

WHAT IF *THIRD* PARTIES DISAPPEAR? A RATIONAL PARTISAN NOTE

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1 — Introduction and motivation

In a seminal paper in the mid-seventies, Nordhaus took a decisive step in the development of the theory of *political business cycles*. The optimisation approach assumed in Nordhaus (1975) is implicit in the assumption that the sole objective of an *opportunistic* government is to maximise votes at the following election. It also considered *myopic* and *retrospective* voters, i. e. a private sector that is unable to take into account what happened before the previous election and what will happen after the following election. The hypothesised behaviour of government and voters leads to an electoral cycle, i. e. recessions at the beginning of the term of *every* government and inflationary expansions at the end of the term. This is generated by the *same* economic policy, that is the one that maximises the number of votes at the following election.

A critique of the political business cycles *à la* Nordhaus took place in Hibbs (1977) which originated the *partisan approach* to the electoral cycles literature. The author considered a new form of action by the party in power as well as new behaviour by the voters. In particular, Hibbs (1977) viewed parties as representing different social classes with different political preferences. In this context, electoral victories are not an objective *per se*, but rather the necessary means to implement the best policy for the class the party represents.

According to Hibbs' approach, as power rotates, the instruments of economic policy will be used with greater or less relative intensity. It is assumed that an ideological economic policy exists which intends, either to reduce inflation (preferably) through the use of monetary policy instruments (preferably), in the case of a right-wing government, or which intends to reduce unemployment (preferably) through the use of fiscal policy instruments (preferably), in the case of a left-wing government. Thus, assuming a *partisan approach*, it is considered

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that parties exploit different points on a Phillips curve in order to provide welfare gains to their core constituencies (1).

The empirical literature generated by the initial theoretical studies on electoral cycles was not conclusive about their consistency with reality. Partly as a reaction to these empirical rejections and partly in response to the *rational expectations revolution*, in the late eighties a new generation of (rational) electoral cycles models emerged. A common thread running through this «second-generation» models is the assertion that an electoral cycle may occur *stochastically* if some informational insufficiency prevents the electorate from correctly forecasting crucial events, such as the next election results.

Although some previous studies had considered *sophisticated voters*, we can classify Chappell and Keech (1986) as decisive in the analysis of the influence of rational expectations in the political evaluation of voters. If the parties are significantly different, then voters can rationally anticipate those differences. Following Chappell and Keech (1986), Alesina (1987,1988) «created» the *rational partisan approach* by considering voters with rational expectations in partisan cycle models. By allowing parties to be different in their preferences for economic policies on the grounds that they represent different voters who hold different interests and ideologies, Alesina concluded that two parties with different optimal policies have different incentives to implement economic policies that differ from the ones announced.

That said, if one follows the approach of modelling parties' behaviour which assumes that winning elections is their unique objective then parties will find it optimal, via the well-known *median-voter theorem*, to support policies more moderate than their ideology. These policies would result in a higher probability of being elected. Thus, the crucial implication of this behaviour (for a two-party system) is that, if the (two) parties have the same information about voters' preferences, there is a *full convergence of policies*, i. e. (both) parties follow the same policy when in office. Yet, there is a *time inconsistency* issue which prevent us from accepting this result outright. Parties who have ideological preferences concerning policies, i. e. which are not purely opportunistic *à la* Nordhaus, still have an incentive to announce convergent proposals to increase their chances of being elected. However, once elected, each party has the incentive to renege the proposed policy because it does not correspond entirely to its ideological aims. In fact, the winning party will implement its most preferred policy if it is not committed to its electoral platform. If voters are modelled as rational and

(1) In Minford and Peel (1982) and Minford (1990) an interesting «alternative» is considered, which can be classified as intermediate between the opportunistic and partisan approaches. It is assumed that parties are supported by their core constituencies and some floating voters, who determine the election outcome. In this case, the maximisation of some objective function leads to the best trade-off between the chances of winning elections and assuring the loyalty of parties support constituencies.

forward-looking agents they will take into account this *ex-post* incentive and vote accordingly. Thus, if the electoral length period is finite, the only time-consistent electoral equilibrium is one in which no convergence is possible and the (two) candidates follow their most preferred policies when elected.

