UNIVERSITÀ di VERONA | Department of ECONOMICS

Working Paper Series
Department of Economics
University of Verona

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WP Number: 10 June 2020

ISSN: 2036-2919 (paper), 2036-4679 (online)

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June 6, 2020

Abstract

The paper considers the effect of extreme ex-post realizations of the state of the world on implemented policies. I model a unilateral renegotiation process through which the elected politician may deviate from his set of promised policies, as long as the majority of voters are as well off. I show that the possibility of renegotiation decreases ex-ante discretion of the candidates and increases their ex-post one. Moreover, in the presence of convex costs of renegotiation, extremist candidates are more constrained ex-ante, but may implement extremist policies ex post.

JEL codes: D72, C72
Keywords: Unilateral renegotiation, discretion, electoral campaigns

Acknowledgements: I thank Vardan Baghdasaryan, Michela Cella, Michela Chessa, Leonardo Felli, Andrea Mattozzi, Michele Piccione, Ronny Razin for useful comments. All remaining errors are mine.

We live in an unpredictable world and we are aware of it. Governments have sometimes to face choices and events that were not anticipated at the time of elections, neither by candidates nor by voters. The COVID-19 pandemic outbreak is just the most recent example of how politicians may need to implement policies that were not in their original mandate and that voters would never have considered acceptable at election time. How do unexpected circumstances change politicians' mandates? Is this phenomenon taken into account at campaign times?

This paper tackles these questions by introducing *unilateral renegotiation* in the model by Baghasaryan and Manzoni (2019). In extreme conditions, voters and the elected politician may all dislike, to a different extent, the policies that the politician committed to. However, there is structural asymmetry between agents: the elected politician is already in power, and the voters have to wait until the following election to punish him. Given the reduced form nature of the model by Baghdasaryan and Manzoni (2019), which assumes commitment on the set of promises to internalise the effects of future elections, I assume the following

renegotiation procedure: the elected politician can deviate from his set of promised policies only if he leaves the majority of voters at least as well off. In a dynamic setting, this would be motivated by a desire to implement a policy that enough voters perceive as a positive or neutral deviation, to avoid punishment in the following election. Therefore, renegotiation in this setting is a unilateral deviation which can be made only to a particular set of policies, in a way that mimics an implicit renegotiation between the candidate and the voters.

While there is a large empirical literature on whether parties fulfil electoral promises (see, for example, Pétry and Benoît 2009, and references therein), the theoretical literature on post-electoral renegotiation is quite scarce. Most of the theoretical papers modelling a divergence between campaign promises and implemented policies are models of deception or lies (see, among others, Callander and Wilkie 2007, Corazzini et al. 2014), and do not consider ex-post deviations due to extreme contingencies. Among these papers, the closer one to this model is Asako (2015) which uses a cost of betrayal increasing in the size of discrepancy to model partially binding promises.

1 The baseline (no regotiation) model

The political process is modelled as in Baghdasaryan and Manzoni (2019). For the sake of the reader I summarize here its main features and equilibrium.

The model describes a two-party system where the electoral competition is based on one unidimensional policy $\widehat{p} \in \mathbb{R}$. Policy preferences of candidates and voters are influenced by a state of the world, ω.[1] The timing of the competition is as follows: first, candidates announce their platforms simultaneously and voters cast their vote, then ω is realized and the elected politician implements his policy. The state of the world is unknown in the first two stages, and realized in the office stage. Its commonly known distribution is a uniform over $[-1, 1]$.

There is an odd number of voters with heterogeneous policy preferences. Given her ideological type $t_i \in [-z, z]$, with $z > 0$, the state of the world ω, and the implemented policy $\widehat{p}$, voter i's preferences are described by the following quadratic loss function:

$$u_i(\widehat{p}) = -(t_i + \omega - \widehat{p})^2. \tag{1}$$

The median voter's type t_m is common knowledge and is normalised to zero. As a tie-breaking rule we assume that each voter, when indifferent, favors the candidate whose (expected) ideology is closer to her own, and randomizes with equal probability if candidates are ex-ante symmetric.

[1] To simplify the exposition we assume candidates to be males and voters to be females.

There are two types of **candidates**: candidate L, with ideological type $\tau_L = -\tau$, and candidate R, with ideological type $\tau_R = \tau$, where $\tau \in [0, z]$, $z > 0$.[2] During the campaign stage each candidate $j = L, R$ commits to a closed set of policies $P(\tau_j) \subseteq \mathbb{R}$ to which his future implemented policy will belong. Candidates have lexicographic preferences: they first maximize the probability of being elected, and, if elected, they care about policy in the same way as voters do:

$$u_j(\widehat{p}) = -(\tau_j + \omega - \widehat{p})^2, \tag{2}$$

with $j = L, R$.

