Documento de Trabajo

A partisan explanation of political monetary cycles

José I. García de Paso

No. 9402   Junio 1994

ICAE

Instituto Complutense de Análisis Económico

UNIVERSIDAD COMPLUTENSE

FACULTAD DE ECONOMICAS

Campus de Somosaguas

28223 MADRID

Teléfono 3942611 - FAX 3942613

ICAE

Instituto Complutense de Análisis Económico

UNIVERSIDAD COMPLUTENSE

A PARTISAN EXPLANATION OF POLITICAL

MONETARY CYCLES*

José I. García de Paso
Instituto Complutense de Análisis Económico
Universidad Complutense
Campus de Somosaguas
28223 Madrid

ABSTRACT

This paper develops a political monetary model based on partisanship and commitment arguments that explains the likely existence of expansionary monetary policy in pre-election periods irrespective of the incumbent party and of permanent partisan differences in monetary policy. The approach taken is to incorporate the option that political parties elaborate electoral economic programs into a rational partisan electoral model. Our results are consistent with the recent empirical findings of Alesina, Cohen, and Roubini (1992, 1993) for a sample including three decades in 18 OECD economies but without relying on opportinistic governmental behavior.

RESUMEN

Este trabajo desarrolla un modelo político de la conducción de la política monetaria basado en argumentos de partidismo y compromiso vinculante que explica la probable existencia de políticas monetarias expansivas en periodos preelectorales así como la de diferencias partidistas en la conducción monetaria. La idea consiste en incorporar a un modelo electoral partidista y racional la opción de que los partidos políticos presenten al electorado un programa económico electoral. Las conclusiones del modelo son consistentes con los recientes resultados empíricos de Alesina, Cohen y Roubini (1992, 1993) para una muestra de 18 países de la OCDE durante tres décadas pero sin tener que utilizar el supuesto de comportamiento oportunista por parte de los gobiernos.

1. Introduction

Conventional wisdom suggests that in pre-election periods governments have incentives to stimulate the economy by misusing policy instruments to enhance their prospects of re-election. In a recent series of papers, Alesina and Roubini (1992) and Alesina, Cohen, and Roubini (1992, 1993) have tested for evidence of this type of opportunistic behavior in a large sample of 18 OECD countries. They find some evidence of political monetary cycles, that is, expansionary monetary policy in pre-election periods and of systematic partisan differences in monetary policies.

Apart from the manipulative model of Nordhaus (1975), there exists a new generation of theoretical rational political business cycle models that could account for some of the empirical findings of Alesina, Cohen, and Roubini. In particular, building upon earlier work of Rogoff and Sibert (1988) and Rogoff (1990), a political economy model of monetary policy has been constructed by Fratianni, von Hagen, and Waller (1993). In that paper, governments have the same utility function as private agents but they are also opportunistic. That is, governments care about winning elections and do not have partisan motivations. Moreover, different governments are characterized by different levels of competency and the government is more informed than the voters about its own level of competency. As a consequence, the incumbent government has an incentive to signal its competence by engaging in pre-electoral manipulations of monetary policy.

However, it is debatable that the empirical features cited above are direct consequences of an opportunistic behavior on the part of incumbent governments. In other words, the evidence of pre-electoral expansionary monetary policy can be consistent with a non-opportunistic behavior of governments in the sense that they do not care about winning elections.

In fact, Ellis and Thoma (1993) have recently developed a rational partisan business cycle model based on the assumption that a Mundell-Fleming

effect exists in the economy. With this assumption, their model is able to account for the existence of political monetary cycles and differences in money growth across parties.

The purpose of this paper is to construct a political monetary model based on partisanship and commitment arguments to explain the likely existence of expansionary monetary policy in pre-election periods and partisan differences in monetary policies across parties without relying on opportunistic governmental actions or controversial effects supposedly existing in the economy.

Our approach will be to combine a rational bipartisan model with the model of policy announcements developed by Cukierman and Liviatan (1991). Specifically, it centers upon the introduction of the option that the two competing parties elaborate an electoral economic program to be presented to the voters before the elections are held.

