Winning votes: The comparative importance of money and time on parliamentary candidates' electoral performance in Estonia

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Abstract

The literature on post-communist democracies has traditionally suggested that expensive media-based campaigns are key to electoral success. This perception, however, comes largely from past studies that focus on party-level electoral dynamics and capture campaign effort in financial terms. Using original data from the 2011, 2015, and 2019 Estonian Candidate Study, this paper builds on existing literature by providing an up-to date evaluation of how important both monetary and non-monetary campaign efforts are in shaping individual candidates' electoral performance in a post-communist democracy. It finds that, while campaign spending continues to influence candidates' electoral fortunes, candidates need to significantly outspend their rivals to enjoy a meaningful increase in their vote share. There is also emerging evidence that candidates are finally starting to electorally benefit from devoting more time to promoting their candidacy.

Keywords: electoral performance, campaign effort, parliamentary candidates, Estonia

Introduction

Money continues to play a significant, and quite often a controversial, role when it comes to elections and politics more broadly. The amount of money political parties and candidates are spending on their election campaigns continues to rise in many democracies, with the recent presidential election in the United States for example projected to be the most expensive one to date (OpenSecrets 2020), and one needs to look no further than the Silvergate affair in Estonia or Christopher Davies being another politician in the United Kingdom to admit providing false or misleading information for parliamentary allowances claims to find high profile cases that problematise politicians' handling of money. This of course only adds to the increasingly frequent calls for tightening up campaign finance regulations and more transparency around party funding in general. Consequently, it is important that we understand the complex role that money plays in contemporary politics, including the extent to which it can shape candidates' electoral performance.

The conventional understanding of electoral dynamics in post-communist democracies suggests that it is expensive and sophisticated media-based campaigns that are key to parties' electoral success.[1] This perception, however, is being challenged by an emerging body of literature that highlights the value of parties' organisational strength as a non-monetary factor which aids their ability to undertake effective electoral campaigns.[2] There is a growing sense that the debate about what explains electoral success in post-communist democracies might be more open than conventionally thought. It is important to build on existing knowledge and provide an up-to date evaluation of how important both monetary and non-monetary campaign efforts are in shaping what happens on election day. In addition, with the existing studies almost universally focusing on parties and their electoral performance,[3] there is an opportunity to extend our understanding of electoral dynamics in post-communist democracies by looking at what impact monetary and non-monetary campaign efforts have in shaping the electoral performance of the political actors whom voters in most of these countries ultimately cast their ballots for; i.e., individual candidates.

This study uses original data from the 2011, 2015, and 2019 Estonian Candidate Study to address this lacuna. It explores the comparative importance of individual candidates' monetary and non-monetary campaign efforts in shaping their electoral performance.[4] The data cover three parliamentary elections spanning across the last decade, allowing me to provide both an up-to-date evaluation of what factors are currently most influential in driving up candidates' vote share as well as detect any recent changes in the electoral value of different campaign choices and practices. The findings reveal some intriguing insights. It appears that campaign spending continues to influence candidates' electoral performance. That said, if candidates want to enjoy a truly meaningful increase in their vote share, they need to not just increase their campaign budget by a few hundred Euros but significantly outspend their rivals. In

[1] See, for example, van Biezen (2003), Chan (2001), Kopecký (1995), and Mair (1997).
[2] See, for example, Ibenskas (2014) and Tavits (2012, 2013).
[3] The notable exceptions include studies by Koc-Michalska et al. (2014) and Trumm (2016).
[4] For background, please note that while there is a natural cap in how many hours it is possible for any candidate to spend on her campaign, the Political Parties Act of 2014 (Riigi Teataja 2015) – and its previous versions – are relatively unrestricted when it comes to regulating campaign spending in Estonia. Parties are limited to how they can raise funds – i.e., allowed sources include membership fees, state funds, donations, and revenue earned from dealings with party assets –, and there are restrictions on the kind of donations parties and candidates can accept – e.g., donations from foreign interests are banned, unless from persons holding the permanent right of residence or the status of a long-term resident in Estonia –, but campaign spending remains unrestricted for parties as well as individual candidates. There is no legally defined campaign period and campaign spending remains uncapped for both in terms of their overall spend as well as spend on any particular type of campaign advertisement. There is a ban on vote buying, but parties and candidates are effectively free to spend how much they want (and can).

terms of non-monetary effort, I find emerging evidence that candidates are finally starting to benefit from spending more time on promoting their candidacy. This effect, however, has been limited to the most recent parliamentary election. Taken together, it does appear that, while candidates' electoral performance is not determined solely by their campaign spending, money does still have considerable influence on how well, or badly, they perform.

This article is organised as follows. The next section surveys existing literature on electoral success in post-communist democracies and outlines the theoretical expectations. I then describe the datasets and methods used, and present the empirical findings. Finally, the paper will conclude with a discussion of their implications.

Campaign effects

It is widely acknowledged in existing literature on elections that candidates, and parties, that run more intensive campaigns tend to fare better on election day. This has been shown in advanced democracies (e.g., Benoit and Marsh 2010; Jacobson 2006; Schuster 2020), as well as post-communist democracies (e.g., Ibenskas 2014; Koc-Michalska et al. 2014; Trumm 2016). There are, however, still open debates about whether campaign effects vary across different types of candidates (e.g., Gerber 2004; Jacobson 2015; Spenkuch and Toniatti 2018; Stratmann 2009) and campaign messages (e.g., Fowler and Ridout 2013; Lau et al. 1999, 2007), as well as across established and developing democracies (Ben-Bassat et al. 2015), etc. In other words, we know that campaigns matter, but there are gaps in our understanding of how exactly they do.

