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Downsian closeness hypothesis under investigation: a study on austrian direct mayoral elections

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Abstract Does the expectation of a close race drive more people to vote? Despite increasingly intensified electoral competition and hardened fronts at all political levels over the last decades, a decline in turnout rates can be observed representing a puzzling development. Though there are anomalies, previous studies show a clear trend towards a positive association between a close race and an increase in turnout. Based on the idea of the "rational choice" theory, the prospect of a close or undecided race increases the subjective weight of the individual vote, which drives more voters to the ballot box. In fact, 'expected Closeness' is one of the most frequently tested independent variables in voter turnout research. However, the factor is only measured ex-post in most cases. Such measurements use the results of the actual election to infer the 'Closeness' of the race. However, these measurement methods are less valid because they do not measure 'Closeness' in the decisive period before the election takes place. We want to contribute a test of the effect by analysing all runoff elections in Austrian direct mayoral elections since 1991 as they allow for ex-ante measurement. The first ballots and the runoffs are temporally close. Thus, the first vote results serve as a direct indicator of the 'expected Closeness' in the second round of voting. The electorate changes, if at all, only insignificantly between the ballots. In addition, socio-economic factors influencing voter turnout can be kept constant, increasing the validity of the test. The results of this study underline the positive and independent effect of 'Closeness' on the turnout of the election. The closer a mayoral race in Austria is in the first round, the higher is the turnout in the following runoff elections. The study also presents the independent and strong effects of socioeconomic factors on turnout. Our research not only provides a valid test of the effect of 'expected Closeness' on voter turnout, it also constitutes pioneering work in complete data collection on all direct mayoral elections in Austria.

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Downs Wettbewerbs-These im Test: Eine Studie zu den österreichischen Bürgermeisterdirektwahlen

Zusammenfassung Bringt die Erwartung eines knappen Rennens mehr Menschen an die Wahlurnen? Obwohl sich der politische Wettbewerb in den letzten Jahrzehnten auf allen politischen Ebenen verstärkt und sich die Fronten verhärtet haben, kann man einen bemerkenswerten Abfall der Wahlbeteiligung beobachten. Auch wenn es dahingehend Anomalien gibt, sehen vorangegangene Studien einen klaren Trend hin zu einem positiven Zusammenhang zwischen der Erwartung einer knappen Wahlentscheidung und erhöhter Wahlbeteiligung. Laut der Theorie des „rationalen Wählens" führt ein knappes oder noch unentschiedenes Rennen dazu, dass die eigene Stimme subjektiv als gewichtiger empfunden wird und somit mehr Menschen ihre Stimme abgeben. „Closeness" ist eine der am meisten getesteten Variablen der Wahlforschung, allerdings wird sie zumeist nur in ex-post-Form erhoben. Diese Messmethode nutzt die Resultate der stattgefundenen Wahl, um die Enge des Rennens zu beurteilen. Diese Messung ist jedoch dadurch weniger valide, weil auf einen vorherigen Zustand durch das spätere Ergebnis rückgeschlossen wird und die Knappheit des Rennens nicht direkt in der entscheidenden Phase misst. Wir messen den Effekt eines knappen Rennens nun an allen Stichwahlen der österreichischen BürgermeisterInnen-Wahlen seit deren Einführung im Jahr 1991 in ex-post-Form, denn bei diesen Wahlen liegen die erste und zweite Runde zeitlich sehr knapp beieinander und die Wählerschaft verändert sich dementsprechend in diesem Zeitraum kaum. Dadurch können auch sozio-ökonomische Faktoren konstant gehalten werden, was die Validität zusätzlich erhöht. Die Ergebnisse unserer Studie bekräftigen den positiven und unabhängigen Effekt der Knappheit eines Rennens auf die Wahlbeteiligung. Je enger eine österreichische BürgermeisterInnen-Wahl in der ersten Runde ausfiel, desto höher war die Wahlbeteiligung in der nachfolgenden Stichwahl. Die Studie unterstreicht auch den starken und unabhängigen Effekt von sozio-ökonomischen Faktoren auf die Wahlbeteiligung. Unsere Forschung bietet damit nicht nur einen validen Test des Effekts eines knappen Rennens, sondern leistet auch Pionierarbeit in der Datensammlung zu allen österreichischen BürgermeisterInnen-Wahlen.

1 Introduction

Electoral research has represented a core area of political science ever since. Especially with the rise of democracy during the previous century (Huntington 1991) and again with the backlash trend to semi-democratic structures in some countries within the last decade (Maerz et al. 2020), the role and functioning of elections as a step-stone of democracy constantly remain a topical issue. Particularly Western democracies generally experienced an increasingly intensified electoral competition

and hardened fronts at all political levels over the last decades along with several crises of financial stability, migration issues as well as climate and health threats. At the same time, an overall decline in turnout rates can be observed and represents a puzzling development alongside the roughened political atmosphere (see for example Tuorto and Blais 2014). The determinants of voter turnout have traditionally been one of the major interests in electoral research. Personal characteristics such as age, education and gender are essential factors in this regard. However, our research approach does not aim at examining participation at the level of individuals. We focus on the context under which elections take place and examine its influence on turnout. Such an approach addresses the aggregate level. Which contextual conditions explain turnout?

For once, socio-economic factors, such as the size of the political unit or the heterogeneity of the population, belong to the group of aggregate-level variables for turnout. The second group of such variables includes political-institutional factors, such as the voting system, the structure of the party system or the particular tradition of voting. Among the political-institutional factors, 'Closeness' is one of the most frequently tested variables (Denters et al. 2014; Geys 2006).

This factor focuses on the effect of a close race on turnout. More precisely, it is argued that the perception of a close race, i.e. the 'expected Closeness' as a proxy for measuring 'Closeness', increases the run to the ballots. Based on the ideas of the 'Rational Choice (RC)'-Theory, the perception of a close or undecided race increases the weight of the individual vote. The individual vote becomes more important and decisive when 'expected Closeness' is high and consequently drives more voters to the ballot boxes. Despite of some anomalies, empirical evidence generally shows a clear trend towards a positive correlation (Downsian 'Closeness' Hypothesis: Geys 2006, p. 646f; with reference to Matsusaka and Palda 1993; Blais 2006, p. 119).

Regarding the causal mechanism between 'Closeness' and turnout, some researchers question whether it is actually the perception that one's voice has more weight in a close race that increases participation. A close race could also attract more attention to the election through increased campaign activities by the candidates or parties and thus mobilise voters (Geys 2006, p. 647; with reference to Cox and Munger 1989; and Kirchgässner and Schulz 2004). Studies on this campaign effort hypothesis are, for instance, Shachar and Nalebuff (1999) and McKee (2008), who both tested the hypothesis in the context of U.S. presidential elections, and Cox et al. (1998), who used data from Japanese lower house elections. However, Cancela and Geys (2016, p. 270) were able to show in this context that the effect of campaign expenditures is primarily relevant for elections at the national and less for elections at the sub-national level. Especially at the local level, election campaigns play a far less important role. For once, there is hardly any media coverage for municipality elections. In addition, comparatively little budgets are available for local election campaigns. To some extent, this is also related to the fact that the ideological distance between parties and candidates generally tends to be smaller in local politics. Electoral competition is not as harsh as on higher political levels and in bigger cities (Denters et al. 2014; Dejaeghere and Vanhoutte 2016). Due to these preconditions, examining 'expected Closeness' on the local level makes an isolation of the effect as argued by the 'Downsian Closeness Hypothesis' possible.

