UNIVERSITÀ CATTOLICA del Sacro Cuore

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DELLE ISTITUZIONI E DELLO SVILUPPO

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° Financial support from the Catholic University of Milan under the D.1 2016 research project on "Decisioni di voto e competizioni elettorali" is gratefully acknowledged.

Prima di essere pubblicati nella Collana Quaderni del Dipartimento di Economia internazionale, delle istituzioni e dello sviluppo edita da Vita e Pensiero, tutti i saggi sono sottoposti a valutazione di due studiosi scelti prioritariamente tra i membri del Comitato Scientifico composto dagli afferenti al Dipartimento.
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www.unicatt.it/dipartimenti/diseis

Università Cattolica del Sacro Cuore, Via Necchi 5 - 20123 Milano

www.vitaepensiero.it

ISBN 978-88-343-3361-7

Abstract

Populism can be described as the behaviour of politicians who choose a sub-optimal stance or policy in order to pander to the electorate and gather consensus. We model populism in a political agency framework and find the conditions for an honest and social welfare-maximising politician to act as populist in order to be re-elected. It turns out that the occurrence of populism hinges on the need to keep rent-seeking, corrupt, politicians away from power and, so, is more common where the share of corrupt politicians is large. We also prove that the populist equilibrium is more likely the worse are the economic conditions of the country, the larger are the rents to be captured by people in power and the less effective is economic policy to fight instability and economic crises.

JEL: D71, D72

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«Today's ceremony, however, has very special meaning. Because today we are not merely transferring power from one administration to another, or from one party to another – but we are transferring power from Washington, D.C. and giving it back to you, the American People».

Donald J. Trump, inauguration speech, 20 January 2017

Section 1. Introduction

Few months before the May 2014 European Elections, with Europe weakened and frustrated by 7 years of deep financial and economic crisis, unemployment and slow growth, The Economist was anticipating that populist parties were gaining consensus in the polls.[1] Consensus that had been impressively confirmed by the outcome of the European Elections of 22-25th of May 2014, leading the New York Times to write of an «angry eruption of populist insurgence»[2] in Europe, while some commentators defined the *exploit* of populist parties as «one of the key narratives to emerge from the European Parliament elections»[3].

As Friedrichsen and Zahn (2014) point out, an economic crisis leads to distrust against established political institutions. In the rhetoric of insurgent populist forces, such institutions are depicted as captured by corrupt politicians and their aides, motivated only by rent-seeking.

As summarized again by The Economist[4], the percentage of votes controlled by populist parties is remarkably high in many important

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[1] The Economist, 4th January 2014, "Europe's populist insurgents".

[2] http://www.nytimes.com/2014/05/27/world/europe/established-parties-rocked-by-anti-europe-vote.html?_r=0

[3] http://blogs.lse.ac.uk/europpblog/2014/07/23/it-would-be-dangerous-to-regard-modern-european-populism-as-devoid-of-serious-content-or-as-a-triumph-of-style-over-substance/

[4] http://www.economist.com/news/europe/21603034-impact-rise-anti-establishment-parties-europe-and-abroad-eurosceptic-union

European countries: 39.5% in Greece, 27.9% in Britain (with the UKIP close to be the winner in terms of popular votes), 27.3% in Italy (with the "5 star movement" second for number of votes), 26.6% in Denmark, 24.9% in France (and the FN first party of the country), 14.7% in Hungary (with the xenophobic and anti-semitic Jobbik being the third party of the country) and so on.

Even if the rise of populism was not the same in all countries and took place also in countries only lightly hit by the current crisis, still «the crisis has been crucial to setting the scene for the potent new pairing of old nationalist rhetoric with contemporary Euroscepticism»[5].

Just a couple of years later, populism seems again, and perhaps even more decisively, on the rise. President Donald Trump campaign has been widely seen as "populist"[6], he insisted to present himself as the people's candidate against a corrupt Washington elite, as he made again pretty clear in the inauguration speech. Moreover, the crucial victories in states like Ohio, Pennsylvania, Michigan and Wisconsin seems to be due – at least in part – to the difficulties of Hillary Clinton in addressing blue collar concerns[7] and to the popular identification of the democratic candidate with an establishment perceived as corrupt.

In Europe, Brexit was the long standing dream of the populist leader Nigel Farage, the right wing populists party AFD achieved quite a substantial number of seats in 2016 Germany state elections[8] [9], while

[5] The Economist, 4th January 2014, "Europe's populist insurgents".

[6] http://www.economist.com/blogs/economist-explains/2016/07/economist-explains-0

[7] See http://www.cnbc.com/2016/11/25/blue-collar-democrats-to-party-its-still-the-economy-stupid.html.

[8] http://www.economist.com/blogs/graphicdetail/2016/03/daily-chart-8

[9] https://www.theguardian.com/world/2016/sep/04/mecklenburg-vorpommern-german-anti-immigrant-party-strong-regional-election-exit-polls-merkel

opinion polls put populist parties in front in Italy[10], the Netherlands[11] and France[12].

However, it is not the first time that an economic crisis and an anti-corruption rhetoric is associated with the rise of populist parties, almost irrelevant before that. In post-World War I Germany the rise of Nazism was made easier by the disastrous consequences of the 1929 economic crisis, and, according to Fritzsche (1990), «the Nazis expressed the populist yearnings of middle-class constituents»[13]. Electoral results say a lot about the connection between 1929 crisis and the rise of Nazism: the party's results at the polls where 3% in 1924 and 2.6% in 1928; then, it obtained an 18.3% in 1930 and 37.4% in 1932, both elections held before Hitler's appointment as a Chancellor in the aftermath of the acute display of a hyperinflationary deep recession.

Moreover, many south American examples of populist governments where helped, in their electoral success, by the masses of poor people willing to find an alternative against corrupt elites.

Quite surprisingly, even if populism has been widely studied by the political economy literature, Miller (2011) is the sole model we were able to find where a connection between a populist equilibrium and the economic conditions of a country is explicitly mentioned, even if it is not the main focus of the paper. Moreover, Miller's model is quite non-standard, assuming a precise (leftist) location of the populist outsider in the political spectrum.

Hence, there seems to be room for setting up and study a model capable to answer the following questions: is there a relation between the economic situation of a country, the perceived corruption of the political elite and the rise of populism? Can we capture such a

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[10] http://www.reuters.com/article/us-italy-politics-5star-idUSKCN0ZM130

[11] http://blogs.lse.ac.uk/europpblog/2017/01/24/2017-netherlands-election-mid-sized-parties-the-new-norm/

[12] http://www.france24.com/en/20170120-marine-le-pen-takes-lead-opinion-poll-le-monde-ipsos-france

[13] Fritzsche (1990, pagg. 233-235).

relation by amending the standard models of political agencies? And what insights can we learn from that?

In order to answer those questions, we propose a model of populism that mirrors, in its general setting, Besley (2006) standard political agency model, where populism is seen as a form of pandering enacted by honest politicians to confront competition from rent-seeking rivals. Then, we study the effect on the likelihood of a populist equilibrium of the general economic situation of a country, of the effectiveness of economic policy, of income distribution and of the foreseen costs of delayed stabilization, finding that a populist equilibrium is more likely in poorer and unequal countries, while it is less likely when economic policies are effective or a delayed stabilization is too costly.

As it will become clear below, our modelling strategy follows closely the approach by Besley (2006), Maskin and Tirole (2004) and related papers, where populism is seen as a consequence of the accountability of the political decision-maker paired to asymmetric information between the voter and the politicians. Even in this setting, as in Acemoglu et al. (2013), a populist government chooses a suboptimal policy to gain electoral consensus, but that happens because of asymmetric information and the potential participation of "corrupt" politicians in the electoral competition, a danger quite often referred to in the rhetoric of populism[14].

The reminder of the paper is as follows: we review the relevant literature in section 2, present the model in section 3 and the main comparative statics results in section 4. Section 5 contains some interesting extensions, while in section 6 we add a third type of politicians (the populist) to the standard model. Finally, section 7 concludes.

[14] See for example Albertazzi and McDonnell (2008). Moreover, according to Mudde (2004) and Kriesi and Pappas (2014), the populist ideology tends to divide the society in two defined and antagonist groups: the "people" and a corrupt elite.

Section 2. Related literature

2.1 Populism and political agency

This paper is related with the existing literature on models of populism and, more generically, pandering in political agency.
One definition of populism comes from Dornbush and Edwards (1991) and it has been used more recently, in very similar ways, by Jennings (2011)[15] and Miller (2011), and almost literally by Acemoglu et al. (2013). According to that definition populism is «the implementation of policies receiving support from a significant fraction of the population, but ultimately hurting the economic interests of this majority»[16]. In Acemoglu et al. (2013) a populist policy is to the left of the political bliss point of the median voter (on a unidimensional policy continuum), but able to gain its support[17]; hence, the policy chosen is both "leftist"[18] and inefficient, given that the social welfare function is maximized exactly at the median voter's bliss point. The populist outcome is an equilibrium in a model of political agency with two types of politicians, honest and corrupt, where the latter is willing to accept bribes from right-wing interest groups and as a consequence the former chooses, in equilibrium, a policy left to the median voter bliss point, because he wants to signal that he is not corrupt in order to increase his reelection probability. While they focus on institutional weaknesses as the main forces behind populism, our model is different because it allows us to study the effect of economic conditions on the likelihood of populist policies.

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[15] Even if in a slightly different shape.
[16] Acemoglu et al. (2013), pag. 772.
[17] Acemoglu et al. (2013) assume a unidimensional policy space. Every voter has single-peaked preferences and their bliss points are ordered from left to right.
[18] But they have an extension with both left wing and right wing populism, probably more suitable for western countries.

A model that shares a similar idea of populism is Miller (2011), where the populist is by assumption an "outsider" located to the left of the two traditional parties. The idea is that those parties are willing to accept contributions for their electoral campaigns from external groups (basically, lobbies) and they locate the policy platform they propose in a point that allows them to maximize those contributions. The "populist outsider", on the other hand, has no access to external contributions: according to Miller (2011), he is different from the traditional politicians for being "charismatic" and not using the traditional political mechanism or trying to gain the support of interest groups. So, he takes his position in order to maximize his votes among the so called "impressionable voters"[19].

An interesting point related with this approach is that economic conditions matter. Even if it is not the main focus of the paper, Miller (2011) argues that if a smaller percentage of "contributors" means that wealth is more concentrated, then a country with higher concentration is more likely to elect populist outsiders[20]. Moreover, economic crises can be important: if their effect is a decrease in the percentage of contributors, for example because more people are poor, then they make the election of the populist candidate more likely. Given the assumptions of the model, this result is not surprising[21], but still it is an interesting attempt to relate economic conditions (and in particular, shifts in economic conditions due to economic crises) to the emergence of populist parties.

