constitute additional layers. The model is a heuristic model and its target is to enhance the peculiarity of spatial planning as a public policy. The layers are supposed to demonstrate that people can be affected via different channels by a spatial planning policy measure. Moreover,

[2]A public good is characterized by two dimensions, namely "excludability" ("non-exclusive property right") and "rivalry" ("indivisibility of consumption"), see Callon (1994), Bengston et al. (2004). Callon (1994, pp. 399–400) defines these two dimensions as follows: A good is exclusive "if it is possible for the person using or consuming it to prevent any other potential user or consumer from doing the" and "[a] good is rival is rival when A and B compete for its use".

the model helps to understand problems which can arise caused by the existence of different degrees of involvement, which often represent different interests. As mentioned above, different interests can lead to conflicts in the area of spatial planning. Within the layering model in Fig. 2.2, the existence of different (and occasionally conflicting) interests are depicted as dotted lines with arrows in opposite directions.

People's conflict of interests is closely related to their conflict capability which, in turn, is influenced by the degree of organisational capacity. Kummer (1997, pp. 80–81) argues that postulations by environmental movements are more easily implemented, as the degree of organisational capacity and conflict capability of the most affected payers becomes lower. Specific and relatively short term, homogenous interests concerned are well organised, while more general, long term and heterogeneous interests have a low organisational degree (see also Olson 2009). Even though his argumentation was developed for the environmental context, it can be transferred to the context of spatial planning as highly organised interests can be found in that policy area as well.

The degree of involvement might also depend on the policy instrument. Frey and Zimmermann (2005, p. 10) give an example of subsidies which are often used at the regional level. They argue that this type of interregional income redistribution is attractive for politicians, because it is strongly promoted by the beneficiaries of the policy on the one hand. On the other hand, the policy addressees, e.g. those who pay for the policy, are only marginally affected by the policy and are therefore only barely aware of the financial burdens. Frey and Zimmermann (2005, pp. 10–11) transfer Olson's (1965) theory of interests enforcement to spatial planning by arguing that land use zones are defined by the government, which prevents win-win situations. This sovereign determination of zoning areas by the government leads to a large and not deferred number of beneficiaries, which are often not even aware of the benefits they gain from the spatial planning measure. In contrast, the number of losers as a result of the measure, namely the policy addressees, usually is much smaller. Nevertheless, as the policy addressees are more strongly affected by the measure, they are vehemently against it. These strongly affected addressees then fight against the policy measure and try to achieve exceptions or a less strict application of the law (Frey and Zimmermann 2005, pp. 10–11).

It follows that the interests of different parties involved in spatial planning policies may differ and that those interests might cause conflicts depending on their involvement and organisational capacity. For instance, as discussed in Sect. 2.1, urban sprawl can be perceived as a benefit or a cost, depending on the degree of involvement of the target group. It is therefore essential to bear in mind the existence, layers and directions of different interests involved when analysing citizens' acceptance of spatial planning measures.

To sum up, spatial planning policies aim at solving a social problem by changing the behaviour of policy addressees who are deemed to cause the problem. What has been neglected in this chapter so far is the means by which a behaviour change is achieved, namely the spatial planning policy measures. Numerous different policy instruments in the area of spatial planning exist, which vary greatly in their

characteristics and effectiveness. Therefore, Sect. 2.3 defines different types of spatial planning policy instruments and discusses them against the background of their effectiveness.

2.3 Sustainable Spatial Planning Measures

Spatial planning measures are crucial to counter negative externalities of inefficient land use. As discussed in Sect. 2.2, policy measures are especially important in the context of spatial planning because they often directly affect people and their environment. Consequences of spatial planning or growth management often have an enormous distributive impact (Feiock 2004; Feiock et al. 2008; Ramírez de la Cruz 2009). Due to the increasing negative externalities of inefficient land use and in the context of sustainability discourses, the call for "innovative planning approaches and new policy instruments", which lead to a reduction of land consumption and more efficiency has increased (Müller et al. 2010, p. 192; see also Zollinger 2005, p. 67). Bengston et al. (2004, p. 272) maintain that "[t]he public sector response to growing concern about the undesirable impacts of sprawl has been the creation of a wide range of policy instruments designed to manage urban growth and to protect open space from development." Moreover, Bengston et al. (2004, p. 273) highlight the relevance of spatial planning measures against the background of sustainability by stating that "[r]egardless of the governmental level at which they are applied, public policies for managing growth and protecting open space are at the center of the issue for sustainable development, i.e. making growth and development economically, environmentally and socially sustainable." Concerning the design of spatial planning measures and their establishment, urban and regional planning mainly focused on basic planning tools such as land use regulations until the end of the 20th century (Albrechts et al. 2003, p. 113; see also Sects. 2.1.2 and 2.1.3). Analogous to the rising awareness of an insufficient settlement development, the number of different policy instruments aiming at a sustainable land use increased.

2.3.1 Definition and Types of Spatial Planning Measures

Generally speaking, policy measures, which can also referred be to as *policy instruments*, constitute techniques or methods by the state to achieve political goals (Braun and Giraud 2009, p. 179; Howlett 2011, p. 22). Policy instruments can be described as "means to transfer the rather abstract principles and rules set out by policies into concrete and substantive action", which are "designed to reach 'objectives' and to be congruent with more general 'goals' incorporating rules and principles on how to distribute benefits and burdens" (Schaffrin et al. 2015, p. 260).

A large body of literature deals with definitions, differentiations and types of policy instruments for both public policies in general (e.g. Braun and Giraud 2009; Hood 2007; Lascoumes and Le Galès 2007; Vedung 1998) and for spatial planning policies in particular (e.g. Bengston et al. 2004; Jaffe and Stavins 1995; Süess and Gmünder 2005; Wegelin 2006). One of the most established definition, by Vedung (1998, p. 21), defines public policy instruments as "the set of techniques by which governmental authorities wield their power in attempting to ensure support and effect or prevent social change." Vedung (1998, pp. 29–34) proposes a threefold distinction of policy measures: *Carrots* ("economic means"), *sticks* ("regulations") and *sermons* ("information"). *Carrots* are economic incentives or market-based instruments which often include a financial component. *Sticks* describe regulative policy instruments on the basis of bans and rules and are also known as *command-and-control* approaches or *bans and rules* in economic theory (Jaffe and Stavins 1995; Stadelmann-Steffen 2011). *Sermons* refer to information or persuasion-based policy instruments (Vedung 1998, pp. 29–34).

For the specific policy area of spatial planning, Bengston et al. (2004) also propose a threefold distinction of policy instruments which differs from Vedung's (1998) definition regarding the instruments on the basis of information (*sermons*). Following Bengston et al. (2004, p. 273), a distinction can be made between three categories of instruments, namely *public ownership and management*, *regulation* and *incentives*. The first policy instrument category, *public ownership and management*, tackles the public good problem of market failure which appears, if goods are neither rivalrous nor excludable. These types of policy instruments aim at meeting the demand by the general public for public goods. One example is public acquisition of land, which seeks only to protect open space. The second category of policy measures by Bengston et al. (2004) are *regulations* which correspond to Vedung's (1998) category of *sticks.* Regulations are characterised by their "obligatory nature" and include a relationship between at least two parties, which allows one party to threaten and execute sanctions towards the other party (Bengston et al. 2004, p. 274). The third category of policy instruments are *incentive-based instruments*, which are equivalent to Vedung's (1998) *carrots.* Bengston et al. (2004, p. 274) state that the distinguishing characteristic for incentive-based policy instruments is that "no one is obligated to take a particular course of action".

Since popular votes on spatial planning measures generally do not include decisions about information provision, the focus here lies on regulative policy instruments versus market-based policy instruments. For this reason and the fact, that these two instrument types are both very broad (and therefore comprising a large number of different instruments) and mutually oppose to each other, this book employs this twofold policy instrument classification.

2.3.2 Regulative Policy Instruments and Incentive-Based Policy Instruments

Regulations can be characterised by their "obligatory nature" and an "authoritative relationship between the individuals or groups being regulated and the government" (Bengston et al. 2004, p. 274). Moreover, regulations are often based on negative sanctions. Regarding different examples of regulations, they are often applied at the local level and often aim at determining upper building limit regulations on zoning areas (Bengston et al. 2004, p. 275). Bengston et al. (2004, p. 275) state that "[z]oning is a core technique in urban growth management" which often aims at "more dense" development. For example, small-lot zoning and upzoning intend a settlement development which is characterised by higher density (Bengston et al. 2004, p. 275).

In contrast to regulations, incentive-based policy measures are characterised by its optional nature, i.e. people can choose whether they want to make use of it. More precisely, market-based policy instruments work by means of incentives. These are relatively new policy instruments in the area of spatial planning (Müller et al. 2010, p. 193). Bengston et al. (2004, p. 274) distinguish two types of incentives, namely "handing out" incentives on the one hand and "taking away" disincentives on the other hand. Hereby, (dis-)incentives comprise both "monetary and non-monetary material resources" (Bengston et al. 2004, p. 274). Incentive-based measures are often based on fees, which try to impact the development and are "used to encourage more efficient development patterns" (Bengston et al. 2004, p. 276). An example for incentive-based policy measures are "development impact fees", which "finance off-site impacts and infrastructure costs of development" and "encourage more efficient development patterns" (Bengston et al. 2004, p. 276). Table 2.2 provides a summary of differences between regulations and incentive-based policy measures in the context of spatial planning.

It is evident from the previous considerations that both types of policy instruments, regulations and incentives, differ substantially. Beside differences in their nature, differences in their impacts are also essential. In this respect, an important characteristic of policy instruments is their effectiveness.

2.3.3 Effectiveness of Spatial Planning Measures

One challenge of spatial planning measures is the same for all public policy measures: They are at risk to set wrong incentives by only providing public goods. In this case, the measures are lacking in the *polluter-pays principle*.[3] Many types of

[3]The polluter-pays principle (PPP) determines that those causing costs have to bear them. Due to the underlying principles of cost internationalisation and cost allocation, PPP is assumed to increase economic efficiency (Tobey and Smets 1996, p. 64). For a more profound discussion on the PPP, see Tobey and Smets (1996).

Table 2.2 Differences between regulations and incentive-based policy measures

	Regulations	Incentives
Synonyms	• Bans and Rules • Command-and-Control • Sticks	• Market-based Instrument • Carrots
Characteristics	• Obligatory nature • Authoritative relationship • Sanctions or threat of sanctions	• No obligation • Incentives (handing out) versus disincentives (taking away)
Aims	• Growth control • Protecting open space	• Managing urban growth • Finance off-site impacts and development costs • Efficient development patterns
Examples	• Urban growth boundaries • Upzoning or small-lot zoning • Downzoning or large-lot zoning • Cluster zoning	• Government subsidies • Development impact fees • Location efficient mortgages • Capital gains tax on land sales

Source Own representation; Examples, characteristics and aims are partly taken from Bengston et al. (2004) and Vedung (1998)

land use produce external costs, which, in turn lead to market failure because the producers do not bear the costs but instead the society does (Süess and Gmünder 2005, p. 58). Such an unsatisfactory use of the polluter-pays principle often occurs in the context of settlement development in peri-urban areas. That is, because that type of settlement development leads to costs (e.g. infrastructural development costs) which are only partially internalised (Wegelin 2006, p. 182).

In economic theory, market-based instruments are considered to have an efficiency advantage compared to command-and-control or other instruments (Frey and Zimmermann 2005; Hahn and Stavins 1992; Lockie 2013; Lockie and Tennent 2010; Müller et al. 2010). Accordingly, "[e]conomic analyses support the view that market-based approaches are in the long run most effective for environmental protection, as they generate continuous and long-term incentives for environmental friendly innovation and practises" (Stadelmann-Steffen 2011, p. 489).

One major advantage of market-based policy instruments is that because of their incentive structure, they permit the involved parties freedom of action. Additionally, market-based policy instruments lead to both less utilization of land and a more concentrated settlement development, which, in turn leads to less urban sprawl (Wegelin 2006, p. 183). Market-based instruments considering the polluter-pays principle facilitate the shaping of incentive structures that make it worthwhile for the individuals to behave in a manner which is constructive for the society as a whole (Süess and Gmünder 2005, p. 58). Hence, market-based policy

instruments "ensure that any improvement of environmental protection and quality is reached at the lowest overall costs" (Müller et al. 2010, p. 193).

As discussed earlier in this chapter, the literature of policy instruments in the area of spatial planning is large and fast growing and a focus of research on market-based instruments as an efficient alternative to traditional spatial planning measures occured (see Süess and Gmünder 2005; Zollinger 2005). Likewise, a shift from command-and-control regulations to market-based instruments took place in practice over the last few decades, especially in the area of environmental policy (Aidt and Dutta 2004). Aidt and Dutta (2004, p. 474) maintain that "[t]he transition from command-and-control to incentive-based policy instruments can be understood as a natural consequence of more ambitious environmental targets".

Because of this large amount of new market-based policy measures, one exemplary measure will be presented, which has by scholars often been discussed as a possible alternative spatial planning instrument on the basis of incentives: *Tradable land-use certificates* or *tradable development rights*, which can be assigned to cap-and-trade systems (Müller et al. 2010; Süess and Gmünder 2005; Wegelin 2006; Zollinger 2005).[4] The idea behind tradable certificates is to create a market for environmental goods by introducing property rights. The property rights and their amount, i.e. the maximum permissible amount of certificates, are defined within a political and administrative decision-making process. These certificates can be traded freely, thus the price of the certificates is set by the interaction of supply and demand (Müller et al. 2010, p. 193; Süess and Gmünder 2005, p. 59). As the amount of certificates is limited in advance, the "extension of new areas" is limited as well (Müller et al. 2010, p. 193). Müller et al. (2010, p. 193) conclude that "a cap-and-trade system is not only efficient in economic terms; it is also effective with respect to environmental protection".

Summing up, market-based policy measures are deemed to be more efficient and effective than policy measures on the basis of bans and rules. Policy measures, however, are always embedded in their political, economic and legal environment. As this book's case is Switzerland, an overview of the Swiss institutionalisation of spatial planning and existing policy instruments in this area is given in Sect. 2.4, contributing to an embedding of the case of Switzerland.

2.4 Spatial Planning in Switzerland

Switzerland is subject to a high amount of construction activities. Every second, one square meter has been overbuilt in Switzerland since the 1960s (Danielli et al. 2014, p. 12). Especially since the 1990s, new economic and political conditions

[4]Further examples for incentive-based spatial planning measures, besides those given in Sect. 2.3.2, are subsidies for keeping land free of construction (Wegelin 2006, p. 182).

such as location competition, led to accelerated agglomeration growth and to high land consumption (see also Berli 2016; Süess and Gmünder 2005, p. 58). Switzerland is one of the most densely populated countries in Europe. Relative to the total surface area, 200 people lived in one square kilometre in Switzerland in the middle of the last decade. Compared to other countries with a high density at the same time, on average 261 people lived in the United Kingdom and 230 in Germany per square kilometre (Danielli et al. 2014, pp. 14–15; see also Wegelin 2006; Zollinger 2005). According to data by the *World Bank*, the population density in Switzerland increased from 137 up to 210 people per square kilometre between 1961 and 2015 (The World Bank 2016). The degree of settlement density can be illustrated even more clearly by comparing the population settlement in Switzerland with that from other less densely settled European countries: In Sweden, on average 24 people lived per square kilometre in 2015. In the same year, Spain had a population density of 93 people and Norway of 14 people per square kilometre (The World Bank 2016).

Simultaneously to the settlement density development, urban sprawl increases continuously in Switzerland. One driving factor for the increasing land consumption and urban sprawl is the ongoing trend towards detached houses. Since 1995, the proportion of newly built detached houses was constantly over 50% and increased between 1999 and 2002 from 52% to 63% (see also Degen 1999; Zollinger 2005, p. 67). In 2014, 57% of all buildings in Switzerland were detached houses (FSO, Swiss Federal Statistical Office 2016, p. 9). Those negative settlement developments contradict the goals of a sustainable and thrifty land use, which is defined by the Swiss constitution (Zollinger 2005, p. 67). The domestic legal framework will be discussed later in this chapter, after declaring characteristics of spatial planning in Switzerland.

2.4.1 Characteristics of Spatial Planning in Switzerland

Two main characteristics of spatial planning in Switzerland can be emphasised as leading to domestic spatial planning characterised by an objective and continuing political presence. Firstly, the semi-direct democracy[5] in Switzerland and secondly, its strong federalism (Lendi 2008, pp. 384–385). These two characteristics also manifest two of the "main institutions of the Swiss polity" (Sager and Zollinger 2011, p. 28).

The direct-democratic system in Switzerland requires a strong inclusion of citizens in political processes, even in the area of spatial planning. This aspect of citizen involvement in the political process is a specific characteristic of

[5]See Sect. 3.2 for an explanation of the term *semi-direct democracy*.

Switzerland. Lendi (2008) notes that the gap between public and spatial planning is rather small in Switzerland. Due to direct-democratic institutions, people not only participate in legislative decisions but also in decisions concerning spatial planning related problems. Spatial planning can therefore only be approached by including the general public in the political process (Lendi 2008, p. 384).

The second characteristic is the Swiss federalism, which "is the most distinctive feature of the political system after direct democracy" (Sager and Zollinger 2011, p. 30). Fleiner (2002, p. 109) maintains that "[a]ccording to the Swiss view, federalism and democracy have to be seen as complementary to ensure freedom and self-determination." Switzerland encompasses 26 cantons as political units and 2,352 municipalities.[6] Regarding spatial planning, the Swiss federalism supports the inclusion of planning in political processes. Moreover, due to the federal system, spatial planning is carried out on-the-spot rather than centrally (Lendi 2008, pp. 384–385).

Another aspect of spatial planning in Switzerland, which is closely related to the former two characteristics, is the strong connection between spatial planning and politics. Decisions relating to spatial planning and its discussion are not dominated by spatial planners or spatial planning related associations but are executed by political instances at national, cantonal or municipal level (Lendi 2008, p. 384).

To sum up, especially two particularities of Switzerland, namely direct democracy and federalism, shape the Swiss domestic spatial planning (Lendi 2008). These characteristics also considerably influenced the legal establishment, and hence the political implementation of spatial planning in Switzerland.

2.4.2 Origin and Establishing of Spatial Planning in Switzerland

Since spatial planning was established in Switzerland, it has been continuously developing. Danielli et al. (2014, p. 43) provide an overview of the history and origin of the political establishment of spatial planning in Switzerland, which is summarised in the following: Historically, the first spatial planning related measures in Switzerland were established in the middle of the 20th century. These measures, however, ignored essential problems concerning spatial planning such as the division between building land and non-building land. Formally, the constitution contained reference to spatial planning since 1969 but a law regulating spatial planning at the federal level was missing. In 1974, Swiss voters narrowly rejected a referendum aiming at establishing a spatial planning law. The first spatial planning law at the federal level was established in 1980, after a Swiss voter majority

[6]As per 01.01.2014, based on data from the Swiss Federal Statistical Office.

Table 2.3 Articles from the Swiss constitution concerning spatial planning

Article	Content
Art. 73 Sustainable development	The Confederation and the Cantons shall endeavour to achieve a balanced and sustainable relationship between nature and its capacity to renew itself and the demands placed on it by the population
Art. 74 Protection of the environment	1. The Confederation shall legislate on the protection of the population and its natural environment against damage or nuisance 2. It shall ensure that such damage or nuisance is avoided. The costs of avoiding or eliminating such damage or nuisance are borne by those responsible for causing it 3. The Cantons are responsible for the implementation of the relevant federal regulations, except where the law reserves this duty for the Confederation
Art. 75 Spatial planning	1. The Confederation shall lay down principles on spatial planning. These principles are binding on the Cantons and serve to ensure the appropriate and economic use of the land and its properly ordered settlement 2. The Confederation shall encourage and coordinate the efforts of the Cantons and shall cooperate with them 3. Confederation and Cantons shall take account of the requirements of spatial planning in fulfilling their duties

Source Own representation based on the Swiss Federal Constitution (2016)

accepted a second referendum in 1979. This *Federal Law on Spatial Planning*, combined with a spatial planning ordinance from 1981, represent the basis of the relevant legal spatial planning principles in Switzerland (Danielli et al. 2014, pp. 43–45). The Federal Law on Spatial Planning has been modified and complemented since 1979 and currently consist of 39 articles. The most recent amendment took place in 2013, when Swiss citizens voted in favour of the ballot proposal named *Amendment of Spatial Planning Law*. Chapter 5 of this book covers the Amendment of Spatial Planning Law in more detail.

Beside the Federal Law on Spatial Planning, spatial planning itself is also laid down in the *Swiss Federal Constitution*. Within the Federal Constitution, spatial planning is currently regulated by section 4, which encompasses the *Environment and Spatial Planning* and consists of Articles 73–80. The wording of the Articles 73–75, which directly refer to spatial planning, is quoted in Table 2.3.[7] Article 73 makes a call for a sustainable development, followed by Article 74, which addresses the protection of the environment. Competencies on spatial planning principles are set forth by Article 75.

[7]While an official translation of the Swiss Constitution exists in English, the Swiss Federal Law on Spatial Planning was translated by the author. Own translation also applies for all Swiss or French documents where no official translation was available.

Table 2.4 Selected extracts from the Swiss Federal Law on Spatial Planning (RPG)

Article	Content
Art. 1 goals	1. The Federal government, cantons and municipalities shall ensure that land is used thriftily and that building land is separated from the non-building land 2. They support by means of spatial planning measures in particular the following objectives: a. Protection of the natural resources such as soil, air, water, forest and landscape; a^{bis}. Directing the settlements development inwards by taking into account adequate housing; b. creation of compact settlement development
Art. 3 planning principles	2. The landscape shall be conserved 3. The settlements shall be designed according to the needs of the population and settlements must be limited in their extent

Source Own translation, based on the RPG (2016)

As previously mentioned, in addition to the Federal Constitution, spatial planning is regulated in more detail by the Federal Law on Spatial Planning. Table 2.4 contains a selection of particularly important articles of the Federal Law on Spatial Planning in the context of the present book.

The mandate of the Federal Spatial Planning Law can be summarised as aiming at spatial planning in a manner, which is characterised by a thrifty use of land, an orderly and concentrative settlement development as well as a protection of landscapes and natural resources (Wegelin 2006).

Article 1 lays down the goals of the law, and can be summarised as a careful use of resources. Article 3 specifies planning principles, and states that landscape protection and citizens' needs must be included in spatial planning. Those two articles are especially applicable for the present book because they refer to relevant components for sustainable spatial planning measures and their acceptance: According to Article 1(1), land must be used in a thrifty way, which indirectly refers to efficiency. How protection of natural resources and a desired settlement development can be achieved is defined in Article 1(2) and is "by means of spatial planning measures". Article 3(2) firstly states that "landscape shall be conserved". Secondly, it is claimed by the article that "settlements shall be designed according to the needs of the population and settlements must be limited in their extent".

Based on the clarification of the legal establishment of spatial planning in Switzerland, existing domestic spatial planning measures are presented in the next section.

2.4.3 Spatial Planning Measures in Switzerland

Within the Federal Spatial Planning Law, the use of spatial planning measures is explicitly referred to. As discussed earlier, within the law, spatial planning measures are mentioned as means for municipalities, cantons and the federal state to help pursue the defined goals. Additionally, reference is made to the utilization of measures at various points within the law. For instance, Article 3(a^{bis}) of the Federal law claims for a use of measures to achieve a better use of fallow or insufficiently used areas in construction zones and to increase the density of settlement areas.

With regard to the form and design of spatial planning measures, section two of the Federal Spatial Planning Law is entitled *Measures of spatial planning*. This section refers to different measures such as (*cantonal*) *structure plans*, *sectoral strategies* and *sectoral plans*, *utilisation plans*, *usage plans* and *federal subsidies*. Overall, the measures within the Federal Spatial Planning Law do not contain innovative policy instruments but rules. Spatial planning measures in Switzerland mainly consist of instruments on the basis of command-and-control or of financial support (Frey and Zimmermann 2005, p. 10; Süess and Gmünder 2005). Since the middle of the 20th century, several popular votes also contained market-based policy measures. Spatial planning measures in Switzerland will be considered in greater detail within the empirical parts of this book and a distinction between regulations and market-based policy instruments for popular votes in the area of spatial planning in Switzerland is one central aspect of the first empirical study in Chap. 4.

Despite the predominant use of spatial planning instruments on the basis of command-and-control, market-based instruments also became a focus of interest as a new approach for a sustainable spatial planning in Switzerland (Süess and Gmünder 2005, p. 58; see also Wegelin 2006; Zollinger 2005). Frey and Zimmermann (2005, p. 10) claim that the chosen policy instruments are one main reason for insufficient spatial planning in Switzerland and that they do not meet their goals such as countering urban sprawl or protecting the environment for future generations. Likewise, Wegelin (2006, p. 181) stresses that the goals of Swiss spatial planning are not met in reality and concludes that one solution which would help to strengthen the goal attainment of the Federal Spatial Planning Law to counter negative externalities is the use of market-based instruments.

Therefore, new policy instruments based on incentives are required. Regarding such policy instruments, however, some studies point to the direction that voters seem to be rather sceptical towards market-based instruments (Frey and Zimmermann 2005; Stadelmann-Steffen 2011; Süess and Gmünder 2005). Nevertheless, within a direct-democratic system such as Switzerland, new policy instruments require citizen support. For this reason, Chap. 3 explores citizens' acceptance of spatial planning measures from a conceptual perspective.

Chapter 3
Democratic Acceptance of Spatial Planning Policies

Abstract This chapter defines the second central concept of the book, namely *acceptance*, by emphasising the distinction between the terms *acceptance* and *acceptability*. The main issues addressed in this chapter are threefold: Firstly, this chapter begins with a clarification of the term acceptance in the context of public policies and how acceptance can be operationalized and measured empirically. Both potential methods to measure public policy acceptance as well as the acceptance operationalization applied in this book are presented (Sect. 3.1). Subsequently, the institutional anchorage of direct democracy in Switzerland and the domestic usage of direct-democratic instruments are discussed (Sect. 3.2). This chapter closes with an overview of the state of research regarding the acceptance of public policies, also covering research on democratic acceptance in environmental and transport policies (Sect. 3.3).

Keywords Acceptance and acceptability · Operationalization of democratic acceptance · Direct-democratic instruments · Direct democracy in Switzerland

Within a direct-democratic system, citizens have the veto right on political decisions such as new policy measures. A potential veto can be minimised by shaping political decisions in a way that their acceptance by the citizens is maximised. In this respect, it is important to clarify the term *acceptance* in a first step and then investigate its determinants in a second step. It is also important to emphasise, however, that the aim of this book is not to shed light on the psychological composition or nature of acceptance as such. Contrary, a broad definition of acceptance enables an analysis of most universally applicable acceptance determinants.

The main issues addressed in this chapter are threefold: Firstly, this chapter begins with a clarification of the term acceptance in the context of public policies and how acceptance can be operationalized and measured empirically (Sect. 3.1). Subsequently, this chapter discusses democratic acceptance against the background of direct democracy in Switzerland, which serves as the object of research (Sect. 3.2). Finally, a compact overview of the state of research regarding the acceptance of public policies will be given (Sect. 3.3).

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3.1 Definition of Acceptance of Public Policies

Acceptance is a broad concept with a variety of definitions. This section approaches acceptance gradually. First, a general and semantic definition of acceptance in the area of public policies will be proposed, followed by a clarification between the two terms *acceptance* and *acceptability*.

The Oxford Dictionaries differentiate between three different meanings of the term *acceptance* (Oxford Dictionaries 2017):

(1) "The action of consenting to receive or undertake something offered"
(2) "The process or fact of being received as adequate, valid, or suitable"
(3) "Agreement with or belief in an idea or explanation"

With regards to the acceptance of public policies, Wüstenhagen et al. (2007, p. 2684) state that it "is an often used term in the practical policy literature, but clear definitions are rarely given". However, one example taken from energy policies for an attempt of a definition is provided by Upham et al. (2015, p. 103) who define acceptance as "a favourable or positive response (including attitude, intention, behaviour and – where appropriate – use) relating to a proposed […] system, by members of a given social unit (country or region, community or town and household, organization)." Another example of a relatively general definition originates from Vieira et al. (2007, p. 424), who define acceptance of transport policy measures (TPI) by stating that it "translates the stakeholders' appreciation and level of agreement on new TPIs."

For a suitable definition in accordance with the research focus of this book, I propose a definition of the term *acceptance* as a combination derived from all three definitions in the Oxford Dictionaries (2017). Acceptance is defined as,

> *agreement* with a spatial planning policy measure by receiving it as *adequate, valid, or suitable*, which is expressed by citizens' voting decisions, and represents an *action of consenting* to a ballot proposal.

This definition meets two of the three general requirements for a general but clear definition of the construct of acceptance. Schade and Schlag (2003, p. 47) maintain, that acceptance can only be "conveniently described" by answering the questions regarding "acceptance of what, through whom and under which conditions and circumstances". The three relevant components for a general capture of acceptance therefore are *what*, *through whom* and *under which conditions*. While the first two components (*what* and *through whom*) are already given by the present book's research approach, the third component (*under which circumstances*) refers to the research goal: *Acceptance of what* corresponds to policy measures in the context of spatial planning and is the policy area of interest for this book. The component of *acceptance through whom* is insofar already answered by the research question of analysing *democratic* acceptance, thus this component refers to voters. The third component to capture acceptance refers to the question *under*

which conditions and circumstances something is accepted. Hence, this latter question addresses, in a broad sense, the research aim of this book.

3.1.1 Differences Between Acceptability and Acceptance

When approaching the concept of acceptance, differentiation must be made between the two concepts *acceptability* and *acceptance* (Schade and Schlag 2000, pp. 5–9, 2003, p. 47). Both concepts can be distinguished by several dimensions. *Acceptability* concerns ex ante and *acceptance* ex post judgement of an object: "The term acceptability describes the prospective judgment of measures to be introduced in the future" and "[a]cceptance defines respondents' attitudes including their behavioral reactions after the introduction of a measure" (Schade and Schlag 2003, p. 47). Based on this distinction, the term acceptability is understood as a positive attitude towards an object or towards object-related behaviour. The term acceptance describes the intention to behave in a way which is consistent with positive attitudes towards an object (Schade and Schlag 2000, 2003). Beside these aspects that can be described as distinctive dimensions of *intensity* (attitude versus behaviour) and *time* (ex ante versus ex post), two further distinctive dimensions can be added.

Additional distinctive dimensions can be proposed by arguing that acceptability relates to the object's ability to satisfy the corresponding need or requirement (e.g. it is acceptable) whereas acceptance concerns the voter's judgement of the object in its ability to satisfy the need or requirement (e.g. a ballot). This distinctive dimension is referred to as *point of reference* and can either be object-related for acceptability or subject-related for acceptance. Figure 3.1 illustrates the relationship between acceptance and acceptability by the distinctive dimension *point of reference*. Additionally, the direction of the arrows indicate the previously introduced *time* dimension, which defines acceptability as an ex ante attitude towards the object and acceptance as ex post behaviour.

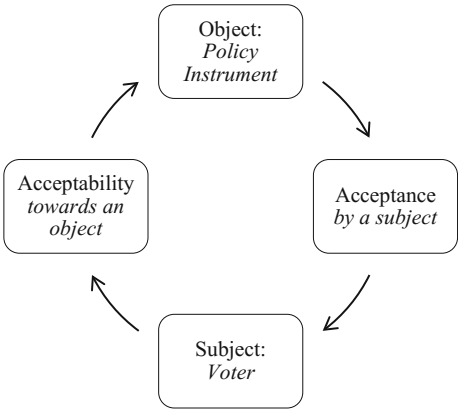

Fig. 3.1 Acceptability and acceptance by the point of reference dimension.

Table 3.1 Dimensions of acceptance and acceptability

Dimension	Acceptability	Acceptance
Intensity	Attitude	Behaviour
Time	Ex ante	Ex post
Point of reference	Object-related	Subject-related
Application	Fictional	Factual

Source Own representation and additions; partly based on Schade and Schlag (2003, 2000)

Another distinctive dimension is *application*, and refers to whether the issue of concern is fictional or factual in its nature. This dimension captures whether acceptance relates to an imaginary or a factual issue/action. *Application* therefore is similar to the *intensity* dimension, but while *intensity* is related to time, *application* is independent of it. Instead, the *application* dimension describes the importance of the issue of acceptance or acceptability for a person. Regarding ballot proposals, for instance, a voting decision reflects *acceptance* if it is a real ballot, e.g. the voting decision influences a political outcome. *Acceptability*, in turn, is expressed if people have to vote on a fictitious issue. In both cases, an action is performed but the actions differ with regards to the meaning at the individual level. Table 3.1 summarises the different dimensions to distinguish acceptability and acceptance.

The differentiation between acceptance and acceptability is important mainly from a theoretical perspective. Nevertheless, as illustrated by the research design in Sect. 1.4, to be able to cover both acceptance and acceptability, two empirical studies of this book analyse voters' acceptance, while the third study examines acceptability (Fig. 1.2). However, for the sake of better readability, acceptability and acceptance will both be referred to as acceptance throughout this book, apart from within the third study, which explicitly examines acceptability.

3.1.2 Measuring Democratic Acceptance of Spatial Planning Measures

When analysing democratic acceptance, in addition to the clarification of the term acceptance, a clear operationalization of this concept is required. With respect to acceptance of public policies, a relatively large body of research exists on acceptance of environmental and transport related policies (see e.g. Comte et al. 2000; Eriksson et al. 2008; Kallbekken and Sælen 2011; Schade and Schlag 2003; Steg et al. 2006; Van Der Laan et al. 1997; Vatter et al. 2000).[1]

[1]In field research, acceptance is also referred to as *public acceptance* (e.g. Kallbekken and Sælen 2011), *public acceptability* (e.g. Schade and Schlag 2003), or, as part of the broader concept *social acceptability* (e.g. Upham et al. 2015; Wüstenhagen et al. 2007).

Surprisingly, far less research exists on the acceptance of spatial planning measures. Research on spatial planning measures often only indirectly refers to acceptance (see e.g. Faludi 2000, p. 309; Lewis and Baldassare 2010; Mohamed 2008; O'Connell 2009) or to growth control measures, which also only indirectly address spatial planning (Connerly and Frank 1986; Chapin and Connerly 2004; Gottdiener and Neiman 1981; Wassmer and Lascher 2006).[2]

Nevertheless, the areas of transport and environmental policies are in some way similar to the area of spatial planning policies because like spatial planning policies, transport policies often affect people in a direct manner, and often address related social problems. Environmental and spatial planning policies have in common, that they both concern the protection of natural resources and thus have regional and local attributes (Knoepfel and Narath 2006). It might therefore be, that acceptance conceptions from the areas of transport and environmental policy measures are relatively well applicable for the area of spatial planning measures.

Van Der Laan et al. (1997, p. 2) provide a summary of different approaches to measure acceptance in the area of transport telematics and deduce that "there seem to be as many questionnaires and methods to measure acceptance as there are system-evaluation studies." Comte et al. (2000, p. 260) arrive at a similar conclusion by stating that the "concept of acceptability can be studied in a number of ways." This variety becomes apparent by the manner acceptance is operationalized and therefore described in empirical studies. In a literature review on public acceptance of road pricing schemes, Jaensirisak et al. (2005) have gathered different terminologies that were used in literature to capture acceptance. Accordingly, there is a wide diversity of terms describing acceptance in surveys, ranging from "support", "agree", "in favour", "a good idea", "should be introduced", and "good thing" to "acceptable" (Jaensirisak et al. 2005, pp. 130–134). The empirical measurement of acceptance can generally be categorised into more and less complex approaches.

One example for a more complex measurement of acceptance is the approach by Van Der Laan et al. (1997), which consists of nine attitude-items. Respondents were asked for their judgements along with items such as "useful" versus "useless" or "pleasant" versus "unpleasant" (Van Der Laan et al. 1997, p. 3). Other examples for complex approaches to capture acceptance are studies using combinations of different methods, including among others, self-ranking of preferences (Comte et al. 2000; see also Levine and Frank 2007).

In contrast to these examples for complex measurements of acceptance, numerous studies propose a more intuitive operationalization. A common way of measuring acceptance is by equating it with support, for example by asking "If there was a referendum today on what should happen to the fuel taxes […], which alternative would you vote for?" (Kallbekken and Sælen 2011, p. 2969). Alternatives are straightforward scales which directly ask for the respondents' acceptance or agreement such as ranging between 1 "not acceptable at all" or

[2]See Sect. 3.3 for a more detailed overview of the state of research in this research area.

"unacceptable" and 5 "very acceptable" (Poortinga et al. 2003, pp. 53–54; see also Schuitema et al. 2010; Steg et al. 2005, pp. 418–419) or from "1 (strongly disagree)" to "5 (strongly agree)" (Boomsma and Steg 2014, p. 26; see also Connerly and Frank 1986; Eriksson et al. 2008, p. 1121). Those scales can also be combined with a similar scale referring to features of the policy instrument itself (see e.g. Boomsma and Steg 2012, 2014).

Public acceptance is often understood as "voter approval" by differentiating "voting for or against" a measure (Hamideh et al. 2008, p. 152; see also Hannay and Wachs 2007). Alternatively, some studies employ two questions for measuring acceptance, i.e. one asking for respondents' attitudes towards a measure and a second one asking for respondents' willingness to vote (Fujii et al. 2004, p. 288; Jakobsson et al. 2000, p. 155).

Due to the research focus of this book, which aims at deriving general conclusions about voters' acceptance determinants of spatial planning measures, the latter approach of a more inclusive acceptance measurement is more advantageous compared to a complex approach with various degrees of approval. In the light of these considerations, democratic acceptance is herein understood as the sum of voters' acceptance of a policy measure. Likewise, Vatter et al. (2000, p. 3) declare that acceptance of a policy measure can be expressed by an approval or a rejection by the majority of voters. This understanding of acceptance is in line with Jaensirisak et al. (2005, p. 139) who claim that "various definitions of acceptability have been used, but a fundamental issue is whether the public would vote for a scheme."

Accordingly, a dichotomous operationalization of acceptance for voting decisions is applied. Importantly, it distinguishes acceptance from its opposite, namely rejection. My argument is, that for voters' acceptance, the individual degree of approval is irrelevant because voters' main mode to express their degree of approval is by means of voting decisions. Within direct-democratic decisions, voters have two main options to express their acceptance, which are either voting for (by voting 'yes') or against (by voting 'no') the ballot proposal. There might be other strategies such as in the form of protest, thereby nullifying a ballot proposal on purpose. These other strategies, however, do not change the final outcome of a direct democratic decision, which relies upon the percentage of people voting 'yes' and the percentage of people voting 'no'. If those who voted in favour of the ballot are the majority, the ballot is accepted. Jaensirisak et al. (2005, p. 139) argue that using "a referendum response scale" has the advantage that it "send[s] the clearest signal to policy makers not only of what individuals most want but also of what is politically feasible." Accordingly, by applying a dichotomous acceptance operationalization, which reflects the voting decisions, the degree of realism increases and hence might simultaneously enhance the transferability of findings to practice.

Furthermore, this operationalization of acceptance is in line with the empirical research of voters' acceptance determinants, in which acceptance is often defined as a binary variable or as voters' approval on a referendum (see e.g. Cherry et al. 2012; Hamideh et al. 2008; Jaensirisak et al. 2005; Kriesi 2005; Stadelmann-Steffen 2011; Thalmann 2004). Nevertheless, it is important to emphasise, that this

operationalization of the democratic acceptance of a policy measure in terms of the approval or rejection of a popular vote neither takes into account information concerning the received impact of the policy measure nor its efficiency and effectiveness.

The dichotomous operationalization of acceptance as the dependent variable remains the same in the empirical parts of this book. More precisely, the dependent variable remains *acceptance* throughout all empirical analyses of this book and it is measured as a binary voting decision, which is coded 1 for citizens who voted 'yes' and coded 0 for citizens who voted 'no'. All other voting decisions such as nullifying the ballot were excluded from the data.

Besides the operationalization of acceptance as a voting decision, the democratic context in which a vote takes place is important. As previously stated, Switzerland serves as the object of investigation within this book. The peculiarity of Switzerland that makes it especially suitable for the analysis of voting decisions is its direct-democratic system, which is discussed in Sect. 3.2.

3.2 Direct Democracy in Switzerland

The Swiss political system constitutes a special case compared to other modern democracies. Among other peculiarities, one distinctive characteristic of the Swiss political system is its semi-direct democracy and its direct-democratic procedures.[3] Switzerland has the worldwide furthest developed direct-democratic system (Vatter 2014, p. 29). Although the Swiss political system has additional political peculiarities (see also Linder 2005; see Vatter 2014), with regard to the research aim of this book, the focus here lies on the direct-democratic system. When considering the importance of direct-democratic decisions in Switzerland, Linder (2005, p. 244) maintains that political decision-making processes in Switzerland follow the fundamental formula that the most important decisions are made by the citizens, important decisions are made by the parliament and the remaining decisions are made by the government. Fleiner (2002, p. 109) argues that "[i]n Switzerland, democracy is perceived as a tool of individual and collective self-determination and, thus, of individual and collective freedom. If self-determination cannot be achieved individually, it has to be achieved democratically within a community."

It follows that direct-democratic decisions by the citizenship are considered of high importance within the Swiss political system. Switzerland is the country with

[3]As Switzerland has a parliament and a government in which direct-democratic decisions are embedded, the Swiss political system is often referred to as *semi*-direct democracy (Linder 2005, 2010). However, following Linder (2005, p. 242), the term *direct democracy* is used in this book, as it refers to citizens' rights, their use or specific popular votes and decisions. Or, to be more precise, the collectivity of direct-democratic tools (Milic et al. 2014, pp. 34–35). Semi-direct democracy, in contrast, describes the entirety of decision-making systems wherein government, parliament and citizens interact and collaborate (Linder 2005, p. 242).

the largest number of popular ballots at the national level worldwide (Christin et al. 2002; Sager and Zollinger 2011, p. 28; Trechsel and Kriesi 1996) and popular votes are held on a quarterly basis at all state levels (Vatter 2014, p. 29). Approximately a quarter of referenda worldwide take place in Switzerland (Vatter 2014, p. 343).

3.2.1 Direct-Democratic Rights in Switzerland

Broadly speaking, two main Swiss direct-democratic tools can be distinguished, namely *referenda* and *popular initiatives* and these have various subgroups.[4] The main difference between referenda and popular initiatives in the Swiss political context is that the former is a tool for votes on parliamentary decisions, while the latter describes the political right to obtain a desired constitutional amendment (see Linder 2005, 2010; Vatter 2014).

Referenda are distinguished between an *obligatory referendum* and an *optional referendum*. A referendum is obligatory when the parliament proposes decisions which contain an amendment of the constitution. Additionally, accessions to supranational organisations or collective security organisations are also subject to an obligatory referendum (Linder 2005, pp. 248–249). An obligatory referendum also takes place in the case of specific federal laws, which do not have a constitutional basis and a period of validity of more than one year (Milic et al. 2014, p. 46). In contrast, an *optional referendum* allows citizens to enforce a popular vote on different parliament decisions if at least 50,000 citizens or eight out of the 26 cantons demand a referendum officially within 100 days after the publication of the law or decision (Linder 2010, p. 93).[5] Within the popular vote, citizens then have the chance to reject or approve the decision with a simple majority of voters (Linder 2010, p. 93).[6]

The second direct-democratic tool, popular initiatives, enable citizens to request an annulment or amendments of parts of the constitution (*partial revision*) or even an amendment of the whole constitution (*total revision*) (Linder 2005, p. 253). To launch a popular initiative, 100,000 signatures on a formal proposition are required, which have to be collected within a period of 18 month (Linder 2005, p. 253; see also Linder 2010, p. 95; Milic et al. 2014, p. 59). After that, the parliament and the government discuss the initiative and "adopt formal positions on the proposed changes" before the initiative is submitted to a popular vote (Linder 2010, p. 95). In

[4]For a detailed overview of all different types of referenda and initiatives, see Linder (2005, pp. 247–264, 2010, pp. 92–108), Milic et al. (2014, pp. 35–42) and Vatter (2014, pp. 347–357).