The theoretical argument for 'Closeness', either in the form of the 'Rational Choice (RC)' or increased campaign attention argument, is rather simple and straightforward. The difficulties start when it comes to measuring 'Closeness'. Traditionally, the factor is captured with the vote gap between the first and second placed candidate or party in an election (Geys 2006, p. 647). However, an important methodological problem becomes apparent when different forms of measurement are compared to relate 'Closeness' with turnout levels in elections: The research differentiates between ex-ante and ex-post designs. Most studies rely on ex-post designs and thus measure the phenomenon of 'Closeness' indirectly. They use the current election results to measure the variable and connect it directly to the turnout levels of the very same election (Geys 2006, p. 646 f). Such ex-post measurements can lead to invalid results, as they try to capture an effect after it has already occurred. Contrary to that, ex-ante studies measure the 'expected Closeness' of an election beforehand based on previous election results, opinion polls or newspaper reports. From the perspective of the 'Downsian Closeness Hypothesis', ex-ante measurements are preferable. As the argument is about an individual's feeling on how close the candidates or parties are in the race, this perception can only be captured correctly before the election by measuring 'expected Closeness' as a proxy for 'Closeness'. Klor and Winter (2017), for example, apply an ex-ante measurement of 'Closeness' by using opinion polls of U.S. gubernatorial races. They find that the expected difference between the candidates is usually smaller in opinion polls (ex-ante) than the difference measured with actual vote results (ex-post). Moreover, the ex-ante measurement was more strongly related to turnout than the ex-post measurement. Strijbis et al. (2016) used electoral prediction data in the context of 56 Swiss direct-democratic votes and also found a very strong and positive relationship between this measure of 'expected Closeness' and turnout, further supporting the argument for using ex-ante measurements of 'Closeness'. Besides this evidence, around 70% of the 'Closeness'-factor tests are conducted with the indirect and less reliable ex-post measurement (Geys 2006, p. 647). This is mainly because it is challenging to conduct valid ex-ante measurements.

Regarding the outlined research on 'expected Closeness', its probable effect on turnout and the empirical difficulties it entails, our study intends to make three main contributions. First, we apply an ex-ante measurement approach of the 'expected Closeness' factor. Second, we observe the effect of 'expected Closeness' at the local level, which enables us to focus on the 'Downsian Closeness Hypothesis' via controlling for a possible effect of increased campaign activities. Third, we provide extensive data on the Austrian municipal elections followed by runoffs since the first of such elections in 1992. This will be the very first nation-wide compilation of local-level data ever as previously existing studies reflect only upon some regions of their countries (de Paola and Scoppa 2013; Garmann 2014). In addition, Austria introduced direct mayoral elections at a rather similar point in time as other Western European countries did. Austria is therefore internationally well-comparable in terms of its electoral rules, institutional structures as well as participatory rates (Caciagli 2013). We aim at maximising variance of the independent variable 'expected Closeness' and turnout rates as the dependent one within a single country framework. Austria perfectly fulfils this precondition for conducting a causal hypothesis

test. We add this three-folded novelty to the research of the effect of 'Closeness' on turnout by analysing data on the two-round voting system of mayoral elections in Austria.

In Austria, the head of the municipality is directly elected by an absolute majority rule in six out of nine Austrian federal states (Burgenland, Carinthia, Upper Austria, Salzburg, Tyrol and Vorarlberg). If no mayoral candidate receives more than half of all valid votes, runoff elections are held usually two to three weeks later where the two candidates receiving the highest vote counts face each other. Among other things, an important reason for the introduction of direct elections at the local level in Austria was the promotion of participation in municipal elections (Steininger 2006, p. 995–996; Thaler 2007; Flandera 2010, p. 253–255; Karlhofer and Pallaver 2013, p. 17 and p. 24; Caciagli 2013). The first direct elections of mayors took place in Carinthia in 1991, followed by Burgenland and Tyrol in 1992. In the federal state of Salzburg, mayors have been directly elected since 1994 (in the city of Salzburg since 1999) and in Upper Austria since 1997. Vorarlberg was the last federal state to introduce the direct election of the head of the municipality in 2000. There are no direct elections in Lower Austria, Styria and Vienna. In these federal states, the mayors are elected by the municipal council.

Our focus lies on six (out of nine) Austrian federal states where the mayor is directly elected. These federal states are Upper Austria, Salzburg, Carinthia, Tyrol, Vorarlberg and Burgenland. The results of the first round define the two competing candidates for the second ballot. In the subsequent runoff vote, a mayor is elected in a direct confrontation. The 'Closeness' between the two candidates in the first round serves as a proxy measure of 'expected Closeness' to predict the turnout in the runoffs. In addition, our study makes a core contribution by providing extensive data on the Austrian municipal elections followed by runoffs since the first of such elections in 1991. Such comprehensive data material is hardly provided by studies in other countries and not at all for Austria. We ensure the robustness of our statistical tests by including well-established control factors such as municipality size, socio-economic diversity and previous turnout. With this empirical design, we enable a controlled and valid measurement of a close electoral race based on extensive data, which constitutes a considerable addition to the research on 'Closeness' and its effect on turnout.

In the following theoretical section, we comprehensively discuss the pre-existing research on voter turnout. It includes literature on the main argument of 'Closeness' and on additional aggregate level factors contributing to the turnout of an election. After that, a section on research design describes and debates the methodological framework of the study. In the empirical section, the findings of our study are presented and critically evaluated. The conclusion puts the results onto a broader perspective and provides an outlook on potential future research in this field.

2 Theory & argument

The theoretical and empirical research on elections is extensive and involves numerous factors on various levels. They are grouped into four core categories on the

aggregate level: socio-economic (e.g. societal age structures), political (e.g. power of trade unions), institutional (e.g. compulsory voting), and historical factors (e.g. turnout of the previous election) (Freitag 1996). 'Closeness' is assigned to the political variables and is, as already emphasised in the introduction, one of the most frequently tested effects on voter turnout.

First of all, it is necessary to define the phenomenon under investigation precisely. 'Closeness' is described as the distance between the vote shares of the first and second-placed candidates or parties in an election (Blais and Dobrzynska 1998, p. 249). With this definition in mind, it is essential to notice that actual 'Closeness' can be measured only when the election result and the final vote shares are known. The central role is assigned to the two leading candidates or parties. Therefore, the fragmentation of the party system is logically independent of 'Closeness' (Vetter 2008, p. 61). A close race between the two top parties or candidates alone is argued to be followed by higher turnout rates.

This relationship builds on two different causal mechanisms. A first possible explanation is that the electorate considers their votes to be potentially decisive for the outcomes of a relatively close election. Therefore, they have the impression that it is more important to cast their vote. The electorates follow the rational thought that a more significant impact is assigned to their vote in case of a closer race (Freitag 1996, p. 11). In this sense, the causal link between 'Closeness' and turnout is not so much about the actual 'Closeness' of an election (which is determined only after the vote shares are known and all the votes are casted, according to the definition above), but much more about 'expected Closeness' (Kirchgässner and Meyer zu Himmern 1997; Kirchgässner and Schulz 2004; Simonovits 2012). Downs (1957) and Riker and Ordeshook (1968) argued this rational calculus in voting first, which has been considered as the "Downsian 'Closeness' Hypothesis" in the subsequent research (Geys 2006, pp. 646–647 with reference to Matsusaka and Palda 1993). The authors described voting as an instrumental behaviour that aims to impact the outcomes of an election. The 'expected Closeness' of an election puts more weight on the individual vote and pushes more people towards the ballot box. Nevertheless, contrary voices argue that the actual probability of an individual vote to be decisive for the outcome of an election is too small to constitute a fundamental factor of rationality. According to this understanding, the mechanism of 'expected Closeness' functions more in a psychological manner and not in a rational one (Ferejohn and Fiorina 1974; Schwartz and Bilsky 1987).

