Enlightening the voters: The effectiveness of alternative electoral strategies in the 2013 Italian election monitored through (sentiment) analysis of Twitter posts

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Abstract

While a number of studies discuss the nature of electoral strategies, the effectiveness of these approaches has rarely been tested. By monitoring the electoral campaign for the Italian 2013 election we assess the impact of alternative electoral strategies, distinguishing positive and negative campaigning as well clientelistic and distributive promises. This paper takes advantage of an innovative supervised technique of sentiment analysis that allows estimating the political preferences of the public opinion. The daily variation in the voting intentions expressed on Twitter has been analyzed to evaluate the effect of different campaign messages, measured through the hand-coding of parties and leader’s official Twitter account. The results show that negative campaign seems effective mainly when targeted against a rival adjacent party and when the attacker is meanwhile under attack. Conversely, positive campaign seems never effective in winning votes except when it consists of clientelistic and distributive promises. These promises, in turn, seem to have an impact only when the offer matches the demand. If electoral campaigns are about enlightening the voters, this work highlights when and how this happened, wielding implications for political analysts and spin-doctors
Introduction

The question of whether electoral campaigns matter for electoral outcomes or not is a debated one (Finkel 1993; Enns and Richman 2013; Geer and Lau 2006; Gelman and King 1993; Holbrook 1996; Iyengar and Simon 2000; Lau and Pomper 2002; Shaw 1999; Stevenson and Vavreck 2000; Wlezien and Erikson 2002). Although some authors argue that elections outcomes are defined in advance (Lewis-Beck and Rice 1992), there is a general agreement around the idea that campaign events can alter the results (Shaw 1999; Stevenson and Vavreck 2000; Wlezien and Erikson 2002) even though the overall effect could be predictable, minimal, or limited to the short-run (Gelman and King 1993; Holbrook 1996).

While there is some consensus on the overall effectiveness of campaigns, researchers fail to agree on which campaign strategy is the best one. A number of papers has focused on the tone and the content of campaigns to test the effects of positive or negative campaigning (Ansolabehere et al. 1994; Ansolabehere and Iyengar 1995; Geer and Lau 2006; Lau and Pomper 2002; Martin 2004; Min 2004; Pattie et al. 2011), or to distinguish between policy proposals or valence-oriented messages (Abney et al. 2013; Clark 2009; Min 2004) and compare the relative success of communication styles in mobilizing the electorate and winning votes. All these works try to estimate the impact of alternative electoral strategies, focusing on the impact of political messages issued in traditional media (see Wu and Dahmen 2010 for an exception) analyzed through experiments or aggregate survey data (e.g., Lau et al. 2007).

The present paper evaluates the relative effectiveness of electoral strategies, i.e. negative and positive campaign as well clientelistic and distributive appeals, examining the information provided by new media. The analysis relies on Twitter, a micro-blogging platform that enables a direct connection between parties, politicians, and voters and represents a form for unmediated political communication. By using the information available on Twitter we coded the political content of campaign messages published online in the wake of 2013 Italian general elections. Then through ‘ReadMe’, an innovative technique of text analysis that allows estimating the political preferences of the public opinion by means of semi-automated supervised sentiment analysis (Hopkins and King 2010; Ceron et al. 2013a) we measured the unsolicited voting intentions that have been expressed on Twitter day-by-day across the campaign. These data provide an original and unique attempt to link the daily variation in campaign communication (Iyengar and Simon 2000) with shifts in the aggregate voting preferences.\(^1\)

The paper is organized as follows. The next section summarizes the literature on campaign strategies and states our main hypotheses. Section two gives an overview of the Italian 2013 election and discusses the relevance of social media as source of data. The third section describes and contrasts the different electoral strategies adopted by Italian parties. Section four presents the main concerns related to the measurement of campaign

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effects and explains the method adopted in the paper. Section five shows the estimates of voting intentions linking their variation across time to the events of the campaign. Finally, sections six and seven present and discuss the results of the statistical analysis.

1 Tone and content of campaign messages: what matters most?

Messages delivered during the electoral campaign can be differentiated according to their tone or content. We can distinguish four main categories depending on whether the message is negative or positive and it addresses policy (Downs 1957) or valence issues (Stoke 1963). It has been argued that policy preferences are crucial to explain the voters’ choice, so that parties contest the elections presenting alternative policy platforms (McDonald and Budge 2005; Powell 2000). However, recent studies suggest that, besides policy and economic factors, character-based valence contributes to explaining the outcomes of the elections (Abney et al. 2013; Clark 2009) and valence competition is particularly relevant when rival parties tend to converge and present similar policy platforms (Curini and Martelli 2010, 2013). Accordingly, we can distinguish messages with policy content from those valence-oriented.

On the other side, we can classify negative and positive campaigning based on the tone of the message. The negative campaign consists in talking about rival parties and candidates to attack or criticize them, blaming their policy programs or personality traits. Conversely, positive campaign puts emphasis on own valence qualities or policy proposals and consists in self-promotion advertisements. Scholars have long been investigating the effect of positive and negative campaigning to assess which strategy is the most efficient to earn votes. These studies, however, report puzzling controversial results.