In reality, it is common to observe that many democratic political systems are, in fact, constituted by two main parties which occupy positions away from the extremes of the political spectrum. This may or may not be seen as a vindication of the *median-voter theorem*. If one takes the tendency to such a political set-up as given, the following question arises: what are the consequences for a country moving from a three-party to a two-party system? In this note, the consequences on the inflationary equilibrium bias of such a transformation will be presented⁽²⁾. In carrying out this exercise, the *rational partisan approach* outlined above will be followed. The rest of the note is structured as follows. Section 2 presents the three-party system model and it is followed by section 3 where the two-party system model is presented. Section 4 concludes.

2 — The three-party system

Concerning the three parties', L , R , D , objective function, let us assume that disutility in each period is a quadratic function of the deviations of output, q_t , and inflation, π_t , from their desired values, $\bar{q} > 0$ and zero respectively⁽³⁾. Thus:

$$U_i = - \sum_{t=0}^{\infty} \beta^t \left((q_t - \bar{q})^2 + \theta \pi_t^2 \right), \quad i = L, R, D \quad (1)$$

where:

$$q_t = \alpha (\pi_t - \pi_t^e) \quad \alpha > 0 \quad (2)$$

π_t^e are the inflation expectations, for period t , at time $t-1$, given by:

$$\pi_t^e = E[\pi_t | I_{t-1}] \quad (3)$$

and I_{t-1} is the information set available at $t-1$.

In addition, let us assume that $\theta^L < \theta^R$, that is, party R favours a less inflationary policy than party L . No assumption is made on party D 's relative concern about inflation.

⁽²⁾ Obviously, one can study the consequences of introducing a third party, reading «backwards».

⁽³⁾ Output q_t is measured from the natural rate. In other words, $q_t = y_t - y^*$, where y_t is output (in natural logs) and y^* is its value at the natural rate of unemployment. Hence the fact that $\bar{q} > 0$ means the usual «assumption» that the target level of output exceeds the natural rate of output; see, *inter alia*, King (1997) or Persson and Tabellini (1999).

Concerning the policy instrument, let us assume that the party in power at period t , selects inflation π_t to maximise its utility given by (1), subject to the structure of the economy given by (2) and (3).

One party is elected at the beginning of each period with some (exogenously given) probability p^i , $i = L, R, D$. (4). In this framework, the *value functions* for the three parties are:

$$V_{i,t}^j = \max_{\pi_t} \left\{ - \left[(q_t - \bar{q})^2 + \theta^i \pi_t^2 \right] + \beta \left(p^L V_{i,t+1}^L + p^R V_{i,t+1}^R + p^D V_{i,t+1}^D \right) \right\} \quad (4)$$

where $V_{i,t+1}^j$ denotes the value function of party j when, at time $t+1$, party i is in power.

In this case, the time consistent solution can be obtained by considering the limit to the infinite case of the solution for the finite horizon case. If, say, period T is the final period then the value function $V_{i,T+1}^j = 0$. That said, it is straightforward to show that, from the optimisation of the value function, party i should set:

$$\pi_T^i = \frac{\alpha^2}{\alpha^2 + \theta^i} \pi^e_T + \frac{\alpha}{\alpha^2 + \theta^i} \bar{q} \quad (5)$$

The assumption of rational expectations implies that:

$$\pi^e_T \equiv E[\pi_T | I_{T-1}] = p^L \pi^L_T + p^R \pi^R_T + p^D \pi^D_T \quad (6)$$

Substituting (6) into (5) and solving for π^L_T , π^R_T and π^D_T it is possible to obtain the discretionary equilibrium solutions for the inflation rates chosen by the three parties:

$$\pi^L_T = \frac{\alpha (\alpha^2 + \theta^R) (\alpha^2 + \theta^D)}{\Delta} \bar{q} > 0 \quad (7)$$

$$\pi^R_T = \frac{\alpha (\alpha^2 + \theta^L) (\alpha^2 + \theta^D)}{\Delta} \bar{q} > 0 \quad (8)$$

$$\pi^D_T = \frac{\alpha (\alpha^2 + \theta^L) (\alpha^2 + \theta^R)}{\Delta} \bar{q} > 0 \quad (9)$$

where Δ is a constant term (5).

(4) This is a «costless» assumption because the so-called *partisan effect*, i. e. $\pi^e_t \neq \pi_t$, only occurs on the period immediately after the election. Every other (non-election) period would be characterised by the same growth rate independently of the incumbent's type.

(5) $\Delta = \alpha^2 (\theta^L p^L + \theta^R p^R + \theta^D p^D) + \alpha^2 [\theta^R \theta^D (1-p^L) + \theta^L \theta^D (1-p^R) + \theta^L \theta^R (1-p^D)] + \theta^L \theta^R \theta^D$.