Baghdasaryan and Manzoni (2019) show that every equilibrium of the game has the same structure, in which the optimal set of promises is an interval which limits the candidate only in the direction of his bias. For example, candidate R optimally promises $P(\tau_R) = [-1 + \tau; p^*]$, where

$$p^* = \begin{cases} 1 - \tau & \text{if } \tau < 1 \\ 0 & \text{otherwise,} \end{cases}$$

so that he can freely implement any policy in the negative domain, but he can only implement positive policies up to p^*. The set of promises for L can be derived symmetrically. Voters vote for candidate L (R) if $t_i < (>)0$, and randomize with equal probability if $t_i = t_m = 0$. Finally,the elected politician implements $\tau_j + \omega$ if $\tau_j + \omega \in P(\tau_j)$ and the bound p^* (if R) or $-p^*$ (if L) otherwise.

2 Full renegotiation: a benchmark

The equilibrium described in Section 1 is based on the assumption of commitment over the set P. As discussed in the introduction, I introduce a unilateral renegotiation process in which the candidate is allowed to implement a policy outside his promised set $P(\tau_j)$ under the constraint of leaving the majority of the voters at least as well off. Given the preferences of the voters, it is sufficient to leave the median voter indifferent between the original policy and the renegotiated one. To see this let π be the renegotiated policy and consider the case in which $p^* < \omega < \pi$; if the median voter is indifferent between p^* and π, all the voters with type $t_i < 0$, that is all the voters to the left of the median voter, will be worse off, and all the voters to the right of the median voter, with type $t_i > 0$, will be better off. The opposite reasoning applies if $p^* > \omega > \pi$. The median voter will be pivotal in both cases; therefore I will focus uniquely on the effect that the change in policy has on the median voter.

[2]For the sake of simplicity, here I focus on the easiest version of the model, in which there is complete information on types and candidates are symmetric around t_m. All the results can be extended to the case of asymmetric candidates or incomplete information over types, and are available upon request.

How does the possibility of a renegotiation affect the final outcome? Let us assume for the rest of the paper that candidate R has been elected.[3] We have four possible cases:

- $p^* \geq \tau + \omega$: no scope for renegotiation because the politician is at his bliss point;
- $\omega \leq p^* < \tau + \omega$: no scope for renegotiation either. The policy chosen without renegotiation is p^*: the voter would like the politician to implement a smaller policy, while the politician would like to implement a larger one.
- $p^* < \omega$, and $\tau \geq \omega - p^*$: renegotiation leaves the voter indifferent, and increases the politician's utility; the politician implements $\pi = 2\omega - p^*$, which makes him better off, and leaves the voter with a disutility $(\omega - p^*)^2$ as before;
- $p^* < \omega$, and $\tau < \omega - p^*$: the politician implements $\pi = \tau + \omega$, and the disutility for the voter is reduced to τ^2.

Notice that ex-post renegotiation does not always change the median voter's disutility, but it improves the politician's position. If $\omega \leq p^* + \tau$ only the politician gains from it. When $\omega > p^* + \tau$ the benefits from renegotiation reach the median voter as well.

The possibility of renegotiation changes voters' expected utility. The median voter's expected disutility from candidate R who promises $[-1 + \tau, p^*]$ is the weighted average between the expected value of $(\omega - p^*)^2$ –disutility when the state of the world assumes intermediate values– and τ^2 –disutility when the state of the world is either very low, so that the candidate can implement directly his optimal point, or very high, so that he has all the freedom of renegotiating up to his optimal point. The median voter's disutility is:

$$\Pr(\omega \in (p^* - \tau, p^* + \tau])\mathbb{E}((\omega - p^*)^2 | \omega \in (p^* - \tau, p^* + \tau]) + Pr(\omega \in (-1, p^* - \tau] \cap (p^* + \tau, 1])\tau^2$$

Proposition 1 describes the median voter's preferences over p^*.[4] Note that the median voter prefers the possibility of a renegotiation, as he is never worse off.