Moreover, economic agents know each party's objective function but they are not able to fully determine what kind of policymaker -dependable (who always lives up to his declarations) or weak (who fulfills previously announced plans only if such a course of action is *ex post* efficient)- will be in charge of monetary policy.

2. The Model

Consider an economy where two distinct political parties (a liberal party, denoted by D and a conservative party, denoted by R) compete periodically for control of the government. Each period of time the parties' preferences are described by the objective functions

$$ud_t(m_t, m_t^e) = b(m_t - m_t^e) - 1/2\ m_t^2; \qquad b > z > 0 \qquad (1)$$

$$ur_t(m_t, m_t^e) = z(m_t - m_t^o) - 1/2\ m_t^2 \qquad (2)$$

where m_t and m_t^e are the actual and rationally expected money growth rates. As Cukierman (1992) points out, there may be several reasons for such an objective function: an employment motive, a revenue motive, a balance-of-payments motive, and a financial stability motive. Following the partisan theory of monetary policy it is assumed that the liberal party cares relatively more about surprise money growth.

Assume further that the winning party directly controls monetary policy. Elections take place every two periods (1, 2) and are held at the beginning of period 1. Thus, period 1 is the post-electoral period and period 2 is the pre-electoral one. The probability distribution of electoral outcomes is taken as exogenous and, like the objective functions, is common knowledge: party D faces a constant probability, P, of being elected.

The literature about the behavior of "strong" and "weak" monetary policymakers shows a tendency to interpret this difference on the grounds of their different relative preferences for monetary surprises (Vickers, 1986; Ayuso, 1991). However, it can be argued that the literature on partisan policies considers this type of interpretation by conceiving a conservative policymaker as strong and a liberal one as weak.

Nevertheless, as in Barro (1986) and Cukierman and Liviatan (1991), there exists an alternative way of seeing those differences. In these papers, both types of policymaker have identical preferences but differ in their ability to precommit to the announcements they make *ex ante* their being in office.[1] Here we encompass both interpretations of the policymaker's type by dividing the policymakers from each party (D, R) into two groups: those who always live up to their promises (dependable, denoted by F) and those who fulfill previously announced plans only if it is *ex post* efficient (weak, denoted by W).

Deviating from an announced policy imposes a fixed cost on a policymaker in each period. Such a cost can be derived from a personal reputation approach. Since each policymaker as an individual may improve his standing in society by living up to their previous promises, a policymaker may encounter a

cost in terms of lower personal reputation if he reneges on previous announcements. Here I will consider that a dependable policymaker incurs a prohibitive cost if announcements are not met and, in turn, his announcement is binding. Moreover, a weak policymaker incurs no cost if previous announcements are not honored and accordingly this policymaker is free to behave according to his preferences.

The public does not know how large this cost is because dependability differs across policymakers and is private information. The distribution of policymakers by their level of dependability may reflect the general norms of society. The adherence to previous announcements varies across individuals in a society (and, therefore, across policymakers) and is, at least *a priori*, information private to each individual. Since policymakers are drawn from the society in which they live there are similar individual variations in dependability across policymakers. The general public is, at least initially, not fully informed about the dependability of the policymaker in office for the same reason that the dependability of a randomly drawn individual is not known with certainty. Given existing norms each individual is informed *a priori* about the distribution of the population but not about the dependability of particular other individuals (Cukierman and Liviatan, 1991).

In our electoral model I incorporate the assumption that within each party (D, R) the monetary policymaker may be dependable or weak. The public knows this feature but at the time expectations are formed, it does not know which type of policymaker (F or W) the winning party will put in charge of monetary policy. Moreover, we assume that the events "party X is elected" (X=D,R) and "party Y's policymakers are dependable" (Y=D,R) are independent.

Since the dependability of a policymaker cannot be ascertained until he is in office, his own party is uninformed about that personal characteristic as it is the general public. Accordingly, the winning party may appoint either a dependable or a weak monetary policymaker without knowing for sure which

4

type he is.

