## Partisan Goals and Electoral Interests: Brazilian Economic Reforms under Lula

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## 1. Introduction

Democracy is a relatively new thing in Brazil and still causes a certain degree of uneasiness in some sectors of society. In fact, markets, analysts, intellectuals, and even experienced politicians were surprised at the first measures taken by the PT administration. How should one interpret the apparent contradiction between the ideas advocated by the party for so many years and the proposals that it has put forward since it took office?

Interpretations such as "co-optation in the power" or "political opportunism" seem to be more the result of political disappointment on the part of some individuals rather than a clear-headed analysis of the strategies that political parties are forced to pursue in order to survive in a highly competitive environment, one which is possibly more competitive than the most competitive of markets. Fortunately, Political Economy literature developed over the last 30 years is of great help in analyzing these kinds of decisions and results. The case that we will analyze in the following pages deals with the approval of economic reforms that demand more than just a simple majority vote in order to pass successfully through Congress and thus require that a special effort be made by the parties if the reforms in question are to be successfully approved.

One of most interesting issues concerns the role of the opposition parties in the approval of reforms that are of the utmost importance to the growth of the country, and which were put forward by the executive body of government. As previously mentioned, on account of the fact that these reforms require changes to the country's Constitution, a minimum 60% vote in favor is needed in Congress in order for the reform to be approved, thus giving opposition parties a degree of power totally out of proportion to their political representation. As a result, the opposition is capable of barring measures that are in the interest of the majority and often essential for the country's growth. In this paper we attempt to analyze the opposition's behavior using a model developed in the political economy tradition, which utilizes a sequential election game that results in distinct equilibriums, some involving cooperation, and some not, depending on the parties' utilities.

Two solutions available in Political Economy literature are of particular use in the case of this paper: the first one is the convergence solution, which indicates that in modern democracies the parties tend to converge upon platforms located at the median of voters' preferences. This solution, which was put forward by Hotelling in 1929, was later developed by other authors such as Black in 1958 (see Alesina and Rosenthal (1995)). The key to this solution is the compensation that the parties get as a result of the election. It is the election-related motivation that leads parties to propose policies that meet the wishes of the majority of voters, with the result that democracy fulfills its social role of pushing society to increasingly higher levels of well being for its population. Therefore, in the context of our analysis, election-related interests neither

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carry a pejorative meaning nor are construed as being morally questionable; on the contrary, they can become a force that defeats deeply in-rooted or corporate interests, therefore promoting the necessary changes...

More recently, partial convergence was studied by Calvert in an article published in 1985 and by Roemer in 1992 (see Alesina and Rosenthal (1995)). The key component in this solution is the preference of the parties. When parties have partisan interests other than that of electoral gain, convergence is merely partial; however, it is a long way off from the goals of some politicians who would like to see the demands of some groups at the extremes of society's political spectrum being met. This already suggests that left-wing parties put forward policies that do not move too far from the desires of the average voter.

The second important solution for our discussion deals with those papers that refer to the difficulties of implementing those reforms that are preferred by the majority. Alesina and Drazen (1991), and Rodrick and Fernandez (1991) discuss the difficulties that arise from a lack of cooperation on the part of certain groups, either because they are directly affected or because they are unable to envisage any future benefits. In this paper, we deal with those voters who follow a very simple rule when choosing their candidate, though we also study the difficulties arising from the power of the opposition.

As a result, we have an optimistic view of the Brazilian democratic process, in the sense that it will meet the demands of the majority of the population; however, the speed at which this will take place is slower than one would wish, since it follows the logic of the electoral cycle, which is always slower than that of the central planner.

## 2. The Model

#### **Parties**

Let A and B<sup>3</sup> be two parties running for election and with distinct electoral platforms. Both parties put forward a proposition for reform X, on which the economy's future GDP performance, Y, depends. There is a schedule of reforms on the agenda that must be approved in a given sequence. Following Alesina and Rosenthal (1995), the parties have preference over their platforms, that is,

$$U_i(X_i) \!>\! U_i(X_j)$$

However, being in office gives them utility  $\hat{U}$ . If we assume  $\theta$  is the relative weight given to the preference for reforms in the utility function, we can then express the utility of the parties during periods when they are in power by

$$\theta_i \cdot U_i(X_k) + (1 - \theta_i)\hat{U}$$
  $i = A,B$   $k = A,B$ 

and when they are in opposition by:

