Left Behind Voters, Anti-Elitism and Popular Will

- **Online Appendix** -

Benoit S. Y. Crutzen, Dana Sisak and Otto H. Swank*

(Erasmus School of Economics / Tinbergen Institute)

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Abstract

Populists are often anti-elitist and advocate for popular will over expertise. We show that these two populist characteristics are responses to mainstream parties leaving behind the majority of voters, the common people. Our model highlights two forces behind electoral success: numbers, which favor the common people, and knowledge, which favors the elite. Electoral competition may lead parties to cater to the elite. We identify conditions under which an elite bias encourages entry with an anti-elite platform. Finally, we identify conditions under which parties follow the common people's opinion when that group would benefit from parties relying on experts.

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JEL Classification: D72, D83

A Proofs

A.1 Proof of Lemma 1

In equilibrium, voters infer the signal $s_{p,j}$ a party p bases their platform on. Without loss of generality (because of symmetry), assume that $s_{1,j} = 1$ and $s_{2,k} = -1$, $j, k \in \{E, C\}$. Voter i of group j votes in line with her signal if and only if $\Pr(w_j = s_{i,j}|s_{1,j}, s_{2,k}, s_{i,j}) > \frac{1}{2}$, for both $s_{i,j} = 1$ and $s_{i,j} = -1$. There are two cases. First, suppose parties cater to the same group: $k = j$. Then, $\Pr(w_j = s_{i,j}|1, -1, s_{i,j}) = p_j > \frac{1}{2}$, implying that voter i of group j follows her signal. Second, $k \neq j$. Then, $\Pr(w_j = 1|1, -1, 1) \geq p_j > \frac{1}{2}$, implying that citizen i follows her signal if $s_{i,j} = s_{1,j}$. Furthermore, voter i of group j follows her signal when it conflicts with $s_{i,j}$ if

$$
\begin{aligned}
& \Pr(w_j = 1| -1, 1, 1) \\
= \ & \frac{p_j\left[\alpha q(1-q) + (1-\alpha)(1-q)^2\right]}{p_j\left[\alpha q(1-q) + (1-\alpha)(1-q)^2\right] + (1-p_j)\left[\alpha q(1-q) + (1-\alpha)q^2\right]} > \frac{1}{2},
\end{aligned}
$$

implying

$$\alpha > \frac{(2q-1)\,p_j - (2p_j-1)\,q^2}{(2q-1)\,(p_j + q - 2p_j q)} \equiv \widehat{\alpha}(p_j).$$

Thus, for $\alpha \geq \hat{\alpha}(p_j)$ voter i of group j follows her signal. For $\alpha < \widehat{\alpha}(p_j)$ voter i of group j votes for party 1 even if $s_{i,j} \neq s_{1,j}$. So, if $\alpha < \widehat{\alpha}(p_j)$ members of group j vote with a united front for party 1.

A.2 Proof of Proposition 1

We prove Proposition 1 in three steps. First, we show that there exists no equilibrium in which the group of the decisive voter votes with a united front in case $x_1 \neq x_2$. Second, we show that if the group of the decisive voter follows their private signals when $x_1 \neq x_2$, it is a dominant strategy for a party to base its platform on the signal of that group. Finally, we show that the value of $\sigma p_E + (1-\sigma)(1-p_C)$ determines which signal both parties want to use to set their platforms.

Suppose the group of the decisive voter votes with a united front in case $x_1 \neq x_2$. In that case either party 1 or party 2 must win with certainty when $x_1 \neq x_2$. When $x_1 = x_2$, parties always tie. This immediately implies that both parties want to base their platform on a signal. The "losing party" wants to use the same signal as the "winning party" to maximize the chance of a tie, while the "winning party" wants to use the same signal as the "losing party" and invert it, to maximize the chance of conflicting platforms. This implies that there cannot be such an equilibrium where the group of the decisive voter votes with a united front when $x_1 \neq x_2$.

Next, consider the case where the group of the decisive voter follows their signals when given the choice between both platforms. When $x_1 = x_2$, parties tie. In that case it is a dominant strategy for each party to base their platform on the signal of this group as this maximizes the chance of winning. This implies that in any equilibrium both parties base their platform on the same signal and thus both groups always follow their private signals when $x_1 \neq x_2$.

Finally, to determine the group of the decisive voter, note that a share $\sigma p_E + (1-\sigma)(1-p_C)$ of the citizens vote for the platform that is in the interest of the elite, and share $\sigma(1-p_E) + (1-\sigma)p_C$ of the citizens vote for the platform that is in the interest of the common people. This means that if $\sigma p_E + (1-\sigma)(1-p_C) > \frac{1}{2}$ the decisive voter belongs to the elite while if $\sigma p_E + (1-\sigma)(1-p_C) < \frac{1}{2}$ the decisive voter belongs to the common people.