The probability held by the public at the beginning of period t, $t=1,2$, that a liberal monetary authority is dependable is denoted by α_t. Similarly, Ω_t denotes the probability that a conservative policymaker is dependable. α_1 and Ω_1 are the given exogenously priors while α_2 and Ω_2 depend on the monetary policy observed in period 1.

Each party has an option to elaborate an electoral economic program announcing its stance on monetary policy (i.e., the money growth rates for periods 1 and 2).

If the programs are announced, the sequence of events for period 1 is the following:

a) Pre-electoral polls are taken before the election revealing that party D will win with probability P and party R with probability 1-P.

b) Both parties elaborate and announce their electoral programs.

c) The public, knowing P, α_1, Ω_1, and the electoral programs forms money growth expectations for period 1.

After the election a party is in office. One of the two types of policymaker from the party elected runs monetary policy for his two periods in office, but the public does not know the type with certainty. However, the first-period monetary policy observed may convey to the public information about the type of policymaker in office. In choosing first-period money growth, a weak policymaker takes into account the effect of this monetary stance on his second-period reputation. The sequence of events for period 2 are:

d) The public, having observed both the electoral result and period 1 policy, updates its probability of the event that the policymaker is dependable. Then, the public sets money growth expectations for period 2.

e) Finally, the policymaker chooses period 2 money growth.

5

3. Monetary Policy with Electoral Programs

Each electoral term the objective of both types of policymaker within each party are to maximize the present value of utility

$$UD \equiv ud_1(m_1, m_1^e) + \delta ud_2(m_2, m_2^e), \qquad 0 \leq \delta \leq 1 \tag{3}$$

$$UR \equiv ur_1(m_1, m_1^e) + \lambda ur_2(m_2, m_2^e), \qquad 0 \leq \lambda \leq 1 \tag{4}$$

where δ and λ are the liberal and conservative rates of time preference, respectively. The analysis will be performed by assuming that party D is elected. The results can be easily extended to a party R electoral victory.

Consider the behavior of a weak liberal policymaker (DW) in period 2. Since he incurs no cost for reneging on the announcement he always creates money at the discretionary rate. This rate is given by maximizing ud_2 in equation (1). The resulting rate is

$$m_2^{DW} = b \tag{5}$$

However, he may not necessarily pick b in period 1 if he feels it is disadvantageous to be revealed as weak by his choice of first-period monetary stance. That depends on the relationship between the benefit in the first period of choosing b rather than mimicking the dependable policymaker and the cost of being revealed as weak already at the beginning of period 2. If the cost is smaller than the benefit, such a DW policymaker chooses b in period 1, producing a separating equilibrium. If the cost is larger than the benefit, he mimics the behavior of the dependable liberal policymaker (DF) in period 1 producing a pooling equilibrium. Each type of equilibrium will arise depending on the values of the liberal discount factor, δ, of the initial liberal reputation, α_1, and of the probability of being elected, P.

The strategy vectors (announcement and actual monetary stance, respectively) of the two types of liberal policymaker (DF, DW) for each period

are

$$S^{DF} = \left\{ m_1^{Da}, m_1^{DF}, m_2^{Da}, m_2^{DF} \right\} \quad \text{and}$$

$$S^{DW} = \left\{ m_1^{DWa}, m_1^{DW}, m_2^{DWa}, m_2^{DW} \right\}.$$

An equilibrium in pure strategies is a pair of strategy vectors S^i (i=DF,DW) such that S^i maximizes UD in (3) given S^j (j≠i) and the public's expectation formation mechanism. Here it is important to note that the monetary announcements for both periods are made (and contained within an electoral program) before the election is held.

3.1. Separating Equilibrium

Suppose there exists a configuration of parameters (α_1, δ, P) so that a separating equilibrium arises. Since the public knows these parameters, it also knows that the monetary authority will reveal his type by the end of period 1. This implies that the weak policymaker will not mimic the dependable one in the first period. Given this fact, the best choice of actual money growth for DW is the discretionary rate, b, and this is common knowledge. However, the identity of the monetary authority is not known by the public prior to the realization of m_1.

