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# Acceptance of Spatial Planning Measures: A Swiss Case Study

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## **Abstract**

For a sustainable spatial planning management, new and efficient policies are required. At the same time, new policies often lack in citizens' support which hinders a successful implementation. One explanation for this scepticism towards spatial planning policies can be found in the assumption that citizens are uninformed when it comes to politics and prefer the status quo over uncertain alternatives. Contrary to the assumption, Swiss citizens voted in 2013 for the amendment of the spatial planning law which leads to a tightening of the existing law. By means of a mixed-method approach the paper investigates citizens' reasons behind their voting decisions. Testing dual-processing theories for opinion formation reveals that information and arguments played a crucial role for the acceptance of the amendment of the spatial planning law. Moreover, it can be shown that the way information is processed differs depending on the voting decisions: whilst yes-voters formed their opinion by applying systematic processing paths, no-voters tended to form their opinion mainly by making use of the heuristic path.

## **Introduction**

In recent decades, urban sprawl and other negative externalities caused by increasing construction activities due to population increase became important forces for sustainable land use management in the United States and Europe (Hasse & Lathrop 2003; Irwin & Bockstael 2004; Richardson & Bae 2004). The examination of urban sprawl in research consists of a broad variety of approaches, extending from analysing urban sprawls' ecological impact on the environment to the costs resulting from it (Johnson 2001; Nechyba & Walsh 2004; Peiser 1989). One point that virtually all studies agree upon is that urban sprawl 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, have entered the political agenda, in an attempt to antagonize those externalities by means of public policies in conjunction with governmental efforts towards strategic spatial development (Albrechts 2004; Bengston et al. 2004; Bento et al. 2006). Strategic spatial planning, which is also referred to as "comprehensive planning", can be described as an "increasingly used instrument for land-use regulation and growth control" (Feiock 2004). Land use policies can help to counter urban sprawl by implementing efficient solutions. There is a broad range of literature on analysing the effectiveness and efficiency of "policy mechanisms for encouraging environmentally beneficial land-use change" (Bento et al. 2006; Pannell 2008, p. 225). There is, however, far less research addressing the essential step of implementation in the policy process. In practice, an ideal spatial planning policy that could provide the perfect tools for a desired land-use may fail due to a lack of public support. A lack of public support can either lead to ineffective implementation or prevent the enactment of a new law. In democracies, public support is expressed by the citizens' voting decisions. As voters in representative democracies usually vote for parties only and not on specific policy measures, their preferences of policy measures remain invisible.

It is my starting point by analysing potential drivers behind citizens' decision to vote for spatial planning measures to gain insight into their intentions. The direct-democratic system in Switzerland allows the analysis of voters' preferences on specific issues in general and on spatial planning measures in detail. In 2013, Swiss citizens voted for an amendment of a spatial planning law, which comprised different land use regulation 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 to vote in favour of more freedom and fewer restrictions. The underlying argument for that voting behaviour is, that people prefer preserving

the status quo over uncertain alternative (Bowler & Donovan 2000; Fernandez & Rodrik 1991; Kim & Kankanhalli 2009, Samuelson & Zeckhauser 1988). Within direct-democracies, the status quo and the reference point for voters is voting '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 & Donovan 2000, p. 35). This raises the question: what determines that a large majority of voters accepted a more restrictive spatial planning law despite the assumed status-quo and freedom-constraint biases?

Bowler and Donovan also argue that voters tend to avoid voting for choices they are not familiar with (2000, p.69). Similar findings have been shown in Switzerland, where there is evidence to indicate 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 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.

This paper uses the case study of the amendment of spatial planning law in Switzerland to analyse the 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 is the voters' motivation to accept a spatial planning measure. The research question is the following: What motivates voters to accept a more stringent spatial planning policy? The aim of this paper is to analyse voters' reasons to accept the ballot by means of a quantitative and a qualitative approach. 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. Moreover, the paper 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 article starts in a first step by clarifying the components of the amendment of spatial planning law, followed by a theoretical introduction to the importance of information for voting decisions. In a second step, the research design is presented, followed by a presentation of the data, method and statistical models. After the discussion of the results, the article concludes with a summary of the main findings and their interpretation against the background of the initially derived hypothesis and theoretical framework.

### **The ballot proposal of the amendment of spatial planning law**

The popular vote on the amendment of spatial planning law took place on the 3<sup>rd</sup> of March, 2013 in Switzerland and was an indirect counterproposal by the parliament to the so-called 'landscape initiative', which included stricter components compared to the amendment of the spatial planning law-ballot proposal.

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 was accepted. The Federal Council's explanatory notes are provided in all four official languages. The following information about the spatial planning content 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 tax for farmers and the deregulation of building permits for solar installations on rooftops in construction and in agricultural zones (Explanatory Note Referendum on 3rd March 2013).

### **The importance of voters' peripheral context and their motivation: heuristic versus information reasoning**

By analysing the determinants that shape voters' acceptance as an expression of voters' opinion about a political issue, different approaches can be applied ranging from determinants that focus on socio-demographic or socio-economic variables, to those 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; see also Lupia 2015). Moreover, voters are often found to be uninformed and therefore their voting decisions are as well (Bartels 1996; Blais et al. 2009; Budge 1997; Oscarsson 2007). At the same time, 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 it comes to a vote and that some voters inform themselves about the issue they are deciding on. In the following based on dual process theory, I analyse a systematic path, which will be referred to as *motivation content*, and a heuristic processing shortcut which will be referred to as the *peripheral context*. Dual-process theories stem from political-psychology and which 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 & Trope 1999; 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 have 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 & Trope 1999, p. 74).

### **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 voting decision. Kriesi (2005) distinguishes three heuristic shortcuts *trust heuristic*, *status quo heuristic* and *partisan heuristic*. The status quo heuristic corresponds 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). Finally, 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; Kriesi 2005).

