Voter Information and Distributive Politics[*]

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Abstract

I consider a series of models of political agency with moral hazard and adverse selection, in which politicians allocate resources to voters. Within these models, which combine electoral accountability and distributive politics, I ask: is more information good for voters? With homogeneously informed electorates, I first show how and when less information can benefit voters, through the interaction of both partial control and partial screening effects. Building on this mechanism, I subsequently consider heterogeneously informed electorates and ask: how can voters' welfare be affected by the informational advantage of a few voters? Is it better to be among the more informed few or the less informed many? I show that the ability of more informed voters to communicate with less informed voters and the nature of their informational advantage can play a significant role in affecting voters' welfare by influencing politicians' incentives to allocate resources to specific voters.

Keywords: information, political agency, transparency, strategic communication, distributive politics, coalition formation.

JEL codes : D72, D83

1 Introduction

Politics is all about "who gets what, when, [and] how" (Lasswell, 1936) and distributive processes are zero-sum: when a finite budget or finite resources are allocated, some people's gains must come at the expense of others. Understanding why politicians treat some groups more favourably than others by allocating them more public services or higher public spending has consequently been a central question for political economists for decades (Golden and Min, 2013). Electoral accountability, the ability of voters to reward or sanction politicians for their actions in office, is another central topic for political inquiry (Fearon, 1999; Ashworth, 2012). Since such accountability is necessarily based on politicians' past actions, voters' information about these actions determines their ability to hold politicians accountable (Duggan and Martinelli, 2017) and might allow them to infer politicians' preferences or abilities, which they can subsequently use to screen out politicians with undesirable traits and select politicians with desirable traits. However, there is considerable heterogeneity in voters' information about politics: poorly informed masses of voters coexist with more informed groups of voters (Delli Carpini and Keeter, 1997; Lupia, 2016).

To gain insights into the links between electoral accountability, voter information, and distributive politics, I build a two-period model of political agency in which an office-holder is tasked with allocating resources to a continuum of voters, who vote to retain the incumbent or replace him with a challenger between the two periods. Focusing on distributive issues and voters' ability to screen politicians, I ask: how can more information for *all* voters affect voters' welfare? How can more information for *some* voters affect their welfare? How can it affect the welfare of other voters?

In the model, a windfall is available to the politician to allocate in good times, whereas nothing is available in bad times.[1] Possible interpretations of this windfall include money, resources to spend on constituency services, or legislative work on specific issues. Politicians' preferences are privately known. They may be *benevolent*, distributing the entire windfall uniformly to voters or *strategic*, valuing holding office *per se* and the rents that can be extracted from the windfall. I consider information relevant to voters' evaluation of politicians' actions with three information structures: *least informed* voters observe only their own allocation; *state informed* voters observe their own allocation and the state of the world; and *most informed* voters observe their own allocation, the state of the world, and the entire distribution of allocations in the economy. Finally, I include a reduced-form monitoring mechanism, which can be interpreted as judicial oversight or accountability journalism, in the form of a probability of detection of rent extraction that increases with the size of the rent extraction. Between the two periods, voters get an opportunity to either reelect the incumbent or elect a randomly drawn challenger. They vote sincerely, based on their rationally updated beliefs.

The analysis proceeds in two steps. First, I study homogeneously informed electorates. This first step, in addition to answering some of the questions I ask, provides results that are used in the second step, in which I consider heterogeneously informed electorates. There, I consider electorates in which a few voters are more informed than the rest, emphasising more informed voters' ability

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[1]While this is my preferred interpretation, I discuss an additional interpretation, of crisis versus business as usual, in section 3.

to communicate with the rest of the electorate and the nature of their informational advantage. Two concepts play an essential role in the analysis that follows: I use the term *control* to describe the extent to which a strategic incumbent distorts his first-period action away from his preferred action towards actions more favourable to voters (in good times), and the term *screening* to describe the possibility that voters can use the election as a tool to screen a benevolent incumbent from a strategic one, using the information they receive.[2]

As is standard in two-periods models of political agency, in all equilibria a strategic second period office-holder extracts the entire windfall, as he is devoid of reelection concerns. Interesting strategic considerations take place in the first period and affect the optimal strategy of a strategic incumbent. When the electorate is *most informed*, the equilibrium can be separating or pooling. In a separating equilibrium, a strategic incumbent extracts the entire windfall in good times. This equilibrium is characterised by full screening, conditional on the windfall being available in the first period, since a strategic incumbent is necessarily voted out. It is also characterised by no control, as a strategic incumbent extracts the entire windfall in the first period. In a pooling equilibrium, a strategic incumbent allocates the windfall uniformly to voters. This equilibrium is characterised by full control, as a strategic incumbent mimics a benevolent one, and no screening, as voters are unable to screen a strategic incumbent from a benevolent one.

When the electorate is *state informed* or *least informed*, a new kind of equilibrium can emerge, which I call a *fooling* equilibrium. I characterise the conditions under which a fooling equilibrium exists and is essentially unique. In a fooling equilibrium, only a fraction of voters are allocated by a strategic incumbent the same allocation that a benevolent incumbent would offer them. Provided that rent extraction is not revealed, this allows a strategic incumbent to be reelected even though he does not allocate the entire windfall to voters. This equilibrium is characterised by partial screening, since a strategic incumbent is not reelected if his rent extraction is detected. It is also characterised by partial control, since voters are allocated part of the windfall in the first period. The structure of a fooling equilibrium is related to the concept of winning coalitions. In contrast to political agency models featuring only moral hazard (e.g. Ferejohn, 1986; Zudenkova, 2018), voters do not set their reelection standards to try to be included in the coalition targeted by the incumbent office-holder. Instead, voters simply cast their votes for the politician who is the most likely to be benevolent, *à la* Fearon (1999). Since all voters are *ex-ante* identical, there is no incentive for a strategic incumbent to target any specific voter. Despite this homogeneity, information asymmetries and reputational concerns lead to *ex-ante* identical voters being treated differently by a strategic politician in a fooling equilibrium.

I then rank these equilibria in terms of aggregate voters' welfare. This ranking depends on the strength of the different screening and control effects and the value of screening. The strength of screening corresponds to the equilibrium probability of a benevolent second period office-holder, the strength of control corresponds to voters' *ex-ante* aggregate first period payoff, and the value

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of screening is the difference between voters' expected payoff from a benevolent second period office-holder and voters' expected payoff from a strategic one. The separating equilibrium is always welfare dominated by the pooling equilibrium, but all other rankings among the three equilibria are possible depending on the parameter values: thus, when voters are homogeneously informed, more information can harm or benefit them, through the interaction of both partial control and partial screening effects.[3]

Building on these results, I next consider the case of heterogeneously informed electorates where some voters are more informed than others and where parameters are such that the equilibrium would have been fooling if the few more informed voters had been as informed as the other voters.[4] This allows me to investigate additional questions: first, are more informed voters better off than less informed ones? Second, I can examine whether more information for some voters is good for the electorate as a whole, whether it is good for the more informed themselves, and whether it is good for the less informed.

I first show that, when communication is impossible, more informed voters and less informed voters can be treated identically by a strategic incumbent if the more informed voters are *state informed*: both types of voters can be fooled, since neither observes the entire distribution. Thus, the difference in information between voters does not lead to systematic welfare differences. On the other hand, if more informed voters are *most informed*, their *ex-ante* average welfare is strictly lower than that of less informed voters, since they can't be fooled into voting for a strategic incumbent who shares only part of the windfall. This is a consequence of their informational advantage: less informed voters are a priority for a strategic incumbent seeking reelection, not more informed ones. Thus, in that particular setting, more information can harm the voters who benefit from it and benefit the voters who do not have additional information.

Next I consider a setting in which more informed voters can communicate with other voters. In practice, I assume that more informed voters can communicate verifiable information about what they observe to other voters.[5] In this case, the nature of the informational advantage matters. If they are *state informed*, their *ex-ante* average welfare is strictly higher than that of *least informed* voters, because they can be fooled and information disclosure is a threat: more informed voters are a priority, not less informed ones. For the same reasons, in this setting, having a few more informed voters can strictly worsen the *ex-ante* average welfare of the less informed and strictly increase the *ex-ante* average welfare of those who benefit from an informational advantage, compared to a setting in which they would not benefit from their informational advantage. If, on the other hand, more informed voters are *most informed*, their inability to commit to a communication strategy prevents any partial extraction of the windfall in equilibrium. The equilibrium is then either pooling or separating and the average *ex-ante* welfare of more and less informed voters are equal. In other words, a small group of *most informed* voters, whatever its size, leads to the same equilibrium that the polity would be in with a

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[3]This mechanism features prominently in other recent work on political agency studying, for example, the role of interest groups, biased media, or fiscal restraints (Besley and Smart, 2007; Ashworth and Bueno de Mesquita, 2014; Fox and Stephenson, 2015; Wolton, 2019; Blumenthal, 2022).

[4]As will become clearer below, the focus on this equilibrium follows from the differential treatment of voters in it.

[5]As explained below, the assumption of verifiability is not crucial, and similar results would hold in a model with cheap talk in an informative equilibrium. What matters is simply the *possibility* of communication.

most informed electorate.

I then draw implications from my analysis of the case of heterogeneously informed electorates. First, I discuss the impossibility of collusion between more informed voters and politicians due to a commitment problem in *communication strategies*, a mechanism reminiscent of the commitment problem in *voting strategies* described by Fearon (1999) (see also Ashworth and Bueno de Mesquita, 2014). I then explore the interactions between the ability to communicate, informational advantage and relative welfare: when they can communicate, more informed voters are *at least* as well off as less informed voters. Discussing the implications of my analysis for information acquisition, I argue that this provides a supply-side rationale for the existence of media outlets, linking my work to recent work on the political economy of media. I also discuss ways in which information acquisition can be explained when information harms voters and discuss possible distributional consequences of informational campaigns.[6] Next, I relate my findings to the recent literature on the political economy of populism, showing how a form of populism can emerge in the model and benefit the masses. I then relate my findings to the notion of watchdog voters, emphasising the nature of their informational advantage and the importance of cue transmission, and note that the welfare consequences of the existence of such monitoring need not be welfare improving for voters. Finally, I reconsider the issue of forming winning coalitions in the context of heterogeneously informed electorates, showing how the level of information of voters can affect whether they are targeted by politicians.