Consider now the following strategy for the DF policymaker. At the start of period 1 he announces a rate of money growth m_1^{Da}. Since he is dependable he also delivers this rate during the period and this fact is known by the public. Hence, the expected money growth rate for period 1 is

$$m_1^e = Pm_1^{De} + (1-P)m_1^{Re} = P[\alpha_1 m_1^{Da} + (1-\alpha_1)b] + (1-P)m_1^{Re} \tag{6}$$

A necessary condition for maximization of UD by DF is the maximization of utility in period 1. Substituting (6) into (1) and noting that $m_1^{Da}=m_1^{DF}$, this problem can be rewritten as

$$\max \; -1/2(m_1{}^{Da})^2 + b\{(1-P\alpha_1)m_1{}^{Da} - P(1-\alpha_1)b - (1-P)m_1{}^{Re}\} \qquad (7)$$

whose solution is

$$m_1{}^{Da} = b(1-P\alpha_1) \qquad (8)$$

The corresponding value of utility is

$$ud_1(m_1{}^{Da}, m_1{}^e) = b^2[1/2 - P + 1/2(P\alpha_1)^2] - b(1-P)m_1{}^{Re} \qquad (9)$$

Since $ud_1[b, Pb+(1-P)m_1{}^{Re}] = b^2(1/2-P) - b(1-P)m_1{}^{Re}$, then $ud_1(m_1{}^{Da}, m_1{}^e)$ exceeds $ud_1[b, Pb+(1-P)m_1{}^{Re}]$ and DF prefers to make the optimal announcement.

In the second and last period type DF is known to be himself with certainty when he is in office, because it is known both which party was elected and the monetary stance in period 1. Therefore, his announcement for the second period is fully believed and $m_2{}^e = m_2{}^{Da}$. Hence, when the monetary authority is a DF policymaker, the second-period utility function reduces to

$$\max \; -1/2(m_2{}^{Da})^2 \qquad (10)$$

This program is maximized for $m_2{}^{Da}=0$ provided the DF policymaker announces within an electoral program that this is the rate of money growth to which he is committed.

Now we examine the behavior of the DW policymaker in the first period. Since equilibrium is separating, such a policymaker knows that he will choose b already in the first period. But he can improve utility by mimicking the announcement, $m_1{}^{Da}$, of the dependable policymaker at the beginning of period 1. The reason is that otherwise first-period utility is $ud_1[b, Pb+(1-P)m_1{}^{Re}]$ since expectations adjust already at the start of that period. However, if $m_1{}^{Da}$ is announced, expectations are given by (6) and utility in period 1 is

$$ud_1(b, m_1{}^e) = b^2\{1/2 - P[\alpha_1(1-P\alpha_1)-P(1-\alpha_1)]\} - b(1-P)m_1{}^{Re} \qquad (11)$$

which is greater than $ud_1[b, Pb+(1-P)m_1{}^{Re}]$.

8

The DW policymaker picks the discretionary rate b in the second period because he no longer is able to affect expectations. For the same reason his second-period announcement has no effect on expectations. As a consequence, in order to not being revealed as weak already in period 1, such a DW policymaker will pick the same second-period announcement chosen by the dependable policymaker. Hence, we find a sole electoral program elaborated by party D. This program contains two monetary announcements: a first-period announcement and a second-period announcement.

Summing up, the equilibrium strategies of the two types under separation are

$$S_s{}^{DF} = \left\{ m_1{}^{Da}, m_1{}^{DF}, m_2{}^{Da}, m_2{}^{DF} \right\} = \left\{ b(1-P\alpha_1), b(1-P\alpha_1), 0, 0 \right\} \qquad (12a)$$

$$S_s{}^{DW} = \left\{ m_1{}^{DWa}, m_1{}^{DW}, m_2{}^{DWa}, m_2{}^{DW} \right\} = \left\{ b(1-P\alpha_1), b, 0, b \right\} \qquad (12b)$$

A separating equilibrium arises if and only if, given the DF policymaker's equilibrium strategy and expectation formation, DW is better off choosing b rather than mimicking DF and creating money at rate $b(1-P\alpha_1)$ in the first period. Hence, if that equilibrium emerges it must provide a two-period utility greater than the utility provided by a mimicking strategy. Such a mimicking strategy is

$$S_m{}^{DW} \equiv S^{DW}|_{mimicking} = \left\{ b(1-P\alpha_1), b(1-P\alpha_1), 0, b \right\} \qquad (13)$$

