Rent Seeking and the Size of Parliamentary Majorities

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Abstract

I present a model in which the party that loses the general elections can still try to capture the majority in Parliament by convincing members of the majority faction to switch sides. These attempts are not successful in equilibrium. Nonetheless, the results of the general elections are partly determined by this additional stage of political conflict. Larger majorities are shown to lead to lower rent payments and some voters therefore face a trade-off between lowering rent payments by supporting the party that wins the elections or supporting their preferred party. Multiple equilibria in the general elections with either party winning are possible. Moreover, the size of the equilibrium majority is larger than when no bribes after the elections are possible.

1 Introduction

In standard models of elections it is assumed that voters care only which party wins an election, but not about the size of its majority. However, there are many reasons why voters should also be concerned about the size of the parliamentary majority of the winning party, an issue that seems to have been neglected in the formal political economics literature.

In my model, larger majorities can make government more efficient because the (prospective) prime minister can afford to lose the support of more of his own party's Members of Parliament (MPs) and can therefore be less open to their demands for

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rents and perks. Specifically, the majority leader has to offer satisfactory rent payments to the MPs of his party to ensure they do not vote with the opposition that can offer payments in return for votes to the majority MPs. This turns out to be more costly with a smaller majority, although the number of MPs that receive rents increases.

Voters in the model are rational and forward-looking and have an interest in reducing the rents and perks of the politicians. Because party leaders have their own policy preferences all policy announcements made before the elections take place are time-inconsistent as in Alesina (1988). Therefore, policy convergence as in standard Downsian models of elections in two-party systems (Downs 1957) does not occur.[1] Moreover, and in the following model of greater importance, voters also have an expressive motive for voting, they care not only about voting for the winner of the elections, but also whom they vote for.[2]

The subgame in which party leaders fight for the support of their MPs uses the ideas of Groseclose and Snyder (1996), who showed that supermajorities, majorities with more than the minimum necessary support, can be less costly than minimum winning majorities.[3] This is due to the fact that one of the two parties which try to achieve a majority in a vote in Parliament has to move first. The other party can observe these offers and then decide if it wants to make counter offers. That one of the parties has to move first and can then not change its offers anymore seems to be a rather arbitrary assumption in the original model of Groseclose and Snyder. However, in the postelection subgame presented here it seems plausible that the majority leader has to move first because he can be expected to lose not only the office of prime minister, but is in addition likely to lose the leadership of his party once his majority in Parliament is overturned. The opposition leader, on the other hand, can constantly try to convince majority MPs to switch sides.[4] I endogenize the size of the maximum supermajority by assuming that the majority leader of the party which wins the general elections can only offer rents to his own MPs and has no possibility to convince minority MPs to switch sides, so that his majority is restricted

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[1] For a general overview of political economy models of elections, see Persson and Tabellini (2000).

[2] For some discusssion of expressive voting and behavior see for example Hillman (2010) or Brennan and Hamlin (1998).

[3] The standard result that minimal coalitions or majorities are optimal is also known as Riker's "size principle" because it was introduced to the literature by Riker (1962).

[4] Only for simplification, I assume in the model section that after the election of the Prime Minister no more bribing attempts will be possible.

to at most the number of seats his party achieved in the general elections.

Voters are assumed to be able to predict what will happen after the general elections have taken place and to take this into account before deciding for whom they will vote. In equilibrium, the winner of the general elections will always become prime minister. However, a larger majority turns out to lead to lower rent payments to Government MPs. Voters who predict correctly who will win the elections have an incentive to vote for the prospective winner to decrease the cost of Government. This can lead to two equilibria in the general election with a majority for either of the two parties for given preferences of voters and party leaders and self-fulfilling prophecies about the election winner.

2 The model

2.1 Parties

There are two parties, L and C, each of which has a leader who derives utility from holding the office of prime minister and from the policy that is finally implemented. In addition to holding the office of prime minister the party leaders also derive utility from lower aggregate rent payments to the MPs. We can think of party leaders as having different policy preferences, and L can be interpreted as the left party and C as the conservative party, and this is the reason the voters have preferences over the parties and their leaders. Any policy announcements which are made before the elections take place have no influence on the election results because commitments to a policy platform are impossible. Consequently, platforms that are different from a politicians preferences are not credible because the voters know the true and exogenously given policy preferences of the party leaders.