The contribution of this paper is threefold. First, I show how observing less information about policymaking can improve the welfare of a continuum of homogeneously informed voters in a political agency model with moral hazard and adverse selection, through the interaction of partial control effects and partial screening effects. In doing so, I provide a novel theory of coalition formation driven solely by information asymmetries between voters and politicians. Second, considering a setting with both more and less informed voters, I identify mechanisms that can make more informed voters better or worse off relative to less informed voters and provide conditions under which this is the case. Third, I show how an informational advantage for a few voters can affect the welfare of the electorate relative to a benchmark where these would be devoid of their informational advantage. For both these contributions, I emphasise the nature of these voters' informational advantage and their ability to communicate with less informed voters. In doing so, I extend my theory of coalition formation to include information asymmetries among voters, in addition to those between voters and politicians. For all three of these contributions, I relate my findings both to earlier work on political agency and, more broadly, to recent work in political economy.

2   Literature review

This paper contributes to the political agency literature and in particular to the literature combining moral hazard and adverse selection (for early contributions, see Coate and Morris (1995)

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[6]Informational campaigns refer to "initiatives [...] to repackage and disseminate information obtained from government audits, publicly available administrative data, official records of politician behaviour, and freedom of information requests", in order to "boost accountability and responsiveness" Dunning et al. (2019).

and Fearon (1999); for overviews, see Besley (2006), Ashworth (2012), and Duggan and Martinelli (2017)). Besley and Smart (2007), Ashworth and Bueno de Mesquita (2014), Fox and Stephenson (2015), Wolton (2019), and Blumenthal (2022) are the closest: they provide conditions under which less information can benefit a representative voter while shedding light on many issues related to policymaking such as the role of interest groups, the influence of the media, fiscal restraints, the effect of non-binding law or the impact of ideology. A common mechanism underlies these results: making a representative voter less informed can shift the equilibrium from one characterised by either full control and no screening or no control and full screening to one characterised by partial screening, partial control, or both. If the partial screening effects, partial control effects, or both are sufficiently strong, being less informed is beneficial for the representative voter. By focusing on a distributive politics model with a continuum of voters rather than with a representative voter, I derive additional implications of this mechanism on voters' welfare and equilibrium outcomes when voters are heterogeneously informed. Models with a representative voter are well suited to analysing settings in which voters are homogeneously informed and in which the actions of office-holders affect all voters uniformly, but may be poorly suited to cases in which voters are heterogeneously informed, masking a significant heterogeneity in voters' outcomes.

This paper also contributes to the literature on distributive politics and pork-barrel spending. Focusing on the moral hazard problem in political agency models, Ferejohn (1986), Zudenkova (2018), and Foster and Warren (2023) study how voters or constituencies compete to benefit from targeted spending. Fearon (2006) and Fearon (2011), while focusing on how elections as coordination devices make democracy self-enforcing, feature models where a single politician decides what to allocate to multiple voters. Dixit and Londregan (1996) and Dixit and Londregan (1998) emphasise the role of ideology in allocating targeted spending to ideologically diverse electorates. Lizzeri and Persico (2001) considers the incentives for politicians to provide public goods or pork-barrel spending under proportional representation and in a winner-takes-all system. Gavazza and Lizzeri (2009) builds a political competition model with ideologically differentiated voters to discuss how the transparency of spending and revenues affects office-motivated politicians' incentives to distribute transfers to voters. Similarly, Maskin and Tirole (2019) discusses the effect of transparency of spending targets in a model where politicians have heterogeneous preferences towards different groups of voters. In my model, voters share the same preferences and politicians don't favour specific voters: differences in transfers received by voters can emerge simply from politicians' reputational concerns and information asymmetries.

Finally, the paper contributes to the literature on information and transparency in policymaking. Prat (2005), Fox (2007), Fox and Van Weelden (2012), Fu and Li (2014), Prato and Wolton (2016), Prato and Wolton (2018), and Trombetta (2020) consider agency relationships between a principal and an agent and discuss the costs and benefits of transparency over actions. Since I consider a political agency model with multiple voters, a closely related paper is Lohmann (1998), which features heterogeneity in politicians' abilities and heterogeneously informed voters and shows how these, coupled with heterogeneous voter preferences, lead to benefits for more informed voters. Agranov, Eilat and Sonin (2023) studies the relationship between the size of an endogenously formed elite, the trust voters have in the elite's endorsement of a candidate, and inequality. Here I focus on a political agency setting with

distributive politics, consider politicians with heterogeneous preferences, introduce heterogeneity in the level of information voters have and do not consider endogenous trust, endogenous information acquisition, heterogeneous preferences among voters, or the endogenous formation of an elite. I derive a new set of results on both the gains and, importantly, the losses more informed voters can derive from their informational advantage. In addition, I derive results pertaining to the consequences of the existence of a more informed group of voters for the electorate as a whole.

3   Baseline model

The baseline model focuses on a two-period interaction between an incumbent politician, a challenger and a continuum of voters of measure one.[7] In each period, an amount R may be available for the office-holder to allocate, depending on the realisation of a binary state of the world. Between the two periods an election with majority voting takes place, in which the incumbent faces the challenger.

Timing. First, Nature draws the politicians' types. The prior probability that a politician is benevolent is the same for both and is equal to $\pi \in (0,1)$. A politician's type is his private information. Nature also draws the first period state of the world, $\omega_1 \in \{\underline{\omega}, \overline{\omega}\}$. The incumbent observes the state of the world and, if $\omega_1 = \overline{\omega}$, gets to allocate a windfall of value R. Voters observe their individual allocations and, depending on the information structure, may also observe the state of the world or both the state of the world and the full distribution of allocations. They may also observe a fully revealing signal about whether the incumbent extracted any of the windfall. The election then takes place. Nature subsequently draws the second period state of the world, $\omega_2 \in \{\underline{\omega}, \overline{\omega}\}$. The second period office-holder observes the state of the world and, if $\omega_2 = \overline{\omega}$, gets to allocate a windfall of value R. Second period payoffs are realised and the game ends.

Actions, preferences, and informational structure. In each period, a state of the world ω_t is drawn by Nature from the set $\Omega = \{\underline{\omega}, \overline{\omega}\}$, with $\Pr(\omega_t = \overline{\omega}) = \eta \in (0,1)$. For linguistic diversity, I often refer to state $\overline{\omega}$ as good times and to state $\underline{\omega}$ as bad times, to reflect the availability of a windfall in either of these states of the world. A politician's task is to allocate transfers to voters, under the condition that the total value of the transfers not be greater than the amount available to distribute: a (pure) strategy for a politician is a mapping $\Phi : [0,1] \to [0,\infty)$ such that:

$$0 \leqslant \int_0^1 \Phi(j)dj \leqslant \mathbb{1}_{\{\overline{\omega}\}}(\omega)R.$$

I denote by r the rents extracted by the politician. This is the difference between R and $\int_0^1 \Phi(j)dj$. I denote voter i's utility (per period) by $U(\Phi(i))$, where $\Phi(i)$ denotes the allocation offered by the office-holder to voter i in that period. I assume that $U(.)$ is a strictly concave, increasing, continuous function. Benevolent politicians allocate the entire windfall uniformly to all voters when available (i.e. $\Phi(i) = R$ for all i), a behavioural strategy that maximises voters' instantaneous aggregate welfare.[8]

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[7]Considering a continuum of voters rather than a finite number of voters eases the exposition, but qualitatively similar results would hold in a model with an odd number of voters.

[8]The optimality of this strategy follows from the strict concavity of voters' utility function.

Strategic politicians value the rents that can be extracted from the windfall. They also value holding office, which I denote by W.

Voters can be in one of three possible information structures. In the first one, voters are fully informed about the policymaking process: they observe their individual allocation $\Phi(i)$, the state of the world ω_t, and the distribution of allocations in the economy $\Phi(.)$. In that case, I call voters *most informed*. In the second informational structure, voters observe both ω_t and $\Phi(i)$, but not $\Phi(.)$. I call voters in that case *state informed*. In the last informational structure, voters only observe $\Phi(i)$. I call voters in that case *least informed*. Politicians know in which information structure the voters are, as do voters. To complement these informational structures, I assume that there is an endogenous probability of detection of rent extraction denoted $\rho(r)$. I make a number of further technical assumptions on the shape of the function in order to streamline the exposition. I assume that $\rho(0) = \rho'(0) = 0$; that there exists some value $a \in (\frac{R}{2}, R]$ such that $\rho(.)$ is strictly convex and increasing on $[0, a)$ and equal to 1 for $[a, R]$; and that $\rho(.)$ is twice continuously differentiable on $[0, a)$.[9]

Finally, I also make a number of assumptions for the sake of a clearer exposition: if voters are indifferent between the incumbent and the challenger, they vote for the incumbent; if exactly half the electorate votes for the incumbent, the incumbent is reelected;[10] the probability distribution for the state of the world is the same in both periods;[11] I normalise $U(0)$ to 0; finally, I assume that players value the present and the future equally i.e. I abstract from discounting.[12]

Equilibrium concept. My solution concept is pure strategy Perfect Bayesian Equilibrium (equilibrium henceforth). To solve for an equilibrium I have to specify actions for strategic politicians and voters' strategies and beliefs. A strategies-beliefs pair is an equilibrium if (1) strategic politicians' strategies maximise their expected payoffs given benevolent politicians' behavioural strategy and voters' beliefs and equilibrium strategies, (2) for each observation of the incumbent's action, the voters' posterior beliefs that he is benevolent are derived via Bayes' Rule when possible, and (3) voters' voting strategies are optimal given their beliefs and the equilibrium strategies of politicians.