An alternative definition of populism, associated by some authors to the act of "pandering"[22], concentrates on the misuse by the

[19] Voters are divided in two groups: α "contributors", i.e. members of the lobbies, and 1-α "impressionable voters". So, the impressionable voters are simply those voters that are not members of any lobby.

[20] Miller (2011), corollary 3.

[21] If the populist candidate is voted only by a fraction of impressionable voters, and this happens by assumption, then it is obvious that when the number of impressionable voters increases also the vote share of the candidate increases.

[22] As highlighted by Frisell (2009), the two terms are interchangeable.

incumbent politicians of the superior information they have. Such definition is used for example by Canes-Wrone et al. (2001), Maskin and Tirole (2004), Besley (2006), Frisell (2009) and Morelli and Van Weelden (2013). Incumbent politicians have an incentive to follow voters' will, even if voters are less informed on what policy is best, to gain an electoral advantage. In Canes-Wrone et al. (2001), for example, a "pandering equilibrium" is defined as one where «the incumbent sometimes chooses a policy she believes is incorrect but that voters believe is correct»[23], meaning that she does the opposite with respect to the signal she received.

Interestingly, full pandering can make representative democracies suboptimal: «in order to get reelected, an official may choose an action, not because it is right for the society, but because it is popular»[24]. And this, of course, is a problem if we justify the existence of a representative democracy with the idea that agents are able to decide better than the principals.

Moreover, following Frisell (2009), we see this equilibrium as "populist", as we define populism as the decision of a politician to take the action preferred by the majority of the voters in order to stay in power, deliberately ignoring additional information suggesting a different decision.

Besley's (2006) model of pandering provides the basic theoretical framework for this paper. Here, politicians are informed about the state of the world while voters are not. Moreover, the "bad" politician is a rent seeker but can extract rents only with one of the two actions. As a consequence, choosing that action (even when it is needed) is a bad signal for the incumbent politician, and the good one may decide to be "populist", i.e. to disregard his private information about the state choosing the action able to guarantee him re-election.

In a similar setting, Frisell (2009) explains populism as a self-fulfilling prophecy: «if voters expect (normal) incumbents to be

[23] Canes-Wrone et al. (2001), pag. 536.
[24] Maskin and Tirole (2004), pag. 1035.

populists, a failure to conform to voter opinion will increase the posterior probability that the incumbent is corrupt»[25].
Morelli and Van Weelden (2013) find that, for a poorly informed electorate, slightly more information can be bad, since it increases the probability of pandering (almost) without balancing this inefficiency[26]. On the other hand, when the information is sufficiently high to make pandering sufficiently unlikely, then more information is only positive for the welfare of the voters.
Our modeling choice follows this second definition of populism. We prefer to use such idea since it does not assume the inefficiency of populist policies. Populist choices imply ignoring information in order to follow the voters' priors and, as a consequence, it entails doing the wrong thing *in that particular state of the world*.[27] But, in other conditions, the same policy may be the right one, while voters do not know precisely *what should be done*. We think that it is more reasonable to assume an uncertain electorate, rather than the approval of "wrong" policies, especially in a complex world like ours, where many decisions that can lead to populist policies implies a non-trivial technical knowledge[28].

2.2 Alternative approaches: "communication games" and bounded rationality

Finally, another stream of the theoretical literature uses a slightly different approach to deal with populism: at difference from the

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[25] Frisell (2009), pag. 716.
[26] Harrington (1993) has a similar result.
[27] Even if Harrington (1993) has not any state of the world, note that the populist policy is *believed* to be less effective by the politician, but it is not inefficient or wrong by construction.
[28] Shall Italy keep the Euro currency? Or would it be better to have back the "Lira" and be able to devaluate it? A non-ideological answer implies a nontrivial balance of pros and cons of a weaker currency, with its influence on import and export, public debt and so on.

standard political agency model, Heidhues and Lagerlöf (2003), Jensen (2009), Klumpp (2011) and Gratton (2014), among others, use a "communication game" setting, where the most relevant issue is the inefficiency caused by the inability of the politician to communicate its own information to the voters. The general setting of the "communication game" approach is based on two competing politicians simultaneously announcing a platform that will be implemented after the elections. Generally, there is a binary set of possible policies and a policy relevant state of the world. Both politicians receive a signal about which is the true state of the world, so they are better informed than the voters, and the voters want to elect a politician whose policy matches the true state. In this set up, politicians have incentives not to reveal his information, in order to pander with the voters' prior.

Going back to the standard model of political agency, there are a couple of papers that study populism under a different light, relating it with the existence of some sort of "bounded rationality" among the voters.

In particular, Jennings (2011) makes some modifications to the standard model of political agency, adding two new features related with voting, rational irrationality and expressive voting, and a third type of politician, the populist, willing to do whatever the majority of the voters want, to the good and the bad one in terms of Besley (2006). Jennings (2011) spells out the conditions that allows the populist policy to win the elections, distinguishing between cases where the good politician "pools" with the populist and when he separates from the populist policy, but loses the elections. When the "bad" type is added to the good and the populist type, then under some conditions the good incumbent playing the good policy, which was losing for sure with only two types of politicians, can now win the elections. This implies that some corruption can be welfare improving.

A second example of "behavioral" approach to populism is Binswanger and Prüfer (2012), where it is assumed a limited strategic sophistication of voters. The result somewhat recalls Frisell

(2009) and his self-fulfilling prophecy: under perfect rationality (i.e. with k-belief voters, for k going to infinite) the voters expect the politician to pander with their prior, and both types of politicians will do exactly that. On the other hand, the incentive to pander is lower for lower levels of k, because politicians are expected to pander "less", so they can put more weight on their own information, rather than on voters' prior.
It is interesting to notice, at this point, that while the use of some sort of "irrationality" was necessary, in Jennings (2011), to justify the existence of a populist equilibrium, in Binswanger and Prüfer (2012) happens exactly the opposite: the most populist outcome is reached with fully rational voters.

2.3 Empirical evidences

The empirical literature about the issues raised above is more limited that the theoretical one: three papers in particular provide interesting findings.
The first one, Friedrichsen and Zahn (2014), deals with the issue of political support during economic crisis. It highlights that national economic conditions affect people's satisfaction with the current institutional setting; as a consequence, a possible extension of the result of their paper is that in countries suffering for the crisis populist political parties may more easily emerge, exploiting a general dissatisfaction of "traditional" politics.
Canes-Wrone and Shotts (2004) provide an empirical test of some results in Canes-Wrone et al. (2001), particularly with regard to the US presidents attitude to accommodate voters will. First of all, they check whether presidents are more keen to pander the public opinion just before the election, when there is a high probability that, when they vote, people are able to observe only the policy and not its

result[29]. In Canes-Wrone et al. (2001) model, this is necessary to produce a pandering equilibrium, since otherwise there is no point for the incumbent to choose a policy he knows it is wrong but people think it is right.
Secondly, Canes-Wrone and Shotts (2004) test the relationship between responsiveness and popularity, comparing two competing theories. According to the "Monotonic Popularity Hypothesis", a president is less likely to converge to the public opinion's position the more popular he is. This is because he does not need to gain further support if he is already popular, and he can do whatever he thinks is right. On the other hand, the Canes-Wrone et al. (2001) model says that a president should be more likely to pander if elections are close and his popularity is neither way above nor way below his rivals. The idea is that pandering is profitable in this situation only, since it allows the incumbent to gain consensus in a close race. If he is way below the challenger even pandering is not enough, so he can only hope to make a choice that is right and known by the voters. On the other hand, a very popular incumbent loses the election only if he does something wrong and the voters know that it is wrong, so in order to avoid this risk he prefers to afford the cost of choosing a policy correct but unpopular.
Canes-Wrone and Shotts (2004) find conclusive evidence supporting this second hypothesis, while their data are not confirming the first one. This is interesting not only as a finding in itself: as Canes-Wrone and Shotts (2004) point out, the normative implications of this result are relevant. Indeed, according to the particular relation between popularity and responsiveness that Canes-Wrone at al. (2001) model implies, the president is willing to be populist: in particular conditions, he ignores relevant information in order to pander the voters and win the elections. So, this means that «presidents are at times willing to pursue popular policies that they

[29] In terms of Canes-Wrone et al. (2001) model, the probability of uncertainty resolution is really low.

believe are not in citizens' interest»[30]. That is an interesting (although indirect) empirical evidence of populism.

Section 3. The model

We model a political delegation relationship as a simple, repeated principal-agent game, where the principal is a representative voter and the agent is an elected politician. The game is repeated twice, so $t \in \{1, 2\}$, and at the beginning of every period Nature draws a policy relevant state of the world, $s_t \in \{0, 1\}$, that is observed by the incumbent politician but not by the voter. For simplicity, we assume that the voter assigns the same probability to the realization of each state in every period. This state of the world represents the general current economic situation of the country: $s_t = 0$ means that the economy is running smoothly and the public budget is balanced, so there is no need of governmental intervention; on the other hand, $s_t = 1$ means that the economy is facing a period of crisis, for example due to structural weaknesses combined with an external downward pressure on the stock market. If $s_t = 1$ and stabilization is delayed by the government, the country will face a "cost of instability" C_t with probability q_t. Both those parameters are – for the time being - exogenously determined and common knowledge[31]. This cost of instability can be avoided if the public budget is corrected by an increase in taxation.

[30] Canes-Wrone and Shotts (2004), pag. 691.

[31] In practice, the voter knows that if the state of the world is 1 then the probability of financial instability is q_t, while this probability is zero if the state of the world is 0. However, the voter does not know the state of the world (while the politician does).

3.1 Policies and politicians

The incumbent politician, in every period, decides $e_t \in \{0, \tau_t\}$: he can either keep the same, "ordinary" level, of taxation, or increase it by an amount τ_t. This amount, however, is not exogenous, but it depends on the cost of stabilization C_t, and also on $\eta \in (\frac{C_t}{y}, 1]$, which captures the effectiveness of the economic policy. Formally, we set $\tau_t = \frac{1}{\eta} C_t$. Clearly, the smaller is η the larger is the amount of taxes that the Government has to collect in order to cover the stabilization cost C_t.