[5]For an overview of the legal bases that allow a call for an optional referendum, see Milic et al. (2014, p. 53).

[6]Note that there is no turnout quorum for any of the Swiss direct-democratic instruments (Milic et al. 2014, p. 55).

contrast to optional referenda, obligatory referenda and initiatives require the approval by the majority of voters as well as the majority of cantons because they imply constitutional amendments (Linder 2010, p. 95).[7]

3.2.2 Usage of Direct-Democratic Rights

Direct-democratic tools are often used for the mobilisation and articulation of interests by the opposition. Both referenda and popular initiatives can therefore be understood as being control tools of the decision makers by the opposition (Linder 2005, p. 246). This understanding also explains why the usage of optional referenda and popular initiatives have been particularly strongly increased over the last forty years. Because of an increased polarisation of the political parties, left-wing parties and in recent times also conservative and right-wing parties have made use of optional referenda and popular initiatives as an opposition tool (Vatter 2014, p. 349).

Altogether, popular initiatives are used more frequently than optional referenda. At the same time, popular initiatives only have a small chance of being accepted as they are rejected in nine cases out of ten (Linder 2005, pp. 245–247). In recent years, however, not only has the number of initiatives increased, but also their success rate. Between 2004 and 2013, more than 25% of the initiatives have been accepted (Vatter 2014, p. 352). Regarding initiatives, three quarters of decisions requiring an obligatory referendum and more than half of the optional referenda have been accepted by the voters (Vatter 2014, p. 351). The experience of Swiss citizens with direct-democratic votes also becomes evident by the total numbers of popular votes: Between 1848 and June 2016, in total 604 popular votes at the federal level took place in Switzerland, with 218 being obligatory referenda, 180 optional referenda and 206 popular initiatives (SFSO 2016). Thus, Swiss citizens have a high level of familiarity with direct-democratic decisions and Switzerland therefore serves as an ideal case to analyse democratic acceptance.

As differences between the direct-democratic procedures are not a focus of interest in this book and for the sake of better readability, the term *referendum* is used hereinafter in a non-Switzerland specific manner and it is therefore understood as a synonym for *popular vote*.

[7]Popular initiatives at the federal level are limited to decisions concerning the constitution, while initiatives have a broader scope of application at the cantonal level (Linder 2010, p. 95). For further information, see also Vatter (2014, pp. 353–358).

3.3 State of Research on Democratic Acceptance Determinants of Policy Measures

Before introducing the empirical parts of this book, a glance at existing research is required. As outlined in Chap. 1 and Sect. 3.1.2, democratic acceptance of spatial planning measures has received little research attention so far. At the same time, as discussed in Sect. 2.1, spatial planning is a broad research field, and has been analysed from several perspectives and comprises numerous disciplines. This makes a complete coverage of literature impossible. A detailed presentation of existing related literature such as people's preferences of land use and residential arrangements, which is not directly related to the research aims of this book is beyond the research focus (see e.g. Brody et al. 2006; Mohamed 2008; Morrow-Jones et al. 2004; Myers and Gearin 2001; O'Connell 2009; Richer 1995; Schwanen and Mokhtarian 2005; Tian et al. 2015). Therefore, only selected studies will be presented.

Research strands in the broader context of the research field of spatial planning on the inclusion of citizens into spatial planning processes focus on citizens' or other stakeholders' participation in spatial planning processes (see e.g. Bedford et al. 2002; Berman 2017; Burby 2003; Conrad et al. 2011; Drazkiewicz et al. 2015; Eiter and Vik 2015; Innes and Booher 2004; Koontz 2005; Levine and Frank 2007; Rydin and Pennington 2000) or on the effects of a direct-democracy as an institution or other political institutions on growth (see e.g. Gerber and Phillips 2004; Lubell et al. 2009). Further research in this context explores governments' choices or preferences for specific land use instruments (Feiock et al. 2008; Ramírez de la Cruz 2009).

Existing research in the area of spatial planning with the most similar research focus compared to that of this book concerns growth control measures, predominantly at the community level and people's attitudes towards it. Selected studies in this context are presented in the following sections.

By means of discriminant function analysis of survey data on registered voters, Gottdiener and Neiman (1981) explored people's support of growth control within the community. More concretely, they examined people's preferences towards a growth-control measure that was accepted by citizens in the city of Riverside (California, US). Their findings reveal that a preference for the measure existed among "a cluster of what might be labeled 'liberal' policy preferences, because they call for an increased role by local government in managing the environment and in maintaining the supply of social services" (Gottdiener and Neiman 1981, p. 67). They could not find evidence for an impact of the socioeconomic status at preferences towards the measure (Gottdiener and Neiman 1981).

Connerly and Frank (1986; see also Connerly 1986) conducted a survey in order to analyse the support of growth management in Florida (US). Their results indicate an overall high support of growth controls but findings could not provide any evidence for an impact of the social class or personal characteristics on people's attitudes towards growth controls. Concerning socio-demographic characteristics,

race, age and education had a significant impact on support. Thus white, more elderly and higher educated people were more likely to support growth controls. Those respondents who believed population growth to be one of the most important problems in Florida were found to be strongly in favour of growth controls, and environmental concerns also had a positive impact on support. Another finding showed that those who supported growth controls had more concerns about which nationality moves into the community (Connerly and Frank 1986, pp. 582–585).

In a case study in 1989, Gale and Hart (1992) investigated by means of a telephone survey, citizens' attitudes towards growth management plans that were planned to be introduced in Maine (US). They found evidence for socioeconomic characteristics having an impact on support of local comprehensive planning. Their findings indicated that support for state-mandated growth management was positively influenced by high education, high income and high professional positions as well as by being Republican. Furthermore, the findings did not confirm any association between people's preferences towards growth management and "other growth-related issues" such as "environmental protection" (Gale and Hart 1992, p. 203).

Baldassare and Wilson (1996) examined changes in people's support for local growth controls between 1982 and 1993 in Orange Country (California, US) on the basis of annual surveys. Findings showed a first decreasing and then increasing support of growth controls. Moreover, results suggested "negative community perceptions" being "consistently related to support for local growth controls" (Baldassare and Wilson 1996, p. 459). Community perception was understood as satisfaction of residents with their localities, for example regarding local services and facilities. Moreover, "higher socio-economic status" was related positively to the support of growth controls at the beginning of the examined period, whereas "perceived rapid growth" was found to be a significant factor for the later examined period (Baldassare and Wilson 1996, p. 459). Another significant factor was gender. Results suggested that women were more likely to support growth controls than men (Baldassare and Wilson 1996, p. 464).

In a case study by means of a survey, McLeod et al. (1999) explored factors influencing preferences for rural land use control in Wyoming (US). Results showed that "decisions regarding support for land use controls" were "based primarily on individual's demographic characteristics" (McLeod et al. 1999, p. 54). In this regard, education, age and income were important for respondents' preferences on cluster development, while these factors had a negative impact on zoning and purchase of development right. Additional factors that had an impact on respondents' preferences were "[a]ttitudes towards private land management" and "quality of life assessment" (McLeod et al. 1999, p. 54).

Chapin and Connerly (2004) compared residents' attitudes towards growth management in Florida (US) in 1985 and 2001 using survey data. They found an overall high support for growth management in both years and diminished support for government intervention in growth management in 2001 compared to 1985.

Wassmer and Lascher (2006) compared survey data from California (US) in 1989 and 2002 in order to examine factors influencing citizens' support for local

growth. Their findings reinforced those by Chapin and Connerly (2004) as they found an overall high support of local policies aiming at mitigating growth. They also found evidence that "[w]omen and residents of higher per capita income counties were more likely to believe that their county had reached its growth limit" as well as people who considered sprawl as an important issue for their region (Wassmer and Lascher 2006, p. 621). The study's finding also indicated that age and conservative political attitudes impact the support of local growth (Wassmer and Lascher 2006).

Using randomised telephone surveys in California (US), Lewis and Baldassare (2010) investigated people's preferences regarding compact development trade-offs. Findings yielded preferences by respondents for compact development compared to sprawling growth. Although race, age and presence of children in the household in many cases were associated to respondents' preferences, the only characteristic that was consistently associated with attitudes towards growth was political preferences. Conservatives were less likely to support compact development compared to people with moderate or liberal political preferences (Lewis and Baldassare 2010, p. 233).

Turner et al. (2013) explored suburban support for specific suburban growth management measures adopted by the county in Loudon County (Virginia, US) using survey data. They found that "perceptions of local government's general efficacy in growth management" impacts support for a specific growth management measure as well as local growth rates. People "who generally support local government efforts to manage growth and who live in high-growth communities" were more likely to support specific growth management measures (Turner et al. 2013, p. 15).

Compared to spatial planning policy, a rather large body of research which directly addresses democratic acceptance of policy measures exists in related public policy areas, namely environmental policies or transport policies. As research in the areas of environmental and transport policies also addresses the question of what determines the acceptance of policy instruments, an overview of the state of research in these fields also helps to put research on acceptance of spatial planning policies in context.[8] Hence, summaries of findings from selected empirical studies on acceptance of policy instruments in the area of environmental policies are given in Sect. 3.3.1, followed by an overview of findings on acceptance of policy instruments in the area of transport policies in Sect. 3.3.2. Building on these literature overviews, Sect. 3.3.3 introduces the empirical parts of this book.

[8]Due to the amount of studies in these research areas, a complete outline of research is not possible but selected studies' findings will be presented instead. For more detailed reviews, see Perlaviciute and Steg (2014), Steg and Vlek (2009), Wüstenhagen et al. (2007), Gärling and Schuitema (2007), Jaensirisak et al. (2005).

3.3.1 Findings from Environmental Policies

The effect of values, organisational goals and norms on the willingness to accept climate change policies was examined by Nilsson et al. (2004), with a sample consisting of 356 decision makers within the public and private sectors in Sweden. Their findings revealed that "for decision makers in the public sector, but not in the private sector, environmental values were important determinants of willingness to accept climate change policy measures" (Nilsson et al. 2004, p. 267).

Steg et al. (2006) conducted a survey with 112 respondents in the Netherlands to examine the perceived effectiveness and acceptance of pricing policies for a CO_2 reduction. Their results led to the conclusion that features of a policy influenced its effectiveness and acceptance. Accordingly, respondents preferred incentive-based measures (*carrots*) over disincentive-based measures (*sticks*) (see also Steg et al. 2005, 2006).

In 2007, the journal *Energy Policy* published a special issue on social acceptance of renewable energy innovation. Within this issue, several authors investigated acceptance determinants of different renewable energies. Jobert et al. (2007) analysed factors of success for the acceptance of wind energy at the local level by means of five cases in France and Germany. They argue that factors impacting acceptance can be divided into two categories, namely institutional conditions and site specific conditions, which are territorial factors. They conclude that "[t]he case studies confirm the factors of social acceptance identified in the literature: visual impact, ownership, information and participation." In the same issue, Gross (2007) conducted a pilot case study in Australia to investigate social acceptance towards wind energy. Her findings demonstrated that "perceptions of fairness do influence how people perceive the legitimacy of the outcome, and that a fairer process will increase acceptance of the outcome" (Gross 2007, p. 2727). Also in this issue, Mallett (2007, p. 2798) investigated the role of technology cooperation for social acceptance of renewable energy innovations in Mexico and concludes from the findings that social acceptance was greater "with those companies that are actively involved in networks involving academic, private and public-sector actors and where there are high levels of consistent communication." The findings by Maruyama et al. (2007) within the same issue point to a similar direction. Their study concerning community wind power systems in japan revealed that "the important thing in boosting the social acceptance of a technology is whether or not a system" can "offer a variety of benefits" (2007, p. 2768). Variety of benefits refers to qualitatively diverse benefits as wind power sets different incentives for different actors (Maruyama et al. 2007).

In a representative Norwegian survey with 1,177 respondents, Kallbekken and Sælen (2011) investigated public acceptance of environmental taxes, namely fuel taxes. They found that acceptance of fuel taxes "is best predicted by beliefs about environmental consequences, followed by consequences to others" and socio-political variables (Kallbekken and Sælen 2011, p. 2972).

Using survey data from 21 ballot measures on climate change policies taken between 1984 and 2003 in Switzerland, a study by Stadelmann-Steffen (2011) revealed that female, highly educated and employed voters were more likely to vote in favour of climate policies compared to male and less educated voters. Further individual determinants that influenced voters' acceptance positively were trust in government and supporting the Green party. She also found evidence that on the one hand voters prefer regulations over market-based policy instruments. On the other hand, her findings demonstrated that "[s]trong support by political actors increases the probability that voters accept a policy measure on the ballot" (Stadelmann-Steffen 2011, p. 500).

By means of an experiment among 95 participants, Cherry et al. (2012) examined the acceptance of efficiency-enhancing environmental taxes, subsidies and regulations. Their findings point to a "possible trade-off between acceptability and efficiency" as "overall more than half of voters oppose efficiency-enhancing policies" (Cherry et al. 2012, p. 90). Moreover, results suggested a substantial tax aversion among participants. Finally, their results indicated that the language which describes the policy also has an impact on acceptance (Cherry et al. 2012).

By investigating the acceptance of nuclear energy among 128 Dutch respondents, Im Groot et al. (2013) found egoistic values to be positively related with acceptance. Egoistic values were defined as values when people "consider the risks and benefits of nuclear energy to themselves" contrary to altruistic and biospheric values (Im Groot et al. 2013, pp. 308–309). Moreover, their findings led to the conclusion that "the perceived risks and benefits were able to predict a substantial proportion of the variance in acceptability judgments" (Im Groot et al. 2013, p. 315).

Boomsma and Steg (2014) studied the effect of information and values on the acceptance of reduced street lighting. Their findings revealed that "acceptability of reduced street lighting policies can be increased by providing individuals with information on the environmental impact of street lighting" if information is "in line with important individual values", namely "strong biospheric values who more strongly care about the quality of nature and the environment" (Boomsma and Steg 2014, p. 30).

3.3.2 Findings from Transport Policies

A study which is closely linked to the research focus of this book is by Vatter et al. (2000) as they also analysed acceptance determinants in Switzerland based on Vox-data[9] and additional survey data. Their research area, however, was transportation policy. Their analysis revealed several factors which impact voting in favour of a ballot proposal on the one hand and the acceptance of policy

[9]See Sect. 1.4 for a clarification of the Vox-data.

implementation on the other. They found transportation policies to have an overall high degree of voter acceptance compared to other policy fields. Factors that were found to influence voters' acceptance are elite support, a combination of specific policy goals and people's income. Moreover, the findings by Vatter et al. (2000) suggested a low acceptance of efficient policy measures by those who are negatively affected by a measure and a low acceptance of policy instruments which would lead to a limitation of mobility. They conclude that "especially relevant in the supporting of sustainable transportation policy" are "[p]eople living in urban centers", "people who do not own a car and use public transportation", "people that are politically left and support postmaterialistic values" and people "living in German-speaking Switzerland" (Vatter et al. 2000, p. 4).

One central finding of a study by Comte et al. (2000) on drivers' acceptance of automatic speed limiters is that measures had a higher level of acceptance if they "impact on only those who break the speed limit" compared to "measures which could be expected to have more wide ranging impacts", although the former were often characterised by stricter enforcement such as more speed cameras, for instance" (Comte et al. 2000, p. 265).

Jakobsson et al. (2000) analysed determinants of road pricing acceptance in Sweden with a sample of 524 private car users. Their results indicated that "acceptance of road pricing is negatively affected by the perceived infringement on freedom and unfairness" (Jakobsson et al. 2000, p. 154). They could not find evidence that "concern about the environment" affects acceptance (Jakobsson et al. 2000, p. 156). The finding on the relevance of perceived fairness for the acceptance of road pricing could be confirmed by a study by Fujii et al. (2004) who carried out a similar study to the one by Jakobsson et al. (2000) in Japan and Taiwan, surveying 210 car owners.

Harrington et al. (2001) examined public support towards congestion pricing by means of 1,743 interviews in the US. Their findings demonstrated that the level of support did vary depending on specific features of the congestion pricing policy. Thus, support increased with a "promise to refund a substantial part of the revenues to the public in the form of reductions in other local taxes" (Harrington et al. 2001, p. 103).

In 2003, Schade and Schlag (2003) questioned 952 car users in four European cities, namely Athens (Greece), Como (Italy), Dresden (Germany) and Oslo (Norway) about their acceptability towards different urban transport pricing strategies. Their results revealed that those factors positively influencing car users' level of acceptability were "'social norm', 'personal outcome expectations' and the 'perceived effectiveness'" (Schade and Schlag 2003, p. 45). These factors could "explain acceptability of such measures much better than the socio-economic variables included" (Schade and Schlag 2003, p. 45).

Loukopoulos et al. (2005) investigated public attitudes towards policy measures for reducing private car use (TDM) by means of an online survey among 291 university employees in Sweden. Their results indicated that "environmental concern played a key role in understanding attitudes towards TDM measures"

(Loukopoulos et al. 2005, p. 64). Accordingly, respondents with high environmental concerns were more positive towards TDM (Loukopoulos et al. 2005).

Also TDM were the centre of research in a study by Eriksson et al. (2006), who analysed the acceptability of TDM measures in Sweden among 460 participants. Similar to the findings by Loukopoulos et al. (2005), they also found evidence that pro-environmental orientation increases the acceptability towards TDM. In addition, awareness of the problem as well as a willingness to reduce car use had a positive impact on the acceptability of TDM (Eriksson et al. 2006).

Hannay and Wachs (2007) analysed voters' acceptance of three transportation sales tax measures in the US. Their findings highlighted that voters' acceptance increased, the closer they lived to a transportation project. Other factors which were positively related to acceptance were income, political leaning and voting democratic (Hannay and Wachs 2007).

Based on a literature overview of research on the effectiveness and acceptability of TDM measures by Gärling and Schuitema (2007, p. 139), they concluded that "[i]f combined with noncoercive TDM measures providing attractive travel alternatives and communicating the benefits of car-use reduction to the public, coercive TDM measures are likely to become more effective, acceptable, and politically feasible."

The acceptability towards transport pricing policies was investigated by Schuitema and Steg (2008). They conducted a survey with 507 respondents to estimate the importance of revenue allocation for transport pricing acceptability. Findings showed that "acceptability increases when car users expect to benefit from the allocation of revenues" (Schuitema and Steg 2008, p. 229).

Similar findings to those by Hannay and Wachs (2007) were revealed in a quantitative case study of local government transportation sales taxes of the case of Ventura County in California, US, by Hamideh et al. (2008). They found that support of sales tax initiatives "increases when an independent citizen oversight committee is designated to track expenditures of tax revenues, a transportation sales tax is the only tax measure on the ballot, and there is a fixed expiration date for the tax" (Hamideh et al. 2008, p. 150). Further factors that had a positive impact on voters' acceptance were being a Democrat, people of Hispanic origin and users of public transportation. In contrast to the study by Hannay and Wachs (2007), whose findings pointed to a positive relationship between income and acceptance, Hamideh et al. (2008) found that people tended to support sales tax initiatives if they had a small annual household income (Hamideh et al. 2008, p. 150).

A study by Schuitema et al. (2010) involving 444 respondents, aimed at explaining why the level of acceptance of a congestion charge in Stockholm (Sweden) was higher after its implementation than before. Findings indicated that "acceptance of the congestion charge had increased because people experienced positive consequences" "and/or more realistic perceptions of the effects of the congestion charge" (Schuitema et al. 2010, p. 99).

It became apparent, that a large diversity of research on acceptance of policy instruments in the areas of environmental policies and transport policies exists. However, research on acceptance of policies in the area of spatial planning is far less developed and mainly concerns people's attitudes towards growth controls. This lack of research on democratic acceptance determinants of spatial planning measures is approached by three empirical studies presented in the Chaps. 4, 5 and 6.

3.3.3 Approaching Democratic Acceptance of Spatial Planning Policy Measures

The empirical studies of this book address the question of what determines the acceptance of spatial planning policy measures. The state of research presented in the previous sections demonstrated that findings on acceptance determinants are not conclusive but partly opposing. Examples are findings on the acceptance of different types of policy measures, namely incentive-based policies and policies on the basis of regulations. While Stadelmann-Steffen (2011) found less support for incentive-based policies by voters compared to regulations, the findings by Steg et al. (2006) suggest the opposite. Of course, many diverging findings may stem from different research foci and different research designs.

However, the inconsistencies of these results emphasise the need for a systematic and comprehensive analysis of acceptance determinants of policy measures in the specific area of spatial planning even more. In this regard, it is important to underline that a comprehensive approach does not mean the same as an *all-encompassing* approach, as research always requires a focus and hence embraces a somewhat simplified version of reality, such as the *Y-centred* research perspective of this book, for instance. The overview of the state of research serves as a helpful tool to decide which research foci might be reasonable.

As mentioned in Chap. 2, policy instruments do not appear and function in a vacuum but are embedded in a broader context such as its political, economic and legal environment. It follows that for approaching democratic acceptance in a first step, an inclusion of contextual factors is essential.

At the same time, when analysing direct-democratic acceptance, the decision by a voter is the decisive factor for the acceptance or rejection of a policy. Following these considerations both individual as well as contextual factors are essential to be examined simultaneously as a first step when approaching democratic acceptance.

Part II
Acceptance of Spatial Planning Measures at the Macro Level: A Multilevel Approach

Which Context Determinants Matter?

Chapter 4
Determinants of Democratic Acceptance: A Two-Level Analysis

Abstract This chapter analyses democratic acceptance of spatial planning policy measures by applying a two-level model, and using a Bayesian multilevel modelling approach. This involves analyses of 18 popular votes on spatial planning measures between 1984 and 2008 in Switzerland, implying potential acceptance determinants at the individual as well as the contextual level. The chapter opens with an overview of the applied theoretical framework for the concept of acceptance, before the theory behind individual determinants and contextual determinants, including hypotheses is discussed (Sect. 4.1). Subsequently, the data, model and methods are presented (Sects. 4.2 and 4.3), followed by the results (Sect. 4.4). The results demonstrate that determinants on both the individual and contextual level impact voters' acceptance of spatial planning measures. At the individual level, voters' political affiliations are an important factor for their voting decisions, as well as whether they are home-owners or not. At the contextual level, policy measures which contain incentive-based instruments have a higher probability of being accepted than ones that are based on bans and rules. Moreover, the degree of organisational capacity and conflict capability of interests concerned seems to influence voters' decisions. The chapter closes with a discussion on the findings and resulting conclusions (Sect. 4.5).

Keywords Multilevel modelling · Popular votes in Switzerland
Democratic acceptance determinants at individual level · Democratic acceptance determinants at contextual level · Incentive-based spatial planning measures

Research has largely explored individual characteristics that influence voting behaviour (Lazarsfeld et al. 1968) prior to a growing recognition, that in addition to individual factors, "[t]he environment shows influence on voting behaviour" (see also Bühlmann 2006; Goldberg 2014, p. 310). In this respect, Bornstein and Thalmann (2008, p. 1338) highlight that "[m]ost voting analyses neglect the crucial impact the context exerts on individual decision making". A focus on either micro or macro voting determinants only, however, suffers from shortcomings, as "micro-level research neglects the contextual framework within which individual

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actions take place, macro-level approaches face the risk of ecological fallacies" (Bühlmann and Freitag 2006, p. 15).

An alternative approach, which offers a solution to this micro-macro dualism is by including both levels within one analysis by applying multilevel modelling. A multilevel approach allows for both contextual factors as well as individual determinants to be considered. A growing number of empirical studies could demonstrate that the context of a vote, in addition to individual factors, impacts people's voting behaviour (e.g. Bornstein and Thalmann 2008; Gallego 2010; Singh 2010; Stadelmann-Steffen 2011; Werts et al. 2013).

As clarified in the previous chapters, little is known about factors that explain democratic acceptance of spatial planning measures. Therefore, democratic acceptance of spatial planning instruments is explored as a first step by contributing to the multilevel approaches. Applying multilevel modelling allows drawing conclusions of the acceptance of spatial planning measures across different issues and their corresponding popular votes, in the context of spatial planning. In addition, multilevel models allow the exploration of the relative impact of contextual factors compared to individual factors. In this chapter, a two-level model will be applied, consisting of individual characteristics of voters (level one) and the context of 18 popular votes between 1984 and 2008 in the area of spatial planning (level two).

The theoretical foundation of this chapter integrates the fact, that while acceptance of policy instruments has received only little attention in the area of spatial planning, there is a relatively large body of literature addressing acceptance determinants in the area of environmental policies (see Sect. 3.3.1). Hence, the questions arise whether spatial planning policies can be compared with environmental policies and which differences exist between these two policy fields. It is assumed that spatial planning and environmental planning are similar as they both address the economical use of the natural resource land (Knoepfel and Narath 2006, p. 76). At the same time, the conceptual layering model of involvement in Sect. 2.2.2 emphasised particularities of spatial planning. The aim of this chapter therefore is not only to explore acceptance of spatial planning as an exploratory study by combining different voting behaviour theories but also to answer the underlying question of how spatial planning policies differ from environmental policies by applying a theory on *policy proximity* (Soss and Schram 2007).

By investigating variations in the degree of acceptance across different spatial planning related popular votes, conclusions can be drawn that are not limited to a specific popular vote or its specific context and are conversely as generic as possible. Against the background of the broader research design of this book, this multilevel approach constitutes a suitable opportunity for gaining wide-ranging insights about democratic acceptance determinants, which provide validity across multiple spatial planning measures. By means of a multilevel approach it can be analysed whether the decision to accept or reject a specific ballot only depends on

individual factors, when considering influences on democratic acceptance of spatial planning measures, or on contextual factors as well.[1]

This chapter is structured as follows: First, the theoretical framework for the concept of acceptance is stated and the theoretical relationship between individual and contextual characteristics and citizens' acceptance of measures in the area of spatial planning are clarified. Based on the theoretical framework, hypotheses on the determinants of citizens' acceptance of ballot proposals which deal with spatial planning are derived (Sect. 4.1). Then, the data, method and models are described (Sects. 4.2 and 4.3), followed by a presentation of the findings and a test of the hypotheses (Sect. 4.4). After a discussion of the results (Sect. 4.5), this chapter concludes with and an introduction to Chap. 5 (Sect. 4.6).

4.1 Theoretical Framework and Hypotheses

In order to make assessments about factors which influence voters' acceptance of policy measures in the area of spatial planning, it is referred back to the clarification of the central acceptance concept in Chap. 3. Schade and Schlag (2003, p. 47) claim that the construct of acceptance can be covered "by questioning acceptance of what, through whom and under which conditions and circumstances". As argued in Chap. 3, the object *of what* is given by the research question addressing spatial planning measures. *Through whom* is insofar defined as democratic acceptance being at the centre of interest and therefore requires voters as subjects. Nevertheless, voters represent a broad group and comprises those who accept a spatial planning measure and those who reject it. For answering *through whom* a policy is accepted therefore needs further clarification than the general concept in Chap. 3 in the form of considering determinants which lead to the approval of a ballot. In addition, *under which conditions* also remains unanswered so far.

Hence, as a first empirical approach towards voters' acceptance of spatial planning measures, Schade and Schlag's (2003) acceptance concept will be applied as the empirical research design for this chapter. This research design is illustrated in Fig. 4.1. Based on the theoretical framework of acceptance, a distinction between individual (*through whom*) and contextual (*under which conditions*) acceptance determinants of policy instruments can be made.

Regarding the theoretical foundation of this chapter, the analysis mainly follows an inductive and exploratory approach as little research exists on the specific research area of acceptance of spatial planning policies in direct-democracies. This chapter therefore serves as a first empirical investigation of the aforementioned research scope within the broader scope of this book. As discussed in Sect. 3.3, existing research in the area of citizens' attitudes towards spatial planning is largely

[1]This chapter appeared in a modified form in a journal article, which has been published in the journal *Land Use Policy* (see Pleger 2017).

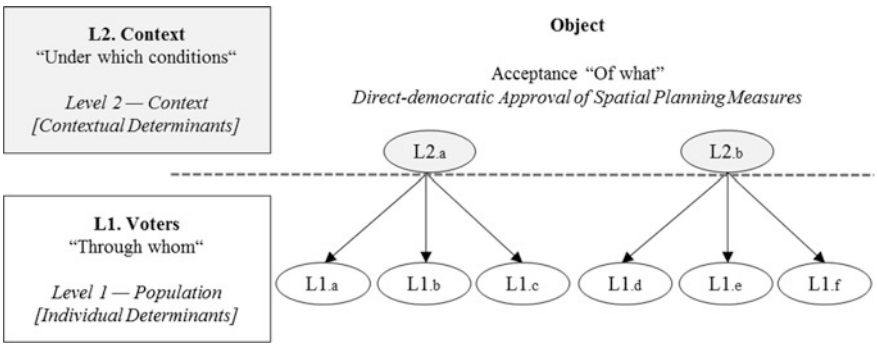

Fig. 4.1 Acceptance concept and hierarchy structure for its empirical application. *Source* Own illustration; theoretical foundation based on Schade and Schlag (2003, p. 47)

outdated and mainly focuses on growth controls. However, more research does exist on acceptance of environmental policies, which are assumed to be similar to spatial planning policies (Knoepfel and Narath 2006). Section 2.2.2 dealt with particularities of spatial planning policies in the form of target group involvement. It might therefore be the case besides the similarity of environmental policies and spatial planning policies in terms of both addressing the natural resource land (Knoepfel and Narath 2006), that there are some fundamental differences between these two policy fields.

Soss and Schram (2007, p. 121) propose the policy dimension *proximity*, which captures the "direct-versus-distant form in which a policy encountered the extent to which it exists as a tangible presence affecting people's lives in immediate, concrete ways versus existing as a distant object appraised for its effects elsewhere." They specify *distant* as not only concerning "geography" but also regarding aspects such as "social relations" and "time".[2] The proximity dimension ranges from "distant" to "proximate" and the more proximate a policy is, the more directly is it experienced by the public and this also leads to a greater ability by the public to individually evaluate that policy (see also Campbell 2012; Soss and Schram 2007, p. 121). Soss and Schram (2007, p. 121) provide the example of the Iraq war, which was "meaningful to most Americans", but led to "proximate effects" for US military employees and their families only because they experienced policy effects directly.

When transferring this policy proximity theory by Soss and Schram (2007) to spatial planning and environmental policy, a main difference between these policy fields becomes apparent. While it is true that one similarity between the policy fields is that they both deal with the natural resource of land (Knoepfel and Narath 2006, p. 76),

[2]In addition to *proximity*, Soss and Schram (2007, p. 121) propose *visibility* as a second dimension that captures "the degree to which a policy is salient to mass publics". This dimension will not be discussed in further depth here as it is firstly relevant for studies on policy feedback and secondly due to the Swiss direct-democratic system both policy fields—environmental and spatial planning policy—are assumed to have a relatively high visibility.

spatial planning and environmental policies differ regarding their degrees of proximity. As discussed in Sect. 2.2, spatial planning policies often directly affect people (e.g. by building regulations) and therefore often are proximate for many people, while environmental policies often affect people in a much more indirect manner (e.g. nuclear phase-out) and therefore are distant for many people. Accordingly, the underlying theoretical argument of this chapter is that spatial planning and environmental policies differ regarding their degrees of proximity. This, in turn, reduces the transferability of theoretical considerations for contextual determinants of environmental policy measures to spatial planning policy measures.

Proximity theory also provides guidance regarding the factor selection for integrating in the analysis. At the individual level, factors were included in the analysis, which are assumed to be of particular importance when considering spatial planning and their degree of proximity (*location type* and *homeownership*) or which have repeatedly been shown empirically to influence voting behaviour (*party affiliation* and several control variables). At the same time, theoretical considerations for contextual determinants are mainly taken from environmental policies in order to examine whether they can be applied for spatial planning. Results may help to put spatial planning into perspective regarding its comparability with environmental policy.

Hereinafter, theoretical considerations will be given which link the acceptance of spatial planning instruments separately to each of the individual characteristics and to other features within the context. Due to the inductive approach of this chapter, theoretical considerations for each variable will be presented separately. Different theories taken from voting behaviour and empirical findings clarify the theoretical background for factors at the individual and contextual level that are included in the analysis. It is important to note, however, that such individual and contextual factors represent a first approach towards voters' acceptance determinants in order to stepwise increase the level of approach specification along with the three empirical studies of this book.

4.1.1 Individual Determinants

Individual determinants capture voters' characteristics, which might influence their decision to accept a measure in the area of spatial planning. The theoretical basis of each hypothesis for the individual determinants is described in the following paragraphs.

Location Type

The factor *location type* reflects one of the cleavages introduced by Lipset and Rokkan (1967) and refers to a *centre* versus *periphery* split. It is assumed that people who live in the periphery try to preserve their own identity and way of life and therefore seek to dispose themselves from state intervention as far as possible. For this reason, people from the periphery seek to keep up independence and autonomy from the central state (Bolliger 2007, p. 65). With regard to spatial

planning, citizens in urban areas might also tend to favour policy measures because they experience more negative consequences of non-sustainable land use than citizens in rural areas (Thalmann 2004, p. 206). In this vein, Bornstein and Thalmann (2008, p. 1342) maintain that "[u]rban voters might be more favorable to environmental policy because they are more exposed to nuisances and they value the leisure value of open spaces more than its productive value."

Party Affiliation

Another central factor for citizens' voting decisions is political ideology, and this can be measured by voters' party affiliation or party ties (Bühlmann and Freitag 2006; Campbell et al. 1960; Lachat 2008). Regarding party affiliation, classical political theory and empirical evidence suggest that left-wing parties support government interventions whereas right-wing parties refuse state interventions (Marks and Wilson 2000). In addition, "Democrats and liberals are more concerned about environmental quality than are their Republican and conservative counterparts" (van Liere and Dunlap 1980, p. 185). Empirical studies from the US could show that the acceptance of specific public policies was positively influenced by voting left (i.e. Democrats) (Hamideh et al. 2008; Hannay and Wachs 2007; see also Vatter et al. 2000).

Homeownership

An intervention of the state in the area of spatial planning can imply an intervention in homeowners' properties. From the classical economic utility maximisation perspective (Mas-Colell et al. 1995), homeowners should not have an interest in an intervention of the state to make sure their properties are untouched. This aspect also refers to cost-benefit-analyses (CBA) on individual choice decision making, which assumes that "citizens make a vote choice based on their perception of national or personal economic welfare" (Bornstein and Thalmann 2008, p. 1339). Following Bornstein and Thalmann (2008, pp. 1339–1340), personal and national economic CBA-based considerations can be divided into *pocketbook* voting on the one hand, which describes voting decisions based on *personal* financial considerations. On the other hand, if a voting decision is based on a *nation's* economic performance, it is referred to as *sociotropic* voting (Bornstein and Thalmann 2008, pp. 1339–1340). Being a homeowner can therefore lead to pocketbook voting because it affects "personal self-interest, expressed, for instance, through voters' opinion of their own future economic prospects" (Bornstein and Thalmann 2008, p. 1339). Accordingly, homeowners have more to lose—in terms of asset devaluation—from land use regulations and resulting landscape and neighbourhood changes compared to people who rent. Homeowners are assumed to display risk aversion towards land use regulations due to the concentration of their assets in the form of property value which they aim to protect (Fischel 2001, p. 4). Regarding the relative importance of both voting types of CBA, Bornstein and Thalmann (2008, p. 1339) argue that self-interest based pocketbook voting is by some scholars assumed to "outweighs objective indicators of the state of the economy such as unemployment, inflation, and interest and exchange rates."

Controlled Variables

Beside individuals' characteristics that are assumed to be especially relevant for spatial planning measures, research relates further variables at the individual level to voting decisions.[3] These variables will therefore be included in the analyses as controlled variables. Firstly, following other studies on voting determinants, the first controlled variable is *gender* (Baldassare and Wilson 1996; Bühlmann and Freitag 2006; Singh 2010; Stadelmann-Steffen 2011). The hypotheses of gender impact vary but mainly it is assumed that men are more concerned about environmental problems due to a higher education and because men tend to be politically more active than women (van Liere and Dunlap 1980, pp. 185–186). Another characteristic that is assumed to influence the voting decision is *age*. This is because firstly, the older a person gets, a "decline in cognitive abilities" takes place which can "hamper an individual's ability to vote accurately" and secondly, age can lead to voting decisions based on learned habits (see also Connerly and Frank 1986; Singh 2010, p. 426). Additionally, younger people have more environmental concerns than older people (van Liere and Dunlap 1980). A further controlled factor is voters' *education*, as it can be argued that highly educated voters are conscious of political parties and do know their positions, thus they are more able to choose the party which is closest to their preferences compared to less educated people (Bühlmann and Freitag 2006; Singh 2010, p. 426; see also Stadelmann-Steffen 2011). This also refers to Downs' (1957) argument that "socially disadvantaged" people have higher costs to collect information and therefore often fail to vote (Gallego 2010, p. 241). The latter consideration also applies to *knowledge*, which is therefore included in the analysis as a controlled variable. Finally, *trust in government* is incorporated in the models as a controlled variable because "individuals who feel the political process is valid are likely to cast informed votes, whereas those who see politics as distant, non-responsive, or meaningless are prone to choosing randomly, if they decide to vote at all" (Singh 2010, p. 427).

4.1.2 Contextual Determinants

Besides individual determinants, contextual characteristics of the popular vote are expected to play a role in policy acceptance. The voting context comprises several aspects, thus a focus on specific aspects is required. Or, to use Goldberg's (2014, p. 310) words, "[t]he characteristics of a context can include a wide range of aspects." One main distinction can be made between external factors, i.e. factors that are not directly related to the voters and context characteristics comprising an aggregate of voters' individual characteristics (Goldberg 2014).

[3]Due to underlying assumptions about the direction effects of the controlled variables, they are not held constant throughout the analyses, but it is controlled for them by including these variables in the analyses as potential independent variables.

In this respect, all contextual features for the analyses of this chapter can be assigned to the external context and the focus lies on three different perspectives: Firstly, the ballot related context (consisting of the *type of policy instrument* and the *degree of organisational capacity and conflict capability of interests concerned*). Secondly, the political and economic context (captured by *elite support* and *unemployment rate*). Thirdly, the thematic framework of the ballot (which refers to the *policy area* within spatial planning). Subsequently, the theoretical foundation for the relevant contextual factors covering these three perspectives are clarified.

Policy Instruments

As discussed in Sect. 2.3.3, research agrees that incentive-based policy instruments are more effective compared to command-and-control policy measures. At the same time, the effect of the type of policy instrument on its democratic acceptance is surrounded by controversy. Empirically, Vatter et al. (2000, K-2–K-3) do not find market-based policies to be more accepted than policy instruments on the basis of bans and rules. Kirchgässner and Schneider (2003) argue that "voters seem to prefer a policy of regulations prohibition" which might be caused by a "cost illusion" of voters. This means that voters underestimate the costs of command-and-control instruments because they are less visible than in market-based instruments. This argument could be confirmed empirically by Stadelmann-Steffen (2011, p. 497) who finds evidence that "voters are more likely to accept a ballot measure if it involves bans and rules, rather than incentive- or market-based instruments" (see also Frey and Zimmermann 2005; Süess and Gmünder 2005). In line with this finding, Cherry et al. (2012, p. 90) conclude from their study "that overall more than half of voters oppose efficiency-enhancing policies." However, these findings seem to be counter-intuitive following the established economic rational-choice approach, which assumes that individuals choose the most efficient alternative which, in this case, would be incentive-based policy instruments.[4] Also Kirchgässner and Schneider (2003, p. 375) admit that "it is difficult to explain why voters should be in favour of command-and-control instead of market oriented environmental policies." There is also empirical evidence that voters prefer incentive-based policies over policies based on command-and-control. Examples of this are the findings by Steg et al. (2006, p. 105), who investigated acceptance determinants of energy policies, which revealed that "respondents preferred the so-called carrot above the stick". Although there is no consensus on the impact of the type of a policy measure on its acceptance, empirical evidence points to voter preference for policy instruments on the basis of bans and rules. However, the studies of Stadelmann-Steffen (2011) and Cherry et al. (2012) which found evidence for voter opposition to efficiency-enhancing policies focused on

[4]Archer and Tritter 2000, p. 1 maintain that "[r]ational choice could plausibly lay claim to being the grand theory of high modernity." The core assumption of rational choice theories can be summarised as "acknowledging agents' meaningful values and goals (aka 'utilities' and 'preferences'), which they seek to maximize in the outside world, whose constitution attaches various 'costs' to their realization" (Archer and Tritter 2000, p. 5; see also Brown 2005).

environmental policy measures and not spatial planning instruments. Due to the high degree of proximity of spatial planning measures, it could make it easier for citizens to evaluate the costs of new policies and thereby reduce the cost illusion effects. This, in turn, would lead to preferences of the more effective and efficient alternatives. Based on these considerations, there cannot be derived an unambiguous expectation on whether incentive-based policy measures can stand a better chance of being accepted than policy measures based on bans and rules or not.

Degree of Organisational Capacity and Conflict Capability of Interests Concerned

As discussed in Sect. 2.2.2, the degree of organisational capacity and conflict capability of the interests concerned by a policy measure can impact its acceptance. Following Kummer (1997, pp. 80–81), postulations by environmental movements have a higher chance of being accepted, if the degree of organisational capacity and conflict capability of the most affected parties (interests) is low. Regarding the degree of organisational capacity, well organised interests are characterised by specific, relatively short term and homogeneous interests. In contrast, a low organisational degree of interests concerned is given when the interests are more general, long term and heterogeneous (Kummer 1997; see also Olson 2009). The conflict capability of interests concerned depends on whether the group in question is able to refuse or deny (in terms of a veto) the postulation which is intended to be implemented. It suffices if the group concerned can credibly threaten its refusal or denial (Kummer 1997, pp. 80–81). In Switzerland, however, a differentiation for the latter aspect of conflict capability is difficult because—as discussed in Sect. 3.2—the direct-democratic system allows a veto by means of different direct-democratic tools, which are open to all citizens. Therefore, the focus here lies on the former aspect of the degree of organisational capacity.

Elite Support

Another important contextual factor consists of whether the parties' opinions regarding an issue form a consensus or not (Zaller 1992). It is assumed that voters "follow the elite's opinion" (Bornstein and Thalmann 2008, p. 1338). Elite support also relates to the degree of political polarisation or party competition. Budge and Farlie (1978) stress that taking party competition into account is required when explaining voting. A high degree of political polarisation can be understood as a high number of political offers (political supply) for the voters. Empirically, results indicate that more offers make it easier for voters to find suitable preferences (Wessels and Schmitt 2008). Concerning democratic acceptance and the direction of impact, support of the political elite is found to reduce the rejection degree of a proposal by citizens (Stadelmann-Steffen 2011; see also Vatter et al. 2000). This means, popular votes supported by the political elite, such as the leading parties and the government, can have a relevant influence on voters' decisions.

Economic Conditions

The health of an economy might also play a role in the acceptance of a policy. An intervention of the state implies costs. People's willingness to buy can be seen as a

"a function of the evaluation and expectation people have of the economic circumstances" (van Raaij and Gianotten 1990, p. 270). In the context of a healthy economy, people have a higher willingness to pay and therefore a stronger support for state interventions and expenditures. In such a situation, voters might think that the state can afford spatial planning interventions. In turn, bad economic conditions will hinder people's willingness to support state interventions (Stadelmann-Steffen 2011, p. 489). Bad economic circumstances which can, for example, be expressed by unemployment therefore "provide a disincentive" for supporting policy measures "because of the potential adverse impacts on economic development" (Feiock 2004, p. 367). Finally and as argued above, the impact of economic conditions such as unemployment on individual voting decisions as a CBA can be referred to as *sociotropic voting* (Bornstein and Thalmann 2008, p. 1339).