One area where the existing evidence remains scarcer is the comparative impact of monetary and non-monetary campaign effort on candidates' electoral performance. Studies of individual-level campaign effort and its effectiveness have traditionally focused on campaign spending to capture the intensity of candidates' campaigns (e.g., Jacobson 2013; Kenig and Atmor 2021; Sparks 2018), even if they focus on the intensity of using a particular campaign activity or set of activities (e.g., Schuster 2020; Trumm and Sudulich 2018), instead of their overall campaign effort. The importance of campaign spending as a measure for campaign effort is evident, but there is increasing acknowledgement that campaign time is also relevant as it taps into slightly different aspects of campaign effort. After all, it is possible for a candidate to spend a lot of money on purchasing media advertisements which is financially costly, but does not take much time, or a lot of time on canvassing which is highly time-consuming, or some time on canvassing and some money on media advertisements, etc. In other words, a financially expensive campaign does not necessarily need to be time intensive, and vice versa. The existing evidence around the comparative impact of monetary and non-monetary campaign effort, however, is mixed. The study by Fisher et al. (2014) find independent impacts for campaign spending and the use of free, voluntary labour in the 2010 British general election, and Fisher et al. (2019) find a positive effect for campaign intensity – an index comprised of multiple non-monetary indicators – on electoral performance in the 2015 British general election. At the same time, Gibson and McAllister (2011, 2015) find no effect for campaign time when explaining candidates' electoral performance in Australia.[5] There is still room to build on our knowledge of how influential monetary and non-monetary campaign effort are in shaping candidates' electoral performance.

The importance of exploring further the link between candidates' campaign effort, monetary and non-monetary, and electoral performance is particularly pertinent in post-communist democracies. While the traditional understanding of electoral dynamics in post-communist democracies suggests that one

[5] The studies by Gibson and McAllister (2011, 2015) do not control for campaign spending.

can win elections with expensive media-based campaigns, given that party system development was a top-down affair (e.g., van Biezen 2003; Kopecký 1995; Mair 1997), the more recent evidence is not as clear-cut. The party-level studies by Ibenskas (2014) and Tavits (2012, 2013) find some evidence of campaign spending effect on parties' vote share, but it is not as consistent or strong as one would have expected. The recent findings of individual-level studies are also rather mixed, with Tavits (2010) and Trumm (2016) finding a strong link between campaign spending and candidates' vote share, but Koc-Michalska et al. (2014) do not.[6] There are some early indications that the relevance of campaign effort in determining electoral fortunes in post-communist democracies might be changing. Given that these, however, derive from either party-level analyses or studies focusing on a single election, there is room to build on the existing literature by not only evaluating the comparative effects of campaign spending and campaign time on candidates' vote share, but also looking into whether they have changed across multiple consecutive elections. Taken together, this will provide more nuance to our understanding of the link between candidates' campaign effort and electoral performance, as well as a valuable account of any recent over-time changes to it.[7]

Expectations

A common feature of contemporary electoral contests is a growing degree of uncertainty around them. These contests, after all, tend to be taking place against the backdrop of weakening party loyalties, the rise in late deciders, floating voters, and issue voting (e.g., Dalton 2012, 2019; Lupo 2015; McAllister 2002). As a result, electoral campaigns can have a significant influence on what ultimately happens on election day.

It is widely accepted in the existing literature on elections that campaign spending is positively related to electoral performance. There is no reason to expect this not to be the case in the three parliamentary elections in Estonia that are focused on here. After all, candidates who can spend more money on their campaigns should also be able to pay for additional TV advertisement slots, display billboards in high visibility areas, develop a more professionally looking campaign website, hire more staff members for their campaign, purchase additional ads on social networking sites, etc. All of that should enhance the visibility and reach of candidates' campaigns. This is of course particularly important in a country like Estonia where the use of open lists and relatively large district magnitudes means that candidates must compete with fellow partisans as well as candidates from other parties for personal votes. Moreover, it is likely that candidates' campaign budget not only shapes the quantity of campaign resource that they can use, but also the quality of it. Campaign communication has become increasingly professionalised in recent decades, in their use of online campaigning as well as more traditional forms of campaigning (e.g., Gerodimos and Justinussen 2015; Negrine and Lilleker 2002; Vliegenthart 2012). While there is of course no guarantee that more professional campaigns are always more effective campaigns, it does seem reasonable to suggest that better-funded candidates are able to invest more in hiring professional campaign consultants which, in turn, is likely to lead to more effective campaigning. In other words, it is likely that campaign spending has a positive effect on both the quantity and quality of the campaign

[6] There are also a number of other recent studies exploring the electoral performance of individual candidates in post-communist democracies. These studies, while valuable in furthering our understanding of the different factors that contribute to candidates' electoral success (or failure) in the region, do not tend to capture the effect of campaign effort. For example, Allik (2015) focuses primarily on the role of gender, Górecki and Kukołowicz (2014) and Jankowski and Marcinkiewicz (2019) on gender and gender quotas, Marcinkiewicz (2014) on ballot position effects, and Raugaskas (2021) on gender bias in terms of list placement and partisanship.

[7] A study of candidates' electoral performance in Estonia will also contribute to the broader research agenda that focuses on preferential voting in open list systems.

effort that candidates can put in place. Therefore, I expect campaign spending to have a positive effect on candidates' electoral performance.

H_1: Candidates' vote share is positively influenced by their campaign spending.