Since the overarching goal of the paper is to provide welfare comparisons under different information structures, the multiplicity of equilibria that often plagues political agency models can be problematic. I impose a selection criterion that guarantees the (generic) uniqueness of the equilibrium when needed: if there are multiple equilibria, I select the equilibrium or equilibria that guarantees the highest expected vote share to a strategic incumbent. This selection rule plays an important role in shaping the structure of the fooling equilibrium below. It could easily be micro-founded by considering voters who have a small probability of making a mistake in the voting booth: an incumbent politician could then increase his likelihood of reelection by forming a larger coalition of

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[9]These assumptions are stricter than necessary, but simplify the exposition by allowing me to uniquely pin down the optimal level of rent extraction for a strategic incumbent.

[10]The same assumption is made in other political agency papers that feature continua of voters (e.g. Maskin and Tirole, 2019)

[11]Period-specific probability distributions for the state of the world wouldn't affect the results qualitatively but the notation would be slightly more cluttered.

[12]The assumption regarding the weighting of the present versus the future is not consequential. As long as players do not value only the future or only the present, qualitatively similar results would hold. See Ashworth and Bueno de Mesquita (2014) for a related discussion or Blumenthal (2022) for a similar approach.

potential supporters.

Modelling assumptions. The windfall can most easily be seen as an amount of money that the office-holder can allocate (e.g. Ferejohn, 1986; Zudenkova, 2018). It can also be interpreted as resources available to an office-holder to spend on constituency services or on policy work when voters have policy preferences that are such that the advancement of the policy preferred by a voter does not affect the welfare of other voters (in a related context, but with a representative voter, Ashworth (2005) adopt these interpretations). Similarly, the assumption that the amount of the windfall extracted by strategic politicians positively affects their payoffs can be interpreted in several ways. The most literal is to assume that the rents extracted go directly in the strategic politicians' pockets, or that they use these resources to further their own interests. However, less literal but more realistic interpretations may also fit: extracted rents may represent transfers to special interests aligned with them or resources spent to further the goals of these special interests, or could be reinterpreted as targeted transfers towards some voters aligned with them or towards the interests of these aligned voters, at the cost of a slight rewrite of the model, to account for the changes in the voting patterns that would follow.[13]

A number of the papers I discuss in the literature review also contrast the cases of voters who can only observe their own allocation and of voters who can observe the entire distribution of allocations, such as Fearon (2006), Gavazza and Lizzeri (2009), or Maskin and Tirole (2019). These two alternatives relate to the complexity of the office-holder's allocation decision: depending on the complexity of the procedure by which benefits are allocated to voters, the assumption that every voter observes the allocations received by other voters can be more or less plausible. In contrast, the observability of a state that determines the availability of a windfall is, to the best of my knowledge, an innovation on the past literature. Zudenkova (2018) similarly considers a resource of fixed value that an office-holder gets to allocate, but assumes that the resource is always available. Fearon (2011) considers a setting in which a common random shock can affect citizens' payoffs, but assumes that neither citizens nor the politician observe its realisation. I partly follow his approach by interpreting the state of the world $\underline{\omega}$ as "bad times" for the society that occur for idiosyncratic reasons. Thus, to assume that voters observe the state of the world is to assume that they pay some attention to aggregate conditions affecting society, in addition to the attention they pay to their own fate.

There are two dimensions to the decision to include an endogenous probability of detection of rent extraction in the model: first, I assume that there is some process, not explicitly modelled, through which politicians' actions are monitored. I interpret it as a form of accountability journalism or judicial oversight that can detect and report to the public the misbehaviour of the politician. This could, for example, take the form of a news story with evidence of improper actions by the officeholder. Such a process has been included in other models of political accountability, such as Besley and Smart (2007), Avis, Ferraz and Finan (2018) or Blumenthal (2022) (Avis, Ferraz and Finan (2018) provides evidence in support of the empirical relevance of this parameter). Second, I assume that this probability of detection increases with the amount of rents extracted, up to the point where detection becomes certain. The purpose of this assumption is to represent in a very flexible way the idea that a politician

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[13]In particular, one should account for the fact that such voters would count towards the formation of a winning coalition by strategic incumbents.

who diverts a single penny is less likely to get caught than a politician who diverts millions. This probability of detection plays an important role in the results derived below, as it allows for partial screening in equilibrium, rather than full or no screening.[14]

An alternative interpretation. The states of the world in the model can be reinterpreted to correspond to states of crisis and business as usual instead of good times and bad times (models with a similar interpretation can be found in Bils and Izzo, 2023; Izzo, 2023). In this alternative interpretation, a politician's actions and type matter only in the case of a crisis, in order to mitigate its consequences. By exerting (costly) effort, a politician is able to improve outcomes for voters. In this reinterpretation, a benevolent politician exerts sufficient effort in a state of crisis to ensure that voters do not have worse outcomes in a state of crisis than under business as usual. In contrast, a strategic politician must decide whether to exert these costly efforts in order to improve voter outcomes in a state of crisis, or simply to slack off and let voters bear the brunt of the crisis. The probability of rent extraction can also be reinterpreted, as the probability that the media or judicial authorities will uncover evidence that the politician did not mitigate the consequences of a crisis for some group of voters. All the results described below hold with this reinterpretation.[15]

3.1 Equilibrium characterisation and welfare analysis

First, consider strategic second period office-holders' equilibrium strategy, the voters' reelection rule, and the conditions under which the incumbent is reelected. These do not depend on whether voters are *most informed*, *state informed* or *least informed*. A second period strategic office-holder diverts R whenever he can, since he has no reputational concerns. I summarise this as follows:

Lemma 1. *In equilibrium a strategic second period office-holder extracts R in good times.*

Given Lemma 1, voters vote for the incumbent if and only if their posterior belief on the likelihood that the incumbent is benevolent is at least as high as their prior belief on the likelihood that the challenger is benevolent. Thus an incumbent is reelected if and only if at least half of voters have a high enough posterior belief on the likelihood that he is benevolent. I summarise this as follows:

Lemma 2. *An incumbent is reelected if and only if half of the voters have a posterior belief of the likelihood that he is benevolent that is greater than or equal to the prior probability that a challenger is benevolent.*

Let me now study the first period and first consider the case where voters are *most informed*. Note that the voters' beliefs are not restricted by Bayes' Rule off the equilibrium path. Since a benevolent politician's equilibrium strategy is pinned down by the behavioural strategy he follows, I simply assume that upon observing any allocation which differs strictly from 0 or R, voters' posterior belief about the incumbent is that he is strategic with probability 1. Similarly, upon observing jointly that times are good and an allocation which differs from R, I assume that voters' posterior belief about

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the incumbent is that he is strategic with probability 1. With these assumptions, I can now analyse a strategic incumbent's equilibrium behaviour:

Proposition 1. *Suppose voters are most informed. In the essentially unique equilibrium, a strategic incumbent, in good times:*

1. *Allocates* R *uniformly to all voters if* $W > (1 - \eta)R$, *a pooling equilibrium.*

2. *Extracts* R *if* $W < (1 - \eta)R$, *a separating equilibrium.*[16]

Voters, being *most informed*, can infer from any non-uniform allocation of the entire windfall in good times that the incumbent is strategic. Moreover, of all the strategies in which a strategic incumbent extracts a positive amount of the windfall, the best for him is to extract the entire windfall, as he is then not reelected but maximises his first period payoff. There are then only two relevant strategies to consider. Full allocation ensures his reelection for the subsequent period, with office-rents and the opportunity to appropriate the windfall in the good state, ensuring an expected payoff of $W + \eta R$. Full extraction ensures that he is not reelected, but allows him to extract the entire windfall in the first period, instead of allocating it entirely to voters, ensuring a payoff of R.

Let me now consider the case of *state informed* and *least informed* voters. Note first that since voters don't share the same information *ex-post*, their posterior beliefs about the incumbent's type can differ: a strategic incumbent can target only a subset of voters, extract a positive amount of the windfall in the first period, and still be reelected – which is impossible when voters are all *most informed*. He has to balance two opposing effects: on the one hand, extracting more rents in the first period benefits him in the first period. On the other hand, it increases the likelihood that the rent extraction is revealed, ensuring that voters are able to correctly identify him as a strategic office-holder and not reelect him, thereby reducing his second period expected payoff. Finally, he must earn the support of at least half of the voters to be reelected (Lemma 2). These observations provide the intuitions underlying the existence of a new type of equilibrium, a *fooling* equilibrium, which differs from the pooling and separating equilibria of Proposition 1. In a fooling equilibrium, a strategic incumbent allocates R uniformly only to a subset of voters in good times, rather than to all voters, as in a pooling equilibrium, or to none of them, as in a separating equilibrium. He also extracts some of the windfall, instead of none of it, as in a pooling equilibrium, or all of it, as in a separating equilibrium. I next introduce three new pieces of notation that will be essential for the formulation of the following proposition:

Definition. $r^* = \operatorname{argmax}_{r \in (0, \frac{R}{2}]} \left[r + (1 - \rho(r))(W + \eta R) \right]$; $\Lambda(r) = \frac{r - r^*}{\left[\rho(r) - \rho(r^*) \right]} - \eta R$; *and* $\kappa^* = \frac{R - r^*}{R}$.