A.3 Proof of Proposition 2

We first prove two lemmas that imply that party 3 will never buy a costly signal in equilibrium.

The group that the decisive voter belongs to is known to all. As party 3 is moving second, in equilibrium it observes x_1 and x_2 and has correct beliefs about which signals these are based on. Party 3 buys a signal only if it improves its chances of winning. This can only be the case when the expected payoff associated to at least one possible platform choice, $x_3 = 1$ or $x_3 = 0$, depends on one of the underlying states. This can only happen if the decisive voter is following her signal. In this case the signal party 3 should use is about the state that is relevant for the decisive voter. This implies the following Lemma.

Lemma A 1 *In equilibrium, party 3 never bases its platform on its signal regarding* w_C *if* $\sigma p_E + (1-\sigma)(1-p_C) > \frac{1}{2}$*, and never on* w_E *if* $\sigma p_E + (1-\sigma)(1-p_C) < \frac{1}{2}$.

Now suppose that party 3 bases its platform on a signal about the state relevant for the group of the decisive voter. Then, members of that group may follow their signals when voting only if they are in one of the following scenarios:
a) only one traditional party relies on a signal about the state of the world relevant to the decisive group (two subcases are possible, depending on whether the second traditional party uses a signal about the other state or remains uninformed);
b) only one traditional party relies on a signal, the signal is about the state of the world that is not relevant for the decisive voter and α is close to 0 or 1; or
c) both traditional parties rely on a signal about the state of the world that is not relevant to the decisive voter.

Remark that this also rules out immediately equilibria in which all parties use a signal on the same group. Whether $x_i = x_j = x_k$ or $x_i \neq x_j = x_k$, voters never find it optimal to follow their signals in that case. We show now that none of the scenarios listed above is consistent with equilibrium.

Consider case a1): Only one traditional party uses a signal, about the state of the world relevant to the decisive group. Say it is party 1. In this proposed equilibrium, the uninformed party 2 never receives any votes and the expected payoff of party 3 is one half. But the entrant can achieve this payoff without buying signals by just setting its platform equal to that of the informed traditional party.

Now consider case a2): party 1, say, bases its platform on a signal about the state of the world relevant to the decisive group and party 2 bases its platform on a signal of the other group. In this case, voters of the decisive group follow signals when the entrant and the traditional party catering to the same group offer conflicting platforms. When $x_1 = x_3$, party 2 receives a positive payoff only if $x_2 = x_1 = x_3$. This is most likely if it bases its platform on the same signal as the other parties. Thus party 2 has a profitable deviation and prefers to base its platform on the same signal as the other parties. An analogous reasoning can be applied in case a traditional party inverts the signal it acquires. Therefore, we can rule out cases a1 and a2.

Consider case b). The argument is analogous to that of a1 and thus we can rule it out too. This is also true in case α is close to 0 and the traditional party inverts its signal.

Consider case c). If the traditional parties put forth conflicting platforms, the decisive group ignores their signals and always supports the entrant if they believe the entrant bought a signal. But then this signal acquisition by the entrant is not credible. Thus, traditional parties both win with chance one half. If traditional parties put forth the same platform, and α is such that if the entrant comes in with a conflicting platform that is believed to be based on a signal, the pivotal voter follows her signal, the entrant will also win some of the time. But then traditional parties want to minimize the chance that they end up offering the same platform, so we cannot have case c) in equilibrium either. Again, the same conclusion is reached if we let parties base their platform on an inverted signal. We thus have proven the following.

Lemma A 2 *There does not exist an equilibrium where party 3, upon observing x_1 and x_2, acquires information, enters and bases its platform on a signal. In any equilibrium, upon entry, party 3 will only base its platform on x_1 and x_2.*

Now consider parties 1 and 2. They anticipate the best response of the entrant. Analogously to the proof of Proposition 1 we first exclude equilibria where the group of the decisive voter does not follow their private signals if $x_1 \neq x_2$. First consider the case where voters believe that both traditional parties acquired information. In that case they each earn one half or zero in case $x_1 = x_2$. We can apply the exact same argument to exclude any case where each traditional party earns one half whenever $x_1 = x_2$. If both traditional parties receive zero whenever $x_1 = x_2$, one traditional party is always losing, no matter what platform it puts forth and has no incentive to acquire information. Finally, if voters believe only one traditional party acquired information, this party's payoff is independent of the underlying states and thus it has no incentive to actually acquire information.