It is likely that the amount of time candidates devote to promoting their candidacy in the run up to the election also shapes their electoral performance, even when controlling for campaign spending. There are, after all, several campaign activities that are not particularly costly from a financial point of view, but allow candidates to put their case to voters, nonetheless. For example, digital platforms are able to provide candidates relatively cheap and easy, but potentially time-consuming, opportunities for airing their messages and communicating with voters, including activities like developing a prominent social media presence, writing blogs, recording podcasts, engaging in web chat, etc. Not all online campaign tools are of course free or cheap, but there are such tools available for candidates to leverage and these can be effective in raising their profile (e.g., Chadwick 2006; Enli 2017; Stromer-Galley 2014). While the evolution and importance of Internet campaigning has understandably received a lot of attention in recent times, the more traditional campaigns remain relevant as well. Offline campaign activities such as door-knocking, calling up voters, and street campaigning are relatively cheap, yet time-consuming, but do allow candidates to directly engage with voters and pitch for their support. Spending additional time promoting one's candidacy, online and/or offline, can allow candidates to reach additional voters independent of campaign spending and, in turn, should have a positive effect on their vote share.

H_2: Candidates' vote share is positively influenced by their campaign time.

The remaining expectations follow the existing literature and are highly intuitive. Candidates ought to fare better if they run more candidate-centred campaigns, are incumbents or local councillors, live in the constituency where they stand for election, and head their party's constituency-level candidate list.

Data and methods

The theoretical expectations are evaluated using original survey data from the three most recent waves of the Estonian Candidate Study – i.e., 2011, 2015, and 2019 – and the official individual-level results of the respective parliamentary elections. Taken together, they account for candidates' political profile and campaign behaviour, as well as their electoral performance, over the last decade.

The Estonian Candidate Studies are comprehensible post-election surveys of candidates who stand for election to the Estonian Parliament. They use a core common questionnaire, ensuring that the answers of parliamentary candidates can be compared across different elections. The surveys include questions on candidates' campaign choices – e.g., how much money and time they spend on their campaign, the extent to which they focus their campaign messages on their party versus themselves – as well as their political background, and they are implemented immediately after the respective election to make sure that candidates have a fresh recollection of the campaign choices they made.[8] In addition, candidates are assured that their responses are treated confidentially to ensure they feel able to reveal preferences

[8] The range of questions included in the different versions of the Estonian Candidate Study provides a valuable opportunity to explore how various factors shape candidates' electoral performance over time, but it is important to also note that there are some data-related limitations arising from the coverage of the different versions of the Estonian Candidate Study. For example, we know that candidates' expected likelihood of success tends to shape their campaign choices (Sudulich and Trumm 2019), and it is also likely to relate to their actual electoral success (or failure), but cannot be included in this study as the question was not asked in 2011. The role that candidates' pre-campaign evaluation of their electoral chances plays in influencing the relationship between campaign effort and electoral performance is something that future research should explore further.

and choices which are unfiltered by strategic calculations, and they can leave questions unanswered if they wish to do so.[9]

The analyses undertaken in this paper include data from the 2011, 2015 and 2019 Estonian Candidate Study. There were 146 candidates in 2011 (19% response rate), 226 candidates in 2015 (26% response rate) and 309 candidates in 2019 (28% response rate) who revealed their name, allowing me to match their survey responses with official electoral results, and answered all questions relevant to this study. These samples are broadly representative of the full population of candidates at each of these elections with regards to partisanship, constituency as well as electoral performance.[10]

The official election results are obtained from the National Electoral Committee (2020). These results are complete, capturing all valid votes cast by eligible electors, and available at the level of individual candidates.

Dependent variable

The dependent variable in this study is *vote share*. It is an individual-level measure that captures how well (or badly) a candidate fared at the election. Vote share is operationalised as the natural logarithm of the percentage of constituency-level votes received by the candidate, with higher values indicating stronger electoral popularity among voters.[11]

Three aspects should be noted about this operationalisation. First, relative vote share, as opposed to an absolute number of votes received, is preferred as parliamentary constituencies in Estonia vary a lot in terms of the electorate size. Second, a natural logarithm is used to prevent any outliers from distorting the analysis and ensuring that the assumptions of ordinary least squares regression regarding residuals are met. Finally, vote share is preferred over a simpler elected versus not elected dichotomy due to the way mandates are distributed to candidates in Estonia. Although the majority of mandates – generally around four-in-five – are given to candidates purely on the basis of whether they won more votes than other candidates in the constituency or other candidates of the same party in the constituency, around one-in-five mandates tend to be distributed to candidates through closed party lists. In addition, there is a five per cent electoral threshold that a candidate's party must achieve nationally for her to be able to get elected, irrespective of her own vote share. This means that one can get elected despite winning fewer, and sometimes significantly fewer, votes than unsuccessful candidates. Therefore, vote share is a much more accurate, even if not as instinctive, indicator of candidates' electoral performance than a binary measure of whether they got elected or not would be.

Explanatory variables

The key explanatory variables in this study relate to the intensity of candidates' campaign effort. First, *campaign spending* captures candidates' monetary campaign effort.[12] This variable is operationalised as a relative measure by dividing candidates' self-reported campaign spending by the mean campaign

[9] The Estonian Candidate Study surveys have received ethics approval from the University of Exeter (2011), the University of Sheffield (2015), and the University of Nottingham (2019).
[10] Please see Appendix A for further information about the samples.
[11] Please see Appendix B for additional descriptive information about the variables used in the analyses.
[12] Campaign spending relates to money spent as part of candidate's personal election campaign. As such, it does not include party-level spending, national or regional, that might also promote the candidate in question through campaign materials such as billboards featuring the pictures of all party candidates in a constituency. The survey question was phrased "Thinking about your campaign budget, how much money did you spend on your personal campaign?" and candidates were able to provide an open-ended answer. Please see the original questionnaire for the Estonian version of the question at [website redacted to preserve anonymity].