Policy Area

The policy area in which a policy measure takes place might also impact voters' acceptance of it. Heinelt (2003) distinguishes policies based on their effect on people. This idea can be transferred by assuming that the intensity of the policy measure effect influences people's acceptance thereof. Intensity is understood as a closeness of policy measures in terms of direct consequences for people's daily lives. The differentiation of policies with regard to their effect on people points in the same direction as the *proximity* dimension by Soss and Schram (2007). Accordingly, the factor *policy area* operationalizes this concept in order to investigate whether the proximity of spatial planning measures does have an impact on their acceptance or not. To capture this dimension, an assignment of policy measures to different policy areas (thematic framework) within the broader policy area of spatial planning can be performed. *Proximate* policies are assumed to have a greater importance for the people and to be evaluated by the public based on individual observations compared to *distant* policies (Soss and Schram 2007). Therefore, it is assumed that policies with a high level of proximity have a stronger impact on voters' acceptance than policies with a low level of proximity.

Based on the previous theoretical considerations, the following eight hypotheses for both levels can be derived:

H_1: Hypotheses on Individual Determinants:

1a: Voters who live in urban areas are more likely to accept spatial planning measures compared with voters who live in rural areas.

1b: Voters who identify themselves with a left-wing party are more likely to accept a spatial planning measure than voters with a right-wing party affiliation.

1c: People who rent accept spatial planning measures, whereas homeowners are less likely to do so.

H_2: Hypotheses on Contextual Determinants:

$2a_1$: Incentive- and market-based policy instruments have a higher probability to be accepted than policy instruments based on bans and rules.
$2a_2$: Incentive- and market-based policy instruments have a lower probability to be accepted than policy instruments based on bans and rules.
2b: Policy measures have a higher probability of being accepted if the degree of organisational capacity and conflict capability of interests is low.
2c: Support for spatial planning measures increases with elite support.
2d: The better the economic condition of a ballot, the higher the probability that a spatial planning measure is accepted.
2e: Policy measures from different policy areas exhibit different degrees of acceptance.

4.2 Data and Operationalization

The dataset consists of 18 popular votes in Switzerland taken between 1984 and 2008 in the area of spatial planning (see Appendix A.1.1 for a detailed list of the popular votes). As discussed in Sect. 1.4, the data is taken from the standardised VoxIt data set, which is based on the Vox surveys (VoxIt 2015).

The data was then supplemented with data at the contextual level. Initially, the data was comprised of a sample totalling 18,132 individual responses. After excluding all non-voters and other missing data, the final data consists of 9,836 individual responses. In model 1, the data contains only 16 popular votes because two variables, *location type* and *trust in government*, are missing for two of the popular votes. As those two variables are not included in models 2, 3 and 4, those models contain 18 popular votes. As clarified in Sect. 3.1.2, the dependent variable is the dichotomous voting decision of Swiss citizens to vote either 'yes' or 'no' on a ballot. A 'no' on the proposal is coded with a 0, a 'yes' with a 1. In order to ensure that a 'yes' consistently means a choice in favour of spatial planning measures, the depended variables of two ballot measures were recoded (see Appendix A.1.1).

The first-level explanatory variables contain one categorical variable, *party affiliation*, two dummy variables, *ownership* (owing a house versus rent) and *location type* (urban versus rural) and several controlled variables. For party affiliation, established parties from the conservative right (Swiss People's Party (SVP)), the moderate right (Christian Democratic People's Party (CVP), Evangelical People's Party (EVP) and FDP. The Liberals (FDP)) and the left (Social Democratic Party (SP)) were included in the analyses separately, whereas smaller parties were assigned to *other parties.* Exceptions were two radical right-wing parties, namely the Freedom Party of Switzerland (AP) and the Swiss Democrats, which were included separately in the analysis because landscape protection is of particular importance for their party programme. Finally, *no party affiliation* was also captured within the variable *party affiliation* (see Appendices A.1.3 and A.1.4 for summary statistics and the operationalization of all variables).

The variables at the contextual level are based on own coding and key figures. While the unemployment rate as a key figure is taken from the Federal Statistical Office, coding for the other variables at the contextual level, namely *type of policy instrument*, *degree of organisational capacity and conflict capability of interests concerned*, as well as *policy area of the popular vote* are coded based on the description of the proposal within the booklet for each ballot proposal. The explanatory note is a "[b]rief objective text from the Federal Council that accompanies the proposal submitted to a vote of the people and that sets out the views of important minorities and the opinions of parliament and the Federal Council" (Federal Chancellery).[5] In order to clarify the coding procedure, an example for the coding of each of the two types of policy instrument is given: One example for an incentive based measure is expressed by the ballot proposal *Federal decree on constitutional basis for a coordinated traffic policy* from 1988. The description of this measure in the bookled for the ballot proposal contained the explanation that "those who are liable for the costs have to pay". This way of cost recovery is based on the polluter-pays principle and therefore represents an incentive-based policy measure. In contrast, the ballot proposal *Citizen's initiative* "*Against the selling of land to foreigners*" from 1984 proposed a radical reduction of the acquisition of real estate by foreigners, which reflects a prohibition. Thus, this latter ballot proposal was coded as bans and rules. Figure 4.2 shows the coding results for the contextual variables *policy instrument* and *degree of organisational capacity and conflict capability of interests concerned.*

Regarding the *type of policy instrument*, based on the coding results, 5 out of 18 ballot proposals were assigned to incentive-based policy measures, while 13 ballot proposals were coded as bans and rules. The *degree of organisational capacity and conflict capability of interests concerned* was coded as high for 9 out of 18 ballot proposals (Fig. 4.2).

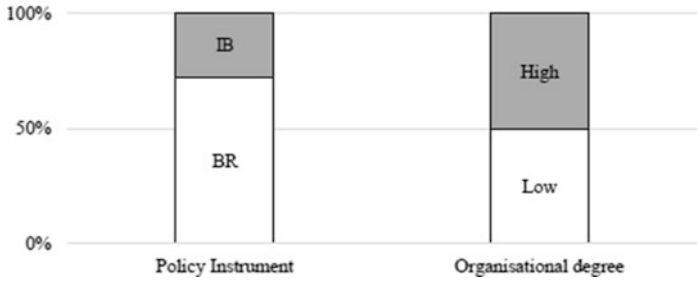

Fig. 4.2 Share of coding results for contextual variables *Policy Instrument* and *Organisational Capacity of Interests Concerned. Note IB* Incentive-based; *BR* Bans and Rules, (N = 18)

[5]See Sect. 5 for a more detailed explanation of the explanatory notes for ballot proposals in Switzerland.

4.3 Method and Model

For investigating acceptance determinants of different popular votes in the context of spatial planning, the analyses involve two levels: Individual determinants at level one which are nested within contextual determinants at level two. For the present analysis, a two-level logistic random intercept model was chosen where the dependent variable is discrete, either by voting in favour of the ballot proposal or rejecting it.

The use of multilevel analyses in political science in general (see e.g. Cutts and Fieldhouse 2009; Hobolt and Spoon 2012; Johnston et al. 2007; Leyland and Groenewegen 2003; Orford et al. 2009; Singh 2010; Steenbergen and Jones 2002) as well as for Swiss ballot decisions (see e.g. Bühlmann 2006; Bühlmann and Freitag 2006; Goldberg 2014; Nai 2013; Sciarini and Tresch 2009; Stadelmann-Steffen 2011) has increased during recent years. The advantage of multilevel modelling includes analysing the impact of both, contextual factors at the macro level and their impact on the micro level (Guo and Zhao 2000). A multilevel design therefore allows the explanation of variations between voters' decisions on eighteen ballot proposals according to their *individual characteristics*, and represents the first level of the models. In addition, voters' decisions might have been influenced by the differing *context variables* under which each ballot took place, and this represents the second level of the models. Furthermore, multilevel models "make adjustments to both within and between parameter estimates for the clustered nature of data" (Hobolt et al. 2009, p. 102). When assuming a multilevel data structure, it accounts for a clustered error structure in the hierarchical data structure, that cannot be addressed if the contextual layer is ignored (Steenbergen and Jones 2002, pp. 219–220). Overall, "[m]ultilevel modeling is used in order to avoid underestimating the standard errors and producing type I errors or false positives" (Gallego 2010, p. 243; see also Steenbergen and Jones 2002, p. 219).[6]

The present analyses are based on Bayesian Markov Chain Monte Carlo (MCMC)[7] estimation, which has several advantages compared to frequentist likelihood-based methods in general and also when considering multilevel logistic models.[8] Broadly speaking, the main difference between Bayesian estimation and likelihood-based methods is that Bayesian estimation allows for probability statements about model parameters rather than a maximum-likelihood estimation

[6]There is a large body of literature stressing the advantages and applications of multilevel modeling. For a profound discussion of multilevel modeling see Snijders (2011), Luke (2004), Hox (1998), Greenland (2000), Steenbergen and Jones (2002). For a more detailed explanation of multilevel modeling and its application for political science see Bühlmann and Freitag 2006 and Bühlmann 2006.

[7]Markov Chain Monte Carlo (MCMC) simulating is also referred to as "Gibbs sampling" (Hosmer Jr and Lemeshow 2004, p. 321; see also Seltzer et al. 1996; Congdon 2005, pp. 2–6).

[8]See also Browne and Draper (2006); Congdon (2005), Schoot et al. (2014), Stegmueller (2013) and van de Schoot and Depaoli (2014) for more details on comparing Bayesian and likelihood-based methods and the advantages of Bayesian statistics.

because it assumes a probability distribution, and Bayesian-credible intervals can be created "without reference to a hypothetical sampling distribution" (see also Schoot et al. 2014; Shor et al. 2007; Stegmueller 2013, p. 750). Bayesian approaches assume uncertainty regarding "population values of the model parameters by assigning to them a distribution of possible values", known as *prior distribution* and contain "prior parameters" (Greenland 2000, p. 160; Hox 2010, p. 44). In addition to the prior distribution, Bayesian statistics generate a posterior distribution by combining the prior distribution with the likelihood of the data. The posterior distribution captures uncertainty with regard to population values after data observation and every parameter of the model which is unknown has a corresponding probability distribution (Hox 2010, p. 44; see also Stegmueller 2013, p. 750). Bayesian statistics are especially suitable for the analyses of this chapter, as Bayesian statistics have an advantage over maximum likelihood when the sample size at level two is small (see also Seltzer et al. 1996; Stegmueller 2013, p. 758) and if logistic models are applied (Browne and Draper 2006; Stegmueller 2013). Bayesian approaches do not assume large sample sizes, in contrast to maximum likelihood inference, where small samples can lead to biased standard errors and to an overstating of the level of significance of tests (Stegmueller 2013, pp. 748–749). Moreover, Bayesian methods are assumed to lead to more accurate results, for instance in the case of asymmetric distributed parameters (Schoot et al. 2014, pp. 856–857; van de Schoot and Depaoli 2014, p. 79). Another advantage of Bayesian statistics for multilevel modelling compared to maximum likelihood approaches addresses a better confidence interval (respectively CI) coverage, which lead to "more rigid tests" compared to maximum likelihood confidence intervals (see also Browne and Draper 2006, p. 502; Stegmueller 2013, pp. 758–759). MCMC simulates random samples from a posterior distribution and is a procedure often used for multilevel models because of their complexity (Hosmer et al. 2013, pp. 411–412; Hox 2010, pp. 272–273; see also Seltzer et al. 1996). Furthermore, MCMC is suitable for hierarchical models "with categorical Level 1 outcomes" (Seltzer et al. 1996, pp. 161).

In total, the empirical analyses entail four empirical models with one model consisting of first-level variables only and three separate models in which contextual level variables have been added. Table 4.1 summarises the models and their associated levels and independent variables.

As shown in the conceptual representation of the empirical analyses in Fig. 4.3, the first model only includes individual characteristics. The second, third and fourth models include different contextual determinants. By analysing contextual determinants, the analyses will first focus on ballot related contextual variables (model 2), followed by determinants capturing the political-economic context (model 3). The fourth model analyses whether the thematic framework of a popular vote influences its acceptance by the voters (model 4). Due to the sample size at level two, a model including all variables at both levels cannot be fitted by generating robust results.

Table 4.1 Models of analyses with associated levels and independent variables

Model	Independent variables and associated levels	
	Variables at the individual level	Variables at the contextual level
Model 1	*Homeownership*, *location type*, *party affiliation* and controlled variables	None
Model 2	Same as model 1 without *location type* and *trust in government*	*Type of policy instrument* and *degree of organisational capacity and conflict capability of interests concerned*
Model 3	Same as model 1 without *location type* and *trust in government*	*Elite support* and *economic context*
Model 4	Same as model 1 without *location type* and *trust in government*	*Policy area* of the popular vote

Formally, a two-level analysis includes two equations which describe a within- and a between-unit model wherein the between-unit equation explains the parameters of the within-unit equation (Lee and Bryk 1989, p. 174). The models used in this chapter are logistic two level random intercept models, where level one is strictly nested within level two. This strict two-level hierarchy is also expressed by Fig. 4.1, where individual data at level one (*L1*) is strictly nested within contextual ballot proposals data at level two (*L2*). The analyses are based on the four models which are conceptually presented in Fig. 4.3.

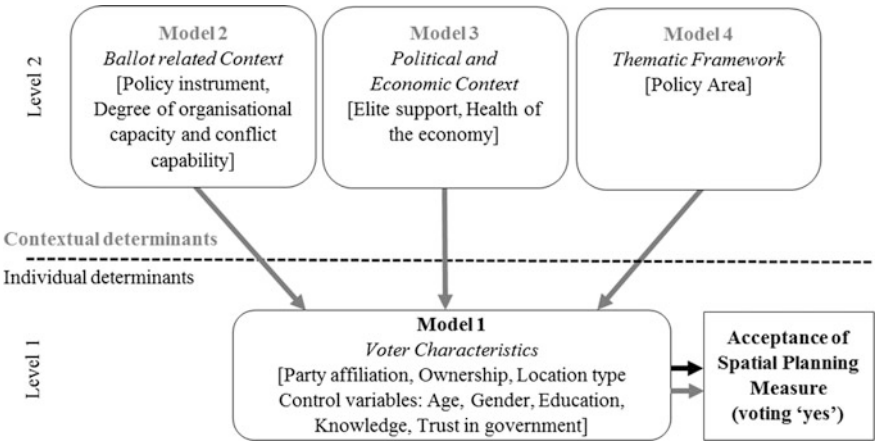

Fig. 4.3 Conceptual representation of empirical two-level acceptance models for spatial planning measures

The formalisation of the integrated multilevel models 2–4 is summarised by Eqs. (4.1) and (4.2) and follows Bornstein and Thalmann (2008, pp. 1347–1348), Guo and Zhao (2000, pp. 445–449), Rasbash et al. (2012, pp. 127–128), and Steenbergen and Jones (2002, pp. 223–224).[9]

$$logit(\pi_{ij}) = \beta_0 x_{0ij} + \sum_{k=1}^{K} \beta_k x_{kij} + u_{0j} \tag{4.1}$$

Equation (4.1) represents the combined two-level logistic random intercept model. The dependent variable is 1 if a person i voted in favour of a ballot proposal j and is 0 if a person rejected the ballot proposal. The *logit* of π_{ij} expresses the probability to vote in favour of the ballot proposal and u_{0j} is the random error at level two.

Also in Eq. (4.1), the within-units are voters i who participated in the ballots j and x_{kij} captures their individual characteristics, i.e. the independent variables, where k is the number of predictors at level one ($k = 1, \ldots, K$). The probability to cast a 'yes' is a linear function of the sum of variables at the individual level i and at the contextual level j. β_{ij} are the regression coefficients within each ballot, which describe the distribution of voting 'yes' or 'no' in terms of voters' individual characteristics.

The shape of the two-level model within this chapter implies that β_{ij} reflect the distribution of the voting decisions for each ballot. The between-unit model assumes a variation of β_{0j} in relation to the different units. This level-two model is formalised by Eq. (4.2).

$$\beta_{0j} = \beta_0 + u_{0j} \tag{4.2}$$

β_{0j} describes a function of variables at the second level of the model, which are the different ballots' context variables. In (4.2), β_0 represents the fixed part and the random effect is indicated by u_{0j}, which is assumed to have a normal distribution, zero mean and its variance is given by σ^2_{u0}. All models were run with the software MLwiN 2.35.

Following Stadelmann-Steffen (2011, p. 494), the results for Bayesian estimation are provided in the form of a posterior mean and the standard deviation of the posterior distribution, which "can be interpreted like in a standard regression situation: The mean is the average effect of an independent variable on the outcome variable and the standard deviation gives a sense of the statistical reliability of this estimate" (Hosmer Jr and Lemeshow 2004, p. 425; see also Hox 2010, pp. 272–273). Moreover, the 95% credible intervals (CI) will be presented, which are

[9]As Congdon (2005, p. 16) notes, "Bayesian analysis of discrete data follows the generalized linear model (GLM) structure but is not constrained to asymptotic normality to obtain posterior inferences."

comparable with confidence intervals from standard logistic regression models, but have a "more intuitive interpretation" (Hosmer Jr and Lemeshow 2004, p. 421). A 95% confidence interval can be interpreted in a way, that if the data collection were to be repeated "numerous times we would expect the interval we construct to contain the true parameter value 95% of the time". The interpretation of CI, in contrast, is "that 95% of the sampled values fall in the interval between the resulting values" (Hosmer et al. 2013, pp. 420–421). Thus, credible intervals represent a probability of a population value to be within the interval limits (Schoot et al. 2014, p. 844).

4.4 Results

In this section, the empirical findings will be presented. Before turning to the analyses of the empirical models, the share of survey sample 'yes'-votes with the share of valid 'yes'-votes at the federal level are compared (Fig. 4.4). The empirical analyses of the 18 popular votes then follow, by first discussing the findings of model 1 on voters' acceptance of spatial planning measures with variables at the individual level (Table 4.2). Then, the contextual determinants are added to the model, thus the results concerning models 2, 3 and 4 are presented subsequently (Table 4.3).[10]

Comparing the acceptance percentage of the survey sample with national results yield some, albeit small, differences.[11] Whereas the share of federal 'yes'-votes varies between 29% and 66% (M = 46.1%, *SD* = 11.8), the variation between 'yes'-votes in the sample ranges from 29% to 73% (M = 50.5%, *SD* = 15.5). Nevertheless, the correlation between the 'yes'-votes of the self-reported voting decisions of the sample and the official results at the federal level over all 18 ballots is very strong (r_{xy} = 0.969, p = 0.000, N = 18). The largest disparity between the self-report acceptance percentage and official results can be found for the popular vote *Federal decree on "Rail 2000 project"* in 1987. This popular vote was accepted by 57% of voters, compared to 73% of the survey sample respondents, who stated to have voted in favour of the ballot.

As the first model only includes determinants at the individual level (level one), it can be determined whether a multilevel approach is required. In order to test if

[10]Note that the results for model 1 only consist of a dataset for 16 popular votes caused by a lack of data for the two variables *trust in government* and *location type* for two votes. Due to their non-significance, the two variables were removed from the dataset for the computation of models 2–4 to enable a dataset of 18 popular votes.

[11]Throughout the whole empirical analyses of this book, numbers without decimal places reflect numbers rounded to the nearest whole number.

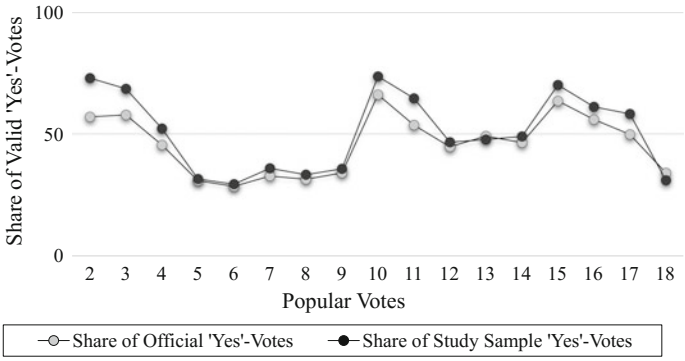

Fig. 4.4 Share of 'Yes'-votes of 18 popular votes on spatial planning measures of survey sample and official results. *Notes* Assignment of numbers to popular votes are clarified in Appendix A.1.1. Data for the national results is taken from the Swiss Confederation, Federal Chancellery

this approach is appropriate for the analyses, a Wald test[12] was performed which revealed statistically significant differences between the popular votes ($p = 0.003$).[13] The significant level-two variance indicates that the acceptance of spatial planning measures varies significantly between the different popular votes. Therefore, the application of a multilevel model for an adequate analysis is required.[14]

Voters' Characteristics (Model 1)

Results for individual determinants show that the main factor at the individual level for voters in Switzerland to accept spatial planning measures in a broad sense is voters' ideology as expressed by *party affiliation*. Voters who have an affiliation with right-wing parties are more sceptical when considering the acceptance of spatial planning measures. In contrast, voter affiliation with left-wing parties has a significant impact on the probability to support state intervention in the area of

[12]The Wald statistic tests the null hypothesis that $\sigma^2_{u0} = 0$.

[13]The data is also insofar well suited for multilevel analyses as the sample sizes do not vary greatly over the 18 popular votes. Appendix A.1.1 includes the sample sizes for each ballot and Appendix A.1.2 shows the ranked second-level residuals, which have been calculated in the null model (i.e. without any explanatory variables).

[14]It can be claimed that the multilevel model contains a time perspective, which leads to a development in the acceptance of spatial planning measures over time. However, here I argue that no time-related acceptance development is expected due to the representativity of the survey samples. The expected importance of spatial planning proximity assumes acceptance differences based on the degree of proximity. Since the used data set consists of representative surveys, it can be assumed that the share of people being highly affected by the measure (e.g. homeowners) and those being less affected (e.g. people who neither own a house nor plan to buy one in near future) remains constant over time. Corroborating this assumption empirically, statistical tests including a time variable did not reveal any systematic influence of time.

Table 4.2 Individual acceptance determinants of spatial planning measures in Switzerland between 1984 and 2008 (Two-level logistic regression model)

Multilevel determinants	Model 1 *Voters' characteristics*		CI	
	Mean	S.D.	2.5%	97.5%
Intercept	0.310	0.228	−0.129	0.766
First level determinants (individuals)				
Age	0.001	0.002	−0.003	0.004
Gender (ref. female)	**−0.196**	0.056	**−0.306**	**−0.085**
Knowledge (ref. badly informed)	0.109	0.068	−0.024	0.243
Party affiliation (ref. CVP)				
FDP	**−0.568**	0.102	**−0.768**	**−0.370**
AP	**−1.131**	0.306	**−1.744**	**−0.546**
GPS	**1.404**	0.165	**1.083**	**1.733**
SD	−0.145	0.331	−0.796	0.505
SP	**0.484**	0.101	**0.285**	**0.684**
SVP	**−0.548**	0.116	**−0.775**	**−0.322**
Other party	−0.040	0.121	−0.278	0.198
No party affiliation	−0.141	0.089	−0.315	0.034
Location type (ref. rural)	0.038	0.058	−0.076	0.151
Homeownership (ref. rent)	**−0.251**	0.057	**−0.362**	**−0.140**
Education (ref. medium)				
Low	−0.002	0.080	−0.159	0.155
High	0.124	0.082	−0.038	0.286
Trust in government (ref. no trust)	−0.037	0.057	−0.149	0.076
Level two variance: σ^2_{u0} = var(U_{0j})	**0.554**	0.244	**0.254**	**1.168**
Interclass correlation	**0.144**			
N (individual level)	6493			
N (context level)	16			
DIC	8055.66			

Notes Dependent variable is the voting decision at the ballot (dichotomous variable at individual level, 'yes'/'no'). Models ran with MLwiN 2.35 through MCMC estimation. DIC = deviance information criterion. Bold: 95%-credible interval does not contain zero (systematic relationship). 2-Level logit model; posterior mean, standard deviations (S.D.) and 95% credible interval of log odds, based on Bayesian estimation (300,000 iterations, last 500 used for summary statistics, burn-in: 50,000, thinning: 1)

spatial planning (Table 4.2).[15] These results are in line with the hypothesis that voters who identify themselves with a left-wing party are more likely to accept a spatial planning measure than voters with a right-wing party affiliation.

[15]Throughout this book, when referring to results from Bayesian statistics, *significance* means that the credible interval for a variable does not contain zero, which points to a *systematic relationship* (see Whitener 1990, p. 317). *Significant* is used interchangeably with *systematic relationship* in the body text and the tables' descriptions specify that bold results denote that the respective "95%-credible interval does not contain zero", which corresponds to a systematic relationship (see also Stadelmann-Steffen and Vatter 2012).

Table 4.3 Contextual acceptance determinants of spatial planning measures in Switzerland between 1984 and 2008 (Two-level logistic regression model)

Multilevel determinants	Model 2 *Ballot related context*			Model 3 *Political and economic context*			Model 4 *Thematic framework*		
		CI			CI			CI	
	Mean (S.D.)	2.5%	97.5%	Mean (S.D.)	2.5%	97.5%	Mean (S.D.)	2.5%	97.5%
Intercept	0.595 (0.316)	−0.036	1.233	−0.311 (0.303)	−0.922	0.292	0.382 (0.274)	−0.178	0.928
First level determinants (individuals)	*Models were controlled for individual variables from model 1 (excluding location type and trust in government)*								
Second level determinants (context)									
Policy instrument (ref. incentive/ market-based)	**−0.764** (0.380)	**−1.521**	**−0.003**						
Degree of organisational capacity and conflict capability of interests concerned (ref. low)	**0.693** (0.335)	**0.059**	**1.382**						
Elite Support				**0.267** (0.100)	**0.069**	**0.471**			
Economic condition				0.024 (0.110)	−0.201	0.243			
Policy area (ref. agriculture)									
Road traffic							**−0.886** (0.373)	**−1.635**	**−0.152**
Public transport/Public service							0.509 (0.373)	−0.259	1.249
Environment							0.538 (0.377)	−0.218	1.290
Other							−0.148 (0.450)	−1.034	0.772

(continued)

Table 4.3 (continued)

Multilevel determinants	Model 2 *Ballot related context*			Model 3 *Political and economic context*			Model 4 *Thematic framework*		
		CI			CI			CI	
	Mean (S.D.)	2.5%	97.5%	Mean (S.D.)	2.5%	97.5%	Mean (S.D.)	2.5%	97.5%
Level two variance: σ^2_{u0} = var(U_{0j})	**0.434** (0.189)	**0.200**	**0.915**	**0.388** (0.166)	**0.179**	**0.808**	**0.271** (0.133)	**0.114**	**0.609**
Interclass Correlation: $\rho = \frac{(\sigma^2_{u0})}{(\sigma^2_{u0} + \pi^2/3)}$	0.117			0.105			0.076		
N (individual level)	8832			8832			8832		
N (context level)	18			18			18		
DIC	10848.594			10848.607			10848.574		

Notes Dependent variable is the voting decision at the ballot (dichotomous variable at individual level, 'yes'/'no'). Models ran with MLwiN 2.35 through MCMC estimation. DIC = deviance information criterion. Bold: 95%-credible interval does not contain zero (systematic relationship). Posterior mean, standard deviations (S.D.) in brackets and 95% credible interval of log odds, based on Bayesian estimation (300,000 iterations, last 500 used for summary statistics, burn-in: 50,000, thinning: 1)

As hypothesised, the findings of model 1 show that being a *homeowner* does also have a highly significant impact on the voting decision. People who own a house or apartment reject spatial planning measures compared to people who rent. Interestingly, whether voters live in urban or rural areas does not impact their voting decisions. Hence, results show no empirical evidence for the influence of voters' *location type* on their acceptance of spatial planning ballot proposals. This finding contradicts the hypothesis which assumed that people who live in urban areas are more likely to accept spatial planning measures than people who live in rural areas. Although the direction of influence is as expected, this impact is not statistically significant. This finding is surprising and could be caused by a correlation with the variable *homeownership*, as people who live in urban areas often live in apartment blocks and therefore often rent the apartment they live in. A statistical test for correlation between *location type* and *ownership* revealed a very strong negative correlation between these two variables, i.e. people who live in urban areas are more likely to rent a house ($r_{xy} = -0.228$, $p = 0.000$, N = 8,451). However, the variable *location type* remains not statistically significant for voters' acceptance when removing the variable *homeownership* from the two-level logistic regression model 1 (mean = 0.098, *S.D.* = 0.056, 95%-CI: −0.01–0.21, $p = 0.078$, N = 6,567).

Regarding the controlled variables, a factor that influences voters' acceptance is gender: Findings from model 1 suggest that male voters are less likely to accept spatial planning measures than women. In contrast, none of the other controlled variables, namely *age*, *knowledge* about the popular vote, *education* or *trust in government*, influences the probability to accept a spatial planning measure.

In the next step, contextual factors were added to model 1 to estimate the relative importance of the context for voters' acceptance of spatial planning measures. The relatively small sample size of 18 popular votes at level two prevents the use of a comprehensive model with all variables included. Instead, the results are presented separately for the models 2–4 and are summarised in Table 4.3.

Ballot Related Context (Model 2)

When considering those who accepted a spatial planning measure compared to those who rejected it, results at the ballot related contextual level show evidence of a significant difference based on both variables of model 2, namely *type of policy instrument* and *degree of organisational capacity and conflict capability of interests concerned*. Concerning the type of policy instrument, the underlying hypothesis was undirected (two-sided). Results of the analysis of model 2 suggest that incentive-based policy instruments have a higher probability to be accepted than policy instruments on the basis of bans and rules. If there were to be only incentive or market-based instruments, and when keeping all other variables constant, then the mean probability of measures being accepted is 65% (95%-CI 0.50–0.76). Conversely, a policy instrument on the basis of bans and rules would be accepted with a 48% probability (95%-CI 0.39–0.56), when keeping all other variables constant (see Fig. 4.5).

With regard to the *degree of organisational capacity and conflict capability of interests concerned*, policy measures are more likely to be accepted if the degree of

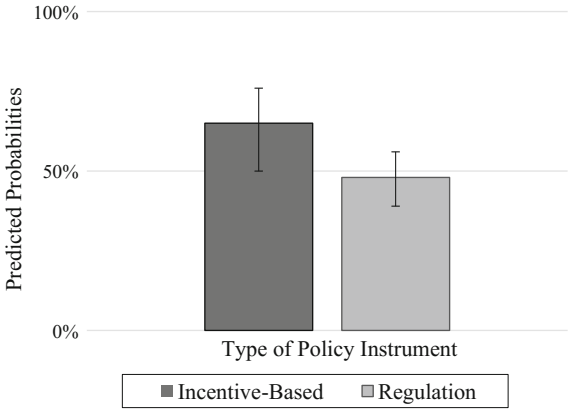

Fig. 4.5 Predicted probabilities of acceptance of spatial planning measures according to the type of policy instrument. *Note* Bars represent 95%-CI

organisational capacity and conflict capability of interests concerned is high. Concerning a high degree of organisational capacity and conflict capability of interests, the mean probability to accept the policy measure is 60% (95%-CI 0.50–0.69) and if the organisational and conflictual degree is low, the mean probability to vote 'yes' is 45% (95%-CI 0.35–0.55), while keeping all other variables constant. This finding contradicts the hypothesis that measures are more likely to be accepted if the degree of organisational capacity and conflict capability of interests is low. This hypothesis is based on the assumption that organised interests can mobilise themselves and then function as veto players, thereby hindering the introduction of new policy measures. This consideration derives from environmental research. In this policy area, interest groups usually are opposed to policy measures such as nuclear energy, for instance. Hence, it is more common to make use of the organisational capacity to mobilise *against* a policy measure. In the area of spatial planning, there are both opponents against and advocates for the introduction of new policies and groups who mobilise to support a policy measure. In the present analysis, however, it is not controlled for the direction of the organisational capacity and conflict capability of interest. This might be the reason for the counter-intuitive finding. Nevertheless, the finding is in line with previous research insofar that it supports the assumption that the degree of organisational capacity and conflict capability of the interest concerned does play a contextual role in the acceptance of spatial planning.

Political and Economic Context (Model 3)

The results for model 3, which capture the political and economic context, show that only the political context—operationalized as *elite support*—has a positive and significant effect on democratic acceptance of spatial planning measures. Elite support, captured as an index of party and government support for a ballot, increases democratic acceptance of a spatial planning measure. The predicted probabilities to vote in favour of spatial planning measures, depending on the elite

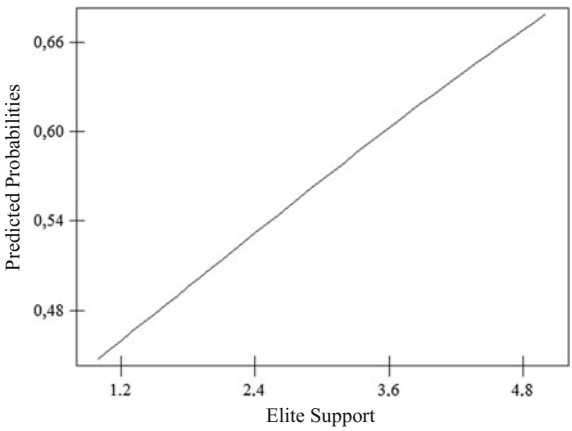

Fig. 4.6 Predicted probabilities of acceptance of spatial planning measures according to elite support. *Note:* Elite support is measured by an additive index by adding +1 for each 'yes'-recommendation by the four biggest parties (CVP; FDP; SP; SVP) and by the government

support and while holding other variables constant are shown in Fig. 4.6. Accordingly, in case of a very low degree of elite support (which equals 1, on a scale between 0 and 5) and holding all other factors constant, the mean probability to accept a spatial planning measure amounts to 45% (95%-CI 0.36–0.54). In turn, a very high degree of elite support (which equals 5), leads to a mean probability to accept the policy measure of 68% (95%-CI 0.56–0.79). The results for elite support are therefore in line with the hypothesis. It is striking that elite support seems to be the most important factor for democratic acceptance of spatial planning measures at the contextual level when compared to the other models.

In contrast, no evidence could be found for the hypothesis that good *economic conditions* foster the acceptance of spatial planning measures. The health of an economy seems to have no influence on voters' acceptance of a spatial planning measure. As a consequence, either voters do not seem to deem land use policy as relevant to the general economic situation of a constituency or the population apparently does not consider land use measures as hindering economic factors. Therefore, the hypothesis that land use measures are seen as something an economy can afford in good times, but should not be adopted in bad times, is not supported by the data. The results could also point in the direction that voters embrace spatial planning policies to be spatially relevant rather than anything else.

Thematic Framework (Model 4)

In contrast to the hypothesis, findings for model 4 tackling the *thematic framework* in which a land use policy took place suggest that the acceptance of spatial planning measures is not affected by the policy area the discourse takes place in. It is remarkable that only the road traffic policy area as an exception seems to have a significant and negative influence on voters' acceptance. If a spatial-planning measure takes place in the area of road traffic, it has the least chances to be accepted

compared to other thematic frameworks such as agriculture, public transport/public services or the environment. If there were spatial planning measures in the area of road traffic policies and while keeping all other variables constant, the mean probability that the measure would be accepted is 65% (95%-CI 0.50–0.76). As regards to the policy area, it follows that voters seem to be more sceptical about spatial planning measures when they take place in the framework of road traffic compared to other thematic frameworks. In support of theoretical considerations, spatial planning measures in a proximate road traffic framework has a greater impact on voters' acceptance than policy measures with a low degree of proximity, such as spatial planning measures in an environmental thematic framework. Correspondingly, *road traffic* is a policy area with a high level of closeness to people's daily lives, i.e. is very proximate for people, which makes voters more attentive when considering a democratic choice. Voters' scepticism towards spatial planning measures with a thematic framework of road traffic contradicts the findings by Vatter et al. (2000, p. 2) who conclude that "transportation policies have been extraordinary successful" with voters. These conflicting findings can be explained by the research foci: While the study by Vatter et al. (2000) focuses on transportation policies only, the analyses of this book encompass spatial planning policies. Although both foci might have thematic intersections, they examine different policy fields, which might explain the different results. Moreover, the study by Vatter et al. (2000) also reveals the importance of other factors influencing voters' acceptance of transportation policies, which reasserts the importance of the policy area impact.

4.5 Preliminary Discussion and Conclusion

So far, very little is known about democratic acceptance of spatial planning measures, hence the purpose of this chapter was to tackle this research gap in a first step from a general point of view. More specifically, the aim of the first empirical chapter of this book was to approach this research field from a broad perspective by determining contextual factors that influence voters' acceptance of spatial planning measures in addition to individual socio-demographic factors. The theoretical framework combined different voting behaviour theories and theories on voters' acceptance from the area of environmental policies with the theoretical assumption that spatial planning policies, when compared to environmental policies have a different degree of proximity, which captures how directly policies are experienced by the public. The underlying assumption was that although environmental policy and spatial planning policy are often seen as related concepts, a distinct difference between these two policy fields exists regarding their degrees of proximity and so they should therefore be addressed independently.

By means of a multilevel modelling approach, a new data-set consisting of individual and contextual data of 18 popular votes on spatial planning measures in Switzerland between 1984 and 2008 was examined. Bayesian estimation was

applied to test four empirical models covering both individual and contextual factors.

Speaking generally, an important finding is that both individual and contextual factors of a spatial planning measure play a crucial role in its democratic acceptance. The results indicate that a spatial planning policy relies on both democratic support and target group compliance in order to successfully achieve its goals of sustainable land use. When implementing a new a policy measure in accordance with its democratic support, it does not suffice to only look for favourable contextual factors such as high elite support or good economic conditions. Instead, when attempting to implement a new policy, considerations about potential target groups' specific characteristics are also required to increase its acceptance.

With regard to the tested empirical models, the following main findings can be summarised: At the individual level, a striking finding is that living in an urban or rural area does not affect voters' decisions to accept spatial planning measures. What does play a role is both being a homeowner and voters' ideology expressed by party affiliation. Results suggest that people who own a house are less likely to accept spatial planning measures compared to people who rent. Having a right-wing party affiliation lowers the probability to accept the ballot proposal.

At the contextual level, evidence was found for the importance of four factors which have an impact on democratic acceptance and this leads to the conclusion that a policy in the area of spatial planning has a higher chance to be accepted if it meets the following conditions: First, the policy instrument should be on the basis of incentives as opposed to bans and rules. Second, the degree of organisational capacity and conflict capability of interests concerned should be high. Third, the policy measure should have a high support by political elites, and fourth, the thematic framework in which the policy takes place can be anything except road traffic.

Findings at the contextual level also allow some conclusions on similarities between findings from spatial planning policy measures and environmental policy measures. The finding of this chapter that voters prefer incentive-based policy measures over policy measures on the basis of bans and rules contradicts earlier findings from similar studies in the area of environmental policies (Cherry et al. 2012; Stadelmann-Steffen 2011). One explanation for this finding consists in the theoretical argument of *proximity* of spatial planning measures, which allows voters to better estimate the costs of a policy and therefore to choose the efficient alternative. The finding that the degree of organisational capacity and conflict capability of interests concerned should be high points in the opposite direction to what was expected. However, this theory was taken from environmental policies and the finding points to another difference between spatial planning and environmental policy: While environmental policies often make use of the organisational capacity to mobilise *against* a policy measure, spatial planning often has opponents against and advocates *for* the introduction of new policies, because people can also benefit from some spatial planning measures and therefore mobilise to support them. Finally, the finding on the impact of the thematic framework a spatial planning policy measure takes place in supports the assumption that a high degree of

proximity leads to an individual observation-based evaluation of the measure (Soss and Schram 2007). Only the thematic framework of road traffic was found to significantly impact democratic acceptance, which is a highly proximate policy area. An explanation could be that for voters, estimating consequences of spatial planning measures in this thematic framework is easier because effects of transport policy measures are highly tangible. In contrast, when a spatial planning policy measure took place in the thematic framework of the environment, this did not influence voters' acceptance. This finding also supports the assumption of differences between the policy areas of spatial planning and environmental policies. To sum up, findings on contextual acceptance determinants support the assumption that the proximity of spatial planning measures is high and that the degree of proximity represents a decisive difference between spatial planning and environmental policy.

4.6 From Contextual Determinants to the Importance of the Content

While a multilevel analysis offers a number of advantages, it also entails some shortcomings regarding the overall research question. A multilevel approach enables to draw only very general conclusions about democratic acceptance because it identifies contextual and individual determinants across several spatial planning measures. Thus, the general approach of this chapter leaves several aspects of democratic acceptance unanswered.

Specifically two aspects require further research attention. Firstly, by focusing on the context of spatial planning, the *content* becomes of secondary importance. By including several ballot proposals in one analysis which covers several spatial planning aspects diminishes an examination of content features of specific ballot proposals. Secondly, the multilevel approach of the previous analysis neglects voters' *motivation* behind their voting decision. The voter-related factors of the multi-level analysis were based on individual determinants consisting of socio-demographic characteristics. By doing so, the analysis does not allow conclusions concerning voters' reasons behind their acceptance of the ballot measures, i.e. regarding the respective content of each spatial planning measure. Bowler and Donovan (2000, p. 1) ask in the beginning of their book if voters can "make sense of direct democracy? Are they capable of making choices that are consistent with their interests and desires […]?" These questions are crucial as an understanding of voters' interests and desires is necessary for exploring democratic acceptance in a manner that produces valid results.

Because of these two aspects, which need closer attention when exploring democratic acceptance of spatial planning instruments, the research focus needs to be expanded by an analysis that accounts for the content of a spatial planning instrument. Thus, in order to get a more complete picture, Chap. 5 turns from focusing on the meaning of the context of spatial planning instruments for their

democratic acceptance towards the motivation behind voters' decisions to accept a spatial planning policy. Chapter 5 focuses on one specific spatial planning ballot proposal to address the limitation of this chapter, namely a lack in analysing ballot proposals in more depth.

To do so, the Chap. 6 examines the ballot proposal of the *Amendment of Spatial Planning Law,* which has been accepted by the Swiss citizens in 2013. This case offers two main advantages. Firstly, as the vote took place in 2013, the ballot proposal is highly topical and as discussed in Sect. 2.4, the Amendment of Spatial Planning Law represents one of the most far-reaching law amendments in Switzerland in the context of spatial planning. Moreover, because this ballot proposal was not included in the analysis of the previous chapter, the case study may also serve as a basis for validating findings from the multilevel analysis. The second advantage of investigating democratic acceptance of the Amendment of Spatial Planning Law as a case study is its thematic scope, which encompasses spatial planning without further directly visible thematic frameworks concerning other policy areas. This is important as the results of the multilevel analysis have demonstrated that the policy area in which a spatial planning measure is framed in can impact its acceptance. Thus, the case of the Amendment of Spatial Planning Law acceptance also serves as an empirical specification of the spatial planning topic and represents a stepwise convergence towards democratic acceptance from the meso perspective.

Part III
Acceptance of Spatial Planning Measures at the Meso Level: A Case Study

Which Content Matters?

Chapter 5
The Motivation Behind Democratic Acceptance: A Case Study

Abstract This chapter focuses on one particular spatial planning measure, namely the *Amendment of Spatial Planning Law,* which was accepted by Swiss citizens in 2013. The main issue addressed in this chapter is whether the assumption from literature holds true that voters are politically uninformed and prefer the status quo over uncertain alternatives. Secondly, the chapter investigates the reasons behind citizens' voting decisions. The chapter clarifies the components of the Amendment of Spatial Planning Law (Sect. 5.1), followed by a theoretical introduction to dual-processing theories (Sect. 5.2). The research design is presented in Sect. 5.3, including the data, method, and statistical models. The findings reveal that information and arguments concerning the ballot proposal played a crucial role in voters' acceptance of the measure. Moreover, results indicate that the way information is processed by voters differs depending on the voting decision: Whereas 'yes'-voters appear to have formed their opinion by applying systematic processing paths, 'no'-voters appear to have formed their opinion primarily via heuristics. Following a discussion of the results (Sect. 5.4), the chapter concludes with a summary of the main findings and their interpretation against the initial hypotheses and theoretical framework (Sects. 5.5-5.6).

Keywords Amendment of Spatial Planning Law · Dual-process theories
Voting motivation · Heuristic reasoning · Systematic reasoning

As introduced in Sect. 4.6, the aim of this chapter is to examine potential drivers behind citizens' decisions to vote for spatial planning measures in order to gain insights into their intentions. As clarified in Sect. 3.2, the direct-democratic system in Switzerland allows the analysis of voters' preferences on specific issues in general and on spatial planning measures in particular.