The second alternative explanation for increased turnout in highly competitive elections is intense campaigning by the parties or candidates themselves as they are highly engaged in mobilising their voters (Geys 2006, p. 647; with reference to Cox and Munger 1989; and Kirchgässner and Schulz 2004). The prospective candidates invest more resources to decrease the required efforts of voters for obtaining information and forming a decision to vote for a specific candidate (Cox 1988; Berch 1993; Shachar and Nalebuff 1999; Feld and Kirchgässner 2001; Ashworth et al. 2006; McKee 2008; Cann and Cole 2011; Klor and Winter 2017; Moskowitz and Schneer 2019). An additional alternative explanation for high turnout levels is bigger ideological distance of the competing candidates or parties, which raises more attention of the voters to the election. However, both the effect of campaigning as well as

the role of ideological distance are particularly relevant only for elections on higher electoral tiers and in bigger communes. The factors do not play a considerable role on the local level and particularly in small municipalities. Small local elections generally have fewer media coverage, fewer financial resources and only little overall attention, which makes them ideal for isolating the effect of a close race on its own without being affected by intense campaigning or a considerable ideological distance (Cancela and Geys 2016, p. 270; Dejaeghere and Vanhoutte 2016). Although our case selection of small Austrian municipalities makes an interfering effect of both campaigning and ideological distance unlikely, we nevertheless counter their potential interference by controlling for the effect of the municipalities' size. This also controls for a potential effect of the number of seats at stake: Research has found that a high number of seats at stake makes the factor of 'expected Closeness' more important (Stockemer 2015; Dubois and Leprince 2017). However, the parliamentary seats of Austrian municipalities are determined according to their number of inhabitants (e.g. for the region of Salzburg: RIS 2023, § 22/1). Controlling for size therefore covers any potential effect of the number of seats.

Both outlined arguments on the exact role of 'expected Closeness' result in similar linkage: A closer race leads to higher turnout rates. However, the significant existence of the relationship is by far not uncontested. Although more than 230 empirical studies on the effects of 'Closeness' (and respectively 'expected Closeness') exist, they are not unanimous in their results for several conceptional and methodological reasons (Blais 2006; Cancela and Geys 2016; Bursztyn et al. 2017). For example, Kirchgässner and Meyer zu Himmern (1997) found ambiguous results for 'expected Closeness' on voter turnout in German general elections between 1983 and 1994. Fauvelle-Aymar (2008) found even a negative relationship between 'Closeness' and turnout in the case of the South African city Johannesburg. In addition, some American field experiments found no support for an effect of anticipated 'expected Closeness' on turnout over time (e.g. Caporale and Poitras 2014). However, these findings could be caused by the additional effort of voting registration required from the electorates (Gerber and Green 2000; Bennion 2005; Dale and Strauss 2009; Enos and Fowler 2014; Gerber et al. 2020). Moreover, many authors criticise that the effect of 'expected Closeness' is not isolated correctly and is spurious in many studies. Increased efforts in campaigning in highly contested districts would constitute such a source of spuriousness, though the effect of campaigning is more relevant on the national than on the local level. Several authors, therefore, postulate that the effect of 'expected Closeness' does exist, but only if it is measured correctly by isolating the effect of 'expected Closeness' on its own (Cox et al. 2020; Kselman et al. 2020).

For this reason, it is essential for a study on the effect of 'expected Closeness' to have a close look at methodological considerations and the takeaways from previous research. Apart from lacking control of intervening factors (like voter registration requirements), the methodological criticism mainly circulates around the use of ex-post and ex-ante forms of measurement. Ex-post measurement describes the original method to capture 'Closeness' by using the result of the respective election to calculate the distance between the first and second party or candidate. For example, Diwakar (2008) uses an ex-post measurement of 'Closeness' to evaluate the effect of

the variable, among others, on turnout in Indian states. She finds a positive effect of 'Closeness' on turnout. Endersby et al. (2002) proposes a new measurement method of 'Closeness' in an ex-post form. The 'Competitiveness Index' allows for a more nuanced measurement of party competition in multiple party system contexts, taking into account the number of running parties and candidates, the number and size of the constituencies and the respective election results. However, in many other instances, the ex-post measurement method fails to anticipate the 'Closeness' of an election before the final result is known. For example, Matsusaka (1993) tested the ex-post measurement of 'Closeness' on extensive data from California ballot propositions and found no significant relationship between 'Closeness' and turnout. Ex-ante measurements, on the other hand, measure the 'expected Closeness' of an election beforehand based on previous election results, opinion polls or newspaper reports. Considering the theoretical perspective, a measurement of 'expected Closeness' has predictive character, something that ex-post measurements cannot provide. In this sense, ex-ante measurement forms are more valid than ex-post instruments (Geys 2006, p. 647 f; Indridason 2008; Eichhorn and Linhart 2021). Also empirically, ex-ante measurements of 'Closeness' reveal to be more fruitful (Eichhorn and Linhart 2021). Geys (2006, p. 648) summarises the success rates of his reviewed studies applying either an ex-post or ex-ante measurement of 'Closeness'. He finds that the ex-post measurement studies resulted in a 51% success rate, while the rate of ex-ante measurement studies reached 74%. Particularly in the European context, only very few studies use ex-ante measurements. Indridason (2008) introduces one of the first ex-ante measurements of 'expected Closeness' by researching the French legislative elections of 1997 and 2002. In the second round of the legislative elections, the electorate chooses their prime minister in a runoff. The paper of Indridason marks the first empirical study following the idea of predicting the 'expected Closeness' of a runoff election with the results of the first ballot. Fauvelle-Aymar and Francois (2006) also test the effect of 'expected Closeness' in the French case. Unlike Indridason (2008), the researchers test multiple ex-ante measurements of 'Closeness' and found that all of them predict turnout well. The higher the 'Closeness' of the election in the first round, the higher the turnout in the runoff election. Simonovits (2012) also applied a rather similar scheme to the Hungarian parliamentary elections of 2002 and 2006, including potential runoff elections. Each electoral district was required to choose a representative with an absolute majority until the electoral rules were modified in 2011. Both empirical studies support the theory of 'expected Closeness' affecting turnout positively.

Góreki (2009) and Högström (2018) move beyond these two studies by comparing the results of an ex-post measurement to the corresponding ex-ante calculation at the sub-national level. Góreki (2009) analyses Polish city president elections in 2002 and 2006, which include runoffs if no candidate reaches an absolute majority of votes in the first round. When considering only the first round and calculating the respective ex-post-'Closeness' factor, no significant effect of 'Closeness' on turnout is found. However, if the corresponding ex-ante 'expected Closeness' factor is calculated out of the first round, the turnout of the second ballot is significantly and positively affected. These findings highlight the importance of applying an ex-ante approach for measuring the concept of 'expected Closeness' correctly. Högström (2018) also

develops a comparison of ex-post and ex-ante measurements in a time series format by analysing 12 local elections of 290 municipalities in Sweden between 1976 and 2014. In the case of this analysis, no considerable difference between ex-post and ex-ante measurements has been found, but this might be due to the extensive time gap between the ex-ante indicator and the corresponding turnout. Garmann (2014) only focuses on the ex-ante measurement of 'Closeness' by using the cases of local mayoral elections in the German federal state Hesse. Unlike other studies, he intends to specifically incorporate and measure the effect of endogeneity and attenuation biases that, according to his view, are responsible for the variation of the effect of 'Closeness'. Indeed, he finds that 'Closeness' measured ex-ante is a very strong predictor of turnout if the testing model accounts for potential biases.