The utility function of the leaders of the parties $j = L, C$ is:

$$U_j^l = \alpha I(PM_j) - R(m), \tag{1}$$

where $\alpha > 0$ gives the value attached to becoming prime minister. $I(PM_j)$ is an indicator function which equals 1 if the leader of party j becomes and stays prime minister and 0 otherwise. It represents the utility that a potential prime minister derives from office as well as the utility he derives from seeing his favorite policy implemented instead of the policy of the other candidate. $R(m)$ is the aggregate

rent payment to Government MPs that depends in equilibrium on the size of the parliamentary majority m and will be explained in detail below.

2.2 Voters

There is an odd number of n voters, labeled $i = 1, 2, ..., n$ with utility function:

$$U_i^v = v_i(j) - R(m), \tag{2}$$

where $v_i(j)$ is the utility that voter i derives from voting for party j.[5] The voters are ordered by their ideological preferences from left to right, that is the difference in utility between voting for the left and voting for the conservative party is smaller for voters further to the left:

$$d_i \equiv v_i(l) - v_i(c) \geq d_j \equiv v_j(l) - v_j(c) \text{ if and only if } i < j.$$

Voters would like to reduce the aggregate rents of the MPs because sooner or later expenditures have to be financed by either higher taxes or a lower provision of public goods. Every voter i elects exactly one Member of Parliament MP_i^j, either from Party L or from Party C. Consequently, voter i can be understood to be the median voter in constituency i. Let l be the number of voters who vote for party L and c be the number of voters who vote for party C.

2.3 MPs

MPs care only about maximizing their personal wealth. Their utility function is:

$$U_i^{MP} = w_i. \tag{3}$$

In case the MP belongs to the majority faction after the general election w_i is either equal to the majority leaders offer of rent r_i, or to the minority leaders offer of a bribe b_i, depending on which offer is accepted by the MP. In case the MP belongs to the minority faction $w_i = 0$ because by assumption payments are only made to members

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[5]Implemented policy is likely to play a role for a voters utility. However, only in elections that are decided by just one vote this can make a difference. Thus, I assume there is no utility from implemented policy to simplify the model without much loss of generality.

of the majority faction ($r_i = b_i = 0$).

2.4   After the general elections

After the general election has taken place a subgame in which the minority leader can try to take over the majority from the election winning party by offering bribes to MPs of the majority faction begins. The majority faction is the faction of the party or group of parties that gets the majority of votes and therefore MPs in the general elections and its majority is of size $m = |l - c|$, the difference in votes achieved in the general elections and therefore by assumption also the difference in the size of the factions of the winning and the losing party in Parliament. The size of the majority faction is therefore $s = (m+n)/2$. To become (and stay) prime minister the majority leader needs to make sure that he does not lose his majority before the prime minister is elected by Parliament. To do so he must keep his MPs sufficiently satisfied with his leadership. The minority faction is supposed to have an exogenously given source of funds for bribes B. We do not necessarily have to think of B as money. Alternatively, it could be all kinds of perks that can be promised to the MPs, for example the guaranty to vote in favour of a pet project of a MP or tickets for the soccer world cup. I assume that the funds of the minority are limited and that:

$$B \leq \frac{2\alpha}{1+n}.$$

If the opposition can convince $(m+1)/2$ or more MPs of the majority party join the minority before the Parliament decides about the next prime minister, the leader of the party which lost the general elections becomes prime minister despite his election defeat. The exact stages of the subgame are the following:

1. First the leader of the winning party decides how much rent r_i he offers to any of the $(n + m)/2$ MPs of his own party. His offer is binding in case a MP stays with the majority faction and moreover observable for the leader of the opposition.