In 2013, Swiss citizens voted in favour of the ballot proposal *Amendment of Spatial Planning Law*, which comprised different land use regulations to achieve efficient and desired land-use changes. What was especially remarkable about the ballot was that the law was accepted by the citizens although it constituted a tightening of the existing legal regulations. That is surprising, as voters usually tend

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https://doi.org/10.1007/978-3-319-90878-6_5

to vote in favour of more freedom and fewer restrictions. The underlying argument for this voting behaviour is that people prefer to preserve the status quo over an uncertain alternative (Bowler and Donovan 2000; Kim and Kankanhalli 2009; Hamideh et al. 2008; Samuelson and Zeckhauser 1988; Fernandez and Rodrik 1991).

Within direct-democracies, the status quo and the reference point for voters is to vote 'no' whereas voting 'yes' is associated with uncertainty. Voters therefore prefer the certain status quo over the uncertain shift away from the status quo alternative based on the assumption that voters are risk-averse (Bowler and Donovan 2000, p. 35). This raises the question of what determines that a majority of voters accepted a more restrictive spatial planning law despite the assumed status-quo and freedom-constraint biases. Bowler and Donovan (2000, p. 69) argue that voters tend to avoid voting for choices they are not familiar with. Similar findings have been shown in Switzerland, as there is evidence which indicates that poorly informed voters tend to reject new and untested proposals (Christin et al. 2002).

By following the argument that there is a tendency towards a rejection of unfamiliar proposals, this could conversely mean that voters who *are* familiar with a choice prefer the familiar option over alternatives. The acceptance of the Amendment of Spatial Planning Law in Switzerland may therefore indicate that voters were informed about the content of the ballot. Dalton (2000, p. 919) stresses that "[f]or voters to make meaningful decisions, they must understand the options that the polity faces." This means, that for drawing valid conclusions from the analysis of democratic acceptance determinants of spatial planning measures, it is important that voters understand the measures to be enabled to 'make meaningful decisions'.

This chapter examines the case of the Amendment of Spatial Planning Law in Switzerland regarding driving factors that lead voters to accept a spatial planning law that would result in a decrease of freedom. By doing so, the focus lies on content related drivers, which are the voters' motivation behind their voting decisions to accept a spatial planning measure.

The research question is as follows: What *motivates* voters to accept a more stringent spatial planning policy? This chapter seeks to analyse voters' reasons to accept the ballot of the Amendment of Spatial Planning Law by means of a quantitative approach complemented by a descriptive analysis of voters' motives behind their voting decisions. The underlying question is whether evidence can be found for any substantive systematic dispute of voters with the rather abstract topic of spatial planning or if their voting decisions are mainly driven by ideological and heuristic factors. This chapter also has an explorative component by analysing the voters' main reasons to vote in favour of a spatial planning measure and their support of arguments for or against that measure.

The structure of this chapter proceeds as follows: Before turning to a theoretical foundation of the importance of information for voting decisions and resulting hypotheses (Sect. 5.2), a brief description of the Amendment of Spatial Planning Law ballot is provided (Sect. 5.1). In the next section, data, method and statistical

models are presented (Sect. 5.3), followed by a discussion of the results (Sect. 5.4). Based on that, a summary of the main findings is given by also addressing the hypotheses in the concluding sections (Sects. 5.5–5.6). The remaining section of this chapter introduces Chap. 6 (Sect. 5.7).

5.1 The Ballot Proposal of the Amendment of Spatial Planning Law

The popular vote on the *Amendment of Spatial Planning Law* took place in Switzerland on the 3rd March, 2013 and was an indirect counterproposal by the parliament to the so-called *Landscape Initiative*, which included stricter components compared to the ballot proposal of the Amendment of Spatial Planning Law.

For each ballot, Swiss citizens receive a booklet called the *Federal Council's explanatory notes*. Therein, the ballot and its implications are presented and explained by the Federal Council. Moreover, the booklet includes arguments of proponents and opponents for either accepting or rejecting the ballot, the recommendation by the Federal Council and the parliament as well as legislative amendment plans if the ballot were to be accepted. The Federal Council's explanatory notes are provided in all four official languages. The following information about the content of the Amendment of Spatial Planning Law is based on the Federal Council's explanatory notes.

The Amendment of Spatial Planning Law consists of several components, which refer to a variety of current challenges in land use management such as urban sprawl or zone management.

The main goal of the Amendment of Spatial Planning Law was a better and more efficient use of derelict areas within building land. To prevent a hoarding of building land, the law provided the introduction of land consolidation. The possibility of changes in the plots of land displays "changes in land management on privately owned lands", which is assumed to be a requirement to solve problems of natural resource management (Pannell 2008, p. 225). The law aims to achieve a compact settlement development by reducing oversized construction zones and by improving the availability of already zoned building land. Moreover, under the law, the size of the building zones must be future-oriented, based on estimated needs for 15 years. Further components of the law consist of greater value added taxes for farmers and the deregulation of building permits for solar installations on rooftops in construction and in agricultural zones (see Explanatory Note, Referendum on 3rd March 2013).

5.2 Theoretical Framework: Heuristic Versus Systematic Reasoning

By analysing determinants that shape voters' acceptance as an expression of their opinion about a political issue, different approaches can be applied ranging from determinants that focus on socio-demographic or socio-economic variables, to approaches that analyse the motivation behind a decision or the level of information voters have about a choice. The latter approach is especially important against the background of the assumption that "most voters are chronically ignorant of political matters" (Oscarsson 2007, p. 301; Lupia 2015; see also Dalton 2000). Moreover, voters are often found to be politically uninformed and therefore their voting decisions are as well (Bartels 1996; Blais et al. 2009; Oscarsson 2007). With regard to Switzerland, Bornstein and Thalmann (2008, p. 1338) maintain that "[s]imilarly as in the United States, skepticism remains as to the ability of the Swiss electorate to make reasoned decisions." However, most democracies still work in an effective way, which cannot be explained by a majority of non-informed voters. Due to the fact that the Amendment of Spatial Planning Law in Switzerland was accepted by the majority of voters, despite this leading to an increase in restrictions compared to the status quo, it indicates that voters do inform themselves about an issue.

Dual-process theories offer an approach combining both the assumption that some voters are uninformed when considering a vote and that some voters inform themselves about the issue they are deciding on. In the following, based on dual-process theories, a systematic path of opinion formation is analysed, which will be referred to as *motivation content*, and heuristic processing shortcuts, which will be referred to as the *peripheral context*.

Dual-process theories originate from political-psychology and distinguish between different categories of reasoning (Sarat 1975). Theories of dual processing differentiate between a *heuristic* and a *systematic* path of individuals' opinion formation, differing in the importance of arguments for a decision (Chaiken and Trope 1999; Trechsel and Kriesi 2005). Kriesi (2005, p. 8) clarifies the two different concepts by stating that "[*s*]*ystematic* opinion formation is essentially *argument-based*, while *heuristic* opinion formation is essentially based on *shortcuts*, which do not make any reference to substantive arguments." That means that voters following the systematic path make use of issue-specific arguments for their opinion formation and voters following the heuristic path apply heuristics, which are judgemental shortcuts to simplify the issue they are to vote on.

Following Kriesi (2005, p. 10), for those voters who rely on the systematic path, the source of the arguments is the political campaign before the vote in which the political elites provide arguments for or against the issue. In contrast, people who form their opinion based on heuristic processing do not use "individualistic or particularistic judgement-relevant information" (Chaiken and Trope 1999, p. 74). In line with these considerations, being informed is not analysed as a binary variable expressed by voters' knowledge about the ballot title and content, but the relative importance of arguments for the voting decisions will be investigated instead.

Therefore, the *content* of voters' reasons to accept the ballot is the object of this chapter. This approach serves to analyse whether evidence can be found that voters apply the systematic path of processing when forming their opinion about spatial planning measures and when gaining information.

5.2.1 Heuristic Reasoning: Peripheral Context

Voters who follow the heuristic path use different heuristic procedures, which simplify the issue and consequently reduce the required effort for their voting decisions. Trechsel and Kriesi (2005) distinguish three heuristic shortcuts: Firstly *trust heuristics,* secondly *status quo heuristics* and thirdly *partisan heuristics*.

Status quo heuristics correspond to the status quo argumentation by Bowler and Donovan (2000), which assumes that voters prefer the status quo over uncertain alternatives. Trust heuristics refer to opinion formation strategies when people follow the advice of a source they trust. For direct-democratic choices, trust in government serves as a suitable shortcut for voters (Kriesi 2005, p. 139). Partisan heuristics lead to using party preferences as a shortcut for opinion formation, which results in following the recommendations made by the preferred party or other political elites (Downs 1957; Trechsel and Kriesi 2005).

The peripheral context model is derived from the theoretical background and contains variables for each of the three heuristic strategies, namely trust heuristics, status quo heuristics and partisan heuristics. The three heuristic strategies as a whole will be referred to as *peripheral context* model instead of separate analyses, as Kriesi (2005, p. 140) points out that the "three heuristics are not independent of each other".

The trust heuristic strategy is captured by the variable whether an individual trusts in the government or not. As the government recommended to accept the Amendment of Spatial Planning Law, the following hypothesis can be formulated:

Trust heuristic H_1: Voters who have trust in the government are more likely to accept the Amendment of Spatial Planning Law than voters who do not have trust in the government.

Regarding the status quo heuristic, it is assumed that people tend to cast a 'no' when there is uncertainty about the alternative outcome after voting 'yes'. Following this argumentation, voters' awareness of the current situation is the status quo and they compare alternatives with this current situation. Voters who are directly affected by a ballot should therefore be more aware of the status quo and therefore should tend to vote 'no' to preserve it. In this chapter, the uncertain alternative is the acceptance of the Amendment of Spatial Planning Law. The target group of spatial planning measures are often landowners. Beside landowners, the location type can influence the perceived status quo (see Chap. 4). People who live in cities might be used to continuous construction work. This, in turn, might lead to

a status quo which includes a high tolerance for construction changes, thus the degree of uncertainty in the case of a new spatial planning measure would be low. In contrast, people who live in rural areas might be more sensitive to construction changes because their status quo implies only a small amount of construction changes and spatial planning measures are therefore perceived as a highly uncertain alternative. Based on these arguments, the second hypothesis can be derived:

Status quo heuristic H_2: Landowners or voters from rural areas reject the Amendment of Spatial Planning Law, whereas people who do not own land or live in urban areas are less likely to do so.

Partisan heuristics is the third heuristic strategy, which assumes that "[p]arty identifiers are generally more likely to vote according to the recommendations of their own party, independent of their issue-specific awareness" (Kriesi 2005, pp. 149–150). Classical political theory and empirical evidence suggest that left-wing parties tend to support government interventions whereas right-wing and liberal parties refuse state interventions (Marks and Wilson 2000). Voters use their political preferences for a judgement about policies by following the party position (Kuklinski and Quirk 2000). With regard to the positions of the two opposing parties in Switzerland, namely the conservative right Swiss People's Party (SVP) and the left Social Democratic Party (SP), the SVP recommended to vote 'no' while the SP supported the ballot proposal, when considering the Amendment of Spatial Planning Law. The following hypothesis can therefore be formulated:

Partisan heuristic H_3: Voters with a left-wing political ideology are more likely to vote for the Amendment of Spatial Planning Law as opposed to those with a right-wing political ideology.

Nevertheless, the peripheral context is not the focus of the present analysis. The analysis of the peripheral context serves as an approach to compare the relative relevance of heuristic processing with systematic processing for the acceptance of spatial planning measures. Kriesi (2005) finds evidence that the systematic argument-based path of opinion formation is more important for direct-democratic decisions than the heuristic path wherein voters use heuristic shortcuts such as party preferences for their opinion formation. Therefore, the primary focus of interest within this chapter is the motivation content of voters to investigate systematic opinion formation.

5.2.2 Systematic Reasoning: Motivation Content

Due to a lack of empirical evidence for determinants of systematic reasoning in the specific area of spatial planning measures, the motivation content analysis has an inductive character in terms of the direction of determinants' impact. Nevertheless, theoretical considerations derived from the debate and findings on systematic

opinion formation allow the assumption that some factors might play an important role in voters' opinion formation about the Amendment of Spatial Planning Law.

When considering opinion formation, it is important to clarify what is meant by informed citizens. Christin et al. (2002) analysed how voters' degree of information about a ballot influenced their voting decisions on direct-democratic ballots between 1981 and 1999 in Switzerland. They found evidence that uninformed voters tend to reject the ballot. The results, however, were not equally clear for all ballots. In addition, information was operationalized by an index consisting of voters' knowledge about the title and subject of the ballots and having reasons for forming their voting decisions. Their analyses therefore did not take into account the reasons' content or other information-related variables such as arguments. The aim of this chapter, however, is to shed light on the content of information such as arguments and the content of the voters' reasons to accept the measure. Hence, the understanding of informed citizens follows the definition by Clarke and Fredin (1978, pp. 144–145) "that possessing information about public affairs means *having reasons for favouring or rejecting political alternatives.*" For investigating systematic opinion formation, it seems therefore essential to include citizens' reasons for their voting decisions in the analysis.

Regarding the systematic path compared to the heuristic path, Kriesi (2005, p. 175) remarks that "[t]his distinction essentially refers to the role played by arguments in the process of opinion formation". His findings on argument-based opinions revealed that arguments play an essential role in direct-democratic decisions in Switzerland. Therefore, the importance of arguments for voters' approval of the Amendment of Spatial Planning Law will be the focus of the analysis.

Although the thematic scope of the Amendment of Spatial Planning Law incorporates spatial planning, it contains components that indirectly tackle environmental protection. Because of regulations on rooftop solar installations, the Amendment of Spatial Planning Law might be considered as relevant for environmental protection by voters. Stadelmann-Steffen (2011) finds evidence that citizens' support for environmental protection increases the probability to vote in favour of pro-environmental ballot measures. Similar findings were revealed by several studies, which show that environmental values or beliefs about environmental consequences play an important role in democratic acceptance of policy measures (see e.g. Kallbekken and Sælen 2011; Nilsson et al. 2004; Loukopoulos et al. 2005; Connerly and Frank 1986). However, findings from Chap. 4 suggest that there are substantial differences between spatial planning and environmental policies. The case of the Amendment of Spatial Planning Law offers to investigate potential differences between these two policy areas from a different angle which directly addresses environmental values. Accordingly, if voters either perceive the ballot of the Amendment of Spatial Planning Law as an environmental policy measure or if they do not differentiate between spatial planning and environmental measures should be reflected by their environmental attitudes. Accordingly, pro-environmental protection attitudes could play a role in the voting decisions regarding the Amendment of Spatial Planning Law. It will therefore be examined if "general environmental beliefs" influence the acceptance of the spatial planning

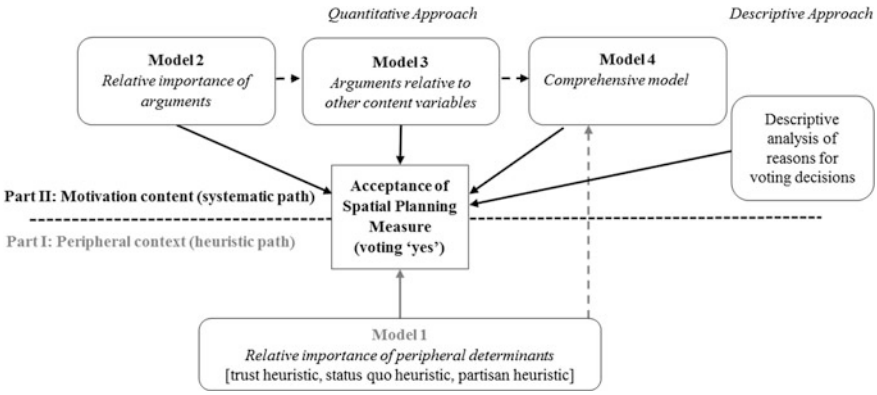

Fig. 5.1 Conceptual representation of empirical acceptance models for the Amendment of Spatial Planning Law

measure or not (Eriksson et al. 2008, p. 1119). General environmental beliefs are captured within this chapter by voters' attitude towards environmental protection.

Social psychological experiments show that individuals tend to process systematically, when they attach importance to a task (Maheswaran and Chaiken 1991). Applied to voting decisions it means that voters tend to process information systematically if the issue they vote on is particularly important to them (the voters). Kriesi (2005, p. 176) also remarks "that people who attribute some importance to their decision will proceed more systematically in their opinion formation than people who do not so". Therefore, the personal meaning of the ballot for the voter and the perceived meaning of the ballot for the country as well as decision difficulties are also included in the motivation content analysis.

As mentioned above, the analytical foundation of the motivation content analysis is not based on hypotheses but follows an inductive approach instead, which empirically consists of four models and a descriptive part (Fig. 5.1). Derived from theoretical considerations, the models examine on the one hand the relative importance of ballot related arguments for the voting decisions. On the other hand, the impact of further content related determinants of the ballot acceptance are investigated within the motivation content analysis.

5.3 Research Design

The empirical analysis consists of two main parts, I and II, which include in total four quantitative models and one descriptive analysis. A conceptual diagram of the research design is shown in Fig. 5.1. Part I examines *peripheral context* determinants which capture heuristic processing, whereas part II investigates *motivation content* determinants to estimate the relevance of systematic processing for the

Amendment of Spatial Planning Law acceptance. As Fig. 5.1 shows, part I and part II are not independent of each other.

The first part can be described as investigating the influence of the peripheral context determinants for citizens to vote in favour of the spatial planning measure (model 1). The second part goes beyond peripheral contextual variables by analysing the reasons for voting 'yes' and takes the content of the proposal and voter *motivation* into account. In a first step, model 2 only examines the relative importance of content related arguments for the voting decision followed by model 3, in which further content related factors were added.

Model 4 then integrates those peripheral context determinants, which were identified as relevant for the voters' decisions within the first empirical model. Thus, model 4 comprises all variables from the quantitative analyses which have been identified as being relevant. By doing so, the relative relevance of all determinants from the peripheral context, as well as from the motivation content, can be estimated and both processing paths can be compared. The descriptive analysis complements part II by analysing an additional aspect of citizens' voting motivation. More concretely, the descriptive analysis of part II explores citizens' reasons behind their voting decisions on the basis of open-ended questions.

5.3.1 Data and Operationalization

As clarified in Sect. 1.4, the data is taken from the Swiss Vox-surveys. Accordingly, the questionnaire includes respondents' characteristics, their knowledge about the popular vote topic, their voting decisions and other socio-demographic related characteristics. Moreover, the questionnaire includes open-ended questions, which ask for the respondents' reasons why they accepted or rejected the ballot proposal. The data for the Amendment of Spatial Planning Law comprised a sample total of 1,517 individual responses which was then reduced to 846 individual responses due to non-voters and other missing data. All 'don't know' responses were also removed from the data.

The quantitative analyses employ four statistical models wherein the dependent variable is the dichotomous voting decision for (voting 'yes') or against (voting 'no') the Amendment of Spatial Planning Law. The four models are based on logistic regression analyses with a Bayesian approach. The second section of Part II, in contrast, is a descriptive analysis of the reasons for the voting-decisions. The data contained open-ended questions concerning reasons for the voting decisions, which were coded. Table 5.1 summarises the four models with their independent variables and their associated paths of opinion formation.

The dependent variable remains the same for all four models. Part I only includes variables capturing the peripheral context. The independent variable, *trust in government*, is a dummy variable with either *no trust* (= 0) or *trust* (= 1) in government. *Landownership*, the second independent variable, is a dichotomous variable and coded as 1 for *landowners* and 0 for those who do *not own land*.

Table 5.1 Models of analyses with associated path of opinion formation and independent variables

Model	Independent variables and associated paths	
	Variables	Path of reasoning
Model 1	*Trust in the government*, *landownership*, *location type*, *political ideology* and controlled variables	Peripheral context [Part I]
Model 2	Support of six *arguments*	Motivation content [Part II]
Model 3	Support of six *arguments*, importance of *environmental protection*, *personal meaning* of the ballot, *meaning of the ballot for the country*, *decision difficulties*	Motivation content [Part II]
Model 4	Comprehensive model merging the significant variables from model 1 to model 3	Motivation content [Part II]
Descriptive analysis	Descriptive analysis of the *reasons for the voting decision*	Motivation content [Part II]

Location type consists of two categories, namely rural (= 0) and urban (= 1). Finally, *political ideology* is captured by an 11-point scale where citizens were asked to rate themselves between *extremely right* (= 0) and *extremely left* (= 10).

The second part of the analyses consists of three quantitative models and one descriptive part and can be summarised as follows: The independent variables of model 2 are *arguments* including three pro and three con arguments for and against the ballot proposal. During the Vox-survey, citizens were asked to indicate their *agreement* with each argument on a scale between *complete disagreement* (= 0) and *full agreement* (= 3). A detailed presentation of the arguments is given later in this chapter in Sect. 5.4.2.

Further content related independent variables for model 3 are, *importance of environmental protection*, *personal ballot meaning*, *meaning of the ballot for the country* and *decision difficulties*. The variable to capture the importance of environmental protection was measured using a question where the respondents were asked for their preferences whether environmental protection is more important than economic prosperity in Switzerland, or if economic prosperity is more important than environmental protection. The citizens were asked to indicate their preferences on a six-point scale from *environmental protection* to *economic prosperity*. The variables *personal meaning of the ballot* and *meaning of the ballot for the country* were measured on a scale between *not important at all* (= 0) and *very important* (= 10). *Difficulties to decide* is a dummy-variable coded with 0 for *no difficulties to decide* and 1 for *decision difficulties*. Appendices A.2.1–A.2.3 give an

overview of the operationalization and summary statistics of all variables of this chapter including the controlled variables gender, age and education. [1]

The descriptive analysis of part II investigates citizens' reasons for their voting decisions. The Vox-survey contains open-ended questions, in which respondents were asked for two *reasons for their voting decisions*. Within the Vox-survey, the questions for the reasons were asked before the presentation of the arguments. Due to the research design of the present chapter, the reasons for the voting decision are presented after the argument. For the analyses, these responses were recoded with 0, if the reason for the voting decision did *not contain any relation to the ballot content* and with 1, if the reason *did contain reference to the ballot*. Moreover, the Vox-dataset contains recoded reasons to several categories, which will also be presented within the descriptive part of the analysis.

5.3.2 Model

All quantitative models are logistic regression models. Simultaneously to the analysis in Chap. 4, the models are based on Bayesian MCMC estimation and were calculated with the software MLwiN 2.35, as Bayesian approaches are suitable and increasingly used for logistic models (Hosmer et al. 2013, p. 408; see also O'brien and Dunson 2004; Congdon 2005)[2] and applying consistent statistical approaches throughout the whole book increases the comprehensibility of the findings' synthesis.

The formalisation of the four models of the analysis in this chapter can be summarised by Eq. (5.1) and follows Rasbash et al. (2012).

$$logit(\pi_i) = \beta_0 x_0 + \sum_k \beta_k x_{ki} \tag{5.1}$$

The dependent variable y_i is binary by expressing the voting decision either for or against the Amendment of Spatial Planning Law. The term π_i represents the probability that $y_i = 1$, which denotes acceptance of the proposal, i.e. "the probability that voter n will vote yes" (Hamideh et al. 2008, p. 154). The logit transformation of the explanatory variable, which ensures that the predicted probabilities will lie between 0 and 1, is denoted by $logit(\pi_i)$ (Rasbash et al. 2012). Thus, "[a]ll variables are entered into the utility function relating to the yes responses, with the utility of a no response set to zero" (Jaensirisak et al. 2005, p. 141). The explanatory variables are denoted as the sum of x_{ki} where k stands for each explanatory variable.

[1] For the controlled variables included in model 1, the same theoretical framework as from the previous chapter can be applied (see Sect. 4.1.1).

[2] See Chap. 4 for a more profound discussion of advantages of Bayesian statistics and differences compared to frequentists statistics, see also Schoot et al. (2014).

Within the model, the intercept is described by $\beta_0 x_0$, which is added to the sum of the independent variables multiplied by the regression coefficients β_k of each variable (Rasbash et al. 2012; see also Hosmer et al. 2013).

5.4 Results

In a first step, the national ballot results are compared with the results of the survey sample, followed by a presentation of the results for the quantitative models in ascending order. In a second step, the descriptive results of the reasons for the voting decision analysis are presented.

Comparing the results regarding the percentages of approval and rejection of the Amendment of Spatial Planning Law at national level with the results for the survey sample reveals a small difference. While 63% voted for and 37% voted against the Amendment of Spatial Planning Law at national level, 76% of the survey respondents voted 'yes' and 24% voted 'no'(see Table 5.2). Hence, the amount of 'yes'-voters within the sample is slightly overrepresented. However, due to the research aim of analysing the reasons behind the acceptance of spatial planning measures, a high amount of voters who accepted the proposal is especially beneficial for the descriptive part of voting reasons.

5.4.1 Peripheral Context

The results of the first part (model 1), which examines peripheral context determinants of voters' acceptance of the Amendment of Spatial Planning Law, are shown in Table 5.3. The results indicate that *trust in government* significantly influences the voting decision. Voters with trust in the government are more likely to vote 'yes' compared to voters who distrust the government. This finding is reasonable when taking into account the recommendation of the government to accept the ballot and it is in line with the *trust heuristic* hypothesis H_1.

Among the spatial planning relevant determinants, both *land ownership* and *location type* variables have a significant influence on the voting decision: Landowners or people who live in rural areas tend to reject the Amendment of

Table 5.2 National results on the Amendment of Spatial Planning Law compared to the sample results

	National results in percent (N)	Sample results in percent (N)
'Yes'-votes	63% (1,476,942)	76% (639)
'No'-votes	37% (871,514)	24% (206)
Total N	2,348,456	845

Source Own representation; data for the national results is taken from the Swiss Confederation, Federal Chancellery and data for the sample results is taken from the Vox-data

Table 5.3 Peripheral context acceptance determinants of the Amendment of Spatial Planning Law

Determinants	Model 1		CI	
	Mean	S.D.	2.5%	97.5%
Constant	**2.075**	0.377	**1.342**	**2.827**
Age	−0.004	0.006	−0.016	0.008
Gender (ref. female)	−0.004	0.193	−0.384	0.373
Education (ref. medium)				
Low	0.102	0.426	−0.712	0.962
High	0.196	0.203	−0.202	0.592
Trust in government (ref. distrust)	**0.40**	0.194	**0.024**	**0.788**
Political ideology	**−0.256**	0.048	**−0.352**	**−0.164**
Land ownership (ref. no land ownership)	**−0.410**	**0.192**	**−0.787**	**−0.036**
Location type (ref. rural)	**0.453**	0.199	**0.063**	**0.838**
DIC	734.405			
N	695			

Notes Dependent variable is the voting decision at the ballot (dichotomous variable 'yes'/'no'). Models ran with MLwiN 2.35 through MCMC estimation. DIC = deviance information criterion. Bold: 95%-credible interval does not contain zero (systematic relationship). Logit-model; posterior mean, standard deviations (S.D.) and 95% credible interval of log odds, based on Bayesian estimation (300,000 iterations, last 500 used for summary statistics, burn-in: 50,000, thinning: 1)

Spatial Planning Law rather than voters who do not own land or live in urban areas. This finding supports the *status quo heuristic* hypothesis H_2. Nevertheless, this relationship is not as strong as expected.

The strongest impact on acceptance over all peripheral context determinants is found for political ideology. As hypothesised by the *partisan heuristic* H_3, voters who assess their *political preferences* on the left are more likely to accept the ballot compared to those who rate themselves to be right-wing. Furthermore, none of the socio-demographic control variables *age*, *gender* and *education* seem to play a role in the ballot's acceptance.

Figure 5.2 shows the predicted relationship between *political ideology* and voting in favour of the ballot proposal. Accordingly, the more voters rate themselves as being right-wing, the higher their disapproval for the spatial planning measure. When holding all other variables at their mean, the mean probability for *far left* voters (which equals 0 on a scale between 0 and 10) to accept the ballot is 92% (95%-CI 0.88–0.96). In contrast, the mean probability for voters who stated to be *far right* (which equals 10 on that scale) to vote in favour of the Amendment of Spatial Planning Law is 49% (95%-CI 0.38–0.60).

The *peripheral context* which consists of characteristics capturing heuristic processing, seems to play a role in determining the voting decisions made by Swiss citizens on the Amendment of Spatial Planning Law. It appears the peripheral context plays a role in opinion formation as evidence for all three heuristic processing-hypotheses was found. In a next step, the *motivation content*, which

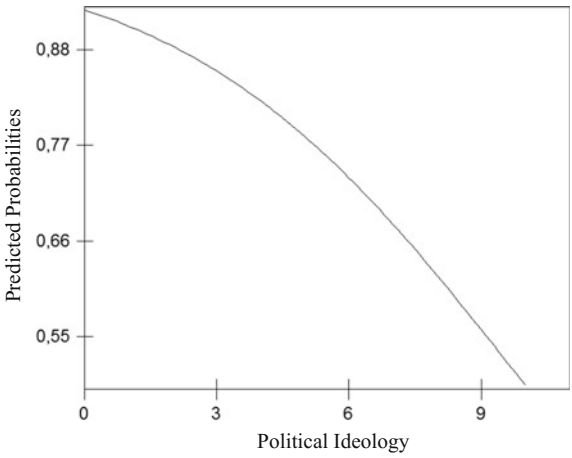

Fig. 5.2 Political ideology and probability to vote 'Yes'. *Note* Scale between *far left* (= 0) and *far right* (= 10)

captures the systematic path of opinion formation, will be gradually analysed. The analysis of the *peripheral context* therefore starts by investigating the relative importance of six arguments for and against the ballot for the voting decision (model 2) and then adding further content related variables to the model (model 3).

5.4.2 Motivation Content

Within the Vox-survey, respondents were presented with six arguments for or against the ballot proposal and asked for their degrees of agreement with each argument. The arguments presented in the Vox-survey concerning the Amendment of Spatial Planning Law consisted of three pro and three con arguments, which were presented in an order alternating between pro and con arguments. The arguments represent popular arguments which were used by proponents and opponents during the political campaign before the vote. The six arguments are as follows:

1. Pro Arguments for approving the Amendment of Spatial Planning Law

A.1: The Amendment of Spatial Planning Law is an efficient means to curb urban sprawl in Switzerland.

A.2: It is useful to strengthen the municipalities in their efforts to make land more accessible.

A.3: The revision provides a more flexible solution than the rigid landscape initiative, which would freeze the construction zones of Switzerland for 20 years.

Table 5.4 Relative importance of arguments for voting decision

Arguments	Model 2		CI	
	Mean	S.D.	2.5%	97.5%
Constant	0.112	0.611	−1.093	1.310
A.1: Urban sprawl	**1.824**	0.214	**1.418**	**2.261**
A.2: Municipalities	−0.068	0.152	−0.370	0.225
A.3: Flexible solution	0.179	0.172	−0.161	0.518
A.4: Land price	**−0.553**	0.164	**−0.880**	**−0.238**
A.5: Legal uncertainty	−0.241	0.180	−0.595	0.113
A.6: Dictation	**−0.984**	0.170	**−1.327**	**−0.662**
DIC	330.376			
N	495			

Notes Dependent variable is the voting decision at the ballot (dichotomous variable 'yes'/'no'). Models ran with MLwiN 2.35 through MCMC estimation. DIC = deviance information criterion. Bold: 95%-credible interval does not contain zero (systematic relationship). Logit model; posterior mean, standard deviations (S.D.) and 95% credible interval of log odds, based on Bayesian estimation (300,000 iterations, last 500 used for summary statistics, burn-in: 50,000, thinning: 1)

2. Con arguments for rejecting the Amendment of Spatial Planning Law

A.4: A scarcity of building land leads to higher land prices, which would lead to higher costs for tenants and house- or landowners.

A.5: There is legal uncertainty in the obligation for changes in the plots of land, which will lead to enforcement problems and costly court proceedings.

A.6: Proven federalist solutions are replaced by a dictation of the Federation. The cantons and municipalities lose important competencies in spatial planning.

When only including the support of arguments as independent variables in the analysis (model 2), three arguments significantly influence the voting decisions. As shown in Table 5.4, the strongest impact is found for the *urban sprawl argument A.1* and the *dictation argument A.6*. The impact of both arguments point in the expected direction: While voters who support the *urban sprawl argument A.1* tend to vote in favour of the ballot, the more citizens agree to the *dictation argument A.6*, the more they reject the ballot. The third argument that also influences voters' decisions is the *land price argument A.4* and its impact is, as expected, negative. Voters who strongly agreed with this argument refused the ballot rather than voters who did not agree with this argument. This relationship, however, is considerably weaker compared to the impact of the other two arguments.

The predicted relationship between the support for the *urban sprawl argument A.1* and the probability to accept the ballot is shown in Fig. 5.3 and has the shape of a sigmoid function. The probability to accept the ballot, while keeping all other variables at their mean, increases with the degree of support for the urban sprawl argument. The mean probability to vote 'yes' for those who completely disagreed

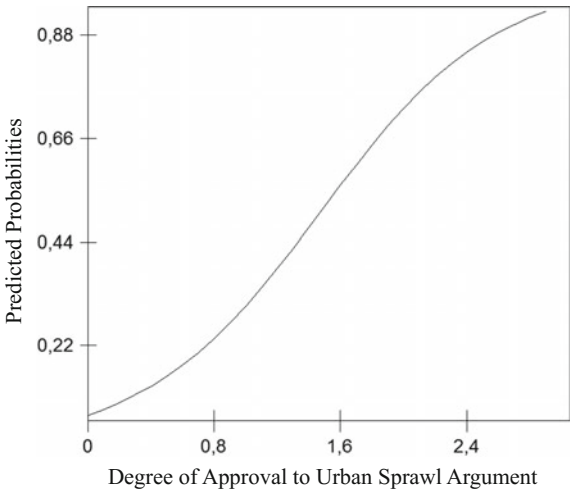

Fig. 5.3 Degree of approval to urban sprawl argument A.1 and probability to vote 'Yes'. *Note* Scale between *complete disagreement* (= 0) and *full agreement* (= 3)

with the urban sprawl argument (which equals 0 on a scale between 0 and 3) is 7% (95%-CI 0.02–0.17) compared to 92% (95%-CI 0.88–0.96) for voters who fully agreed with the argument.

While the *urban sprawl argument A.1* represents a pro argument, the *dictation argument A.6* constitutes an argument against the ballot proposal. The predicted relationship between the support for the *dictation argument A.6* and the probability to accept the ballot is shown in Fig. 5.4. Holding all other variables at their mean, the probability to accept the Amendment of Spatial Planning Law decreases, the more voters support the *dictation argument A.6*. Accordingly, in case of complete disagreement with the dictation argument (which equals 0 on a scale between 0 and 3), the mean probability to vote 'yes' amounts to 96% (95%-CI 0.91–0.98). Conversely, in case of full agreement (which equals 3), the mean probability to accept the policy measure decreases to 62% (95%-CI 0.49–0.73).

The importance of arguments is even more pronounced when the degree of approval is recoded to dichotomous variables. By doing so, 0 denotes a *disagreement with the argument* (consisting of *complete disagreement* and *rather disagree*) and 1 is denoted as *agreement with the argument* (consisting of *full agreement* and *rather agree*). Table 5.5 shows the results for a logistic regression analysis with the support for or against arguments operationalized as dummy variables. In addition to the *urban sprawl argument A.1*, *the land price argument A.4* and the *dictation argument A.6,* now the *flexible solution argument A.5* achieves significance.

The importance of arguments also becomes evident when analysing the probabilities to accept the ballot depending on the dichotomous support of an argument by holding all other arguments constant. Figure 5.5 shows the probabilities to

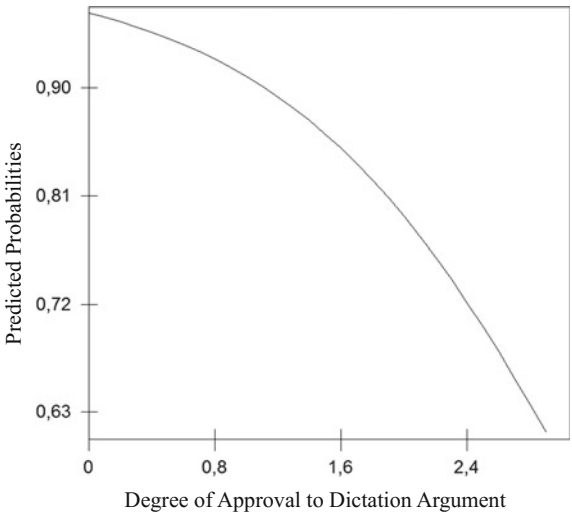

Fig. 5.4 Degree of approval to dictation argument A.6 and probability to vote 'Yes'. *Note* Scale between *complete disagreement* (= 0) and *full agreement* (= 3)

accept the Amendment of Spatial Planning Law for each argument, which achieved significance in model 2 (Table 5.5). The highest probability to vote 'yes' is found for voters who agreed with the *urban sprawl argument A.1*, which is 91% (95%-CI 0.87–0.98). In contrast, the predicted probability to accept the ballot by voters who did not agree with this argument is 27% (95%-CI 0.13–0.46).

Table 5.5 Relative importance of dichotomous support of arguments for the voting decision

Arguments	Model 2 with dummies		CI	
	Mean	S.D.	2.5%	97.5%
Constant	−0.353	0.555	−1.489	0.700
A.1: Urban sprawl (ref. disagreement)	**3.556**	0.456	**2.716**	**4.504**
A.2: Municipalities (ref. disagreement)	0.161	0.320	−0.469	0.785
A.3: Flexible solution(ref. disagreement)	**0.738**	0.317	**0.121**	**1.361**
A.4: Land price (ref. disagreement)	**−1.039**	0.316	**−1.670**	**−0.430**
A.5: Legal uncertainty (ref. disagreement)	−0.528	0.338	−1.199	0.128
A.6: Dictation (ref. disagreement)	**−1.868**	0.329	**−2.530**	**−1.239**
DIC	353.295			
N	495			

Notes Dependent variable is the voting decision at the ballot (dichotomous variable 'yes'/'no'). Models ran with MLwiN 2.35 through MCMC estimation. DIC = deviance information criterion. Bold: 95%-credible interval does not contain zero (systematic relationship). Logit model; posterior mean, standard deviations (S.D.) and 95% credible interval of log odds, based on Bayesian estimation (300,000 iterations, last 500 used for summary statistics, burn-in: 50,000, thinning: 1)

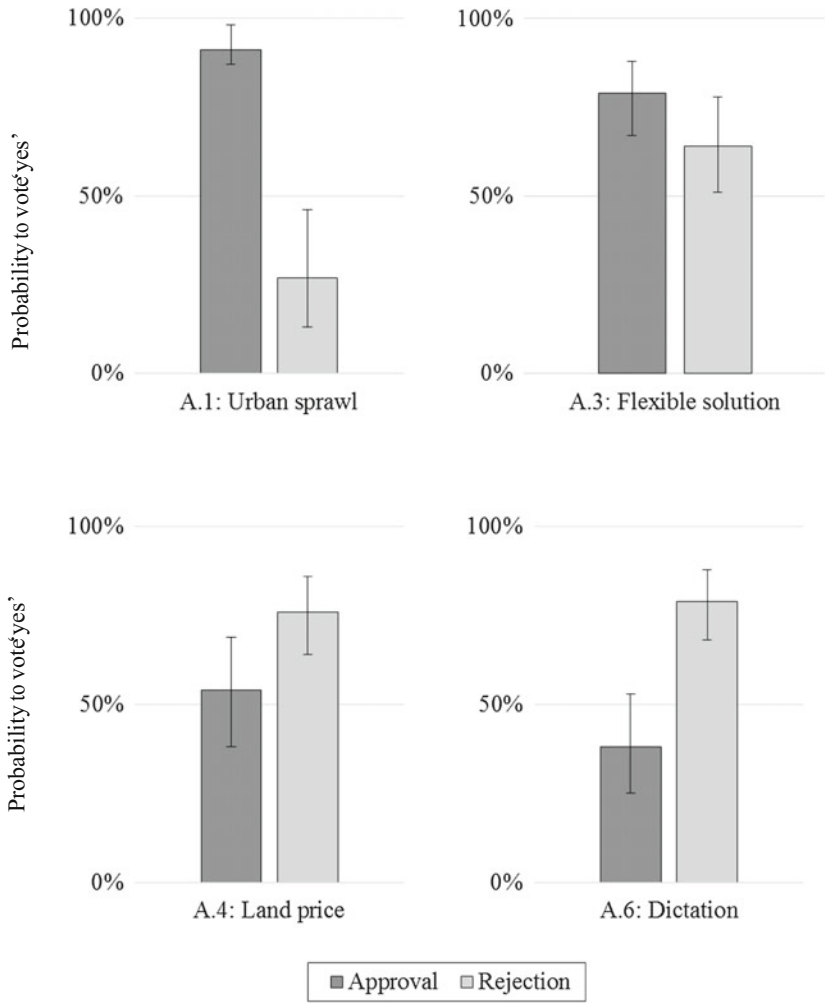

Fig. 5.5 Approval/rejection of arguments and predicted probability to vote 'Yes'. *Note* Bars represent 95%-CI

Regarding the *flexible solution argument A.3*, the probability for those who supported the argument to vote in favour of the ballot is 79% (95%-CI 0.67–0.88) and 64% (95%-CI 0.50–0.77) for those who did not support the argument. When only considering voters who agreed with the *land price argumen*t *A.4* and while keeping all other variables at their mean, the probability to vote 'yes' is 54% (95%-CI 0.38–0.69). This value rises to 76% (95%-CI 0.64–0.86) for voters who did not

Table 5.6 Motivation content determinants of voters' acceptance of the Amendment of Spatial Planning Law

Determinants	Model 3		CI	
	Mean	S.D.	2.5%	97.5%
Constant	**−3.051**	1.018	**−5.143**	**−1.137**
A.1: Urban sprawl	**1.746**	0.236	**1.305**	**2.227**
A.2: Municipalities	−0.024	0.168	−0.352	0.306
A.3: Flexible solution	0.127	0.191	−0.249	0.500
A.4: Land price	**−0.551**	0.182	**−0.911**	**−0.199**
A.5: Legal uncertainty	**−0.417**	0.198	**−0.809**	**−0.031**
A.6: Dictation	**−0.930**	0.183	**−1.299**	**−0.582**
Environmental protection	**0.236**	0.120	**0.004**	**0.474**
Difficulties to decide (ref. difficult)	−0.041	0.342	−0.721	0.621
Personal meaning ballot	**0.189**	0.075	**0.042**	**0.336**
Meaning ballot for country	**0.230**	0.102	**0.027**	**0.433**
DIC	−1169.566			
N	459			

Notes Dependent variable is the voting decision at the ballot (dichotomous variable 'yes'/'no'). Models ran with MLwiN 2.35 through MCMC estimation. DIC = deviance information criterion. Bold: 95%-credible interval does not contain zero (systematic relationship). Logit model; posterior mean, standard deviations (S.D.) and 95% credible interval of log odds, based on Bayesian estimation (300,000 iterations, last 500 used for summary statistics, burn-in: 50,000, thinning: 1)

agree with the *land price argument A.4*. Finally, the predicted probability to vote 'yes' for voters who stated approval of the *dictation argument A.6* is 38% (95%-CI 0.25–0.53), while the probability to vote 'yes' amongst those who did not approve the argument is 79% (95%-CI 0.68–0.88).

The importance of arguments for the voting decision raises the question of how relevant arguments are relative to other content variables. To answer this question, model 2 is supplemented by four further content variables, which aim to shed light on the systematic path of opinion formation. The added variables consist of, firstly, the value of *environmental protection*, secondly, the perceived *decision difficulties* and finally the perceived *importance of the ballot* for both *personal* and *country* categories. The results for the merged model 3 are presented in Table 5.6.