In short, what can be observed is that hardly any research project applies a valid ex-ante measurement of 'Closeness' on a sub-national level in a time-series format. Arnold (2018) is one of such rare studies, as he tested turnout and 'expected Closeness' with data from Bavarian mayoral runoff elections. He found a positive and significant relationship between the two variables, but his study only regarded the regional Bavarian case. A newer study focussing on the national level is de Paola and Scoppa (2013), who also analyse data by applying the concept mentioned above—the 'Closeness' of the first round serves as a proxy for 'expected Closeness' and indicates the turnout of the second one. The authors focussed on Italian municipal elections with a double ballot system from 1993 to 2011 and found a much larger effect than it was the case in ex-post studies. They attest an endogeneity bias to previous studies following the ex-post system. As mentioned, Garmann (2014) has also addressed this issue of bias. For this reason, further empirical support in this regard is essential, particularly across more extended time periods and across a high number of electoral districts with varying alternative explanatory factors for turnout. Ex-ante measurement combined with variance maximisation on essential control variables allows for a controlled causal hypothesis test of 'expected Closeness' on turnout. This causal relationship has already been discussed deeply in previous papers for particular cases (Kirchgässner and Meyer zu Himmern 1997; Kirchgässner and Schulz 2004; de Paola and Scoppa 2013; Garmann 2014), but it has not been tested in a comparably extensive format as it is the case with this paper.

3 Further political and socio-economic explanatory factors

Political science has found various alternative aggregate level factors affecting turnout apart from 'Closeness'. Within the category of socio-economic factors, two have been found as crucial determinants of turnout levels. These two refer to the size and concentration of the electorate on the one hand and its social heterogeneity on the other hand. Regarding the size of the electoral district, a rather similar logic as with 'Closeness' can be applied. In smaller constituencies, the individual vote seems to have more weight compared to bigger ones. It is, therefore, more rational for the electorate to form a decision and cast a ballot, which may lead to higher turnout. In addition, social pressure is much stronger in small populations and participating in elections is regarded as a social duty. Rather similar mechanisms are at work

regarding population density, though the meaningful effect of population density on turnout is contested and accompanied mainly by other causal factors (Blais and Dobrzynska 1998; Denters et al. 2014; Geys 2006; Heinisch and Mühlböck 2016). Such another causal factor is social heterogeneity. Heterogeneous populations lead to smaller turnout levels as social cohesion and solidarity among the people are not as strong as in homogenously structured ones (Geys 2006, pp. 644–645; Cancela and Geys 2016).

Regarding the factors of size and heterogeneity, it is apparent that these two experience only slight and slow changes over time on local level. Additionally, local communes belong to certain federal districts and operate under similar conditions like the common federal government. For this reason, if local elections are considered in a comparative study, it is essential to control for the municipalities themselves, the federal district they belong to and to establish a linkage with previous data points in the time series analysis. Electoral districts have certain participatory traditions, which remain mostly constant over time and constitute a historically predefined influential factor (Freitag 1996, p. 19). Political psychology argues more precisely that going to the polls and participating in elections constitutes habitual behaviour, which can be dated back to the concept of adaptive learning (Geys 2006, pp. 645–646; Cancela and Geys 2016). Compared to the previous election, a similar number of voters will participate in the next one, which has to be considered in an empirical analysis of turnout.

Apart from controlling for the voting traditions of electoral districts, it is also essential to have a look at the effect of concurrent elections of higher political levels taking place at the same election date. In the case of local elections, this mainly refers to regional and national elections. People are more likely to participate in such combined elections because they can cast more than only one vote and have the impression that they exert more impact. At the same time, the effort involved in voting is reduced because several votes can be casted in just one trip to the ballot box. Furthermore, elections of higher levels are generally characterized by more intense campaigning and competition, which also pushes voters to cast their ballot (Geys 2006, p. 652; Dejaeghere and Vanhoutte 2016; Garmann 2016). A concurrent election is therefore expected to have a positive effect on turnout.

Additionally, some other interfering variables might be controlled by a study's design. First, this refers to the component of campaigning: Local elections generally have only little budget for political advertisements and gain less attention than elections on higher levels—also because the ideological distance between the candidates tends to be lower and competition is not as harsh as on higher levels (Cancela and Geys 2016, p. 270; Dejaeghere and Vanhoutte 2016). Second, electoral rules are uniform across the municipalities included, which means that institutional factors play only a minor role in this regard. As they have been found to constitute a crucial impact on the logic of turnout rates, the elimination of this component is essential (Freitag 1996).

Finally, some commonly tested factors of previous studies are no longer included in this study as only an insignificant effect has been assigned to them on the local level. A prominent example would be the fragmentation of the party system. Preceding analyses have been divided about this political variable: It is not clear

whether choosing among many parties increases the feeling of being represented (which would lead to a positive effect on turnout) or whether a broad range of parties requires more efforts to make a choice (which in turn leads to a negative effect on turnout). This ambiguity in the direction of the effect has led to insignificance even in study areas with a highly fragmented party system (Freitag 1996; Vetter 2008; Heinisch and Mühlböck 2016; Cancela and Geys 2016). Moreover, the Austrian local party systems are mostly concentrated in two major parties, namely the Social Democrats (SPÖ) and the Peoples' Party (ÖVP). Apart from very few exceptions, Austrian municipal party systems are hardly fragmented at all (Mühlböck and Obermair 2022). It is therefore even less likely that testing for fragmentation would have an effect on the results as an explanatory control variable and would add any value to the analysis. In the case of mayoral elections, the degree of fragmentation is also reduced by the fact that not all parties competing in the municipal parliamentary elections also field mayoral candidates. Most of the time, this is concentrated on the larger parties, above all the ÖVP and the SPÖ, sometimes also the FPÖ. In case of any potential effects, these are only conceivable in larger communities. For this reason, this study concentrates on variables with a clearly defined effect on turnout and with considerable variance. Other systematic effects are effectively controlled through the random effects included in the research design, particularly with controlling for the context of the municipalities.

4 Data

To test the effect of 'expected Closeness' on turnout levels, we draw on extensive data out of Austrian mayoral runoff elections. Precisely, we consider all runoffs in all six (out of nine) federal states of Austria since their implementation of direct mayoral elections (except for the latest municipal elections in Upper Austria in 2021). The respective federal states did not implement direct elections at the same time. The first of such direct elections took place in Carinthia in 1991, followed by Burgenland and Tyrol in 1992. In the federal state of Salzburg, the mayor has been directly elected since 1994 and in Upper-Austria since 1997. Vorarlberg was the last federal state to implement direct mayoral elections in 2000. There is no direct election of mayors in Lower Austria, Styria and Vienna. In these federal states, the mayors are elected by the local parliament.

