Voters' private valuation of candidates' quality ☆

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ABSTRACT

Different voters might have different valuations of candidates' qualitative features. We argue that this intuitive fact acts as a strong stabilizing force in electoral competition dynamics when candidates are office motivated (pure strategy equilibria may exist, unlike when all voters favor the same candidate). Perhaps more importantly, it affects candidates' platform moderation incentives in a rather intriguing manner. When voters are evenly split, in terms of their candidates' quality valuations, then both candidates have incentives to locate *sufficiently near* - but not necessarily exactly at - the center of the policy space. However, as the number of voters who favor the same candidate rises, (maximum) equilibrium differentiation follows a non-trivial *U-shaped* pattern. It is first decreasing and then increasing in the fraction of voters who prefer the more popular candidate.

1. Introduction

One of the greatest benefits of electoral competition is that it urges candidates to make moderate and stable policy proposals. This is particularly evident in the context of two-candidate races, in which win requires an absolute majority of votes. In principle, the urgency to be appealing to as many voters as possible acts as a counter-incentive for proposing extreme policies: if a candidate aligns, for example, with the views of far-right voters, then his competitor should be able to win the election by proposing any relatively mainstream platform. The standard economic model of electoral competition (Downs, 1957) highlights these dynamics by establishing that antagonism between candidates moderates and stabilizes their policy choices: a unique pure strategy equilibrium always exists and it is such that both candidates propose the ideal policy of the median

voter.[1] In its original version, this model assumes that candidates have no qualitative differences: they may be dissimilar only in terms of the policies they propose. In reality, though, candidates are characterized not only by their strategic choices (policy platforms) but also by fixed qualitative features (for example, age, wealth, education), and voters decide which candidate to support by taking in account both of these dimensions. Hence, it becomes imperative to understand how incentives for policy moderation and stability change when this additional aspect of electoral competition is brought into the picture.

The existing literature is mainly focused on the case in which all voters have the same publicly known preferences on candidates' qualitative features (see, for example, Ansolabehere and Snyder, 2000; Groseclose, 2001; Aragonès and Palfrey, 2002 and Caselli and Morelli, 2004).[2] The common knowledge that all voters value the

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[1] In the baseline specification of the Downsian setup, the policy space is unidimensional, voters' preferences are single-peaked and candidates are purely office motivated.

[2] Recent results on electoral competition between heterogeneous candidates (or parties) may be found in Messner and Polborn (2004), Herrera et al. (2008), Degan (2007), Kartik and McAfee (2007), Carrillo and Castanheria (2008), Bernheim and Kartik (2014), Carter and Patty (2015), Meirowitz (2008), Pastine and Pastine (2012), Shapoval et al. (2015), Xefteris (2012) and Mattozzi and Merlo (2015).

non-policy characteristics of a certain candidate more than the non-policy characteristics of the other one, makes candidates have very diverse incentives as far as electoral platform selection is concerned: the advantaged candidate always wants to *depoliticize* the electoral campaign - he wants to imitate the policy platform of the disadvantaged candidate so that only the non-policy characteristics will determine how voters will vote - while the disadvantaged candidate always aims at *politicizing* the vote - he wants to offer a policy platform distinctly different from the one offered by the advantaged candidate and hence induce voters to vote also on the basis of which platform they like most. When candidates are Downsian (office motivated) these diverse dynamics preclude the existence of pure strategy equilibria and lead to *unstable* electoral competition outcomes (mixed strategy equilibria) in which the advantaged candidate proposes (in expected terms) more moderate policies than the disadvantaged one and elections are politicized; differentiation of policy platforms is sufficiently large and hence some voters vote for the disadvantaged candidate (Aragonès and Palfrey, 2002, Hummel, 2010 and Aragonès and Xefteris, 2012).

While these papers describe very well cases in which one of the two competing candidates has a characteristic that is perceived to be an advantage over the other candidate by all voters (for example, higher valence), they are not really suitable to analyze electoral competition when there is disagreement among voters about what kind of candidate characteristics are desirable.[3] Is being the youngest candidate seen as an advantage by all voters? Do all voters prefer rich candidates to poorer ones? Is the language-style used by a candidate equally appealing to all voters? Two natural steps that would make electoral competition analysis more realistic would be: a) to allow voters to be heterogeneous, not only in policy terms, but also in how they evaluate candidates' quality; and b) to account for candidates having incomplete information in both dimensions (they should be uncertain both regarding the policy preferences of each voter and about how each voter values candidates' non-policy characteristics). These are precisely the steps that we take in this paper.