Proposition 1 *When $\tau \leq 1$ the median voter is indifferent between any set of promises characterised by $p^* \in [0, 1 - \tau]$; when $\tau > 1$ the median voter's disutility is minimised at $p^* = 0$.*

How do the median voter's preferences affect candidate's behavior? If $\tau > 1$ the median voter prefers $p^* = 0$, and the candidate will comply with that. When $\tau < 1$, the best possible outcomes for the candidate occur when the state is either very low, and the candidate

[3] Results when candidate L is in charge can be derived symmetrically.

[4] Proofs of Propositions 1-3 and the computations of Section 3 are available in the Online Appendix at https://sites.google.com/site/elnmanzoni/.

implements his bliss point, or very high, and renegotiation allows him to implement $\tau + \omega$. Proposition 2 shows however that, due to the absence of attrition in the renegotiation process, also the candidate is indifferent between the sets of promises that are equally preferred by the median voter.

Proposition 2 *When $\tau < 1$ the right-wing politician is indifferent between any set of promises characterised by $p \in [0, 1 - \tau]$.*

Who gains from renegotiation? Consider the case in which $\omega > p^*$, so that $\pi = 2\omega - p^*$. We argued above that with renegotiation the candidate's utility increases while the median voter is indifferent. Among other voters, those to the right of the median voter gain from the process. This means that the right-wing candidate is renegotiating his promises by setting a policy which favours his electorate, thus granting him its future approval.

3 Limited renegotiation II: ε-renegotiation

We first move away from full renegotiation by assuming that the possibilities of renegotiation are somehow constrained so that the politician can renegotiate his policy only in an interval of length ε outside the original promised set.

The effects of renegotiation on the final outcome are as follows:

- $p^* \geq \tau + \omega$ no scope for renegotiation because the politician is at his bliss point;
- $\omega \leq p^* < \tau + \omega$: no scope for renegotiation as in the full renegotiation case;
- $p^* < \omega$, and $(\omega - p^*)^2 < \tau^2$: in this case renegotiation leaves the voter indifferent, and increases the politician's utility; the politician would like to implement $\pi = 2\omega - p^*$, which makes him better off and leaves the voter with a disutility $(\omega - p)^2$ as before; if $2\omega - p^* > p^* + \varepsilon$, however, the politician implements $p^* + \varepsilon$ and the median voter is better off.
- $p^* < \omega$, and $(\omega - p^*)^2 > \tau^2$: in this case after the renegotiation the politician implements $\min\{\tau + \omega, p^* + \varepsilon\}$, and the disutility for the voter is reduced to $\min\{\tau^2, (p + \varepsilon - \omega)^2\}$

Proposition 3 *Under ε-renegotiation, if $\tau < 1$, the median voter's preferred promise from candidate R is:*

$$p^*_\varepsilon = \begin{cases} 1 - \tau - \varepsilon & \text{if } \tau \leq 1 - \varepsilon \\ [0, 1 - \tau] & \text{if } \varepsilon \geq 1 + \tau \text{ and } \tau \leq 1 \\ 0 & \text{if otherwise} \end{cases}$$

Therefore increasing the possibility of renegotiation decreases the discretion that the candidate can retain ex ante; from the voters' point of view a larger ε is associated to a greater possibility of renegotiating ex post to a more extreme policy, and therefore an increase in ε is associated to a lower level of discretion ex-ante. This happens up to the point in which the limit to renegotiation is no longer binding, and the set of optimal promises converges to the unlimited renegotiation one.

Optimal limits to renegotiation (ε^*). Suppose now that the median voter could target the limits to renegotiation exactly on the candidates' bias. What would be the optimal ε given τ? It can be shown that $\varepsilon^* = \min\left\{\tau, \frac{1}{2}\right\}$.Notice that a larger ε has two effects: it reduces the ex-ante promised policies, and it increases the extent of ex-post renegotiation. Notice moreover that this does not affect the most extreme implemented policy that is anyway $1-\tau$ and decreasing in τ. This is different from what we observe with convex costs of renegotiation, where more extreme politicians may indeed implement more extreme policies ex post, despite being more constrained ex ante.

4 Convex costs of renegotiation

I now consider a more realistic situation in which the politician has some image or political cost in renegotiating too far away from his original set. i assume that the politician has convex costs of renegotiation $\gamma(p^* - \pi)^2$, $\gamma > 0$. If the candidate is free to renegotiate, he chooses $\pi = \frac{\tau+\omega+\gamma p^*}{1+\gamma}$ which minimizes $(\tau + \omega - \pi)^2 + \gamma(\pi - p^*)^2$. The candidate's optimal behaviour ex-post, taking into account the constraint of leaving the median voter indifferent, is:

- $p^* > \tau + \omega$: no renegotiation, $\hat{p} = \tau + \omega$;
- $\omega < p^* \leq t + \omega$: no renegotiation, $\hat{p} = p^*$, given that the interests of the candidate and the median voter are not aligned;
- $p^* < \omega$ and $\omega - p^* < \frac{\tau}{1+2\gamma}$, the implemented policy is $\pi = 2\omega - p$, because the median voter's indifference condition is binding;
- $\omega - p^* > \frac{\tau}{1+2\gamma}$, the implemented policy is $\pi = \frac{\tau+\omega+\gamma p^*}{1+\gamma}$.