spending of all candidates in the same constituency. The measure takes the value of 0 if the candidate did not spend anything, 1 if she spent exactly what the mean campaign spend was in her constituency, 2 if she spent double the mean campaign spend in her constituency, etc.[13] I use a relative measure – how much a candidate spent relative to the mean campaign spending of her direct constituency-level competitors – to account for the electoral context in Estonia where the (mis-)fortune of one candidate affects the (mis-)fortune of another. If campaign spending helps candidates obtain more votes, then a candidate should outspend her direct rivals, with the extent to which she wins higher vote share being influenced by the extent to which she outspends those rivals.[14] Second, I use *campaign time* to capture candidates' non-monetary campaign effort.[15] This variable is also a relative measure, operationalised by dividing the number of hours per week candidates spent campaigning in the final month before the election day by the average number of hours reported by all candidates in the same constituency. The measure, therefore, takes the value of 0 if the candidate spent no time on her campaign, 1 if she spent exactly what the mean campaign time was in her constituency, 2 if she spent twice as many hours, etc. Taken together, these variables capture the intensity of candidates' monetary as well as non-monetary campaign effort.[16]

Figure 1 depicts the descriptive relationships between candidates' vote share and campaign effort – in terms of campaign spending and campaign time – for each parliamentary election that took place over the last decade.[17] Interestingly, it offers an early indication that, while campaign spending continues to play a major role in shaping candidates' electoral performance, the extent to which the positive effect of campaign spending exceeds that of campaign time might be declining. The differences in the mean vote shares of candidates spending less than the constituency average and those who spend more than double that are consistently over 1% – 2.5% (0.8% versus 3.3%) in 2011, 1.6% (0.7% versus 2.3%) in 2015, and 2.2% (0.5% versus 2.7%) in 2019 –, but do not display a stable upward or downward trend. At the same time, the differences in the mean vote shares of candidates spending less hours than their constituency average on their campaigns and those who spend more than double that are lower – 0.8% (1% versus 1.8%) in 2011, 1% (0.8% versus 1.8%) in 2015, and 1.7% (0.6% versus 2.3%) in 2019 –, but do suggest an upward trend. The electoral benefit of more time-intensive campaigning appears to be steadily increasing, even if the increase remains relatively slow. Taken together, this does suggest that non-monetary campaign effort might be becoming increasingly influential in shaping candidates' electoral fortunes.

Interestingly, the data presented in Figure 1 also suggest that there are candidates in all three elections who do not appear to conform well to the idea that strong campaign effort leads to strong performance in the polls and weak campaign effort leads to weak electoral performance. In all three elections, there

[13] Estimates from models that exclude candidates who did not spend anything on their campaign and candidates who spent more than three times the constituency average are robust to those reported here.
[14] The relative campaign spending measure also mitigates the endogenous nature of it (Benoit and Marsh 2010).
[15] Campaign time relates to hours spent campaigning by the candidate herself. It does not include any campaign support, in the form of campaign time, provided by volunteers through activities such as canvassing on behalf of the candidate. The survey question was phrased "How many hours per week did you spend campaigning during the final month before the election day?" and candidates were able to provide an open-ended answer. Please see the original questionnaire for the Estonian version of the question at [website redacted to preserve anonymity].
[16] The two measures tap into slightly different aspects of candidates' campaign effort not only on theoretical, but also empirical grounds, correlating at less than 0.4 at all three elections. Moreover, variance inflation factors are low for all independent variables in the multivariate models, providing further evidence that including campaign spending as well as campaign time simultaneously to the models does not lead to multicollinearity problems.
[17] Cases that fall outside the 0-10 range for vote share and/or 0-6 range for campaign spending and/or campaign time are excluded from the figure.

are candidates who carry out extensive campaigns – in terms of campaign spend and campaign time –, but achieve relatively low vote shares, as well as candidates who perform well electorally despite their relatively limited campaign effort. For example, over a third of candidates (34%) who spent more than three times the money, and nearly half of candidates (45%) who spent more than three times the time, that was their constituency average in the most recent election in 2019 received less than what was the mean vote share of all candidates in their constituency. At the same time, 5% of candidates who spent no money on their personal campaign, and 7% of those who spent no time on their personal campaign, still won higher constituency-level vote share than most of their competitors.[18] This does suggest that candidates' campaign effort, while relevant to explaining what happens on election day, is unlikely to be the sole determinant of their electoral performance.

[FIGURE 1 HERE]

Control variables

The analyses also include control variables that capture aspects of candidates' electoral capital. I use *campaign aim* to describe the substantive nature of candidates' campaign messages, ranging from 0 'to attract as much attention as possible for my party' to 10 'to attract as much attention as possible for myself'. Given that voters cast their ballots for individual candidates in Estonia and personal votes are the main determinants of whether one gets elected or not, it is reasonable to expect for candidates who put more emphasis on themselves in their campaign messages to generally win higher vote shares than candidates who run more party-centred campaigns. In addition, *list leader* distinguishes between candidates who headed their party's constituency-level candidate list (coded 1) and those who did not (coded 0).[19] It is plausible that, while voters cast their ballot for individual candidates, not all voters feel informed enough about their preferred party's candidates to differentiate between them and, therefore, rely on list placement as a cue for these candidates' political profile. Candidates who lead their party's constituency-level list are likely to enjoy an electoral bonus. Finally, *locality* separates candidates who live in the constituency they stand for election (coded 1) from those who do not (coded 0). The former should have better knowledge of their local electorate and its key concerns, both of which can be used to design more effective campaigns.

Next, candidates' political profile and experience is captured through two variables. First, *incumbency* is a dichotomous measure that distinguishes between candidates who run as incumbents (coded 1) and those who run as challengers (coded 0). Second, *councillor* is also a dichotomous measure, separating candidates who were serving as local councillors at the time of the election (coded 1) from candidates who were not (coded 0). Candidates who have an established profile as an elected representative, local or national, should enjoy a degree of incumbency advantage due to their greater name recognition and political profile.