<sup>&</sup>lt;sup>3</sup>Or the various parties that form alliances in two groups, A and B.

$$\theta_i U_i(X_K)$$
  $i = A, B$   $k = A, B$ 

We assumed  $\hat{U}$  to be the same for both parties given the fact that we considered the utility to be the result of an institutional arrangement, such as for example the amount of television broadcast time, decisions concerning discretionary funds, or consolidation of reputation in the administrative area. Therefore, the increasing or decreasing of  $\hat{U}$  may become a policy tool. When a party wins the election, the promised reform is sent to Congress to be voted on and may or may not be approved, depending on the opposition parties. The winning party always sends the reform that it promised to carry out during the election campaign to Congress, since not doing so implies running the risk of being punished by being rejected at the next election. Therefore, any dynamic inconsistency is ruled out. The party chooses to run for election on the platform that has brought it the highest level of utility throughout its existence; thus, it may present itself with a platform that may not be the best one in terms of meeting its party objective, but one instead that ensures that its election-related objectives will be attained. And this means that a party may stand with an election platform similar to that put forward by the other party.

## Voters

Each voter belongs to one of the following groups: A if it benefits from reform  $X_A$ ; B if it benefits from reform  $X_B$ ; and I if it is indifferent to either of the aforementioned reforms. Choosing a candidate should be as follows:

(i) if  $i \in A$  then i will choose the party that proposes  $X_A$ . If both parties propose  $X_A$ , i votes for the performance of the incumbent party. If  $X_A$  is not proposed, he votes by performance. (ii) if  $i \in B$  then i will choose the party that proposes  $X_B$ . If both parties propose  $X_B$ , i votes for the performance of the incumbent party. If  $X_B$  is not proposed, he votes by performance. (iii) if  $i \in I$  then i votes by performance.

Voters will vote for the party that puts forward reforms from which they will benefit. In the case of those voters who will not be affected by the reforms, their votes are contingent on the performance of the economy. Thus, if the party is successful in getting a certain reform passed, which benefits a substantial number of voters, it should, as a result, obtain a good performance in terms of product *Y*, and voters who are indifferent to the reform will vote for the party that is currently in office, guaranteeing its reelection. On the other hand, if the party does not manage to get the reform approved, voters who are not affected by it vote for the opposition party, giving it a chance to win the elections. As a result, the larger the number of voters that benefit from the reform, the better the party's performance in the election. Voters' preferences are only revealed at the polls; therefore, ex-ante, each party believes that it has a 50% probability of winning the elections.

Therefore, if the party in office manages to get the reform approved, it is re-elected. Its permanence in power for another term of office, however, depends on the new platform to be put forward. Each party believes it has a 50% chance of winning.

## The Game

Party A puts forward the platform of reforms  $X_A$ ; Party B puts forward the platform of reforms  $X_B$  and A wins the election. In order to make notation simple, let us assume that  $X_B$  is the *status quo* and that the percentage of voters who will benefit from the reform is greater than the percentage of indifferent voters, which in turn is greater than the percentage of voters for  $X_B$ . We also assume that neither group holds more than 50% of the votes. Since we are interested in those reforms that demand a vote of at least 60% in Congress, we shall look at the case in which the opposition party has enough votes to prevent the reform from going through.

Each party has life time utility and the future is discounted at a rate of  $\delta$ . The game starts again from scratch once the reform is approved; therefore, each party estimates the present value of its utility post-reform, taking into consideration that it has a 50% chance of returning to power and a 50% chance of becoming the opposition.

## Actions by B as an opposition party, in the first period.

Party B can choose from among 3 actions:

1. Approving the reforms, allowing A to be re-elected and then trying again to get elected in the next period with a new platform. In this case, B's utility is

(1) 
$$V_B = \theta U_B(X_A) + \frac{\delta \theta_B U_B(X_A)}{1 - \delta} + \frac{\delta (1 - \theta_B) \hat{U}}{2(1 - \delta)}$$

The first term represents the utility in the first period, when the party is in opposition and helps to get the reform approved; the second term represents the future present value of the utility in connection with the parties' preferences, given that  $X_A$  was approved (the sum of the periods it is in power and the periods it is in opposition); and the last term represents the expected present value of the utility in connection with being in power.

and A's utility is

$$(2) \ V_A = \theta U_A(X_A) + (1-\theta)\hat{U} + \frac{\delta \theta_A U_A(X_A)}{(1-\delta)} + \frac{\delta (1-\theta_A)\hat{U}}{2(1-\delta)}$$

The first two terms indicate the utility associated with being in power and the last two terms are similar to those of B.