Some authors suggest that negative campaign has positive effects on the attacker, which could depend on its ability to increase the attacker’s vote share by rallying partisan voters (Ansolabehere and Iyengar 1995) or to diminish support for the target. Others point out that negativity produces a backlash effect (e.g., Roese and Sande 1993) reducing the affect towards the attacker (but see: Lau et al. 2007; Wu and Dahmen 2010). If this is the case, negative campaigning may have no net effects because it reduces the desirability of both the target and the sponsor of the campaign (Allen and Burrell 2002). In a meta-analytic review of the literature on the effects of negative campaigning, Lau et al. (2007: 1183) ‘do not bear out the proposition that attacking is an effective way to bolster one’s own image relative to that of one’s opponent’. They conclude that negative campaigning is no more effective than positive campaigning and seemingly its only consequence is to mobilize and stimulate partisans to get out and vote.

Other studies tried to shed light on this puzzle contending that the positive effect of ‘going negative’ is conditional and could be mediated by several factors such as the nature of the attacker or the style of communication. In particular it has been argued that this strategy is beneficial for challengers while could be damaging for incumbents.
(Lau and Pomper 2002). Other works shown that the effectiveness of negative campaign depends on the target, and could be rewarding only when direct to rival parties that retain similar ideological position on the left-right scale (Curini and Martelli 2010, 2013). The general tone of the electoral competition also plays a role: for instance, going negative could be the best reply to an attack (Lau and Pomper 2004). In addition, the focus of the negative campaign, policy or valence oriented, can wield different outcomes (Min 2004). Starting from the existing literature we can raise a set of hypotheses related to the impact of negative campaign:

- **Hypothesis 1A (H1A):** Negative campaigning increases the votes share of the attacker.
- **Hypothesis 1B (H1B):** Negative campaigning damages the votes share of the target.
- **Hypothesis 1C (H1C):** Policy-oriented negative campaigning increases the votes share of the attacker.
- **Hypothesis 1D (H1D):** Valence-oriented negative campaigning increases the votes share of the attacker.
- **Hypothesis 1E (H1E):** Negative campaigning increases the votes share of the attacker but for the incumbent party.
- **Hypothesis 1F (H1F):** Negative campaigning increases the votes share of the attacker only when made against a rival adjacent party.
- **Hypothesis 1G (H1G):** Negative campaigning increases the votes share of the attacker only when it rebuts to someone else’s attacks.

Positive campaigning is the other side of the coin. It has been argued that positive messages should increase the consensus over a candidate (Chang 2003). Some authors find support for this hypothesis (Min 2004) even though evidence is somehow controversial (Wu and Dahmen 2010) and it has not been ascertained whether positive campaign produces better results compared to negativism. Even here we can deepen the analysis by distinguishing between positive messages related to policy (electoral promises) or valence issues. In addition we can investigate the content of policy promises to assess whether different kind of promises are more or less useful to win votes. A stream of research investigates the effect of distributive policies on voters mobilization distinguishing programmatic and clientelistic appeals by the type of public or private goods delivered to voters (Kitschelt 2000; Kitschelt and Wilkinson 2007). Recent work, however, started to build a bridge between these two aspects (Calvo and Murillo 2013). In light of this, we can assess whether promises related to distributive politics conveying economic benefits to a well-defined subset of voters are a better strategy to buy their support than non-distributive programmatic stances and valence competition. Clientelistic and distributive promises are a vote-getting tactics that imply some costs: by targeting benefits to some categories they can alienate the consent of others, such as middle class voters.
(Weitz-Shapiro 2012) or skilled individuals (Calvo and Murillo 2004). Even though distributive policies give any party the chance to transfer resources to their constituencies, this strategy helps mobilizing some types of voters more than others, therefore not all parties benefit equally from patronage spending (Calvo and Murillo 2004). Thus, clientelistic strategies are more effective when there is a match between the demand (voters) and the supply (parties) of distributive policies (Piattoni 2001). Finally, patronage seems more successful for incumbents and regional candidates (Wantchekon, 2003). From these suggestions we identify another set of hypotheses.\(^2\)

**Hypothesis 2A (H2A):** Positive campaigning increases the party’s votes share.

**Hypothesis 2B (H2B):** Policy-oriented positive campaigning increases the party’s votes share.

**Hypothesis 2C (H2C):** Valence-oriented positive campaigning increases the party’s votes share.

**Hypothesis 2D (H2D):** Policy-oriented positive campaigning increases the party’s votes share only when it consists of distributive clientelistic promises.

**Hypothesis 2E (H2E):** The positive effect of distributive clientelistic promises is conditional on the party making the promise.

**Hypothesis 2F (H2F):** The positive effect of distributive clientelistic promises holds only for incumbent parties.

### 2 Italian elections 2013: a (social media) campaign

The 2013 Italian general elections took place in February. Three main coalitions contested the elections: the center-left was led by Pierluigi Bersani, selected in December 2012 through open primary election, and composed of the Democratic Party (PD), the left-wing group named Left Ecology and Freedom (SEL) and a small centrist party; the center-right coalition, led by Silvio Berlusconi, included the People of Freedom party (PDL), the Northern League (LN) and other minor right-wing parties; the centrist alliance was composed of Civic Choice (SC), a new party created in December 2012 to sustain Mario Monti, plus the Union of Christian and Centre Democrats (UDC) and a small splinter group of the PDL. Alongside these coalitions, other two new parties entered the political arena for the first time and ran the election alone: the Five Star Movement (M5S), created by the comedian Beppe Grillo,\(^3\) and Civil Revolution (RC) an electoral cartel composed by Antonio Di Pietro’s Italy of the Values, the Greens and two far-left communist parties who selected a former anti-mafia prosecutor, Antonio Ingroia, as their leader.