Empirical strategy

[18] An exploratory analysis of candidates who stand out by performing better or worse than one would anticipate, given their campaign effort, offers mixed insights. There does not appear to be a clear pattern with regards to the latter in terms of what might explain under-performance, but over-performance does seem to be linked (at least to some extent) to candidates' public profile. Many of the former are either established political figures, at local and/or national level, or hold relatively high-profile and public-facing occupations such as actors and doctors.

[19] Estimates from models that operationalise candidates' list placement as their list position, rather than whether they headed their party's constituency-level candidate list or not, are robust to those reported here.

This study uses ordinary least squares regressions to explain candidate' electoral performance over the last decade. I will run three parallel models, including candidates who stood for office, respectively, in 2011, 2015, and 2019.

Findings

I now turn the attention to the multivariate analysis. Table 1 explains variation in candidates' electoral performance in 2011 (Model 1), 2015 (Model 2), and 2019 (Model 3).

The story that emerges with regards to campaign effort – i.e., spending and time – is rather intriguing. Campaign spending clearly influences candidates' vote share, as shown by the positive and significant coefficients of 0.43 (Model 1), 0.19 (Model 2), and 0.17 (Model 3). This is very much in line with the theoretical expectations and our existing understanding of what drives electoral success in Central and Eastern Europe. After all, candidates who spend more money on their personal campaigns ought to be able to hire more staff, pay for additional advertisement slots, develop a professional-looking website, etc. The consistency of the positive effect suggests that expensive campaigns continue to be beneficial for candidates even in an era where Internet provides easy access to rather cheap campaign tools. The narrative, however, becomes more interesting when looking at the effects of campaign time across the models. The coefficients for campaign time fail to reach conventional levels of statistical significance in Models 1 and 2.[20] The positive and significant coefficient of 0.20 in Model 3, however, suggests that, by the end of the last decade, candidates who spent more time campaigning in the immediate run up to the election day received an electoral boost for their efforts. Even after controlling for spending, the more time candidates at the 2019 parliamentary election dedicated to their campaigns, the higher vote share they tended to win. It is both monetary and non-monetary campaign effort that has become to shape their electoral performance.

Moving on, candidates' political profile influences their electoral fortunes. It is widely acknowledged that incumbents tend to hold an electoral advantage over challengers (e.g., Jacobson 2013; Sudulich et al. 2013; Trounstine 2011), even if this might be slightly declining in some elections (Jacobson 2015). The evidence presented here lends further support to this notion. I find incumbents to consistently fare better than challengers, as revealed by the positive and significant coefficients of 1.21 (Model 1), 0.99 (Model 2), and 0.95 (Model 3). There is an electoral benefit in having a track record of working as an MP and the greater name recognition that tends to come with it. Interestingly, I also find evidence that holding local-level elected office has become an electoral asset over the course of the last decade. The study by Trumm (2016) finds no link between holding local-level political office and vote share at the 2011 parliamentary election in Estonia and, in line with this, the coefficient for councillor also fails to reach conventional levels of statistical significance in Model 1. It does appear that local-level political experience did not use to translate into higher vote share. The positive, and significant, coefficients of 0.90 (Model 2) and 1.13 (Model 3), however, suggest that candidates who served as councillors at the time of the 2015 and 2019 parliamentary elections did tend to enjoy higher vote shares than those who were not serving councillors. It appears that local-level political experience has also become to matter. Taken together, it is now both candidates' national- and local-level political profile that influences the vote share they win.

[20] It is important to note that the campaign time measure does not capture non-monetary campaign support that a candidate may receive from volunteers on her behalf. It is possible that the effect associated with campaign time may be stronger if the measure included time spent by the supporters of the candidate on behalf of the candidate.

In terms of candidates' electoral capital, the effects associated with list leader stand out. The positive and significant coefficients of 0.82 (Model 2) and 0.95 (Model 3) suggest that candidates who headed their party's constituency-level candidate list tended to win higher vote shares than those who were placed lower down the list in 2015 and 2019, respectively. This pattern follows the expectations. After all, there are likely to be voters who have a preferred party, but not necessarily a preferred candidate within that party. It is reasonable to expect these voters to cast their ballot disproportionately for the list leader. I also find some evidence that candidates' campaign aim influences their vote share. The positive and significant coefficients of 0.07 (Model 1) and 0.06 (Model 3) suggest that candidates who carried out more personalised campaigns in 2011 and 2019, respectively, tended to win higher vote shares. Given that voters in Estonia must cast their ballot for individual candidates, it makes sense for candidates to benefit electorally from carrying out more personalised campaigns. Finally, locality only had a significant effect in Model 1, suggesting that the electoral benefit associated with living in one's constituency dissipated over the course of the last decade.

[TABLE 1 HERE]

To illustrate the real world meaning of the findings, Table 2 presents predicted values for candidates' vote share.[21] For each effect, the characteristic in question varies, while others are held constant.

Starting with campaign effort, note first that the positive effect associated with campaign spending has declined since 2011. The predicted vote share for candidates spending six times their constituency average is 8.1 points higher than that for candidates spending nothing at all on their campaign in 2011 (8.8% versus 0.7%), while the effect is 1.7 points in 2015 (2.4% versus 0.7%) and 1.3 points in 2019 (2.1% versus 0.8%). This lends support to the notion that the extent to which expensive, media-based campaigns can shape electoral fortunes appears to be declining. In contrast, time-intensive campaigns seem to have become more influential in winning additional votes over the last decade. While I do not find evidence that campaign time systematically influenced vote share in 2011 and 2015, the predicted vote share of candidates who spend six times more hours campaigning ahead of the 2019 election than their constituency average is 2.1 points higher than that for candidates spending no time at all on their campaign (3% versus 0.9%). This effect is weaker than that associated with campaign spending, but it does suggest that the impact of campaign spending on electoral dynamics is not as dominant as it used to be, and that both monetary and non-monetary campaigns efforts have become to influence electoral performance.