Let us now consider the median voter's preferences. The median voter's expected utility is:

$$\begin{aligned} & \Pr\left(\omega \in \left[p^* - \tau, p^* + \frac{\tau}{1+2\gamma}\right]\right) \mathbb{E}\left((\omega - p^*)^2 | \omega \in \left[p^* - \tau, p^* + \frac{\tau}{1+2\gamma}\right]\right) \\ + \quad & \Pr\left(\omega \in \left[p^* + \frac{\tau}{1+2\gamma}, 1\right]\right) \mathbb{E}\left(\left(\frac{\tau + \gamma(p^* - \omega)}{1+\gamma}\right)^2 | \omega \in \left[p^* + \frac{\tau}{1+2\gamma}, 1\right]\right) \\ + \quad & \Pr\left(\omega \in [-1, p^* - \tau]\right) \tau^2, \end{aligned}$$

which is optimized at

$$p^*_\gamma = \begin{cases} 1 - \tau\left(\frac{1}{\gamma} + \sqrt{1 + \frac{1}{\gamma^2} + \frac{2}{\gamma}}\right) & \text{if } \tau\left(\frac{1}{\gamma} + \sqrt{1 + \frac{1}{\gamma^2} + \frac{2}{\gamma}}\right) \leq 1 \\ 0 & \text{otherwise,} \end{cases}$$

The bound decreases in the candidate's bias, as in any specification of the model. Moreover, the bound increases in the cost of renegotiation γ; the median voter leaves more ex ante discretion to candidates who find it hard to renegotiate ex post.

Discretion and renegotiation. Note, however, that with renegotiation ex ante discretion and ex post discretion differ. Without renegotiation, a candidate has more discretion the larger was the set of promises; in a model where renegotiation is possible, discretion comes to the candidate from two different sources: if the set of promises is large, the candidate has discretion in the choice of a policy from the set, while if the set is small, the candidate will more often be able to renegotiate his promises. This is a consequence of the fact that the smaller is the set of promises the more it is probable that both the candidate and the median voter will dislike the outcome that will be possible by choosing a policy among the promised ones. Therefore the candidates with low γ will renegotiate more often both because they find it less costly, and because renegotiation is more often possible.

Extreme politicians. Convex costs of renegotiation generate an interesting and intuitive comparative statics: there are parametric regions in which a more extreme candidate will ex post implement more extreme policies than a less biased one, despite being more constrained ex ante. As a matter of fact, the effect of an increase in τ over the final implemented policy is threefold:

- it reduces the set of promised policies: the voters allow less discretion ex ante to an extreme candidate;
- it increases the possibility of renegotiation ex post: given that the set of promises is smaller, it happens more frequently that the state of the world ω is such that renegotiation is possible;
- it changes the desired policy that the politician wants to implement ex post: given the existence of renegotiation costs that depend on the distance between the set of promises and the implemented policy the direction of this effect is not clear. A more extreme candidate has more incentive to move closer to what he perceives as optimal policy; however, he is in general also more distant from it, given that his set of promises is smaller. Therefore the effect on the desired policy ex post depends on the importance of the renegotiation costs.

When renegotiation costs are low (γ small) the ex post implemented policy is increasing with

the candidate's bias. Therefore we have that more extreme candidates make more restrictive promises in order to be elected, but also they end up implementing more extreme policies ex post. The mechanism is very interesting: extreme candidates find it necessary to restrain their set of promises more than moderate candidates to be elected; as a consequence of the smaller set of promises it is more often the case that they can appeal to the circumstances (that is to a realisation of ω which is far away from the set of promises) and induce an ex post implemented policy that is increasingly far away from the median voter's optimal policy, the more extreme the candidate is. Notice that this is an equilibrium phenomenon that is fully anticipated by the voters, and it is not due to any fooling process that the candidates may try, given that candidates' types are known. This result seems consistent with what we observe in reality, that is often more extreme policies are implemented by extreme candidates.

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