Results show that the added variables apart from *decision difficulties* significantly influence voters' acceptance of the Amendment of Spatial Planning Law, even though the impact is not very strong. A high agreement with *environmental protection* is positively related to a 'yes'-vote. Also positively related with a vote in favour of the ballot are the *personal importance of the ballot* and its *relevance for the country*. Regarding the arguments, their impact in the merged model 3 compared to model 2 remains predominantly the same. In contrast to model 2, the *legal uncertainty argument A.5* is significant in the merged model although the strength of the influence is relatively small.

Findings from models 1–3 yield that both the peripheral context as well as the motivation content influenced voters' acceptance of the Amendment of Spatial Planning Law. In order to be able to make assessments about the relative importance of both paths of opinion formation, the significant variables from models 1–3 are merged into one comprehensive model, model 4.

5.4.3 Comprehensive Model

The results of comprehensive model 4 are shown in Table 5.7 and include all significant variables from models 1–3. It becomes evident, that the importance of arguments for the voting decision remains high, whereas all variables, which had a significant influence in the former peripheral context model 1 lose their impact on voters' acceptance within comprehensive model 4.

Regarding the motivation content models 2 and 3, three arguments, namely the *urban sprawl argument A.1*, the *land price argument A.4* and the *dictation argument A.6* strongly impact whether a voter accepts or refuses the Amendment of Spatial Planning Law. The influence direction remains unchanged in the expected direction. In contrast to model 3, the *legal uncertainty argument A.5* does not

Table 5.7 Comprehensive model of peripheral context and motivation content determinants of voters' acceptance of the Amendment of Spatial Planning Law

Determinants		Model 4		CI	
		Mean	S.D.	2.5%	97.5%
	Constant	−1.798	1.091	−4.044	0.272
Model 1	Trust in government	0.442	0.318	−0.181	1.067
	Political ideology	−0.154	0.083	−0.317	0.009
	Land ownership (ref. no land)	−0.196	0.318	−0.827	0.425
	Location type (ref. rural)	0.530	0.346	−0.148	1.208
Models 2 and 3	**A.1: Urban sprawl**	**1.710**	0.223	**1.290**	**2.164**
	A.4: Land price	**−0.616**	0.174	**−0.962**	**−0.280**
	A.5: Legal uncertainty	−0.387	0.198	−0.781	−0.003
	A.6: Dictation	**−0.955**	0.179	**−1.319**	**−0.612**
	Environmental protection	0.086	0.125	−0.158	0.332
	Personal meaning ballot	**0.182**	0.071	**0.043**	**0.323**
	Meaning ballot for country	**0.223**	0.097	**0.034**	**0.419**
	DIC	311.028			
	N	496			

Notes Dependent variable is the voting decision at the ballot (dichotomous variable 'yes'/'no'). Models ran with MLwiN 2.35 through MCMC estimation. DIC = deviance information criterion. Bold: 95%-credible interval does not contain zero (systematic relationship). Logit model; posterior mean, standard deviations (S.D.) and 95% credible interval of log odds, based on Bayesian estimation (300,000 iterations, last 500 used for summary statistics, burn-in: 50,000, thinning: 1)

achieve significance in comprehensive model 4. This impact disappearance is not surprising insofar as its influence was already the weakest in model 3 and did not achieve statistical significance in model 2. Concerning the other variables of model 3, *environmental protection* seems to not have an influence on citizens' voting decisions under inclusion of the peripheral context variables. Conversely, both the *personal meaning* of the ballot and the *ballot meaning for the country* seem to play a role in the acceptance of a ballot proposal.

Taking the results of the quantitative analyses together, they suggest that the *motivation content*, which captures the systematic path of opinion formation, is crucial for the acceptance of the spatial planning measure.

5.4.4 Personal Reasons for Voting Decisions

Based on the finding that arguments play a crucial role in the voting decision, it is particularly interesting to explore which main reasons voters give for their voting decision. Within the Vox-survey, respondents were asked in open-ended questions to give two reasons for their voting decision. Respondents who voted 'yes' were asked "What is the main reason that you approved the proposal?" and those who voted 'no' were asked the same question but using the word "rejected" instead of "approved". Note that the order of arguments and the open-ended questions for the voters' reasons for their decisions was reversed during the survey, e.g. respondents were first asked for their reasons and then, later during the survey, asked for their support of the arguments.

In addition to the open-ended questions, voters' responses were also coded during the Vox-survey on the bases of a code book which consists of 32 different reasons for those who accepted the ballot and 31 different reasons for those who rejected the ballot. The reasons can be summarised by four thematic blocks for the 'yes'-voters and by five thematic blocks for the 'no'-voters. The response frequency for each block divided according to the voting decision is presented in Table 5.8.

The coding results reveal that more than half of the 'yes'-voters (51%) justified their voting decision with a reason primarily referring to *environmental and landscape protection*. The mode of the rejection-reasons was to *prevent too much interference by the federal government*, which was given as the main reason for determining their voting decision by nearly one third of the voters (30%). The most commonly occurring blocks of reasons for the voting decisions by the 'yes'-voters as well as by 'no'-voters are discussed in more detail later in this section.

Regarding the other reasons for voters' acceptance, 16% gave a reason in connection with *support of changes in construction*, 14% stated that a *sensible handling of building land* was the reason to vote 'yes' and 19% gave general reasons. Examples for general reasons are "it is a major concern" or "the ballot makes sense". Other reasons either referred to the recommendation by parties, politicians, family members or to themes, which are not directly related to the ballot such as problems with finding lodgings.

Table 5.8 Voters' reasons to accept or refuse the Amendment of Spatial Planning Law

Main reasons the voting decision	First reason		Second reason	
	Acceptance (in %)	Rejection (in %)	Acceptance (in %)	Rejection (in %)
Pro reasons				
Environmental and landscape protection	51		39	
For changes in construction	16		15	
Sensible handling of building land	14		19	
Contra reasons				
(Too much) interference by the federal government		30		18
Personal reasons		17		11
Against changes in construction		14		6
Economic reasons		12		9
General or other reasons	19	27	27	55
N	607	192	335	87

Note Acceptance corresponds to a 'yes'-vote and rejection corresponds to a 'no'-vote

With respect to the reasons for refusing the ballot, 17% based their decision on *personal reasons*. 14% said the main reason to vote 'no' was because they were *against changes in construction* and 12% voted against the proposal because of *economic reasons*. The remaining 27% of voters rejected the ballot because of *general or other reasons*. Similar to the reasons by the 'yes'-voters, *other reasons* to vote 'no' mainly consist of recommendations. General reasons were, for instance, "it is not the right solution" or "it is too extreme".

As the discussed reasons represent a summary of several responses, which were assigned to thematic blocks, the thematic blocks will now be discussed, which contain the most frequently given reasons in more depth for 'yes'- and 'no'-voters. More concretely, the associated subcategories of the thematic blocks *environmental and landscape protection* and *too much interference by the federal government* will be clarified in more detail below.

More than half of all given reasons for having voted in favour of the ballot concerns *environmental and landscape protection*. Table 5.9 displays the composition of the different subcategories to the thematic block *environmental and landscape protection*. The block can be divided into eight different subcategories of reasons. Within the environmental protection block, the most common cause to vote 'yes' was being *against urban sprawl*, which was declared by nearly one third of the respondents (29%). *Protecting the environment and landscape* was given by 21% of the voters as a reason within the block. 16% of the respondents remarked *considerations towards nature* and the *preservation of nature and landscape* as causes for their voting decisions, followed by 11% who stated to have voted 'yes' for a *careful handling of land and land protection*. Moreover, 10% of the

Table 5.9 Voters' main reasons to accept the Amendment of Spatial Planning Law in detail

Main reason for acceptance in detail: Environmental and landscape protection	Response frequency (in %)
Against urban sprawl	29
Environmental and landscape protection	21
Consideration towards nature/Preservation nature and landscape	16
Careful handling of land/Land protection	11
Against overdevelopment of construction in the country	10
Fear of too much asphalting over the country	7
Creating and preserving of green areas	5
Other reasons	1
N	308

respondents accepted the ballot because they were *against an overdevelopment of construction* in the country, 7% were afraid of *too much asphalting across the country* and 5% stated that they accepted the proposal to support the *creation and preservation of green areas*. The remaining 1% contained reasons which cannot be attributed to any of the other eight reason categories but address in a broad sense environmental and landscape protection. For example "a lot of infrastructure is required so that there will not be enough land left at some point" or "considering the available space, we should leave space for future generations" were reasons given.

The reasons of the thematic block, *too much interference by the federal government*, to reject the Amendment of Spatial Planning Law can be divided into five further subcategories and are presented in Table 5.10.

Herein, the most frequent subcategory reason to reject the ballot was because *spatial planning falls within the competence of cantons and municipals* instead of the federal level, and was given as the main reason by more than half of the respondents (53%). This reason is closely related to the second most common response, namely *too much interference by the federal government*, which was given by 19% as the reason for their voting decision. 17% of the respondents stated that they voted 'no' because *existing regulations were enough* and therefore no

Table 5.10 Voters' main reasons to refuse the Amendment of Spatial Planning Law in detail

Main reason for refusal in detail: (Too much) interference by the federal government	Response frequency (in %)
Spatial planning falls within the competence of cantons and municipals	53
(Too much) interference by the federal government	19
Existing regulation are enough; no legislative change required	17
Regulation at federal level unneeded	7
Other reasons	3
N	58

legislative changes were required, followed by 7% who stated that a *regulation at federal level is unnecessary*. Finally, 3% of voters gave a reason for their voting decisions, which cannot be aligned to any other of the four reasons but which relates to the *interference by the federal government*. For instance "I think we have less and less freedom. Farmers should be able to do with their own land what they want", was given.

When comparing the two main reasons for accepting or refusing the ballot, it is striking that the acceptance reason is content related, while the refusal reason reflects more of an ideological attitude rather than taking into account the ballot content. *Environmental and landscape protection*, the most frequently given reason to vote in favour of the ballot, is directly related to the ballot content, whereas the most frequently stated reason to vote 'no' is the fear of *too much interference by the federal government*. Consequently, the latter category reflects a fundamental attitude towards the federal system rather than an opinion towards spatial planning.

The present analysis focuses on the acceptance of spatial planning measures by approaching the motivation content behind the voting decision to vote in favour of a ballot. Against the background of the finding that a supposedly high degree of content references was found within the reasons to accept the ballot, it is worthwhile investigating this finding in more depth.

The data of 'yes'-voter responses to the open-ended voting reason question consists of 607 responses after removing all missing data such as "don't know" responses. In order to distinguish whether a response was related to the ballot content or not, all responses have been binary coded with either 1 if the response was related to the content of the Amendment of Spatial Planning Law in a broader sense or with 0 if the response was not related to the ballot content. The coding scheme was based on the question of whether the response could be applied to any ballot or only to the Amendment of Spatial Planning Law.

The results of the coding revealed that 83% (N = 503) of the reasons for voting 'yes' were based on substantive arguments, whereas 17% (N = 104) of the responses were not related to the ballot content. Reasons to cast a 'yes', which did not refer to the ballot content were, for instance, "following the recommendation of the Federal Council" or "the ballot is necessary". Hence, reasons to accept the Amendment of Spatial Planning Law seem mainly to be driven by content related considerations rather than fundamental attitudes. The coding results are shown in Fig. 5.6.

The same coding scheme was applied for coding the 'no'-reasons, which discovered a different pattern. Of the total 192 open-ended reasons to reject the ballot, 43% (N = 83) contained a direct link to the ballot content and 57% (N = 109) did not. In contrast to the reasons to accept the ballot, the reasons to vote 'no' seem therefore to be far less motivated by content related considerations.

For testing whether this difference between 'yes'-voters and 'no'-voters regarding the content-relation of their voting reasons is statistically significant, a chi-square test was run. Interestingly, people who voted in favour of the Amendment of Spatial Planning Law differ significantly by contents relation of their voting decisions from those who rejected the ballot proposal ($X^2 = 117.211$, N = 799, $p = 0.000$).

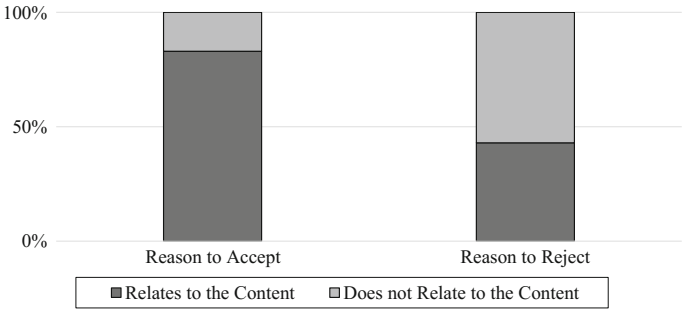

Fig. 5.6 Share of reasons for voting decisions relating to content according to 'Yes'-voters and 'No'-voters. *Note* Reasons to accept N = 607 and reasons to reject N = 192

5.5 Preliminary Discussion

Contrary to the assumption that the majority of voters are uninformed and do not process information on policy content, results of this chapter suggest that the content of a ballot measure influences its acceptance by voters. The case of the Amendment of Spatial Planning Law in Switzerland revealed that systematic reasoning in terms of content related factors such as arguments and content-related values significantly influenced voters' acceptance of the ballot proposal. With regard to the ballot content, urban sprawl seems to be particularly important for voters as this aspect played a crucial role in voting decisions within the quantitative findings as well as within the descriptive analysis of voting reasons.

The peripheral context seems to play a minor role in the voting decision as peripheral context determinants only influenced the voting decision, when no motivation content variable was included in the analysis. Accordingly, the influence of peripheral context determinants disappeared in the comprehensive model, which also included motivation content determinants. Altogether, results of this chapter are broadly consistent with those presented by Kriesi (2005) who examined the relative importance of the two decision making strategies (systematic and heuristic reasoning) for direct-democratic decisions within different policy areas over nearly twenty years. Regarding the relative importance of both paths of opinion formation, he argues that "the heuristic effects […] tend to be heavily reduced, once we control for argument-based opinions" (Kriesi 2005, p. 175). He concludes that "heuristic strategies clearly play a secondary role compared to systematic ones" and "that voters taking part in direct-democratic decisions heavily rely on arguments in their voting choices" (2005, p. 222). Along similar lines, Bowler and Donovan (2000, p. 1) summarise their findings on direct-democratic decision making by stating that they "provide evidence that choices voters make are reasonably informed. In addition, these choices often appear consistent with the interests and values of the voters, and they reflect a responsiveness to the available information sources."

Besides the findings of this chapter which expose the relative importance of the two types of processing for the overall voting decision, the descriptive analysis of voters' reasons for their voting decisions brought another interesting finding to light. It was assumed that the two different paths of opinion formation mainly differ between peripheral context determinants and content motivation determinants, because the motivation behind a vote such as the support of arguments leads to systematic opinion formation. Although the peripheral context indeed seems not to play a crucial role in the voting decisions, the results point to another interesting direction: When analysing the motivation content in more detail, it seems that the application of the two processing paths differs depending on the voting decision. Hence, the type of processing differs between 'yes'- and 'no'-voters. People who applied systematic processing mainly voted in favour of the Amendment of Spatial Planning Law, while people who applied heuristic shortcuts were more likely to reject the ballot.

This pattern is firstly indicated by the coding results of voters' reasons for their voting decision. While 83% of the 'yes'-voters' reasons contained a direct link to the ballot content, only 43% of the 'no'-voters' arguments were directly related to the ballot content. The reasons to cast a 'no' seem to follow the status-quo heuristic of opinion formation. As literature argues, voters are risk-averse and therefore tend to vote 'no' as a strategy when the alternative is uncertain. The current status quo is perceived to be the better alternative for voters because it is better known (Bowler and Donovan 2000; Kriesi 2005). Consequently, results of this chapter suggest that voters who applied status quo heuristics tend to vote 'no'. Another indicator for this pattern is expressed by the finding that the most frequent reason to vote 'no' was based on values or beliefs instead of content-related arguments. In this context, it is important to recall the finding that *con* arguments also were found to significantly influence the voting decisions, i.e. voters who strongly agreed with arguments against the ballot proposal were more likely to reject the proposal. This finding seems to contradict the assumption that voters who voted 'no' are more likely to apply the heuristic path. Nevertheless, the important arguments for 'yes'- and 'no'-voters differ regarding their degree of content connection to the ballot proposal: The quantitative analysis revealed that the most important con-argument was *being against dictation of the Federation*. This reflects a belief or value driven argument, which is not directly related to the content of the Amendment of Spatial Planning Law. Moreover, the descriptive analysis of open-ended questions revealed that the main reason for voters to vote 'no' was because an acceptance would lead to *too much interference by the federal government*. Again, this reason is based on values and beliefs and follows the logic of the status-quo heuristic to vote against an uncertain alternative even though the reason is not related to the ballot content.

In contrast, the results were different for 'yes'-voters. The most important argument for 'yes'-voters to accept the ballot was to *prevent urban sprawl*, which has a direct connection to the content of the Amendment of Spatial Planning Law. Similarly, results of the descriptive analysis of voting reasons revealed that the main reason to accept the ballot was *environmental and landscape protection,* which is also directly related to the content of the Amendment of Spatial Planning Law.

5.6 Preliminary Conclusion

The aim of this chapter was to examine voter motivation behind the acceptance of spatial planning measures by analysing the case of the Amendment of Spatial Planning Law in Switzerland. By applying dual-process theories to the voting decisions, the research question was addressed whether voters rely on heuristic cues (peripheral context determinants) for their opinion formation or if they process information systematically (motivation content determinants) to reach their voting decisions.

By means of quantitative and descriptive analyses of voting decisions, the results led to two main findings: First, voting decisions seem to be mainly determined by the motivation content behind the decision. Second, the voting decision (accepting versus rejecting the ballot proposal) seems to differ depending on the applied path of processing. Accordingly, findings suggest that the Amendment of Spatial Planning Law was accepted because 'yes'-voters applied the systematic path for their opinion formation and therefore were better informed about the ballot content, while 'no'-voters mainly used heuristic cues for their opinion formation.

The broader importance of the findings of this chapter is therefore that the content of a ballot measure plays a crucial role in its acceptance, which challenges the initially discussed assumption that voters are uninformed. Empirical evidence exists, demonstrating that information about an issue influences voting decisions (Bartels 1996; Blais et al. 2009). For instance, gathering information can lead to an opinion change of people's policy preferences (Luskin et al. 2002). The finding that ballot information is used by the majority of voters to form opinions, leads to the conclusion that providing information and arguments about a new policy measure can increase citizens' acceptance of that measure.

It is important to emphasise, however, that the present chapter did not investigate whether applying heuristic shortcuts or systematic paths of processing of opinion formation lead to *better* decisions or not. Dalton (2000, p. 921) refers to Downs's (1957) insight that "it is not rational for the typical citizen to be fully informed" and concludes that "the individual should use decision-making shortcuts" as "decision-making heuristics can lead to reasonable political choices in most instances." In the same vein, Blais et al. (2009, p. 257) pose the question, do "cues or shortcuts actually enable the poorly informed to make the 'right' choice?" The research question of this chapter was instead to investigate factors that determine voters' acceptance of the Amendment of Spatial Planning Law in Switzerland without a normative component such as whether accepting the ballot was the 'right choice' or not.

The key finding of this chapter leads to an adjusted perception of voters' competencies. Contrary to both a common and pessimistic view on voters being politically uninformed, findings yield that the majority of voters did not only include arguments in their opinion formation processes but also based their decision for the vote on content-related reasons. Thus, when seeking strategies to maximise voters' acceptance of spatial planning policy measures, policy makers should be

aware about a voter's capability to perceive information and that voters do use information when forming an opinion.

Similarly, the finding that the content of a policy measure does play a role in its acceptance raises the question of how information about the content can be provided in a manner that it reaches as many voters as possible. One important issue in this context raised by Kuklinski and Quirk (2000, p. 158) highlights that the application of heuristic paths is carried out "unknowingly and automatically, and [people] rarely worry about their accuracy." An adequate information provision must therefore reach voters under the assumption that voters are neither actively looking out for information nor willing to put effort into the information gaining process. Instead, information has to be delivered by targeting automatic and unknown cognitive voter processes.

In light of the research aim of this book, these consideration lead to the question of whether the *way* in which information about the content of a policy measure is provided might also, unconsciously, impact voters' acceptance of it.

5.7 From Content Determinants to the Importance of the Content Provision

This chapter has demonstrated how important content information concerning a spatial planning measure is for it to be accepted. Hence, democratic acceptance of a spatial planning measure can be fostered by increasing the communication about the measure, i.e. by transferring content information of the measure to potential voters. Section 5.6 led to considerations concerning the relevance of the way in which information is provided, besides just the information content itself.

A finding, which indicates the importance of information provision for voting decisions was exposed by Kriesi (2005). By estimating the relative importance of the two strategies of opinion formation, he concludes that "intensive campaigns increase the relevance of both systematic and heuristic strategies" (2005, p. 222). That means, the provision of information, in this case in terms of campaigns, is relevant for both people applying the heuristic path as well as for people applying the systematic path of opinion formation. With regards to the previously raised question, how to reach as many voters as possible, information provision of new policy measures therefore seems to be an adequate means as information is received by both voters who apply the systematic and heuristic paths. In line with these considerations, Kriesi (2005, p. 223) stresses that the importance of arguments does not necessarily reflect the use of the systematic opinion formation. There is the possibility that "the arguments provided turned out to be only superficial ones and […] that they are used by the voters without much thinking". Another indicator, which supports this assumption and is a finding of this chapter, is that even those arguments played an important role in the voting decision, that do not contain content relation to the ballot proposal but express values or beliefs instead. An

example is the argument to vote 'no' because of *being against dictation of the Federation*.

Kriesi (2005, p. 223) admits that his "study has not been able to analyze the quality of the arguments and the way they are used by the voters in more detail" (2005, p. 223). He refers to the quality in terms of the best argument but that in turn, raises the question of what the best argument is. As discussed earlier, in this book '*best'* in not understood as a normative judgement. Instead, from a democratic perspective, the best argument is assumed to be the winning one. In this vein, it is interesting to consider the question of how an argument for a spatial planning measure should be presented to increase its chance to convince people. This is my starting point for the next chapter, and asks whether it plays a role in *how* arguments for a spatial planning measure are presented when attempting to influence voters' acceptance of that measure.

Combining the relevance of information provision with the assumption that people apply the heuristic path "unknowingly and automatically and rarely worry about their accuracy" leads to the question of how information can be provided in a manner so that it unconsciously impacts citizens' acceptance of a policy measure (Kriesi 2005; Kuklinski and Quirk 2000, p. 158). More precisely, the question arises how communication concerning a spatial planning policy measure should be presented so that it firstly reaches as many people as possible and secondly leads to an increase in people's acceptance of the communicated content.

The former aspect has indirectly already been answered by underlining the relevance of people's unconscious and unknowing perception of information. Voters' perception of information has to be triggered by emphasising aspects which activate their (unconscious) information perception. In this respect, one possibility of unknowingly influencing voters' perception is *framing*. Broadly speaking, "the concept of framing consistently offers a way to describe the power of a communicating text" (Entman 1993, p. 51). Framing derives from political psychology and can be defined as follows,

> Framing essentially involves *selection* and *salience*. To frame is *to select some aspects of a perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation* for the item described (Entman 1993, p. 52).

Applying frames to the presentation of information or a problem can lead to a "significant shift of preference" by the individuals confronted with the frames (Tversky and Kahneman 1981, p. 457). Therefore, applying frames offers an opportunity for answering the question discussed above, namely how to trigger voters' unconscious perception of information and how to present information about a spatial planning measure in a manner that it reaches as many voters as possible.

One specific type of framing effect occurs depending on whether the same situation is presented in a *positive* or *negative* framework (Druckman 2001). Concerning the research topic of this book, spatial planning policies are suitable for framing as it could be shown that"[f]raming the consequences of a public policy in

positive or in negative terms can greatly alter its appeal" (Tversky and Kahneman 1986, p. S261). Under these circumstances of framing the same incident either positively or negatively, people are inclined to display *loss aversion*, meaning that people overestimate losses compared to gains (Tversky and Kahneman 1986; Levin et al. 1998; Thaler et al. 1997).

Interestingly, the descriptive analysis of voters' reasons to accept the spatial planning measure in Sect. 5.4.4 revealed that the most commonly stated reason was as a consequence of *being against urban sprawl*. This is a striking result since voting to *preventing urban sprawl* attempts to stop something negative rather than to foster something positive. This emphasis on a negatively framed aspect therefore seems to be in line with implications from framing theories regarding people's loss aversion behaviour.

In order to pursue this finding, which indicates a negativity bias in a more systematic manner, the Amendment of Spatial Planning Law Vox-dataset was reused by focusing on the main reasons for respondents' voting decisions as open-ended questions. Only data for the respondents who both participated in the vote and voted 'yes' were used in order to analyse their reasons for voting in favour of the ballot proposal.

More specifically, only 'yes'-voters, who also stated ballot content related reasons for their decisions were included in the analysis (N = 503). When coding following the loss aversion assumption, all reasons which were *positively* framed were recoded with a 1 and all reasons which were *negatively* framed with a 0.[3] Examples of answers coded as *positive* are "strengthening of a better settlement policy" and "promotion of a dense construction". In contrast, examples for 'yes' reasons that were coded as *negative* are "preventing urban sprawl" and "stopping too much overbuilding". The coding revealed that 57% (N = 285) of the responses were framed negatively, whereas 38% (N = 191) of the responses were framed positively and the remaining 5% (N = 27) were ambiguous and therefore could not be assigned to a positive or negative category.

Consistent with the expectation, the coding results suggest that the majority of voters who accepted the Amendment of Spatial Planning Law based their decision on a negative scenario. This overrepresentation of negatively framed reasons to vote 'yes' indicates voter loss aversion behaviour in terms of a higher relevance to potential losses compared to potential gains. However, this finding only serves as a first indicator as the ballot took place in a broader context and as the content analysis has shown, many other factors influenced the acceptance of the ballot proposal. Framing theory is usually tested by means of experiments as experimental research designs allow to observe the impact of specific factors while holding other factors constant. Therefore, Chap. 6 explores framing effects on the acceptance of spatial planning measures by means of an experiment.

[3]The coding was repeated by another researcher independently for an inter-coder reliability testing. The coding scheme specified that if an answer included two reasons within one sentence, only the first reason was coded.

Part IV
Acceptability of Spatial Planning Measures at the Micro Level: An Experimental Approach

Which Means of Content Provision Matters?

Chapter 6
Framing Effects on Democratic Acceptability: An Experimental Approach

Abstract This chapter investigates whether the way the public is provided with information on spatial planning policies influences democratic acceptability towards an incentive-based policy instrument. In a survey experiment involving Swiss participants, goal and attribute framing effects are tested by combining framing theory with a causal model for public policies. The chapter starts with a theoretical framework, including a review of the state of research in framing theories combined with theoretical considerations of public policy modes of action (Sect. 6.1). Hypotheses are then derived on this basis (Sect. 6.2). The experimental design is explained (Sect. 6.3), followed by a discussion of the results (Sect. 6.4). The results suggest that the provision of information on a new spatial planning measure in either a positive or negative frame can impact citizen acceptance of the policy measure. Additional findings indicate that the target group of landowners reacts to frames differently, compared to a less directly affected sample population. Presented evidence shows that framing effects differ depending on the type of frame applied (Sects. 6.5 and 6.6). Section 6.7 discusses further survey experiment findings. These findings provide additional insights into democratic acceptability of spatial planning policy measures, and are not directly related to the framing.

Keywords Valence framing · Survey experiment on spatial planning instrument acceptance · Target group landowners · Involvement

The results from Chap. 5, such as the finding that arguments play an important role in voting decision formation, highlighted the importance of information provision for the acceptance of spatial planning measures. The findings led to the question whether the *way* in which information is provided might also affect voting decisions. A large body of literature focuses on governments' information provision and how it affects policy making (e.g. Gelders 2005; James 2011; Jennings and Hall 2012). Providing information can change the level of acceptance of a policy (Boomsma and Steg 2014) and communicating benefits of a new policy is an important factor for its public acceptability (Mallett 2007; Gärling and Schuitema 2007; Kallbekken and Sælen 2011; Boomsma and Steg 2014).

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Surprisingly, the influence of the manner in which information is delivered on public acceptability of policies has received relatively little research attention so far. In a study among 898 Americans, Hardisty et al. (2010) applied framing theories for environmental taxes by presenting them either as "offset" or "tax" and analysed the impact of these frames on self-rated Democrats versus self-rated Republicans. Results indicated that replacing the term "tax" by "offset" increases participants' support of a measure and increases participants' preferences for the more expensive product. Regarding participants' political affiliation, the results revealed that "cost framing changed preferences for self-identified Republicans and Independents, but did not affect Democrats' preferences" (Hardisty et al. 2010, p. 87). Similar conclusions concerning the term "tax" were drawn by Kallbekken et al. (2011, p. 63) who find "evidence that framing the Pigouvian instrument as a tax can significantly decrease support for a Pigouvian instrument." In a study carried out among 95 American students, Cherry et al. (2012) investigated acceptance determinants of three environmental instruments, namely environmental taxes, subsidies and regulations including one variable capturing language. They found language to significantly influence voters' acceptability of the tax instrument but not for subsidy or regulation. Apart from Cherry et al. (2012), studies investigating framing effects on environmental instruments have focused on taxes and Cherry et al. (2012) could only find an impact of framing on taxes. The framing effects on taxes might also be put into perspective by a general tax aversion by voters that was shown by several studies (Cherry et al. 2012; Kallbekken et al. 2010, 2011).

Regarding existing studies addressing framing effects on environmental instruments, it is striking that no systematic distinction is made between different types of framing. Framing theory argues that different types of frames have "different underlying mechanisms and consequences" (Levin et al. 1998, p. 150). Accordingly, framing effects vary depending on whether the *goal* or the *attribute* of something is framed (Levin et al. 1998). In the context of policy instruments, a clear distinction between these different framing types is essential as policy instruments are embedded in a policy which pursues specific goals (see Sect. 2.2.1).

Policy interventions allocate costs and benefits to certain groups in the population. At the same time, insights from behavioural studies have shown that voters' preferences are influenced by certain policy frames depending on whether they perceive themselves in a domain of loss or in a domain of gain (Lee and Chang 2010; Iyengar and Kinder 1987). Political actors who have the capacity to build and disseminate their policy frames are able to influence the policy-making and electoral outcomes (Chong and Druckman 2007; Entman 1993).

Previous studies have focused on environmental policies but not on spatial planning policies, which have different implications, for instance regarding their proximity (see Chap. 4). The high degree of proximity of spatial planning measures, i.e. the direct effect of a spatial planning measure on people's daily lives, allows to investigate different degrees of involvement. As discussed in the previous chapters, market-based policy instruments are the most effective type of instruments for spatial planning. Market-based instruments serve as an efficient solution for environmental policy problems as their incentive-based structure leads to the lowest

costs (Lockie 2013; Hahn and Stavins 1992; Dargusch and Griffiths 2008; Lockie and Tennent 2010).[1] At the same time, market-based policy instruments were found to lack in democratic support (Stadelmann-Steffen 2011; Cherry et al. 2012). The perception of unfairness is seen as a driving factor for the resistance to efficiency-enhancing measures (Eriksson et al. 2006; Fujii et al. 2004). Hence, it will be separately focused on a target group, which is assumed to be highly involved and therefore has a different understanding of unfairness because of their involvement, namely landowners.

This chapter provides a novel experimental approach by combining framing theory with the causal model for public policies (see also Sect. 2.2.1) to investigate if and how the presentation of a spatial planning measure effects citizens' acceptance of the measure. My starting point is to examine whether the way in which information on a new spatial planning measure is presented can influence its democratic acceptability by applying two different types of frames. This chapter explores if behavioural insights can be applied to the analysis of democratic acceptability towards spatial planning policies. It studies how democratic acceptability of market-based spatial planning policy instruments can be promoted by specific policy frames that governments provide to the public. In addition, a closer look at citizens' involvement behind policy acceptability is taken by investigating framing effects for voters who are assumed to have different levels of involvement with the issue.[2]

The following research questions are addressed in this chapter: Can the loss aversion assumption be applied to democratic acceptability of spatial planning policies? Does the level of acceptability of the self-same policy measure differ depending on whether its goal or attribute is framed positively or negatively? To answer these research questions, framing theory is combined with public policy research by investigating the influence of policy framing on policy target groups. Two types of frames are tested, *goal frame* and *attribute frame*, with a survey experiment among Swiss citizens, and by assigning them to four different treatments consisting of different framings of an incentive-based spatial planning policy measure.

This chapter is structured as follows: It begins by laying the theoretical foundation of framing theories and linking it to the mode of action of spatial planning policies theory (Sect. 6.1), which was introduced in Sect. 2.2.1. In a next step, the hypotheses are formulated (Sect. 6.2), before turning to the experimental research design, presenting the data and method (Sect. 6.3). Subsequently, the results are presented and discussed, followed by conclusions of the findings (Sects. 6.4–6.6).

[1]See Sect. 2.3 for a more detailed clarification of different types of policy instruments.

[2]The study of this chapter was conducted in collaboration with Philipp Lutz and Prof. Dr. Fritz Sager. This chapter appeared in a modified form in a journal article, which has been published in the journal *Land Use Policy* (Pleger et al. 2018).

6.1 Theoretical Framework: Framing Theory and the Causal Model of Public Policy

Cognitive psychologists have convincingly shown that people are inconsistent in their judgement and decision-making (Kahneman and Tversky 1979). They react to the way a decision problem is *framed* and are hence subject to cognitive bias. Frames can be considered as "subtle alterations in the statement or presentation of judgment and choice problems" (Iyengar 1991, p. 11). Framing a decision problem creates particular narratives that promote particular interpretations of the problem in question (Entman 2007). In terms of political choices, frames can influence voters' opinions and preferences (Chong and Druckman 2007; Hardisty et al. 2010).

While framing contains all kinds of metaphors, narratives and selective emphasis of a decision problem, the focus here lies solely on logically equivalent frames that emphasize either costs or benefits of a particular policy measure. This type of frame is best captured by *valence frames*, which is also referred to as *equivalency framing* and equates to presenting a choice problem either in a positive or negative light (Rozin and Royzman 2001; Druckman 2001). Valence frames influence voters' preferences through a cognitive *negativity bias* based on the tendency of people to prioritise negative information over positive information and to overvalue losses in comparison to equivalent gains (Rozin and Royzman 2001). Due to the negativity bias, people are more risk-prone in a loss-scenario and more risk-averse in a gain-scenario. Through different weights of relative costs or benefits placed on a policy measure, citizens are expected to be steered to a particular interpretation of this policy measure.

In framing effects literature, Levin et al. (1998) developed a typology of valence framing effects that distinguishes *attribute framing* and *goal framing* as specific causal effects (see Table 6.1). This distinction is essential, as Levin et al. (1998) identified a lack of clear dissociations between different types of valence framing as the cause for ambiguous and contradictory findings from literature on how framing affects decisions. They declare that "different studies have employed different operational definitions of framing and thus have tapped different underlying processes" (Levin et al. 1998, p. 149).

Attribute framing places the frame on an attribute or characteristic of the decision objects and affects the way a decision problem is evaluated by a person.

Table 6.1 Differences between attribute framing and goal framing

Framing type	What is framed	What is affected	Frame operationalization
Attribute framing	Object attributes or characteristics	Object evaluation	Rebate for positive action versus penalty for negative action
Goal framing	Consequences of action or inaction, goal of a behaviour	Impact of persuasion	Avoiding urban sprawl and inefficient land use versus achieving densification and efficient land use

Source Modified table based on Levin et al. (1998, p. 151)

Decision preference reversal is induced by different weight being given to different characteristics of a decision object. These different emphases of attribute frames influence the encoding of information as well as the further processing of that information. A positive attribute of a decision object is more likely to activate positive associations, while a negative attribute induces negative associations (Levin et al. 1998, pp. 164–165). For example, consumers tend to prefer hamburgers, which are described as consisting of 75% lean meat over hamburgers which are described as having meat that contains 25% fat (Levin and Gaeth 1988). Applied to public policies, people tend to prefer policies described as "bonuses" to policies described as "penalties", even when these descriptions are just two sides of the same coin (McCaffery and Baron 2005).

Goal framing describes the framing of an action or inaction, which affects the persuasiveness of a communication (Levin et al. 1998, pp. 164–165). The valence of a goal frame can either be positive by drawing attention to potential benefits or gains from an action, or it can be negative by focusing on potential costs or losses from an inaction. While both positive and negative framing conditions promote the same goal, the valence of the message is likely to influence its persuasive power. Since people are more strongly motivated by avoiding a loss than by obtaining a gain, the negative frame of the goal message is expected to be more persuasive. For example, pamphlets on breast self-examination describing the negative consequences of inaction have proven to be more effective on individual behaviour than pamphlets describing the positive consequences of action (Meyerowitz and Chaiken 1987). Applied to public policies, people tend to be more supportive of policies, which are described as avoiding negative consequences of the status quo compared to policies, which are described as achieving positive consequences of the policy intervention (Arbuthnott and Scerbe 2016).

These two types of valence frames have distinct differences: While goal framing focuses on the goal, attribute framing focuses on different aspects of the decision object. With attribute framing, positive frames refer to something desirable about the decision problem, while negative frames refer to something undesirable about the decision problem (Levin et al. 1998).

Framing effects have been applied to a broad range of academic fields including political behaviour, in order to explain citizens' policy reasoning and their voting choices (Chong and Druckman 2007; Rodriguez et al. 2010; Slothuus and Vreese 2010; Iyengar 1991; Mendelberg 2001). The risk aversion assumption underlying framing effects has been proven to be also influential in direct-democratic voting (Bowler and Donovan 2000). In political communication, frames serve as "bridges between elite discourses about a problem or issue and popular comprehension of that issue" (Nelson et al. 1997, p. 224).

Framing effects do not occur consistently but have been found to be dependent on a variety of factors. Scholars have argued that framing effects are mitigated by personal involvement (Maheswaran and Meyers-Levy 1990). Higher salience of a decision problem has been found to reduce the effect of framing (Binder et al. 2015). Individuals affected by a certain policy instrument are therefore less likely to be subjected to framing effects. Citizens with a higher level of personal involvement

rely less on decision heuristics and more on cost-benefit-analysis. Regarding spatial planning measures, which imply for instance changes in zoning and building restrictions for specific types of land and as clarified by the involvement pattern of affected parties in Sect. 2.2.2, it can be assumed that landowners show the highest degree of involvement.

Whether a voter is affected by a policy instrument and hence is self-interested depends on the target group of a policy. Provision of public goods contain a social dilemma for the target group between self-interest (costs to produce a public good) and the gains from the provision of the public good itself. The causal model of public policies, which was introduced in Sect. 2.2.1, locates the target group in the process of policy making and allows to further specify goal and attribute framing within the policy making process (see Fig. 6.1).

In order to investigate framing effects of spatial planning measures for direct-democratic voting decisions, these framing effects are applied for the context of public policies. A public policy proposal can be perceived as a causal model consisting of two subsequent hypotheses: The *intervention hypothesis* and the *causal hypothesis* as illustrated in Fig. 6.1 (Rossi et al. 1988, pp. 120–122). The two hypotheses are applied to spatial planning policies and their link to framing theory are clarified in the following and shown in Fig. 6.1 (see also Sect. 2.2.1).

As discussed in Sect. 2.2.1, a spatial planning policy aims to solve social problems such as urban sprawl by changing the behaviour of the policy addressees (those who are responsible for the social problem), which mainly consist of landowners in this context. Following Rossi et al. (1988, pp. 120–122; see also Sager 2016), it can be distinguished between the *intervention hypothesis* (causal

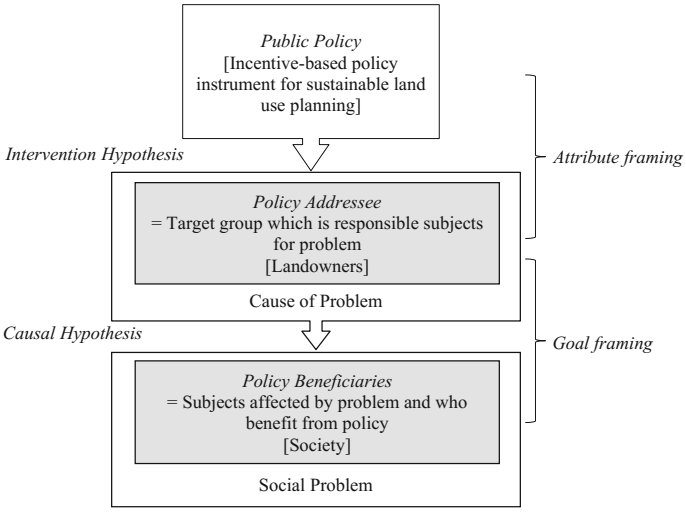

Fig. 6.1 Causal model of public policy combined with framing types. *Source* Based on Sager (2016, p. 123), see also Sect. 2.2.1

relationship between policy intervention and intended behavioural change of the policy addressees) and the *causal hypothesis* (causal relationship between behaviour change of policy addressees and the resulting impact on policy beneficiaries). While the former hypothesis refers to the question, *who causes a social problem?*, the latter hypothesis addresses the question *how can the behaviour of the responsible subjects be changed?* The effect of the policy on the involved actors varies from limiting choice sets of the policy addressees by either incentivising desired behaviour or sanctioning undesired behaviour. Those who profit from the policy are the policy beneficiaries in the form of a problem solution, irrespective of the chosen intervention. In summary, policy addressees are negatively affected by a policy, even in the case of positive financial incentives, because they have to change their behaviour. Policy beneficiaries, in turn, are positively affected by a policy because they profit from the policy when the social problem is resolved.

The causal model of public policy can be combined with framing theory: It can be argued that attribute framing refers to the intervention hypothesis, while goal framing captures the causal hypothesis. The attribute describes the characteristics of a policy's instrument and the goal describes the social problem to be solved. Since landowners as policy addressees are particularly affected by the policy intervention, they are assumed to have a particularly high involvement (see Sect. 2.2.2). Controlling for the policy target group enables more precise isolation of the framing effects on the acceptability of policy instruments for different groups (see Fig. 6.1).

Studies on valence framing effects have shown to be context-dependent (e.g. Rettinger and Hastie 2001; Weber et al. 2002; Wang 1996). The case of spatial planning measures is particularly suitable to test for public policy frames because its target group is easily distinguishable and relatively stable over time. Public benefits of a protected landscape and private costs of behavioural change can be localized in a clear fashion and assigned to the policy beneficiaries on the one hand and the policy addressees on the other hand.

6.2 Hypotheses

When framing the goal of a policy measure negatively by describing the losses that are potentially avoided rather than by describing potential gains, the frame sets a loss-scenario. Due to the assumption of a negativity bias, implying that losses outweigh the wins, a negatively framed argument is expected to be more likely to win support for a policy change. The goal framing hypothesis can therefore be formulated as follows:

Goal Framing H_1: A spatial planning measure, which is presented with a *negatively* framed policy goal is more likely to be accepted compared to the same policy measure presented with a positively framed goal.

Due to a cognitive negativity bias and consequently the loss-averse nature of people, framing theory suggests people prefer rebates over penalties. Here, the rebate and penalty are simply two sides of the same coin so that a rebate is a positive penalty and a penalty is a negative rebate. Baranzini and Carattini (2016) have shown that labelling a carbon tax as climate contribution can enhance its acceptability and similar findings were found by Hardisty et al. (2010). Butler and Maréchal (2007) found evidence that different frames of pension system reforms in Switzerland had a significant effect on voting preferences. Since people have a negativity bias and are loss-averse, a negative frame configuration creates a situation of potential loss, while a positively framed configuration creates a situation of potential gain. People tend to prefer a reward over a penalty because they have a penalty (loss) aversion. Therefore, it can be expected that positively framed attributes of a policy measure by means of focusing on a rebate leads to a preference of this rebate framing over a negative attribute frame focusing on a penalty. Accordingly, the attribute-based framing hypothesis is as follows:

Attribute Framing H_2: A spatial planning measure which is presented with a *positively* framed policy attribute is more likely to be accepted compared to the same policy which is presented with a negatively framed attribute.