Not only the implementation point of the modified electoral system differs between the federal states, but also the term in office of the directly elected mayors. In Burgenland, Salzburg and Vorarlberg, mayors and local parliaments are incumbent for five years, whereas in Carinthia, Upper-Austria and Tyrol, a term lasts for six years. Consequently, Austrian mayoral elections take place in divergent years depending on the federal state. These disparities have important consequences on the structure of our data. In order to arrange the data in a time-series format, the closest ballots were merged using time-series codes as follows (see Table 1).[1]

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[1] Due to the different time points of implementation and term lengths, not all federal states are included for all time-codes:—Time-code 1991: No observations have been made for the first time-code (1991) in Upper

Table 1 Data Structure—Time Series Codes

Time Series Code	Election Year	Burgen-land	Carinthia	Upper Austria	Salzburg	Tyrol	Vorarl-berg
1991	1991		x				
	1992	x				x	
	1994				x		
	1995						
1997	1997	x	x	x			
	1998					x	
	1999				x		
	2000						x
2003	2002	x					
	2003		x	x			
	2004				x	x	
	2005						x
2009	2007	x					
	2009		x	x	x		
	2010					x	x
2015	2012	x					
	2014				x		
	2015		x	x			x
	2016					x	
2021	2017	x					
	2019				x		
	2020						x
	2021		x				

To date, 652 runoff elections have taken place in Austrian direct mayoral elections (excluding Upper-Austria in 2021—see Table 2). For each year with collected data from the six federal states, the number of runoff elections varied between 112 (2003) and 134 (1997). In Burgenland, Salzburg and Vorarlberg, the number of runoff elections has remained relatively constant during the observation period. In Carinthia and Tyrol, the number of runoffs decreased from ballot to ballot—contrary to Upper Austria, where the number increased.

To facilitate a direct comparison of the numbers of runoff elections between the federal states, we put these numbers in relation to the total number of municipalities of the respective federal states. We only consider the time period of 1997 to 2015 for this ratio, as in this period data are available for all included six federal states. The ratio shows that Carinthia incorporates the highest rate of runoff elections. Vorarlberg has the fewest runoff elections, while Burgenland, Upper-Austria, Salzburg and Tyrol comprise the middle range.

Austria and Vorarlberg as their first direct mayoral elections took place only in 1997 (Upper Austria) and 2000 (Vorarlberg).—Time-Code 2021: No entries have been made for the last time-code (2021) in Upper Austria and Tyrol. In Upper Austria and Tyrol, the last local elections took place in September 2021 respectively in February 2022. Data could not be collected due to lacking availability.

Table 2 Runoffs in Mayoral Elections in Austria 1991–2021

Austrian Federal States	Election Year (Time Series Code)						Total	Total 1997–2015	Number of Munici-palities	Runoffs/ Municipalities 1997–2015[a]
	1991	1997	2003	2009	2015	2021				
Burgenland	7	23	15	8	13	19	85	59	171	0.35
Carinthia	38	44	23	37	37	28	207	141	132	1.07
Upper Austria	0	28	32	37	46	0	143	143	438	0.33
Salzburg	16	11	7	5	8	11	58	31	119	0.26
Tyrol	37	24	30	26	21	0	138	101	279	0.36
Vorarlberg	0	4	5	3	3	6	21	15	96	0.16
Total	98	134	112	116	128	64	652	490	1235	0.40

[a]During this period, mayoral elections were held in all listed federal states
[b]Data Sources: Statistik Austria Online (2021a): Blick auf die Gemeinde; Statistik Austria Online (2021b): StatCube; Statistik Land Salzburg Online (2021). Download zu den Bürgermeisterwahlen; Statistik Land Tirol Online (2021): Wahlen; Statistik Land Vorarlberg Online (2021): Wahlen – Gemeindevertretung; Statistik Land Kärnten Online (2021): Wahlen; Statistik Land Oberösterreich Online (2021): Wahlen

5 Empirics

5.1 Criterion

The criterion of the analysis in this paper is turnout. More precisely, we consider the turnout in runoffs of Austrian direct mayoral elections. The box plot below shows—unsurprisingly and by following a general trend—that voter turnout in runoffs has declined over time (see Fig. 1). In the first direct elections (1991), the average participation rate was 85.8%. In the most recent elections (2021), the value fell to 72.3%. However, it is also visible that the highest turnout rates remained stable at around 95%. We can spot this in the maximum (the upper bar) of the box plot. Particularly municipalities with already low turnout levels experience an additional fall in turnout over time and thereby cause the overall decline in turnout rates. The turnout values significantly differ with increasing overall variation between the mu-

Fig. 1 Turnout of Direct Mayoral Elections—Second Round over Years ($n = 652$)
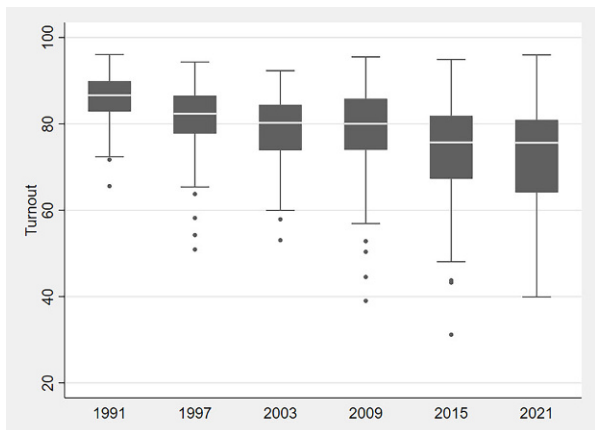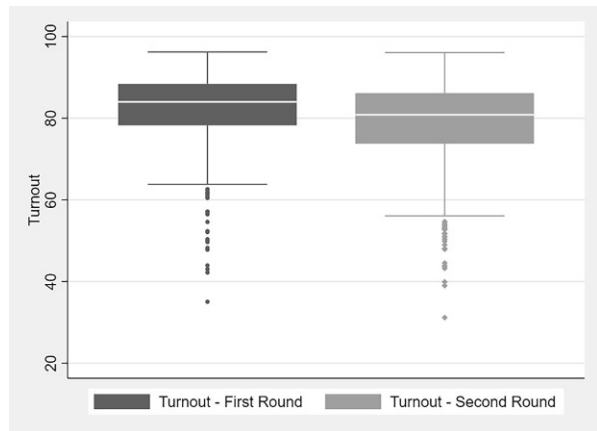
Fig. 2 Turnout of Direct May-
oral Elections—First Round
($n = 652$) vs Second Round
($n = 652$)

nicipalities over time (IQR: 1991: 7.03/2021: 16.78—SD: 1991: 5.65/2021: 12.37).
The comparison of the mean turnout between the first and second ballot (see Fig. 2)
shows only a slight decrease in turnout (mean: 1st round: 82.14/2nd round 78.78/
difference on average: 3.36 percentage points).

5.2 Main predictor

'Expected Closeness' is the main predictor of our model. The factor is defined as the
percentage distance between the second- and first-placed candidates in the first round
of voting and serves as a proxy measure for 'Closeness'. It is linked with turnout
through a positive relationship: The closer the first two candidates are in the first
round (i.e. the higher the level of 'expected Closeness'), the higher we expect voter
turnout to be in the second round. Consequently, the coefficient in the regression
model has to be positive if it points in the anticipated direction. Keeping this in
mind is essential for interpreting the factor and the overall results of this regression
analysis as previous studies partly formulated this relationship as a negative one
where a low distance between the first two parties lead to higher levels of turnout.
As the box plot shows, the variation in 'expected Closeness' remains relatively
stable over time (see Fig. 3). The mean value is –10.13 and changes only slightly
during the observation period (1991–2021). The deviation of the values around the
mean value also remains relatively stable. However, there is considerable variation
in 'expected Closeness' between municipalities. The main predictor varies over the
years from –36.5 percentage points to 0.