From the analysis of the solutions (7), (8), (9), it is clear that they are time consistent given that equilibrium inflation rates depend only on exogenous elements. In fact, the value function for each period t will be a constant, making it possible, then, to solve the intertemporal dynamic optimisation problem by considering each period (static) solution. In other words, these solutions will be valid not only for the terminal period T but for all other periods $t = 0, 1, \dots, \infty$.

Concerning the properties of the equilibrium determined above, it is evident that there is inflationary bias since $\pi_t^i > 0, \forall i, t$. Moreover, the dependence of π^i on elements concerning the other parties $j \neq i$ — namely, the weights θ^j and probabilities of re-election p^j — makes interesting to study the «dynamics» involved in the interaction between the solutions. In particular, it is apparent that $\pi^L > \pi^R$ and that π^D will be the highest, the intermediate or the lowest solution value when $\theta^D < \theta^L, \theta^L < \theta^D < \theta^R$ or $\theta^R < \theta^D$, respectively.

3 — The two-party system

Now, let us assume that the three-party system becomes a two-party one as the result of party D becoming extinct. Following the procedure described before, it is straightforward to show that the equilibrium solutions for the inflation rates chosen by the remaining two parties are:

$$\pi_T^L = \frac{\alpha (\alpha^2 + \theta^R)}{\alpha^2 (\theta^L p^L + \theta^R p^R) + \theta^L \theta^R} \bar{q} > 0 \quad (10)$$

$$\pi_T^R = \frac{\alpha (\alpha^2 + \theta^L)}{\alpha^2 (\theta^L p^L + \theta^R p^R) + \theta^L \theta^R} \bar{q} > 0 \quad (11)$$

As expected, the properties of this solution are similar to the ones concerning the previous solution, that is, the existence of an inflationary bias and $\pi^L > \pi^R$.

4 — Conclusions

What are the consequences on the inflationary bias if party D disappears? From (5) it is obvious that there will be *no* consequences on the inflationary bias if the expected rate of inflation is the same in both systems⁽⁶⁾, that is, when $E[\pi_3] = p^L_3 \pi^L_3 + p^R_3 \pi^R_3 + p^D_3 \pi^D_3$ coincides with $E[\pi_2] = p^L_2 \pi^L_2 + p^R_2 \pi^R_2$.

⁽⁶⁾ Note that the subscript ₃ will identify elements concerning the *three-party system*, while the subscript ₂ will perform that role for the *two-party system*.

What are the circumstances in which this case may occur? From (7) to (9) and then from (10) to (11), one can easily obtain that:

$$E[\pi_3] = \frac{\frac{\alpha p_3^L}{\alpha^2 + \theta^L} + \frac{\alpha p_3^R}{\alpha^2 + \theta^R} + \frac{\alpha p_3^D}{\alpha^2 + \theta^D}}{1 - \frac{\alpha^2 p_3^L}{\alpha^2 + \theta^L} - \frac{\alpha^2 p_3^R}{\alpha^2 + \theta^R} - \frac{\alpha^2 p_3^D}{\alpha^2 + \theta^D}} \bar{q}$$

and:

$$E[\pi_2] = \frac{\frac{\alpha p_2^L}{\alpha^2 + \theta^L} + \frac{\alpha p_2^R}{\alpha^2 + \theta^R}}{1 - \frac{\alpha^2 p_2^L}{\alpha^2 + \theta^L} - \frac{\alpha^2 p_2^R}{\alpha^2 + \theta^R}} \bar{q}$$

Ignoring $p_3^D = 0$ as the trivial solution of $E[\pi_3] = E[\pi_2]$, let us proceed with the analysis by the study of the various possible cases concerning the «position» of party D in the political spectrum. In this sense:

- 1) If $\theta^D = \theta^L$, that is, if the 3rd party was as inflationist as party L , then the two remaining parties do *not* change their optimal policies, i. e. $\pi_2^i = \pi_3^i$, $i = L, R$, if party L sees its probability of being elected increased by *exactly* the amount that was attributed to party D , i. e., when $p_2^L = p_3^L + p_3^D \Leftrightarrow p_2^R = p_3^R$. If so, $E[\pi_3] = E[\pi_2]$;
- 2) For the case $\theta^D = \theta^R$, the same invariance of policies occurs, $\pi_2^i = \pi_3^i$, if party R sees its probability of being elected increased by *exactly* the amount that was attributed to party D , i. e., when $p_2^R = p_3^R + p_3^D \Leftrightarrow p_2^L = p_3^L$. Obviously, $E[\pi_3] = E[\pi_2]$;
- 3) What if $\theta^L < \theta^D < \theta^R$? In this case, one can prove that the same proportion of probabilities of re-election for parties L and R in both systems, i. e.:

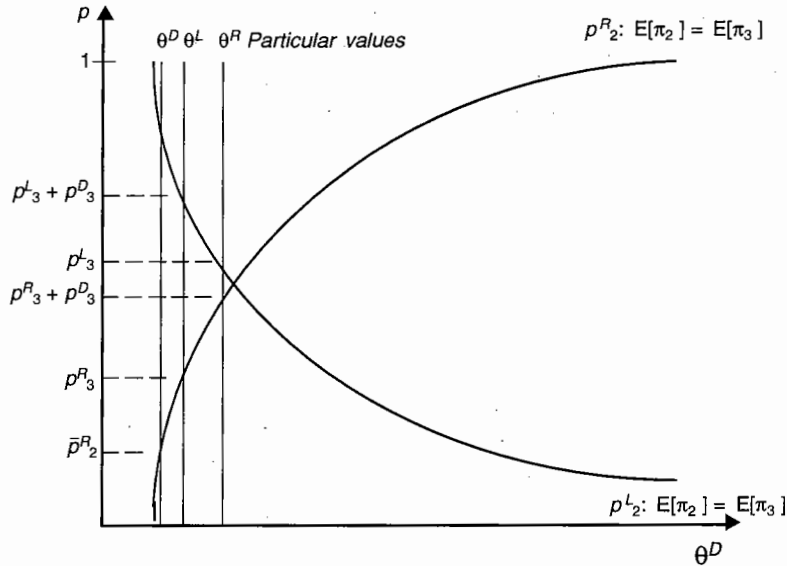
$$\frac{p_2^L}{p_2^R} = \frac{p_3^L}{p_3^R}$$

and $\theta^D = \bar{\theta}^D \equiv \frac{\alpha}{E[\pi_2]} \bar{q}$ will be compatible with $\pi_2^i = \pi_3^i$, $i = L, R$, and $E[\pi_3] = E[\pi_2]$. If $\theta^D > \bar{\theta}^D$ (resp. $\theta^D < \bar{\theta}^D$), the inflationary bias will increase (resp. decrease), that is, $\pi_2^i > \pi_3^i$ (resp. $\pi_2^i < \pi_3^i$), $i = L, R$, as $E[\pi_2] > E[\pi_3]$ {resp. $E[\pi_2] < E[\pi_3]$ };

- 4) If $\theta^D > \theta^R$, an hypothetical increase in the expected inflation — which will always depend on how the probabilities of elections are re-allocated — becomes the less plausible the higher is θ^D . The analysis of this case can be done easily after trivial modifications to the following (and last) case which we will use as an illustration;

5) To illustrate the case where $\theta^D < \theta^L$, let us consider figure 1, which gives the pairs (θ^D, p^{L_2}) and (θ^D, p^{R_2}) such that $E[\pi_2] = E[\pi_3]$:

FIGURE 1
The $p^{L_3} > p^{R_3}$ and $\theta^D < \theta^L$ case



From the previous figure, one can verify that in order to have $E[\pi_2] = E[\pi_3]$, party R has to loose some part of its probability of being re-elected, i. e., $p^{R_2} = \bar{p}^{R_2} < \bar{p}^{R_3}$. If, in fact, $p^{R_2} > \bar{p}^{R_2}$ (resp. $p^{R_2} < \bar{p}^{R_2}$), the inflationary bias will decrease (resp. increase) as $E[\pi_2] < E[\pi_3]$ {resp. $E[\pi_2] > E[\pi_3]$ }. In particular, if for party D , inflation is sufficiently (relatively) unimportant it might be impossible to verify the necessary decrease in p^R . In this case, the inflationary bias will always decrease after «reducing» the three-party system to a two-party one (7).

(7) In a sense, this may be viewed as a simple confirmation of a well-known stylised fact which characterises this kind of models, namely the electoral disadvantage resulting from small degrees of inflation aversion θ . Because there will be always an inflationary bias, the smaller the degree of inflation aversion the higher are the utility costs.

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