Based on this theoretical framework, the empirical research design of this chapter will be clarified by presenting the procedure, data and participants of the experiment.

6.3 Experimental Research Design

In recent years, interest in the application of experimental research designs within the area of political science and public policies increased (Dunn 2015; Druckman et al. 2011). An experimental research design has several advantages over other empirical research designs. One of the most important advantages lies in the possibility to provide controlled conditions, which increase transparency and thereby facilitate conclusions with regards to the causal inference (Schram 2005; Druckman et al. 2011; Iyengar 2011). Moreover, Smith (1994) stresses that experiments are especially suitable for evaluating policy proposals. Because of the advantages of experiments compared to other methods, Druckman et al. (2011, p. 9) conclude that "experiments are becoming an increasingly common and important element of a political scientist's methodological tool kit."[3] Additionally, the use of an online-based experiment has the advantage to reach participants not limited by geographical constraints (Iyengar 2011). This is especially important for research topics that address a population rather than a specific target group sample (e.g.

[3]See Kirk (2013) for an overview of experimental designs used in behavioural and social sciences.

students), which applies for the democratic acceptance of spatial planning measures.

In order to test the framing hypotheses, a survey experiment was run by randomly assigning participants to four different frames of a market-based spatial planning policy measure with two groups receiving a positive frame and two groups receiving a negative frame. Accordingly, the experimental design constitutes a *between-subject design*, i.e. a measurement of the treatment effect by comparing groups with different people (Hamenstädt 2012, p. 83).

6.3.1 Procedure and Method

The data for the experiment was fielded in May 2016 by means of an online survey. The participants were recruited by an external company which specialises in online surveys and the survey was programmed and carried out with the software *Qualtrics*. The experiment started with the following introductory text for all four treatment groups, which introduced the instrument as an incentive-based spatial planning measure,

> The government plans to introduce a new policy for sustainable spatial planning which is based on financial incentives. If someone wants to build on his/her parcel of land, the person then has to either pay a fee or receives money depending on how sustainable the construction is. The aim of this measure is to influence construction behaviour in a way that decreases the price for sustainable construction projects and increases the price for non-sustainable construction projects.

After the introduction, the participants were randomly assigned to one of four different treatments consisting of two types of framing (*goal framing* and *attribute framing*) of which each comprised a positively framed and a negatively framed treatment. The four different treatments are presented in Table 6.2.[4]

In order to avoid negativity biases caused by the word *taxes*, which was found by previous studies (Hardisty et al. 2010; Kallbekken et al. 2011; Cherry et al. 2012), the term *fee* was used instead. After the treatment, the respondents were asked for their acceptability of the spatial planning measure followed by the completion of a post-treatment questionnaire, which included questions regarding other relevant spatial-planning variables such as whether the participants own land or not and questions addressing their socio-demographic characteristics (see Appendix 9.3.1 for a detailed illustration of the experiment flow). Those who stated to own land were also asked for the type of land they own. Additionally, respondents were asked whether they were planning to buy land for building purposes in the near future. Controlling for material self-interest allows to more precisely isolate behavioural influences on citizens' acceptability of policy instruments.

[4]For a detailed discussion on randomisation within experiments, see Bowers (2011).

Table 6.2 Experimental design for the treatment variables 'Goal' and 'Attribute'

Treatments			
Goal treatment		*Attribute treatment*	
Introduction: "The following argument clarifies the benefit of the measure for the spatial planning management. You will then be asked to decide on the introduction of the spatial planning tool."		Introduction: "The following description clarifies the measure for the spatial planning management. You will then be asked to decide on the introduction of the spatial planning tool."	
Positively framed argument	*Negatively framed argument*	*Positively framed instrument*	*Negatively framed instrument*
"The goal of the spatial planning measure is to improve landscape protection. The incentive system promotes efficient land use, protects the landscape and increases the sustainability of spatial planning."	"The goal of the spatial planning measure is to reduce a concrete covering of the landscape. The incentive system antagonizes urban sprawl, damps the consumption of land and prevents negative consequences for the landscape."	"A financial subsidy rewards efficient spatial use (compact construction) when building on a parcel of land."	"A financial fee sanctions inefficient spatial use (urban sprawl) when building on a parcel of land."

The dependent variable for all models was voters' acceptability operationalized as a dichotomous variable, thus participants were asked to either accept (vote 'yes') or reject (vote 'no') the policy instrument.[5] As discussed in Chap. 3, a main differentiation must be made between the two concepts of *acceptability* and *acceptance*. While Chaps. 4 and 5 empirically approached democratic *acceptance*, this chapter explores democratic *acceptability*. The main difference in the approach of this chapter compared to the former ones is that a voters' acceptability towards a *fictional* spatial planning measure is investigated, and is referred to as the distinctive dimension *application* is Sect. 3.1.1.

In order to analyse the relationship between dichotomous variables, different tests for independence were ran. More precisely, the differences between the different treatment groups were tested by chi-square tests and Fisher's exact tests (Larose and Larose 2014; Kühnel and Krebs 2014). Additionally, logistic regression analyses were used to estimate the direction and strength of treatment effects on the voting decisions. Logistic regression analyses were also ran to investigate the influence of other control variables such as landownership. For the logistic regression models, Bayesian statistics was applied. As discussed in Chap. 4, it has several advantages compared to likelihood-based methods (Hox 2010, p. 273; see

[5]The study presented in this chapter is based on an experiment concerning a fictional vote. However, for the sake of better readability, the term *participant* is used interchangeably with *voter* throughout this book.

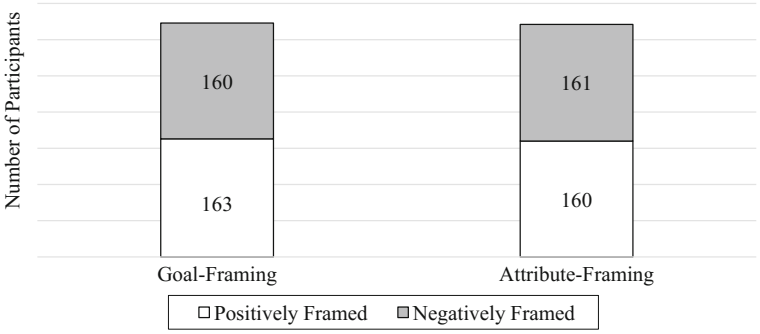

Fig. 6.2 Total number of participants per treatment divided by framing type

also Hosmer et al. 2013, p. 409; Schoot et al. 2014). Importantly, Bayesian statistics was applied in order to facilitate a comparison of the findings between the different empirical chapters of this book (e.g. with regard to the predicted probabilities).[6]

6.3.2 Participants

In total, 797 participants were recruited, but participants who did not complete the experiment were removed from the dataset. The final dataset consists of a representative sample of a total of 644 Swiss citizens who were at least 18 years old. The citizenship and the age restriction were set to ensure voting rights of the participants. These restrictions aimed at making the vote appear to be more realistic for the participants as Swiss citizens are used to direct-democratic decisions (Milic et al. 2014, see also Chap. 3). Participants had a mean age of 47 (*S.D.* = 16) of which 48% were female and 52% male. Summary statistics of all variables used in this chapter and their operationalization are shown in Appendices A.3.2 and A.3.3.

As mentioned above, the participants were randomly allocated to one of four treatment groups. Each two of the four treatment groups, in turn, belonged to the two framing groups, goal framing and attribute framing. In total, 323 participants were aligned to the goal-framing group and 321 participants to the attribute-framing group. The positive goal-framing subgroup included 163 participants, while 160 participants were assigned to the negative goal-framing subgroup. Regarding the attribute-framing groups, the negative attribute-framing subgroup comprised 160 participants and the positive attribute-framing subgroup contained 161 participants (see Fig. 6.2).

[6]The formalisation of the logistic model corresponds to the formalisation applied in Chap. 5. For more details, see Sect. 5.3.2.

Table 6.3 Framing type and voting decision

Voting decision	Framing type	
	Goal framing in percent (N)	Attribute framing in percent (N)
'Yes'-votes	78% (251)	69% (222)
'No'-votes	22% (72)	31% (99)
Total N	323	321

6.4 Results

In this section, the results of the framing experiment are presented separately for goal framing and attribute framing, before discussing the conditional framing effects of target group involvement. The results for the voting decisions divided by both framing groups, goal and attribute framing, are shown in Table 6.3. Within the goal framing-group, 78% of the participants voted in favour of the measure and 22% rejected the measure. In contrast, 69% of the attribute framing-group voted 'yes' and 31% voted 'no'. Within the sample, the landowner share amounts to 25%. Regarding the type of land, 77% stated to own land with an overbuilt surface, 11% said they own building land with nothing built on it yet and 12% indicated to own non-building land.

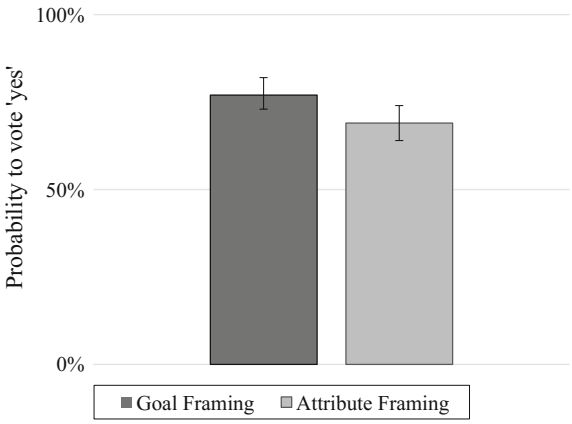

Fig. 6.3 Predicted probabilities of voting decision by framing type. *Notes* Dependent variable is voting decision regarding the policy instrument (dichotomous variable 'yes'/'no'). Model ran with MLwiN 2.35 through MCMC estimation. Logit model based on Bayesian estimation (300,000 iterations, last 500 used for summary statistics, burn-in: 50,000, thinning: 1). Bars represent 95%-CI

Comparing both framing types, goal framing seems to be more effective as it yields a significantly higher rate of acceptability than attribute framing ($X^2 = 6.388$, N = 644, $p = 0.012$). Additionally, a logistic regression was ran of the framing type

Table 6.4 Goal framing and voting decision

Goal-framing group	Goal framing	
	Positive frame in percent (N)	Negative frame in percent (N)
'Yes'-votes	79% (128)	77% (123)
'No'-votes	21% (35)	23% (37)
N	163	160
Total N	323	
Subgroup landowner	*Positive frame*	*Negative frame*
'Yes'-votes	91% (29)	70% (33)
'No'-votes	9% (3)	30% (14)
N	32	47
Total N	79	

on the voting decision, resulting in a significant effect (p = 0.014; Mean: 0.445; S.D.: 0.181; 95%-CI 0.09–0.80; DIC: 743.395; N = 644).[7] As illustrated by Fig. 6.3, the probability for participants in the goal-framing groups to accept the ballot is 77% (95%-CI 0.73–0.82) as opposed to attribute framing, which is 69% (95%-CI 0.64–0.74).

6.4.1 Goal Framing

Within the group with the positive goal frame, 79% voted for the policy measure, while 21% voted against it. The results are similar for the group with the negative goal frame, wherein 77% voted 'yes' and 23% voted 'no'. The results for policy measure acceptability when applying goal framing are shown in Table 6.4. To test whether there was a significant relationship between *goal framing* and *acceptability*, a chi-square test was ran. The results revealed no evidence for a significant relationship (X^2 = 0.127, N = 323, p = 0.722). Participants who were confronted with a positive goal framing did not accept the policy measure significantly more often than participants who were confronted with negatively framed goals. Consequently, the *goal-framing hypothesis* H_1, assuming that a "spatial planning measure which is presented with a negatively framed policy goal is more likely to be accepted compared to the same policy measure when presented with a positively framed goal" cannot be confirmed at first.

However, when analysing only the subgroup of landowners, the results for the goal framing change substantially. Within the landowner subgroup, 91% accepted the policy measure when they received the positive goal frame while 9% rejected it.

[7]Also after controlling for potential confounders, the difference between the framing types remains significant (p = 0.003, see Table 6.6).

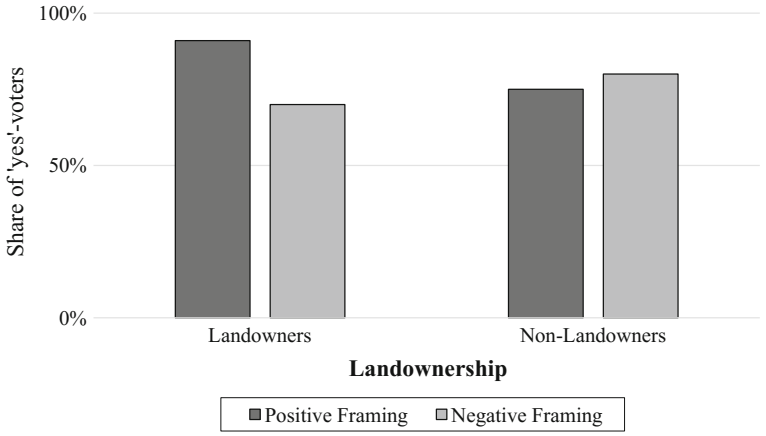

Fig. 6.4 Goal framing and voting decision by landownership. *Note* Bars represent percentages (Non-landowners N = 235; Landowners N = 79)

Of those landowners who received the negative goal frame, 70% voted for and 30% against the measure. To test the significance of the effect of goal framing on the acceptability of landowners, a Fisher's exact test and a logistic regression were carried out. Results show that landowners who were confronted with the positive framing did accept the policy measure significantly more often than landowners who were assigned to the negative frame.[8] Thus, when a measure is framed to protect landscape, landowners are significantly more likely to approve the policy measure (Fisher's exact test; one-tailed $p = 0.027$).[9]

Landowners' differences become even more evident by comparing the two subgroups, landowners with non-landowners only, instead of comparing landowners with the whole sample receiving a goal framing treatment. Figure 6.4 contrasts the share of landowners and non-landowners to vote 'yes' depending on the framing. A positive framing treatment led to 91% of landowners and 75% of non-landowners voting 'yes'. In contrast, within the negative framing sample, more people who do not own land voted in favour of the measure (80%) compared to those who own land (70%).

[8]The interaction term between positive goal framing and landownership also revealed a significant relationship (mean: 1.768, *S.D.* = 0.794, 95%-CI: 0.30–3.43, $p = 0.026$, N = 313, applying Bayesian logistic regression analysis, 300,000 iterations, last 500 used for summary statistics, burn-in: 50,000, thinning: 1).

[9]Controlling for future landownership did not reveal any significant relationship between *goal framing* and *voting decision* within the future-landowner group (Fisher's exact test; one-tailed $p = 0.277$).

Table 6.5 Attribute framing and voting decision

Attribute framing group	Attribute framing	
	Positive frame in percent (N)	Negative frame in percent (N)
'Yes'-votes	75% (121)	63% (101)
'No'-votes	25% (40)	37% (59)
Total N	161	160
Subgroup landowner	*Positive frame*	*Negative frame*
'Yes'-votes	68% (26)	67% (28)
'No'-votes	32% (12)	33% (14)
N	26	42
Total N	68	

6.4.2 *Attribute Framing*

In contrast to goal framing, attribute framing results revealed a significant relationship between attribute framing and acceptability. Participants who were confronted with a positively framed attribute were more likely to vote in favour of the policy instrument compared to participants who were confronted with a negatively framed attribute ($X^2 = 5.445$, N = 321, $p = 0.019$). The findings for attribute framing and policy measure acceptability are shown in Table 6.5. Attribute framing also remains statistically significant after testing its robustness by including socio-economic and political control variables in a logistic regression analysis.[10]

However, the results did not point to a significant relationship between attribute framing and acceptability for the subsample of landowners (Fisher's exact test; one-tailed $p = 0.529$).

For testing the strength of the impact of attribute framing on participants' acceptability, a logistic regression was run by using a Bayesian approach. The response variable was *voting decision* and the *attribute treatment* represented the only predictor variable. Herein, the significant influence of the framing on the *voting decision* could be confirmed (mean: 0.558, *S.D.* = 0.247, 95%-CI: 0.08–1.05, $p = 0.024$, N = 320). Participants confronted with the positively framed policy measure attribute tend to accept the measure, while participants assigned to the negative frame were less likely to do so. The predicted probability to accept the measure for both types of attribute framing are shown in Fig. 6.5. The probability for participants assigned to the positive attribute frame to accept the policy measure amounts to 75% (95%-CI 0.68–0.81). In contrast, participants assigned to the negative attribute frame had a 12% lower probability to accept the policy measure with a probability of 63% (95%-CI 0.56–0.71) (see Fig. 6.5).

The findings on attribute framing are therefore in line with the *attribute-framing hypothesis* H_2, according to which a "spatial planning measure, which is presented

[10]See Appendix A.3.4 for detailed results of the regression models.

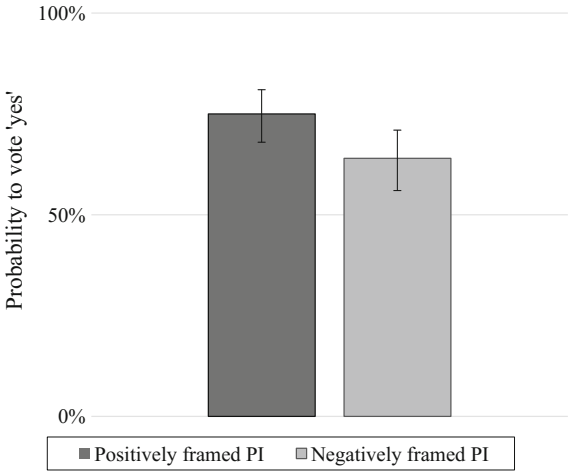

Fig. 6.5 Predicted probabilities of voting decision by attribute framing. *Notes* PI = policy instrument. Dependent variable is voting on the policy instrument (dichotomous variable 'yes'/'no'). Model ran with MLwiN 2.35 through MCMC estimation. Logit model based on Bayesian estimation (300,000 iterations, last 500 used for summary statistics, burn-in: 50,000, thinning: 1). Bars represent 95%-CI

with a *positively* framed policy attribute, is more likely to be accepted compared to the same policy which is presented with a negatively framed attribute". The negative frame of an instrument's attribute leads to voters' perceptions of being in a domain of loss wherein voters are assumed to be particularly risk averse.

The spatial planning instrument presented in the experiment contained a fiscal component, which is especially relevant for the loss domain. If people receive a frame that implies clearly identifiable fiscal costs such as the fee in the experiment, the rejection of a ballot increases (Bowler and Donovan 2000, p. 35). People who were assigned to the positive frame did not find themselves in a loss domain and as the presented instrument only implied advantages, a large majority accepted that measure. The loss-aversion assumption can therefore explain why participants assigned to a negative attribute are less likely to vote 'yes' than the participants confronted with a positive attribute frame.

6.5 Preliminary Discussion

By means of an experiment, this chapter explored two different types of framing effects on democratic acceptability. Goal framing and attribute framing were tested to determine whether positive framing leads to a different degree of acceptability towards incentive-based spatial planning measures compared with negative framing.

An interesting finding is that more abstract goal framing was shown to be more effective than the more intervention-specific attribute framing. Goal framing led to a

significantly higher rate of acceptability than attribute framing. This finding therefore supports the claim by Levin et al. (1998) to pay particular attention when analysing valence framing effects because different types of valence framing exist and differ in their effects.

Another striking result of the experiment is that both framing effects vary substantially depending on the target group: In contrast to participants outside the policy addressees, landowners' acceptability of the policy measure is influenced by goal framing but not by attribute framing. Furthermore and contrary to the expectation of goal framing theory, landowners who were assigned to a positive goal frame are more likely to accept the policy measure compared to non-landowners assigned to a positive goal.

These findings lead to two questions: Firstly, why do landowners react to goal framing while non-landowners react to attribute framing and not vice versa? Secondly, why does the goal framing effect increase landowners' acceptability of the policy measure and hence is the reverse of the theoretical expectation of framing theory? One possible explanation is that landowners are the main policy addressees of spatial planning measures and hence are more affected by the introduction of a new policy measure. Therefore, they are assumed to be more involved than non-landowners. The argument is that the findings can be explained by personal involvement of the policy target group, i.e. policy addressees. As already discussed in the previous chapters, a peculiarity of spatial planning measures is that they often affect people directly via building regulations or other laws concerning land use. Those regulations, in turn, are most relevant for landowners since they are the policy addressees whose behaviour is intended to be changed and thus placing additional costs on them. Consequently, the high involvement of landowners might cause different effects for the goal frame as opposed to the attribute frame. These considerations are in line with the argument by Fischel (2001, p. 12) who maintains that homeowners are of particular importance when considering land-use regulations because homeowners have "[c]oncern about the vulnerability of their largest asset" that makes them "likely to be the major local political actors".

Goal framing did not significantly influence participants' acceptability of the policy measure. This is in line with the findings of a meta-analysis showing diverging results of goal framing effects in policy studies (Gambara and Piñon 2005). One explanation for this lack of influence is that the goal framing treatment was formulated in an abstract manner so that participants could not localize a reference point used for comparing different decision outcomes (see Bowler and Donovan 2000; Popkin 1994). For the experiment, a fairly abstract introduction was required and chosen in order to not frame participants unnecessarily. Caused by too little information about the policy measure, it could be that voters with low involvement were not able to generate a reference point to set themselves in a domain of loss or gain. A finding which supports this assumption is that within the logistic regression analyses including the framing treatment and further control variables, *values* had a significant impact on the voting decision only within the goal framing model (see Appendix A.3.4 for detailed results of the logistic regression analyses). More precisely, within the goal-framing group, *attitudes*

towards environment and *attitudes towards state intervention* significantly influenced the acceptability of the measure. This result could indicate that the goal-framing treatments were too abstract, thus participants based their voting decisions on values rather than on the content of the measure and thereby generating a reference point. Landowners, in contrast, were better able to localise a reference point and to place themselves in a loss or a gain scenario because they are more involved in spatial planning measures.

The question remains why the observed effect of goal framing on landowners was reversed to the underlying goal framing theory. Since landowners are more involved in spatial planning policies because these might directly affect their property, landowners are more likely to perceive the policy problem from a loss-gain-perspective. The negative framing of urban sprawl is perceived as a cost for landowners (loss scenario) and the positive framing of landscape preservation is perceived as a benefit (gain scenario). The negative treatment of urban sprawl declares buildings as something undesirable, which should be limited. This is a problem-definition which implies that landowners are responsible for the problem. Positive framing avoids this assignment of blame and refers to the preservation of landscape as a positive public good, of which landowners also benefit. In contrast, non-landowners are lacking in direct involvement and hence do not perceive the decision problem as a question of personal loss or gain. Descriptive statistical analyses show that landowners are significantly less likely to accept fiscal costs (fees, taxes) for the provision of the public good (landscape).[11] Goal framing does not change this preference, but instead influences how persuasive the message is. When the message evokes associations with personal costs and restrictions, landowners are less persuaded than when the message evokes associations with public gains.

For voters who do not own land, spatial planning measures provide a public good of preserving landscape. By contrast, landowners are caught in a dilemma between self-interest (avoiding personal costs for the production of the public good) and the benefit of a public good (obtaining public gains). Because landowners face both a loss and a gain, framing is more likely to be effective since it pulls them in one or the other direction by evoking selective associations with either personal costs or public gains. Negative frames of urban sprawl evoke associations of self-interest and place landowners in a loss-scenario. Positive frames of landscape preservation, in contrast, evoke associations with public good and place landowners in a gain-scenario. Whether specific policy preferences are the result of normative factors or rational self-interest (Mehlkop and Neumann 2012) therefore might be mediated by the frame of the policy goal. This explains why goal framing exerts the same influence as attribute framing.

[11]When respondents were asked whether they would be willing to pay more taxes to preserve landscape, landowners were significantly less likely to accept this burden for the public good than non-landowners. While only 14% of landowners would accept higher taxes, 21% of non-landowners would accept higher taxes (one-way ANOVA of effect of landownership on willingness to pay higher taxes for better spatial planning significant, $(F(1, 623) = 8.53$, $p = 0.004)$.

The case for attribute framing is different: Attribute framing significantly influenced participants' acceptability of the policy, but any significant impact of attribute framing on the acceptability of the subsample of landowners could not be found. Consequently, the question arises how these opposing findings can be explained. Here again, it can be argued that personal involvement makes the difference. Landowners are more involved in spatial planning and hence process information more systematically and are less vulnerable to framing effects (Maheswaran and Meyers-Levy 1990). Voters facing a decision problem tend to process information and form an opinion systematically, when they attach importance to the issue they have to decide on (Kriesi 2005; Maheswaran and Chaiken 1991, see also Chap. 5). The degree of personal importance to an issue is closely related to the degree of personal involvement. Within the experiment, landowners were assumed to have the highest involvement and therefore were assumed to most likely to form their opinion systematically. The findings imply that framing of public policies vary substantially by citizens' involvement and by the framing type. As clarified by the causal model of public policies, spatial planning measures are intended to solve a social problem by changing the behaviour of a specific target group (policy addresses). In addition, a specific public good is provided to the citizenry as a whole. This has consequences for the processing of political messages by landowners compared to non-landowners. Policy target groups are not only blamed for the social problem but also have the burden of being responsible for providing the remedy to the problem. This explains why goal framing influences decision making for the policy addressees in the same way as attribute framing: Both frames evoke either associations with losses or gains.[12]

Another possible explanation for the significant effect of attribute framing could be voters' tax aversion. Previous research has shown that participants were less likely to support an instrument when it was labelled as *tax* (Hardisty et al. 2010; Kallbekken et al. 2011; Cherry et al. 2012). This influence was intended to be avoided by labelling the negatively framed attribute as *fee* instead of *tax*. However, it could still be that the term *fee* had a similar effect as the term *tax*.

6.6 Preliminary Conclusion

In this chapter, it was investigated whether the provision of different types of policy frames can influence the democratic acceptability of spatial planning measures. The chapter builds upon prior studies on democratic acceptability in the area of environmental policy measures that revealed a trade-off between acceptability and

[12]An alternative explanation for the diverging results could be that landowners hold more strong values than non-landowners and due to this precondition, are less sensitive to attribute framing. However, this would not explain why the same landowners would be subjected to goal framing instead. Controlling for the effect of attitudes on state intervention into economy and attitudes towards the preservation of environment, the results on the framing effects do not change.

efficiency (Kallbekken et al. 2011; e.g. Cherry et al. 2012) and complements literature in three regards. Firstly, the concept of democratic acceptability was employed in the area of efficiency-enhancing instruments in spatial planning policies. Secondly, two different types of framing effects were applied for investigating differentiating framing effects as determinants of democratic acceptability. Thirdly, by combining framing theory with a causal model of public policies, determinants of acceptability were located in a broader policy framework.

An experimental study was designed to investigate how political messages about market-based spatial planning measures can influence their democratic acceptability. Therefore, respondents were randomly assigned to two different valence-frames, namely framing of the policy goal and policy attribute, of which each contained a positive and a negative treatment. The findings yielded a significant effect for attribute framing but not for goal framing. Notably, this finding is in line with the argument by Levin et al. (1998) that valence framing encompasses different types of framing, which cause various effects.

Results of this chapter lead to the following main conclusions. As expected, significant framing effects were found: The way a policy measure is presented can influence its democratic acceptability. Combining framing theory with a causal model of public policy enables disentangling of different framing effects on different groups of citizenry. While the affected target group reacts to goal framing, more indirectly affected voters react to attribute framing. It can be concluded that involvement of the policy addressees offers an explanation for inconsistent findings in studies on policy frames. Overall, the effect of goal framing is stronger than the effect of attribute framing.

This leads to the conclusion that policy makers should be aware that not only are different types of frames unequal but also that not all citizens react equally to political messages about new policy measures. Findings show that goal framing and attribute framing do not function equally well and that there are differences depending on the target group. Attribute framing effects seem to work for the cross-section of the population but goal framing effects seem to appear in a different manner. Combining a causal model for public policy and framing effect theories identified landowners as the relevant target group because they are the policy addressees and would therefore be directly affected by a new spatial planning policy. The findings show that landowners' acceptability can only be influenced positively via goal framing effects but not via attribute framing effects.

The finding that landowners are the relevant target group because of their involvement points to another conclusion of this chapter. The more involved a group is, the more political resistance can be expected if the target group sees itself in a domain of loss. This finding is also due to the organisational degree and the financial background of this group, which allows landowners to become an important veto player. The acceptability of a public policy measure by an affected target group can be increased by highlighting the public benefits to be obtained. Again, this finding is in line with earlier research on democratic acceptability. Accordingly, findings revealed that within transport policies, the acceptability of the target group of car users could be increased by communicating benefits (Fujii et al.

2004) or when car users expected "to benefit from the allocation of revenues" (Schuitema and Steg 2008, p. 229).

It is important to underline that the relevance of the findings of this chapter is not limited to direct-democratic systems. Democratic acceptability of a policy is also relevant for representative democracies, as surveys show there is a demand by citizens of Western democracies for more direct consultation of the public (Dalton et al. 2001).

A limitation of the study in this chapter, however, is the small sample size regarding the subgroup of landowners. Although the sample size is too small to draw reliable statistical results, the results point in a relevant direction in terms of the involvement of the target groups.

As the focus of this chapter was framing effects on democratic acceptability towards spatial planning measures, the impact of other factors, which influence democratic acceptability have not been discussed in more detail. Against the background of the research aim of this book, a more profound analysis of additional factors that influence democratic acceptability appears to be beneficial. The following sections therefore discuss further findings from the experiment concerning democratic acceptability determinants.

6.7 Further Findings from the Experiment

The findings discussed in this section cover two aspects: Firstly, results from the logistic regression analyses including control variables and the framing type as one independent variable are discussed in more detail (see Sect. 6.4). Secondly, further findings are presented, which were gathered by the experiment post-treatment questionnaire and that are not directly related to framing theory. This section contains back references back to previous chapters of this book by comparing findings from the experimental survey with findings from the multilevel analysis (Chap. 4) and the case study on the Amendment of Spatial Planning Law (Chap. 5).

Regarding the subsequent findings, it is important to emphasise that these findings have to be treated with caution. The data was collected as part of an experiment in which participants were framed for an incentive-based spatial planning measure. Thus, these findings cannot be treated as results from a neutral survey. The underlying experimental approach should be kept in mind throughout this section.

Model 1 in Table 6.6 outlines the results for a logistic regression analysis containing the framing type as a dichotomous variable (*goal framing* versus *attribute framing*) and several additional control variables. The control variables represent variables, which were theoretically derived as potentially influencing determinants throughout the previous chapters. Therefore, their theoretical foundation will not be discussed separately in detail here (see Appendices A.3.2 and A.3.3 for summary statistics and the operationalization of all variables). The dependent variable remains the dichotomous voting decision by the participants in favour of or against the incentive-based spatial planning measure.

Table 6.6 Acceptability determinants of incentive-based spatial planning measure

Determinants	Model 1		CI	
	Mean	S.D.	2.5%	97.5%
Constant	−0.591	0.567	−1.721	0.532
Framing type (ref. attribute framing)	**0.613**	0.207	**0.210**	**1.022**
Age	−0.003	0.007	−0.017	0.010
Gender (ref. female)	0.217	0.209	−0.193	0.627
Trust in government	**0.089**	0.045	**0.000**	**0.177**
Political interest	−0.088	0.099	−0.284	0.105
Political ideology	**−0.186**	0.054	**−0.293**	**−0.081**
Location type (ref. rural)	−0.178	0.262	−0.690	0.339
Agglomeration	0.128	0.249	−0.356	0.619
Attitudes towards environment	0.044	0.050	−0.054	0.142
Attitudes towards state intervention	**0.158**	0.047	**0.066**	**0.250**
Attitudes towards globalization	−0.025	0.038	−0.100	0.049
Understandability of policy measure	**0.397**	0.070	**0.262**	**0.535**
Education (ref. moderate)				
Low	0.172	0.410	−0.605	1.009
High	−0.272	0.241	−0.745	0.203
Landownership (ref. non-landowner)	−0.015	0.244	−0.488	0.466
DIC	643.927			
N	624			

Notes Dependent variable is the voting decisions on the policy instrument (dichotomous variable 'yes'/'no'). Models ran with MLwiN 2.35 through MCMC estimation. DIC = deviance information criterion. Bold: 95%-credible interval does not contain zero (systematic relationship). Logit model; posterior mean, standard deviations (S.D.) and 95% credible interval of log odds, based on Bayesian estimation (300,000 iterations, last 500 used for summary statistics, burn-in: 50,000, thinning: 1)

As already discussed in the previous sections, *goal-framing* has a positive and significant impact on voters' acceptability. Furthermore, voters are more likely to accept the measure, when they have a high degree of *trust in the government*, or when supporting strong *state intervention* in general. *Political preferences* affect voters' acceptability negatively: The more right-wing participants consider themselves to be, the more they tend to reject the measure. *Understanding the policy measure* also achieves significance for the democratic acceptability. Participants who stated that the measure was very comprehensible tended to vote in favour of the measure whereas participants who did not understand the measure were more likely to reject it.

The predicted relationship between understanding the measure and its acceptability is shown in Fig. 6.6. The more participants stated that the measure was understandable, the higher their probability to accept that measure. The mean probability for participants to accept the measure who perceived the measure as being incomprehensible (which equals 0 on a scale between 0 and 5) amounts to

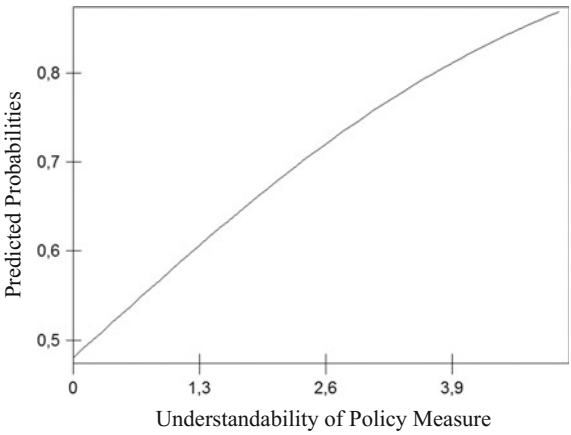

Fig. 6.6 Understandability of policy measure and probability to vote 'Yes'. *Note* Scale between *incomprehensible* (= 0) and *comprehensible* (= 5)

48% (95%-CI 0.36–0.60). In contrast, the probability to vote 'yes' for participants who stated that the measure was comprehensible is 87% (95%-CI 0.83–0.90).

This finding is in line with status-quo assumptions discussed in Chap. 5. Accordingly, voters tend to vote 'no' if the alternative is uncertain because they are risk averse and prefer the alternative they already know, i.e. the alternative which involves less uncertainty (Bowler and Donovan 2000; Kriesi 2005). This explains why participants who do not understand the measure are more likely to vote 'no' compared to participants who understand the measure well. If the measure is received as being incomprehensible, it implies a high degree of uncertainty which in turn, leads to a preference of the status-quo.

Interestingly neither the *location type* nor *attitudes toward the environment* could be found to influence democratic acceptability. Similarly, the impact of *landownership* disappears within the logistic regression analysis. Finally, according to model 1, none of the other control variables were found to impact democratic acceptability significantly (Table 6.6).

The lack of evidence for an impact of *attitudes toward the environment* on the acceptability of an incentive-based spatial planning measure is in line with the findings from the comprehensive model in Chap. 5, in which also no evidence was found that values on *environmental protection* influence democratic acceptance (Table 5.7). Environmental values-related considerations therefore seem not be central for the acceptance and acceptability of spatial planning measures. These finding also support the assumption from Chap. 4 that environmental policy differs from spatial planning policy.

The results reported above highlight another aspect that is worth taking a closer look at: The findings indicate an overall high degree of acceptability towards incentive-based spatial planning measures. In the following, further findings from the experiment which deal with this aspect will be presented.

6.7.1 Acceptability of Incentive-Based Spatial Planning Measures

As discussed in Sect. 2.3, according to the policy instrument typology by Vedung (1998), three types of policy instruments can be distinguished: Economic instruments, which he refers to as *carrots*, regulations that he calls *sticks* and *sermons*, which describe information (Vedung 1998). Following this distinction, participants of the experiments were asked for their preferences between these three types of spatial planning instruments. Subsequent to the vote, the questionnaire presented participants with alternative instruments, giving the following introduction,

> In addition to incentive-based spatial planning measures, alternative policy measures for spatial planning exist. Please imagine, the government is considering to introduce an alternative measure to the one based on incentives. Instead, the government plans to either introduce a measure based on prohibitions or on information both aiming at sustainable spatial planning.

Participants then read an introduction to both types of policy instruments (*stick* and *sermon*) and again the introduction to the incentive-based instrument (*carrot*). See Appendix A.3.5 for the exact wording of the descriptions of the three types of policy instruments. Participants were then asked to indicate how much they agree with each instrument (on a scale between *strong rejection* = 0 and *strong approval* = 3). Figure 6.7 presents the share of rejection and approval for each instrument after recoding the *stick* and *sermon* approval variable dichotomously (*rejection* = 0 and *approval* = 1).

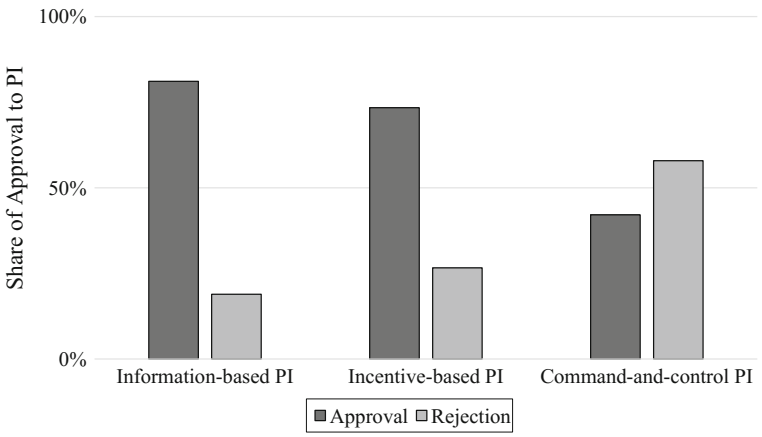

Fig. 6.7 Share of approval/rejection of different types of spatial planning measures. *Note* Bars represent percentages (N = 644)

The highest share of approval was found for the information-based measure, which was approved by 81% of the participants and rejected by 19%. The incentive-based version of the spatial planning measure was accepted by 73% of the participants compared to 27% who voted against it. The instrument type on the basis of command-and-control was approved by 58% of the participants and refused by 42%. Although the information-based measure had the highest degree of approval, the incentive-based measure received substantially more support by the participants compared to command-and-control policy instruments.

In addition, participants were asked to rank their preferences of the three types of spatial planning measures. The results for the shares of an instrument type chosen as the most favourite alternative are displayed in Fig. 6.8. Most participants chose the incentive-based spatial planning instrument as their most favourite alternative (45%), followed by 38%, whose preference was the information-based policy variant yet only 17% of the participants rated the spatial planning measure based on prohibitions as their most favourite alternative. Thus, when participants had to decide on one alternative, as opposed to stating their degree of approval to all three policy measure types simultaneously, the incentive-based policy instrument was the most frequently chosen favourite.

Of course, these results must be treated with caution because the questions of preferences towards other spatial planning measures were embedded in an experiment on incentive-based policy measures. Nevertheless, when taking these results together with the overall high degree of acceptability towards the incentive-based spatial measure within the experiment, the results suggest a high democratic acceptability towards incentive-based spatial planning instruments.

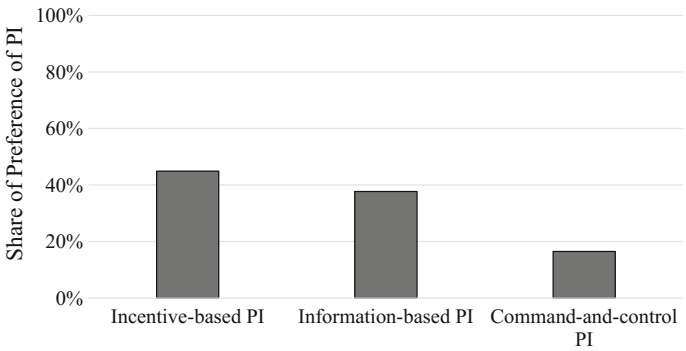

Fig. 6.8 Share of type of instrument chosen as the favourite alternative. *Note* Bars represent percentages, (Incentive-based PI: N = 643; Information-based PI: N = 642; Command-and-control PI: N = 642)

6.7.2 Acceptability of Specific Characteristics of Spatial Planning Measures

In addition to questions concerning preferences of different types of policy instruments, participants were also asked for their approval of different characteristics of spatial planning instruments. On a scale between *strong rejection* (= 0) and *strong approval* (= 3), participants rated their approval of different spatial planning measure characteristics, i.e. different implications a spatial planning measure would contain. Participants were asked to rate their degree of approval of the following six implications of a measure: *Environmental charge for construction of new buildings*, *increase in taxation*, *higher buildings*, *diminished view due to more dense and compact construction*, *limitation of building zones* and *freezing of settlement activities*.

Table 6.7 contains a descriptive summary of the degree of approval by the participants of the different characteristics of spatial planning instruments. For each characteristic, the mean of approval, its standard deviation and the sample size are provided. These descriptive statistics serve as a first indicator that different characteristics of a spatial planning measure lead to differing degrees of approval. Interestingly, the characteristic with the highest mean of approval is *limitation of building zones*, which is a command-and-control based characteristic. In contrast, the lowest mean of approval was for the characteristic *increase in taxation*, which corresponds to the assumed voter tax aversion, as has been discussed earlier in this chapter.

In order to test the relative importance of the different measure characteristics, a logistic regression analysis was ran first, which only included the support of the characteristics as independent variables (model 2). Determinants which were found to be significant in model 1 (Table 6.6) were then added to the model. The results for model 2 and the comprehensive model 3 are presented in Table 6.8.

Results for model 2 suggest that the approval to three characteristics of a measure impact participants' acceptability of it positively, namely *environmental charge for construction of new buildings*, *diminished view due to more dense and compact construction* and *limitation of building zones*. Taking into account the

Table 6.7 Approval of characteristics of spatial planning instruments

Characteristics	Approval		
	Mean	S.D.	N
Limitation of building zones	1.8	0.9	612
Environmental charge for construction of new buildings	1.6	0.9	612
Freezing of settlement activities	1.5	0.9	588
Higher buildings	1.5	1.0	606
Diminished view due to more dense and compact construction	1.1	0.8	576
Increase in taxation	0.7	0.8	613

Notes Approval on a scale between *strong rejection* (= 0) and *strong approval* (= 3)

Table 6.8 Logistic regression analysis on approval of characteristics of a spatial planning instrument

Arguments	Model 2		CI		Model 3		CI	
	Mean	S.D.	2.5%	97.5%	Mean	S.D.	2.5%	97.5%
Constant	−0.359	0.305	−0.960	0.234	−2.546	0.577	−3.693	−1.417
Environmental charge for construction of new buildings	**0.662**	0.132	**0.408**	**0.925**	**0.646**	0.147	**0.361**	**0.939**
Increase in taxation	−0.176	0.157	−0.484	0.131	−0.249	0.172	−0.585	0.088
Higher buildings	−0.135	0.130	−0.391	0.119	−0.078	0.141	−0.357	0.198
Diminished view due to more dense and compact construction	**0.321**	0.156	**0.019**	**0.628**	0.239	0.167	−0.090	0.571
Limitation of building zones	**0.380**	0.157	**0.073**	**0.692**	**0.378**	0.168	**0.051**	**0.713**
Freezing of settlement activities	−0.156	0.140	−0.433	0.117	−0.208	0.150	−0.506	0.085
Framing type (ref. attribute framing)					**0.750**	0.234	**0.296**	**1.214**
Political ideology					−0.029	0.057	−0.142	0.083
Attitudes towards state intervention					**0.172**	0.045	**0.084**	**0.261**
Understandability of policy measure					**0.392**	0.077	**0.243**	**0.546**
DIC	568.364				516.897			
N	526				526			

Notes Dependent variable is the voting decision on the policy instrument (dichotomous variable 'yes'/'no'). Models ran with MLwiN 2.35 through MCMC estimation. DIC = deviance information criterion. Bold: 95%-credible interval does not contain zero (systematic relationship). Logit model; posterior mean, standard deviations (S.D.) and 95% credible interval of log odds, based on Bayesian estimation (300,000 iterations, last 500 used for summary statistics, burn-in: 50,000, thinning: 1)

central measure of the experiment, where participants had to decide on an incentive-based instrument consisting of a financial fee and a financial subsidy, the findings are not surprising. Instead, the finding that a charge as a measure characteristic receives a high degree of support indicates that those participants who voted in favour of the measure did understand it. Thus, the positive impact of approval to the measure characteristic, *environmental charge for construction of new buildings*, can be interpreted as a control question in the sense that the experiment measure was understood by the participants who voted for it. Moreover, model 2 confirms what was already indicated by the means of approval in Table 6.7: Although the characteristic *limitation of building zones* is a prohibition rather than an incentive-based characteristic, it seems to impact participants' acceptability of the measure positively. The third significant characteristic for participants' acceptability in model 2 is the approval to a measure which *diminishes the view due to more dense and compact construction.* This characteristic impacts participants' acceptability positively, i.e. participants were more likely to vote 'yes' when approving a policy measure characteristic, which leads to a *diminished view due to more dense and compact construction*.