We have already noted that the local setting of mayoral elections allows us to
control for the possible alternative effect of more campaigning and ideological dis-
tance, which enables us to focus on the causal mechanism of 'expected Closeness' as
described by the 'Downsian Closeness Hypothesis'. However, one could argue that
campaigning and ideological distance may play a role in larger cities. In addition,
a higher number of seats at stake (which is the case in larger communes) enhances
the effect of 'expected Closeness'. In order to control for these possibilities, we
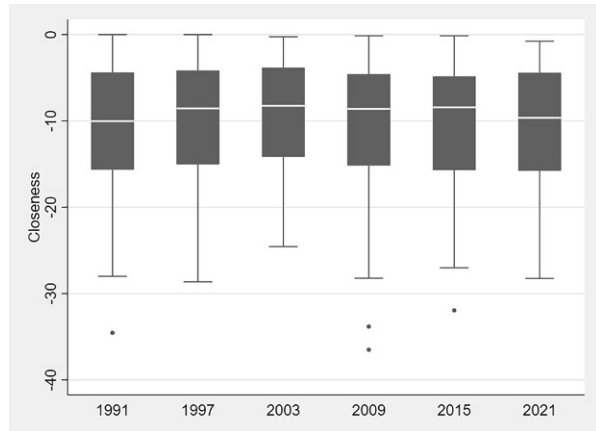
integrate an interaction effect 'Closeness * Size' in our model supplementary to the main effect of 'expected Closeness'.

5.3 Control variables

We include several important control variables in our analysis (Geys 2006). First, we control for the contexts of municipalities, their corresponding federal states and time (meaning the election year). Furthermore, we control for important socioeconomic predictors on turnout, namely the 'Size' of the municipality and its 'Population homogeneity'. Additionally, we integrate data that capture 'Concurrent elections' and 'Previous turnout' in our models.

The effect of 'Size' of the political unit on voter turnout has already been tested in many studies (Cancela and Geys 2016, p. 642 f). The results clearly point out that the larger municipalities are, the lower turnout levels get in elections. We measure 'Size' by the number of eligible voters in thousands of a municipality in the respective election year. Considering 'Population homogeneity', we capture the factor in socio-economic terms by using education data. We add the numbers of individuals with university entrance degrees from secondary schools (i.e. 'Matura' degrees) to the number of university graduates of the respective municipality. Using this sum, we calculate the percentage share of higher educated inhabitants to the total population aged 15 and over of the municipality. Previous research by Heinisch and Mühlböck (2016, p. 175) has shown that 'Population homogeneity' exerts a strong and positive effect on voter turnout in municipal elections. We also control for the possible positive effect of concurrent elections at higher political levels taking place at the same election date (Geys 2006, p. 652). We include the municipalities' turnout levels of the last preceding national elections ('Nationalratswahlen'). Thereby, we capture a potential local political culture of turnout (= 'Previous turnout').

Table 3 summarises all variables included in our models. It is apparent that the independent variables are all centred at the grand mean (Braun et al. 2010, pp. 32–34, and Langer 2010, pp. 57–59) and we integrate logarithmised socio-economic predictors into the models ('Size' in thousands, 'Population homogeneity'). Data

Table 3 Descriptive Statistics—Dependent and Independent Variables

	N	Min	Max	Median	Mean	St. Dev	Skewness
Turnout—Runoffs (Y)	652	31.17	96.07	80.85	78.80	10.11	−1.20
Closeness (X) (centered)	652	−26.37	10.12	1.50	0	7.18	−0.63
Interaction (centered)	652	−113.70	36.01	4.04	0	14.10	−2.98
Size (log/centered, in thousand)	652	−2.40	4.34	−0.14	0	0.99	1.29
Population Homogeneity (log/centered)	652	−1.75	1.34	−0.01	0	0.50	−0.25
Concurrent Elections (centered)	652	−0.31	0.69	−0.31	0	0.46	0.82
Previous Turnout (centered)	652	−37.19	17.67	2.07	0	9.76	−0.60

on all variables are available in the archives of the statistical departments of the Austrian federal states and of Statistics Austria (see "Data Sources" subsequent to the Publication Bibliography).

5.4 Testing hypothesis

Our goal is to estimate the effect of 'expected Closeness' on turnout and our hypothesis assumes a positive linear relationship: The closer the race is between two mayoral candidates in the election, the higher the turnout will be in the runoff. Our 'cases' are all runoff elections in all federal states (six out of nine) since the implementation of direct mayoral elections in Austria. To test our assumption, we opted for a Linear-Mixed-Model. It allows us to test the effect of the main predictor 'expected Closeness' on the level-1-criterion 'Turnout in runoff elections of direct mayoral elections in Austria' in the given contextual setting and measured at the municipal level. Within the family of linear mixed models with regard to the data structure, we apply a Cross-Classified-Model. Such an empirical design is necessary because the units on the lowest level of the model (municipal level) are not continuously hierarchically nested in the upper level(s) (see Table 4). To be more precise, municipalities can be assigned to federal states in hierarchical terms because each municipality can only be part of one federal state. However, 'Municipality' and 'Federal State' are not fixed but time-varying variables. Regarding the context of 'Time', no hierarchical order exists. Rather, municipalities and federal states have multiple memberships in the context of 'time' (although runoff elections were held in all municipalities at all points of time). There is data on elections (level 1) in certain municipalities (level 2/context 1) in certain federal states (level 2/context 2) at specific points in time (level 2/context 3). Municipalities, federal states and time (election years), therefore, have an effect that is both 'cross-classified' and independent of each other on level 2 (defined as 'cross classification'). More precisely, these random effect factors are potentially relevant causes for variation in the 'Turnout in runoff elections of direct mayoral elections in Austria' (Rasbash and Browne 2008).

The given cross-classified data structure allows us to calculate estimates with fixed parameter effects on the first level of the model ('Turnout in runoff elections of direct mayoral elections' in a particular municipality, in a particular federal state and in

Table 4 Example—Structure of the Cross Classification

Runoffs in Mayoral Direct Elections (1–652): Cross Classified with Municipalities (408) Federal States (6) and Time (6)

		Ballots ("x" = points to be estimated)					
		1991	1997	2003	2009	2015	2021
Municipalities in the Austrian federal state of Salzburg	Bruck	x		x	x	x	x
	Dienten	x	x	x	x	x	x
	Fusch	x	x	x			x
	Lend	x	x	x	x	x	x
	Rauris	x			x	x	x
	Taxenbach	x	x	x	x	x	x
	Zell am See	x	x				x
	(etc. ... 118)	x	x	x	x	x	x
Municipalities in the Austrian federal state of ...	(municipalities) ...	x	x	x	x	x	x
	...	x			x	x	x
	...	x	x	x	x	x	x
	...	x	x				x
	...		x	x	x	x	x
	...	x	x			x	x
	...	x	x	x	x	x	x
	(etc.) ...	x	x	x	x	x	x

a certain election year) and to control for the noted contextual random effects on the second level of the model. Out of those parameters, three models with a random intercept each are calculated, once for municipalities, thereupon for federal states and election years. Finally, those models are integrated into a combined estimation. In this case, the effects on the criterion are not interpreted as the influence of one or the other model levels. They are to be seen as interwoven and varied between levels and contexts (Fielding and Goldstein 2006).