Now consider the case where the group of the decisive voter follows their private signals. Denote by λ (γ) the probability that traditional party i (j) puts forth the platform consistent with the state of the decisive group. We will show that regardless of the behavior of the entrant (which does not base its platform on a signal) and the other party (who may), it is a dominant strategy for party i to maximize the chance that it offers the platform that is consistent with the state of this group.

First consider the case where voters believe no party bases their platform on information. Then the expected payoff of party i when party 3 enters only if $x_1 = x_2$ and chooses $x_3 = x_i$ equals

$$\lambda\left(\frac{\gamma}{3} + (1-\gamma)\right) + \frac{(1-\lambda)(1-\gamma)}{3}.$$

The expected payoff of party i when party 3 enters only if $x_1 = x_2$ and chooses $x_3 \neq x_i$ equals

$$\lambda\left(\frac{\gamma}{2} + (1-\gamma)\right).$$

The expected payoff of party i when party 3 enters only if $x_1 \neq x_2$ and chooses $x_3 = x_i$ equals

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The expected payoff of party i when party 3 enters only if $x_1 \neq x_2$ and chooses $x_3 \neq x_i$ equals

$$\lambda\left(\frac{\gamma}{2} + (1-\gamma)\right) + \frac{(1-\lambda)(1-\gamma)}{2}.$$

As all these payoffs are increasing in λ we conclude that at least one traditional party needs to acquire and use the signal in equilibrium.

Now consider the case in which voters believe that party j acquired information, while i did not. The expected payoff of party i when party 3 enters only if $x_1 = x_2$ or only if $x_1 \neq x_2$ and chooses $x_3 \neq x_i$ equals

$$\lambda(1-\gamma)$$

whereas, when party 3 enters only if $x_1 \neq x_2$ and chooses $x_3 = x_i$, the expected payoff is given by:

$$\lambda\left(\frac{(1-\gamma)}{2}\right).$$

Again, both payoffs increase with λ and thus party i also wants to buy a signal. So both traditional parties need to acquire information in equilibrium.

Thus, now assume that indeed both traditional parties acquire information. This immediately implies that entry never occurs if $x_1 \neq x_2$. Furthermore, when $x_1 = x_2$ entry can only be successful if $x_3 \neq x_1$.

We have already shown that the expected payoff is increasing in λ when there is no entry and voters follow their private signals if $x_1 \neq x_2$. The expected payoff of party i when party 3 enters successfully only if $x_1 = x_2$ and chooses $x_3 \neq x_i$, while voters follow their private signals is

$$\lambda \left(1 - \gamma\right),$$

which again is increasing in λ. Thus both parties invest in a signal about the state of the world relevant to the decisive group.

Finally, we need to determine the conditions under which party 3 successfully enters. When the traditional parties cater to group C, it will never be profitable to enter, as group E is the minority. On the other hand, when the traditional parties cater to group E, entry may be successful. Let us thus consider the voters of group C. In the prescribed equilibrium where entry is successful, a member of group C votes for party 3 irrespective of her signal if $x_3 \neq x_1 = x_2$. Hence, if a member of group C receives signal $s_{i,C} = 1$ if $x_1 = x_2 = 1$ or $s_{i,C} = -1$ if $x_1 = x_2 = 0$ her updated beliefs must be such that she does not follow her signal but instead votes for party 3.[1] This requires that

$$\frac{\left(\alpha q^2 + \left(1-\alpha\right)\left(1-q\right)^2\right) p_C}{\left(\alpha q^2 + \left(1-\alpha\right)\left(1-q\right)^2\right) p_C + \left(\left(1-\alpha\right) q^2 + \alpha \left(1-q\right)^2\right)\left(1-p_C\right)} < \frac{1}{2},$$

meaning

$$\alpha < \alpha' \equiv \frac{q^2 - p_C \left(1 - 2\left(1-q\right) q\right)}{2q - 1} \tag{1}$$

Summarizing, we have shown that the traditional parties always base their platform on the group that contains the decisive voter. Entry will occur if this group is the elite, the traditional parties agree on their platforms and $\alpha < \alpha'$.

[1] Clearly, if $s_{i,C} = x_3$, member i of group C is more inclined to vote for party 3 than if $s_{i,C} \neq x_3$.

A.4 Proof of Proposition 3

First note that Proposition 1 gives a sufficient condition for equilibria to exist that feature both parties basing their platforms on expert opinion in the extended model with polls. We need to check for deviations of one party using a poll in order to find the conditions under which these equilibria survive. This gives the conditions for equilibrium existence in Item (1) and Item (2) of the proposition.