Part V
Discussion and Conclusions

Synthesis of Findings

Chapter 7
Discussion

Abstract This chapter incorporates the Discussion, and consists of two parts: Firstly, the chapter begins by revisiting the initial research question, its relevance and the procedures applied to answer this question and to put the parts of the book as a whole into perspective (Sect. 7.1). Building on this, the findings of all three empirical Chaps. 4, 5 and 6 are combined to provide a comprehensive synthesis (Sects. 7.2). Secondly, the overall findings are placed in perspective by providing possible explanations for them and by linking them to other concepts (Sect. 7.3). In this context, one central argument of this book, namely the relevance of personal involvement for the acceptance of spatial planning measures, is developed. Based on the involvement related considerations, the *Schematic Model of Involvement Composition* is derived from Sects. 7.3.1 and 7.3.2. In addition, the *Embedded Layering Model for Spatial Planning Policy Measure*s is proposed, which is a schematic representation of factors influencing the democratic acceptance of spatial planning measures (Sect. 7.3.3).

Keywords Democratic acceptance determinants of spatial planning measures Model of involvement composition · Embedded layering model for spatial planning policy measures

The discussion summarises the overall findings and gives corresponding interpretations (Chap. 7) on which, the conclusions are derived (Chap. 8). This chapter is composed of two themed components and is structured as follows: It begins with revisiting the initial research question, its relevance and the procedures applied to answer this question and to put the parts of the book as a whole into perspective (Sect. 7.1).

Building on this, synthesis of the findings of this book will be given by firstly providing separate summaries of the main results of the three empirical Chaps. 4, 5 and 6 (Sects. 7.2.1–7.2.3). The empirical findings are then connected by discussing links between them (Sect. 7.2.4), followed by interpretations of these findings (Sect. 7.3). In this context, one central argument of this book, namely the relevance of personal involvement for the acceptance of spatial planning measures, is

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developed (Sects. 7.3.1 and 7.3.2) by also referring back to the conceptual part I of this book (Chaps. 2 and 3). Finally, an embedded layering model for spatial planning policy measures is proposed (Sect. 7.3.3), which is a schematic representation of factors influencing the democratic acceptance of spatial planning measures and which builds on the conceptual layering model of involvement in Sect. 2.2.2.

7.1 Initial Research Question and Procedure

The initial research question was designed to examine which determinants foster democratic acceptance of spatial planning policy measures. As a result of decades of both inefficient land use and settlement development, spatial planning became an increasingly important issue on the political agenda in many industrialised countries. In order to counter negative settlement development, research provides several new approaches in the sense of innovative spatial planning instruments. Incentive-based spatial planning measures are deemed to be the most effective type of policy instruments for sustainable spatial planning. While there is an increasing body of literature dealing with these types of spatial planning instruments, they have been rarely applied in practice.

Given this background of inefficient land use in industrialised countries, spatial planning is a remarkably underestimated research area when considering policy implementations in a broader sense. So far, research has mainly focused on policy instruments as a research subject. However, there is an urgent need to counter urban sprawl and other negative externalities of inefficient land use to achieve sustainable development. Thus, it is surprising that the implementation of spatial planning instruments has hitherto attracted relatively little research attention.

One reason for the low practical implementation of incentive-based spatial planning measures concerns their democratic acceptance as several studies indicate a low degree of incentive-based policy measure acceptance, mainly in the areas of environmental and transport policies. In democracies, democratic acceptance is essential for successful implementation of new policies. Nevertheless, a systematic analysis of democratic acceptance of spatial planning policy measures was missing so far. Democratic acceptance is often difficult to investigate and to measure. In representative democracies, citizens do not vote on specific issues, which could serve as an indicator for the level of democratic acceptance. The situation is different in direct-democratic systems, whereby citizens vote on particular ballot proposals. When investigating democratic acceptance, Switzerland, with its direct-democratic system therefore serves as the ideal subject of investigation.

In order to answer the underlying research question, three empirical studies were conducted. Each of them approached democratic acceptance from a different theoretical and methodological angle to allow conclusions to be drawn as generally as possible. Prior to the empirical analyses, the conceptual part of this book (Chaps. 2 and 3) demonstrated that the emergence of spatial planning on the public agenda, as

well as in politics, is caused by an increased need for counteracting problems of inefficient land use. The empirical chapters then followed a hierarchical order when researching acceptance determinants of spatial planning measures. They started at the macro-perspective by means of a multilevel analysis to investigate contextual and individual characteristics as potential acceptance determinants (Chap. 4). The second empirical chapter then explored democratic acceptance of spatial planning measures from a meso-perspective by focusing on the content of a measure and voters' rationale and motivation behind their voting decisions (Chap. 5). The third empirical chapter surveyed acceptability of spatial planning measures from a micro-perspective by investigating determinants that influence voters unconsciously through the way in which content is provided within an experimental framework (Chap. 6). Overall, this book followed an explorative and inductive approach, due to the novelty of the specific research aim and the combination of different research approaches as seen in the three empirical chapters. Thus, this book was not based on one single underlying theory but instead, different theories were applied and tested separately for each empirical chapter.

7.2 Synthesis of Findings

In the following, the three empirical chapters' main findings are summarised, before discussing overall similarities and differences between them. The summaries focus on empirical findings without revisiting their theoretical background. An overview of all hypotheses for each empirical chapter and the direction of the associated findings in the sense of whether the results indicate a confirmation or a rejection of each hypothesis are presented in Table 7.1.[1] Encompassing theoretical considerations are addressed in Sect. 7.3, after a schematic representation and comprehensive discussion of relevant findings from all empirical parts together (Sect. 7.2.4).

7.2.1 What Are the Contextual Determinants of Democratic Acceptance

Chapter 4 approached the democratic acceptance of spatial planning measures as a very first step from a general perspective by analysing several measures and by including contextual and individual determinants in the analysis. In total, 18 popular votes on land use planning measures between 1984 and 2008 in Switzerland

[1]Appendix A.4 provides an overview of similarities and differences between the findings of the empirical chapters in the form of a table comparing the impact of the variables from all logistic regression analyses.

Table 7.1 Summary of hypotheses of three empirical chapters and associated finding

	Hypotheses	Finding
Chapter 4	*FL 1a*: Voters who live in urban areas are more likely to accept spatial planning measures compared to voters who live in rural areas	*Not* Confirmed
	FL 1b: Voters who identify themselves with a left-wing party are more likely to accept a spatial planning measure than voters with a right-wing party affiliation	Confirmed
	FL 1c: People who rent accept spatial planning measures, whereas homeowners are less likely to do so	Confirmed
	SL $2a_1$: Incentive- and market-based policy instruments have a higher probability to be accepted than policy instruments based on bans and rules *SL* $2a_2$: Incentive- and market-based policy instruments have a lower probability to be accepted than policy instruments based on bans and rules	Confirmation of $2a_1$ [*Two-sided hypothesis*]
	SL 2b: Policy measures have a higher probability of being accepted if the degree of organisational capacity and conflict capability of interests is low	*Not* Confirmed[a]
	SL 2c: Support for spatial planning measures increases with elite support	Confirmed
	SL 2d: The better the economic condition of a ballot, the higher the probability that a spatial planning measure is accepted	*Not* Confirmed
	SL 2e: Policy measures from different policy areas exhibit different degrees of acceptance	*Partly* Confirmed[b]
Chapter 5	*Trust heuristic* H_1: Voters who have trust in the government are more likely to accept the Amendment of Spatial Planning Law than voters who do not have trust in the government	*Partly* Confirmed[c]
	Status quo heuristic H_2: Landowners or voters from rural areas reject the Amendment of Spatial Planning Law, whereas people who do not own land or live in urban areas are less likely to do so	*Partly* Confirmed
	Partisan heuristic H_3: Voters with a left-wing political ideology are more likely to vote for the Amendment of Spatial Planning Law as opposed to those with a right-wing political ideology	*Partly* Confirmed
Chapter 6	*Goal Framing* H_1: A spatial planning measure, which is presented with a *negatively* framed policy goal is more likely to be accepted compared to the same policy measure presented with a positively framed goal	*Not* Confirmed
	Attribute Framing H_2: A spatial planning measure which is presented with a *positively* framed policy attribute is more likely to be accepted compared to the same policy which is presented with a negatively framed attribute	Confirmed

Notes FL first level; *SL* second level. *Confirmed* and *not confirmed* means whether evidence was found that points in one or the other direction

[a]Significant impact but reverse direction: Policy measures are more likely to be accepted if the degree of organisational capacity and conflict capability of interests concerned is *high*

[b]Acceptance of spatial planning measures is not affected by the policy area the discourse takes place in apart from the thematic framework of *road traffic*. Road traffic, characterised by a high degree of proximity, has a significant negative influence on voters' acceptance

[c]All three hypotheses could be confirmed within the Peripheral Context Model. However, the impact of the variables capturing the three hypotheses (trust heuristic H_1, Status quo heuristic H_2, partisan heuristic H_3) disappeared in the Comprehensive Model of Peripheral Context and Motivation Content Determinants of Voters' Acceptance of the Amendment of Spatial Planning Law.

were analysed. By means of Bayesian multilevel modelling, both determinants at the individual level as well as the contextual level were investigated.

The results revealed that a central individual factor for voters in Switzerland to accept spatial planning policies is, in a broad sense, ideology expressed by voter party affiliation. Accordingly, people with left-wing party affiliations are more likely to accept spatial planning measures than people with right-wing party affiliations. Another important factor for the voting decision is homeownership status: People who own a house are less likely to accept a measure than people who rent. In contrast, whether voters live in urban or rural areas does not influence such voting decisions. Except from gender, neither of the control variables were found to impact democratic acceptance. Regarding gender, results suggest that women are less sceptical towards spatial planning measures than men.

At the contextual level findings show that support by the political elite increases the chance of spatial planning measures being accepted. Furthermore, the results suggest that the degree of organisational capacity and conflict capability of interests concerned influences voters' decisions: Policy measures with a high degree of organisational capacity and conflict capability of interests concerned have a higher chance of being accepted than those with a low degree. Another factor influencing democratic acceptance is the type of policy instrument. Policy measures which contain incentive- and market-based instruments have a higher probability to be accepted than instruments based on bans and rules. Finally, findings concerning the thematic framework, in which a land use policy took place, indicate that acceptance of spatial planning measures are only affected if the thematic framework is road traffic. If the policy area the discourse takes place in is road traffic, the chance of spatial planning policy measures being accepted decreases.

7.2.2 How Does the Content Influence Democratic Acceptance

After analysing contextual determinants of several spatial planning measures, Chap. 5 investigated the relevance of a measure's content in relation to its democratic acceptance. To do so, the case of the Amendment of Spatial Planning Law in Switzerland in 2013 was examined. The results from the first part of the analysis, which only contained peripheral context variables, show that voters who have trust in the government are more likely to vote 'yes' compared to voters who distrust the government. Moreover, people who do not own land, or people who live in urban areas tend to vote in favour of the measure, whereas landowners or people who live in rural areas are less likely to do so. Another important factor for casing a 'yes'-vote is political preference. The more left-wing voters' preferences are, the more likely they are to accept the measure. In contrast, none of the socio-demographic control variables *age*, *gender* and *education* played a role in the ballot's acceptance. However, the impact of these peripheral context-related factors disappears when adding content-related variables to the model.

Within the comprehensive model, the findings changed. Considering also content-related factors, the impact of the peripheral context variables, namely *trust in government*, *political ideology*, *landownership*, and *location type*, disappeared. The results of the comprehensive model suggest that arguments for or against a measure are central for voting decisions. Voters who support the pro-argument that *the Amendment of Spatial Planning Law is an efficient means to curb urban sprawl in Switzerland* tend to accept the ballot. In contrast, voters who support either the con-argument that the *scarcity of building land leads to higher land prices, which would lead to higher costs for tenants and house- or land-owners* or that *proven federalist solutions are replaced by a dictation of the Federation* were more sceptical about the ballot and tended to vote 'no'. Further content-related variables within the comprehensive model that were found to positively impact the acceptance probability of the ballot are the personal meaning of the ballot and the meaning of the ballot for the country.

Voters who accepted the Amendment of Spatial Planning Law based their decisions significantly more often on reasons concerning the ballot content compared to those who rejected the ballot proposal. A descriptive analysis of the reasons for the voting decisions revealed that four out of five reasons for casting a 'yes'-vote were based on reasons related to the ballot as opposed to less than half of the voters, who rejected the ballot. The most frequently stated reason to accept the Amendment of Spatial Planning Law was due to *environmental and landscape protection*.

7.2.3 Which Means of Information Provision Influences Democratic Acceptance

By means of an experiment, Chap. 6 investigated the impact of two different types of valence frames, *goal framing* and *attribute framing*, on the acceptability of incentive-based spatial planning measures. Results yield goal framing to be more effective and led to a significantly higher rate of acceptability than attribute framing. Within goal framing, however, whether the goal frame contained positive or negative goals was not significantly related to measure acceptability. In contrast, when analysing only the subsample of landowners, those landowners who were confronted with a positively framed goal accepted the policy measure significantly more often than landowners who were assigned to the negative frame.

Attribute framing led to different findings. Participants who were confronted with a positively framed attribute were more likely to accept the policy instrument than participants who were confronted with a negatively framed attribute. However, there was no evidence for a significant relationship between attribute framing and the acceptability for the subsample of landowners.

Further analyses of questions from the experimental questionnaire suggest an overall high acceptability of incentive-based spatial planning measures. Only an

information-based policy measure received a higher degree of approval, but when asking respondents for rating their favourite alternative, the incentive-based type of spatial planning measure was the most frequently chosen alternative.

When controlling for additional factors besides framing type that influence acceptability, goal framing remains significant. In addition, participants were more likely to vote 'yes', when approving a high degree of state intervention or when the policy measure was well understood. Regarding characteristics of the instrument, participants tended to accept the instrument when approving an environmental charge for the construction of new buildings or when approving limitations of building zones.

7.2.4 Overall Findings

Against the background of the research aim of this book, a comprehensive discussion of findings from all empirical chapters is required. A schematic comprehensive representation of determinants that were found to positively impact democratic acceptance is shown in Fig. 7.1. Given the object of research of this book, determinants that were found to negatively impact acceptance, such as the thematic measure framework of road traffic (Chap. 4) or the dictation and land price arguments (Chap. 5), are not included in the comprehensive model. Also not included in the schematic representation are results from the logistic regression analysis on characteristics of a measure from the experiment's further findings (Sect. 6.7) due to their limited generalisability. The schematic representation in Fig. 7.1 provides a comprehensive overview of factors that were found to increase democratic acceptance by piecing together the findings from the three empirical chapters.

The comprehensive model is divided into two dimensions. The first one captures whether a factor is related to the *individual* or to the *contextual* level, and is shown on the horizontal axis in Fig. 7.1. The second dimension, as shown on the vertical axis, distinguishes between *general socio-political determinants* and *policy specific determinants*. The intersection of the axes lead to four categories of determinants to which the empirical findings can be assigned: Firstly, *political contextual attributes* (horizontal axis: contextual determinants and vertical axis: general socio-political determinants) and secondly, *policy attributes* (horizontal axis: contextual determinants and vertical axis: policy specific determinants). Thirdly, *individual attitudes and socio-demographic characteristics* (horizontal axis: individual determinants and vertical axis: general socio-political determinants) then finally *individual motivational considerations* (horizontal axis: individual determinants and vertical axis: policy specific determinants).

Acceptance of spatial planning measures is a complex concept, which is influenced by various aspects (Fig. 7.1). The empirical approaches of this book varied greatly and range from a multilevel analysis, to a descriptive analysis of voting decisions to an experimental approach. What is striking is that all approaches led to

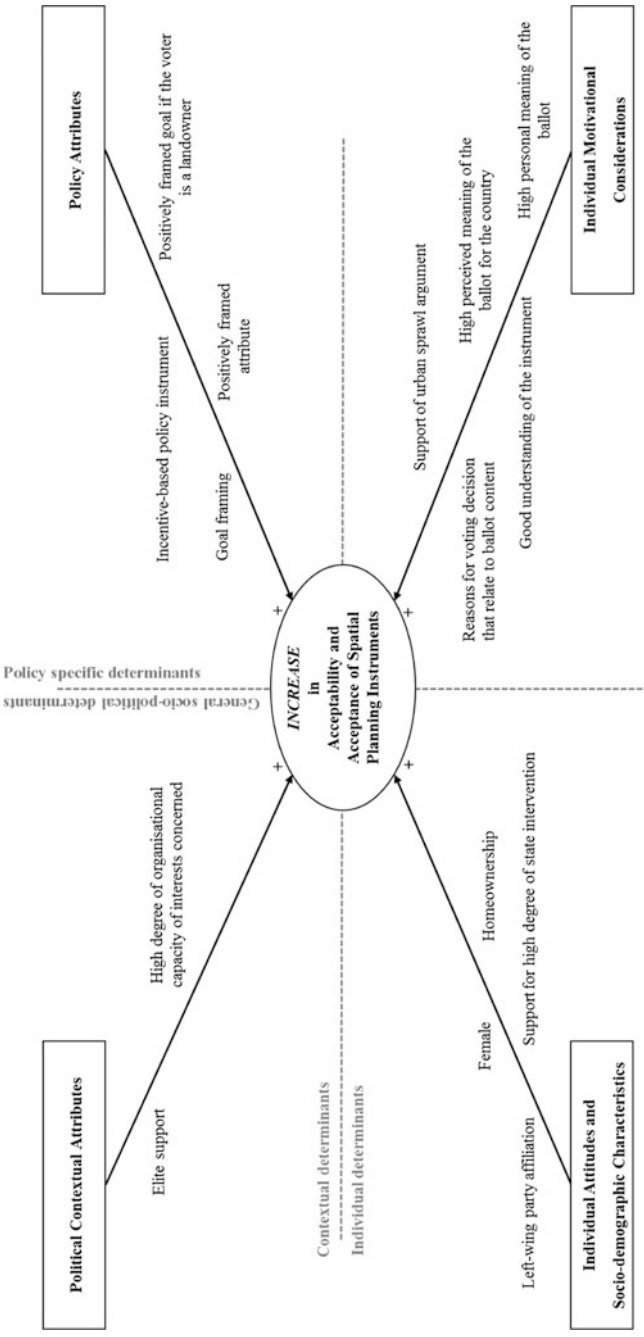

Fig. 7.1 Schematic representation of democratic acceptance determinants of spatial planning measures. *Notes* Determinants only cover those that lead to an increase in voters' acceptance. Significant determinants that were found to lead to an increase of voters' refusal are not included in the figure

additional findings explaining democratic acceptance. It follows that a comprehensive approach that covers several dimensions is required to understand determinants of democratic acceptance of spatial planning measures. This multidimensional nature is expressed by Fig. 7.1.

The findings which reveal that individual socio-demographic characteristics constitute central factors for democratic acceptance of spatial planning measures reinforce previous research (McLeod et al. 1999; Gale and Hart 1992). It is of note that in contrast to previous findings (e.g. Connerly and Frank 1986; Gale and Hart 1992; Stadelmann-Steffen 2011), the results of this book could not confirm that education plays an important role in explaining democratic acceptance. Besides individual socio-demographic characteristics, personal attitudes, values and individual motivational considerations are also important for explaining democratic acceptance. This confirms findings from Kallbekken and Sælen (2011, p. 2966) who conclude that "support cannot be well explained without capturing a broad range of motivational factors."

Besides individual factors, contextual factors also play a role in democratic acceptance of spatial planning measures. On the one hand, the general political context of a spatial planning measure is relevant for its acceptance and contains the support for a measure by the political elite and the organisational capacity of interests concerned by a measure. The former factor highlights the importance of support by the political elite for the outcome of direct-democratic votes and confirms findings from previous studies (Vatter et al. 2000; e.g. Bornstein and Thalmann 2008; Stadelmann-Steffen 2011). On the other hand, additional contextual factors which are linked to the policy measure itself must be considered for democratic acceptance of spatial planning measures, such as the provision of information on the measure. This latter aspect becomes even more important when taking into account the findings on the importance of the content of a spatial planning measure itself at the individual level: Arguments for or against a specific measure, as well as the perceived meaning of the measure or the way in which a measure is communicated impact on the measure's democratic acceptance. Information on a spatial planning measure was found to be essential for its democratic acceptance. The relevance of information about a measure's acceptance also reiterates previous research (Mallett 2007; e.g. Gärling and Schuitema 2007; Innes 1998; Jobert et al. 2007). The relevance of the measure's content closely relates to another aspect that was repeatedly found to play a role in acceptance, namely how affected someone is by a measure. In this respect, results suggest that the personal acceptance of spatial planning measures might depend on land- and homeownership.

Another notable finding across the empirical analyses is that voters seem to have a positive attitude towards incentive-based spatial planning measures. This finding is especially interesting against the background of previous work on environmental policy. At best, findings from that policy area lead to ambiguous conclusions as some point to a similar direction in terms of voters being supportive towards incentive-based policies (Steg et al. 2006). However, several studies conclude the opposite, namely that voters are more sceptical towards efficiency-enhancing

policies than policies on the basis of bans and rules (Stadelmann-Steffen 2011; Cherry et al. 2012). Thus, findings from environmental policy research do not seem to be easily transferrable to spatial planning.

A further common finding of the empirical chapters is that political factors represent an important parameter for explaining democratic acceptance of spatial planning measures. The impact of political factors is not limited to the above mentioned elite support, but also comprises individual party preferences and political preferences on a right-left scale. These findings are in line with previous studies (Stadelmann-Steffen 2011; Vatter et al. 2000; e.g. Eriksson et al. 2006; Schuitema and Steg 2008; Wassmer and Lascher 2006; Lewis and Baldassare 2010).

Besides political orientation, personal attitudes are also relevant to democratic acceptance in the form of the aggregation of attitudes. This is demonstrated by the prerequisite of a high degree of organisational capacity of interest concerned, which was found to foster acceptance. Individual preferences, such as supporting a high degree of state intervention, also play a role in voters' acceptance. Furthermore, the voters' understanding of a spatial planning policy seems to be crucial for its acceptance. The relevance of understanding a measure for its acceptance confirms previous findings (Kriesi 2005).

In addition to determinants that influence democratic acceptance, the results on factors that were found to *not* play a crucial role in democratic acceptance also contribute to understanding democratic acceptance of spatial planning measures. In this respect, two findings are of particular interest: Firstly, there is a lack of evidence for the argument that the location type, i.e. whether a person lives in urban or rural areas, is a central factor for explaining democratic acceptance of spatial planning measures. Secondly, the finding that environmental values were not found to be crucial for democratic acceptance contradicts previous research in the area of environmental policy (Nilsson et al. 2004; Kallbekken and Sælen 2011; e.g. Boomsma and Steg 2014).

7.3 Interpretations and Possible Explanations

Building on the previous discussion of overall findings, two aspects will be discussed in more detail by placing the empirical findings in a broader context. They afford key insights into the democratic acceptance of spatial planning measures. The first aspect addresses implications concerning the particularity of spatial planning policy in contrast to allegedly similar policy areas. This is not only relevant from a delimitative perspective but also allows reflections on the specific area of spatial planning (Sect. 7.3.1). The second aspect builds on these observations, incorporating the aspect of personal involvement for spatial planning measures and their acceptance by returning to considerations raised in the conceptual part I of this book and by putting these considerations in relation to the empirical findings (Sects. 7.3.2 and 7.3.3).

7.3.1 Particularity of Spatial Planning as a Policy Area

One of the underlying assumptions initially presented by this book was that spatial planning is similar to related policy areas, especially environmental policy, as both policy fields focus on land as a natural resource (Knoepfel and Narath 2006). However, theoretical and conceptual reflections concerning spatial planning as a public policy and its mode of action served as a theoretical indicator that the policy area of spatial planning is more particular in its nature than initially expected. One of the specific features of spatial planning policies is that they affect target groups with different interests via different channels in a rather direct manner. Thus, target groups are assumed to be particularly involved. Derived from these theoretical considerations, the layering model was proposed to provide a schematic representation of involvement patterns of affected parties. The layering model highlights the effect of a spatial planning measure on target groups and is expressed by a layering structure of different interests (see Sect. 2.2.2). A further theoretical argument for the peculiarity of spatial planning was introduced in Chap. 4 by means of the theoretical argument of policy proximity, which describes the degree of directness to which policies are experienced by the public (Soss and Schram 2007). Accordingly, spatial planning policy differs from allegedly similar policy areas with regards to its proximity. While spatial planning policies have a high degree of proximity, environmental policies are assumed to be characterized by distant policies.

The empirical parts of this book yielded findings supporting the theoretical and conceptual considerations on particularities of spatial planning as a public policy. The assumption that, due to its high degree of proximity, spatial planning represents a particular policy area that is not automatically comparable with environmental policy, explains why two findings of this book differ fundamentally from findings regarding environmental policy. Firstly, the missing impact of environmental values on democratic acceptance indicates that spatial planning is received differently than environmental policy by voters. Secondly, the finding that there is an overall high acceptance of incentive-based policy measures contradicts previous findings from environmental policy research.

In addition, no evidence was found that the location type is crucial for the acceptance of spatial planning measures. This lack of evidence concerning the impact of location types is in line with previous findings by Richer (1995) who could not find higher population densities having a positive impact on the occurrence of growth control measures. A possible explanation is that spatial planning is determined less by voters' attitudes or values than presumed. This explanation also applies for the missing effect of environmental values on democratic acceptance. While findings of this book could not confirm an influence of environmental values on the acceptance of spatial planning measures, research from environmental policy repeatedly found evidence for the relevance of environmental values for the acceptance of environmental policy measures (Nilsson et al. 2004; Kallbekken and Sælen 2011; Loukopoulos et al. 2005; Eriksson et al. 2006). Hence, this discrepancy of findings for environmental and spatial planning policy indicates, just as the

finding concerning voters' acceptance of incentive-based spatial planning measures, that there are inherent differences between environmental policy and spatial planning policy. The previous considerations are in line with the conclusions drawn by McLeod et al. (1999, p. 54), whose findings indicate that "land use control models do not coincide well with the expectations derived from environmental regulation literature". Likewise, Gale and Hart (1992, p. 203) could not find empirical evidence for an association between environmental protection and the support for growth management. As a possible explanation for the differences between land use control models and environmental regulation literature, McLeod et al. (1999, p. 54) argue that "[i]ndividual attitudes towards land use may be different than that towards environmental regulation". Thus, environmental regulation would be perceived by people as "mitigation of environmental degradation", whereas land use preferences follow another order thus "[p]rivate concerns may outweigh public concern when private land use issues are under consideration" (McLeod et al. 1999, p. 55).

An explanation for the overall high democratic acceptance of incentive-based spatial planning measures was already raised in Chap. 4 according to which the proximity of spatial planning measures is decisive. With regards to environmental policies, voter preferences of command-and-control instruments over incentive-based instruments is explained by the cost perception because the costs of the former instruments are less visible for voters than those of the latter (Stadelmann-Steffen 2011). Regarding spatial planning measures, in contrast, people's involvement due to the proximity of the policy area enables voters to better estimate the actual costs of a measure. Voters then prefer incentive-based spatial planning measures, as this type of instrument has an efficiency advantage compared to command-and-control instruments (see e.g. Hahn and Stavins 1992; Lockie and Tennent 2010).

In contrast to environmental policy, transport policy is an area which is similar to spatial planning measures, as it is also characterised by a high degree of proximity, as transportation policy measures directly affect people. The main difference between transport policies and spatial planning policies concerns the policy addressees. Compared to environmental policy, transport policies seem to be more closely related to spatial planning policies due to their high degree of proximity. Thus, findings regarding the mechanisms of action of transport policy measures might also apply for spatial planning. Regarding the cost perception by people in the area of transport policy, Jakobsson et al. (2000, p. 157) argue that people perceive taxes or fees in this policy area as personal costs rather than "a means for improving the environment." A similar pattern might apply for spatial planning measures. One empirical finding of this book that supports this assumption was demonstrated by the framing results, as discussed in Chap. 6. Comte et al. (2000) found higher acceptance for transportation policy measures when they affected only the target group, i.e. when the measure only affected people who broke the speed limit, compared to measures with a wide ranging impact. This finding supports the assumption that people support the polluter-pays principle, which is a characteristic of efficiency-enhancing policy measures (see Sect. 2.3.3).

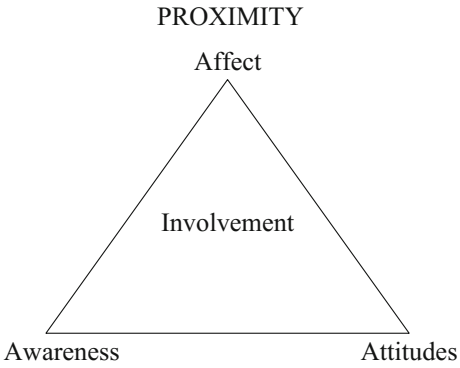

Fig. 7.2 Schematic model of involvement composition

Based on these considerations and by taking further aspects into account, which were found to be relevant when explaining democratic acceptance of spatial planning measures, I propose a schematic model for the composition of involvement. In the following section, the schematic involvement model will be presented (Fig. 7.2).

7.3.2 Involvement

One overall finding of this book can be narrowed down to one central aspect, namely *involvement*, which impacts voters' acceptance at the individual level. Involvement has not been captured as a separate variable within the analyses but manifests itself in various factors instead. The assignment of these different factors to the incorporating concept of involvement, which I refer to as the *schematic model of involvement composition*, is presented in Fig. 7.2.

The model shows that firstly, the proximity of a measure serves as a necessary condition. Involvement is composed of the three dimensions *awareness*, *affect* and *attitudes*. The empirical analyses revealed that these dimensions comprise factors that have an impact on democratic acceptance of a spatial planning measure and that they relate to people at the individual level.

Awareness as the first dimension of involvement refers to the voters' degree of measure understanding and its implications. In a broad sense, this dimension captures the importance of systematic reasoning for people's opinion formation and the relevance of information for decision making (Kriesi 2005; Chaiken and Trope 1999; Blais et al. 2009). Therefore, *awareness* describes the degree to which people make use of issue-specific arguments and other content-related information for their judgements. As demonstrated by previous studies, and in line with the findings from this book, information plays an important role within planning processes (Innes 1998). Innes (1998, p. 52) emphasises the importance of information for planning by arguing that information "*influences by becoming embedded in*

understandings" and these understanding processes create meanings. Accordingly, the *awareness* dimension addresses whether a measure and its implications are understood by people, which was empirically found to be important for the democratic acceptance of the measure. In this context, the perceived meaning of a measure at the personel level and the perceived meaning of a measure for the country, which are also important for democratic acceptance of spatial planning measures, can also be assigned to the *awareness*-dimension of involvement.

Affect, the second involvement dimension, describes the formal degree to which a person is affected by a spatial planning measure. Being affected means that a measure has a direct impact on people's own assets, for instance, being particularly affected by being a homeowner. Fischel (2001) tackles this aspect by his *homevoter hypothesis*. In short, he argues that the concern about their home is the central motivator of homeowners as key players in the context of land use management. This argument is based on the assumption that "[w]e take care of our own homes because the benefit redounds to ourselves" (Fischel 2001, p. 8). From the homeowners' perspectives, houses are not insurable against devaluation of their properties by neighbourhood land use effects, which raises concerns by homeowners about the vulnerability of their "largest asset" (Fischel 2001, pp. 5–12; see also Berli 2016, p. 4). Evidence revealed in this book can be interpreted along similar lines: Homeowners and landowners are of particular importance when considering spatial planning instruments. Involvement due to the expected (financial or other) effects on the personal asset is what I refer to as *affect*. However, a distinction must be made between *homeowners* and *landowners*. While the multilevel analysis in Chap. 4 yielded homeownership as having an overall significant impact on democratic acceptance, the case study in Chap. 5 and the experiment in Chap. 6 only included the factor of landownership where results were less conclusive. Although landownership was found to be significantly relevant for the voting decision under some circumstances, the impact disappeared after including variables capturing the measures' content (Chap. 5) or a framing variable (Chap. 6) in the models. This indicates that there might be some crucial differences between homeownership and landownership. One explanation can be, that homeowners feel more affected by spatial planning measures because their "largest asset", in the form of a house already exists, whereas landowners do not necessarily own a house (Fischel 2001). That would also explain why landownership does impact the acceptance of spatial planning measures to some degree, but this impact can be outweighed by other factors.

The third involvement dimension, *attitudes,* captures different attitudes and values such as trust in government or attitudes towards state intervention in general. Regarding environmental policy measures, environmental values were found by several studies to impact voters' acceptance (e.g. Kallbekken and Sælen 2011; Loukopoulos et al. 2005). As discussed above, this finding could not be confirmed for spatial planning policy measures. Instead, other values seem to be important for democratic acceptance of spatial planning policies, namely attitudes towards state intervention and political orientation in the form of a left-right orientation or partisanship. The more left-wing voters are, or the more they support a strong state intervention, the higher their acceptance of spatial planning measures. The

importance of political affiliations for voting decisions corroborates previous research (Lachat 2008; Campbell et al. 1960; e.g. Bühlmann and Freitag 2006).

The assumption behind the schematic model of involvement is that the three dimensions *awareness, affect* and *attitude* are central for the democratic acceptance of spatial planning measures. Importantly, this assumption is based on a certain underlying understanding of how individuals behave. Assuming that the occurrence of these three dimensions impact democratic acceptance implies, that individuals inherently behave in a certain way, i.e. follow a specific behaviour. Based on the empirical findings and theoretical arguments, the underlying assumption is that voters' behaviour follows utility maximisation in terms of maximising the personal benefit (Fernandez and Rodrik 1991). For instance, the explanation that voters choose incentive-based spatial planning measures over instruments of command-and-control, because of their efficiency advantage, is based on the underlying assumption that voters choose the alternative they think is best for them. This assumption is in line with public choice theory (Mueller 2004), that "link[s] the economic premise of self regarding utility to social decisions" (McLeod et al. 1999, p. 46). With regard to the previous considerations, this means that "[v]oters will choose initiatives which most successfully maximize their utility" (McLeod et al. 1999, p. 46). Hence, another relevant aspect for the acceptance of spatial planning measures, which relates to involvement, is *personal benefit*.

Theoretical considerations on voters' utility maximisation behaviour derived from public choice theory could be supported empirically in the context of public policy acceptance. More concretely, studies from environmental and transportation policies have shown that the existence of benefits (Maruyama et al. 2007) and specifically personal benefit, for instance in the form of egoistic values or expectations about the personal outcome, foster acceptance (Im Groot et al. 2013; Schade and Schlag 2003; Schuitema and Steg 2008). Vatter et al. (2000, p. 2) emphasise an important finding: "Efficient initiatives that are effective for only certain individuals are turned down especially by those [a]ffected negatively or those that do not personally profit from them." In a study on the support of transportation measures, Hannay and Wachs (2007, p. 32) conclude that findings "suggest that many voters are rationally considering how they will personally benefit from the measures." Related to the personal benefit is the perception of (un)fairness, which was also found to be essential for the acceptance of a policy measure (Gross 2007; Baron and Jurney 1993). Likewise, Nilsson et al. (2004, p. 275) claim that acceptance is closely related to economic costs and benefits. Along similar lines, the findings by Fernandez and Rodrik (1991, p. 1146) show that one reason for preferring the status quo over efficiency-enhancing alternatives is that "individual gainers and losers from reform cannot be identified beforehand". Taken together, the importance of personal benefit explains why involvement is crucial for voters' acceptance: People who have a high involvement are assumed to better evaluate potential gains from a policy measure which, in turn, enables them to support it as long as they can benefit from it.

Besides the personal benefit orientation, which serves as an explanation for the importance of voters' involvement for their acceptance of spatial planning measures, further findings of this book show that additional aspects surrounding the individual are also important for democratic acceptance and must therefore be considered.

7.3.3 *Embedded Layering Model for Spatial Planning Policy Measures*

The *embedded layering model for spatial planning policy measures* presented in Fig. 7.3 combines empirical findings from this book with conceptual considerations. It assembles them into a schematic representation of factors influencing the democratic acceptance of spatial planning measures. More precisely, the embedded layering model is a complementary version of the *conceptual layering model of involvement for spatial planning* (Sect. 2.2.2) with incorporated empirical findings. In contrast to the involvement concept, the embedded layering model also accounts for contextual determinants. The model is intended to provide a schematic overview of aspects that should be taken into account when explaining democratic acceptance of spatial planning measures.

Similar to the *conceptual layering model of involvement for spatial planning*, the *embedded layering model for spatial policy planning* consists of different layers comparable with the onion-shell principle. Each layer refers to one central aspect and the width of the lines of the three outer contextual layers represent the impact intensity of each layer.

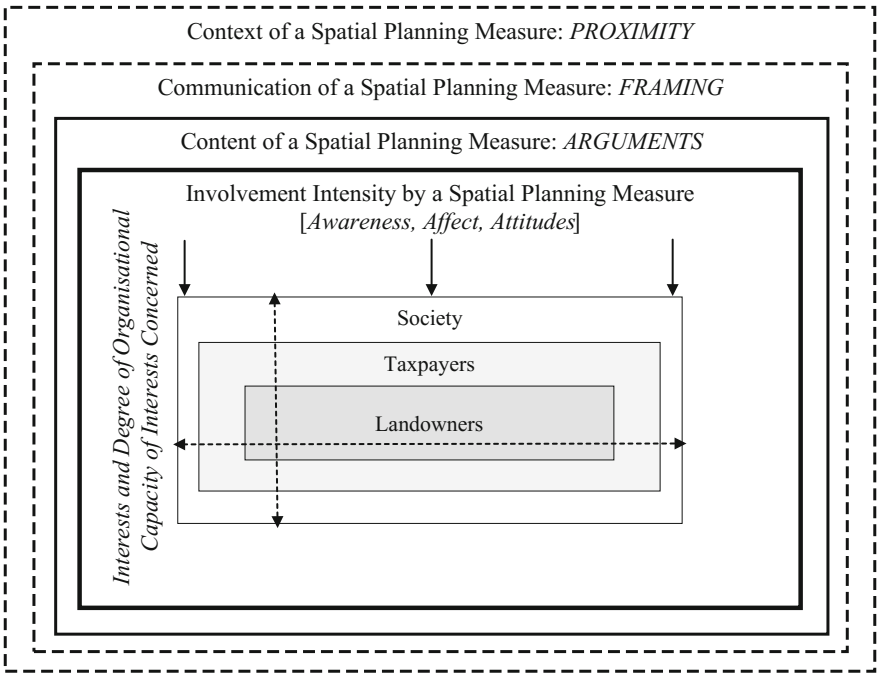

Fig. 7.3 Embedded layering model for spatial planning policy measures

The core of the model comprises landowners, taxpayers and society and represents the *conceptual layering model of involvement for spatial planning* (see Sect. 2.2.2). Taken together, these layers constitute the involvement concept (Fig. 7.2), which is captured in the form of the layer *involvement intensity by spatial planning measure*. Involvement, including three different dimensions, is central for explaining democratic acceptance of spatial planning measures. Therefore, the particular importance of involvement is expressed by the widest line of the involvement layer in Fig. 7.3.

A component, which was added to the *embedded* layering model of spatial planning is the *degree of organisational capacity and of interests concerned*. This component was added because results of this book suggest that not only are involvement and different (conflicting) interests of the affected parties relevant for the democratic acceptance of a spatial planning measure but also the capability to organise these interests. Thus, the arrows within the inner core of the model represent not only (conflicting) interests of parties affected but also their organisational capacity.

The layer *content of the spatial planning measure* accounts for the relevance of each measure's content, such as arguments for or against the measure or its ability to be understood. The width of the line indicates the relative importance of this *content-layer* compared to the other layers. More precisely, the *content-layer* has a wider line compared to the other outside layers, because the impact of a measure's content, for instance in the form of arguments, is not limited to people with a high involvement. Thus, the content of a measure can also impact the acceptance of people who have a low level of involvement. Nevertheless, the *content-layer* is expressed by a narrower line than the involvement core because it is assumed that the contextual layers cannot completely dominate the influence of involvement. For example, the framing experiment showed that although the way in which a measure is communicated can influence its acceptance, the involvement still has a crucial impact, and this was demonstrated by different results for landowners.

The *content-layer* is surrounded by the subsequent *communication-layer*. It addresses the communication or information provision of a spatial planning measure. As demonstrated by the findings of Chap. 6, the way in which information is provided impacts democratic acceptance of spatial planning measures. The central aspect in the communication-layer is *framing*, which refers to specific manners in which a content can be presented (e.g. positively or negatively).

The outermost layer can be referred to as the *context-layer*, which includes contextual determinants such as the type of a policy that was found to have an impact on democratic acceptance. The central aspect of this layer is proximity, because this aspect of the context appears to be of particular relevance for democratic acceptance and it seems to influence people's involvement. Both latter layers, the *communication-layer* and the *context-layer*, are surrounded by dashed lines in

Fig. 7.3, as their impact is assumed to be more indirect and does not outweigh other layers such as the *involvement-* or the *content-layer*.

While the previous discussion provided a summary of the main findings and a discussion of their broader implications, one aspect remains unanswered so far. As stated at the beginning of this book, one of its central aims was to derive conclusions concerning factors that can help to foster democratic acceptance of spatial planning instruments, contributing to both research and practice. In order to achieve this aim, Chap. 8 presents conclusions derived from the present book as a whole.

Chapter 8
Conclusions

Abstract This chapter contains conclusions, divided into research implications and lessons for practice. This chapter starts with conceptual implications for research, including a review of future research potential (Sect. 8.1). The lessons for practice contain ten practical lessons for fostering democratic acceptance of spatial planning measures, derived from the empirical findings. These lessons, which are directly applicable by spatial planning or land use practitioners, are summarised in one comprehensive figure, providing *Stepwise Approaches for Practice to Foster Democratic Acceptance of a Spatial Planning Measure.* This is outlined and explained in detail in Sect. 8.2. The book closes with an underpinning of the findings' relevance for current application practices of spatial planning instruments and an emphasise of the findings' transferability,

Keyword Fostering democratic acceptance of spatial planning measures Implications for research · Lessons for practice · Ten lessons for fostering democratic acceptance

Building on the discussion of the findings of the present book, this chapter draws comprehensive conclusions with regard to two main directions, namely implications for research (Sect. 8.1) and lessons for practice (Sect. 8.2). These two directions comprise fourfold benefits of this book.