In equational terms, the basic model can be specified in the following form:

$$Y_{ijt} = a + X_{ijt} + \text{Cov}_{ijt} + u_i + v_j + w_t + e_{ijt}$$

The term 'a' represents the constant, 'i' the municipality, 'j' the federal state and 't' the time, the election year. 'X' is the main predictor 'expected Closeness (the distance between the second and first-placed candidate in the first round of voting as a proxy measure)' in a given municipality ('i'), in a given federal state ('j'), at a particular point in time ('t'). 'Cov$_{ijt}$' indicates our set of control variables. The character 'u$_i$' specifies the random intercept and the random effect of the municipality on the variance of 'Y$_{ijt}$', the criterion. 'v$_j$' specifies the same for the federal state and 'w$_t$' for the election year. The component 'e$_{ij}$' is defined as the residual on the first level of the model derived from the turnout rate in a municipality 'i', in a federal state 'j', at the time 't' (Rasbash and Browne 2008). The model assumes that the independent variables all have fixed effects, thus having a uniform impact. Whereas the constants vary on the second model level (random effects), the slopes

of the partial parameters (fixed effects) do not. However, their context dependency is explicitly captured. Referring to Baltes-Götz (2013), Braun et al. (2010) and Langer (2010), the cross-classified multi-level model was developed in several steps.

The first model is also known as the 'Empty Model' (or 'RIO-Model'). It offers an insight into the distribution of the variance between the levels and contexts and contains only the fixed constant along with contextual components, but no additional independent variables (Braun et al. 2010, pp. 22–24). In this way, we may explain whether portions of the variance of turnout in mayoral runoffs can be explained by the contextual random effects factors on the second level of the model alone (Langer 2010, p. 742). If no such effect is detected at all, one could proceed without employing a multi-level model. To assess the added value of contextualization with random effects, the Empty model is compared with the Null model, which contains a fixed constant, but no context effects:

Model 1 (Null Model): $\text{Turnout}_{00} = a + e_{00}$
Model 2 (RIO/Empty Model): $\text{Turnout}_{ijt} = a + u_i + v_j + w_t + e_{ij}$

If such context effects are detected and the goodness of fit for the model is positive (Empty vs. Null model), we can calculate on this basis a 'Random Intercepts Model (RIO)' by adding the main predictor 'expected Closeness' measured at level 1, for a municipality 'i', in a particular federal state 'j', at a particular point in time 't':

Model 3 (Main Predictor Model): $\text{Turnout}_{ijt} = a + b_1 \cdot \text{Closeness} + u_i + v_j + w_t + e_{ij}$

The controlled hypothesis test follows in the final step when the alternative independent variables are added. Our full model takes the following form:

Model 4 (Full Model): $\text{Turnout}_{ijt} = a + b_1 \cdot \text{Closeness} + b_i \cdot \text{Cov}_{ijt} + u_i + v_j + w_t + e_{ij}$

As Table 5 shows, the Null model yields a constant of 78.80, representing the average turnout in runoff elections in municipalities, in federal states, and across time (Braun et al. 2010, pp. 29–31). The RIO-Modell also provides the variance components listed as variances of the residuals level 1 (var_e) and the context level (Context 1: Municipality var_i/Context 2: Federal States var_j/Context 3: Time var_t). The fact that the RIO-model is not nested prohibits the use of an LR-test (Stata.com 2021, p. 336). Nevertheless, it is recommended to inspect the AIC- and BIC-coefficients, for which the rule of 'smaller is better' applies. This inspection clearly shows the positive performance of the RIO-Model compared to the Null-Model. We may conclude that turnout in runoffs varies significantly between context units. Thus, the choice of this model (multilevel analysis—cross classified) and application of a Random Intercepts Model is clearly supported.

After having evaluated the necessity for the Random Intercepts Model, we integrate the main predictor into the multi-level model. Indeed, the positive effect of 'expected Closeness' is visible. In Model 3 the parameter estimate for the main predictor is 0.249. This means that for a one-unit increase in 'expected Closeness', we expect a + 0.249 increase (in percentage points) in the dependent variable 'Turnout in runoff elections of direct mayoral elections', holding all other independent variables constant. The closer the race is between the second- and first-placed candidates in the first round of the election, the higher the turnout in the runoff election is. This

Table 5 Dependent Variable: Turnout in Runoff Elections of Direct Mayoral Elections

	Model 1: Null Model	Model 2: RIO Model/Empty Model	Model 3: Main Predictor Model	Model 4: Full Model
Fixed effects				
Closeness			0.249***	0.199***
			(0.035)	(0.033)
Interaction Closeness & Size				0.0411
				(0.025)
Size				−5.154***
				(0.402)
Homogeneity				−2.370***
				(0.639)
Concurrent Elections				2.247**
				(0.823)
Previous Turnout				0.396***
				(0.039)
Constant	78.80***	77.80***	77.78***	78.87***
	(0.396)	(2.811)	(2.775)	(1.309)
Variance components				
Level 1: var_e	102.2***	22.49***	20.49***	17.74***
	(5.660)	(2.002)	(2.002)	(1.549)
Level 2—Context 1: Municipality var_i		44.62***	42.22***	8.303***
		(4.488)	(4.185)	(1.729)
Level 2—Context 2: Federal State var_j		27.04***	24.60***	5.867*
		(18.37)	(16.75)	(4.213)
Level 2—Context 3: Time var_t		18.96***	20.27***	3.916
		(12.30)	(13.10)	(2.762)
Observations	652	652	652	652
AIC	4870.05	4477.86	4437.50	4001.79
BIC	4879.01	4500.26	4464.38	4051.07

Standard errors in parentheses
* $p<0.05$, ** $p<0.01$, *** $p<0.001$

is a first indication that our hypothesis is supported. Moreover, the components of variances for the context factors remain significant in this further model step. Therefore, we can conclude that the criterion systematically varies across 'Municipality', 'Federal State' and 'Time (= election year)' and that these random effects remain relevant explanations for the variation of Y.

In the final step of estimating the effect of 'expected Closeness' on turnout in runoffs, we integrate the control variables into the full model and include the interaction between 'Closeness' and 'Size'. As already mentioned, we control for additional socio-economic as well as political influences. The socio-economic and political factors built into our final model indeed appear to be powerful alternative explanations. In this way, we can observe whether our main predictor 'expected Closeness' remains stable or loses its explanatory power after embedding these powerful control factors. If 'Closeness' sustains its predictive power, importance and relevance of our main predictor is underlined. Model 4 presents the final results. The

effect of 'expected Closeness' remains stable and highly significant even when the powerful alternative predictors are integrated in the model. The results corroborate the suspected impression that a close race shapes turnout in a positive direction. In our full model, a one-unit increase in 'expected Closeness', results in a $+ 0.199$ increase (in percentage points) in the dependent variable.

However, we have to acknowledge that in the full model, the context factor 'Time (= election year)' no longer varies significantly. Nevertheless, the contexts 'Municipality' and 'Federal State' remain relevant explanations for the variation of Y. It is not surprising that the context 'time (= election year)' loses its explanatory power in the full model. The description of the main predictor has already shown that "proximity" mainly varies between the municipalities, but not over time. Moreover, the full model contains powerful fixed predictors additionally covering variances.