The peripheral context model is derived from the theoretical background and contains variables for each of the three heuristic strategies which are firstly trust heuristics, secondly, status quo heuristics and thirdly, partisan heuristics. I will refer to the three heuristic strategies as a whole 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 H1.1:* 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 vote ‘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 their status quo and therefore should tend to vote ‘no’ to prevent it. In the present study, 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 type of settlement can influence the perceived status quo. People who live in cities might be used to constant construction. 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 is 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 H1.2:* 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, p. 149-150). Classical political theory and empirical evidence suggest that left-wing parties tend to support government intervention whereas right-wing and liberal parties refuse state intervention (Marks & Wilson 2000). Voters use their political preferences for a judgement about policies by following the party position (Kuklinski & Quirk 2000). With regard to the positions of the two opposing parties in Switzerland, the centre-right Swiss People’s Party (SVP) and the centre-left Social Democrats (SP) when considering the amendment of spatial planning law, the SVP recommended to vote ‘no’ whilst the SP supported the ballot proposal. The following hypothesis can therefore be formulated:

*Partisan heuristic H1.3:* 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 the present study is the motivation content to investigate systematic opinion formation.

### **Systematic reasoning: motivation content**

Due to a lack of empirical evidence for determinants for 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 to assume that some factors might play an important role for voters' opinion formation about the amendment of spatial planning law:

When it comes to 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 find evidence that uninformed voters tend to reject the ballot. The results, however, were not equally clear for all ballots. In addition to that, information was operationalised by an index consisting of voters' knowledge about the title and subjects of the ballots and having reasons for their voting decision. The analyses therefore did not take into account the reasons' content or other information-related variables such as arguments. The aim of the present analysis, however, is to shed light on the content of information such as arguments and the content of the voters' reasons to accept the measure. Therefore, the understanding of informed citizens follows the definition by Clarke and Fredin (1978, p. 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 reveal that arguments play an essential role for direct-democratic decision in Switzerland.

Therefore, the importance of arguments for voters' approval or rejection of the amendment of spatial planning law will be the centre of the analysis.

Spatial planning is often closely related to environmental protection. Due to potential changes in the building zones or regulations on rooftop solar installations, the amendment of spatial planning law might be considered by voters as relevant for environmental protection. Stadelmann-Steffen (2011) finds evidence that citizens' support for environmental protection increases the probability to vote in favour of pro-environmental ballot measures. The pro-

environmental protection attitude could therefore also play a role for the voting decision regarding the amendment of spatial planning law.

Social psychological experiments show that individuals tend to process systematically, when they attach importance to a task (Maheswaran & Chaiken 1991). Applied to voting decision does that mean that voters tend to process information systematically if the issue they vote on is particularly important to them. 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 respondent and the perceived meaning of the ballot for the country as well as decision difficulties are also included in the motivation content analysis.

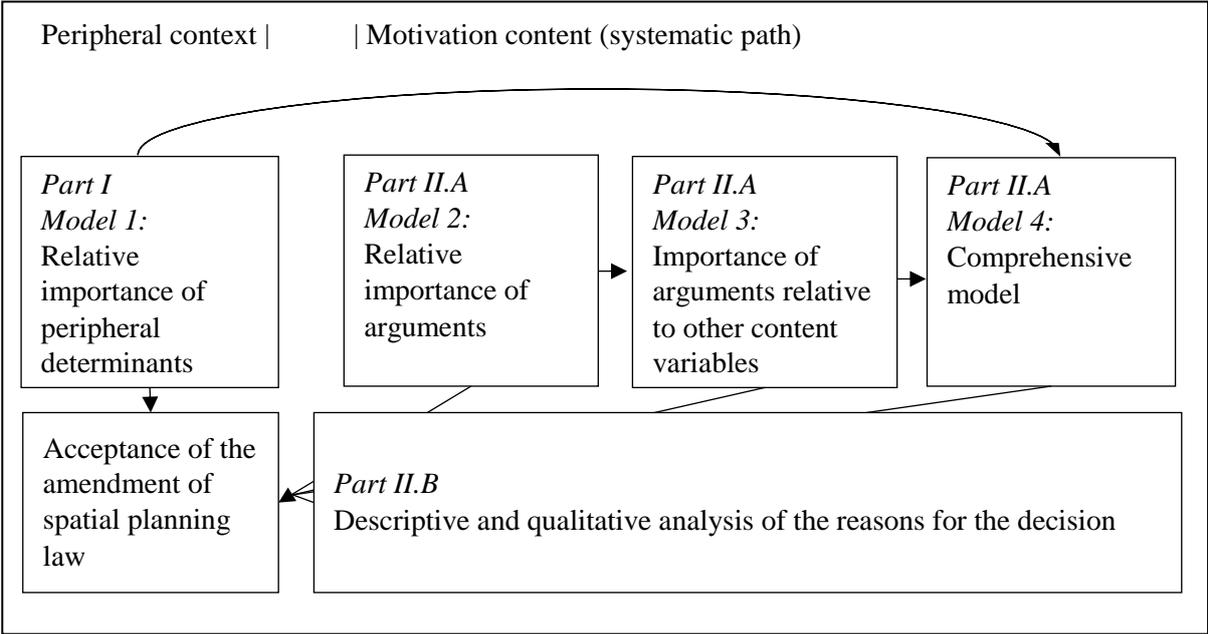
As mentioned above, the analytical foundation of the motivation content analysis is not based on hypotheses but follows an inductive approach instead consisting of two conceptual models which are illustrated in figure 1. Derived from theoretical considerations, the models aim to examine on the one hand the relative importance of ballot related arguments for the voting decisions. On the other hand, the impact of further content related determinants on the ballot acceptance, namely voters’ attitude towards environmental protection, the meaning of the ballot for the voter and decision difficulties will be examined within the motivation content analysis.