In words, r^* is the optimal level of partial rent extraction, i.e. the payoff-maximising amount of rent extraction for the strategic incumbent, provided that he extracts less than R. The last two pieces of notation in the definition are here simply to simplify the expression of the result. The following

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[16]The essential uniqueness in this proposition refers to the fact that in the case of a separating equilibrium, positive allocations for a subset of voters of measure zero can hold in equilibrium, but do not affect any aggregate equilibrium outcome.

proposition formally characterises a fooling equilibrium when voters are homogeneously *state informed* or *least informed*, and provides conditions under which it is the essentially unique equilibrium:

Proposition 2. *In a fooling equilibrium with homogeneously informed voters, a strategic incumbent, in good times, allocates* R *uniformly to a share* κ^* *of voters and* 0 *to a share* $1 - \kappa^*$ *of voters. A fooling equilibrium exists and is essentially unique:*[17]

1. *When voters are state informed and* $W > \Lambda(R)$*, or*

2. *When voters are least informed and* $W > \Lambda(r) \ \forall r \in (\frac{R}{2}, R]$*,*

When voters are *state informed*, they always reelect the incumbent in bad times. In the absence of any additional information about his type, they can't update their beliefs and so vote to reelect him. In good times, the reelection of the incumbent depends on the equilibrium strategy of a strategic incumbent and the information voters can extract from it. If the value from holding office is high enough, the equilibrium is necessarily fooling: a strategic incumbent shares part of the windfall uniformly to a subset of voters and he is reelected, provided that his rent extraction is not revealed.[18] Targeted voters' posterior beliefs about the likelihood that the incumbent is strategic, when rent extraction is not revealed, are strictly higher than their prior belief. Thus they vote to reelect the incumbent in both states of the world. A strategic incumbent must strike the right balance between gambling on his reelection, at the cost of spending some of the windfall to fool voters and at the risk of not being reelected if his rent extraction is revealed, or take all the available windfall right away and abandon the possibility of reelection. A fooling equilibrium exists and is essentially unique when the expected payoff from such a gamble is sufficiently high.

When voters are *least informed*, an additional issue arises: as voters don't observe the state of the world, they can't infer with certainty that the politician is strategic upon observing no allocation. Indeed, it could be that times are bad and that the incumbent, despite being benevolent, couldn't allocate anything because of the windfall was unavailable. This leads to stricter conditions for the existence of a fooling equilibrium, compared to the case of *state informed* voters. To see why, observe that, in a fooling equilibrium, incumbents are always reelected in bad times: voters who would have been targeted in equilibrium in good times keep their prior belief on the likelihood that the incumbent is benevolent, which is sufficient to ensure the reelection of the incumbent. I must now account for the possibility of deviations by a strategic incumbent to all levels of rent extraction that are different from the equilibrium level of partial rent extraction, and not just the possibility of deviations to full extraction of the windfall in good times, which gives the condition on W and $\Lambda(r)$ in Proposition 2. Provided that this condition holds, the essentially unique equilibrium is fooling.

Welfare analysis. I now compare the welfare of voters from the pooling, fooling and separating equilibria. To do this, I use voters' *ex-ante* aggregate welfare – voters' expected aggregate welfare

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[17]Essential uniqueness refers here to the fact that the equilibrium described does not pin down the identity of the voters targeted: any permutation is possible between them. Moreover, deviations in the allocation for a subset of voters of measure zero are also possible. These do not affect the equilibrium outcomes in the aggregate.

[18]Recall that a voter who is allocated an amount different from R does not vote for the incumbent. Thus, these voters are allocated R, following the equilibrium selection rule guaranteeing to a strategic incumbent the highest vote share.

before the incumbent and challenger types are realised and before any action is chosen – as a measure of voters' welfare. I use this metric because all voters are *ex-ante* identical. The differences in welfare between equilibria arise from differences in both a strategic incumbent's equilibrium strategy and in the information available to voters for their reelection decision. The following proposition ranks the different equilibria in terms of the level of voters' welfare:

Proposition 3. *1. Voters' ex-ante aggregate welfare is higher in the fooling equilibrium than in the pooling equilibrium when $\kappa^* + \rho(r^*) \times \pi \times \eta > 1$.*

2. Voters' ex-ante aggregate welfare is higher in the fooling equilibrium than in the separating equilibrium when $\kappa^* + \rho(r^*) \times \pi \times \eta > \eta \times \pi$.

Voters' *ex-ante* aggregate welfare in the different equilibria can be decomposed into three components, representing the level of control, the level of screening, and the value of screening. The level of control can be obtained by computing voters' expected first period welfare; the level of screening can be obtained by computing the *ex-ante* probability of a benevolent second period office-holder; and the value of screening can be obtained by computing the difference between voters' second period welfare under a benevolent office-holder and under a strategic office-holder.

There is full control in a pooling equilibrium, since a strategic incumbent mimics a benevolent incumbent and allocates R uniformly to all voters in good times; partial control in a fooling equilibrium, since only a fraction $\kappa^* \in (0,1)$ of voters are allocated R by a strategic incumbent in good times; and no control in a separating equilibrium, since a strategic incumbent extracts R in good times. There is no screening in a pooling equilibrium, since voters gain no information on the equilibrium path, and a strategic incumbent is necessarily reelected; there is partial screening in a fooling equilibrium, conditional on a good state of the world, since the rent extraction of the strategic incumbent can be detected and his type revealed; there is full screening in a separating equilibrium, conditional on a good state of the world, since more than half of voters infer a strategic incumbent's type from their allocations. Finally, the value of screening is equal to $\eta \times U(R)$ in all three equilibria, since benevolent politicians are a behavioural type and strategic politicians are devoid of reputational concerns in the second period.

Under the appropriate conditions, the fooling equilibrium welfare dominates the separating equilibrium, the pooling equilibrium, or both. This happens when the strength of the partial control and partial screening effects in the fooling equilibrium are sufficiently high, compared to voters' *ex-ante* welfare in a pooling equilibrium or in a separating equilibrium. This shows how and when more information for *all* voters can harm them: given that a change in the informational structure can affect the equilibrium strategy of a strategic incumbent, whether such a change is valuable for voters depends on the welfare ranking of the different equilibria, as derived in Proposition 3.[19]

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[19]As I argue briefly in section 2, a similar mechanism is at work in a number of recent papers on political accountability featuring a single representative voter. It is behind the result of Proposition 4 in Besley and Smart (2007), the results of Proposition 2 in Ashworth and Bueno de Mesquita (2014), the welfare implications of Proposition 2 in Fox and Stephenson (2015), the results of Propositions 4 and 5 in Wolton (2019), and the results of Proposition 3, 4, and 5 in Blumenthal (2022). In contrast to these papers, this paper focuses on a continuum of voters, allowing for differential treatment of different voters and enabling me to derive a novel theory of electoral coalition formation, as discussed in section 3.2. Moreover, as argued above, settings with a representative voter can't, by definition, be used to study heterogeneous electorates, as I do in section 4.

3.2 Discussion

Fooling equilibrium and winning coalitions. The structure of a fooling equilibrium is related to winning coalitions and to the literature studying winning coalitions in political agency models. In contrast with papers in that literature that feature only moral hazard (e.g. Ferejohn, 1986; Zudenkova, 2018), voters do not set their reelection rules to try to be included in the coalition targeted by the incumbent office-holder. Facing an adverse selection problem and because of the two-period structure, voters' reelection rule is simply to vote for the politician who is the most likely to be benevolent (Fearon, 1999). Thus there is no competition between voters to be included in the coalition. Moreover, since all voters are *ex-ante* identical, there are no specific incentives for a strategic incumbent to include a particular voter over another one in his winning coalition.[20]

Despite this homogeneity, voters are not all treated identically in a fooling equilibrium, in contrast to the cases of separating and pooling equilibria. In a fooling equilibrium, an endogenous coalition of *fooled* voters emerges, i.e. voters who are allocated the same amount a benevolent incumbent would allocate them, even though a strategic incumbent extracts rents. In this case, the strategic incumbent has to find the right balance between his need for a minimum number of votes to be re-elected at the lowest cost and the risk of being exposed for rent extraction, which increases with the amount of rents extracted. A strategic incumbent will target anywhere from half of the electorate to almost all of the electorate, depending on the likelihood of being caught extracting rents.

4 Heterogeneously informed electorates

In the previous section, I considered a model in which voters shared the same information structure: voters could have different beliefs *ex-post*, but were homogeneously informed. I could not therefore investigate whether welfare differences between voters could arise from differences in their level of information or the nature of these welfare differences, if they existed. I could, however, compare voters' welfare under different informational environments for homogeneously informed electorates. I use the results derived in that case for the exposition and the derivation of the results in this section, in which I consider models with heterogeneously informed electorates to study how the informational advantage of a few voters over other voters affects the welfare of the more informed compared to the welfare of the less informed. Are more informed voters better off compared to less informed ones? I also explore how the welfare of all voters is affected by the existence of this informational advantage for a few voters, compared to a benchmark where these would not benefit from their informational advantage. Is more information for *some* voters good for the electorate as a whole? Is it good for the more informed themselves? Is it good for the less informed?

Formally, I assume that a fraction $\lambda \in (0, \frac{1}{2})$ of voters is strictly more informed than the rest of the electorate. I study three different cases, following the distinction established in the previous

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[20]Note that the coalition that a strategic incumbent forms is not necessarily an *ex-post* winning one, since rent extraction can be detected and revealed to voters with some probability. Slightly abusing language, I will nevertheless refer to such a coalition as winning, dropping the "potentially".

section: the case of a few *most informed* voters and a majority of *state informed* voters; the case of a few *most informed* voters and a majority of *least informed* voters; and finally, the case of a few *state informed* voters and a majority of *least informed* voters. In order to streamline the exposition by focusing on the most interesting results, I assume in what follows that the parameters are such that, had all voters been less informed, the equilibrium would be fooling. That is, when the majority of voters are *state informed*, I assume that $W > \Lambda(R)$. When the majority of voters are *least informed*, I assume that $W > \Lambda(r) \ \forall r \in (\frac{1}{2}, R]$.

Modelling assumptions. I consider the case in which a few voters have an informational advantage over the majority of voters. There are two important dimensions to this modelling strategy. First, I consider only two groups that differ in their level of information. This is done for two main reasons: it is the simplest way to introduce heterogeneity in the level of information that is relevant to the policymaking process into the model and it makes the comparison across groups straightforward, as there are only pairs of quantities to compare. Note, however, that because of the discrete nature of the set of possible information structures, it is straightforward to generalise the results to the case of three groups of voters, with a majority of voters benefiting from the lowest level of information. Second, I assume that the smallest of the two groups is the one that benefits from an informational advantage. I consider this case, rather than the reverse, since it is the most realistic setting. Indeed, scholars have previously shown that most voters are poorly informed but that some voters, sometimes called 'watchdog voters', are more informed (for more details see Aytimur and Bruns (2019) and the references cited herein, or Matejka and Tabellini (2021) and the references cited herein).[21]

Extending the assumption made above that information structures are common knowledge for homogeneously informed voters, I assume in the following that information structures are also common knowledge for heterogeneously informed voters. This assumption has two important implications: first, politicians know which voter is observing what, which allows them to target specific voters depending on their information. As I show below in Proposition 4 and Proposition 5, this has important implications for the identity of the voters that a strategic incumbent includes in his winning coalition. Second, voters also know which voters are observing what. While this is not consequential in either the no-communication or the communication model, given my focus on verifiable communication in the latter,[22] it also implies that less informed voters know that well-identified voters can provide them with some information that they might subsequently use in their voting decisions.[23] This assumption implies that even in a cheap-talk communication model, there would be no need for voters to form beliefs about the likelihood that other voters' communication is actually based on their superior information: the nature of the information might be in question, not its existence.