The present value of his utility under this strategy is

$$UD(S_m{}^{DW}) = 1/2 \, b^2[1 + \delta + (P\alpha_1)^2 - 2P] - b(1-P)m_1{}^{Re} \qquad (14)$$

If, on the other hand, DW adheres to the separating equilibrium in (12b), the present value of his utility is

$$UD(S_s{}^{DW}) = 1/2 \, b^2[1 - \delta + 2(P\alpha_1)^2 - 2P] - b(1-P)m_1{}^{Re} \qquad (15)$$

9

Consequently, a separating equilibrium emerges if and only if $UD(S_s^{DW})$ exceeds $UD(S_m^{DW})$. From (14) and (15) this is equivalent to the condition

$$1/2 \ (P\alpha_1)^2 > \delta \qquad (16)$$

Note that the separating equilibrium in eqs. (12) is the only separating equilibrium. The reason is that in the second period, once their types have been fully revealed, both policymakers always follow their most preferred strategies which are 0 and b for DF and DW, respectively. Since the equilibrium is separating, the best actual monetary stance for DW in period 1 is b. And given separation, m_1^{Da} is the only equilibrium strategy for DF in period 1. As DW is always better off announcing (m_1^{Da}, m_2^{Da}) than doing anything else, both types always announce (m_1^{Da}, m_2^{Da}) in the electoral program.

Hence, there exists a sole equilibrium electoral program for party D when the equilibrium is separating. Such a program is given by eqs. (12).

3.2. Pooling Equilibrium

In a pooling equilibrium there is no separation until the last move of the game which involves the choice of actual money growth in period 2. Hence, in all previous moves DW must mimic DF. That is

$$m_t^{Da} = m_t^{DWa}, \quad t = 1,2 \qquad (17a)$$

$$m_1^{DF} = m_1^{DW} \equiv m_1^{Da} \qquad (17b)$$

Since the DW policymaker cannot commit to stick to the announcement, and since the second period is the last one, the DW policymaker always chooses the discretionary rate, b, in that period. Let m_1^{Da} be the rate of money growth chosen and announced by type DF in period 1. The public knows the parameters of the model and therefore the fact that equilibrium is pooling. Hence, expectations are

10

$$m_1^{De} = m_1^{Da} \qquad (18a)$$

$$m_1^e = Pm_1^{De} + (1-P)m_1^{Re} = Pm_1^{Da} + (1-P)m_1^{Re} \qquad (18b)$$

$$m_2^{De} = \alpha_2 m_2^{Da} + (1-\alpha_2)b = \alpha_1 m_2^{Da} + (1-\alpha_1)b, \text{ if party D is elected} \qquad (18c)$$

The second equality in (18c) is a consequence of the fact that (excluding period 2 money growth) the strategies of both policymakers are identical, as shown by eqs. (17). As a result, there is no change in the probability distribution of policymaker's types held by the public although both the electoral outcome and the first-period money stance are known.

The DF policymaker knows that the public is aware of the fact that the DW policymaker will mimic his announcement and his monetary stance for period 1. Hence, he knows that any announcement will be fully believed as specified in (18a) and (18b). Since both types adhere to their electoral program for period 1, there is no unexpected money growth if party D is elected. The money growth rate that maximizes DF's utility in the first period is obtained by using (18b):

$$\max -1/2(m_1^{Da})^2 + b[m_1^{Da} - Pm_1^{Da} - (1-P)m_1^{Re}] \qquad (19a)$$

The solution is

$$m_1^{Da} = b(1-P) = m_1^{DWa} = m_1^{DW} \qquad (19b)$$

The optimal announcement elaborated by DF for the second period under a pooling strategy is obtained by using (18c):

$$\max -1/2(m_2^{Da})^2 + b[m_2^{Da} - \alpha_1 m_2^{Da} - (1-\alpha_1)b] \qquad (20)$$