## **Research Design**

The empirical analysis consists of two main parts, I and II, which include in total four quantitative models and one qualitative analysis. Figure 1 shows a conceptual diagram of the research design. Part I examines *peripheral context* determinants which capture heuristic processing, whilst part II investigates *motivation content* determinants to estimate the relevance of systematic processing for the amendment of spatial planning law acceptance. 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. The second part goes beyond peripheral contextual variables by analysing the reasons for voting ‘yes’ and takes into account the content of the proposal and the *motivation* of the voters. As Figure 1 shows, part I and part II are not independent of each other. Model 4 finally integrates those peripheral context determinants which were identified as relevant for the voters’ decision within the first empirical model. It comprises all variables from the quantitative analysis 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. Part II.B complements Part II.A by analysing an additional area of citizens’ voting motivation. Part II.A examines the importance of arguments from the public debate concerning voters’ decisions for or against the amendment of spatial planning law. Part II.B, in turn, includes a descriptive and qualitative analysis of reasons behind citizens’ voting decision on the basis of open-ended questions.

**Figure 1.** Conceptual diagram of the research design for analysing voters’ acceptance of spatial planning measures



**Data and Operationalisation**

The data is taken from the Swiss Vox-surveys which are conducted two weeks after each national direct-democratic vote, wherein a representative sample of Swiss citizens is asked for their voting decision. The questionnaire includes respondents’ characteristics, their knowledge about the popular vote topic, their voting decisions and other social-demographic related characteristics. Moreover, the questionnaire includes open-ended questions which ask for the respondents’ reasons why they accepted or rejected the popular vote. Concerning the research question, only respondents who have an opinion about their voting decision are of interest. The data for the amendment of spatial planning law comprised a sample of total 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 have also been removed from the data.

The study is based on a mixed-method design, using a quantitative approach in part I and part II.A and a qualitative approach in part II.B. The quantitative analyses consists of four statistical models wherein the dependent variable is the dichotomous ‘yes’ or ‘no’ voting decision for or against the amendment of spatial planning law by Swiss citizens. The four models are based on logistic regression analysis with a Bayesian approach. Section B of part II, in contrast, is a descriptive and qualitative analysis of the reasons for the decision. The data used contained open-ended questions concerning reasons for the voting decision which have been coded manually.

The dependent variable acceptance is the binary voting decision, coded 1 for citizens who voted ‘yes’ and coded 0 for citizens who voted ‘no’. The first part of the analysis including the variables can be summarised as follows:

*Part I: Peripheral context*

Model 1: Logistic Regression (Y: Voting decision; X: Trust in the government, landownership, settlement type, political ideology and control variables: gender, age and education)

Part 1 only includes variables capturing the peripheral context. The independent variable, ‘political ideology’, is captured by an 11-point scale where citizens were asked to rate themselves between ‘extremely right’ (= 0) and ‘extremely left’ (= 10). ‘Landownership’, the second independent variable is a dichotomous variable and coded as 1 for landowners and 0 for those who do not own land. The third independent variable, ‘type of settlement’, consists of two categories, urban and rural settlement types. Appendices A1-A3 give an overview of the operationalisation and summary statistics of all variables including the control variables gender, age, education and trust in the government. The second part of the analysis consists of section A and B and can be summarised as follows:

*Part II: Motivation content*

A) Support of arguments and content determinants

Model 2: Logistic Regression (Y: Voting decision; X: Support of six arguments)

Model 3: Logistic Regression (Y: Voting decision; X: Support of six arguments, importance of environmental protection, personal meaning of the ballot, meaning of the ballot for the country, decision difficulties)

Model 4: Merge the significant variables from Model 1 to Model 3

B) Descriptive and qualitative analysis of the reasons for the decision

The dependent variable remains the same for all four models. The independent argument variable consists of arguments including three pro and three con arguments for and against the measure. 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 in part II.A. Further content related independent variables are ‘importance of environmental protection’, ‘personal meaning ballot’, ‘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 five-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 important’ (= 0) and ‘very important’ (= 10). Finally, ‘difficulties to decide’ is a dummy-variable coded with 0 for ‘no difficulties to decide’ and 1 for ‘decision difficulties’.

Part II.B analyses the citizens’ reasons for their decision. The Vox-survey contains an open-ended question to state two reasons for the 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 study, 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 given reasons to several categories which will be presented in part II.B as well.

## Model

The models used are logistic regression analyses with a Bayesian approach. The formalisation of the four models can be summarised as shown in (1).

$$\text{logit}(\pi_i) = \beta_0 x_0 + \sum_k \beta_k x_{ki} \quad (1)$$

The dependent variable  $y_i$  is binary by expressing the voting decision either for or against the amendment of spatial planning law. The term  $\pi_i$  represents the probability that  $y_i = 1$ , which

denotes acceptance of the proposal. The logit transformation of the explanatory variable to ensure that the predicted probabilities will lie between 0 and 1 is denoted by  $\text{logit}(\pi_i)$  (Rasbash et al. 2012). The explanatory variables are denoted as the sum of  $x_{ki}$  where  $k$  stands for each explanatory variable. 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  $\beta_k$  of each variable.

## Results

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

Comparing the results regarding the percentage of approval and rejection of the amendment of spatial planning law at national level with the results for the survey sample, a difference reveals (see table 1). Whilst around 63% voted for and around 37% voted against the amendment of spatial planning law at national level, around 76% of the sample survey participants voted ‘yes’ and around 24% voted ‘no’. The amount of ‘yes’ voters within the sample is therefore overrepresented. This overrepresentation does not, however, pose a problem but is beneficial for the analysis. Due to the research aim of analysing the reasons behind the acceptance of spatial planning measures, a high amount of voters who accepted a proposal is especially an advantage for the descriptive part II.B.