\(^{2}\)From here on we will adopt the term clientelism to refer to both clientelistic and distributive policies (see below).  
\(^{3}\)See Bordignon and Ceccarini (2013) for a description of the history of M5S.
The different actors competing in the elections were characterized by specific strategies and messages. The center-right coalition ran on an anti-tax platform, whose main features were the abolition of the housing tax introduced by the Monti cabinet (IMU), a promise that was championed by Berlusconi’s PDL, and the idea, supported by the Northern League, to increase Northern regions’ budgets by keeping 75% of income taxes paid by their residents instead of transferring these money to the central government. The centre-left coalition ran a campaign based on values and policies, stressing the need for social justice and equal opportunities (‘fair Italy’ was the main slogan of the campaign) and the willingness to put an end to Berlusconi’s political career. The centrist alliance relied on Monti’s record as Prime Minister to inform a pro-Europe, pro financial rigor policy platform. The M5S main message throughout the campaign was an invitation to voters to send home all political parties, as a reaction to their alleged corruption and incompetence. Finally, RC presented a left-wing platform and relied on Ingroia’s reputation to attract voters.

In the 2013 general elections, for the first time, social media have been widely used by Italian political parties to carry out the political campaign. Twitter in particular played a relevant role up to the point that the incumbent Prime Minister, Mario Monti, announced his decision to run in the election on his Twitter account first. All the main parties and their leaders have been widely active on-line. They write messages to organize and advertise the events of the campaign, such as public rally or television debates, but they also disseminate on-line the content of such events publishing all the statements made by the leader during a rally or made during the interviews with the media. Politicians often used Twitter to talk to each other, for instance to offer or negotiate alliances or to comment and react in real time to the breaking news of the political agenda. They also replied to the questions raised by the voters.4

Since politicians used to report and broadcast all the declarations released during the campaign on their accounts, the information freely available on Twitter becomes a unique source to describe and analyze the history of the campaign and to compare the alternative strategies adopted by the parties. This aspect is even more relevant if we consider that in recent elections the campaign agendas presented on-line are closely linked with the agenda of traditional news media (Ku et al. 2003). Accordingly, we can sketch day-by-day the communication strategies that parties adopted simply by looking at their Twitter accounts.

Politicians were obviously not alone on social media. Voters made an extensive use of Twitter as well, writing millions of messages to express their opinions throughout the campaign. The analysis of the contents published on-line, therefore, is particularly intriguing for another reason: by analyzing the user-generated content of tweets posted by voters we can estimate the percentage of unsolicited voting intentions expressed on-line, on a given day. This represents a unique opportunity to monitor, on a daily basis, the

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4For example, on January 5th the Prime Minister Mario Monti held a session of ‘Questions and Answers’ during which he replied live on Twitter to questions posed by his followers (see: http://www.reuters.com/article/2013/01/05/net-us-italy-monti-vote-idUSBRE90408120130105)
evolution in the political preferences of the electorate. By exploiting different data coming from the same source we can link the variation in voting intentions to the events and the political messages delivered during the campaign and see what strategy is the most efficient to win votes.

3 Comparing different campaign strategies

To compare the effectiveness of different styles and strategies adopted during the campaign we analyze the political messages delivered by the eight largest Italian parties mentioned above. We downloaded the content published on the official Twitter accounts of each party and party leader: Pierluigi Bersani (PD), Nicky Vendola (SEL), Angelino Alfano (PDL), Roberto Maroni (LN), Mario Monti (SC), Pierferdinando Casini (UDC), Beppe Grillo (M5S), and Antonio Ingoria (RC).

We argue that any relevant event related to the agenda of the campaign will be internalized in the communication strategy chosen by the party staff. For instance, when a party faces a political scandal, its rivals will have an incentive to attack it, emphasizing its weakness through negative campaigning. Alternatively, parties can chose to stay positive and deliver political messages to discuss and inform voters about their valence qualities or their promises and policy views. We know that the impact of any particular event could last for several days after the event occurred (Shaw 1999). In turn, each party has an incentive to stress a particular message until it feels that this strategy yields positive returns. For example, a party will keep attacking its rival until a scandal remains topical or will continuously stress the same policy pledge, unless it has reached virtually all voters or the electorate has became used to it. By coding day-by-day the agenda proposed by each party we can assess the effect of scandals/gaffes and promises while at the same time measuring which campaign strategy is the most effective in winning votes.

The political messages published on-line have been hand-coded and each tweet could have been included in one of the following six categories: clientelistic/distributive promises; negative campaigning on valence issues (NC Val); negative campaigning on policy promises (NC Pol); positive campaigning on valence issues (PC Val); positive campaigning on non-clientelistic and non-distributive policy promises (PC Pol); populism.6

Clientelism denotes a message in which the party advocates distributive policies that convey economic benefits to a well-identifiable category or group of voters (e.g., homeowners, unemployed, entrepreneur, taxi drivers)7. Negative campaigning on valence is-

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5 We do not analyse Silvio Berlusconi’s tweets given that he does not have an official account. Since Alfano was both the party leader and the official candidate as Prime Minister, however, this choice seems reasonable and coherent.