2. Not approving the reform and trying once again to run on its platform. In this case, since the preferences have already been revealed and the party is aware that it can only count on the votes of minorities and discontented voters, B does not get elected, but at the same time does not allow A to impose its platform. If B chooses to follow this strategy, it has to stick to it on a permanent basis. Indeed, given that  $\delta > 0$ , if it intends to adopt a different strategy in the future, it would be advisable to do so immediately.

Thus, we can assume that B will run on platform  $X_B$  in all future elections and A will remain in power forever. In this case, B's utility is

$$(3) V_B = \frac{\theta_B U_B(X_B)}{1 - \delta}$$

and A's utility is as follows:

(4) 
$$V_A = \frac{\theta_A U_A (X_B) + (1 - \theta_A) \hat{U}}{1 - \delta}$$

3. Not approving the reform and run with A's<sup>4</sup> platform. In this case, it will be able to count on the votes of part of the majority who would benefit from the reform as well as the votes of those voters who are discontented with the performance of party A, and thus gets elected<sup>5</sup>. Its utility depends, in this case, on A's course of action.

# A's actions in the second period, when it is in opposition, given that B was elected on the platform of reforms $X_{A}$

A can choose from two courses of action (the third one, which consists of running on B's platform does not make sense, since it neither represents its preference nor will it bring the party victory at the polls).

3.1 Approving the reforms proposed by B, allowing B to be re-elected and then standing for election in the next period on a new platform. In this case, B's utility is:

$$(5) V_{B} = \theta_{B} U_{B}(X_{b}) + \delta[\theta_{B} U_{B}(X_{A}) + (1 - \theta_{B})\hat{U}] + \frac{\delta^{2} \theta_{B} U_{B}(X_{A})}{1 - \delta} + \frac{\delta^{2} (1 - \theta_{B})\hat{U}}{2(1 - \delta)}$$

and A's utility:

(6) 
$$V_A = \theta_A U_A(X_b) + (1 - \theta_A)\hat{U} + \delta\theta_A U_A(X_A) + \frac{\delta^2 \theta_A U_A(X_A)}{(1 - \delta)} + \frac{\delta^2 (1 - \theta_A)\hat{U}}{2(1 - \delta)}$$

3.2. Not approving the reform. In this case, A wins the next election but once again depends on B to get the reform approved and remain in power. If B is consistent in its behavior, it should behave in exactly the same way as it did in the first round, i.e., refuse to approve the reform with a view to run on A's platform so as to get elected, and then depend on A to get the reform approved. However, if A also shows consistency in its behavior, it will not approve the reform and so on. This is the case in which the reform never gets approved and A and B take turns in power.

<sup>4</sup> Obviously, they do not compete on exactly the same platform, but on very similar ones that also satisfy the majority. In order to make notation simple, we are assuming that it is the same platform.

<sup>&</sup>lt;sup>5</sup> If the voters that benefit from the reform decide to punish B for having blocked the reform in the first period and now introducing a similar platform, by not electing it, then B is restricted to the first two actions: either approving or not approving the reform and running on its own platform and thus permanently remaining in opposition.

In this case, B's utility will be:

$$V_B = \theta_B U_B(X_B) + \delta(\theta_B U_B(X_B) + (1-\theta_B)\hat{U}) + \delta^2\theta_B U_B(X_B) + \delta^3(\theta_B U_B(X_B) + (1-\theta_B)\hat{U}) + \dots$$

which can be rewritten as:

(7) 
$$V_B = \frac{1}{1-\delta} \theta_B U_B(X_B) + \frac{1}{1-\delta^2} (1-\theta_B) \hat{U}$$
].