Crucially, before the election the voter observes the policy choice, but not its results. So, a dishonest politician is able to increase taxation and, instead of using the extra money to correct the public balance, extract a rent. We assume that a politician can be of two types: $i \in \{h, d\}$, where the "honest" politician's utility function includes voter's utility, while the "dishonest" politician is only a rent seeker. Note that he can extract rent only from one of the two policies ($e_t = \tau_t$). The amount of the rent is observed only by the politician, it depends on the general level of political corruption in the system and on the realization of a random parameter at the beginning of every period. Formally, we define the rent as $r_t = \rho_t \psi \tau_t$, where $\psi \in [0, 1]$ and $\rho_t \in [0, 1]$ is randomly drawn at the beginning of every period from a continuous symmetric distribution function $F(\rho_t)$ with mean μ[32]. The random component of the rent extraction process expresses the variability across periods of the opportunities to extract rents. On the other hand, ψ can be seen as a general level of corruption in the political system, i.e. how easy is to extract private rent from the extra taxation collected. The higher is ψ, the easier is to use public money for private purposes.

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[32] As in Besley (2006), we assume $\psi\tau_1 > \beta(E + \mu\psi\tau_2)$. This guarantees that the dishonest politician chooses to reveal himself in period 1 with some strictly positive probability.

Finally, following Besley (2006), we assume that the prior probability assigned by the voters to a politician being honest is $\Pr(i = h) = \pi$ and it will be updated following Bayes' rule.
The assumption that some members of the political class are corrupt is consistent with the possibility that a populist equilibrium may emerge, since the fight of "people" against a corrupt elite is a common ingredient in many populist platforms.

3.2 Payoffs

The payoff function of the voter is given by $U_t^{voter} = u(y - \tau_t) - pC_t$, where y is the representative voter's income, τ_t is the extra fiscal pressure consequent to the policy selected (so it can take only value 0 and $\frac{1}{\eta}C_t$), $p = 0$ when $s_t = 0$ and $p = q_t$ when $s_t = 1$, while q_t and C_t have been defined above. $u(.)$ is a well behaved utility function, increasing and concave in its argument. Note that the cost of financial instability is outside $u(.)$ in the utility function. This happens because we see it as a sort of "negative public good", while $u(.)$ measures the utility from private consumption.
Depending on the state and the policy chosen by the incumbent, we have:

- If $s_t = 0$ and $\tau_t = 0$, $U_t^{voter} = u(y)$;
- If $s_t = 0$ and $\tau_t = \frac{1}{\eta}C_t$, $U_t^{voter} = u\left(y - \frac{1}{\eta}C_t\right)$;
- If $s_t = 1$ and $\tau_t = 0$, $U_t^{voter} = u(y) - q_t C_t$;
- If $s_t = 1$ and $\tau_t = \frac{1}{\eta}C_t$, $U_t^{voter} = u\left(y - \frac{1}{\eta}C_t\right)$ if the politician is honest, since he uses the new fiscal revenues to balance the public budget; on the other hand, if the politician is dishonest, $U_t^{voter} = u\left(y - \frac{1}{\eta}C_t\right) - q_t C_t$, given that he keeps the extra money for himself.

To keep the problem interesting, we assume:

Assumption 1: $u\left(y-\frac{1}{\eta}C_t\right) > u(y) - q_t C_t$.

This implies that, from the voter's point of view, the ideal policy should match the state of the world: $\tau_t = 0$ is optimal if $s_t = 0$, $\tau_t = \frac{1}{\eta}C_t$ is optimal when $s_t = 1$.
As for the politicians, both types earn an "ego rent" equal to E when they are governing, while the rest of the payoff functions are different. Specifically, $U_t^h = \begin{cases} U_t^{voter} + E \; if \; h \; is \; governing \\ U_t^{voter} \qquad\qquad otherwise \end{cases}$ and $U_t^d = \begin{cases} r + E \; if \; d \; is \; governing \\ 0 \qquad\qquad\quad otherwise \end{cases}$, so that the honest politician cares also about voter's welfare, while the dishonest politician cares only about being in power and the rents he is able to capture, keeping in mind that he is able to extract rents only if he is in power.
All the players discount the future at a rate β.

3.3 Timing

The timing of this game is as follows:

1. At the beginning of period 1, Nature draws the state of the world (both equally likely), the type of the incumbent, who is honest with probability π, and the value of ρ for that period from the cdf $F(\rho)$.
2. The incumbent observes all that information while the voter does not.
3. The incumbent chooses the policy $e_1 \in \{0, \frac{1}{\eta}C_1\}$, and his choice is observed by the voter. Then, he decides whether to extract the rent or not, and this choice is not observed.
4. The voter updates his beliefs and then casts his vote, deciding whether to re-elect the incumbent or to elect a randomly picked challenger, honest with probability π.

5. Pay-offs of period 1 are paid[33] and period 1 ends.
6. At the beginning of period 2, Nature draws the state of the world $s_2 \in \{0, 1\}$, the type of the new incumbent if the previous one has been voted out and the value of ρ for that period from the cdf $F(\rho)$.
7. The incumbent observes all the information, chooses the policy $e_2 \in \{0, \frac{1}{\eta} C_2\}$ and decides about the rent extraction.
8. Payoffs for period 2 are paid and the game ends.

The crucial feature of this setting is that the voter is not able to observe the result of a policy, but only the policy itself, and he will use this information to update his beliefs. Finally, note that the potential cost to stabilize the system, as well as ψ and η, are common knowledge. What is not known (to the voter) is whether it is necessary or not to pay that cost, i.e. if the system is stable or not.

3.4 Equilibrium and solution concept

The solution concept we use for this repeated game of imperfect information is the (pure strategy) Perfect Bayesian Nash Equilibrium (PBNE) Note that among the many equilibria of this game, we are interested in a particular one, characterized by the adoption of a "populist policy" by the incumbent, i.e. where the incumbent, despite knowing the true state of the world, uses the wrong policy in order to be elected. In particular, following Besley (2006), we look for an equilibrium where:

i) the honest politician chooses $e_1 = 0$ regardless of the state and is reelected for sure (note that this implies that, when $s_1 = 1$, he is choosing the wrong policy in order to be reelected);

[33] Note that it is crucial that period 1 payoffs are paid after the elections. Otherwise, the voter would be able to perfectly understand the type of the politician.

ii) the dishonest politician chooses $e_1 = 0$ (and is re-elected) when the rent he can extract in period 1 is small, while he chooses $e_1 = \frac{1}{\eta} C_1$, extracts the rent and is voted out when this rent is sufficiently large, obtaining 0 in period 2.

Definition 1: *a Perfect Bayesian Nash equilibrium can be defined as "populist" when the honest incumbent, despite knowing what is the most efficient policy for that particular state of the world, chooses the inefficient policy in order to please the voters and be re-elected.*

As discussed in the previous section, we choose this definition of populism, since it allows us to emphasize that populism can be a drawback of political accountability.
We will characterize this equilibrium more formally in the next sub-section.

3.5 Equilibrium conditions

We solve the game backward. First of all, note that in period 2, since there are no further elections, every type of politician is free to choose his favorite policy, meaning that the dishonest will choose $e_2 = \frac{1}{\eta} C_2$ and will extract the rent for sure, while the honest politician will choose the correct policy for every possible state of the world.
As a consequence, the voter always prefers an honest to a dishonest politician in period 2. So, if we label Π the updated probability that the incumbent is honest given the policy choice in period 1, i.e.

$\Pi \equiv \Pr(i = h \mid e_1)$, then it is sequentially rational for the voter to confirm the incumbent if $\Pi > \pi$[34].

Following the "populist policy" equilibrium described in the previous section, for the time being we assume that $\Pi > \pi$ if $e_1 = 0$ (below we will prove that this is true in this equilibrium). Hence, the voter's strategy is $\sigma_1^{voter}(e_1) \equiv \begin{cases} Rielect\ if\ e_1 = 0 \\ Change\ otherwise \end{cases}$.

Of course, both types of politicians know this optimal strategy for the voter, and they take this into account when they choose their action in period 1. Then the dishonest politician will behave as follows: $\sigma_1^d \equiv \begin{cases} e_1 = 0 \text{ if } r_1 \leq \beta(E + \mu\psi\tau_2) \\ e_1 = \frac{1}{\eta}C_1 \qquad otherwise \end{cases}$ and $\sigma_2^d \equiv e_2 = \frac{1}{\eta}C_2$. So, he will avoid to extract rent today (and being voted out) if what he could extract is smaller than the expected discounted value of being in power tomorrow, given by the ego rent and the expected value of the rent he will be able to extract. Note that in this case the dishonest politician's choice is independent of the state of the world, since he can extract rents only with the policy $e_t = \frac{1}{\eta}C_t$.

From the point of view of the voter, the probability that a dishonest incumbent chooses $e_1 = 0$ is $\lambda \equiv \Pr\big(r_1 \leq \beta(E + \mu\psi\tau_2)\big) = \Pr\big(\rho\psi\tau_1 \leq \beta(E + \mu\psi\tau_2)\big) = \Pr\left(\rho\psi\frac{1}{\eta}C_1 \leq \beta\left(E + \mu\psi\frac{1}{\eta}C_2\right)\right)$.

Setting, for the time being, $C_1 = C_2 = C$, we obtain $\Pr\left(\rho \leq \beta\left(E\frac{1}{\psi}\frac{\eta}{C} + \mu\right)\right) = F\left(\beta\left(E\frac{1}{\psi}\frac{\eta}{C} + \mu\right)\right)$.

---

[34] We assume that, in case of indifference, the voter randomizes with probability $\frac{1}{2}$. However, it will not matter in the basic model.

In our populist equilibrium, we want the honest politician to be populist, i.e. to choose $\sigma_1^h \equiv e_1 = 0$ irrespective of the state of the world, and $\sigma_2^h \equiv \begin{cases} e_2 = 0 \;\; if \; s_2 = 0 \\ e_2 = \frac{1}{\eta} C \; if \; s_2 = 1 \end{cases}$.

Since voter's beliefs must be updated following Bayes' rule, this implies that $\Pi = \Pr(i = h \mid e_1 = 0) = \frac{\pi}{\pi + (1-\pi)\lambda} > \pi$, so it is optimal for the voter to reelect the incumbent after observing $e_1 = 0$ and to elect the challenger after observing $e_1 = \frac{1}{\eta} C_1$.

So, the strategy of the voter is sequentially rational given the beliefs, and those beliefs are updated according to Bayes. Moreover, we have already shown that, for the dishonest politician, it is optimal to postpone the rent extraction when r_1 is below $\beta(E + \mu\psi\tau_2)$, given voter's strategy.

The last bit for the description of the "populist equilibrium" of our game is the condition that makes optimal, for the honest politician, to choose $e_1 = 0$ even when $s_1 = 1$.