6 The work has been done by a trained coder. We reviewed her work to check that her choices were consistent with our guidelines.

7 Since it is difficult to distinguish clientelistic or programmatic messages by the types of goods (either public or private) promised by the party (Calvo and Murillo 2013; Kitschelt 2000), we decide to consider these two concepts together, discriminating instead between clientelistic and distributive promises, on the
sues records personal attacks against a rival leader/party while negative campaigning on policy promises consists in criticizing the policy platform of other parties. Similarly, positive campaigning on valence issues refers to messages that emphasize the own personal qualities (e.g., honesty, competence, charisma, expertise) while messages coded as positive campaigning on non-distributive policy promises underpin the non-distributive policy pledges made by the party. Finally we coded as populist those messages written to criticize the political class as a whole.

Furthermore we also distinguish the party against which the negative campaign was made in order to evaluate the effect of being the attacker or the target of negative campaign and to measure whether this strategy is more successful against the closest rival party or not (Curini and Martelli 2010, 2013).

We assigned tweets to multiple categories when applicable, for instance if a tweet contained an original policy promise and a criticism toward someone else’s electoral pledge. Conversely, a large number of tweets was related to the organization of the campaign or was written to made generic appeals to support the party without making use of any specific strategy. These messages have not been classified in any category.

Figure 1 displays the percentage of tweets assigned to each category. A significant share of tweets (11%) has been written to criticize the opponent focusing on valence issues, mainly by the PDL, but this strategy was also widely used by the UDC. Clientelism was a popular strategy as well (9%) even though not evenly distributed across parties (the PDL, again, has the lion’s share). Positive campaign on valence issues (9%) was mostly used by the PD, the Northern League, and Civic Choice. Overall, the number of tweets related to valence issues is higher than that of messages addressing policy stances (which instead are more common within SC and RC). Finally, only the 1% of the tweets issued during the campaign seems to have a populist content (and almost all of them have been written by the M5S).

Figure 2 displays the evolution of the different strategies across the campaign. We observe a peak in the number of negative campaign messages at the end of January, when the MPS corruption scandal erupted and the runner-up parties started to attack the PD.

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8Here are some examples of tweets: ‘we will suppress the IMU tax on the primary residence and give back the unfair amount that the Italians have already paid’ has been coded as clientelism; ‘Berlusconi is always making promises. This is a bad way of doing politics and will damage the country #WithMontiForItaly’ is an example of NC Val (made by Monti against Berlusconi), while ‘the centre-right coalition destroyed the public school and prevented the University from molding student able to access the labor market’ is NC Pol made by SEL; we coded as PC Val tweets like ‘our platform contains my thirty-year experience as entrepreneur’, while ‘We will do 5 things to support the economy: increase liquidity, invest money, support the green economy, build the broadband, new plan for the industry. For the #fairItaly’ felt in the category PC Pol made by the PD. Finally, ‘Those who made such a disaster are now on TV to explain how to get out. They’d better go home #tsunamitour’ is an example of populist tweet written by the M5S.

9Around 65% of tweets did not contain any meaningful message. For instance: ‘In a few minutes live on YouDem: Bersani will start the electoral campaign talking to the youths’
Figure 1: Percentage of tweets assigned to each category of campaign message
Conversely, in the first half of February we find a rise in clientelistic tweets. This peak can be explained by considering that on February 4\textsuperscript{th} Berlusconi took a pledge about giving the IMU tax back to the home-owners (see below).

![Figure 2: Evolution of communication styles across the campaign](image)

### 4 Measuring the campaign effects: methodological concerns

So far, the literature on electoral campaigns relied on two methods: experiments or analyses of survey data.\textsuperscript{10}

Both present some drawbacks. Scholars raised doubts about the validity of experiments, in particular because the influence of messages could be different in the laboratory compared to the real world and the answer provided during the experiments seem different from the actual behavior recorded by survey polls (Martin 2004).

In turn surveys are not a perfect source of information for several reasons (Shaw 1999; Wlezien and Erikson 2002). First of all, they do not register voting intention on a daily basis and therefore fail to link each event with the variation in the preferences. Furthermore, survey data are affected by measurement errors, related to non-response rate, strategic answers, and the spiral of silence (see below). Scholars estimate that only 50% of the variance observed in the polls is real while the rest is due to sampling errors (Wlezien and Erikson 2002: 977).\textsuperscript{11}

\textsuperscript{10} Another technique, based on simulations, has been proposed recently (Geer and Lau 2006).

\textsuperscript{11} This estimate of surveys reliability is generous given that the authors assumed simple random sampling and did not account for the ‘design effect’ (due to stratified and weighted polls) and the ‘house effect’ related
On the contrary, the present paper measures the voting intention through a method that allows estimating the evolution of the electoral sentiment over time. This semi-automated technique performs a supervised and integrated sentiment analysis (iSA) on the content of Twitter posts (Hopkins and King 2010). Traditional sentiment analysis adopts automated procedures based on pre-defined ontological dictionaries. This approach however fails in correctly classifying ironic or paradoxical sentences, in recognizing strategic behavior, or in appreciating all of the nuances of language (e.g., specific jargons, neologisms) and catching its evolution over time.