In terms of the other factors, incumbency stands out as consistently providing an electoral advantage. The predicted vote share for incumbents is 2.9 points higher than that for challengers in 2011 (4.1% versus 1.2%), 1.7 points higher in 2015 (2.7% versus 1%), and 1.5 points higher in 2019 (2.5% versus 1%). Interestingly, the positive effect of councillor has risen to equivalence with that of incumbency, being 1.6 points by the end of the decade (2.4% versus 0.8%), while the positive effect of list leader is 1.5 points in 2019 (2.5% versus 1%). Finally, the effects associated with campaign aim and locality, when present, are smaller in size.

[TABLE 2 HERE]

[21] Predicted values are provided for all effects, other than those associated with partisanship, that are statistically significant in Table 3.

Figure 2 further illustrates the change that appears to have taken place in the effect of campaign effort on candidates' predicted vote share. The positive effect of campaign spending in 2011 stands out here. It is significantly larger than the other effects depicted in terms of their overall effect size. At the same time, the other three effects are highly comparable in their size throughout the campaign effort scale.

[FIGURE 2 HERE]

Discussion

It is widely believed that candidates, and parties, who carry out more intensive campaigns tend to fare better on election day (e.g., Benoit and Marsh 2010; Fisher et al. 2014; Sudulich et al. 2013). Whereas we already have an established account of how monetary campaign effort – i.e., campaign spending – contributes to electoral performance, evidence about the role played by non-monetary campaign effort – i.e., campaign time – is much scarcer. The latter comes mainly from studies of electoral dynamics in advanced democracies (e.g., Gibson and McAllister 2011, 2015) and studies relying on measures such as access to free labour to capture capacity for non-monetary campaign effort (e.g., Fisher et al. 2014). Moreover, existing insights about the link between campaign effort and electoral performance in post-communist democracies tend to derive from analyses that either focus on party-level electoral patterns (e.g., Ibenskas 2014; Tavits 2012, 2013) or are limited to a single election (e.g., Koc-Michalska et al. 2014; Tavits 2010; Trumm 2016). It is important to build on the existing studies of electoral dynamics in post-communist democracies by looking at the comparative importance of campaign spending and campaign time in shaping individual candidates' electoral fortunes, and do so by focusing on multiple elections to better capture any over-time changes in the link between candidates' campaign effort and electoral performance.

This study uses data from the 2011, 2015, and 2019 Estonian Candidate Study to address this lacuna. It explores the importance of candidates' campaign spending and campaign time in shaping their vote share at each of the three parliamentary elections that took place in Estonia over the previous decade. In doing so, it provides novel insights into the comparative importance of monetary and non-monetary campaign effort in influencing contemporary electoral outcomes in post-communist democracies, and recent changes in the relationship between campaign effort and electoral performance. The findings reveal that the electoral benefit associated with campaign spending remains significant, but candidates need to outspend their rivals by a considerable margin to gain a meaningful electoral advantage. There is also emerging evidence that candidates are finally starting to benefit from conducting time intensive campaigns. Finally, in terms of the other explanatory variables, incumbency stands out as a consistent and strong electoral asset across all three elections, while local councillorship and list leadership do so for the two most recent elections.

There are three broader points arising from this study. First, these findings suggest that the importance of money in shaping what happens on election day in post-communist democracies might be declining both in absolute and relative terms. Whereas the conventional understanding of electoral dynamics in post-communist democracies suggested that, due to the top-down development of party organisations, expensive media-based campaigns were needed for electoral success (e.g., van Biezen 2003; Kopecký 1995; Mair 1997), the recent party-level evidence has challenged this perception (e.g., Ibenskas 2014; Tavits 2012, 2013). The evidence presented here builds on the latter narrative, showing that campaign spending has become less influential in determining electoral performance also on the individual level over the previous decade. From the perspective of candidates, it is becoming increasingly important to invest not only money, but also time into one's campaign effort. This does mean that campaigning has potentially become more burdensome for candidates. However, it also means that the playing field has

potentially equalised a bit for candidates. Those who can draw on smaller campaign budgets are better able to make up for this disadvantage through more time intensive campaigns than they used to be.

Second, the findings suggest that there are growing incentives for candidates to take a long-term view of their electoral strategy. The 'smash-and-grab' strategy that sees candidates spend a lot of money in a short period of time immediately before the election day appears increasingly risky, given the lower electoral benefit of campaign spending towards the end of the previous decade, and the positive effect of campaign time in the most recent election was not strong enough to make up for the reduced ability of campaign spending to drive up one's vote share. In other words, campaign spending alone carried a bigger positive effect on candidates' vote share at the beginning of the previous decade than campaign spending and campaign time did combined at the end of it. This does mean that candidates' ability to drive up their vote share through an intensive campaign effort immediately before the election day has weakened and, as a result, starting one's campaign early has become more beneficial.

Third, there are practical implications associated with the considerable importance of list leadership in influencing candidates' electoral performance at the most recent elections. This means that, even in a relatively candidate-centred electoral system like the open-list proportional system used in Estonia, parties can continue to exercise a lot of influence over candidates' electoral prospects. Gatekeeping access to the top of one's constituency-level candidate list is a significant power that parties hold and can potentially leverage in interactions with their members who aspire for election, or re-election, to the Parliament.