[21] It is possible to consider a setting in which more informed voters constitute a majority. Under this alternative assumption, the results without communication below would no longer all hold (as a fooling equilibrium can't exist with a majority of *most informed* voters), while all the results with communication would hold.

[22] Although, as I argue below, similar results would hold in an informative equilibrium if communication were cheap talk.

[23] These well-identified more informed voters thus play a role in this paper similar to that of the Expert in Chakraborty, Ghosh and Roy (2020) or the Elite in Agranov, Eilat and Sonin (2023). Among the important differences with these papers is the fact that the present paper considers a model of distributive politics embedded in a political agency framework, while these two papers consider models of electoral competition.

4.1 A model without communication

In this subsection, I consider a model where voters can't communicate. In particular, and in contrast with the subsequent subsection, more informed voters can't communicate with less informed voters. Thus, the only novelty with respect to the model from the previous section is the existence of heterogeneity in voters' level of information: the timing is identical, as are the actions available to voters and politicians and their preferences. To ease the exposition of the results, I first consider the case of a few *state informed* voters in Observation 1, leaving the case of a few *most informed* voters for Proposition 4.

First, note that, as stated above, strategic second period office-holders' equilibrium strategy, voters' reelection rule, and the conditions under which the incumbent is reelected do not depend on the voters' level of information. Previously, this meant that these were identical whether voters were homogeneously *most informed*, *state informed* or *least informed*. In the present case, this means that they are identical regardless of whether I consider a few *most informed* voters and a majority of *state informed* voters, a few *most informed* voters and a majority of *least informed* voters, or a few *state informed* voters and a majority of *least informed* voters, the reasoning behind these results being the same. Thus, I only need to consider the first period equilibrium strategy of a strategic incumbent. Regarding the case of a few *state informed* voters, the following holds:

Observation 1. *If more informed voters are state informed and can't communicate with less informed voters, all voters are equivalent for a strategic incumbent.*

When the more informed voters are *state informed* and less informed voters are *least informed*, a strategic incumbent can target the more informed voters and expect them to vote for him in the election provided that rent extraction is not revealed. He can also not target them, without any adverse consequences. This is because they don't observe the entire distribution of allocations in the economy, but only their own individual allocations and the state of the world, and can't communicate with less informed voters. The nature of the equilibrium is thus unaffected compared to a setting with a population of homogeneously *least informed* voters, which would be fooling here, by assumption. There are no direct nor indirect consequences of the informational differences on the equilibrium average *ex-ante* welfare of members of both groups: the informational advantage of the former does not translate in welfare differences with the latter, and vice-versa for the informational disadvantage of the latter. Importantly, note that this does not imply that the average *ex-ante* welfare of both groups are equal in equilibrium. Depending on the identity of those targeted by a strategic incumbent in good times in equilibrium, the average *ex-ante* welfare of the few more informed voters can be equal to, strictly greater than, or strictly lower than, the average *ex-ante* welfare of the less informed voters.

The following proposition considers the case of a a few *most informed* voters and a majority of either *state informed* or *least informed* voters. I focus on two main questions: are more informed voters better off than less informed voters? How does the informational advantage of a few voters affect the welfare of voters?

Proposition 4. *If more informed voters are most informed and can't communicate with less informed voters:*

1. *Less informed voters' average ex-ante welfare is strictly higher than more informed voters' average ex-ante welfare.*

2. *Compared to a benchmark where all voters would be homogeneously less informed, more informed voters' informational advantage weakly benefits less informed voters.*

When a few voters are *most informed* and the majority of voters are either *least informed* or *state informed*, voters' susceptibility to being fooled into voting for a strategic incumbent who does not share entirely the windfall plays a crucial role. Since more informed voters are *most informed*, they infer that the incumbent is strategic whenever there is some partial rent extraction because they observe the distribution of allocations in the economy. In any candidate equilibrium in which a strategic incumbent does not allocate all of the windfall to voters, *most informed* voters do not vote for the incumbent. Thus, *most informed* voters' average *ex-ante* welfare is strictly lower than the less informed voters' average *ex-ante* welfare, given that the equilibrium is fooling. As *most informed* voters won't vote for a strategic incumbent in a *fooling* equilibrium, a strategic incumbent will give priority to the less informed voters who can vote for him in equilibrium. *Most informed* voters' inability to be fooled, stemming from their informational advantage, harms them.

Let's now consider how voters' welfare is affected by the existence of the informational advantage of a few *most informed* voters when communication between voters is impossible, compared to an environment in which they would not benefit from it. Note first that the amount of rent extraction in equilibrium by a strategic incumbent with a few *most informed* voters is the same as what it would have been under a homogeneously *state informed* or *least informed* electorate: the existence of an informational advantage for a few *most informed* voters does not affect the nature of the equilibrium. However, more informed voters' informational advantage can affect the distribution of targeted spending in the first period by a strategic incumbent. In particular, it can lead to a reallocation of targeting, away from (newly) *most informed* voters, since they can't be fooled. Less informed voters' average *ex-ante* welfare can increase, compared to a case where more informed voters would be devoid of their informational advantage, because they become a priority for a strategic incumbent, whereas all voters are equivalent for a strategic incumbent when they all share the same level of information.

4.2 A model with communication

In this subsection, I assume that the few more informed voters can communicate costlessly with less informed voters by means of verifiable information. The timing of the game is adapted accordingly: before the election, but after the incumbent's allocation decision, more informed voters have the opportunity to communicate some information to less informed voters. I consider a specific type of communication: each more informed voter can report voters evidence of rent extraction by the incumbent politicianto less informed. To ease the exposition of the results, I first consider the case of a few *state informed* voters in Proposition 5, leaving the case of a few *most informed* voters for Proposition 6.

Modelling assumptions. There are two main dimensions to the assumption I make about

the communication stage in this subsection. First, I assume that only more informed voters can communicate with less informed voters (and not the reverse). This serves two purposes: to emphasise the relationship that can exist between an informational advantage and the ability to communicate and to reflect the assumption of a large electorate, in which only a subset of voters can reach others, for instance through access to media organisations or ownership thereof. Moreover, I assume that the information communicated is verifiable. There are therefore no problems of trust between voters. This assumption simplifies the analysis of the communication game between more and less informed voters: I don't need to take into account the beliefs of less informed voters about the truthfulness of the messages they receive. However, doing so is without much loss of generality. Indeed, the interests of all voters are aligned at the stage where more informed voters get to communicate: they only care about choosing the politician who is most likely to be benevolent between the incumbent and the challenger. Thus, even if communication were cheap talk and the communication stage were adjusted accordingly, there would be an informative equilibrium in which the reports of the more informed voters would be believed by the less informed voters and identical results would hold.

As in the previous subsection, the results of Lemma 1 and Lemma 2 both still hold in the new setting. Since I consider a setting with strategic communication, I now have to not only study the equilibrium strategy of a strategic incumbent in the first period but also the equilibrium communication strategy of more informed voters, along with the less informed voters' beliefs about it. The following proposition considers the case of a few *state informed* voters and a majority of least informed voters. As in Proposition 4, I focus on two main questions: are more informed voters better off than less informed voters? How does the informational advantage of a few voters affect the welfare of voters?

Proposition 5. *If more informed voters are state informed and can communicate costlessly with less informed voters:*

1. *More informed voters' average ex-ante welfare is strictly higher than less informed voters' average ex-ante welfare.*

2. *Compared to a benchmark where all voters would be homogeneously less informed, more informed voters' informational advantage:*

   (a) *Doesn't affect voters' ex-ante aggregate welfare.*

   (b) *Weakly benefits more informed voters.*

   (c) *Weakly harms less informed voters.*

When more informed voters are *state informed* and less informed voters are *least informed*, the susceptibility of voters to be fooled into voting for a strategic incumbent who does not share the entire windfall with voters plays a crucial role. *State informed* voters can be fooled into voting for a strategic incumbent who does not share the entire windfall with voters, since they do not observe the entire allocation in the economy, but only their own individual allocations and the state of the world. In addition, more informed voters' ability to communicate costlessly verifiable information with less informed voters plays a crucial role: because of it, more informed voters are necessarily part of the subset of voters to whom a strategic incumbent allocates part of the windfall in a fooling equilibrium.

Are the few more informed voters better off than less informed voters? Here, *state informed* voters' average *ex-ante* welfare is strictly higher than *least informed* voters' average *ex-ante* welfare. As *state informed* voters can report deviations to *least informed* voters, they are given priority by a strategic incumbent. *State informed* voters' informational advantage benefits them.

Since *state informed* voters are necessarily part of the subset of voters targeted by a strategic incumbent, their average *ex-ante* welfare is at worst equal to, and at best strictly higher than, what it would have been in a benchmark under which they would be *least informed* instead of *state informed*. To see why, recall that the identity of the voters targeted by a strategic incumbent in equilibrium with a homogeneously informed electorate in a fooling equilibrium is not pinned down. In the worst-case scenario, thus, in a hypothetical setting in which these voters would not benefit from their informational advantage, they either wouldn't be part of the subset of voters who are targeted by a strategic incumbent in equilibrium, or only a minimal fraction of them would be part of the subset of fooled voters. The flip side of this result is that the reverse is true for the *least informed*: the existence of the informational advantage for these few voters can strictly worsen the *ex-ante* welfare of less informed voters, compared to a setting where these few *state informed* voters would be devoid of its informational advantage. Finally, note that in any case, voters' aggregate *ex-ante* welfare is the same with or without this few voters' informational advantage coupled with their ability to communicate.