Conversely, the iSA method relies on a semi-automated two-stage process. In the first step human coders read and code a subsample of the documents downloaded from the web to create the training set. Manual coding is more effective than ontological dictionaries in recognizing all of the previously discussed language specificities and it helps overcoming the main drawback of traditional sentiment analysis. Furthermore, human coders can also solve (or minimize) the ever-present problem of spamming in social communication.

In the second step the ReadMe algorithm (Hopkins and King 2010) uses the training set to classify all the unread documents. The algorithm estimates the distribution of the opinions in the whole population of posts or tweets (not just a sample), at the aggregate level.

Since the estimate is based on the whole population of comments made on Twitter, we can claim that most of the observed variance is real and it is neither an artifact of the model nor due to sampling error (Wlezien and Erikson 2002). This is one of the advantages of using sentiment data instead of survey polls to evaluate the efficacy of the campaign. In addition, by using iSA ‘we can measure voters attitude on a day-by-day basis. Hence, we are able to capture the reaction of public opinion to any exogenous stimulus by observing the shift in preferences measured immediately after the shock’ (Ceron et al. 2013a: to the fact that surveys are made by different companies with different methodologies. See also Dahlberg and Persson (2013) on the latter point.

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12 This method has been repeatedly adopted to forecast the outcomes of the elections held in 2012. It was applied to the French Presidential and Legislative elections as well the US Presidential election and the primary election of the Italian centre-left coalition (Ceron et al. 2013a, 2013b, 2013c). The estimates of votes share were always close to the voting intention registered by survey polls and to the actual results of the elections, with a Mean Absolute Error (MAE) around 2%. Furthermore the method has been always successfully in predicting the winner of these elections and the forecast often outperformed those made looking at survey polls. For an application to the US Presidential elections: http://voicesfromtheblogs.com/2012/11/07/just-by-chance-sentimeter-correctly-predicts-usa2012s-final-results/

13 For instance, the informal expression ‘what a nice rip-off!’ will be considered ambiguous when analyzed through ontological dictionaries because it includes both a positive and a negative term while iSA is able to capture the actual meaning of this sentence.

14 Sometimes voters’ choice is the outcome of a strategic behavior. They may signal their true preferences for a minor candidate while declaring a strategic choice in favor of one of the main candidates. We observed this phenomenon both in the US Presidential election (‘I lean 90% with libertarians but I think I’ll vote for Obama’) and during Italian elections (‘My heart beats for Vendola but I will vote for Bersani’).

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Traditional surveys pose solicited questions that might inflate the share of strategic answers (Payne 1951) and non-response rates (Fricker and Tourangeau 2010; Goidel 2011; Hillygus 2011; Tourangeau e Plewes 2013). This is much less of concern given that we analyze unsolicited opinions delivered in an environment in which users are free to express themselves (Savigny 2002). For the same reasons the opinion expressed on Twitter could be less affected by the spiral of silence (Ceron et al. 2013b; Noelle-Neumann 1974). In other words, iSA is a proper technique to assess the opinions of those who express an opinion. Obviously, this method is not perfect. First of all, the demographics of Twitter users are not representative of whole the population (e.g., Bakker and de Vreese, 2011). In addition, the estimates could be affected by coding errors. However, these aspects are not necessarily problematic for our purpose (Ceron et al. 2013b, 2013c).

5 Tracking the evolution of voting intentions through social media

From the 16th of January until the 25th of February, when the election was held, the percentage of the voting intentions expressed on Twitter toward the main Italian parties has been estimated through iSA. The final prediction was issued on the 25th of February to be compared with the actual results. The Mean Absolute Error (MAE) of our estimates is very low: 1.62. Despite the fact that Twitter users are not representative of the whole population of Italian voters, we observed that our aggregate measure of voting intentions was in line with the actual behavior of the electorate and useful to predict the outcome of the election. These data are also valuable to analyze the dynamics of the electoral campaign.

Figure 3 displays the aggregate voting intentions for the main coalitions. From the

15 Note that survey polls are increasingly affected by difficulties in building representative samples due to the problems discussed above (Fricker and Tourangeau 2010; Goidel 2011; Hillygus 2011; Tourangeau e Plewes 2013).
16 The hand coding stage was processed by two scholars that constantly coordinated to guarantee homogeneity in the coding style. Each tweet was considered as an expression of voting intention only if at least one of the following three conditions was satisfied: a) the tweet includes an explicit statement related to the intention to vote for a leader/party; b) the tweet includes a statement in favor of a leader/party together with an hashtag connected to the electoral campaign; c) the tweet includes a negative statement opposing a leader/party together with an hashtag connected to the electoral campaign of another leader/party. Considering the use of hashtag jointly with positive/negative statements, allows to focus on signals that are more ‘costly’ (and therefore more credible) in terms of self-exposition by the user. Note that the condition c) allows to reduce the arbitrariness in the manual stage of the analysis. See Ceron et al. (2013c) for further details.
17 We consistently observed similarities between the voting intention measured through iSA and the actual results of an election across different countries, types of election, and political systems (Ceron et al. 2013a, 2013b, 2013c).
18 Residuals categories (that account for other minor lists and undecided voters) are excluded, hence the votes shares do not sum up to 100. This simplify the statistical analysis avoiding the problem of dealing
top to the bottom, we find: the centre-left (purple line); the centre-right (light-blue); the Five Star Movement (yellow); the centrist alliance (dark-blue); and Civil Revolution (orange).