In sum, these findings build on our existing understanding of what influences the electoral fortunes of parliamentary candidates in Estonia. In doing so, they also talk to the broader literature on campaign effects and that of preferential voting in open-list proportional representation electoral systems. At the same time, this study also highlights the need for extending this line of enquiry. Future research could disaggregate the monetary and non-monetary measures of campaign effort even further. It should also explore whether the growing importance of the latter continues to be the case in future elections.

Appendix A. Estonian Candidate Study

The Estonian Candidate Study provides unique data to study the campaign behaviour of parliamentary candidates in Estonia. I used the Duncan index of dissimilarity to show that the samples obtained from the 2011, 2015, and 2019 Estonian Candidate Study differ from the full population of candidates who ran for office. This index ranges from 0 to 1, with higher values indicating greater difference between the full population and the sample (Duncan and Duncan 1955).

Table A1 shows the comparison between the sample and the full population of candidates for all three parliamentary elections in question. The comparison of candidates' partisanship yields values of 0.05, 0.12, and 0.17 for 2019, 2015, and 2011, respectively, while the corresponding Duncan index scores for constituency are 0.10, 0.08, and 0.12, those for incumbency are 0.03, 0.08, and 0.04, and those for list leader are 0.03, 0.01, and 0.07. Finally, the comparison of mean vote share among the sample and the full population shows differences of 0.02, 0.04, and 0.02 for 2019, 2015, and 2011, respectively. It does appear that, while the samples remain broadly representative of the respective full populations of candidates, there are some differences, as one would expect from elite survey data. The data used in the analyses under-represent successful candidates and the Estonian Centre Party candidates, and the mean vote share is lower among candidates in the samples than in the respective full populations. That said, the data still offer unique insights into a broad, and relatively representative, range of candidates.

Table A1. Estonian Candidate Study sample

	2011		2015		2019	
	Candidates %	Sample %	Candidates %	Sample %	Candidates %	Sample %
Partisanship						
Estonian Centre Party	16.5	4.8	14.5	9.3	11.5	9.4
Estonian Reform Party	16.5	18.5	14.4	11.1	11.5	14.2
Social Democratic Party	16.5	24.0	14.5	14.2	11.5	12.6
Pro Patria	16.5	24.0	14.5	13.7	11.5	12.0
Conservative People's Party	-	-	14.5	19.5	11.5	12.3
Free Party	-	-	14.5	21.2	-	-
Other	33.9	28.8	12.9	11.1	42.3	39.5
	Duncan index = 0.17		Duncan index = 0.12		Duncan index = 0.05	
Constituency						
Tallinn I	8.6	6.2	9.3	12.4	9.7	11.3
Tallinn II	10.2	7.5	11.3	7.1	12.0	9.1
Tallinn III	7.8	9.6	8.3	8.0	7.8	6.2
Harju-, Raplamaa	12.3	14.4	13.1	13.3	13.8	15.2
Hiiu-, Lääne-, Saaremaa	6.7	4.1	6.3	9.7	6.6	4.9
Lääne-Virumaa	5.8	6.2	5.6	5.3	5.5	4.5
Ida-Virumaa	8.9	7.5	7.1	8.4	6.9	4.2
Järva-, Viljandimaa	7.5	10.3	7.0	6.6	7.2	7.8
Jõgeva, Tartumaa	7.5	11.6	7.8	7.5	7.2	11.0
Tartu	7.8	6.9	8.0	6.6	7.7	8.1
Võru-, Valga-, Põlvamaa	9.0	7.5	8.6	8.9	8.2	9.1
Pärnumaa	7.9	8.2	7.7	6.2	7.4	8.7
	Duncan index = 0.12		Duncan index = 0.08		Duncan index = 0.10	
Electoral performance						
Successful	13.3	15.8	11.7	7.1	9.3	9.1
Unsuccessful	86.7	84.3	88.3	92.9	90.7	90.9
	Duncan index = 0.02		Duncan index = 0.05		Duncan index = 0.00	
Vote share						

	1.5	1.3	1.4	1.0	1.1	0.9
	Difference = 0.2		Difference = 0.4		Difference = 0.2	
Incumbency						
Challenger	86.8	91.1	87.5	95.6	91.2	93.9
Incumbent	13.2	8.9	12.5	4.4	8.8	6.2
	Duncan index = 0.04		Duncan index = 0.08		Duncan index = 0.03	
List leader						
No	85.7	92.5	86.2	87.2	89.0	92.2
Yes	14.3	7.5	13.8	12.8	11.0	7.8
	Duncan index = 0.07		Duncan index = 0.01		Duncan index = 0.03	

Note: Independent candidates are excluded when calculating scores for the full population.

Appendix B. Additional information on variables

Table B1 provides additional information about the variables used in the analyses.