**Table 1.** National results on the amendment of spatial planning law compared to the sample results

	<i>National results</i>	<i>Sample results</i>
	Percent (N)	Percent (N)
,Yes <sup>6</sup> -votes	62.9% (1,476,942)	75.6 % (639)
,No <sup>6</sup> -votes	37.1% (871'514)	24.4 % (206)
Total N	2,348,456	845

*Source:* Own presentation; data for the national results from the Swiss Confederation, Federal Chancellery

## Peripheral context

The results of the first part of the model, which examines peripheral context determinants of voters' amendment of the spatial planning law acceptance, are shown in table 2. Here, 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. That finding is understandable when taking into account the recommendation of the government to accept the ballot and in line with *trust heuristic* hypothesis *H1.1*. Among the spatial planning relevant determinants, both land ownership and type of settlement variables have a significant influence on the voting decision and support the hypothesis: landowners or people who live in rural areas tend to reject the amendment of the spatial planning law rather than voters who do not own land or live in urban areas. Nevertheless, this relationship is not as strong as expected. This finding supports the *status quo heuristic* hypothesis *H1.2*. The strongest impact on acceptance over all peripheral context determinants is found for political ideology. As hypothesized by the *partisan heuristic* *H1.3*, 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. Moreover, none of the socio-demographic variables of age, sex and education seem to play a role in a ballot's acceptance.

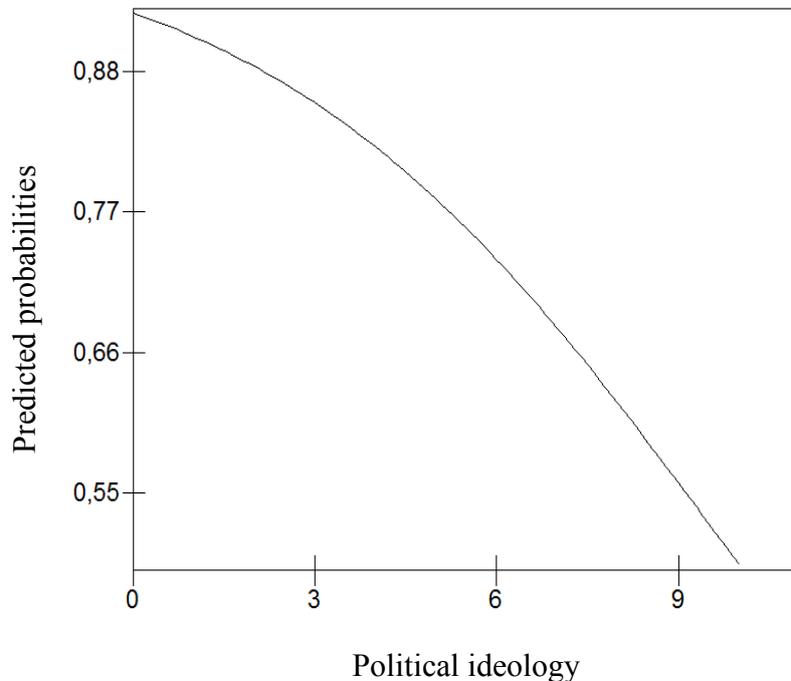
**Table 2.** Peripheral context determinants' of voters' acceptance of the amendment of the spatial planning law

Determinants	Model 1		CI	
	Mean	S.E.	2.5%	97.5%
Constant	2.075***	0.377	1.342	2.827
Age	-0.004	0.006	-0.016	0.008
Sex (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)	0.407*	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
Type of settlement (ref. rural)	0.453*	0.199	0.063	0.838
DIC:	734.405			
N	695			

*Notes:* Dependent variable is voting decision at the ballot (dichotomous variable 'yes'/'no'). Models ran with MLwiN 2.35 through MCMC estimation. DIC = deviance information criterion. \*  $p > .05$ , \*\*  $p > .01$ , \*\*\*  $p > .001$ . Logit-model; Posterior mean 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).

Figure 2 shows the predicted relationship between voting in favour of the proposal and the political ideology. Holding all other variables at their mean, the more voters rate themselves as right wing, the higher is their disapproval for the spatial planning measure.

**Figure 2.** Political ideology and probability to vote 'yes' (model 1)



Note: Scale between 'far left' (= 0) and 'far right' (= 10)

To sum up, 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 were found. In a next step, the motivation content, which captures the systematic path, will be gradually analysed. I therefore start by analysing 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).

## **Motivation content**

Within the Vox-survey, participants were confronted with six arguments for or against the ballot 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 acceptance of spatial planning:*

*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.

### *2. Con arguments for acceptance of spatial planning:*

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

*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 skills in spatial planning.

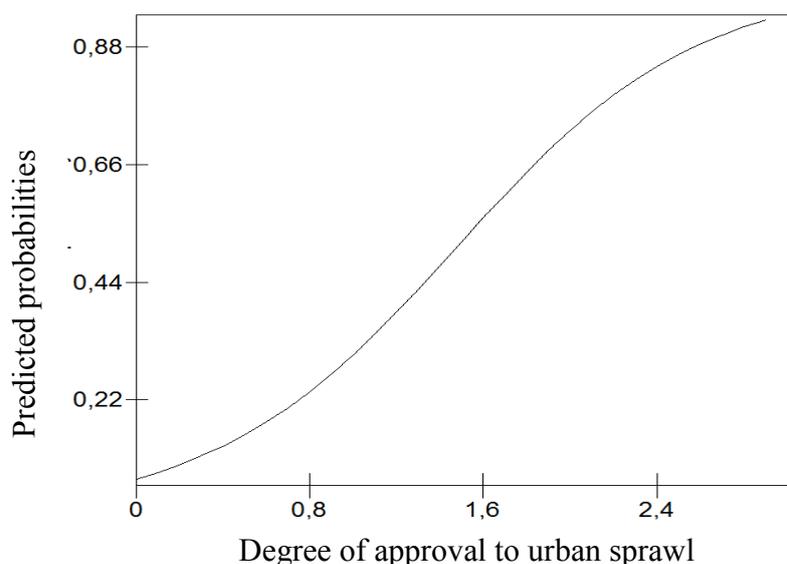
As shown in table 3, three arguments significantly influenced the voting decision by the respondents. The strongest impact is found for the urban sprawl argument A.1 and the dictation argument A.6. The impact of both arguments point in the expected direction: whilst voters who support the urban sprawl argument tend to vote in favour of the ballot, the more citizens agree to the dictation argument, the more they reject the ballot. The third argument which also influenced voters' decisions is the con land price argument A.4. 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.