Figure 3: Voting intentions based on Twitter preference for the main coalitions in the last month of campaign

The picture sketches the daily variation in voting intention in the last month of the campaign and shows that some patterns exist. For instance, we observe the rise of the M5S and the fall of the centrist coalition in the last two weeks before the election. This pattern was also confirmed by the survey polls. However, this picture also describes some trends that are in line with the actual results and were not revealed by traditional surveys. In particular, we registered the growth of the centre-right coalition whose gap from the centre-left, on average, was smaller in our data compared to the polls. To link the events of the campaign with the changes in voting intention we highlight some topics and events that could have altered the preferences of the electorate. In detail, we observed a decline of the centre-left coalition at the end of January, when a scandal related to the Monte dei Paschi di Siena (MPS) bank involved the Democratic Party and seems to have negatively affected its declared voting intention. Something similar happened to the PDL in the mid of February when a corruption scandal related to the Finmeccanica company probably damaged the rating of the centre-right coalition yielding a decline in the voting intention toward these parties.

At a first sight, the picture confirms that events of the campaign, like scandals, have indeed a negative effect on the expected votes share (Clark 2009; Shaw 1999; Welch and with 'compositional data’ (Honaker et al. 2002).

19 Around the mid of February, for a couple of days, the centre-right was leading according to our data. This result seems reasonable given that the final gap between the two coalitions was below 1%.
Scandals, however, are not the sole elements that had an impact on it. The graph also displays that promises play a role. In particular, the centre-right coalition witnessed a strong increase in its voting intention after its leader, Silvio Berlusconi, promised to give back the house tax (called IMU) to the householder tax-payers, if elected (February 4th). This effect is observable even at the end of the campaign, when Berlusconi renewed this promise, and it may have caused the recovery of the centre-right that was able to almost close the gap in the polls.

Despite the claim made on February 27th by Stefano Fassina, one of the most relevant politicians within the Democratic Party, who argued that ‘electoral campaigns do not produce significant shifts in the voting intentions’, this preliminary enquiry shows that corruption scandals or policy promises can affect a party’s support. However, we need to monitor more systematically the effects of campaign events and strategies before drawing a conclusion.

6 Empirical analysis and results

In this section we analyze the post-treatment effect of several independent variables related to the campaign style adopted by each party (treatment) on a certain date (time t), on voting intentions expressed via Twitter in favor of party i on the following day (time t+1). The dataset consists of 8 observations, one per party, for each day between the 16th of January, when parties started the campaign, and the 22nd of February, when the campaign ended, for a total of 304 observations.

The dependent variable is the Share of Voting Intentions in favor of party i. The main regressors include the campaign strategies implemented, plus other time-varying controls, such as Party tweets (the number of tweets sent by party i) and Total tweets (the total number of tweets sent by all parties on the same date), to account for the fact that some parties may send more messages than others and for variations in the overall volume of campaign messages.

Seven models are used in the analysis to test the propositions discussed in the first section. The hypotheses are tested against the null that none of the strategies makes a difference and therefore electoral campaigns do not have a direct significant impact on voting intentions. Regression results are presented in Table 1.

In model 1 (Column 1) we evaluate the effect of Positive Campaign (on values and

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20See the interview released by Fassina in ‘Corriere della Sera’, 27 February 2013.
21According to the voting intentions expressed on Twitter the cumulative share of votes retained by the eight parties considered in the analysis vary between 73.5%, in late January, and 90.5% in the last days before the election. With respect to these parties, the MAE of our electoral prediction is 2.53.
22Data cover the whole period in which the campaign was fought both de jure (party lists were officially presented on the 11th of January but parties started to campaign hard only few days later) and de facto. Focusing on the last 40 days before the election allows to measure preferences in a period in which shocks are smaller in magnitude compared to those occurred earlier but the outcome of these shifts tends to persist until the election day (Enns and Richman 2013; Wlezien and Erikson 2002).
policy, including clientelistic and distributive ones), Negative Campaign made against other parties, and Negative Campaign Suffered. In model 2 (Column 2) we distinguish between Negative Campaign based on valence or policy, and similarly we split Positive Campaign into three components to separate the effect of clientelistic distributive policy, non-clientelistic non-distributive policy, and values.

From model 3 (Column 3) on we define Negative Campaign as messages written against the closest rival parties along the left-right scale and aggregate Positive Campaign on policies and values, keeping separate clientelistic messages, which stand on their own. Such re-definition of the Negative Campaign variable is aimed at testing some of the hypotheses discussed above, suggesting that negative campaign could be rewarding only if aimed to the party’s direct competitors (H1F), i.e. towards rival parties that are closely located along the political spectrum.\(^{23}\)

The following models stem from model 3. In model 4 (Column 4) we include the interaction between Negative Campaign and a set of party dummies, to investigate heterogeneities in its effectiveness. Similarly, in model 5 (Column 5) we test the interaction between Clientelism and a set of party dummies, to assess whether the effect of clientelistic promises is conditional on the party that makes the offer. In model 6 (Column 6) we examine the interaction between Negative Campaign and Negative Campaign Suffered, to test the claim that negative campaigning is more effective for the attacker when it is under attack.