The next proposition completes the analysis of this second part of the paper by considering the case of a few *most informed* voters and a majority of *state informed* or *least informed* voters when more informed voters can communicate with less informed voters. As in Proposition 4 and Proposition 5, I focus on two main questions: are more informed voters better off compared to less informed voters? How does the informational advantage of a few voters affect the welfare of voters?

Proposition 6. *If more informed voters are most informed and can communicate costlessly with less informed voters, the equilibrium is the same as with a homogeneously most informed electorate: the average welfare of more informed voters and less informed voters are equal.*

When a few voters are *most informed*, any level of partial rent extraction allows them to report a discrepancy between what voters receive and what they should receive. Thus there is no partial rent extraction in equilibrium, which means that the equilibrium is never fooling. Indeed, after the incumbent's first period allocation, *most informed* voters have a clear incentive not only to vote for the challenger if they observe partial rent extraction, but also to communicate to other voters that the incumbent is strategic and thus shouldn't be reelected. This follows from a commitment problem on their part. They can't commit *vis-à-vis* a strategic incumbent not to reveal his type to other voters, given that they strictly prefer an untested challenger to a known strategic incumbent. This result is related to the Fearon critique (Fearon, 1999), as the screening concern for the final period prevents the existence of equilibria with partial control in the first period, even when such partial control would be desirable for more informed voters.[24] Given that the equilibrium can only be pooling or separating, it

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[24] Fearon (1999) shows that results derived in two-period models with only moral hazard might not be robust to the introduction of some element of adverse selection (heterogeneity in politicians' types). Since voters can't incentivise misaligned politicians to act in their preferred way in the second period, equilibrium reelection rules only depend on voters' beliefs about the incumbent's and challenger's types.

follows that the average *ex-ante* welfare of both more informed voters and less informed voters are equal. Whether this is good or bad for voters at the aggregate level depends on the ranking established in Proposition 3.

4.3 Discussion

Collusion and lack of commitment power. Like homogeneously informed electorates, heterogeneously informed voters prefer higher levels of control and higher levels of screening. Consider the preferences of more and less informed voters: in the first period they are better off when a strategic incumbent targets them. In particular, they are better off if they are allocated by a strategic incumbent in a fooling equilibrium the same amount a benevolent incumbent would allocate them. For the second period, they want to screen out strategic incumbents to increase their likelihood of receiving some of the windfall when it is available, which is only the case with a benevolent second period office-holder. Thus, the objectives of more informed and less informed voters are in conflict in the first period, but aligned in the second period. It is not a priori clear how these conflicting objectives interact with one another. In particular, might collusion between more informed voters and a strategic incumbent be sustained in equilibrium, thereby giving pre-eminence to the distributive conflict in the first period over the common interest of voters in the second period?[25]

I show that such collusion is not sustainable in equilibrium. When communication is impossible, it follows from a standard argument in the literature (Fearon, 1999) that *most informed* voters can't sustain collusive behaviour, because they can't commit to voting strategies.[26] When communication is possible, a new commitment problem appears: more informed voters can't commit to communication strategies, in addition to their inability to commit to voting strategies. In particular, when a few voters are *most informed*, it is the inability of *most informed* voters to commit to a communication strategy that, alone, prevents the existence of collusion in equilibrium. Put differently, since more informed voters have a strict incentive to reveal a strategic incumbent's type whenever they observe partial rent extraction in the first period, they can't be bought. If they were to observe partial rent extraction, even through larger than usual transfers from the windfall to them, they would prevent others from voting for him, in addition to not voting for him, thereby preventing his reelection.

Information, communication, and relative welfare. There may be important interactions between the informational advantage of some voters, their ability to communicate their additional information to the rest of the electorate, and differences in welfare between more informed voters and less informed voters. In particular, I show that in the models I consider here, more informed voters are *at least* as well off as less informed voters if they can communicate with them (Proposition 5 and Proposition 6), and possibly better off (Proposition 5), unlike when communication is impossible (Proposition 4). This is because, in equilibrium, differences in welfare between voters can only arise from differences in allocations in the first period by a strategic incumbent in good times. Indeed, in

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[25]Such collusion would be reminiscent of the mechanism described in Besley and Prat (2006), in which politicians might bribe media outlets in order for them to hide the bad news about their type and thus improve their reelection chances.

[26]The gist of the Fearon critique is described in footnote 24. For a related discussion, see the analysis in Ashworth and Bueno de Mesquita (2014) on when irrational reelection rules can be better for voters than a rational reelection rule.

any equilibrium, the average *ex-ante* welfare of more and less informed voters in the second period are always equal, since it depends only on the type of incumbent in the second period and whether the windfall is available or not. Thus, in order to be worse off than less informed voters, more informed voters must, on average, be less targeted by a strategic incumbent in the first period. But if this were the case, some of the more informed voters might pass on their knowledge that the politician is a strategic type to the less informed voters – ensuring that this scenario can't hold in equilibrium.

Information acquisition. Since I assume in the models that information structures are given exogenously, a natural question that follows from the analysis is: what incentives might voters have to become more informed about policymaking? While I do not attempt to provide a formal investigation of this question in the context of this paper, a number of implications nonetheless follow from my analysis.[27] First, the mechanism described in the paragraph above suggests a supply-side rationale for media ownership by certain groups of citizens:[28] the control of a media outlet that truthfully discloses information may in itself be sufficient to improve the fortunes of the outlet's owners by making them a necessary target of politicians' largesse.[29] In contrast, the case of *most informed* voters who can't communicate is *prima facie* more puzzling: these people are worse off because they are better informed. Explaining why voters would rationally acquire information that makes them worse off is difficult strictly within the framework used in this paper. Going a little further, however, there may be a number of simple explanations for such a phenomenon: voters may value information about policymaking intrinsically and wish to base their vote on the best information available;[30,31] alternatively, the information they acquire may be a by-product of their occupation or consumption patterns.

Information and populism. My findings also relate to the recent literature on voter trust in institutions such as the media or experts and its link to the political economy of populism (Crutzen, Sisak and Swank, 2020; Agranov, Eilat and Sonin, 2023; Guriev and Papaioannou, 2022). In particular, prioritising less informed voters when more informed voters can't communicate with them has a populist flavour: lack of trust between groups of voters, especially between experts and the mass of voters, can prevent the communication of information relevant to voters' voting behaviour. However, my results suggest that such a breakdown in the possibility of communication can be welfare enhancing for informationally disadvantaged voters and welfare degrading for informationally advantaged voters. In other words, populist attitudes, in the form of lower trust in the informed elites, can be beneficial for voters.

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[27] A number of papers have recently studied information acquisition by voters in, for instance, spatial political competition (Matejka and Tabellini, 2021; Hu, Li and Segal, 2023) or within models of political accountability (Trombetta, 2020; Li, Raiha and Shotts, 2022; Blumenthal, 2022; Devdariani and Hirsch, 2023).

[28] For a demand-side rationale for the existence of media outlets in a model of electoral accountability with a large electorate, see Bruns and Himmler (2016).

[29] Building a formal model of this kind is beyond the scope of this paper, but could easily be done along the lines of Bruns and Himmler (2016) or Agranov, Eilat and Sonin (2023).

[30] The puzzle of information acquisition when this information may harm voters is similar to the paradox of voting i.e. the decision of citizens to vote even though their (costly) vote is unlikely to be pivotal. Feddersen (2004) reviews some proposed explanations of the paradox of voting, including ethical motives. See also Feddersen and Sandroni (2006).

[31] This pattern is similar to the situation of what Guriev and Treisman (2020, 2022) call the *informed* in dictatorships, a "college-educated, media-savvy, and internationally connected " group of citizens who are "skilled at getting and communicating political information". When they can't be co-opted, dictators can "insult the[m], question their motives, label them unpatriotic or elitist, and inflame cultural resentments" against them.

Watchdog voters, informational campaigns and electoral accountability. A line of literature has argued that, despite the informational shortcomings of most voters, electoral accountability can be ensured by *watchdog voters* who inform the masses about politicians' actions in office (see Aytimur and Bruns (2019) and the references cited herein). In these accounts, watchdog voters are delegated the task of monitoring politicians, with the masses following their cues to ensure accountability. Implicit in this defence of electoral accountability through an informed elite is the claim that it is best for voters to subject politicians to higher levels of scrutiny. In a similar vein, informational campaigns disseminating information about politicians' behaviour in office have become increasingly popular in recent years as "civil society organisations, international donors, and democracy promotion activists [see] transparency as a disinfectant and cure for what ails democracy" (Dunning et al., 2019). While there is mixed evidence on whether these campaigns are effective in reducing corruption and improving democratic processes,[32] my findings suggest that these campaigns may have unintended consequences or be ineffective in certain contexts, especially if they do not reach all voters.

First, the results of the model without communication underscore the importance of information transmission by more informed voters in order for them to have an impact on the level of accountability (this consistent with findings in Arias et al., 2019). More informed voters alone may not be enough, especially if they don't represent a majority of the electorate. The nature of the additional information also matters, since even when communication is possible, some informational advantage for some voters may not affect the level of electoral accountability and may even benefit these voters, at the expense of less informed voters, by making the task of securing their support a necessity for a politician's reelection (Proposition 5). Distributional consequences are often not taken into account in this literature, in part because of a theoretical focus on politicians' actions that affect voters uniformly.[33] Moreover, by combining the results of Proposition 3 and Proposition 6, it becomes clear that the existence of more informed voters and their ability to ensure the same political outcomes as with a fully informed electorate can be detrimental to the electorate at the aggregate level, compared to a benchmark where they would be devoid of their informational advantage, by leading to shifts in equilibrium that can be detrimental to voters.[34]

Fooling equilibrium and winning coalitions. As noted above, with homogeneously informed voters, there is no incentive for a strategic incumbent to include a particular voter over another in his coalition, since all voters are *ex-ante* identical. Moreover, since in equilibrium a strategic incumbent's expected vote share must be maximised for a given payoff, who is targeted in a fooling equilibrium is very simple: on the one side are fooled voters, who are allocated uniformly R, and on the other side are non fooled voters, who are not allocated anything. The winning coalition, i.e. the set of voters who

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[32]For example, Grossman, Michelitch and Prato (2023) finds that "sustained transparency can improve electoral accountability even in weakly institutionalized electoral settings", while Dunning et al. (2019) finds "no evidence of impact [of] the common informational intervention [on incumbent vote choice and turnout outcomes]"

[33]This is for instance the case in Arias et al. (2019), Dewan, Izzo and Wolton (2022), or Grossman, Michelitch and Prato (2023): in the formal frameworks of these papers, politicians' actions affect uniformly all voters.