Firstly, benefits from a conceptual and theoretical perspective, which combine different voting behaviour theories with spatial planning policy and democratic acceptance: By doing so, the particularity of this research field is exposed and its encompassing potential for gaining new insights. Secondly, benefits from an empirical perspective are that this book has demonstrated that different methods can be applied to understand acceptance determinants of spatial planning measures from different angles. Thirdly, practical lessons provide guidance for policy makers and practice when considering the implementation of new spatial planning policy measures. Finally, findings can be put in a broader normative democracy-theoretical context in terms of the relevance of a greater integration and inclusion of citizens' preferences into democratic processes.

L. E. Pleger, *Democratic Acceptance of Spatial Planning Policy Measures*,
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This book began by raising the broad research question: *Which determinants foster the democratic acceptance of spatial planning policy measures*? The findings show that there are several aspects that have to be taken into account when intending to increase democratic acceptance of spatial planning measures, which are in a broad sense attributable to the aspect of personal involvement. In addition, the evidence presented revealed new insights into democratic acceptance of spatial planning policies that contribute to a reconsidered understanding of this policy area. The findings constitute an even higher importance when considering that spatial planning became an increasingly urgent issue for politics due to current settlement development. Although research has paid attention to the topic of sustainable spatial planning concerning potentially new and innovative policy instruments, the political side, in terms of the democratic acceptance of these instruments, has broadly been neglected by research so far.

8.1 Implications for Research

As discussed at the outset of this book, sustainable spatial planning is a broad concept that can be investigated from perspectives within numerous academic disciplines. The research strategy applied in this book followed a *Y-centred perspective* by investigating democratic acceptance of spatial planning instruments as a whole, rather than focusing on democratic acceptance concerning selected policy instruments, which would correspond to an *X-centred perspective* (Ganghof 2005, see Sect. 1.2). While there is a considerably broad body of literature on the acceptance of environmental and transport policies following an *X-centred perspective* (e.g. Harrington et al. 2001; Jakobsson et al. 2000), studies following a *Y-centred perspective* as a research strategy are rare (e.g. Stadelmann-Steffen 2011). This book exposed that the *Y-centred perspective* is a reasonable research strategy, as analyses revealed overall patterns that further explain spatial planning acceptance determinants. Hence, a broad perspective is likely to be a promising approach. In addition to a broad research strategy, different theoretical and conceptual approaches were combined herein. A suitable theoretical reference for advantages of this broad empirical procedure was made by Stadelmann-Steffen (2007) who uses in this context the metaphor by Popper (1974, pp. 341–361) of a searchlight for different ways of gaining scientific insights and knowledge. Like a searchlight, different theories were applied in this book to explore the same subject of investigation from different perspectives. In this sense, exploring a phenomenon from different perspectives by means of different theories and methods, just like a searchlight illuminating single parts of a dark room, results in comprehensive insights when considered together.

So far, sustainable spatial planning was often analysed from an environmental scientific perspective. Regarding social sciences and economics, there is a rather broad body of literature from economic research on sustainable spatial planning instruments. However, literature is lacking in research on the political dimension of policy instruments regarding their democratic acceptance. This book applies a

broad range of theories, ranging from economic and political to psychological theories. Interestingly, findings indicate evidence for the applicability of these different theoretical approaches. Thus, it can be concluded, from a conceptual perspective that it is reasonable and expedient to approach the interdisciplinary nature of democratic acceptance of spatial planning measures by means of an interdisciplinary combination of different concepts and theories. Future research should therefore ensure that the respective underlying research approach meets the needs for that interdisciplinarity. At the same time, limitations of the studies presented in this book demonstrate the great potential for scholars to investigate the area of democratic acceptance of spatial planning measures. Future research could produce more foundational studies dealing with the relevance of landowners for the acceptance of spatial planning measures. This aspect is of particular importance as the sample size for landowners within this book was small, which limits the generalizability of the findings. Studies investigating the particular preferences of landowners could produce supplementary knowledge about preference structures of directly-affected policy addressees. In this context, it would also be interesting for future research to focus on differences in acceptance determinants between landowners and homeowners, as theoretical considerations and empirical evidence suggest that both owning land and owning a house impact democratic acceptance but to different degrees. A systematic examination of potentially diverging acceptance patterns of landowners and homeowners is missing so far. Simultaneously, such an approach could lead to an improved understanding of the relevance of personal benefit for the acceptance of spatial planning measures.

Another potential research strand consists of gathering more profound information on acceptance of incentive-based policy instruments in the area of spatial planning. Even though the findings of this book indicate a high level of incentive-based instrument acceptance among Swiss citizens, the categorisation of policy instruments applied in this book was relatively broad. These broad categories limit conclusions about citizens' preferences on different types of policy instruments. An investigation of characteristics of incentive-based spatial planning measures seems promising because findings of this book indicate that voters' acceptance of a measure is also influenced by a measure's characteristics. As this finding was revealed within an experiment, a more isolated examination is required. Future studies could investigate in more detail why citizens prefer incentive-based spatial planning instruments over instruments on the basis of bans and rules and whether democratic acceptance differs depending on different types of incentive-based instruments. Another worthwhile research approach to be pursued in more detail by future studies tackles the discovered relevance of the availability of information on policy instruments for their acceptance. The findings of this book showed that information about a policy instrument and its understanding by voters is essential for the democratic acceptance of the instrument. However, this book's findings do not allow for conclusions concerning the depth of understanding voters gain by information provided. Hence, exploring the degree to which voters are capable and willing to process information about a spatial planning instrument and what difference it makes regarding the acceptance of the instrument could produce valuable additional knowledge in this field.

A further overall conceptual conclusion can be drawn from the conceptual framework (Chaps. 2 and 3), which has shown that the research area of spatial planning is greatly disregarded when it comes to its political implication. To continue the searchlight analogy by Popper (1974), this book sheds a first light on several aspects of democratic acceptance determinants of spatial planning measures. A number of aspects, however, are still hidden in obscurity and remain unanswered. Thus, future research can continue at this point to gain further insights on voters' acceptance of spatial planning measures. Or, to put it in the words of Popper (1974, pp. 346–347), "[t]oday's science builds upon yesterday's science [and so it is the result of the yesterday's searchlight]."

An additional conceptual conclusion that can be derived from this book addresses the transferability of results from the allegedly similar area of environmental policy to spatial planning policy. The findings of this book suggest that there are fundamental differences between the two. Thus, a transfer and an application of implications from environmental policy to spatial planning policy should be done with caution. A more systematic analysis of differences between these two policy fields, however, offers an interesting avenue for future research. Likewise, a more profound investigation of similarities between transport and spatial planning policy would be useful as the proximity argument suggests that transport policy is more comparable with spatial planning than environmental policy.

Finally, another conceptual conclusion can be derived with regard to an established concept, namely the NIMBY phenomenon or NIMBY syndrome (Dear 1992). While the NIMBY phenomenon aims at explaining people's *resistance* toward policy measures, the aim of this book can be conceptually located as the counterpart of NIMBY, as the *acceptance* of policy measures was the subject of interest. Compared to broad research on the NIMBY phenomenon, research lacks an investigation into policy measure proponents (Wüstenhagen et al. 2007). Interestingly, findings yielded some similarities between attitudes fostering acceptance and those fostering resistance: Results from NIMBY research have shown that "residents oppose a project in their aim to maximise their own individual utility" (Wolsink 2000, p. 52). These findings point in the same direction as findings from this book on voters who support a policy. Future research could benefit from the establishment of a closer link between the concepts encompassing resistance and acceptance concerning new policy measures. A systematic analysis of the similarities and differences between these two psychological concepts (acceptance versus resistance) in the context of spatial planning policies could lay the foundation for a comprehensive concept combining both sides.

Regarding the methods applied within this book, the combination of different methods and research procedures, such as a multilevel analysis, descriptive analysis of open-ended questions or an experimental design, provides an innovative approach to investigate democratic acceptance. This novel access is also demonstrated against the background of a combination of different applied theories and their empirical implementation. The fact that each method applied in this book revealed new insights from different perspectives, underpins the usefulness of a combination of different methods as a suitable means to tackle democratic acceptance of spatial

planning measures. Similarly, a combination of different methods leads to results with a higher credibility. Accordingly, the use of both an experiment and a survey enables the combination of the advantages of each approach, namely "the former on the grounds of precise causal inference and the latter on the grounds of greater generalizability" (Iyengar 2011, p. 85). Hence, a combination of different methods seems suitable for approaching democratic acceptance determinants from different perspectives. When doing so, for a better comparability of results, it appeared to be beneficial to retain the same dependent variable across all analyses. Employing a dichotomous voting decision as the dependent variable on the basis of individual data was on the one hand beneficial for a more comprehensive comparison of the three empirical studies. On the other hand, a dichotomous operationalization of acceptance provides an intuitive understanding of the concept of acceptance and represents direct implications for political practice.

8.2 Lessons for Practice

One overarching aim of this book was to derive conclusions for practice by supplying recommendations on factors that can help to increase voters' approval of new spatial planning measures. Referring back to the embedded layering model for spatial planning policy measures in Chap. 7 (Fig. 7.3), spatial planning was assumed to be particular in its nature due to the involvement of the affected parties. Both the involvement concept as well as the embedded layering model for spatial planning policy measures serve as useful guidance for practical recommendations.

The empirical findings of this book contain numerous implications for political practice, which will be presented in this section. In order to do so, several recommendations can be derived from the embedded layering model by a stepwise focus from the outside to the inside of the layers. Based on the findings of this book, ten steps are proposed that provide a guideline for advocates in politics but also for planners and other stakeholders involved in spatial planning processes. Considering these steps when intending to implement a new spatial planning policy instrument might help to increase the democratic acceptance of that instrument.

The order in which the empirical findings can be transformed stepwise into recommendations for practice is presented in Fig. 8.1. The steps represent a hierarchical order and follow the direction ranging from general (*spatial planning policy sector as a whole*) to specific (*spatial planning measure as a ballot proposal*) recommendations. This stepwise increasing degree of specification of the recommendations is represented by the pyramid shape in the background of Fig. 8.1 and the direction is represented by the arrows.

Firstly, attention should be paid to the context of a measure. Advocates should be aware of the *peculiarities* of spatial planning. It is a very specific policy area due to its high degree of proximity and the resulting high involvement of citizens. This offers several opportunities, for example that voters' opinion formation on spatial planning measures is not only based on values and therefore not limited to the

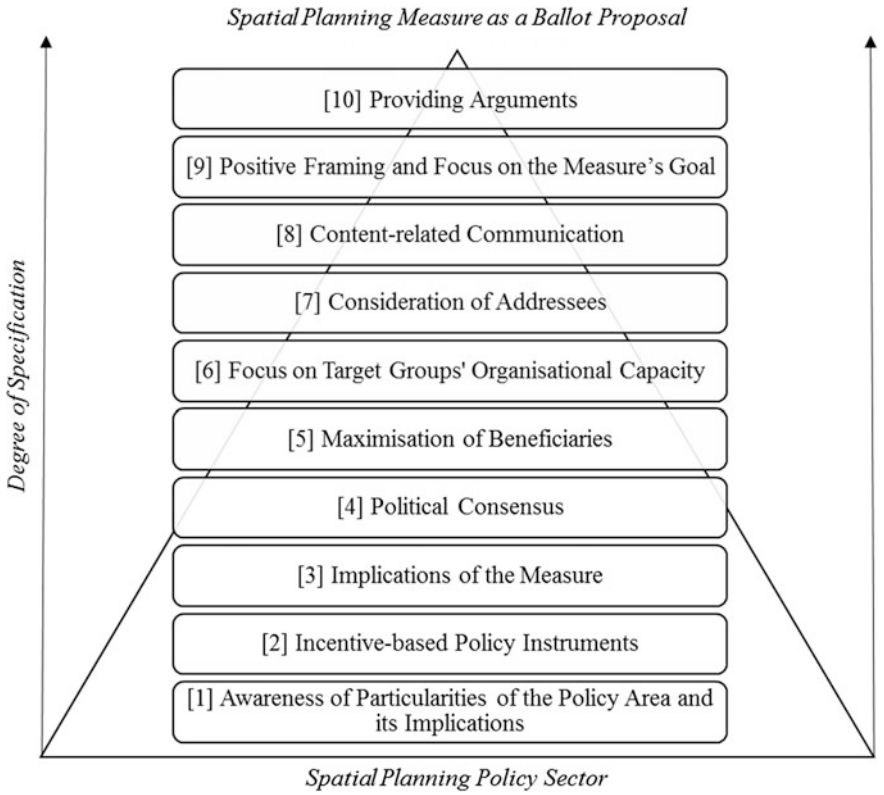

Fig. 8.1 Stepwise approaches for practice to foster democratic acceptance of a spatial planning measure

heuristic path. Instead, voters tend to process information systematically. The peculiarities of spatial planning involve further requirements to foster democratic acceptance, which will be clarified by the subsequent steps (step [1], Fig. 8.1).

The findings of this book cannot confirm the aversion by voters towards incentive-based policy instruments as it is assumed by literature. *Incentive-based spatial planning measures* are more promising regarding their potential to be accepted by citizens than research has suggested so far. Considering the advantages regarding efficiency and effectiveness of incentive-based spatial planning measures compared to traditional spatial planning instruments, an increased use of incentive-based spatial planning measures seems to be a fruitful attempt to counter inefficient land use (step [2], Fig. 8.1).

Moreover, it is important to be aware of the *implications* of the measure with regards to several aspects, which will be clarified by the following steps (step [3], Fig. 8.1). Knowing the policy implications can help to reach consensus on support for the spatial planning measure among the political elite. *Political support*, in turn,

is essential because political support of an instrument can be a decisive factor for its acceptance. In short, the greater consensus on the measure, the better its chances are to be accepted. This applies on two levels: Elite support at the contextual level and political preferences and trust in government at the individual level (step [4], Fig. 8.1).

It is also important to be aware of the implications of the policy instruments concerning potential policy addressees and *beneficiaries*. When considering the measure's implications, particular attention should be paid to the policy beneficiaries. The more beneficiaries a spatial planning measure creates, the higher is its democratic acceptance (step [5], Fig. 8.1). In this regard, attention should also be paid to the organisational capacity and conflict capability of the interests concerned by a policy measure. Findings in this book revealed that a high *organisational capacity* of the interests concerned leads to a higher degree of policy measure acceptance. It therefore is advisable to ensure support of the measure by the target group with a high degree of organisational capacity (step [6], Fig. 8.1). The *addressees* of a policy, i.e. those who have to change their behaviour as a consequence of the measure, should also be considered (step [7], Fig. 8.1). As findings revealed, policy addressees such as landowners or homeowners are more sceptical towards a measure if it affects them. Attaining support from these target groups therefore requires particular effort.

Findings of the empirical analyses indicate that the personal involvement plays a crucial role in the voting decision. Thus, in order to foster democratic acceptance, it is important to emphasise people's involvement. One component of involvement is whether a measure and its implications are understood well. Thus, *communication,* which relays the measure's content is central. In this context it also crucial that information is provided in a manner that is understood easily (step [8], Fig. 8.1). Furthermore, when communicating the measure, it is important to take people's attitudes into account. For example, the above reported evidence for the importance of political preferences also revealed that people with left-wing preferences are generally more likely to support spatial planning measures. Conversely, this means that those who must be convinced by a measure are especially people with right-wing preferences.

When communicating the measure in order to foster its acceptance, it is advantageous to focus, on the one hand, on the goals of the measure (instead of its attributes). On the other hand, a positive frame should be applied during the communication of a measure's attributes, i.e. focusing on the *win* (*profit*), which a measure can lead to rather than the *loss*, which would appear without the introduction of the measure (step [9], Fig. 8.1). Similarly, it is also important to make sure that the measure is easily understandable in order to ensure that the content is accessible for as many people as possible. In this regard, the provision of arguments is particularly important (step [10], Fig. 8.1).

Advocates of sustainable spatial planning measures might appear to be more successful in fostering democratic acceptance for these measures by considering some key implications from the findings of this book. In a nutshell, attention must be paid pertaining to the context, content and the means of content provision of a

measure, as all three aspects were found to impact democratic acceptance of spatial planning measures.

A fundamental finding of this book is that the level of democratic acceptance of spatial planning measures in Switzerland is high. Findings show that not only the acceptance of spatial planning measures in general but also incentive-based instruments in particular appear to have the chance of being accepted by Swiss citizens. This latter finding is even more remarkable against the background of a current lack of application of sustainable, innovative and efficient spatial planning instruments in practice. Research came up with several solutions in the form of more sustainable spatial planning instruments in order to combat current land use processes which cause negative externalities and high related costs. So far, these innovative land use instruments have only marginally been implemented, which is especially alarming in relation to the fast and continuous increase of inefficient settlement development and sprawling land use. An initial consideration was that a lack of implementation is caused by a lack of acceptance. The findings of this book contradict this assumption while suggesting the opposite. Therefore, the finding that there is an overall high degree of acceptance of spatial planning measures among citizens reinforces the need for a timely implementation of new and more efficient spatial planning policy measures. Implementing innovative and efficient spatial planning policy measures, in turn, ensures to pursue sustainable land use that benefits everyone instead of selected beneficiaries.

The findings of this book are not limited to Switzerland or direct-democracies but are also relevant for other industrialised democracies. Democratic acceptance determinants are also crucial and beneficial for political processes even when citizens' support is not necessarily required. As Burby (2003, p. 35) states, including citizens and their preferences in spatial planning "can generate information, understanding, and agreement on problems and ways of solving them." An inclusion of citizens' preferences into decisions on spatial planning measures can therefore be a fruitful approach to foster the use of new policy instruments.

Appendix
A.1 Appendices Related to Chapter 4

A.1.1 List of Popular Votes

No.	Title	Dates	Yes-votes in %	Yes-votes in %; Study sample	N survey sample	Type of DDT
1	Citizen's initiative "Against the selling of land to foreigners"	20/05/1984	48.9	48.0	322	PI
2	Federal decree on "Rail 2000 project"	06/12/1987	57.0	72.9	614	FR
3	Citizen's initiative for the protection of moorland (Rothenthurm initiative)	06/12/1987	57.8	68.5	617	PI
4	Federal decree on constitutional basis for a coordinated traffic policy	12/06/1988	45.5	52.2	604	MR
5	Citizen's initiative "Town and country initiative against land speculation"	04/12/1988	30.8	31.5	654	PI
6	Citizen's initiative "No more concrete—restriction on new road building!"	01/04/1990	28.5	29.4	529	PI
7	Citizen's initiative for a motorway-free zone between Murten and Yverdon	01/04/1990	32.7	35.9	530	PI
8	Citizen's initiative for a motorway-free district of Knonau	01/04/1990	31.4	33.3	532	PI
9	Citizen's initiative for a motorway-free zone between Biel and Solothurn/Zuchwil	01/04/1990	34.0	35.7	530	PI

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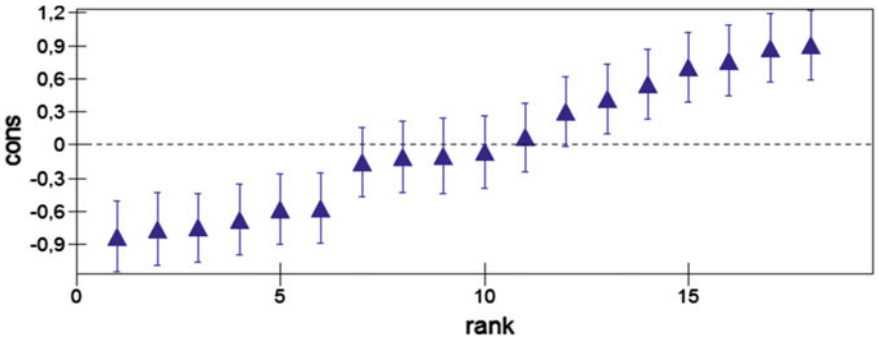
No.	Title	Dates	Yes-votes in %	Yes-votes in %; Study sample	N survey sample	Type of DDT
10	Federal law on protection of water	17/05/1992	66.1	73.6	542	FR
11	Federal law on farmer's land law	27/09/1992	53.6	64.6	540	FR
12	Citizen's initiative "40 army training camps are enough—protection of the environment within the military as well"	06/06/1993	44.7	46.6	707	PI
13	Federal decree on the citizen's initiative "For an environmentally just and efficient agriculture" (counter proposal)	12/03/1995	49.1	47.7	507	CP
14	Federal law on acquisition of real estate by persons living abroad	25/06/1995	46.4	49.0	478	FR
15	Federal decree on the construction and finance of public transport infrastructure plans	29/11/1998	63.5	70.1	528	MR
16	Federal law on spatial planning	07/02/1999	55.9	61.1	550	FR
17	Citizen's initiative "Postal services for all"	26/09/2004	49.8	58.2	553	PI
18	Citizen's initiative "An organisation's right to appeal: enough obstructionism—more growth for Switzerland!"	30/11/2008	34.0	31.0	429	PI

Notes DDT Direct-democratic tool; *PI* popular initiative; *CP* counter proposal to a PI, *FR* facultative referendum; *MR* mandatory referendum. The dependent variables of the two popular votes *Federal law on acquisition of real estate by persons living abroad* and *Citizen's initiative 'An organisation's right to appeal: enough obstructionism —more growth for Switzerland!'* have been recoded

A.1.2 Ranked Second-Level Residuals with Error Bars in the Null Model



Notes Ranked second-level residuals of all 18 ballots and their confidence intervals, which have been calculated in the null model (i.e. without any explanatory variables). Most clearly rejected was ballot number 6 far left and most clearly accepted ballot number 10 far right. See Appendix A.1.1 for an assignment of numbers to popular votes. The relatively equal length of the bars indicates an equal distribution of individuals (level 1) for all 18 popular votes

A.1.3 Operationalization of Variables, Summary Statistics and Shares

	Variable	Summary statistics	Operationalization
Response variable	Voting decision	*Shares (N)*: Yes: 49.1 (4'826) No: 50.9 (5'010) (Total N: 9'836)	Dummy: 0 = Accept proposal 1 = Reject proposal
First-level individual predictors	Ownership	*Shares (N)*: Ownership of the house 48.5 (4'702) Renting of the house or Cooperative 51.5 (4'993) (Total N: 9'695)	Dummy: 0 = House rent 1 = Homeowner
	Location type	*Shares (N)*: Urban: 60.4 (5'181) Rural: 39.6 (3'396); (Total N: 8'577)	Dummy: 0 = Rural 1 = Urban

(continued)

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	Variable	Summary statistics	Operationalization
	Party affiliation	*Shares (N)*: CVP/EVP 13.2 (1'194) FDP 14.4 (1'299) AP 0.8 (72) GPS 4.9 (439) Swiss democrats 0.6 (57) SP 16.8 (1'520) SVP 8.6 (779) Other 8.0 (725) None 32.7 (2'955); (Total N: 9'040)	Dummies for party affiliation: 1 = CVP/EVP 2 = FDP 3 = AP 4 = GPS 5 = SD 6 = SP 7 = SVP 10 = Other parties 11 = No party affiliation
	Age	*Mean*: 48.352 S.D. 16.819 Min.: 17 Max.: 94; (Total N: 9'766)	Age in years (centred around grand mean)
	Gender	*Shares (N)*: Male: 54.5 (5'358) Female: 45.5 (4'471); (Total N: 9'829)	Dummy: 0 = Female 1 = Male
	Education	*Shares (N)*: Low: 15.2 (1'479) Middle: 70.9 (6'912) High: 13.9 (1'353)(Total N: 9'744)	Categorical variable (highest level of education)[a]: 0 = Low 1 = Moderate 2 = High
	Trust in government	*Shares (N)*: Trust: 56.9 (4'722) No trust: 43.1 (3'578); (Total N: 8'300)	Dummy: 0 = No trust 1 = Trust
	Knowledge	*Shares (N)*: Bad knowledge: 22.7 (2'233) Good knowledge: 77.3 (7'603) (Total N: 9'836)	Dummy: 0 = Bad knowledge (knows either content *or* title of ballot or neither); 1 = Good knowledge (knows content *and* title of ballot)
Second-level contextual predictors	Policy-instrument	*Shares (N)*: Bans and rules: 71.4 (7'020) Market-based: 28.6 (2'816) (Total N: 9'836)	Dummy: 0 = Incentive or market-based instrument 1 = Bans and rules Source: own coding based on the explanatory note for each ballot proposal and inter-coder reliability testing by experts

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	Variable	Summary statistics	Operationalization
	Degree of organisational capacity and conflict capability of interests concerned	*Shares (N)*: High degree (homogenous) 51.3 (5'046) Low degree (heterogeneous): 48.7 (4'790) (Total N: 9'836)	Dummy: 0 = High degree 1 = Low degree Source: own coding based on the explanatory note for each ballot proposal and inter-coder reliability testing by experts
	Elite support	*Mean*: 2.4 S.D. 1.5754 Min.: 1 Max: 5 (Total N: 9'836)	Additive index: +1 for each 'yes'-recommendation by the four biggest parties (CVP,FDP, SP, SVP) and the government Source: own calculation
	Unemployment rate	*Mean*: *2.0* S.D.: 1.5 Min.: 0.47 Max: 4.57 (Total N: 9'836)	Average unemployment rate of the month before the ballot Source: Federal Statistical Office
	Policy area	*Shares (N)*: Road traffic: 21.6 (2'129) Public transport/Public service: 23.5 (2'307) Culture/Agriculture: 22.9 (2'255) Environment: 23.5 (2'313) Other: 8.5 (832) (Total N: 9'836)	Dummies for ballot's topic: 1 = Road traffic 2 = Public transport/Public service 3= Culture/Agriculture 4 = Environment 5 = Other Source: own coding based on the explanatory note for each ballot proposal and inter-coder reliability testing by experts

[a]The corresponding levels of educations for the categories *low*, *moderate* and *high* education are throughout this book as follows: 0 = No education; 1 = Mandatory school, Apprenticeship, High school diploma, 2 = University of applied sciences; Higher education institution or University Degree

A.2 Appendices Related to Chapter 5

A.2.1 Operationalization of Variables, Summary Statistics and Shares of Model 1

	Variable	Summary statistics	Operationalization
Response variable	Voting decision	*Shares (N)*: Yes: 75.6 (639) No: 24.4 (206) (Total N: 845)	Dummy: 0 = Accept proposal 1 = Reject proposal
Predictor variables for the peripheral context (model 1)	Age	*Mean*: 56.144 S.D.: 15.275 Min.: 18 Max.: 95 (Total N: 845)	Age in years (centred around grand mean)
	Gender	*Shares (N)*: Female: 50.4 (426) Male: 49.6 (419) (Total N: 845)	Dummy: 0 = Female 1 = Male
	Education	*Shares (N)*: Low: 5.0 (42) Medium: 34.3 (290) High: 60.7 (513) (Total N: 845)	Categorical variable (highest level of education): 0 = low level of education 1 = moderate level of education 2 = high level of education
	Trust in government	*Shares (N)*: Trust: 59.0 (438) No trust: 41.0 (304) (Total N: 742)	Dummy: 0 = No trust 1 = Trust
	Political ideology	*Mean*: 4.8513 S.D.: 2.1010 Min.: 0 Max.: 10 (Total N: 787)	Self-rating political orientation on a scale between far left (= 0) and far right (= 10)
	Land ownership	*Shares (N)*: No landowner 45.3 (380) Landowner 54.7 (458) (Total N: 838)	Dummy: 0 = No landowner 1 = Landowner
	Location type	*Shares (N)*: Rural 29.1 (246) Urban 70.9 (599) (Total N: 845)	Dummy: 0 = Rural 1 = Urban

A.2.2 Operationalization of Variables, Summary Statistics and Shares of Model 2

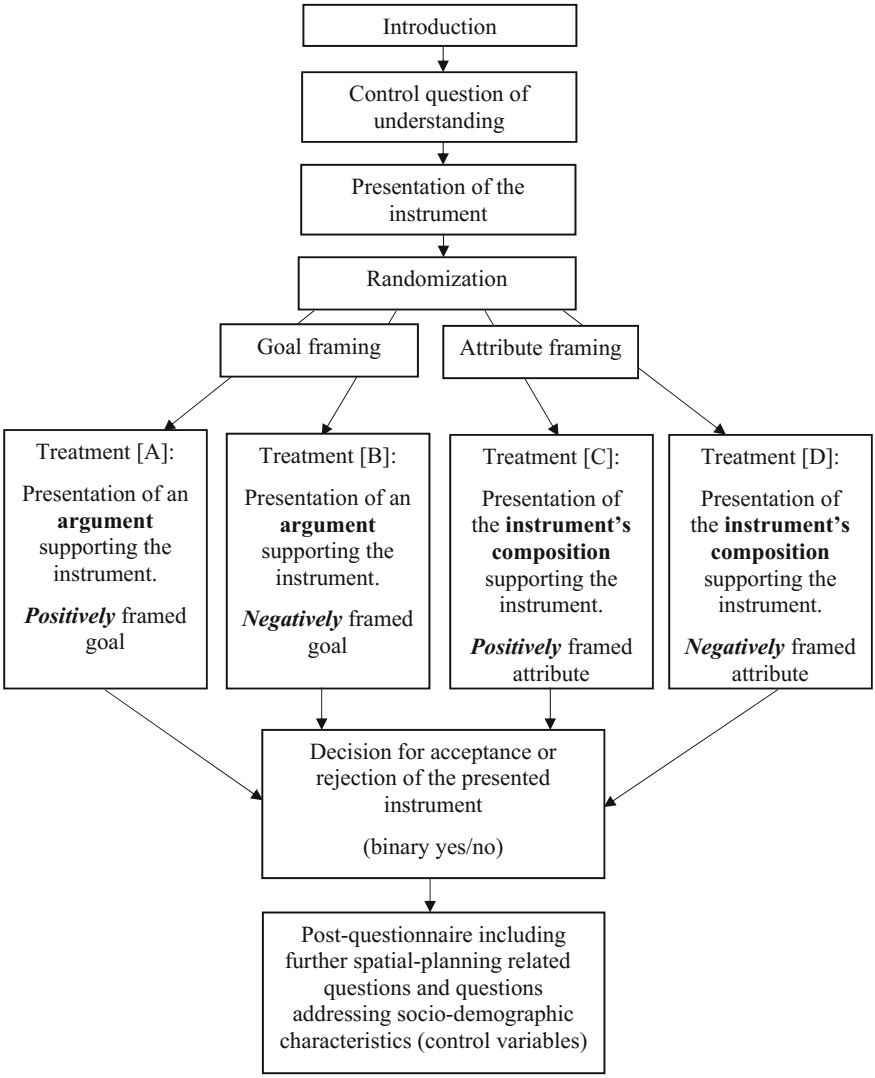
	Variable	Summary statistics	Operationalization
Predictor variables for the motivational content (model 2)	A1: Urban sprawl	*Mean*: 0.66137 S.D.: 0.81389 Min.: 0 Max.: 3 (Total N: 818)	Agreement with argument on a scale between complete disagreement (= 0) and full agreement (= 3)
	A2: Municipalities	*Mean*: 1.0487 S.D.: 1.0087 Min.: 0 Max.: 3 (Total N: 759)	Agreement with argument on a scale between complete disagreement (= 0) and full agreement (= 3)
	A3: Flexible solution	*Mean*: 1.1310 S.D.: 0.94455 Min.: 0 Max.: 3 (Total N: 641)	Agreement with argument on a scale between complete disagreement (= 0) and full agreement (= 3)
	A4: Land price	*Mean*: 1.3675 S.D.: 1.0099 Min.: 0 Max.: 3 (Total N: 781)	Agreement with argument on a scale between complete disagreement (= 0) and full agreement (= 3)
	A5: Legal uncertainty	*Mean*: 1.2182 S.D.: 0.96393 Min.: 0 Max.: 3 (Total N: 692)	Agreement with argument on a scale between complete disagreement (= 0) and full agreement (= 3)
	A6: Dictation	*Mean*: 1.5589 S.D.: 1.0582 Min.: 0 Max.: 3 (Total N: 764)	Agreement with argument on a scale between complete disagreement (= 0) and full agreement (= 3)

A.2.3 Operationalization of Variables, Summary Statistics and Shares of Model 3

	Variable	Summary statistics	Operationalization
Predictor variables for the motivational content (model 3)	Environmental protection	*Mean*: 1.7280 S.D.: 1.3490 Min.: 0 Max.: 5 (Total N: 820)	Self-rating value on a scale between environmental protection (= 0) economic prosperity (= 5)
	Difficulties to decide	*Shares (N)*: No difficulties 31.4 (255) Difficulties 68.6 (557) (Total N: 812)	Dummy: 0 = No decision difficulties 1 = Difficulties
	Personal meaning ballot	*Mean*: 6.9345 S.D.: 2.4913 Min.: 0 Max.: 10 (Total N: 840)	Self-rating personal meaning ballot on a scale between 0 (= not important at all) and 10 (= very important)
	Meaning for the country	*Mean*: 7.6707 S.D.: 1.8789 Min.: 0 Max.: 10 (Total N: 823)	Self-rating meaning of the ballot for the country on a scale between 0 (= not important at all) and 10 (= very important)

A.3 Appendices Related to Chapter 6

A.3.1 Experiment Flow



A.3.2 Operationalization of Variables, Summary Statistics and Shares

	Variable	Summary statistics	Operationalization
Response variable	Goal framing: voter decision	*Shares (N)*: Yes: 78 (251) No: 22 (71) (Total N: 323)	Dummy: 0 = Accept proposal 1 = Reject proposal
Response variable	Attribute framing: voter decision	*Shares (N)*: Yes: 69 (222) No: 31 (99) (Total N: 321)	Dummy: 0 = Accept proposal 1 = Reject proposal
Control variables	Landownership	*Shares (N)*: No landowner 74.6 (466) Landowner 25.4 (159) (Total N: 625)	Dummy: 0 = No landowner 1 = Landowner
	Comprehensibility of policy instrument	Mean: 3.4286 S.D.: 1.5282 Min.: 0 Max.: 4 (Total N: 644)	Self-rating political orientation on a scale between incomprehensible (= 0) and comprehensible (= 5)
	Future landownership	*Shares (N)*: No intention to buy land 82.3 (445) Intention to buy land 17.7 (96) (Total N: 541)	Dummy: 0 = No intention to buy land 1 = Intention to buy land
	Age	*Mean*: 46.635 S.D.: 15.559 Min.: 18 Max.: 84 (Total N: 643)	Age in years
	Gender	*Shares (N)*: Female: 48.3 (311) Male: 51.7 (333) (Total N: 644)	Dummy: 0 = Male 1 = Female
	Political ideology	*Mean*: 5.1506 S.D.: 2.0891 Min.: 0 Max.: 10 (Total N: 644)	Self-rating political orientation on a scale between far left (= 0) and far right (= 10)
Control variables	Education	*Shares (N)*: Low: 7.5 (48) Middle: 64.9 (418) High: 27.6 (178) (Total N: 644)	Categorical variable (highest level of education): 0 = Low level of education

(continued)

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	Variable	Summary statistics	Operationalization
			1 = Moderate level of education 2 = High level of education
	Location type	*Shares (N)*: City 26.4 (170) Suburb 32.3 (208) Countryside 41.3 (266) (Total N: 644)	Categories: 0 = Countryside 1 = City 2 = Agglomeration
	Attitude towards environment	Mean: 6.947 S.D.: 2.399 Min.: 0 Max.: 10 (Total N: 644)	Self-rating of environmental concerns on a scale between not worried at all (= 0) and worried a lot (= 10)
	Attitude towards state intervention	Mean: 5.433 S.D.: 2.629 Min.: 0 Max.: 10 (Total N: 644)	Self-rating of strength of government intervention on a scale between least as possible (= 0) and as much as possible (= 10)
	Attitude towards globalization	Mean: 4.989 S.D.: 3.060 Min.: 0 Max.: 10 (Total N: 644)	Self-rating of globalization attitude on a scale between country should be protected (= 0) and country should be opened (= 10)
	Trust in government	Mean: 5.002 S.D.: 2.572 Min.: 0 Max.: 10 (Total N: 644)	Self-rating of trust in national government on a scale between no trust at all (= 0) and very high trust (= 10)
	Political Interest	Mean: 2.416 S.D.: 1.153 Min.: 0 Max.: 4 (Total N: 644)	Self-rating of political interest on a scale between not interested at all (= 0) and very interested (= 4)

A.3.3 Results of the Regression Models

Determinants	Goal framing		CI		Attribute framing		CI	
	Mean	S.D.	2.5%	97.5%	Mean	S.D.	2.5%	97.5%
Response: *voting decision*								
Constant	−0.329	0.931	−2.157	1.508	−0.548	0.829	−2.161	1.042
Framing treatment (ref. neg.)	0.244	0.342	−0.417	0.919	**0.832**	0.296	**0.259**	**1.420**
Age	−0.005	0.011	−0.026	0.017	−0.008	0.010	−0.028	0.012
Gender (ref. male)	0.301	0.351	−0.385	0.993	−0.028	0.295	−0.607	0.551
Trust in government	0.081	0.077	−0.070	0.231	0.120	0.063	−0.004	0.243
Political interest	−0.230	0.174	−0.575	0.108	−0.009	0.137	−0.278	0.256
Political ideology	**−0.209**	0.093	**−0.396**	**−0.030**	**−0.168**	0.073	**−0.312**	**−0.026**
Location type (ref. rural)								
Urban	−0.229	0.458	−1.128	0.670	0.013	0.358	−0.685	0.718
Agglomeration	−0.330	0.408	−1.132	0.472	0.464	0.358	−0.234	1.176
Attitudes towards environment	**0.206**	0.077	**0.057**	**0.360**	−0.105	0.077	−0.257	0.043
Attitudes towards State intervention	**0.224**	0.079	**0.070**	**0.381**	0.128	0.066	−0.000	0.259
Attitudes towards globalization	−0.115	0.067	−0.249	0.013	0.040	0.052	−0.062	0.141
Comprehensibility of policy measure	**0.506**	0.119	**0.275**	**0.744**	**0.438**	0.099	**0.248**	**0.636**
Education (ref. moderate)								
Low	−0.559	0.679	−1.836	0.829	0.697	0.586	−0.402	1.896
High	**−0.955**	0.402	**−1.749**	**−0.176**	0.144	0.362	−0.561	0.855
Landownership (ref. non-landowner)								
Landowner	0.242	0.417	−0.556	1.077	−0.214	0.335	−0.867	0.446
DIC	283.373				350.149			
N	313				309			

Notes Dependent variables are the voting decisions within the experiment (dichotomous variable 'yes'/'no'). Models ran with MLwiN 2.35 through MCMC estimation. DIC = deviance information criterion. Bold: 95%-credible interval does not contain zero (systematic relationship). Logit model; posterior mean, standard deviations (S.D.) and 95% credible interval of log odds, based on Bayesian estimation (300,000 iterations, last 500 used for summary statistics, burn-in: 50,000, thinning: 1)

A.3.4 Description of Different Types of Instruments in the Questionnaire of the Experiment

Type of spatial planning policy instrument					
Incentive-based policy instrument [Carrots]				Command-and-control [Sticks]	Information [Sermon]
"The government plans to introduce a new policy for sustainable spatial planning which is based on financial incentives. If someone wants to build on his/her parcel of land, the person then has to either pay a fee or receives money depending on how sustainable the construction is. The aim of this measure is to influence construction behaviour in a way that decreases the price for sustainable construction projects and increases the price for non-sustainable construction projects."				"In addition to incentive-based spatial planning measures, alternative policy measures for spatial planning exist. Please imagine, the government is considering to introduce an alternative measure to the one based on incentives. Instead, the government plans to either introduce a measure based on prohibitions or on information both aiming at sustainable spatial planning."	
Positively framed argument	*Negatively framed argument*	*Positively framed instrument*	*Negatively framed instrument*	*Description*	*Description*
"The goal of the spatial planning measure is to improve landscape protection. The incentive system promotes efficient land use, protects the landscape and increases the sustainability of spatial planning."	"The goal of the spatial planning measure is to reduce a concrete covering of the landscape. The incentive system antagonizes urban sprawl, damps the consumption of land and prevents negative consequences for the landscape."	"A financial subsidy rewards efficient spatial use (compact construction) when building on a parcel of land."	"A financial fee sanctions inefficient spatial use (urban sprawl) when building on a parcel of land."	"The government plans to introduce a new prohibition for a sustainable spatial planning. If someone wants to build on his/her parcel of land, the person then will be prohibited if the building does not meet sustainability requirements. The aim of this measure is to regulate construction behaviour in a way that sustainability must be taken into account for construction decisions. At the same time the measure leads to prohibition of non-sustainable construction projects."	"The government plans to introduce a new information campaign for a sustainable spatial planning. If someone wants to build on his/her parcel of land, the person then will be informed about the sustainability of her/his project. The aim of this measure is to inform that sustainability of construction decisions should be considered on a voluntary basis. At the same time the measure fosters the awareness of sustainable construction among constructors."

A.4 Similarities and Differences Between Findings of Empirical Chapters

Variables	Similarities and differences of findings				
	Chapter 4 ML-analysis	Chapter 5 Case study		Chapter 6 Experiment	
		Peripheral context	Comprehensive model	Comprehensive model	Characteristics of PI
Age	*Not* significant	*Not* significant	*N.A.*	*N.A.*	*N.A.*
Argument for and against the ballot	*N.A.*	*N.A.*	Significant	*Not* significant	*N.A.*
Attitudes towards globalisation	*N.A.*	*N.A.*	*N.A.*	*Not* significant	*N.A.*
Attitudes towards state intervention	*N.A.*	*N.A.*	*N.A.*	*S*ignificant	*S*ignificant
Comprehensibility of measure	*N.A.*	*N.A.*	*N.A.*	*S*ignificant	*S*ignificant
Economic condition	*Not* significant	*N.A.*	*N.A.*	*N.A.*	*N.A.*
Education	*Not* significant	*Not* significant	*N.A.*	*Not* significant	*N.A*
Elite support	Significant	*N.A.*	*N.A.*	*N.A.*	*N.A.*
Environmental values	*N.A*	*N.A.*	*Not* significant	*Not* significant	*N.A*
Framing type	*N.A.*	*N.A.*	*N.A.*	*S*ignificant	*S*ignificant
Gender	Significant	*Not* significant	*N.A.*	*Not* significant	*N.A*
Homeownership	Significant	*N.A.*	*N.A.*	*N.A.*	*N.A*
Knowledge	*Not* significant	*N.A.*	*N.A.*	*N.A.*	*N.A*

(continued)

(continued)

Variables	Similarities and differences of findings				
	Chapter 4 ML-analysis	Chapter 5 Case study		Chapter 6 Experiment	
		Peripheral context	Comprehensive model	Comprehensive model	Characteristics of PI
Landownership	*N.A.*	Significant	*Not* significant	*Not* significant	*N.A*
Location type	*Not* significant	Significant	*Not* significant	*Not* significant	*N.A.*
Measure characteristics [construction charge]	*N.A.*	*N.A.*	*N.A.*	*N.A.*	*S*ignificant
Organisational capacity of interests concerned	Significant	*N.A.*	*N.A.*	*N.A.*	*N.A.*
Perceived meaning of the ballot for the country	*N.A.*	*N.A.*	Significant	*N.A.*	*N.A*
Personal meaning of the ballot	*N.A.*	*N.A.*	Significant	*N.A.*	*N.A.*
Policy instrument	Significant	*N.A.*	*N.A.*	*N.A.*	*N.A*
Political interest	*N.A.*	*N.A.*	*N.A.*	*Not* significant	*N.A*
Political orientation [party affiliation or left-right scale]	Significant	Significant	*Not* significant	Significant	*Not* significant
Thematic framework [Road traffic]	Significant	*N.A.*	*N.A.*	*N.A.*	*N.A.*
Trust in government	*Not* significant	Significant	*Not* significant	Significant	*N.A*

Notes N.A. = not available because factor was not included in the model. Models only contain factors from logistic regression analyses with dichotomous voting decision (voting 'yes'/'no') as dependent variable. Presentation of variables in alphabetical order

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