If he chooses $e_1 = 0$ the honest politician is re-elected, so his total utility is

$$E(U^h(e_1 = 0, s_1 = 1)) = u(y) - q_1 C_1 + E + \beta \left[\frac{1}{2} u(y - \tau_2) + \frac{1}{2} u(y) + E \right]$$

That can be written as

$$E(U^h(e_1 = 0, s_1 = 1)) = u(y) - q_1 C_1 + E + \beta \left[\tfrac{1}{2} u\left(y - \tfrac{1}{\eta} C_2\right) + \tfrac{1}{2} u(y) + E \right].$$

On the other hand,

$$E(U^h(e_1=\tau_1,s_1=1))=u(y-\tau_1)+\beta[\pi\left(\frac{1}{2}u(y-\tau_2)+\right.$$
$$\left.+\frac{1}{2}u(y)\right)+(1-\pi)\left(\frac{1}{2}(u(y-\tau_2)-\right.$$
$$\left.-q_2C_2)+\frac{1}{2}u(y-\tau_2)\right)]$$

That can be rewritten as

$$E(U^h(e_1=\tau_1,s_1=1))=u\left(y-\frac{1}{\eta}C_1\right)+\beta[\pi\left(\frac{1}{2}u\left(y-\frac{1}{\eta}C_2\right)+\right.$$
$$\left.+\frac{1}{2}u(y)\right)+(1-\pi)\left(\frac{1}{2}\left(u\left(y-\frac{1}{\eta}C_2\right)-\right.\right.$$
$$\left.\left.-q_2C_2\right)+\frac{1}{2}u\left(y-\frac{1}{\eta}C_2\right)\right)]$$

Again, we simplify the notation assuming $C_1=C_2=C$, $q_1=q_2=q$ and as a consequence $\tau_1=\tau_2=\tau$. The equilibrium we are interested in, clearly, exists if and only if

$$E(U^h(e_1=0,s_1=1))>E(U^h(e_1=\tau,s_1=1))$$

With a bit of manipulation, the equilibrium condition, that we define as Condition (1), is:

$$\beta\left[(1-\pi)\left(\frac{1}{2}u\left(y-\frac{1}{\eta}C\right)+\frac{1}{2}u(y)\right)+E\right]>[1+\beta(1-\pi)]u\left(y-\right.$$
$$\left.-\frac{1}{\eta}C\right)-u(y)+$$
$$+\frac{2-\beta(1-\pi)}{2}qC$$

We can define the full set of equilibrium strategies and beliefs in Proposition 1.

Proposition 1: *the populist pure strategy perfect Bayesian Nash equilibrium of this game is characterized as follows:*

1) *Strategy for the dishonest politician*: $\sigma_1^d \equiv \begin{cases} e_1 = 0 \text{ if } r_1 \leq \beta(E + \mu\psi\tau_2) \\ e_1 = \frac{1}{\eta}C_1 \qquad otherwise \end{cases}$; $\sigma_2^d \equiv e_2 = \frac{1}{\eta}C_2$.
2) *Strategy for the honest politician*: $\sigma_1^h \equiv e_1 = 0$ for $s_1 = 0, 1$; $\sigma_2^h \equiv \begin{cases} e_2 = 0 \quad if\ s_2 = 0 \\ e_2 = \frac{1}{\eta}C\ if\ s_2 = 1 \end{cases}$.
3) *Strategy for the voter*: $\sigma_1^{voter}(e_1) \equiv \begin{cases} Rielect \quad if\, e_1 = 0 \\ Change\ otherwise \end{cases}$.
4) *Beliefs:* $\Pr(\, i = h \mid e_1 = 0) = \frac{\pi}{\pi + (1-\pi)\lambda} > \pi$;

$$\Pr\left(\, i = h \;\middle|\; e_1 = \frac{1}{\eta}C_1\right) = 0 < \pi.$$

And it is an equilibrium if and only if Condition (1) is realized.
Proof: provided in the text.

Section 4. Comparative statics

Even from this simple version of the model, there are three interesting and original insights that can be derived through comparative statics.
First of all,

Lemma 1: *the populist equilibrium becomes less likely as the probability of experiencing economic instability increases.*
Proof: the coefficient in front of q is strictly positive on the RHS of Condition (1).
QED

If the instability is very likely, then the honest politician prefers to avoid it by selecting the appropriate policy to face economic crisis, even at the price of being voted out of office.
Secondly, and this is probably the most interesting result so far, an increase in income y makes the populist equilibrium, *ceteris paribus*, less likely. This means, on the other hand, that if we see an economic crisis as leading to a reduction of y, then this increases the range of parameters for which the populist equilibria occurs. As far as we know, this is the first model of populism in a political agency setting that explicitly links the economic conditions of a country with the probability of a populist government. We state this result in the following proposition.

Proposition 2: *the populist equilibrium is more likely, ceteris paribus, for lower levels of y.*
Proof: see appendix I.

In mathematical terms, this result is due to concavity of the utility function: the positive effect of an increase in y on the utility of the voter is stronger when the argument of the utility is smaller. In economic terms, given the decreasing marginal utility of income, the stabilization policy is costlier, and so less frequently applied, for lower levels of income: hence "poorer" countries are more vulnerable to populism.
Interestingly, this result confirms the ability of this particular model to capture the main insights from the stylized facts stated above.
A third novel comparative static result relates to effectiveness of the economic policies: the more effective are the economic policies of a country, the less likely is the populist equilibrium.
Indeed, note that the greater is $\frac{1}{\eta}$, i.e. the less effective is the economic policy of a country, the larger is the effect of a change in y on the RHS with respect to the LHS. This means that the two effects move in the same direction: a reduction of y in a very ineffective country increases the likelihood of a populist equilibrium more than the same reduction of y in a more effective country. This prediction

makes sense, intuitively, and it provides evidences that would be interesting to text empirically.

Proposition 3: *the larger is η the less likely is, ceteris paribus, the populist equilibrium.*
Proof: see appendix I.

The reason of this result is that the role of $\frac{1}{\eta}$ in influencing τ is much stronger when $e_1 = \tau$ rather than when $e_1 = 0$. As a consequence, if the economic policy is effective, then the non-populist policy becomes relatively less costly and more desirable, making the populist equilibrium less likely.
Finally, note that the effect of C on the likelihood of the populist equilibrium is ambiguous.
Its marginal effect on the LHS is given by $-\frac{1}{2}\beta(1-\pi)\frac{1}{\eta}u'(y-\frac{1}{\eta}C)$, so it is clearly negative. On the RHS, there is a positive and a negative effect, given by $-[1+\beta(1-\pi)]\frac{1}{\eta}u'\left(y-\frac{1}{\eta}C\right)+\frac{2-\beta(1-\pi)}{2}q$. Note that the negative one is stronger on the RHS than on the LHS, but it is counterbalanced by the positive part.
Comparing the two effects, we can see that an increase in C *reduces* the likelihood of a populist equilibrium if $\frac{1}{2}\beta(1-\pi)\frac{1}{\eta}u'\left(y-\frac{1}{\eta}C\right) > [1+\beta(1-\pi)]\frac{1}{\eta}u'\left(y-\frac{1}{\eta}C\right)-\frac{2-\beta(1-\pi)}{2}q$, so if $\frac{2-\beta(1-\pi)}{2}q > \left[1+\frac{1}{2}\beta(1-\pi)\right]\frac{1}{\eta}u'\left(y-\frac{1}{\eta}C\right)$. Intuitively, the ambiguity is explained in this way: if C is big there are strong incentives to solve the problem immediately, without waiting. On the other hand, a big C implies also a big τ, so a more painful non populist policy today.
Clearly, this condition is more likely to hold for a small $\frac{1}{\eta}$, and again this makes sense. In a country able to perform effective economic

policies (so with a small $\frac{1}{\eta}$), an increase in the cost of instability gives to the honest politician more incentives to solve the problem, since he can do that effectively. On the other hand, if solving the problem is very ineffective (i.e. implies an abnormally high level of taxation), then an increase in C provides incentives to delay the stabilization and to enjoy the ego rent one period more.
Moreover, as expected, our equilibrium condition shares some features with Besley (2006) simple model. In particular:

Proposition 4: *the "populist" equilibrium is possible for a larger set of parameters the larger is E and the smaller is* π.
Proof: see appendix I.

The intuition behind this result is straightforward: if the incumbent is very "office based", i.e. if he cares a lot about being in power, without putting much weight on the utility of the voters, rather than being "policy oriented", then it is more likely for him to behave in a populist way, in order to enjoy the ego rent one period more. On the other hand, a very low π implies a very high probability of being replaced by a dishonest politician, giving to the honest one a stronger incentive for sticking to power one period more in order to have the correct policy selected.
Finally, we derive a comparative statics results about ψ.

Proposition 5: *the bigger is* ψ *(or* τ*), the less likely is the dishonest politician to postpone the rent extraction.*
Proof: see appendix I.

Section 5. Extensions

5.1 Stabilization costs that change over time

So far, we have used the simplifying assumption that $C_1 = C_2 = C$, so the cost of instability is the same in both periods (if the state is

bad) and the policy choice of period 1 does not influence C in period 2.
This is clearly not realistic, since we expect that the cost of instability increases over time if the crisis has not been solved before. As a consequence, now we assume that

$$C_2 \equiv \begin{cases} C_1 & if\ s_2 = 1\ and\ e_1 = \tau_1\ with\ s_1 = 1\ or\ if\ s_1 = 0 \\ \kappa C_1, with\ \kappa > 1 & if\ s_2 = 1\ and\ e_1 = 0\ with\ s_1 = 1. \\ 0 & if\ s_2 = 0 \end{cases}$$

The interpretation is as follows: if in period 1 we are in a state of the world that would require stabilization, then two things can happen in period 2: it is either a "good" or a "bad" state. Now: if period 2 is "good" then it happened because the general economic environment improved (exogenously), i.e. the stabilization is no longer necessary and its cost is paid in period one only. On the other hand, if period 2 is "bad" again, then it is reasonable that the stabilization cost would be larger if nothing has been done in period 1. In our model, κ measures the "speed" of this increase in stabilization costs, and again it is common knowledge. On the other hand, when $s_1 = 0$ then, if $s_2 = 1$, $C_2 = C_1$.
However, since we are considering the case of a populist equilibrium, now we impose $s_1 = 1$ and we study the implications of this new assumption on the dishonest and on the honest politician's strategies.

1) Dishonest politician

Here we have $\lambda = \Pr\left(r_1 \leq \beta(E + \mu\psi\tau_2)\right)$ that simplifies[35] to $F\left(\beta\left(E\frac{1}{\psi}\frac{\eta}{C_1} + \frac{\mu}{2}(\kappa + 1)\right)\right)$. The greater is κ, the more likely it is that the dishonest politician delays rent extraction. This is because a large (and known) κ implies that he can impose higher taxes in period 2[36] and expect to extract higher rents. Again, however, this modification of λ is not too important in the determination of the likelihood of our populist equilibrium, since what matters is only that $\Pi > \pi$.