Consider the case where both parties use polls to inform their platforms. This implies in equilibrium $x_1 = x_2$. Suppose party 1 deviates and chooses $x_1 \neq x_2$. What does the electorate believe? Out of equilibrium beliefs of voters will be based on the answer to the question what could motivate party 1 to deviate? A deviating party faces three possible responses of the electorate:

1. The decisive voter always vote for party 2.
2. The decisive voter always vote for party 1.
3. The decisive voter votes in line with her signal.

Voters know that party 1 knows these three options. The probabilities of these options are independent of what party 1 actually chooses as the expert signals are not observable to the electorate. Then, given a deviation, it is optimal for party 1 to base x_1 on w_E (w_C) iff $\sigma p_E + (1-\sigma)(1-p_C) > \frac{1}{2} \left(< \frac{1}{2}\right)$. Why? Consider $\sigma p_E + (1-\sigma)(1-p_C) > \frac{1}{2}$. Basing x_1 on w_E dominates basing x_1 on w_C. It yields the same outcomes in case of (1) and (2), but leads to victory in case of informative voting. Given that basing x_1 on w_E is the dominant deviation, it is also the most likely one. Hence, voters believe that in case of a deviation of party 1, x_1 is based on w_E if $\sigma p_E + (1-\sigma)(1-p_C) > \frac{1}{2}$ and on w_C if $\sigma p_E + (1-\sigma)(1-p_C) < \frac{1}{2}$. This immediately implies the result in Item (1) as a deviation will become profitable whenever $q > \theta$ where all group C voters switch to the deviant. To get the result in Item (2) note the group C voters vote with a united front for the non-deviant party, unless the polling technology gets sufficiently ineffective relative to expert opinion such that they infer more about their state through the expert opinion on the other group than the poll result. This happens when $\theta < \alpha q + (1-\alpha)(1-q)$.

B Extensions

B.1 Mixed Motives and Elite Bias

In the main text, we have assumed that parties are purely office motivated. We show here to what extent our results still hold when parties are also policy motivated. To this end, we first assume that each party represents a different group in society. Party 1 represents group C members. Its payoff equals $u_1 = \lambda I_1 + w_C x$, where I_1 is a dummy variable taking the value one if party 1 is in office and taking the value zero otherwise, and λ denotes the relative weight party 1 attributes to holding office. By contrast, party 2 cares about the interests of group E members. Its payoff equals $u_2 = \lambda (1 - I_I) + w_E x$.

In this model with policy motivated parties, two equilibria in pure strategies exist.[2] First, a partisan equilibrium exists where party 1 bases its platform on $s_{1,C}$ and party 2 bases its platform on $s_{2,E}$. Clearly, if $x_1 \neq x_2$, each group C (E) member ignores her signal and votes for party 1 (2) in this equilibrium. As group C is larger than group E, party 1 wins the election in case $x_1 \neq x_2$.[3] Note that in this setting, party 2 plays a minor role.

The second equilibrium is similar to the one presented in Proposition 1. Suppose

[2]We focus on equilibria in pure strategies. In equilibria in mixed strategies, citizens should coordinate on a voting rule, such that one of the parties is indifferent between following two strategies. In reality, it is hard to imagine how citizens could achieve such coordination. Note that no equilibrium exists in which both parties base their platforms on their signals on w_C. By basing x_2 on its signal about w_E, party 2 would increase it chances of reelection and better promote the elite's interest.

[3]In this partisan setting, where parties follow different strategies in equilibrium, the assumption that if a voter is indifferent between parties' platforms, she votes with probability one-half for each party is not plausible. Clearly, the partisan equilibrium also exists under the assumption that a voter, who is indifferent between parties' platforms, votes for the party that represents her. Furthermore note that as party 1 wins the election with certainty if $x_1 \neq x_2$, electoral concerns give incentives to party 1 to increase the probability that $x_1 \neq x_2$, and give incentives to party 2 to increase the probability that $x_1 = x_2$. Consequently, if λ is high, party 1 has an incentive to deviate by choosing x_1 such that it conflicts with $s_{1,E}$, and party 2 has an incentive to base x_2 on $s_{2,C}$. Hence, this first equilibrium requires that λ is sufficiently small.