[34]I don't argue that watchdog voters or informational campaigns *necessarily* harm voters. Instead, I highlight mechanisms through which a few more informed voters can harm or benefit an electorate at the aggregate level, and emphasise the importance of thinking about *distributive* processes in policymaking. My findings are thus closely related to Ashworth and Bueno de Mesquita (2014)'s argument about the value of voter competence to voters: since "governance outcomes are the result of an interaction between politicians and voters", researchers studying governance outcomes should be attentive to the equilibrium effects of changes in individuals' information levels or strategies, especially in distributive processes.

could vote to reelect a strategic incumbent in a fooling equilibrium, is equivalent to the set of targeted voters, i.e. the set of voters who are allocated a strictly positive amount in a fooling equilibrium. Things are different for winning coalitions and the fooling equilibrium in the models I consider in section 4 with heterogeneously informed electorates.

When a few voters are *most informed* and can't communicate (Proposition 4), only less informed voters can be fooled into voting for a strategic incumbent who extracts part of the windfall, since *most informed* voters observe the entire allocation. Since my equilibrium selection rule does not preclude *most informed* voters from being targeted by a strategic incumbent, they may receive some spending. However, they can't be part of the winning coalition, because they would never vote for a strategic incumbent in a fooling equilibrium. When a few voters are *state informed* and can communicate costlessly with less informed voters, a different conclusion emerges: the few *state informed* voters are necessarily included in the winning coalition formed by the strategic incumbent. This follows from the combination of their informational advantage, which allows them to see any deviation from the equal sharing rule in good times in their own allocation, and their ability to communicate with less informed voters, which makes disclosure a threat for the strategic incumbent. Moreover, targeted voters and the winning coalition coincide.

Robustness. The models I analyse are cast at a high level of abstraction, for the sake of parsimony and to keep their inner workings as transparent as possible.[35] However, my results can easily be generalised to other settings. In particular, similar results hold with biased strategic politicians who favour specific groups of voters; with a finite number of voters; with no bad state; when the more informed voters are a majority of the electorate; or with heterogeneity in politicians' ability rather than preferences. This highlights the elements of the models that are crucial to the results: heterogeneity in politicians' preferences, different levels of information about the policymaking process for voters, allowing for a partial observation of the policymaking process by the electorate, and the ability or inability of more informed voters to communicate with the less informed voters. Putting these elements together, I offer a novel theory of coalition building in a distributive context, driven entirely by politicians' reputational concerns and information asymmetries, both between politicians and voters and within the electorate.

5 Conclusion

In this paper, I put forth a simple model of political agency and distributive politics. Equipped with this model, I investigated various questions about the relationship between voter information, electoral accountability, and distributive politics. In particular, I showed how and when more information can benefit or harm voters, considering both homogeneously informed electorates and heterogeneously informed ones. In this regard, I emphasised the possibility of partial control and partial screening of politicians in equilibrium as well as voters' ability to communicate their superior information to their less informed counterparts. Taking stock of the analysis, I drew implications

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[35]In the words of Ashworth, Berry and Bueno de Mesquita (2021), the goal of this paper is not to provide an "encompassing account of how some phenomenon in the world works [but] help us see the work that a particular mechanism is doing".

regarding the possibility of collusion between voters and politicians, the political economy of media, the political economy of populism, the role and desirability of watchdog voters and informational campaigns for the broader electorate, and the study of winning coalitions,

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Appendix

Proof of Proposition 1. When voters are *most informed*, there are only two relevant strategies to compare for a strategic incumbent when $\omega_1 = \overline{\omega}$, as strategies of partial allocation are strictly worse than full extraction:

1. Allocate R uniformly and be reelected, yielding an expected payoff of $W + \eta R$ (full allocation)

2. Extract R and not be reelected, yielding a payoff of R (full extraction).

   Comparing a strategic incumbent's expected payoff from the two strategies yields the following:

1. If $W > (1 - \eta)R$, full allocation is strictly better than full extraction.

2. If $W < (1 - \eta)R$, full extraction is strictly better than full allocation.

$\square$

Proof of Proposition 2. I tackle first the case of *state informed* voters: if a voter observes an allocation different of R in state $\overline{\omega}$, she infers that the incumbent is strategic and does not vote to reelect him; if she observes an allocation of R in state $\overline{\omega}$, her posterior belief on the incumbent's type depends on the equilibrium strategy of a strategic incumbent. Finally, if she observes that the state is $\underline{\omega}$, she votes to reelect the incumbent, given that she has no information to update her beliefs on the incumbent's type. Next, observe that to ensure his reelection, a strategic incumbent only needs the support of half of the voters (Lemma 2).

There is a trade-off for a strategic incumbent when $\omega_1 = \overline{\omega}$: increasing the amount of rents extracted in the first period increases his first period payoff but decreases strictly the expected second period payoff. The optimal level of partial rent extraction which ensures reelection when $\omega_1 = \overline{\omega}$ – provided that rent extraction is not revealed – r^* is uniquely defined, since the problem of the strategic incumbent is concave in the level of rent extraction r on the relevant interval.[36]

$$r^* = \underset{r \in [0, \frac{R}{2}]}{\operatorname{argmax}} \left[r + (1 - \rho(r))(W + \eta R) \right]$$

Since $\rho'(0) = 0$, $r^* \in (0, \frac{R}{2}]$, which also implies that extracting r^* is better than no extraction. A strategic incumbent's expected payoff from extracting r^* in state $\overline{\omega}$ is equal to $r^* + (1 - \rho(r^*))(W + \eta R)$. Call this strategy optimal partial extraction. It then follows that if $W > \Lambda(R)$, a strategic incumbent's payoff from optimal partial extraction is strictly greater than his payoff from full extraction.

Thus, if $W > \Lambda(R)$, a first period strategic incumbent extracts r^* in state $\overline{\omega}$. However, this does not pin down the strategic incumbent's allocation of $R - r^*$ in the first period. At least $\frac{R}{2}$ must be

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[36]The focus on the interval $[0, \frac{R}{2}]$ stems from the necessity of fooling at least half of voters (Lemma 2), which costs at least $\frac{R}{2}$.

distributed uniformly to half of the electorate, but the rest can be allocated to other voters in any way. However, I select the equilibrium or equilibria which ensure(s) the highest vote share for a strategic incumbent: in equilibrium a strategic incumbent allocates the remainder of $\frac{R}{2} - r^*$ uniformly in the form of an allocation of R among a subset of the rest of voters. Defining $\kappa^* = \frac{R - r^*}{R}$, it then follows that a strategic incumbent, when $\omega_1 = \overline{\omega}$, allocates R uniformly to a share κ^* of voters and 0 to a share $1 - \kappa^*$ of voters if $W > \Lambda(R)$.

Consider next the case of *least informed* voters. Recall first that a benevolent incumbent in the first period allocates the windfall R in state $\overline{\omega}$ uniformly to voters, without extracting any rents. I claim that, when $W > \Lambda(r)$ $\forall r \in (\frac{R}{2}, R]$, a strategic incumbent allocates R uniformly to a share κ^* of voters and 0 to a share $1 - \kappa^*$ of voters in equilibrium when $\omega_1 = \overline{\omega}$. I will first prove the existence of that equilibrium before proving its uniqueness.

On the equilibrium path, voters' behaviour and beliefs are straightforward. If rent extraction is not detected and they are to be targeted in equilibrium, they vote to reelect the incumbent, in both states of the world. For non targeted voters, they vote for the challenger, in both states of the world. Given that $\kappa^* \geqslant \frac{1}{2}$, it follows that the incumbent is reelected whenever rent extraction is not revealed. To show the existence of the proposed equilibrium, let me fix voters' beliefs and consider possible deviations. First, it is straightforward to observe that sequential rationality and the assumption that voters vote for the incumbent when indifferent between the incumbent and the challenger prevents any deviation from the prescribed strategy for voters. Next, consider deviations for a strategic incumbent. Observe that deviating from the proposed strategy while keeping the level of rent extracted constant can't be a strictly profitable deviation, as it can give at best the same payoff to a strategic incumbent (if the deviation leads to a strictly positive probability of reelection) and at worst a strictly lower payoff (if the deviation leads to a null probability of reelection). Consider next deviations from the proposed strategy in which the level of rent extraction is strictly different from r^*. Observe first that, by definition of r^*, deviations to any $r \in [0, \frac{R}{2}]$ can't be strictly profitable. Indeed, $r^* = \text{argmax}_{r \in [0, \frac{R}{2}]} \left[r + (1 - \rho(r))(W + \eta R) \right]$. Second, note that, given that $W > \Lambda(r)$ $\forall r \in (\frac{R}{2}, R]$, deviations to any $r \in (\frac{R}{2}, R]$ can't be strictly profitable. Indeed such a deviation can, at best, only offer an expected payoff of $r + \left(1 - \rho(r) \right) \left(W + \eta R \right)$ to a strategic incumbent. This is always lower than his expected payoff from the prescribed equilibrium strategy, given that $W > \Lambda(r)$ $\forall r \in (\frac{R}{2}, R]$. This thus implies that the proposed equilibrium is an equilibrium.