**Table 3.** Relative importance of arguments for the voting decision

	Model 2		CI	
	Mean	S.E.	2.5%	97.5%
Constant	0.112	0.611	-1.093	1.310
A1: Urban Sprawl	1.824***	0.214	1.418	2.261
A2: Municipalities	-0.068	0.152	-0.370	0.225
A3: Flexible solution	0.179	0.172	-0.161	0.518
A4: Land prices	-0.553**	0.164	-0.880	-0.238
A5: Legal uncertainty	-0.241	0.180	-0.595	0.113
A6: Dictation	-0.984***	0.170	-1.327	-0.662
DIC:	330.376			
N	495			

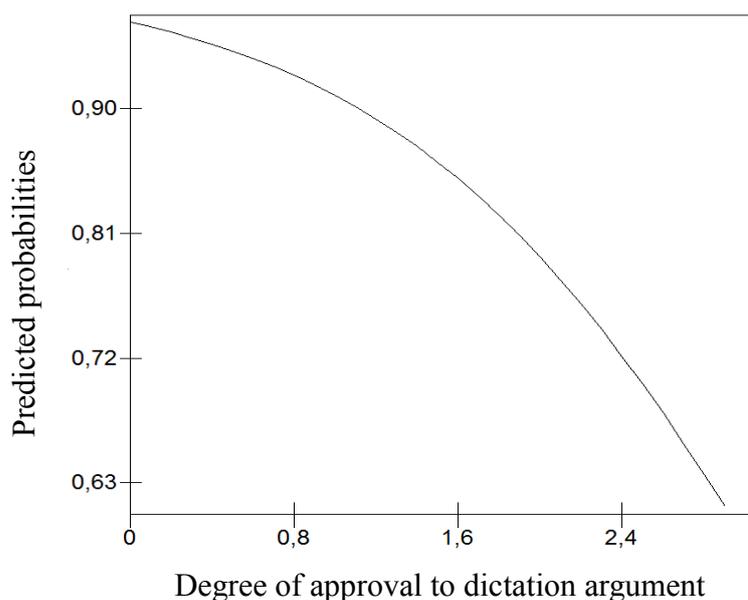
*Notes:* Dependent variable is voting decision at the ballot (dichotomous variable ‘yes’/‘no’). Models ran with MLwiN 2.35 through MCMC estimation. DIC = deviance information criterion. \*  $p > .05$ , \*\*  $p > .01$ , \*\*\*  $p > .001$ . Logit model; Posterior mean and 95% credible interval of log odds, based on Bayesian estimation (300,000 iterations, last 500 used for summary statistics, burn-in: 50,000, thinning: 1).

Figure 3 shows the predicted relationship between the support for the urban sprawl argument A1 and the probability to accept the ballot and has the shape of a sigmoid function. The probability to accept the ballot whilst keeping all other variables at their mean increases with the degree of support for the urban sprawl argument.

**Figure 3.** Degree of approval to the urban sprawl argument A1 and probability to vote ‘yes’ (model 2)

Whilst the urban sprawl argument A1 represents a pro argument, the dictation argument A6 represents an argument against the ballot. The predicted relationship between the support for the dictation argument A6 and the probability to accept the ballot is illustrated in figure 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 A6.

**Figure 4.** Degree of approval to the dictation argument and probability to vote ‘yes’ (model 2)



The importance of arguments is even more pronounced when the degree of approval is recoded to dichotomous variables. By doing so, 0 is denoted as ‘disagreement with the argument’ (consisting of ‘complete disagreement’ and ‘rather disagreement’) and 1 is denoted as ‘agreement with the argument’ (consisting of ‘full agreement’ and ‘rather agreement’). Table 4 shows the results for a logistic regression with the support for or against arguments operationalised as dummy-variables. In addition to the urban sprawl argument A1, the land price argument A4 and the dictation argument A6, the flexible solution argument A5 now becomes significant as well.

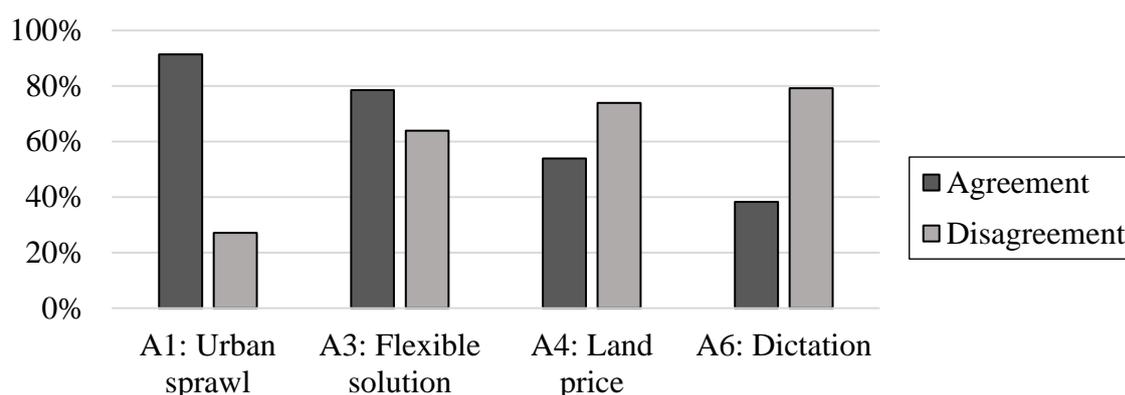
**Table 4.** Relative importance of arguments for the voting decision with a binary approval and refusal variable