and A's utility:

$$V_{\scriptscriptstyle A} = \theta_{\scriptscriptstyle A} U_{\scriptscriptstyle A}(X_{\scriptscriptstyle b}) + (1-\theta_{\scriptscriptstyle A}) \hat{U} + \delta \theta U_{\scriptscriptstyle A}(X_{\scriptscriptstyle b}) + \delta^2(\theta_{\scriptscriptstyle A} U_{\scriptscriptstyle A}(X_{\scriptscriptstyle b}) + (1-\theta_{\scriptscriptstyle A}) \hat{U}) + \delta^3 \theta_{\scriptscriptstyle A} U_{\scriptscriptstyle A}(X_{\scriptscriptstyle b}) + \dots$$

which can be rewritten as:

(8) 
$$V_{A} = \theta_{A}U_{A}(X_{B}) + (1 - \theta_{A})\hat{U} + \delta\theta_{A}U_{A}(X_{B}) + \frac{\delta^{2}}{1 - \delta^{2}}(\theta_{A}U_{A}(X_{B})) + \frac{\delta^{2}}{1 - \delta^{2}}(1 - \theta_{A})\hat{U}$$

If both parties behave in a consistent manner, A will approve reform  $X_A$ , proposed by B, if:

$$\begin{split} &\theta_A U_A(X_A) + \frac{\delta}{(1-\delta)} \theta_A U_A(X_A) + \frac{\delta}{2(1-\delta)} (1-\theta_A) \hat{U} > \\ &\theta_A U_A(X_B) + \frac{\delta}{1-\delta^2} [(\theta_A U_A(X_B)(1+\delta) + (1-\theta_A) \hat{U})] \end{split}$$

which can be rewritten as:

$$(9) \ \frac{1}{1-\delta} \theta_A [U_A(X_A) - U_A(X_B)] > \left( \frac{\delta}{1-\delta^2} - \frac{\delta}{2(1-\delta)} \right) (1-\theta_A) \hat{U}$$

Since both terms of this inequality are positive, party A tends to approve the reform in the following cases:

- i) the greater  $\theta$  is, increasing the weigh given to the partisan component and reducing the weight of the election-related interest component.
- ii) the greater its partisan preference is affected by the reform, in such a way that  $U_A(X_A)>>U_A(X_B)$ .
- iii) the lower  $\delta$  (the intertemporal preference rate) is. The intuition for this result follows naturally: if it approves the reform, A's satisfaction with the partisan component is assured, since it is the party's very own platform that is being approved; its satisfaction in terms of the election-related interest component, which only appears when it is in power, will only occur at some point in the future.

It is easy to prove that B's behavior over time will be consistent, that is, if it chose not to approve the reform, it must continue to do so forever. Note that if B has to get the reform approved, it will always choose to postpone doing so for yet another period, since not approving the reforms satisfies its partisan preference and the party then takes turns in power, thus satisfying every other period its election-related interest, whereas by choosing to approve the reforms does not satisfy its partisan preference and it will have a 50% chance of staying in power, though always under the new mechanism imposed by the reform.

We may now turn to B's strategy in the first period - when it is in the opposition – which consists of choosing between the reform put forward by party A, or not approving it and then running for election on its own platform  $X_B$  or between approving  $X_A$  or not approving it and trying to run on A's platform,  $X_A$ .

B approves A's reform and foregoes running on its own platform if:

$$\theta_B U_B(X_A) + \frac{\delta \theta_B U_B(X_A)}{(1-\delta)} + \frac{\delta (1-\theta_B)\hat{U}}{2(1-\delta)} > \frac{\theta_B U_B(X_B)}{1-\delta}$$

which can be rewritten as:

(10) 
$$\frac{\delta(1-\theta_B)\hat{U}}{2} > \theta_B[U_B(X_B) - U_B(X_A)]$$

It is easy to see that B should approve the reform proposed by A when:

- i)  $\theta$  is low, i.e., when the election-related interest component is high and the partisan component is low.
- ii)  $\delta$  is high, for the same reasons as given in the case for A.
- iii) the disutility in connection with approving  $X_A$  is very high when compared to the status quo.

To put it differently, the more committed the party is to its platform, the more effort it will make to stop the reforms.