Finally, in model 7 (Column 7) we pool all the variables from models 5 and 6 and add two controls: Populism (the number of populist tweets) and the BTP-Bund spread, in interaction with party dummies.\(^{24}\) These two control variables capture two topics, populism and the spread, which have featured prominently in the Italian political debate over the year preceding the elections.\(^{25}\) All the models are estimated through linear regressions with party fixed effects to account for the fact that we have repeated observations nested by party.\(^{26}\) The results presented in Table 1 are robust to the use of alternative specifications.\(^{27}\)

\(^{23}\)With respect to party \(i\) we consider as rivals adjacent parties those who do not belong to the same coalition of \(i\) but are located next to it, on the left or on the right, of the political spectrum. Adjacent rivals are: SEL and RC, PD and SC/UDC, PDL and SC/UDC. Since the M5S ran on an anti-system platform we measure the effect of its negative campaign regardless of the party under attack, as if the M5S was adjacent to all other parties. The results are similar when using placement of parties on the left-right scale provided by quantitative text analysis of party platforms and investiture debates (e.g., Ceron and Curini 2014).

\(^{24}\)This variable records the difference in the interest rate paid by the ten-year Italian BTP and German Bundesbank bonds.

\(^{25}\)On the one hand, this electoral campaign has been described as characterized by the presence of populist actors, and many institutional figures and political analysts have warned against the risks associated with populism; on the other, news from financial markets have dominated the political debates and were among the causes of key political events, such as the fall of Berlusconi’s government and the choice of Mario Monti as Prime Minister (Bordignon and Ceccarini 2013; Chiaramonte and D’Alimonte 2012).

\(^{26}\)Fixed effects control for the idiosyncratic traits of each party such as the leader’s charisma (Kitschelt 2000), which is assumed constant across the campaign.

\(^{27}\)Including the lagged value of the dependent variable in the model does not alter any of our results and
### Table 1: Effect of different campaign strategies on a party’s share of voting intentions

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Standard errors in parentheses

* p < 0.1, ** p < 0.05, *** p < 0.01
The only variable affecting voting intentions, according to model 1 and 2, is the amount of Negative Campaign Suffered. It displays a positive effect on a party’s fortune contrary to what suggested in H1B. Although counterintuitive, this finding is consistent with other works (e.g. Sanders and Norris 2002). Conversely, neither positive nor negative campaign, per se, seem effective strategies, as they don’t generate any significant increase in the voting intentions. Notwithstanding the expectations discussed in H1A and H2A, these campaign strategies are not ‘good for all seasons’. In fact, we observe a non-significant impact of these strategies and we record no difference between messages based on policy (H1C and H2B) or values (H1D and H2C).

However, our results show that negative campaign’s effectiveness depends on its targets. In line with the existing literature (Curini and Martelli 2010, 2013), model 3 confirms that negative campaign towards adjacent parties is positively and significantly related with voters’ preferences. Attacking rival neighbors shifts voters preferences towards the author of the attack and increases its share by 0.18%.

If model 3 shows that negative campaign is not equally effective, regardless of the party it is directed to, model 4 attests that its returns depends on which party conducts a negative campaign. It has a positive and significant effect on voters’ preferences only when conducted by the two largest center-left and center-right parties, PD and PDL. Its effect seems stronger for the former (+1.40%) if compared to the latter (+0.21%). Conversely, negative campaign has no effect for parties belonging to the coalition that supported the incumbent premier, Mario Monti, during the campaign.

What is more, the impact of negative campaigning is conditional on the number of attacks suffered (H1G). Figure 4 displays the effect of Negative Campaign against adjacent parties conditional on the magnitude of Negative Campaign Suffered.

These two variables have a multiplicative effect on each other. Negative campaigning increases voting intentions only when the party is under attack and adopts this strategy to answer back. The returns from negative campaign are higher, the more a party is subject to attacks from other parties.

While negativity seems to matter, we only find a circumstantial effect of positive campaign. A party’s share of voting intentions does not benefit from positive messages the lag is not statistically significant. Coefficients for party dummies and interaction terms related to them have been omitted for clarity. Details are available upon request.

28 For instance, Sanders and Norris (2002: 11) argue that ‘voters seem to respond to negative attacking messages by increasing their support for the target of the attack’. See Lau et al. (2007) for a review.

29 This effect is higher when considering attacks made against adjacent parties but it holds when focusing on the overall negative campaign.

30 Contrary to H1E, we do not observe any significant effect of the interaction between negative campaign and Incumbent, a variable that takes value 1 for parties that sustained the Monti cabinet (PD, PDL, SC, UDC) and 0 otherwise (LN, M5S, RC, SEL).

31 This result holds when considering negative campaign conducted against any rival party, though the benefit is slightly lower if compared to attacks directed against adjacent parties. Conversely, the effect of Negative Campaign Suffered is positive and significant only when the party under attack answers back and such gain increases proportionally to the strength of the answer.