We propose a generalization of the original Downsian model in which *different voters are allowed to have different valuations of candidates' quality*. In this setup a voter's valuation of the non-policy characteristics of the candidates is considered as the voter's *private information* and it is possibly different for each voter. Candidates share a common prior belief on how many voters prefer the non-policy characteristics of one candidate over the other one. Formally, we represent the candidates' beliefs about their non-policy characteristic as a random variable with a Bernoulli distribution that is common for all voters and we assume that each voter's valuation is given by an independent random draw from it. That is, from the candidates' perspective, a voter prefers the non-policy characteristics of the first candidate with probability $\rho \in [\frac{1}{2}, 1]$. The assumption that this probability is always at least one-half is obviously without loss of generality and it allows us to address the first candidate by the name *advantaged candidate* simply because he is the one whose non-policy characteristics are expected to be valued more by most voters. In fact, in the model we propose the advantage has two dimensions. On the one hand, there is the magnitude of the difference between the qualities of the two candidates from a voter's point of view ($d > 0$) and on the other hand there is the probability with which the advantaged candidate enjoys the aforementioned advantage ($\rho > \frac{1}{2}$).

We characterize the set of all Nash equilibria of the game - both pure and mixed ones - for every admissible values of the two advantage parameters, given a sufficiently large electorate. In this model *stable outcomes are possible*. That is, pure strategy equilibria exist for

a wide range of parameter values; as long as voters are expected to be sufficiently heterogeneous ($\rho > \frac{1}{2}$ but close to $\frac{1}{2}$) in their preferences regarding candidates' non-policy characteristics. These pure strategy equilibria involve converging and mildly diverging pure strategies. Hence, it is not the fact that voters have preferences about candidates' non-policy characteristics that rules out stability, but the assumption that voters' preferences on this issue are common and common knowledge. Moreover, they lead to a depoliticized election: candidates offer sufficiently similar platforms and each voter votes for the candidate whose non-policy characteristics he values most. Within this range of parameter values, as the expected share of voters who find the first candidate better than the second increases (that is, as ρ increases), the maximum degree of equilibrium differentiation *decreases*. The most striking feature of this process is that this decrease in the maximum value of equilibrium differentiation occurs only because the set of equilibrium strategies of the first candidate (the advantaged one) shrinks around the center of the policy space. That is, the set of equilibrium strategies of the second candidate (the disadvantaged one) remains invariant to changes in the expected size of the two groups of voters as long as the group which thinks he is better is sufficiently large (that is, as long as $1 - \rho$ is sufficiently large). When the expected sizes of the two groups become very asymmetric ($\rho > \frac{1}{2}$ and close to 1), pure strategy equilibria cease to exist and a unique mixed equilibrium exists such that the advantaged candidate locates in the center of the policy space and the disadvantaged candidate mixes between two policies which are equidistant from the center of the policy space. This mixed equilibrium results in a politicized election: in expected terms some voters vote for the candidate whose non-policy characteristics they value less only because they like the policy he proposed much more than the one of their favored candidate. For these parameter values, as the expected share of voters who find the first candidate better than the second one increases (that is, as ρ increases), the maximum degree of equilibrium differentiation *increases*. Again, what is most striking is that this is only because the two policies that are part of the disadvantaged candidate's mixed strategy go farther away from the center of the policy space while the equilibrium behavior of the advantaged candidate remains unaffected.

This shows that when a candidate starts to become advantaged, he most probably moves towards the center while at the same time the set of equilibrium strategies of the disadvantaged candidate remains invariant. It is actually the move of the advantaged candidate towards the center that eliminates incentives of the disadvantaged one to politicize the elections: the closer the advantaged candidate is to the center the farther away from the center the disadvantaged candidate would have to locate to politicize the elections. At some point though, when the expected share of voters who value the non-policy characteristics of the first candidate becomes much larger than the expected share of voters who think that the second candidate is better, the disadvantaged candidate is better off by politicizing the elections independently of where the advantaged candidate locates. From that point on the equilibrium is such that the advantaged candidate locates precisely at the center and the disadvantaged one drifts slowly away as the share of voters who find his non-policy characteristics better decreases. In the limit, that is when $\rho \to 1$, we converge to the equilibrium of the complete information model (see, for example, Aragonès and Xefteris, 2012).

These *asynchronous effects* of an increase in $\rho \in [\frac{1}{2}, 1]$ on equilibrium strategies - first only the advantaged candidate moves towards the center and then only the disadvantaged one drifts away - are responsible for a non-trivial U-shaped relationship between the extent of heterogeneity of voters' preferences in the issue of candidates' qualitative features and the maximum degree of equilibrium platform differentiation. An increasing asymmetry in how non-policy characteristics of candidates are viewed by the voters first decreases differentiation between candidates' platforms but after a

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[3] For analyses of the case in which candidates' valence level is endogenous, one is referred to Zakharov (2009) and Ashworth and Bueno de Mesquita (2009).