2. In the second stage the leader of the minority can try to bribe MPs of the government and convince them to join the smaller faction. The maximum

amount of funds the minority leader can spend on bribes is B, therefore:

$$\sum_{i \in majority} b_i \leq B, \text{and } b_i \geq 0 \text{ for all } i \in majority.$$

The minority leader can decide about his offers after observing the rent offers of the other party leader in stage 1. The minority leader can not commit to forgo any attempt of bribery before the leader of the winning party makes his rent offers.

3. The MPs of the majority party decide whether they accept the offer from the leader of the minority faction and join it or stay with the party that wins the general elections.

4. The prime minister is elected by simple majority in Parliament. Every MP is now committed to his party and votes for its leader as prime minister.

5. The newly elected prime minister implements his favorite policy.

The possible strategies of the different players are the following:

- The strategy of a voter i consists of a decision for what party to vote in the general elections.

- The strategy of a MP: An MP has only to make a decision in case he is elected into Parliament and belongs to the majority faction. Thus, an MP's strategy is a decision to switch or not to switch party in this case. The decision is conditional on the exact election results, the rent offers of the majority leader and the bribe offers of the minority leader to all elected MP's of the majority faction.

- The strategy of a party leader: For the case his party becomes the minority after the general elections he has to have a plan about the exact bribe offers to all elected majority MPs subject to the restriction that he cannot spend more money on rents than his available funds and dependent on the exact election outcome. For the case that he becomes majority leader he has a plan for rent offers to his own MPs depending on the exact election results and the exact bribe offers by the minority leader.

3   Analysis of the model and results

3.1   Equilibrium of the post general election subgame

The standard way to find a Subgame Perfect Nash Equilibrium is to use backward induction. Therefore, I begin my analysis with the decision of the majority MPs after receiving the bribe offers from the opposition.

The majority MPs stay by assumption with the majority whenever they are indifferent between switching party and not switching party because both offers are equal. MP_i either belongs to the minority faction anyway, joins it if he was elected for the majority faction but receives a high enough bribe offer $b_i > r_i$, or stays with the majority if $b_i \leq r_i$. This follows directly from their utility function $U_i^{MP} = w_i$.

One stage earlier the minority leader has to decide about his bribe offers. If he pays bribes at all it will always be at least as advantageous as any alternative strategy for the minority to bribe the $(m+1)/2$ MPs of the government who are willing to switch sides for the lowest offer of b_i, that is the ones with the lowest rent offers r_i from the majority leader.[6] Because the majority leader cannot make any counter offers there is no need for the minority leader to try to achieve a larger majority than the minimal winning majority of $(n+1)/2$ MPs. There is no disadvantage in bribing majority MPs at all because B does not show up in the minority leaders utility function. Nonetheless, I assume that the minority leader takes over the majority and bribes majority MPs in the most cost efficient way of offering $b_i = r_i + \epsilon$, with ϵ a small but positive real number, to the $(m+1)/2$ majority MPs with the lowest rent offers r_i if his funds are sufficient to do so. The minority leader is assumed to abstain from bribing any majority MPs if it turns out to be impossible for him to achieve a majority in Parliament after observing the rent offers of the majority leader.

Given the above strategy of the minority leader the majority leader will calculate the minimum cost of aggregate rents R subject to staying in power and then either pay these rents and become prime minister or offer no rents at all or an insufficient amount and accept that the minority leader takes over if he pays the necessary bribes. B is assumed to be so small that the latter will never be the case in equilibrium. How

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[6]To simplify the model the bribes b_i do not show up in any utility function. However, if the minority cannot take over the Government by bribing majority MPs in the most cost efficient way because it lacks the necessary funds to do so it is obvious that more costly ways cannot be a feasible alternative.

can the aim of minimal rent payments subject to staying in power be achieved? The majority leader has to make it impossible for the minority to take over his majority. So he must convince at least $(n + 1)/2$ of his MPs to stay with the majority. If not the same amount of rent is offered to every single MP belonging to the majority the minority leader can always try to bribe the $(m + 1)/2$ receiving the lowest rent, therefore it must be optimal for the majority leader to offer the same rent to every single of his MPs to minimize the aggregate rent payments necessary to become prime minister.