The other strategy B could pursue in the first period is to choose between approving  $X_A$  and not approving it, running at the next election on A's platform. In this case, we have two possible outcomes:

If A, when it is in opposition in the second period approves  $X_A$ , then B approves  $X_A$  in the first period if:

$$\theta U_B(X_A) + \frac{\delta \theta_B U_B(X_A)}{1 - \delta} + \frac{\delta (1 - \theta_B) \hat{U}}{2(1 - \delta)} > \\ \theta_B U_B(X_B) + \delta [\theta_B U_B(X_A) + (1 - \theta_B) \hat{U}] + \frac{\delta^2 \theta_B U_B(X_A)}{1 - \delta} + \frac{\delta^2 (1 - \theta_B) \hat{U}}{2(1 - \delta)}$$

which can be rewritten as:

(11) 
$$\theta_B[U_B(X_A) - U_B(X_B)] > \frac{1}{2}(1 - \theta_B)\hat{U}$$

Since the first term in equation (11) is negative, if B believes that A will approve its own platform when it is in opposition in the second period, it will never approve the reform A is proposing in the first period.

If A, when it is in opposition in the second period, does not approve  $X_A$ , then B will approve  $X_A$  in the first period if:

$$\theta_B U_B(X_A) + \frac{\delta \theta_B U_B(X_A)}{1-\delta} + \frac{\delta (1-\theta_B)\hat{U}}{2(1-\delta)} > \frac{1}{1-\delta^2} [\theta_B U_B(X_B)(1+\delta) + (1-\theta_B)\hat{U}]$$

which can be rewritten as:

(12) 
$$\theta_B[U_B(X_A) - U_B(X_B)] > \left(\frac{1}{1+\delta} - \frac{\delta}{2}\right)(1-\theta_B)\hat{U}$$

Given that the first term is negative and the second one positive, since  $\delta+\delta^2\leq 2$ , B, in the first period will never approve  $X_A$  if it believes that A, in opposition in the second period, will not approve the reform either. Therefore, if B plans to stand for election at a later date on A's platform, it will never approve the reform proposed by A in the first period, while B is in opposition.

Therefore, irrespective of whatever step A may take when it is in opposition in the second period, B will never approve  $X_A$  if it plans to stand for election in the second period on A's platform.

All that remains to be done is to check what conditions must be in place for B to prefer to stand for election in the next period on its own platform,  $X_B$  rather than on A's platform,  $X_A$ . Once again, we are faced with 2 cases: Whether or not B believes that A, when it is in opposition, will approve the reform.

In order for B to choose to run for election on its own platform  $X_B$  rather than  $X_A$ , when A is in opposition and does not approve  $X_A$  it is necessary that:

$$\frac{\theta_B U_B(X_B)}{1-\delta} > \frac{1}{1-\delta^2} [\theta_B U_B(X_B)(1+\delta) + (1-\theta_B)\hat{U}]$$

which can be rewritten as:

$$(13) \ 0 > \frac{1}{1+\delta} (1-\theta_B) \hat{U}$$

Since the second term is positive, in the case of A not approving  $X_A$ , B will never run on its own platform, and will opt to run for election on platform  $X_A$ . The logic of this result follows naturally: it meets B's partisan goal in both cases, since it will not have to live with A's platform, that will never get approved. Conversely, it has the chance of gaining power every other period, which gives it utility in terms of the election-related interest component.

If A approves the reform, B will choose to run on its platform if:

$$\frac{\theta_B U_B(X_B)}{1-\delta} > \theta_B U_B(X_B) + \frac{\delta}{1-\delta} \theta_B U_B(X_A) + \frac{2-\delta^2}{2(1-\delta)} (1-\theta_B) \hat{U}$$

which can be rewritten as:

$$(14) \delta[\theta_B(U_B(X_B) - U_B(X_A))] > \frac{2 - \delta^2}{2} (1 - \theta_B) \hat{U}$$

B prefers to run on its platform, sacrificing future elections, the greater its partisan component is and the higher the level of its intertemporal preference rate is.

Comparing (13) with (10) we obtain:

$$\theta_B[U_B(X_B) - U_B(X_A)] > \frac{2 - \delta^2}{2\delta} (1 - \theta_B) \hat{U}$$
 Chooses  $X_B$  over  $X_A$  in the case of not approving

$$\theta_B[U_B(X_B) - U_B(X_A)] > \frac{\delta}{2}(1 - \theta_B)\hat{U}$$
 Chooses not to approve and run on  $X_B$ 

Since

$$\frac{2-\delta^2}{2\delta} > \frac{\delta}{2}$$

The partisan component in B has to be greater in order for B to choose  $X_B$  over  $X_A$ , rather than not approve the reform put forward by A. Therefore, if B prefers  $X_B$  to  $X_A$ , it will never approve the reform.