Arguments	Model 2 with dummies		CI	
	Mean	S.E.	2.5%	97.5%
Constant				
A1: Urban Sprawl (ref. disagreement)	3.556***	0.456	2.716	4.504
A2: Municipalities (ref. disagreement)	0.161	0.320	-0.469	0.785
A3: Flexible solution(ref. disagreement)	0.738*	0.317	0.121	1.361
A4: Land prices (ref. disagreement)	-1.039***	0.316	-1.670	-0.430
A5: Legal uncertainty (ref. disagreement)	-0.528	0.338	-1.199	0.128
A6: Dictation (ref. disagreement)	-1.868***	0.329	-2.530	-1.239
DIC:	353.295			
N	495			

*Notes:* Dependent variable is voting decision at the ballot (dichotomous variable ‘yes’/‘no’). Models ran with MLwiN 2.35 through MCMC estimation. DIC = deviance information criterion. \*  $p > .05$ , \*\*  $p > .01$ , \*\*\*  $p > .001$ . Logit model; Posterior mean 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).

The relative 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 shows the probabilities to accept the amendment of spatial planning law for each significant argument. The highest probability to vote yes is found for voters who agreed with the urban sprawl argument A1 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).

Regarding the flexible solution argument A3, 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 argument and whilst 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 0.638-0.860) for voters who did not agree with the land price argument. Finally, is the predicted probability to vote yes for those participants who stated approval of the dictation argument is 38% (95%-CI 0.245-0.531), whilst the probability to vote yes amongst those who did not approve of the argument is 79% (95%-CI 0.684-0.877).

**Figure 5.** Agreement with arguments and predicted probability to vote ‘yes’

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 variables which aim to shed light on the systematic path for opinion formation. The added variables consist of firstly the value of ‘environmental protection’, secondly the perceived ‘difficulties to decide’ and finally the perceived ‘importance of the ballot’ for both, ‘personal’ and ‘country’ categories. Table 5 shows the results for the merged model 3.

**Table 5.** Motivation content determinants of voters’ acceptance of the amendment of the spatial planning law

Determinants	Model 3		CI	
	Mean	S.E.	2.5%	97.5%
Constant	-3.051**	1.018	-5.143	-1.137
A1: Urban Sprawl	1.746***	0.236	1.305	2.227
A2: Municipalities	-0.024	0.168	-0.352	0.306
A3: Flexible solution	0.127	0.191	-0.249	0.500
A4: Land prices	-0.551**	0.182	-0.911	-0.199
A5: Legal uncertainty	-0.417*	0.198	-0.809	-0.031
A6: 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 voting decision at the ballot (dichotomous variable ‘yes’/‘no’). Models ran with MLwiN 2.35 through MCMC estimation. DIC = deviance information criterion. \*  $p > .05$ , \*\*  $p > .01$ , \*\*\*  $p > .001$ . Logit model; Posterior mean 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).

The results show that all added variables apart from ‘decision difficulties’ significantly influence voters’ amendment of spatial planning law acceptance, even though the influence 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 relevance of the ballot’ and its ‘relevance for the country’. Regarding the arguments, their impact in the merged model compared to model 2 remains predominantly the same. In contrast to model 2, the legal uncertainty argument A5 is significant in the merged model although the strength of the influence is relatively small.

Findings from models 1-3 point to both the peripheral context as well as the motivation content as influencing voters’ acceptance of spatial planning. In order to be able to make assessments about the relative importance of both approaches, the significant variables from all models are going to be merged in one comprehensive model.

### **Comprehensive model**

The results of the comprehensive model 4 are illustrated in table 6 and include all significant variables from models 1-3. It becomes evident that the importance of arguments for the voting decision remains high, whilst all variables which have had a significant influence in the former peripheral context model 1 lose their impact on the voting decision within the comprehensive model 4.

With regard to the motivation content models 2 and 3, especially three arguments, namely the urban sprawl argument A1, the land price argument A4 and the dictation argument A6 strongly impact whether a voter accepted or refused the amendment of spatial planning law. The influence direction remains unchanged in the expected direction. In contrast to model 3, the legal uncertainty argument does not significantly influence the voting decision any longer which is not surprising as its influence was already the weakest in model 3 and was not significant in model 2. Concerning the other model 3 variables, ‘environmental protection’ does not significantly influence voters’ voting decision under inclusion of the peripheral context variables. Conversely, both the personal meaning ( $p = .011$ ) of the ballot and the ballot meaning for the country seem to play a role.

**Table 6.** Comprehensive model of peripheral context and motivation content determinants of voters' amendment of the spatial planning law acceptance

Determinants	Model 4		CI		
	Mean	S.E.	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
	Type of settlement (ref. rural)	0.530	0.346	-0.148	1.208
Models 2 and 3	A1: Urban Sprawl	1.710***	0.223	1.290	2.164
	A4: Land prices	-0.616***	0.174	-0.962	-0.280
	A5: Legal uncertainty	-0.387	0.198	-0.781	-0.003
	A6: 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 voting decision at the ballot (dichotomous variable 'yes'/'no'). Models ran with MLwiN 2.35 through MCMC estimation. DIC = deviance information criterion. \*  $p > .05$ , \*\*  $p > .01$ , \*\*\*  $p > .001$ . Logit model; Posterior mean 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).

Taking the results of the quantitative analysis together, they suggest that the motivation content, which is aimed to capture the systematic path for opinion formation, does play a crucial role in the acceptance of spatial planning measures.