Having established the fact that the majority will offer every single of its MPs the same rent if he wants to become prime minister we have to find the minimal necessary amount depending on n, m and B. The opposition can offer at most $\frac{B}{(m+1)/2}$ to every MP it has to bribe if it gives the same amount to all of them and bribes the necessary number $(m + 1)/2$. Therefore, by giving $r^* = \frac{B}{(m+1)/2}$ in rents to every single one of its MPs the government can ensure that it will stay in power with the minimum aggregate expenditure. Consequently, the minimum aggregate expenditure for rent payments to majority MPs if the majority leader wants to become prime minister is just the offer of r^* for each of his MPs times the size of his faction:

$$R(m, n, B) = r^* s = \frac{B}{(m+1)/2}(n + m)/2 = \frac{B(n + m)}{m + 1}, \qquad (4)$$

an expression that decreases in m for given $n > 1$ and B. Thus, the larger the majority of the winner of the general elections, the smaller the amount $R(m, n, B)$ he has to spend on rents for his MPs without losing his majority. $R(m, n, B)$ is the minimum total amount of aggregate rents that the majority leader has to offer to his MPs to become prime minister. Because the majority can never be smaller than $m = 1$, $R(m, n, B)$ can never be larger than $R(1, n, B) = \frac{B(n+1)}{2}$, what is by assumption smaller than α, the utility associated with being prime minister and the majority leader is always willing to give his MPs the rents they demand to make him prime minister. Consequently, the only equilibrium strategy of the majority leader is to pay the same amount of $r^* = \frac{B}{(m+1)/2}$ to all his MPs. Because we assumed above that the minority leader does only offer bribes in case he can successfully overtake the majority there will not be any bribe offers at all in equilibrium.[7] Therefore, none

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[7]Because the rent payments in equilibrium reduce the utility of the minority leader he would actually be better off if he could commit not to attempt any briberies before the majority leader announces his rent offers. No rent payments to Government MPs would be necessary in this case.

of the majority MPs will switch party and the prime minister of the party that wins the general elections becomes prime minister with exactly the majority in Parliament which he achieved in the general elections.

3.2 Equilibrium in the general elections

We established that in any equilibrium the leader of the party which achieves the majority in the general elections will always become prime minister because this is the only Nash Equilibrium of the post election subgame. In addition, we also know that the costs of government $R(m, n, B)$ are decreasing in the majority m that the winning party achieves in the general elections. The voters face therefore a more difficult decision than in standard models. If they vote for the party they prefer ideologically they increase the part of their utility that is directly derived from ideological preferences. However, in case their favorite party loses the elections nonetheless they increase their disutility from rent payments due to the reduced majority of the winning party. Therefore, voters with weak ideological preferences for one of the parties will vote against their political preferences to decrease the amount of aggregate rents if the reduction in rents is large enough and they believe their preferred party will lose the general elections.

For simplicity, I focus on equilibria in which the z voters with largest preference for the left party L (voters $1, 2, ...z$) vote for it and all other voters vote for the right party C.[8] Let us consider the situation of a voter who knows that all voters to the left of her will vote left and all voters to the right of her will vote right. If voter z votes left she achieves the following utility:

$$U_z^v(l) = v_z(l) - R(|2z - n|).$$

If she votes right she achieves:

$$U_z^v(c) = v_z(c) - R(|2(z - 1) - n|).$$

And the difference is given by:

$$\Delta U_z = U_z^v(l) - U_z^v(c) = d_z - R(|2z - n|) + R(|2(z - 1) - n|).$$

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[8]Depending on parameter values there can be more equilibria. The reason is that m is discrete.