2) Honest politician

Again, we have to compare the two expected utilities in $s_1 = 1$, imposing $E(U^h(e_1 = 0, s_1 = 1)) > E(U^h(e_1 = \tau, s_1 = 1))$. The result we can prove is as follows:

Proposition 6: *an increase in κ makes, ceteris paribus, the populist equilibrium less likely.*

Proof: see appendix I.

A consequence of this result is that, if the crisis is expected to become much worse if not solved now, then the honest politician has a stronger incentive to sacrifice his reelection chances and solve the problem.

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[35] Because $\Pr\left(r_1 \leq \beta(E + \mu\psi\tau_2)\right) = \Pr[\rho\psi\frac{1}{\eta}C_1 \leq \beta\left(E + \mu\psi\left(\frac{1}{2}\frac{\kappa}{\eta}C_1 + \frac{1}{2}\frac{1}{\eta}C_1\right)\right)]$

[36] Since $\tau_2 = \frac{1}{\eta}C_2 = \frac{\kappa}{\eta}C_1$

5.2 Heterogeneous voters

Going back to the simplifying assumptions that $C_1 = C_2 = C$, we now allow for some heterogenity in the electorate. In particular, we now assume that there are α "rich" and $(1 - \alpha)$ "poor" voters, whose "cost of instability" are different[37]. In particular, given a certain general cost of instability C, this is unevenly divided among voters. So, we now have a cost C_t^p for the poors and C_t^r for the rich, with $C_t^r > C_t > C_t^p$. The justification is that financial stability is more valuable for more wealthy people, since they would incur in higher costs. On the other hand, poor people may be less willing to pay in order to ensure the stability of something perceived as quite far away from their interests. Note that, since $C_t > 0$, then $C_t^r > 0$ as well, while $C_t^p \in [0, C_t)$. So, it is possible that "poor voters" prefer policy $e_t = 0$ in both states.

Keeping the rest constant, the only other thing that changes is that now the honest politician is trying to maximize a social welfare function given by a weighted average of the utility of both types of voters, i.e. $U_t^h = \alpha U_t^{rich} + (1 - \alpha) U_t^{poor} + E * 1(if\ h\ is\ governing)$.

Note that nothing changes, in terms of equilibrium strategy, for the dishonest politician and for the voters. Indeed, rich voters behave exactly like the representative voter considered so far, while poor voters prefer an honest politician as well, given that *ex ante* he is not going to raise taxes at least in one of the two states (while the dishonest politician will do that for sure). So, the sequentially rational reelection rule is the same as above.

[37] It is clearly strange to assume that "rich" and "poor" people have the same income, but using different ys would make the notation even more cumbersome without adding much in terms of explanatory power, as long as all prefer a honest rather than a dishonest politician.

The only thing that changes is the condition on the utility of the honest politician, who is now willing to choose the populist policy in period 1 in every state if:

$$\beta\left[(1-\pi)\left(\frac{1}{2}u\left(y-\frac{1}{\eta}C\right)+\frac{1}{2}u(y)\right)+E\right] > [1+\beta(1-\pi)]u\left(y-\frac{1}{\eta}C\right)-u(y) + \frac{2-\beta(1-\pi)}{2}q[\alpha C^r+(1-\alpha)C^p]$$

So, the instability cost is a weighted average between the cost of the two types of voters.

Since $C_t^r > C_t^p$, it is clear that the smaller is α, i.e. the "poorer" is the economy, the more likely is the populist equilibrium. This result is interesting, and it is consistent with the main findings of the comparative statics above. Here the reason has to do with the different costs of instability. The bigger it is, the larger is the incentive to solve the problem immediately. Moreover, it roughly correspond to what is observed historically, where many populist parties gained support after economic crises have impoverished their countries.

5.3 "Generous" populism

The model analyzed so far implies another interesting insight, i.e. the possibility of a "generous" populism. In other words, in the populist equilibrium the honest incumbent may decide to use the wrong policy in period 1 even if its ego rent E is set to zero, but only because he wants to avoid to be replaced by a dishonest incumbent, that will do worse than him. So, he prefers to sacrifice some utility today, if this can avoid a worse future (in terms of ex ante utility, of course).

Proposition 7: *the populist equilibrium is possible even if the honest politician is not office motivated.*
Proof: see appendix I.

The condition required for this generous populism is obviously stricter than the previous one, given that E is set to zero. It requires a big enough difference between $u(y)$ and $u\left(y-\frac{1}{\eta}C\right)$ and a sufficiently small qC.
Clearly, the bigger is $1-\pi$, so the probability of being replaced by a dishonest politician, the more likely is this condition to hold, and this is why we call it "generous" populism. Even if the politician does not care about being in office, he chooses the populist policy in order to avoid a worse government next period. An interesting consequence of this result is that, at least in this setting, populism should not be seen as a direct consequence of office motivated politicians *only*. Of course, as we saw above, the more the politician is office-motivated the more the populist equilibrium is likely, but in a sufficiently corrupt political environment (i.e. where $1-\pi$ is very high) even a politician that wants to be in power only "for the good of the voters" may be tempted to choose the populist option (and this would be the ex ante optimal choice). This result may help to explain why populism has been repeatedly related with the presence of a corrupted political system (see for example Acemoglu et al. (2013), Miller (2011)).

Section 6. Adding the "populist" politician

In this section we expand the model introducing a new type of politician, the populist. So far, we modelled populism – consistently with the literature - as the decision that even a good politician may take to ignore his informative advantage and do something that is socially wrong (for him and for the voters as well) in order to pander voter's opinion and be reelected. A consequence of this is that the

"populist-acting" politician is always honest and that, in some cases, populism can even be socially optimal.
However, this may not always be a good description of reality. Sometimes it appears that the populist politician may not be interested at all in the utility of the voters. He is just purely office motivated, and he does not care about the policy he implements.
How does this change our model? In particular: how does this new type of politician interacts with the honest and the dishonest type used so far? And how does the existence of this third type influence the incentive for the honest politician to behave in a populist way?
This section aims at answering to all these questions. In order to do so, we firstly see how the populist politician would behave in a game with the dishonest or with the honest politician only, and then we solve for the populist equilibrium in a version of the model that involves the three types of politician.

6.1 The dishonest and the populist

In this section we keep the standard setting presented above, while replacing the honest politician with the populist one, who has the following utility: $U_t^p = \begin{cases} E \text{ if } p \text{ is governing} \\ 0 \qquad\quad \text{otherwise} \end{cases}$. So, the populist politician is like the honest with respect to the possibility of rent appropriation, but he does not care at all about the utility of the voters. He just wants to be in power. Clearly, in period 1 the populist politician will play the policy that guarantees him reelection (whatever it is, irrespective from the state of the world), while in period 2 he will be indifferent and we assume that he will randomize between the two policies with the same probability.
To be consistent with the model above, we now define the priors: $\Pr(i = p) = \gamma$, so $\Pr(i = d) = 1 - \gamma$.
The solution of the model is very similar to what we worked out above, and again we focus on pure strategy subgame perfect Nash equilibria. First of all, in period 2 the populist has 50% of probability to choose the right policy, while the dishonest will extract rents for

sure. As a consequence, the voter still prefer the populist to the dishonest, and so he will vote for the incumbent if $\Gamma = \Pr(i = p|e_1) > \gamma$.

For the same reasoning as above, this can happen only for $e_1 = 0$. Note that, as before, the voting strategy $\sigma_1^{voter}(e_1) \equiv \begin{cases} Rielect\ if\ e_1 = 0 \\ Change\ otherwise \end{cases}$ is consistent with an equilibrium where the dishonest politician behaves as before: $\sigma_1^d \equiv \begin{cases} e_1 = 0 \text{ if } r_1 \leq \beta(E + \mu\psi\tau_2) \\ e_1 = \frac{1}{\eta}C_1 \qquad otherwise \end{cases}$ and $\sigma_2^d \equiv e_2 = \frac{1}{\eta}C_2$ and the populist politician chooses $\sigma_1^p \equiv e_1 = 0\ for\ s_1 = 1{,}2$ and $\sigma_2^p \equiv \begin{cases} e_2 = 0 \text{ with probability } \frac{1}{2} \\ e_2 = \frac{1}{\eta}C_1 \qquad otherwise \end{cases}$.

To see the optimality for the voter note that, if $\lambda = \Pr\big(r_1 \leq \beta(E + \mu\psi\tau_2)\big)$, then $\Pr(i = p|e_1 = 0) = \frac{\gamma}{\gamma + \lambda(1-\gamma)} > \gamma$.

Given this voting strategy, the dishonest will behave exactly as above. All the equilibrium strategies are the same as in Proposition 1, but the interesting point is on the populist politician. Differently from the standard version of the model, now we do not have to impose additional conditions on the populist politician. So, now the populist equilibrium is sustainable for any value of C, η or y, given that the populist has replaced the honest and he has no concerns about the utility of the voter[38].

To sum up, and non-surprisingly, the replacement of the honest politician with the populist one makes the populist equilibrium more likely.

[38] Note that this is not the sole pure strategy PBNE. For example, they can all pool on $e_1 = \tau$, but this requires specific out of equilibrium beliefs and moreover implies some sort of populism as well.

6.2 The honest and the populist

Again, we keep the same setting of the model as in Section 2, but this time we replace the bad type with a populist one, who behaves as defined above. The rest of the model is the same, with priors that now are $\Pr(i = p) = \gamma$ and as a consequence $\Pr(i = h) = 1 - \gamma$.
First of all, we claim the following lemma:

Lemma 2: *in the honest and populist game there are no separating equilibria.*
Proof: we prove this lemma by contradiction. Suppose there is a separating equilibrium, where the populist makes a certain policy choice and the honest a different one. This implies that the voter is able to understand the type of politician from the policy he chooses. As a consequence, looking at period 2 the voter strictly prefers a honest incumbent, who will chose the right policy with probability 1, to a populist, who will be correct only in half of the cases. So, if the incumbent reveals his type and he is populist, he will be voted out. Note that, since the populist wants only to stay in power, he could profitably deviate by mimicking the equilibrium strategy of the honest.
QED

A consequence of Lemma 2 is the necessity to focus on pooling equilibria, meaning that the action taken will not be informative for the voters about the type of the incumbent. So, beliefs cannot be updated and voters are indifferent between electing the incumbent or a randomly picked challenger. In this case, we need an indifference-breaking rule, and we assume that the voter randomizes with equal probability between the incumbent and the challenger.
There are 4 possible pooling pure strategy equilibria, but only in one case the equilibrium is robust to a refinement of the out of equilibrium beliefs that resembles to the D1 refinement criterion (Fudenberg and Tirole 1991). We will analyze all of them.