### Personal reasons for the voting decisions

Based on the finding that arguments play a crucial role for the voting decision, it is interesting to analyse which 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. Note that the order of arguments and the open-ended questions for the voters' reasons for their decision was reversed during the survey, e.g. respondents were first asked for their reasons and then, later on during the survey, were asked for their position towards the arguments.

In addition to the open-ended questions, the responses were also coded during the Vox-survey on the bases of a code book which consisted of 33 different reasons for those who accepted the ballot and 33 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. Table 7 summarises the response frequency for each block for the yes-voters as well as for the no-voters.

The findings show 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 refusal-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 (30%). The most commonly occurring blocks of the yes-voters as well as of the no-voters decision determinants will be discussed in more detail later.

Regarding the other reasons for voters' acceptance, 16% gave a reason in connection with support of constructing changings, 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.

With respect to the reasons to refuse the ballot, 17% based their decision on personal reasons. 14% said the main reason to vote no was because they were against constructing changings and 12% voted no because of economic reasons. The remaining 27% voted no because of general or other reasons. Similarly to the yes-voters' reasons, other reasons to vote no mainly consist of recommendations by someone or non-ballot related statements. General reasons were, for instance, "is not the right solution" or "it is too extreme".

**Table 7.** Voters' reasons to accept or refuse the amendment of spatial planning law

Main reasons the voting decision	Response frequency in percent			
	First Reason		Second Reason	
	Acceptance (Yes-Vote)	Refusal (No-Vote)	Acceptance (Yes-Vote)	Refusal (No-Vote)
Environmental and landscape protection	51		39	
For constructing changings	16		15	
Sensible handling of building land	14		19	
(Too much) interference by the federal government		30		18
Personal reasons		17		11
Against constructing changings		14		6
Economic reasons		12		9
General or other reasons	19	27	27	55
N	607	192	335	87

As the discussed reasons represent a summary of several responses which were comprised to blocks, I will now analyse in more depth the block which contains the most frequently given reasons. More than half of all yes-responses concerns the environmental and landscape protection. Table 8 shows the block composition which can be divided into eight different 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 (29%). To protect the environment and landscape was given by 21% as a reason within the block and which also served as the block’s title. 16% remarked considerations towards nature and the preservation of nature and landscape as causes for their voting decision, followed by 11 percent which stated to have voted yes for a careful handling of soil and soil protection. 10% voted yes because they were against an overdevelopment of construction in the country, 7% were afraid of too much asphaltting 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 do still refer to 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 both given.

**Table 8.** 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 percent
Against urban sprawl	29
Environmental and landscape protection	21
Consideration towards nature/ Preservation nature and landscape	16
Careful handling of soil / Soil protection	11
Against overdevelopment of construction in the country	10
Fear of too much asphaltting over the country	7
Creating and preserving of green areas	5
Other reasons	1
N	308

The most frequently stated reason for voters to refuse the amendment of spatial planning law was to prevent too much interference by the federal government and this can be divided into five more precise reason categories (table 9). Herein, more than half of the respondents (53%) stated they voted 'no' because spatial planning falls within the competence of cantons and municipals instead of the federal level. This reason is closely related to the reason to vote 'no' because a yes would give the federal government too much interference which was given by 19% as the reason for their voting decision. 17% stated they voted 'no' because existing regulations were enough and therefore no legislative changes were required. This was followed by 7% who stated that a regulation at federal level is unnecessary. Finally, 3% gave a reason which cannot be aligned to any other of the four reasons but are related to the interference by the federal government, for example "I think we have less and less freedom. Farmers should be able to do with their own land what they want."

**Table 9.** 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 percent
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

Comparing the two main reasons for accepting and refusing the ballot, it is striking that the acceptance reason is content related, whilst 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, whilst the most frequently stated reason to vote ‘no’ is the fear of ‘too much interference by the federal government’, the latter reflecting a fundamental attitude towards the federal system rather than an opinion towards spatial planning.

The present analysis focusses on the acceptance of spatial planning measures by approaching the motivation content behind the voting decision to accept 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, closer investigation of that finding seems interesting.

The yes-voters open-ended question data consists of 607 responses after removing all missing data such as “don’t know” responses. 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 amendment of spatial planning law 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, whilst 17% (N = 104) of the responses were not related to the ballot content. Reasons to vote yes which did not refer to the ballot content are, 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 be driven by content related considerations than fundamental attitudes.

The same coding scheme was applied for coding the no-reasons which revealed a different pattern. Of the total of 192 open-ended no reasons, 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 to be far less motivated by content related considerations.

## Discussion

Contrary to the assumption that the majority of voters is uninformed and do not process information on policy content, results show that the content of a ballot influences its acceptance by voters. The case study of the spatial planning law in Switzerland revealed that content related determinants such as arguments and content-related values significantly influence the voting decision. With regard to the ballot content, urban sprawl seems to be important as this aspect played a crucial role in both the quantitative and qualitative findings.

At the same time, the peripheral context seems to play a minor role for the voting decision as peripheral context determinants only influence the voting decision when no motivation content variable is included in the analysis. This influence, however, disappeared in a comprehensive model which included peripheral context determinants as well as motivation content determinants. Altogether, the results of the present analysis are broadly consistent with those by Kriesi (2005) who analysed the relative importance of the two decision making strategies 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). Bowler and Donovan (2000, p. 1) summarize their findings on direct-democratic decision by stating 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.”

Beside these findings on the relative importance of the two types of processing for the overall voting decision, the content analysis of voters' reasons for their voting decision brought another interesting finding to light. It was assumed that the two different paths mainly appear 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 does not play a crucial role for the voters' decisions, the results point to another interesting direction: By analysing the motivation content in more detail, it seems likely that the appearance of the two processing paths differ depending on the voting decision. Accordingly, the type of processing differs between yes- and no-voters. People who voted in favour of the amendment of the spatial planning law mainly applied systematic

processing whilst people who rejected the ballot seemed to apply heuristic shortcuts. This is first shown by the coding of voters' reasons for their voting decision. Whilst 83% of the yes-voters' reasons contained a direct link to the ballot content, only 43% of the no-voters' arguments did.