## Summing up:

- 1. If B, as an opposition party, approves the reform proposed by A, A gets re-elected and the game is over.
- 2. If B, when it is in opposition, does not approve the reform proposed by A and decides to run on its own platform, A gets re-elected because B's platform only has minority support. If B behaves in a consistent fashion and insists on sticking to its platform in future elections, it will always be defeated, but at the same time it will not allow A's platform to be implemented.
- 3. If B, when it is in opposition, does not approve the reform proposed by A, but at the next election decides to run with platform  $X_A$ , it gets elected. Party A, now in opposition, approves the reform proposed by B if its partisan component is higher than its election-related interest component. Otherwise, it does not.
- 5. If B intends to run on platform  $X_{B_i}$  it may or may not approve the reform proposed by A. It will approve it if it is a party that is concerned with winning the election and it will not approve it if it is more of a partisan party.
- 6. If B intends to stand for election on platform  $X_A$  it will never approve  $X_A$  while it is in opposition (independent of whatever A may do).

- 7. B prefers to run on platform  $X_A$  rather than  $X_B$  if it believes that A does not approve  $X_A$ ; however, in this case we know that it will never approve reform  $X_A$  during the first period.
- 8. If B's partisan objective is extremely strong, the party may prefer to stand for election on  $X_B$  rather than  $X_A$  if it believes that A will approve  $X_A$  when it is in opposition. But since its partisan objective is this strong, it will never approve  $X_A$  when it is in opposition.

Thus, we have the following equilibrium situations:

- 1. If B exhibits a strong partisan component it will prefer to run on  $X_B$  rather than on  $X_A$ . But the necessary condition for this to happen is such that B, when it is in opposition, will not approve the platform put forward by A. In this case the reform will never get approved and the opposition party will always remain in opposition.
- 2. If B shows a strong enough election-related interest component, it will prefer to stand for election on  $X_A$  rather than on  $X_B$ . In this case, irrespective of whatever A may do when it is in opposition in the second period, B will never approve the reform in the first period. Since B will get elected in the second period, if A has a high enough partisan component that it will approve the reform when it is in opposition, B will get re-elected and A and B will once again run against each other at the next elections, on other reform platforms.
- 3. The same situation as in the previous item with respect to B, but A also shows a high election-related interest component, such that it does not approve the reform when it is in opposition. In this case, the parties would take turn in power and the reform will never get approved. Notice that there is no cooperative equilibrium situation in which B will approve the reform proposed by A. This is because B gets more utility from the *status quo* when it is in opposition than A does, since A benefits from the approval of reforms it originally proposed.

Changes in  $\hat{U}$  have an ambiguous effect to the extent that it has an equal impact on both parties. A reduction in  $\hat{U}$ , for instance, may cause B to wish to remain in opposition, never approving the reform. If the reduction is not sufficient for B to not approve the reform but it chooses to stand for election on A's platform, in these circumstances A will show a greater propensity to approving the reforms.

A significant change in the results of the model is seen when approximately the same number of voters benefit from each of the platforms, and the victory of one of the candidates is determined by the votes of indifferent voters dissatisfied with the previous administration. In this case it is easy to see that the opposition will never approve the reforms proposed by the party in power, so that the latter never manages to achieve a good performance. Therefore, indifferent voters will always vote for the opposition party, which runs on its own platform of reforms. In such a situation, the reforms will never be approved and the parties will take turns in power.

## III Costs associated with Postponing the Reform

So far we have not included any penalties associated with the parties not approving reforms that benefit the majority of the voters. A simplified way of introducing this penalty would be to assume that as long as the reform is not approved, the economy's total output falls at a rate of  $\phi$ <1. Therefore, the longer it takes to get the reform approved, the worse the economic conditions that the opposition party will eventually inherit. On the other hand, the worse the economic situation, the harder it is to govern and therefore, the lower the utility obtained when in power. Thus, delaying approval of a given reform entails some penalties for the party that intends to be the next in power.