that $\sigma p_E + (1-\sigma)(1-p_C) > \frac{1}{2}$, such that both parties cater to the interests of the elite. Does party 1 have an incentive to deviate by basing x_1 on $s_{1,C}$? Group C members benefit from party 1 basing x_1 on $s_{1,C}$. However, by deviating party 1 reduces its chances of winning the election. A deviation increases the probability that $x_1 \neq x_2$. If electoral concerns are strong enough, $\lambda > 2(1-q)$, party 1 has no incentive to base x_1 on $s_{1,C}$.[4]

Now assume that both parties care about the interests of group C members: $u_1 = \lambda I_1 + w_C x$ and $u_2 = \lambda(1-I_1) + w_C x$. Suppose an equilibrium, in which each party bases its platform on w_C. Then, if $x_1 \neq x_2$, the elite determines the election outcome. This gives an incentive to a party to deviate when it received conflicting signals, $s_{p,C} \neq s_{p,E}$. By basing x_1 on $s_{1,E}$ rather than on $s_{1,C}$, party 1 increases its chances of winning the elections. Of course, this deviation hurts the common people. Hence, in a model with policy-motivated parties with both parties representing the common people, a bias towards the elite arises when electoral concerns are sufficiently important.[5]

To conclude, adding policy motivation to our model yields three insights. First, if in equilibrium group C members know that the platform of one of the parties is based on w_C, this party receives the full support of group C members. In this equilibrium, the other party is not relevant. Second, the equilibrium presented in Proposition 1 survives in a partisan setting when electoral concerns are strong enough. Third, if both parties represent the common people, electoral concerns give incentives to actually promote the interests of the elite.

[4]In equilibrium, party 1's payoff equals $(2\alpha-1)\left(\frac{1}{2}-(1-q)^2\right)+\frac{1}{2}\lambda$. Deviating by basing x_1 on $s_{1,C}$ yields a payoff $q-\frac{1}{2}+q\alpha-q^2+\left(1-q(1-\alpha)-\frac{1}{2}\alpha\right)\lambda$. Deviating pays if $\lambda < 2(1-q)$.

[5]In the equilibrium where both parties promote the interests of group C members, party 1's payoff equals $q-\frac{1}{2}+q(1-q)(2\alpha-1)+\lambda\frac{1}{2}$. Deviating yields a payoff $q+q\alpha-q^2-\frac{1}{2}+\lambda\left(q+\frac{1}{2}\alpha-q\alpha\right)$. Hence, deviating pays if $\lambda > 2q$.

B.2 Anti-Elitism in a Three-Party System

B.2.1 Analysis

Proposition 2 illustrates the possibility of populist entry in response to the elite bias. We did not allow the traditional parties to delay their platform choice in anticipation of the entry of a third party. It represents a situation where a newcomer arrives as a second mover later in the electoral competition and thus depicts populism in the short run. Yet, once this newcomer has become an established party, traditional parties may pre-empt an anti-elite platform by proposing a platform themselves only in the second stage, making it impossible for the populist to condition its platform on the platforms of the traditional parties. In this section, we identify equilibria of our game in a symmetric two-stage, three-party system and show that anti-elite policies can be a long-run equilibrium phenomenon. We amend the model underlying Proposition 2 as follows.

- We assume three symmetric parties $p \in \{1, 2, 3\}$.
- Each party p can choose either to propose a platform in stage 1, $t_p = 1$, or to propose a platform in stage 2, $t_p = 2$. Proposed platforms are final. In stage 2, parties observe platforms proposed in stage 1. x_{p,t_p} denotes the platform of party p proposed in stage t_p.

The next proposition characterizes the equilibrium strategies of three Perfect Bayesian Equilibria of the amended game.[6] If two parties propose platforms in period 1, and one party reacts on these platforms in period 2, we assume that party 3 reacts. Of course, analogous equilibria exist in which either party 1 or 2 reacts. For easy of ex-

[6]Apart from these equilibria, five other equilibria exist. In two of them, one party does not acquire information and the other two parties do. Essentially, these equilibria are similar to the equilibria discussed in Proposition 1. In the third equilibrium, all parties investigate w_E, and invert their signals. Parties that offer the same platforms receive votes from group C. This equilibrium exists for low values of α. The last two are similar to item 1 and 3 in Proposition 1. However, rather than proposing platforms in stage 1, parties propose platforms in stage 2. These two equilibria require specific out-of-equilibrium beliefs.

position, we present the proof of this proposition in the following section, Appendix B.2.2.

Proposition B 1 *Consider the two-stage, three-party model.*

(1) There always exists a PBE, in which

- all parties acquire information, cater to the interests of the common people, and propose platforms simultaneously in the first stage, and

- if $x_{1,1} = x_{2,1} = x_{3,1}$, all parties gain office, while if $x_{i,1} = x_{j,1} \neq x_{z,1}$ party i and j gain office.