To be more precise, the reasons to vote '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 if the alternative is uncertain. The current status quo seems to be the better alternative for the voters because it is better known (Bowler & Donovan 2000; Kriesi 2005). Results indicate that the no-voters did apply that status quo heuristic. One indicator for this is that the most frequent reason to vote 'no' was based on values or beliefs instead of content-related arguments. This finding was on the one hand shown in the quantitative analysis by the finding that the most important con-argument was "being against dictation of the Federation", which is a belief and value driven argument and not related to the content of the amendment of spatial planning law in Switzerland. On the other hand, the 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. For yes-voters, however, the results are different. 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 found for the voters' reasons to accept the ballot included "environmental and landscape protection" and therefore has a direct relation to the amendment of spatial planning law content.

## **Conclusion**

The aim of this study was to approach voters' motivation for their acceptance for spatial planning measures by analysing the case study of the spatial planning law in Switzerland. By applying the dual process theory to the voting decisions, the research question of whether voters rely on heuristic cues (peripheral context determinants) for their opinion formation or if they process information systematically (motivation content determinants) for their voting decision was addressed. By means of a mixed-method design, the study results lead to two main findings: First, the voting decision is mainly determined by the motivation content behind the decision and second, the chosen path of processing differs depending on the voting decision.

The findings point in the direction of the initial argument which is that the amendment of spatial planning law was accepted because the yes-voters applied the systematic path for their opinion formation and therefore were better informed about the ballot content, whilst no-voters used heuristic cues for their opinion formation.

What is the broader importance of these findings? The finding that the content of a ballot does play a crucial role is closely related to the initially raised assumption about uninformed voters. There is empirical evidence that information about an issue influences the voting decision (Bartels 1996; Blais et al. 2009). For instance, gathering information can lead to an opinion change of peoples' policy preferences (Luskin et al. 2002). Based on the finding that provided information is perceived by a majority of voters and used by them to form their opinion upon it, providing information and arguments about a new policy can therefore increase citizens' acceptance of the policy. As initially argued, a high degree of acceptance, in turn, contributes to a successful implementation of policies.

It is important to emphasise, however, that the present study does not investigate whether applying heuristic shortcuts or systematic paths of processing for opinion formation lead to *better* decisions or not. Blais et al. (2009, p. 257) pose the question if "cues or shortcuts actually enable the poorly informed to make the 'right' choice?" The research question was to investigate what leads voters to accept the amendment of spatial planning law in Switzerland without a normative component as to whether the acceptance was the 'right choice' or not.

The key finding of the present study leads to an adjusted perception of voters' competencies. Contrary to the common and pessimistic view on voters being uninformed, evidence is found that the majority of voters did not only include arguments in their opinion formation but also base their decision for a vote on content-related reasons. Policy makers should therefore be aware of the voters' capability to perceive information and include information in their opinion formation process when seeking strategies to maximize voters' acceptance and therefore increasing policy implementation success.

## Appendices

### A.1. Variables, their summary statistics and operationalisation of model 1

	Variable	Summary statistics	Operationalisation
Response Variable	Voter decision	<i>Shares(N):</i> Yes: 75.6 (639) No: 24.4 (206) (Total N: 845)	Dummy: 0 = accept proposal 1 = reject proposal
	Age	<i>Mean:</i> 56.144 <i>S.D.:</i> 15.275 <i>Min.:</i> 18 <i>Max.:</i> 95 (Total N: 845)	Age in years (centred around grand mean)
Predictor variables for the peripheral context (model 1)	Sex	<i>Shares (N):</i> Female: 50.4 (426 ) Male: 49.6 (419) (Total N: 845)	Dummy: 0 = female 1 = male
	Education	<i>Shares(N):</i> 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	<i>Shares (N):</i> Trust: 59.0 (438) No trust: 41.0 (304) (Total N: 742)	Dummy: 0 = No trust 1 = Trust
	Political ideology	<i>Mean:</i> 4.8513 <i>S.D.:</i> 2.1010 <i>Min.:</i> 0 <i>Max.:</i> 10 (Total N: 787)	Self-rating political orientation on a scale between far left (=0) and far right (=10)
	Land ownership	<i>Shares(N):</i> No landowner 45.3 (380) Landowner 54.7 (458) (Total N: 838)	Dummy: 0 = No landowner 1 = Landowner
	Type of settlement	<i>Shares (N):</i> Rural 29.1 (246) Urban 70.9 (599) (Total N: 845)	Dummy: 0 = Rural 1 = Urban

## A.2. Variables, their summary statistics and operationalization of model 2

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

**A.3. Variables, their summary statistics and operationalization of model 3**

	Variable	Summary Statistics	Operationalization
<i>Predictor variables for the motivational content (model 3)</i>	Environmental protection	<i>Mean:</i> 1.7280 <i>S.D.:</i> 1.3490 <i>Min.:</i> 0 <i>Max.:</i> 5 (Total N: 820)	Self-rating value on a scale between environmental protection (=0) economic prosperity (=5)
	Difficulties to decide	<i>Shares (N):</i> No difficulties 31.4 (255) difficulties 68.6 (557) (Total N: 812)	Dummy: 0 = No decision difficulties 1 = Difficulties
	Personal meaning ballot	<i>Mean:</i> 6.9345 <i>S.D.:</i> 2.4913 <i>Min.:</i> 0 <i>Max.:</i> 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	<i>Mean:</i> 7.6707 <i>S.D.:</i> 1.8789 <i>Min.:</i> 0 <i>Max.:</i> 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)

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