Case 1: pooling on $e_1 = 0$

Suppose that both types of politicians play $e_1 = 0$ irrespective of the state of the world. The voter cannot infer the type of the politician, and as a consequence $\Pr(i = p|e_1 = 0) = \gamma$. So, an incumbent playing $e_1 = 0$ knows that he will be confirmed with probability $\frac{1}{2}$. To be an equilibrium we of course require that $\Pr(i = h|\ e_1 = \tau) \in [0;\ 1 - \gamma)$, so that a politician that chooses $e_1 = \tau$ is voted out for sure[39].

Clearly, we need to be optimal for the honest politician to play the populist policy also in the other state, i.e. we need that

$$E(U^h(e_1 = 0, s_1 = 1)) > E(U^h(e_1 = \tau, s_1 = 1))$$

In this setting, it can be expressed as:

$$\begin{aligned} E(U^h(e_1 = 0, s_1 = 1)) &= u(y) - q_1 C_1 + E \\ &+ \beta\{\frac{1}{2}\left[\frac{1}{2}u(y - \tau_2) + \frac{1}{2}u(y) + E\right] \\ &+ \frac{1}{2}\gamma\left[\frac{1}{2}\left(\frac{1}{2}u(y) + \frac{1}{2}u(y - \tau_2)\right)\right. \\ &\left. + \frac{1}{2}\left(\frac{1}{2}(u(y) - q_2 C_2) + \frac{1}{2}u(y - \tau_2)\right)\right] + \frac{1}{2}(1 \\ &- \gamma)\left[\frac{1}{2}u(y - \tau_2) + \frac{1}{2}u(y)\right]\} \end{aligned}$$

Because the honest incumbent knows that he is reelected with probability $\frac{1}{2}$ and, with the same probability, he will be voted out of office. In the latter case, he is replaced by a honest challenger (and that would happen with probability $\frac{1}{2}(1 - \gamma)$) or by a populist one, that is something that happens with probability $\frac{1}{2}\gamma$.

[39] If it was not the case, then a politician playing $e_1 = \tau$ would have been reelected for sure, implying that it would have been optimal (at least) for the populist to deviate from the candidate equilibrium strategy.

$$E(U^h(e_1 = \tau, s_1 = 1)) = u(y - \tau_1) + E + \beta\{(1-\gamma)\left[\frac{1}{2}u(y-\tau_2) + \frac{1}{2}u(y)\right] + \gamma\left[\frac{1}{2}\left(\frac{1}{2}u(y) + \frac{1}{2}u(y-\tau_2)\right) + \frac{1}{2}\left(\frac{1}{2}(u(y) - q_2C_2) + \frac{1}{2}u(y-\tau_2)\right)\right]\}$$

Because the honest politician who plays $e_1 = \tau$ is voted out for sure, and he is replaced by an honest challenger with probability $1 - \gamma$. After some algebra, the equilibrium condition can be derived as:

$$\frac{1}{2}\beta E + \frac{1}{8}\beta\gamma q_2 C_2 > u(y - \tau_1) - u(y) + q_1 C_1$$

Where we note that the RHS is positive by assumption, so we need a sufficiently big E, β or γ in order to make the honest politician willing to sacrifice some utility today in order to stay in power (with some probability) tomorrow.

So, the usual populist PBNE exists, in this game, even if we now require also some out of equilibrium beliefs that were absent in Proposition 1.

However, note that those necessary out of equilibrium beliefs are not consistent with a reasonable refinement. The reason is that the sole politician that could have a strong specific interest in proposing $e_1 = \tau$ (when $s_1 = 1$) is the honest one, given that the populist is indifferent between the two policies in every state (he cares only about being in power). As a consequence, the voter should consider a deviation to $e_1 = \tau$ played by a honest, rather than a populist, type of incumbent. But this is not consistent with the beliefs stated above, and if we impose beliefs consistent with this refinement then pooling on $e_1 = 0$ is no longer an equilibrium: the voter should reelect the incumbent when he observes $e_1 = \tau$ and so it would be better for the

populist to play that strategy (where he can be reelected with probability 1).

Case 2: pooling on $e_1 = \tau$
The same reasoning applies also in this case. Again we need to derive a condition on the honest politician and to restrict out of equilibrium beliefs. And, again, those out of equilibrium beliefs are not consistent with our refinement, for specular reasons as above. We derive this result formally in the appendix.

Case 3: pooling on the wrong policy.
This means that the honest and the populist type always choose the same policy, that is the wrong one for the state of the world that they experience. In this case, refinement does not apply since we do not have out of equilibrium beliefs. The resulting voting rule is simply that, whatever policy the voter observes, he should randomize between the incumbent and the challenger.
However, note that this is not an equilibrium, because if he can be reelected with the same probability irrespective of the policy he chooses, then the honest politician will choose the right policy for the state where he is, instead of the wrong one.

Case 4: pooling on the right policy.
In this case, the candidate equilibrium strategies are such that both the honest and the populist politician play the correct period 1 policy for every state of the world.
In this case, the voter cannot distinguish between the honest and the populist one in none of the cases, and as a consequence reelect the incumbent with probability $\frac{1}{2}$. We now formally state the equilibrium strategies and beliefs and then we prove that it is a perfect Bayesian equilibrium of our game.

Proposition 8: *in the political game where the politician can be either honest or populist the following strategies and beliefs are a PBNE.*

1) *Strategy for the populist politician*: $\sigma_1^p \equiv \begin{cases} e_1 = 0 \ if \ \ s_1 = 0 \\ e_1 = \frac{1}{\eta} C_1 \ if \ \ s_1 = 1 \end{cases}$;

$$\sigma_2^p \equiv \begin{cases} e_2 = 0 \quad with\, probability\ \frac{1}{2} \\ e_2 = \frac{1}{\eta} C_2 \ \ with\, probability\ \frac{1}{2} \end{cases}.$$

2) *Strategy for the honest politician*: $\sigma_1^h \equiv \begin{cases} e_1 = 0 \ if \ \ s_1 = 0 \\ e_1 = \frac{1}{\eta} C_1 \ if \ \ s_1 = 1 \end{cases}$; $\sigma_2^h \equiv \begin{cases} e_2 = 0 \quad if\ s_2 = 0 \\ e_2 = \frac{1}{\eta} C_2 \ if\ s_2 = 1 \end{cases}$.

3) *Strategy for the voter*: $\sigma_1^{voter}(e_1) \equiv \begin{cases} Rielect \quad with\, probability\ \frac{1}{2} \\ \quad Change\ otherwise \end{cases}$.

4) *Beliefs:* $\Pr(i = h \mid e_1 = 0) = \frac{\frac{1}{2}(1-\gamma)}{\frac{1}{2}(1-\gamma)+\frac{1}{2}\gamma} = (1-\gamma)$; $\Pr\left(i = h \ \middle|\ e_1 = \frac{1}{\eta} C_1\right) = \frac{\frac{1}{2}(1-\gamma)}{\frac{1}{2}(1-\gamma)+\frac{1}{2}\gamma} = (1-\gamma)$.

Moreover, this equilibrium is consistent with the refinement criterion.

Proof: first of all, note that the voter cannot update his beliefs in any case, so in expectation he is indifferent about electing the incumbent or a randomly picked challenger, that will be honest with probability $(1-\gamma)$. As a consequence, as we said above, he will reelect the incumbent (any incumbent) with probability $\frac{1}{2}$.

With this voting strategy, the populist has no profitable deviation from pooling with the honest one in every state. Whatever policy he plays, his expected utility is the same: $\frac{1}{2}E$ in our case.

Finally, the honest politician has not profitable deviation either. On one hand, he cannot try to increase his reelection probability for the

same reasons stated above. On the other hand, he will strictly decrease his utility if he plays a different policy, since that would imply to play the wrong policy in one state, and his utility includes the voter's utility. So, given the strategy of the voter, every type of politician is choosing optimally.
Finally, beliefs have been updated according to the Bayes rule wherever possible (i.e. everywhere), and that completes the proof about the existence of this equilibrium. Moreover, note that since we do not have out of equilibrium beliefs then the refinement criterion is (trivially) satisfied.
QED

The interesting point of the analyses of the two cases above is to figure out the equilibrium behavior of the populist when he faces a different type of politician: if the populist is facing a dishonest competitor, then the populist equilibrium holds without any additional condition, making it more likely than in the standard model with honest and dishonest politicians. On the other hand, if the populist is facing a honest competitor, then the only (pure strategy) PBNE consistent with our refinement is the non-populist one.

6.3 Honest, dishonest and populist all together

In this section we study the model with all three types of politicians.
While the rest of the model is unchanged clearly we have to assign different priors. So, now we define $\Pr(i = h) = \hat{\pi}$ with $\hat{\pi} \leq \pi$, $\Pr(i = p) = \gamma$ and $\Pr(i = d) = 1 - \hat{\pi} - \gamma$.
We look for conditions for the "full populist" equilibrium to prevail, where both the populist and the honest politician are willing (sometimes) to ignore their informational advantage in order to pander the voter's opinion and be reelected.
As a consequence, we are looking for an equilibrium where $\Pr(e_1 = 0 \mid i = h) = 1$, $\Pr(e_1 = 0 \mid i = p) = 1$ and $\Pr(e_1 = 0 \mid i = d) = \lambda$, where, as in section 2, $\lambda = \Pr(r_1 \leq \beta(E + \mu\psi\tau_2))$.

Finally, the voting strategy we expect to hold in equilibrium should be the same as in Proposition 1: $\sigma_1^{voter}(e_1) \equiv \begin{cases} Rielect & if\, e_1 = 0 \\ Change\ otherwise \end{cases}$.
This is rational as long as the expected utility in period 2 of the voter who observe an incumbent choosing $e_1 = 0$ is higher than the expected utility of the voter who randomly picks a challenger.
To find those expected utilities, the voter updates his beliefs according to the Bayes' rule.
As a consequence, we define

$$\Pi = \Pr(i = h \mid e_1 = 0) = \frac{\hat{\pi}}{\hat{\pi} + \gamma + \lambda(1 - \hat{\pi} - \gamma)} = \frac{\hat{\pi}}{(1 - \lambda)(\hat{\pi} + \gamma) + \lambda}$$

$$\Gamma = \Pr(i = p \mid e_1 = 0) = \frac{\gamma}{\hat{\pi} + \gamma + \lambda(1 - \hat{\pi} - \gamma)} = \frac{\gamma}{(1 - \lambda)(\hat{\pi} + \gamma) + \lambda}$$

$$\Pr(i = d \mid e_1 = 0) = 1 - \Pi - \Gamma = \frac{\lambda(1 - \hat{\pi} - \gamma)}{\lambda(1 - \hat{\pi} - \gamma) + \hat{\pi} + \gamma}$$

We can now prove the following lemma:

Lemma 3: *given the incumbents' strategies outlined above, it is sequentially rational for a voter to confirm an incumbent that chooses* $e_1 = 0$ *and vote out an incumbent that chooses* $e_1 = \tau_1$.
Proof: the first part is true if $EU_2^{voter}(incumbent) > EU_2^{voter}(challenger)$.
In order to keep the notation simple, we now define as G the expected utility that the voter derives if the politician in power in period 2 is honest, P the expected utility that he derives in period 2 if the politician in power is populist and B if he is dishonest. Clearly, given that a honest politician will always choose the right policy and will never extract rents, while a populist may choose the right policy (with probability $\frac{1}{2}$) and a dishonest will extract rents for sure, we know that $G > P > B$.