(2) Suppose that $\sigma p_E + (1-\sigma)(1-p_C) > \frac{1}{2}$ and $\frac{q-p_C}{2q-1} \equiv \alpha'' < \alpha < \alpha' \equiv \frac{q^2 - p_C[1-2q(1-q)]}{2q-1} \leq \frac{1}{2}$. Then, a PBE exists, in which

- party 1 and 2 acquire information and propose platforms in stage 1 that are based on $s_{1,E}$ and $s_{2,E}$, respectively, while party 3 never acquires information

- if $x_{1,1} \neq x_{2,1}$, party 3 sets its platform in stage 2 randomly, and voters follow their private signals either voting for party 1 or 2, and

- if $x_{1,1} = x_{2,1}$, party 3 proposes an anti-elite platform in stage 2, $x_{3,2} \neq x_{1,1} = x_{2,1}$, which receives a majority of votes.

(3) Suppose that $\sigma + (1-\sigma)(1-p_C) > \frac{1}{2}$ and $\frac{q^2 - p_C[1-2q(1-q)]}{2q-1} \equiv \alpha' < \alpha < \frac{q+p_C-1}{2q-1}$, or $\alpha \geq \frac{q+p_C-1}{2q-1}$. Then, a PBE exists in which

- all parties acquire information, cater to the interests of the elite, and propose platforms simultaneously in the first stage, and

- if $x_{1,1} = x_{2,1} = x_{3,1}$, all parties gain office, while if $x_{i,1} = x_{j,1} \neq x_{z,1}$ party i and j gain office.

Item (1) shows that a three-party system does not necessarily lead to a bias against the common people even if the signals of the common people are not very informative. This result clearly conflicts with Proposition 1, which showed that if $\sigma p_E + (1-\sigma)(1-p_C) > \frac{1}{2}$ in a two-party system parties never cater to the interests of the common people. What causes this difference? If in a three-party system parties cater to the interests of the common people, each party wants its platform to coincide with at least one other platform. The common people use platform congruence as a criterion to determine their votes. Deviating, by catering to the interests of the elite, reduces the probability of (partial) platform congruence, and thereby decreases the chances of office. This force is stronger the higher is q. Hence, in an equilibrium where their interests are served, the common people do not need to rely on their (inferior) signals to determine what is good for them. They can use the platforms as checks. In a two-party system, such checks are not available. If platforms differ and parties have catered to the interests of one group, platforms do not provide any information. As a result, the common people have to rely on their (inferior) signals.

Item (2) adds to Proposition 2 that even when traditional parties can pre-empt the entry of a populist party by moving in stage 2, an equilibrium exists with traditional parties catering to the elite in the first stage and a populist party delaying the platform choice to propose an anti-elite platform in the second. Why does party 1 not have an incentive to propose a platform in stage 2? Suppose that both party 1 and 3 choose a platform that deviates from party 2's platform.[7] This means that the elite platform is supported by only one signal. α'' gives the highest value of α for which a member of group C prefers an elite platform when the elite platform is supported by only one signal, regardless of their own private signal. Hence, for $\alpha'' < \alpha < \alpha'$, the traditional parties do not have incentives to pre-empt the populist party. For $\alpha < \alpha''$, however, party 1 has an incentive to propose a platform in stage 2. Thus the "populist equilibrium" does not survive in the long run if α is too small. The same is true if q is large enough. Interestingly, this implies that populism in the long run is less beneficial for the common people compared to the short run. The lower is α, the more certain it is that the anti-elite platform is indeed in the interest of the common people. Since now $\alpha > \alpha''$ needs to hold, there will be relatively more cases where the anti-elite platform turns out not to be in the interest of the common people. Nonetheless, relative to the elite bias case with only two parties the common people still benefit from populism in expectation.

Recall that in a two-party system parties cater to the interests of the elite if $\sigma p_E + (1-\sigma)(1-p_C) > \frac{1}{2}$. Item (3) shows that in a three-party system an equilibrium

[7] If party 1 chooses $x_1 = x_2$ in the second stage, citizens never vote for party 1, as it has no incentive to acquire information about a state.

may exist in which parties cater to the interests of the elite under a less restrictive condition. This means that in a three-party system the interests of the common people are not necessarily better represented than in a two-party system.

B.2.2 Proof of Proposition B 1

Proof of Item 1.