The utility function of the party in power becomes:

$$\theta_i U_i(X_k) + (1 - \theta_i)(\hat{U}(Y)) \qquad i = A, B \qquad k = A, B \text{ with}$$
 
$$\hat{\mathbf{U}} = \phi Y_{-1}$$

and when it is in opposition, the utility function remains unchanged:

$$V_i = \theta_i \cdot U_i(X_k)$$
  $i = A,B$   $k = A,B$ 

Obviously, everyone loses from a lower level of output, whether or not they are in power. However, our objective here is to emphasize that the utility of the party is affected by the constraints associated with governing an economy in recession; therefore, the level of output is only considered in  $\hat{U}$ .

Once again, A wins the election by proposing platform  $X_A$ , which has to be approved by Congress. B, as the opposition, has the power to determine whether or not the reform is approved. Party B may:

1. Approve the reform.

In this case, the utilities of A and B remain unchanged. (1) and (2) are still valid, only  $\hat{U}$  is replaced by Y.

(1') 
$$V_B = \theta U_B(X_A) + \frac{\delta \theta_B U_B(X_A)}{1 - \delta} + \frac{\delta (1 - \theta_B) Y}{2(1 - \delta)}$$

$$(2') \ V_A = \theta U_A(X_A) + (1 - \theta)Y + \frac{\delta \theta_A U_A(X_A)}{(1 - \delta)} + \frac{\delta (1 - \theta_A)Y}{2(1 - \delta)}$$

2. Not approve the reform and run on its own platform, X<sub>B</sub>.

B's utility will remain equal to (5):

$$(3) V_B = \frac{\theta_B U_B(X_B)}{1 - \delta}$$

but A's utility is diminished, since  $\delta \phi < \delta$ :

(15) 
$$V_A = \frac{\theta_A U_A (X_B) + (1 - \theta_A) Y}{1 - \phi \delta}$$

3. Not approve the reform and run on A's platform.

In this case, B's choice will once again depend on A's course of action.

3.1 If A approves the reform its utility remains unchanged from in (6), with just  $\hat{U}$  being replaced by Y:

$$(7') \ V_A = \theta_A U_A(X_B) + (1-\theta_A) Y + \delta \theta_A U_A(X_A) + \frac{\delta^2}{(1-\delta)} [\theta_A U_A(X_A) + \frac{(1-\theta_A) Y}{2}]$$

and if it does not approve the reforms:

(16)

$$V_{A} = \theta_{A}U_{A}(X_{B}) + (1 - \theta_{A})Y + \delta\theta_{A}U_{A}(X_{B}) + \frac{\delta^{2}}{1 - \delta}\theta_{A}U_{A}(X_{B} + \frac{(\delta\phi)^{2}}{1 - (\delta\phi)^{2}}(1 - \theta_{A})Y.$$

Thus A approves the reform in the second period if:

$$(17) \ \theta_A U_A[(X_A) - U_A(X_B) > \left(\frac{\phi^2}{1 - (\delta \phi)^2} - \frac{1}{2(1 - \delta)}\right) \delta(1 - \theta_A) Y$$

Since the term in brackets on the right side of (22) is negative, A always approves the reform if B did not approve it in the first period.

We may now turn back to B. Its utility - when it does not approve the reform, given that A approves it, remains unchanged. Thus, since A always approves the reform in the second period, B does not approve it in the first period. Therefore, in an instance in which not approving the reform leads to a gradual reduction in the gain in terms of election-related interests, the equilibrium represented by taking turns in power without approving the reform ceases to exist. This outcome is similar to that of the bargain games developed by Stahl and by Rubinstein (see Mas-Colell, Whinston and Green (1995)).

## **IV. Conclusion**

We analyzed a game in which political parties, with partisan and electoral interests, try to approve reforms that benefit the majority of population but face an opposition with substantial power that may determine the fate of the reforms. Its behavior may lead to different equilibrium situations.

- (i) Approval of the reform after an election cycle, where the parties that were initially against the reform end up making it their own.
- (ii) Not approving the reform, with the parties taking turn in power.
- (iii) Not approving the reform, with the party that originally proposed the reform remaining in power.

Taking into consideration the costs associated with postponing the reform, we can only eliminate the equilibrium (ii) of turns in power if the reform is not approved. The reform is only approved after an election cycle, when the party that proposed it is now in opposition. If the party that was at first against the reform is overly ideological, the reform will never be passed even if the country's economic situation continues to deteriorate. In this case, a possible public policy might be to increase the compensation the parties enjoy when in power.

## V. References

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