To see this, note that $G = \frac{1}{2}u(y-\tau_2) + \frac{1}{2}u(y)$ while $P = \frac{1}{2}\left(\frac{1}{2}u(y) + \frac{1}{2}u(y-\tau_2)\right) + \frac{1}{2}\left(\frac{1}{2}(u(y) - q_2C_2) + \frac{1}{2}u(y-\tau_2)\right) = \frac{1}{2}u(y) + \frac{1}{2}u(y-\tau_2) - \frac{1}{4}q_2C_2$. So, $G > P$.

Secondly, $B = \frac{1}{2}\left(u(y-\tau_2)\right) + \frac{1}{2}(u(y-\tau_2) - q_2C_2) = u(y-\tau_2) - \frac{1}{2}q_2C_2$.

Note that $P > B$ implies $\frac{1}{2}u(y) + \frac{1}{2}u(y-\tau_2) - \frac{1}{4}q_2C_2 > u(y-\tau_2) - \frac{1}{2}q_2C_2$ that can be simplified as $\frac{1}{2}[u(y) - u(y-\tau_2)] > -\frac{1}{4}q_2C_2$. As we can easily observe, the LHS is strictly positive and the RHS is strictly negative, meaning that $P > B$.

Now: $EU_2^{voter}(incumbent) = \Pi * G + \Gamma * P + (1 - \Pi - \Gamma) * B$ while $EU_2^{voter}(challenger) = \hat{\pi} * G + \gamma * P + (1 - \hat{\pi} - \gamma) * B$.

With some algebra, $EU_2^{voter}(incumbent) > EU_2^{voter}(challenger)$

$$\Pi * G + \Gamma * P + (1 - \Pi - \Gamma) * B > \hat{\pi} * G + \gamma * P + (1 - \hat{\pi} - \gamma) * B$$
$$\Pi * (G - B) + \Gamma * (P - B) > \hat{\pi} * (G - B) + \gamma * (P - B)$$
$$(\Pi - \hat{\pi}) * (G - B) > (\gamma - \Gamma)(P - B)$$

We now claim that $\Pi - \hat{\pi} > 0$ and $\gamma - \Gamma < 0$.

First of all, we define

$$\Pi = \frac{\hat{\pi}}{(1-\lambda)(\hat{\pi}+\gamma)+\lambda} = \frac{\hat{\pi}}{D}$$
$$\Gamma = \frac{\gamma}{(1-\lambda)(\hat{\pi}+\gamma)+\lambda} = \frac{\gamma}{D}$$

With $D = (1-\lambda)(\hat{\pi}+\gamma)+\lambda$.

Now: $\Pi - \hat{\pi} = \frac{\hat{\pi}(1-D)}{D}$ while $\gamma - \Gamma = \frac{\gamma(D-1)}{D}$. As a consequence, our claim is true if $D < 1$, noticing that by assumption $D > 0$.

We prove it by contradiction. Suppose $D \geq 1$. Then $(1-\lambda)(\hat{\pi}+\gamma)+\lambda \geq 1$

$$(1-\lambda)(\hat{\pi}+\gamma) \geq 1-\lambda$$
$$\hat{\pi}+\gamma \geq 1$$

That is impossible since they represents probability of mutually exclusive events and we have a nonzero probability of the dishonest type.
Given that, $D < 1$, so $\Pi - \hat{\pi} > 0$ and $\gamma - \Gamma < 0$. So, $(\Pi - \hat{\pi}) * (G - B) > (\gamma - \Gamma)(P - B)$ and as a consequence $EU_2^{voter}(incumbent) > EU_2^{voter}(challenger)$, and this proofs the optimality of reelecting an incumbent playing $e_1 = 0$.
For the last bit, note that in equilibrium the sole politician expected to play $e_1 = \tau_1$ is the dishonest one, and as a consequence the voter is better of picking a random challenger since, with some probabilities, he will be honest or populist, while the incumbent is dishonest with probability one.
QED

Given the voting rule proved optimal in Lemma 3, we already know that the strategies outlined above are optimal for the dishonest type and for the populist type. The last part is to check whether playing $e_1 = 0$ is optimal for the honest politician even if $s_1 = 1$.
As usual, we can express the necessary condition as $E(U^h(e_1 = 0, s_1 = 1)) > E(U^h(e_1 = \tau_1, s_1 = 1))$, where

$$E(U^h(e_1 = 0, s_1 = 1)) = \\ = u(y) - q_1 C_1 + E + \beta\left[\frac{1}{2}u(y - \tau_2) + \frac{1}{2}u(y) + E\right]$$

as above, since the honest politician is reelected and he will be able to decide the optimal policy in period 2. The difference is in $E(U^h(e_1 = \tau_1, s_1 = 1))$, since now the incumbent knows that he can be replaced by three different types of politician. Given that now his utility and the utility of the voter coincide, since he is voted out of office, we use the same shortcut as above to compact the notation. So,

$$E(U^h(e_1 = \tau_1, s_1 = 1)) = \\ = u(y - \tau_1) + E + \beta[\hat{\pi} * G + \gamma * P + (1 - \hat{\pi} - \gamma) * B]$$

Now, instead of deriving explicitly the same condition as in Proposition 1 (it would give similar insights) we compare the sustainability of the populist equilibrium in this setting to the previous one, with only honest and dishonest politicians.

First of all, note that $E(U^h(e_1 = 0, s_1 = 1))$ is the same in both cases, since the presence of other types of politicians is irrelevant (in terms of utility).

On the other hand, we were expressing the expected utility of choosing the right policy in state 1 as $E(U^h(e_1 = \tau_1, s_1 = 1)) = u(y - \tau_1) + E + \beta[\pi * G + (1 - \pi) * B]$.

As a consequence, the populist equilibrium condition for the honest politician is more sustainable in the three types game than in the standard game if:

$$\pi * G + (1 - \pi) * B > \hat{\pi} * G + \gamma * P + (1 - \hat{\pi} - \gamma) * B$$

Some simple algebra leads to the following condition:

$$(\pi - \hat{\pi})(G - B) > \gamma(P - B)$$

Where, as expected, the result depends on how the probability of being replaced by a honest politician is affected by the existence of the third, populist type. If $\pi - \hat{\pi} > \gamma$, meaning that the reduction in the number of honest politicians is larger than the number of populists, then clearly the populist equilibrium is more likely to hold in the three types game since the expected outcome of losing the elections is worse.

An interesting result is obtained when we study what happens if we assume that half of the new populists come from the (former) honest politicians and half from the (former) dishonest, meaning that $\pi - \hat{\pi} = \frac{1}{2}\gamma$. If we replace from above, we see that the populist equilibrium condition for the honest politician is now *less* likely to hold. To state this formally,

Proposition 9: *in the transition between the honest-dishonest model to the three types model, if the probability of a populist politician derives form a 50-50 reduction in the probability of being honest and dishonest, then the full populist equilibrium is less likely in the three types model.*

Proof: to see this, note that if we substitute in the condition above we obtain that the populist equilibrium is more likely in the three types model if the following inequality is true:

$$\frac{1}{2}\gamma(G-B) > \gamma(P-B)$$

Replacing the actual values, we obtain

$$\frac{1}{2}u(y) - \frac{1}{2}u(y-\tau_2) + \frac{1}{2}q_2C_2 > u(y) - u(y-\tau_2) + \frac{1}{2}q_2C_2$$

That is clearly a contradiction.
QED

The idea is that a populist replacement is bad, but not too bad if compared with a dishonest politician. As a consequence, losing the elections is (relatively) more attractive when there is a sufficiently high possibility of being replaced by a populist, that may choose the correct policy in period 2, instead of by a dishonest, who will extract private rents with probability 1.

Section 7. Conclusions

The model studied in this paper captures many interesting – and, in principle, testable – insights about the likelihood of populist governments and its relations with the rent-seeking behavior of corrupt politician and the economic conditions of a country.
In general, populism turns out to be more likely where the share of corrupt politicians is large and the economic conditions are bad.

In particular, we saw that a populist equilibrium arises when the public opinion perceives the need to keep rent-seeking, corrupt, politicians away from power.
Furthermore, we proved that a reduction in the voter's income makes the populist equilibrium more likely, and the same is true for a reduction in the effectiveness of the economic policies. Moreover, if a country is already unable to implement its economic policies effectively, then an increase in the cost of financial instability makes the populist equilibrium even more likely.
When we allow for heterogeneity of the voters' attitudes towards the costs of financial instability, and assume that poorer voters care less about crises, we find that the more are poor voters the more likely is the populist equilibrium.
A more specific, but still interesting result we obtain highlights the possibility of "generous" populism. Indeed, under some circumstances, even a honest and not office-motivated politician may be willing to adopt a populist attitude to stay in power and avoid being replaced by a dishonest politician.
Even if this may be the case, populism is generally seen as a choice of office-motivated politicians that want to stay in office. So, we decided to extend our analysis with the introduction of a third type of politician, the "populist", who is purely office motivated and totally indifferent about the policy to be implemented. When this populist type replaces the honest politician (so the game is between a populist and a dishonest politician) then the populist equilibrium is even more likely. On the other hand, when the populist replaces the dishonest politician, and so no politician who is perceived as corrupt by the public opinion joins the electorate competition, a honest equilibrium, where both honest and populist politicians play the right strategy in the right state of the world may occur.
The main results of our model are consistent with the stylized empirical facts presented in the introduction, which motivated our analysis. Of course they could be more thoroughly tested with large panel of countries and historical episodes of populism, but that goes

beyond the scope of the present work and leaves space for further research.

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Appendix I – Proofs

Proof of Proposition 2.
we differentiate the two expected utilities in condition (1) with respect to y. So, we get:

$$\frac{dE(U^h(e_1 = 0, s_1 = 1))}{dy} = u'(y) + \beta[\frac{1}{2}u'\left(y - \frac{1}{\eta}C\right) + \frac{1}{2}u'(y)]$$

and

$$\frac{dE(U^h(e_1=\tau,s_1=1))}{dy} = u'\left(y-\frac{1}{\eta}C\right)+\beta\pi\left[\frac{1}{2}u'\left(y-\frac{1}{\eta}C\right)+\frac{1}{2}u'(y)\right] + \beta(1-\pi)u'(y-\frac{1}{\eta}C)$$

Where $u'(.)$ Is the derivative of the utility function with respect to y. Note that, by concavity of $u(.)$, $u'\left(y-\frac{1}{\eta}C\right) > u'(y)$.