We first study optimal voter beliefs and behavior given that parties behave as prescribed in Item 1. Consider voter i of group C. Suppose $s_{iC} = x_{1,1} = x_{2,1} \neq x_{3,1}$, then voter i votes for either party 1 or 2. Suppose now that $x_{1,1} = x_{2,1} \neq x_{3,1} = s_{iC}$. As $p_C < q$, voter i still votes for parties 1 and 2. Indeed, i's posterior beliefs about s_{iC} (and $x_{3,1}$) being correct are given by:

$$\frac{p_C q(1-q)^2}{p_C q(1-q)^2+(1-p_C)(1-q)q^2} < \frac{1}{2}.$$

Thus any voter of group C always votes for parties 1 or 2 if $x_{1,1} = x_{2,1} \neq x_{3,1}$.

We now study parties' possible deviations from their prescribed strategy. First, does any party have an incentive to propose a platform in stage 2? Such a move can generate a non-zero probability of winning only if the deviant is believed to have based its platform on a signal about w_C. Indeed, voters believe that the two parties which follow the prescribed strategy base their platforms on their signals about w_C as these two parties could not anticipate the deviation by the other party. In case the platforms of these two parties are equal, the deviant party can receive a positive payoff only when if it chooses the same platform and this platform is believed to be based on a signal about w_C. Yet, as soon as voters believe this, the deviant can improve further on its payoff if it does not buy the signal about w_C. In case the two non-deviating parties propose different platforms, the deviant party has no incentive to actually acquire and use costly information. Thus, it is not profitable to deviate to moving in the second stage with a platform based on a signal about w_C.

Does any party have an incentive to not base its platform on w_C? To gain office, a party should propose a platform that at least one other party also proposes. Given that the other two parties base their platforms on their signals about w_C, a party maximizes the probability of "platform congruence" by also basing its platform on w_C. Thus a deviation to investigating w_E, not investigating or inverting on of the two signals is also not profitable.

Proof of Item 2.

First of all, remark that the restrictions imposed on the values α can take on – $\frac{q-p_C}{2q-1} \equiv \alpha'' < \alpha < \alpha' \equiv \frac{q^2-p_C(1-2(1-q)q)}{2q-1}$ – are meaningful as $\frac{q-p_C}{2q-1}$ is always (weakly) smaller than $\frac{q^2-p_C(1-2(1-q)q)}{2q-1}$ given that $p_C < q \leq 1$.

Given the above restrictions, party 3's prescribed strategy and the fact that $\sigma p_E + (1-\sigma)(1-p_C) > \frac{1}{2}$, the parties that move in stage 1 do not have an incentive to deviate. Indeed, consider first a deviation to stage 2 by party 1, say. Since party 1 observes party 2's platform and party 3's platform is also based on party 2's platform, party 1 cannot credibly deviate to stage 2 with a platform based on a costly signal. Thus upon deviation, party 1 announces $x_{1,2} \neq x_{2,1}$. Party 3's best response to this deviation – party 3 observes that party 1 did not move in stage 1 – is also to announce $x_{3,2} \neq x_{2,1}$ after no investigation. To sustain the prescribed equilibrium, the common people should not vote for party 1 and party 3 with a united front. Consider the beliefs of a voter of group C who received a signal equal to $x_{2,1}$. This voter finds it optimal to follow her signal when:

$$\frac{(\alpha q + (1-\alpha)(1-q))\, p_C}{(\alpha q + (1-\alpha)(1-q))\, p_C + ((1-\alpha)\, q + \alpha\, (1-q))\, (1-p_C)} > \frac{1}{2},$$

which implies

$$\alpha > \alpha'' \equiv \frac{q-p_C}{2q-1}.$$

When the above holds, party 1 and 2 have no incentives to deviate to stage 2.

The proof of Proposition 2 implies that, given the prescribed equilibrium, party 1 or 2 also have no incentive to deviate in the current stage from basing their platform on a signal about w_E.

Now consider deviations by party 3. First note that we have shown in the proof of Proposition 2 that it is not rational for party 3 to enter in stage 2 with a platform based on one of the costly signals. The same argument holds in this setting for party 3 acquiring information when moving in stage 2. This implies that in a situation where $x_{11} \neq x_{21}$ the third party never receives any votes because voters prefer informed parties and it thus sets a platform randomly. Setting the anti-elite platform after $x_{11} = x_{21}$ is an optimal strategy whenever it ensures party 3 wins at least with some positive probability. This is the case whenever $\alpha < \alpha' \equiv \frac{q^2 - p_C(1-2(1-q)q)}{2q-1}$ as then all group C voters vote for party 3 with a united front.