To show that the proposed equilibrium is essentially unique, let me now consider all other (generic) combinations of sequentially rational beliefs for voters and (pure) strategies for a strategic incumbent. First, note that it follows from the uniqueness of r^* that no level of rent extraction strictly different from r^* and belonging to the interval $[0, \frac{R}{2}]$ can be sustained in equilibrium. Indeed, for any such level of rent extraction there is a profitable deviation for a strategic incumbent, in the form of the prescribed equilibrium strategy. Moreover, no level of rent extraction belonging to the interval $(\frac{R}{2}, R]$ can be sustained in equilibrium, as deviating to the prescribed equilibrium strategy would be strictly beneficial given that $W > \Lambda(R)$ (holding beliefs constant). The only relevant question is thus whether allocations that are different from the one prescribed, while keeping the amount of rent extraction constant, can be an equilibrium. The answer to this is negative, given the requirement to maximise a

strategic incumbent's expected vote share for a given payoff level. This thus shows that the proposed equilibrium is essentially unique.

$\square$

Proof of Proposition 3. Voters' *ex-ante* aggregate welfare in the separating equilibrium is equal to:

$$\pi \times 2\eta \times U(R) + (1 - \pi)(\pi \times \eta^2 \times U(R)).$$

In a separating equilibrium, a benevolent office-holder allocates the windfall R uniformly to voters when available, whereas a strategic office-holder extracts the entire windfall R when available. When the electorate is *state informed*, a strategic incumbent is voted out in good times. He is replaced with probability π by a benevolent challenger and with probability $1 - \pi$ by a strategic challenger. The incumbent is reelected in bad times whatever his type and in good times if he is benevolent. When the electorate is *least informed*, a strategic incumbent is always voted out. A benevolent incumbent is voted out in bad times. An ousted incumbent is replaced with probability π by a benevolent challenger and with probability $1 - \pi$ by a strategic challenger

Voters' *ex-ante* aggregate welfare in the pooling equilibrium is equal to:

$$\pi \times 2\eta \times U(R) + (1 - \pi)(\eta \times U(R))$$

In a pooling equilibrium, both strategic and benevolent incumbents allocate the windfall R uniformly to voters in the first period when available. A second period strategic office-holder extracts the entire windfall R when available whereas a second period benevolent office-holder allocates R uniformly to voters when available. An incumbent is always retained for the second period.

Voters' *ex-ante* aggregate welfare in the fooling equilibrium is equal to:

$$\pi \times 2\eta \times U(R) + (1 - \pi) \times U(R) \times \eta \left[\kappa^* + \rho(r^*) \times \pi \times \eta \right]$$

In a fooling equilibrium, a benevolent office-holder allocates the windfall R uniformly to voters when available, whereas a first period strategic incumbent extracts a share r^* of the windfall R and allocates the remainder uniformly to a share κ^* of voters in the first period if the state of the world is $\overline{\omega}$ and a second period strategic office-holder extracts the entire windfall R if the state of the world is $\overline{\omega}$. Rent extraction is revealed with probability $\rho(r^*)$, and conditional on it being revealed, a benevolent challenger takes office in the second period with probability π.

Straightforward algebra shows that the fooling equilibrium welfare dominates the separating equilibrium if and only if $\kappa^* + \rho(r^*) \times \pi \times \eta > \pi \times \eta$ and that the fooling equilibrium welfare dominates the pooling equilibrium if and only if $\kappa^* + \rho(r^*) \times \pi \times \eta > 1$. $\square$

For the two following proofs recall that I assume that the following holds:

Assumption. *1. When less informed voters are state informed, $W > \Lambda(R)$.*

2. *When less informed voters are least informed, $W > \Lambda(r) \; \forall r \in (\frac{R}{2}, R]$.*

Proof of Proposition 4. I argue that the presence of a few *most informed* voters does not affect the nature of the equilibrium. Thus, the essentially unique equilibrium is fooling, and a strategic incumbent allocates a total of $R - r^*$ to voters. There are however two main differences with the setting considered in Proposition 2: first, the identity of those a strategic incumbent targets matters, as *most informed* voters can't be fooled. Second, not all targeted voters are necessarily allocated R by a strategic incumbent. There are two subcases:

1. If $r^* = \frac{R}{2}$, a strategic incumbent allocates uniformly a total amount of $\frac{R}{2}$ to a measure $\frac{1}{2}$ of voters, all among less informed voters. Targeting *most informed* voters would be detrimental, holding the level of rent extraction constant, given that they do not vote in favour of the incumbent.

2. Next, if $r^* < \frac{R}{2}$, a strategic incumbent allocates uniformly a total amount of $\frac{R}{2}$ to a measure $\frac{1}{2}$ of voters, all among less informed voters, ensuring his reelection when the state of the world is $\overline{\omega}$, provided that rent extraction is not revealed. Regarding the remainder of the windfall which has to be allocated among voters, the equilibrium selection rules plays a role. Indeed, recall that I select the equilibrium or equilibria in which a strategic incumbent maximises his vote share. Given that *most informed* voters do not vote in favour of the incumbent, even if they are included among those who receive part of the windfall in the first period, they only receive part of the windfall in the first period if all less informed voters receive part of the windfall in the first period. There are thus two subcases:

   (a) If $\kappa^* \leqslant 1 - \lambda$, a strategic incumbent allocates uniformly a total amount of $R - r^*$ to a share κ^* of voters, all among less informed voters..

   (b) If $\kappa^* > 1 - \lambda$, a strategic incumbent allocates uniformly a total amount of $(1 - \lambda)R$ to less informed voters and the remainder to more informed voters.

It can be shown, following a similar approach to the one used in the proof of Proposition 2, that the strategies prescribed above constitute the essentially unique equilibrium strategies for a strategic incumbent. Thus, the essentially unique equilibrium is fooling.

Given these results on the equilibrium allocation, I can then compute the average *ex-ante* welfare of members of both groups in equilibrium.

1. First, if $\kappa^* \leqslant 1 - \lambda$, the average *ex-ante* welfare of less informed voters is equal to:

$$\pi \times 2\eta \times U(R) + (1 - \pi) \times \left[\eta \times \left[\frac{\kappa^*}{(1 - \lambda)} U(R) \right] + \rho(r^*) \times \pi \times \eta^2 \times U(R) \right]$$

The average *ex-ante* welfare of more informed voters is equal to:

$$\pi \times 2\eta \times U(R) + (1 - \pi) \times \left[\rho(r^*) \times \pi \times \eta^2 \times U(R) \right]$$

It is straightforward to see that the former is greater than the latter, due to the presence of the term $\eta \times \left[\frac{\kappa^*}{(1-\lambda)} U(R) \right]$, which is strictly positive.

2. Next, if $\kappa^* > 1 - \lambda$, the average *ex-ante* welfare of less informed voters is equal to:

$$\pi \times 2\eta \times U(R) + (1-\pi) \times \left[\eta \times U(R) + \rho(r^*) \times \pi \times \eta^2 \times U(R) \right]$$

The average *ex-ante* welfare of more informed voters is at best equal to:[37]

$$\pi \times 2\eta \times U(R) + (1-\pi) \times \left[\eta \times U(\lambda R - r^*) + \rho(r^*) \times \pi \times \eta^2 \times U(R) \right]$$

It is straightforward to see that the former is greater than the latter, as $\lambda R - r^* < R$.

□

Proof of Proposition 5. I argue that the presence of a few *state informed* voters does not affect the nature of the equilibrium. Thus, the essentially unique equilibrium is fooling and a strategic incumbent allocates a total of $R - r^*$ to voters. The main difference with the setting considered in Proposition 2 is that the identity of those a strategic incumbent target matters, as *state informed* voters can identify strategic incumbents if they are not allocated R in good times and can communicate this to less informed voters. The equilibrium is then characterised by the allocation of of $\frac{R}{\lambda}$ uniformly to more informed voters and the allocation of $R - r^* - \frac{R}{\lambda}$ to less informed voters, with a share receiving R and the rest receiving 0.

In contrast with the case considered in Proposition 2, there is both heterogeneity in the level of information of voters and the possibility of communication for more informed voters. Consider the communication stage prior to the election, which occurs after the first period allocation decision. Under the proposed allocation, *state informed* voters are indifferent between communicating their information to *least informed* voters or not. Indeed, under the proposed allocation, *state informed* voters all share a common posterior belief that the incumbent is benevolent that is equal to their prior belief that the challenger is benevolent. The communication of their information by more informed voters to less informed voters can affect voters' beliefs, but not the election result. Indeed, if a given less informed voter received R, and receives the information that the politician allocated R to more informed voters, his posterior belief is not affected. If, by contrast, a given less informed voter received 0, and receives the information that the politician allocated R to more informed voters, his posterior belief is affected and he updates his belief: the incumbent is strategic. Note, however, that this can't affect the election result: indeed, less informed voters who received R vote in favour of the incumbent in the election, along with all more informed voters, ensuring his reelection (provided that rent extraction is not revealed).

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[37]The best case scenario for more informed voters in this case is for the remainder of the windfall not extracted by the strategic incumbent to be allocated uniformly to all more informed voters, because of the strict concavity of their utility function.

More generally, note that for any allocation in which a more informed voter is allocated an amount different from R by a strategic incumbent, he will communicate to less informed voter his knowledge that the incumbent is strategic, thereby ensuring his non-reelection. It can then be shown, following a similar approach to the one used in the proof of Proposition 2, that the strategies prescribed above constitute the essentially unique equilibrium strategies for a strategic incumbent. Thus, the essentially unique equilibrium is fooling.

It follows directly from the equilibrium allocation decisions that the average *ex-ante* welfare of more informed voters is strictly higher than the average *ex-ante* welfare of less informed voters. Indeed, the former is equal to:

$$\pi \times 2\eta \times U(R) + (1 - \pi) \times \left[\eta \times U(R) + \rho(r^*) \times \pi \times \eta^2 \times U(R) \right]$$

whereas the latter is equal to:

$$\pi \times 2\eta \times U(R) + (1 - \pi) \times \left[\eta \times \left[1 - \frac{r^*}{(1 - \lambda)R} \right] U(R) + \rho(r^*) \times \pi \times \eta^2 \times U(R) \right]$$

$\square$