With respect to validity and robustness of the main model, we can state that the Akaikes information criterion (AIC) has a value of 4001.79 in Model 4 and is thus clearly below the AIC-level from Model 3, the main-predictor-model, with 4437.50 (Empty-Model/Model 2: 4477.86 and Null-Model/Model 1: 4870.05). Die BIC-values show the same result and further underscore the impression of the model's positive development.

With the interaction effect between 'Closeness' and 'Size', we tried to control for the possible effect of campaigning on turnout. As the results of the full model show, we can rule out this supposition as the slope parameter is insignificant. Consequently, we can assume that voters follow the rational thought that a bigger impact is assigned to their individual vote in case of a closer race. Thus, the causal mechanism of the 'Downsian Closeness Hypothesis' applies for the hypothesis. We assume, that with our research design (observations at the local level) and the integration of the interaction effect, we were also able to control for the possible effect of ideological distance on voter turnout in runoffs.

We can demonstrate the quality of our estimations by a graphic depiction of the model fit (see Scatterplot/Fig. 4) in which the diagonal is defined by the function $Y = X$. The graph shows the criterion predictions as calculated by the Cross-Classified-Modell plotted against the exact data points. Whereas the Null Model can only make predictions based on the constant (in that case, the average outcome of turnout across time, municipalities and federal states), the Full Model shows its added value in the contextualised setting because of its clearly improved predictions of the criterion.

Nonetheless the question arises how much 'expected Closeness' contributes to this high-grade model fit. In order to answer this question and to conclude the empirical part, we want to show how the modelled positive effect of 'expected Closeness' works. To explicitly show what X does to Y, we first look at the variation of 'expected Closeness'. 'Expected Closeness' (logarithmised and centred on the grand mean) varies between -26.37 (min) and 10.12 (max). The higher the value on the scale, the closer the race is. The slope parameter of 'expected Closeness' is 0.199 in the full model. In a fictitious municipality with a large gap (-20 points) between the second and first placed candidates in the first round of elections (value on the logarithmised centred scale: -9.87), no close race is expected, which results in a negative effect of the predictor 'Closeness' on turnout of -1.96 points. However, if
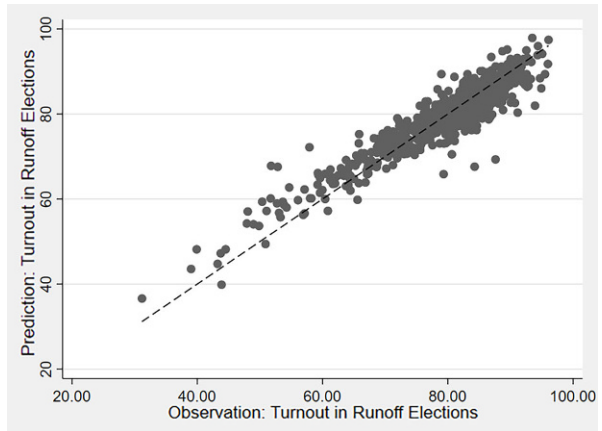
assuming a close race with a gap of only –0.50 (value on the logarithmised centred scale: 9.63) in a similar municipality, the close race leads to a positive effect on turnout of 1.93 points.

Although 'expected Closeness' has a significant effect on turnout, it is not necessarily a powerful predictor compared to the actually very powerful socio-economic factor of 'Size': The coefficient of 'Size' in the full model is –5.154. In a small municipality with 450 people eligible to vote (value on the logarithmised centred scale in thousands: –1.484), there is a positive effect of "Size" of +7.65 points on voter turnout. A large municipality in the Austrian context with around 10,000 voters (value on the logarithmised centred scale in thousands: 1.618) leads to an estimated negative effect on the voter turnout of –8.34 points.

6 Conclusion

Does the expectation of a close race drive more people to vote? Our research paper aims at providing additional evidence to this longstanding question of electoral research. We draw on the Downsian 'Rational Choice Model of Voting', which argues that the impression of a close race between the candidates or parties subjectively puts more weight on the individual vote in an election. This perceived higher importance, in turn, drives more people to go to the polls as they believe that their single vote might have a substantial impact on the outcomes of the election. The closer the race between the candidates is, the higher turnout will be. Several previous studies have investigated this relationship between 'expected Closeness' and turnout before. Although research has found some anomalies, the empirical evidence found by a majority of these studies suggests a positive relationship.

By revising the anomalies in the results, researchers highlight the methodological divergences of the studies: First, most studies measure 'expected Closeness' only indirectly by applying ex-post designs, which captures 'Closeness' as the percentual distance between the first and second placed candidates in the actual election results. More preferable are ex-ante designs: They aim at measuring how close a race

is perceived by the electorate before the elections have actually taken place. Such respective studies rely on opinion polls, previous election results or newspaper reports to capture the 'expected Closeness' of the race.

The second point of methodological differences in studies on 'expected Closeness' considers the investigation level. Some researchers argue that the effect of a close race according to the 'Downsian Closeness Hypothesis' could potentially be masked by the effect of mobilisation and campaigning efforts by the respective parties or candidates. According to this theory, higher turnout levels result from intense campaigning to mobilise more voters to go to the polls. However, scholars have shown that the effect of increased campaign expenditures is primarily relevant for elections on the national level. This also applies to the possible effect of ideological distance on turnout. To isolate the effect of 'expected Closeness', studies on local level elections tend to be more reliable.

Based on the findings of previous research and the corresponding methodological recommendations, this study aims at additional and valid evidence on the role of 'expected Closeness' in affecting turnout. For this purpose, extensive novel data on all direct mayoral elections with runoffs in Austria since their implementation in 1991 has been compiled. The research design enables, on the one hand, an ex-ante measurement of 'expected Closeness' in a time series cross-sectional format and, on the other hand, the isolation of the causal mechanism described in the 'Downsian Closeness Hypothesis'. 'Expected Closeness' is estimated with the distance between the first- and second-placed mayoral candidates in the first round of elections as a proxy measure for 'Closeness'. The conducted analysis includes a cross-classified regression model accounting for the multi-level structure of the included data.

The results show that 'expected Closeness' indeed has the assumed positive effect on turnout. The closer a race is in the first round of mayoral elections, the higher the turnout levels in the subsequent runoff elections are. The coefficient for 'expected Closeness' is significant and points in the anticipated direction. The interaction effect of 'Closeness' with the size of the municipality remains insignificant, which highlights the successful isolation of the effect under investigation. This effective isolation of the parameter of 'expected Closeness' indicates that the causal test of the Downsian 'Rational Choice Model of Voting' was successful. However, other socioeconomic factors—such as the size of a municipality (as a factor on its own) and its population homogeneity—were also found to be significant predictors of turnout. In fact, they even influenced turnout more strongly than the factor of 'expected Closeness'. Therefore, it can be concluded that 'expected Closeness' substantially exerts a positive impact on turnout as suggested by the 'Downsian Closeness Hypothesis', but the effect on its own may not be overrated compared to powerful socioeconomic predictors.

Our research design operates in a local setting. In this way, we were able to implement an ex-ante measurement of 'expected Closeness' to isolate and test the causal mechanism of the 'Downsian Closeness Hypothesis'. However, there is also evidence that 'expected Closeness' shapes turnout particularly in elections on national level and less in sub-national elections. Although 'expected Closeness' affects participation rates, the effect is found to be rather weak compared to powerful socioeconomic factors. Consequently, further research should therefore aim at imple-

menting designs with ex-ante measurements of 'expected Closeness' in the context of national elections.

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