Table B1. Dependent and independent variables

Variables	Range	Average	Standard deviation	Source^^^
		2011		
Dependent variable				
Vote share^	0.0-8.4	Mean: 1.3	1.7	ECS
Independent variables				
Campaign spending^^	0-30,000	Mean: 2,010	3,860	ENEC
Campaign time^^	0-105	Mean: 19.2	19.9	ENEC
Campaign aim	0-10	Mean: 4.4	2.8	ENEC
Incumbency	0-1	Mode: 0	0.3	ENEC
Councillor	0-1	Mode: 0	0.5	ENEC
Locality	0-1	Mode: 1	0.4	ENEC
List leader	0-1	Mode: 0	0.3	ENEC
		2015		
Dependent variable				
Vote share^	0.0-13.2	Mean: 1.0	1.7	ECS
Independent variables^^				
Campaign spending^^	0-50,000	Mean: 1,940	4,500	ENEC
Campaign time	0-120	Mean: 14.4	17.5	ENEC
Campaign aim	0-10	Mean: 3.6	3.1	ENEC
Incumbency	0-1	Mode: 0	0.2	ENEC
Councillor	0-1	Mode: 0	0.5	ENEC
Locality	0-1	Mode: 0	0.5	ENEC
List leader	0-1	Mode: 0	0.3	ENEC
		2019		
Dependent variable				
Vote share^	0.0-13.8	Mean: 0.9	1.7	ECS
Independent variables				
Campaign spending^^	0-50,000	Mean: 1,880	4,630	ENEC
Campaign time^^	0-60	Mean: 11.7	13.3	ENEC
Campaign aim	0-10	Mean: 3.8	3.1	ENEC
Incumbency	0-1	Mode: 0	0.2	ENEC
Councillor	0-1	Mode: 0	0.5	ENEC
Locality	0-1	Mode: 1	0.4	ENEC
List leader	0-1	Mode: 0	0.3	ENEC

^ Non-logged version.

^^ Absolute version; campaign spending in Euros; campaign time in hours.

^^^ ECS - Estonian Candidate Study; ENEC - Estonian National Electoral Committee.

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Tables

Table 1. Explaining candidates' electoral performance

	2011 Model 1	2015 Model 2	2019 Model 3
Campaign spending	0.43** (0.07)	0.19** (0.05)	0.17** (0.03)
Campaign time	0.01 (0.10)	0.06 (0.08)	0.20** (0.06)
Campaign aim	0.07* (0.03)	0.03 (0.03)	0.06** (0.02)
Incumbency	1.21** (0.35)	0.99* (0.38)	0.95** (0.31)
Councillor	0.26 (0.19)	0.90** (0.16)	1.13** (0.14)
Locality	0.50* (0.23)	-0.02 (0.15)	0.12 (0.16)
List leader	0.01 (0.37)	0.82** (0.23)	0.95** (0.28)
Constant	-1.91** (0.27)	-1.66** (0.15)	-2.36** (0.17)
Observations	146	226	309
R^2	0.38	0.33	0.42

Note: standard errors in parentheses; *p<0.05, **p<0.01.

Table 2. Predicted values for vote share

	Predicted vote share (%)			
	Minimum	Mean	Maximum	Δ
Campaign spending*				
2011	0.7	1.1	8.8	8.1
2015	0.7	0.9	2.4	1.7
2019	0.8	0.9	2.1	1.3
Campaign time*				
2011	-	-	-	-
2015	-	-	-	-
2019	0.9	1.1	3.0	2.1
Campaign aim				
2011	1.1	1.6	2.3	1.2
2015	-	-	-	-
2019	1.0	1.3	1.7	0.7
Incumbency				
2011	1.2	-	4.1	2.9
2015	1.0	-	2.7	1.7
2019	1.0	-	2.5	1.5
Councillor				
2011	-	-	-	-
2015	0.9	-	2.1	1.2
2019	0.8	-	2.4	1.6
Locality				
2011	1.3	-	2.1	0.8
2015	-	-	-	-
2019	-	-	-	-
List leader				
2011	-	-	-	-
2015	0.9	-	2.2	1.3
2019	1.0	-	2.5	1.5

* Minimum=0, mean=1, maximum=6.

Figure 1. The descriptive relationship between campaign effort and electoral performance

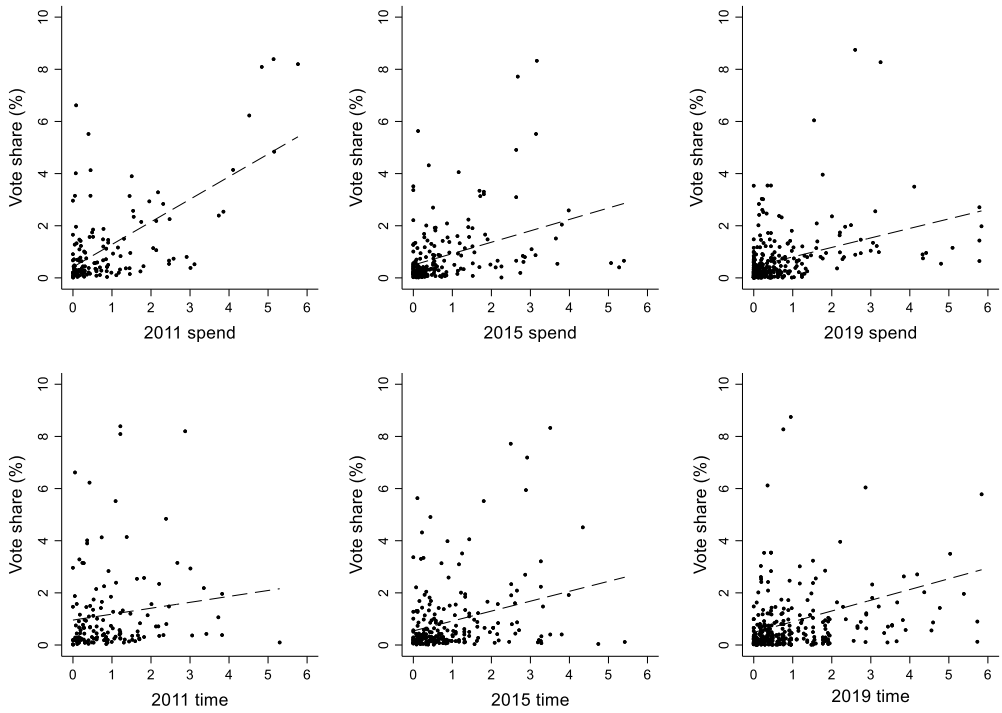

Figure 2. The effect of campaign effort on predicted vote share