For an equilibrium with the first z voters voting left and the $n - z$ other voters voting right we need either $\Delta U_z \geq 0$ and $\Delta U_{z+1} \leq 0$ for some z or $\Delta U_1 \leq 0$ or $\Delta U_n \geq 0$. It is easy to see that no voter has a reason to deviate in the first case. Voters to the left of z would lose even more utility than voter z itself if they voted right and voters to the right of voter $z + 1$ would lose even more from voting for the left than voter $z + 1$. If $z < n/2$ the conservative party wins, otherwise the leader of the left party becomes prime minister. If $\Delta U_1 \leq 0$ everybody voting right is an equilibrium because not even the voter with the left-most preferences would like to deviate. If $\Delta U_n \geq 0$ everybody voting left is an equilibrium. The existence of at least one of these equilibria is guaranteed. If neither $\Delta U_1 \leq 0$ nor $\Delta U_n \geq 0$ we know that $\Delta U_1 > 0$ and $\Delta U_n < 0$. But then $\Delta U_z \geq 0$ and $\Delta U_{z+1} \leq 0$ must be true for at least one value of z.

However, there is no guarantee that there is only one equilibrium. To see this most easily let $d_z = 0$ for all voters. In this case voters care only about rents and $\Delta U_1 \leq 0$ and $\Delta U_n \geq 0$ are both true. The only equilibria that exists are all voters voting for the same party, either L or C.

As long as enough voters do not care much about the expressive value of their votes there are two equilibria and both parties can win in equilibrium if they win the support of the voters whose main concern is to keep rents and perks for politicians small.

3.3 Median voter

It is clear from the dual equilibria result that the party that is preferred ideologically by the median voter does not necessarily win the elections. However, a weaker median voter result still holds. There is always an equilibrium in which the party with the support of the median voter wins. To see this, assume that the median voter prefers the left party and the median voter and all voters with preferences to the left of the median vote for it. Then none of these voters who form a left majority has a reason to deviate independently of the voting behavior of the voters to the right of the median. Deviating would only decrease the first (ideological) part of their utility function and at best (if the majority was just one) not decrease the size of the majority of the winner of the general elections. A symmetric argument works when the median prefers the right party.

What might otherwise be interpreted as a unexplainable shock to the popularity of a party and a surprising landslide victory for the other one can be explained by rational voters who predict correctly which party is going to win. Voters read opinion pools, become supporters of the leading party and increase thereby the lead of the winning party in the pools until only voters with extreme preferences still support the party that is going to lose the elections. It is also conceivable that a party which was in the past popular for its policies stays in power even when its ideology loses the support of the median voter because voters have no way to coordinate switching to support the other party. Voters can thus be stuck in the "bad" equilibrium.[9]

4   Conclusion

This paper shows two results. First, giving the minority leader the chance to try to bribe some MPs belonging to the majority factions leads to an interesting post-election subgame that endogenizes rent payments to Government MPs. These payments are decreasing in the size of the parliamentary majority of the Government. Consequently, this post-election fight for the support of a majority influences voters who correctly foresee what will happen after the election and therefore adjust their voting. The belief that a party will win an election can become self-fulfilling.

There seem to be many avenues for future research left open. I consider only the advantages that clear majorities in Parliament might have for voters. But there are also obvious disadvantages. It is for example conceivable that a weak government with a small majority and a weak position in Parliament has a better position in international negotiations when it can claim to have difficulties to find a majority in parliament for an international treaty. This could be foreseen by rational voters who might vote for the party they believe to be more likely to lose instead of voting for the party they believe to be more likely to win. Furthermore, it might be interesting to give the MPs some policy preferences. An interesting question is if the equilibrium selection in the case of two possible equilibria could be modelled explicitly, for example by incorporating opinion polls into the model. In addition, there might be the question of an optimal size of the legislature to make bribing more difficult.

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[9]If the supporters of the party that has not the support of the median voter have stronger preferences for their party than the other voters this "bad" equilibirum can actually be welfare improving if voters care about the implemented policy.

Another question that remains is why we sometimes observe close elections although that leads to larger rent payments. The reason might be that voters are just not able to coordinate in real world elections when there is a high level of uncertainty and the polls do not predict the winner clearly. For Italy, for example, weak governments seem to be a major obstacle to reforms and it is well known that prime ministers are struggling to achieve sufficient support from their own ranks and MPs might demand favors in return for voting with the government. However, because the outcome of the elections in Italy often remain sufficiently uncertain voters are not able to coordinate on a winner of the elections to reduce rent payments.

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