17
Figure 4: Marginal effect of Negative Campaign against adjacent parties conditional on the number of attacks suffered by the attacker
only exception being clientelistic and distributive policy promises (H2D). Even those messages, however, are not effective for all parties as shown in figure 5 (H2E).

Figure 5: Marginal effect of clientelistic and distributive policy promises conditional on the party making the promise

By looking at figure 5 we observe that the coefficient of the marginal effect tends to be positive for right-of-centre parties while it is negative for the left. However, only the share of PD and PDL votes are significantly affected by clientelism. The PD is damaged by such announcements (each of them conveying a decrease of almost half point: -0.43%) while the PDL has a positive return (+0.18%).

Finally, in model 7 we show the robustness of previous results to the inclusion of some control variables (i.e., populism and spread) deemed relevant for the campaign. All the main findings hold. Populist messages have no effect, while the spread seems to play a role though only for two parties: any ten point increase in the difference BTP-Bund lowers the voting intentions towards the PD by 0.53%, while the M5S share grows by 0.37%.

32 When pooling together parties that supported the Monti cabinet, we observe that Clientelism has a positive effect for Incumbent parties (in line with H2F).
33 Even when testing the interaction with party dummies, populism has still no effect for any of them.
7 Discussion

The present analysis unveils some patterns related to campaign effects and highlights that there is no strategy ‘good for all seasons’: neither positive nor negative messages have a clear impact, per se, but their effect is conditional on other specific features.

To start with, negative campaign seems effective mainly when targeted against a rival adjacent party. In fact, in a multiparty system voters can choose among several alternatives, therefore they do not shift necessarily from the target to the attacker but will rather opt for another party, closer to the target, which is not victim of negative campaigning. For this reason, parties have a strong incentive to attack adjacent rivals whose potential voters are more likely to change their mind and support the attacker. This is confirmed in our analysis.

Secondly, negative campaign has a stronger impact when the attacker is meanwhile under attack. On the one side, being both the source and the object of negative campaign increases a party’s prominence in the political agenda and boosts its exposure in the daily debate (on-line as well off-line). On the other side, being under attack force partisan voters to close ranks, though we observed this effect only when the party is able to reply, rallying the troops and providing its supporters with arguments useful to answer back. Along this vein, it seems that the main effect of negativity has to deal with the mobilization of own voters. If this is true, during the electoral campaign parties may quarrel against each other and originate ‘flames’ not for the sake of winning ‘new’ votes but to activate partisans to get out and vote. This idea of electoral campaigns as flames could be confirmed by the fact that the two largest parties, PD and PDL, gained most from going negative. These two poles were able to attract voters and activate supporters by framing the campaign as a fight against the opponents.

As a third point, positive campaign seems never effective in winning votes except when it consists of clientelistic and distributive promises. Clientelism, however, seems to work only for incumbent parties, and even there we find differences between the PD, which is damaged, and the PDL, which benefits from this strategy. Why does this happen? A possible explanation deals with the idea that clientelism is more effective when the supply of distributive policies matches the demand. The distributive promises related to tax cut plans (including the restitution of the IMU) made by the PDL were perfectly targeted to match its constituency, while the PD seems to have committed to proposals that were not rewarding for the party. For instance, the Democratic Party promised a reduction of IMU tax but this offer was probably not deemed pivotal by its voters that may have preferred reforms related to welfare spending or tax cuts of another kind. By doing so the PD may also have invaded the area of the political space reserved to the PDL, alienating the support of its partisans (Aldrich 1983). The fact that only the PDL benefited from distributive pledges is not surprising, as other case studies shown that right-wing parties may have higher returns from patronage (Calvo and Murillo 2004). It is even more so given that clientelism alienates the consent of middle class and skilled citizens (Calvo and Murillo 2004; Weitz-Shapiro 2012), who are traditionally overrepresented among PD
voters (Ballarino et al. 2009; Maraffi et al. 2013) and underrepresented within the PDL.34

Although campaign strategies have an impact, our results also disclose evidence about the effects of exogenous shocks such as a variation in the BTP-Bund Spread. Bridging together the rise and the electoral fortune of a populist party with the Italian financial crisis, our results predict that in future elections we would expect a growth in the M5S vote share in case of persistent financial weakness and a decline in case of monetary stability. This latter point, together with the effect of distributive policy promises, underlines the persistent relevance of the economic sphere.

The present paper employs a new technique to monitor the sentiment of public opinion and the voting intentions expressed on-line throughout the electoral campaigns, linking them to the events of the political agenda and to the pledges, promises, and propagandistic messages issued by each party. This point has implications for political analysts and advisors that can adjust the frame of the campaign style according to daily shifts in voting intentions. The analysis of opinion expressed on social media and social network sites proved useful to forecast the final results and to evaluate the effectiveness of different campaign styles, answering to the question whether campaigns matter or not. If electoral campaigns are about enlightening the voters (Gelman and King 1993), this works highlights when and how this happened and describes, per each party, which strategy was more successful in enlightening its voters and under what conditions.

34Furthermore, the PDL is the only party being overrepresented within the working class (Maraffi et al. 2013), which is more receptive to clientelistic messages.
References