With few algebraic manipulations we can show that $\frac{dE(U^h(e_1=\tau,s_1=1))}{dy} > \frac{dE(U^h(e_1=0,s_1=1))}{dy}$, meaning that an increase in y, keeping the rest constant, will increase the RHS of the equilibrium condition more than the LHS, implying that the condition is true for a smaller set of parameters.

Formally, in order to simplify the notation, we define $\left[\frac{1}{2}u'\left(y-\frac{1}{\eta}C\right)+\frac{1}{2}u'(y)\right]=\gamma$. Then, we prove our claim by contradiction. So, suppose $\frac{dE(U^h(e_1=\tau,s_1=1))}{dy} < \frac{dE(U^h(e_1=0,s_1=1))}{dy}$.

This implies

$$u'\left(y-\frac{1}{\eta}C\right)+\beta\pi\gamma+\beta(1-\pi)u'\left(y-\frac{1}{\eta}C\right) < u'(y)+\beta\gamma$$

$$u'\left(y-\frac{1}{\eta}C\right)-u'(y) < \beta(1-\pi)\gamma-\beta(1-\pi)u'\left(y-\frac{1}{\eta}C\right)$$

$$u'\left(y-\frac{1}{\eta}C\right)-u'(y) < \beta(1-\pi)[\frac{1}{2}u'\left(y-\frac{1}{\eta}C\right)+\frac{1}{2}u'(y) - u'\left(y-\frac{1}{\eta}C\right)]$$

$$u'\left(y-\frac{1}{\eta}C\right)-u'(y) < \beta(1-\pi)\frac{1}{2}[u'(y)-u'\left(y-\frac{1}{\eta}C\right)]$$

Note that this creates a contradiction, because the LHS is strictly positive (by concavity) while the RHS is strictly negative (again by concavity), meaning that the inequality should be reversed.
QED

Proof of Proposition 3.
Differentiating both the LHS and the RHS of the condition (1) with respect to $\frac{1}{\eta}$ we get, respectively, $-C\frac{1}{2}\beta(1-\pi)u'(.)$ and $-C[1+\beta(1-\pi)]u'(.)$. Note that the negative effect on the RHS is bigger than the negative effect on the LHS. As a consequence, the larger is $\frac{1}{\eta}$ (so the less effective is the economic policy) the more likely is the populist equilibrium to hold.
QED

Proof of Proposition 4.
The ego rent E appears only on the LHS of Condition (1), and as a consequence an increase in E can only increase the ranges of the values of other parameters for which the populist equilibrium is possible.
Moving to π, if we differentiate the LHS and the RHS of (1) with respect to π we obtain $-\beta[\frac{1}{2}u\left(y-\frac{1}{\eta}C\right)+\frac{1}{2}u(y)]$ and $-\beta u\left(y-\frac{1}{\eta}C\right)+\frac{\beta}{2}qC$. Noticing that $\frac{1}{2}u\left(y-\frac{1}{\eta}C\right)+\frac{1}{2}u(y) > u\left(y-\frac{1}{\eta}C\right)$, then an increase in π decreases the LHS more than the RHS (actually, an increase in π may even raise the RHS). Since our condition requires LHS > RHS, then *ceteris paribus* the smaller is π the larger is the set of other parameters for which the condition holds.
QED

Proof of Proposition 5.

Since $\lambda = F\left(\beta\left(E\frac{1}{\psi}\frac{\eta}{C} + \mu\right)\right)$ and F(.) is a proper cumulative distribution function, increasing in its argument, we see that the bigger is ψ the smaller is the argument of the cdf, and as a consequence the smaller is the probability that ρ is small enough to give incentive to postpone the rent extraction.
QED

Proof of Proposition 6.
In this setting,

$$E(U^h(e_1 = 0, s_1 = 1)) = u(y) - q_1 C_1 + E + \beta\left[\frac{1}{2}u\left(y - \frac{\kappa}{\eta}C_1\right) + \frac{1}{2}u(y) + E\right] \quad (1)$$

And

$$E(U^h(e_1 = \tau, s_1 = 1)) = u\left(y - \frac{1}{\eta}C_1\right) + \beta[\pi\left(\frac{1}{2}u\left(y - \frac{1}{\eta}C_1\right) + \frac{1}{2}u(y)\right) + (1-\pi)\left(\frac{1}{2}\left(u\left(y - \frac{1}{\eta}C_1\right) - q_2 C_1\right) + \frac{1}{2}u\left(y - \frac{1}{\eta}C_1\right)\right)] \quad (2)$$

Note that, at difference from above, here we use $\tau_2 = \frac{1}{\eta}C_1$ because, after $e_1 = \tau$, $C_2 = C_1$.
As a consequence, κ has no effect on (2). Differentiating (1) with respect to κ we find $-\beta\frac{1}{2}u'(y - \frac{\kappa}{\eta}C_1)\frac{C_1}{\eta}$, so the larger is κ the smaller is (1), keeping (2) unchanged.
Since we require (1) > (2) for the existence of the populist equilibria, this means that *ceteris paribus* the populist equilibrium is less likely the larger is κ.
QED

Proof of Proposition 7.
Going back to the original version of our model, we set $E = 0$.
Then, some simple algebra on Condition (1) leads to

$$\left[1+\frac{\beta(1-\pi)}{2}\right]u(y)$$
$$>\left[1+\frac{\beta(1-\pi)}{2}\right]u\left(y-\frac{1}{\eta}C\right)+[1-\frac{\beta(1-\pi)}{2}]qC$$
$$u(y)-u\left(y-\frac{1}{\eta}C\right)>\frac{[1-\frac{\beta(1-\pi)}{2}]}{\left[1+\frac{\beta(1-\pi)}{2}\right]}qC$$

Note that this condition is not violating our assumption that $u\left(y-\frac{1}{\eta}C\right)>u(y)-qC$, since $\frac{1}{3}\leq\frac{[1-\frac{\beta(1-\pi)}{2}]}{\left[1+\frac{\beta(1-\pi)}{2}\right]}\leq 1$, so it is possible that $u(y)-\delta qC>u\left(y-\frac{1}{\eta}C\right)$, of course for $\delta\in[0,1]$ and small enough.
QED

Appendix II – Case 2, section 5.2

Here we derive formally case 2 in section 5.2, where the honest and the populist politician pools on $e_1=\tau$.
Suppose this happens. Then the voter cannot infer the type of the politician, and as a consequence $\Pr(i=p|e_1=\tau)=\gamma$. So, an incumbent playing $e_1=\tau$ knows that he will be confirmed with probability $\frac{1}{2}$. To be an equilibrium we of course require that the out of equilibrium beliefs are $\Pr(i=h|\,e_1=0)\in[0;\,1-\gamma)$, so that a politician that chooses $e_1=0$ is voted out. Given those beliefs, the voter cannot do better than randomizing between the incumbent and the challenger, since he cannot derive any information about the incumbent's type from his action.
Moreover, given the out of equilibrium beliefs stated above, the populist incumbent is not willing to deviate since he would be voted out.

As above, we need to be optimal for the honest politician to play the populist policy also in the other state, i.e. we need that

$$E(U^h(e_1 = \tau, s_1 = 0)) > E(U^h(e_1 = 0, s_1 = 0))$$

This can be expressed as:

$$\begin{aligned} &E(U^h(e_1 = \tau, s_1 = 0)) \\ &= u(y - \tau_1) + E + \beta\{\frac{1}{2}\left[\frac{1}{2}u(y - \tau_2) + \frac{1}{2}u(y) + E\right] \\ &+ \frac{1}{2}\gamma\left[\frac{1}{2}\left(\frac{1}{2}u(y) + \frac{1}{2}u(y - \tau_2)\right)\right. \\ &\left. + \frac{1}{2}\left(\frac{1}{2}(u(y) - q_2C_2) + \frac{1}{2}u(y - \tau_2)\right)\right] + \frac{1}{2}(1 \\ &- \gamma)\left[\frac{1}{2}u(y - \tau_2) + \frac{1}{2}u(y)\right]\} \end{aligned}$$

Because the honest incumbent knows that he is reelected with probability $\frac{1}{2}$ and, with the same probability, he will be voted out of office. In the latter case, he is replaced by a honest challenger (and that would happen with probability $\frac{1}{2}(1 - \gamma)$) or by a populist one, that is something that happens with probability $\frac{1}{2}\gamma$.

$$\begin{aligned} &E(U^h(e_1 = 0, s_1 = 0)) \\ &= u(y) + E + \beta\{(1 - \gamma)\left[\frac{1}{2}u(y - \tau_2) + \frac{1}{2}u(y)\right] \\ &+ \gamma\left[\frac{1}{2}\left(\frac{1}{2}u(y) + \frac{1}{2}u(y - \tau_2)\right)\right. \\ &\left. + \frac{1}{2}\left(\frac{1}{2}(u(y) - q_2C_2) + \frac{1}{2}u(y - \tau_2)\right)\right]\} \end{aligned}$$

Because the honest politician who plays $e_1 = 0$ is voted out for sure, and he is replaced by an honest challenger with probability $1 - \gamma$. After some algebra, the equilibrium condition can be derived as:

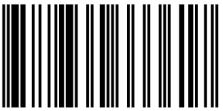
$$\frac{1}{2}\beta E + \frac{1}{8}\beta\gamma q_2 C_2 > u(y) - u(y - \tau_1)$$

Where we note that the RHS is positive by assumption, so we need a sufficiently big E, β or γ in order to make the honest politician

willing to sacrifice some utility today in order to stay in power (with some probability) tomorrow.

However, note that those necessary out of equilibrium beliefs are not consistent with our refinement. The reason is that the sole politician that could have a strong specific interest in proposing $e_1 = 0$ (when $s_1 = 0$) is the honest one, given that the populist is indifferent between the two policies in every state (he cares only about being in power). As a consequence, the voter should consider a deviation to $e_1 = 0$ played by a honest, rather than a populist, type of incumbent. But this is not consistent with the beliefs stated above, and if we impose beliefs consistent with this refinement then pooling on $e_1 = \tau$ is no longer an equilibrium: the voter should reelect the incumbent when he observes $e_1 = 0$ and so it would be better for the populist to play that strategy (where he can be reelected with probability 1).

Printed by
Gi&Gi srl - Triuggio (MB)
December 2016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