Does party 3 have any incentive to deviate to stage 1? If voters believe party 3 did not acquire and use any signal in its platform, this deviation is not profitable. Suppose now voters believe party 3 based its platform on a signal about w_E. Its expected payoff is then 1/3. Following its prescribed strategy yields an expected payoff of $q^2 + (1-q)^2 > 1/3$ and thus this deviation is also not profitable. Finally, party 3 could win if voters believed it based its platform on a signal about w_C. If voters would indeed hold such beliefs party 3 would instead invert the signal about w_E to maximize the chance of platform incongruence. Thus it is not rational for voters to believe that the deviant based its platform on a signal about w_C. Thus such a deviation is not profitable.

Proof of Item 3.

We first need to ensure that a majority of voters always back the two congruent parties in case one of the three platforms is not equal to the other two. Suppose $x_{1,1} = x_{2,1} \neq x_{3,1}$. Then no member of the elite votes for party 3, because $q \geq p_E$ by assumption. If $\sigma + (1-\sigma)(1-p_C) > \frac{1}{2}$, parties 1 and 2 can secure a majority of the votes if all members of group C vote in line with their signal. A member of group C who received a signal that is equal to $x_{3,1}$ votes for $x_{3,1}$ if and only if

$$\frac{p_C\left[\alpha(1-q)^2 q + (1-\alpha)q^2(1-q)\right]}{p_C\left[\alpha(1-q)^2 q + (1-\alpha)q^2(1-q)\right] + (1-p_C)\left[\alpha(1-q)q^2 + (1-\alpha)q(1-q)^2\right]} > \frac{1}{2}$$

$$\iff \alpha < \frac{p_C + q - 1}{2q-1}.$$

A group C member who received a signal equal to $x_{1,1}$ and $x_{2,1}$ votes for either party

1 or 2 if and only if

$$\frac{p_C\left[\alpha(1-q)q^2+(1-\alpha)q(1-q)^2\right]}{p_C\left[\alpha(1-q)q^2+(1-\alpha)q(1-q)^2\right]+(1-p_C)\left[\alpha(1-q)^2q+(1-\alpha)q^2(1-q)\right]}>\frac{1}{2}$$

$$\iff \alpha>\frac{q-p_C}{2q-1}.$$

Together, the conditions one needs to impose on posterior beliefs for group C voters to follow their signal thus require α must be such that: $\frac{q-p_C}{2q-1}<\alpha<\frac{q+p_C-1}{2q-1}$.

Also, if all members of group C vote for 1 or 2, the prescribed equilibrium could exist. This requires $\alpha>\frac{q+p_C-1}{2q-1}$.

Next, we need to ensure that a deviation by a party to basing its platform on a signal about w_C is not profitable. Given that this deviation is not observable by voters, the effect of such a deviation is only to increase the chances that the deviant's platform ends up not agreeing with the other two platforms when these two match each other. And in this case voters do not vote for the deviant. Thus this deviation is not profitable. More generally, any deviation away from basing the platform on the signal on w_E is dominated.

We also need to ensure that a deviation to stage 2 is not profitable. Suppose that party 1 and 2 follow the prescribed strategy and party 3 deviates to moving in stage 2. We know from the proof of Proposition 2 that, given the equilibrium strategies of party 1 and 2, it is not rational for the third party to acquire and use a signal. If $x_{1,1}=x_{2,1}$, the third party must thus propose $x_{3,2}\neq x_{1,1}$ in stage 2. For group C voters to not be willing to vote for party 3 we need to impose that $\alpha>\alpha'\equiv\frac{q^2-p_C(1-2(1-q)q)}{2q-1}<1/2$; see the proof of Item (2). Remark now that $\frac{q+p_C-1}{2q-1}$ is increasing in p_C, decreasing in q and is equal to at least $1/2$. Thus $\frac{q+p_C-1}{2q-1}>\frac{q^2-p_C(1-2(1-q)q)}{2q-1}$. For the equilibrium described in Item (3) to exist we need to impose that either that $\alpha\geq\frac{q+p_C-1}{2q-1}$, for which the constraint $\alpha>\alpha'$ does not bind, or that $\frac{q-p_C}{2q-1}<\alpha<\frac{q+p_C-1}{2q-1}$ (and $\sigma+(1-\sigma)(1-p_C)>\frac{1}{2}$) for which the constraint $\alpha>\alpha'$ actually binds. Thus, in the latter case, we need to impose that α takes on values between $\frac{q^2-p_C(1-2(1-q)q)}{2q-1}$ and $\frac{q+p_C-1}{2q-1}$. This concludes the proof of the last item of the proposition.