The solution is $m_2^{Da} = b(1-\alpha_1)$. To sum up, the strategies of the two policymakers under pooling are

11

$$S_L^{DF} = \left\{ b(1-P), b(1-P), b(1-\alpha_1), b(1-\alpha_1) \right\} \qquad (21a)$$

$$S_L^{DW} = \left\{ b(1-P), b(1-P), b(1-\alpha_1), b \right\} \qquad (21b)$$

and the corresponding expectations are

$$m_1^e = bP(1-P) + (1-P)m_1^{Re}, \qquad m_2^e = b(1-\alpha_1^2) \qquad (21c)$$

A pooling equilibrium arises if and only if, given DF's equilibrium strategy and expectation formation, DW is better off following the strategy S_L^{DW} than deviating from it. If he follows the strategy S_L^{DW}, the present value of his utility is

$$UD(S_L^{DW}) = 1/2 \ b^2[(1-P)^2 + \delta(2\alpha_1^2-1)] - b(1-P)m_1^{Re} \qquad (22)$$

If the DW policymaker decides to deviate from S_L^{DW}, then he chooses b rather than $b(1-P)$ in period 1. However, since he is better off not being revealed prior to the formation of first-period expectations, he still announces a money growth rate equal to $b(1-P)$, thus maintaining first-period expectations at that rate. Since he deviates from the pooling equilibrium strategy, the weak policymaker's type is common knowledge at the start of period 2. Hence, the public expects a monetary stance at rate b for period 2 if both party D won the election and DW deviates in period 1. In summary, the entire strategy of the DW policymaker when he deviates from S_L^{DW} is

$$S_{nm}^{DW} \equiv S^{DW}|_{no \ mimicking} = \left\{ b(1-P), b, b(1-\alpha_1), b \right\} \qquad (23a)$$

and the corresponding expectations are

$$m_1^e = bP(1-P) + (1-P)m_1^{Re}, \qquad m_2^e = b \qquad (23b)$$

Substituting equations (23) into (4), the present value of utility is

$$UD(S_{nm}^{DW}) = 1/2 \ b^2[1 - \delta - 2P(1-P)] - b(1-P)m_1^{Re} \qquad (24)$$

Hence, if and only if $UD(S_L^{DW}) > UD(S_{nm}^{DW})$, a pooling equilibrium emerges, which is equivalent to the condition

$$\delta > P^2/2\alpha_1^2 \qquad (25)$$

4. Conditions for Alternative Types of Equilibrium

Expressions (16) and (25) permit us to completely characterize the conditions leading to alternative types of equilibria. Thus, equilibrium is[2]

separating if and only if $\qquad \delta < P^2\alpha_1^2/2 \qquad (26a)$

pooling if and only if $\qquad P^2/2\alpha_1^2 < \delta \qquad (26b)$

Expression (26a) shows that the smaller α_1 and P the smaller the range of δ's for which separating equilibria emerge. Moreover, (26b) shows that the smaller α_1 and the higher P the smaller the range of δ's for which pooling equilibria arise. The intuition underlying these results is as follows: the smaller the reputation α_1 and the electoral probability P the larger the money growth rate chosen by DF in period 1 when separation is expected (see eq. (8)). However, the larger this rate, the stronger the incentive of the DW policymaker to postpone separation to the last period. Hence, the range of δ's for which equilibrium is separating shrinks.

In addition, as can be seen from eq. (22), the benefit to the DW policymaker of fully mimicking the DF one decreases as reputation declines and P rises. As a consequence, the range of δ's for which there is pooling also shrinks. The intuition is clear: despite following a pooling strategy, a DW policymaker still can surprise the public in period 1 if P is distinct from one. The surprise will be higher the smaller P. At the same time $m_2^e = b(1-\alpha_1^2)$, as (21c) shows. Thus, the surprise DW can obtain in period 2 is lower the smaller α_1.

If we assume that on average the electoral probabilities of liberal and conservative parties are similar ($P \approx 0.5$), then figure 1 fully characterizes

the type of equilibria that -on average- arise for alternative combinations of α_1 and δ. The figure suggests that if we put a diffuse prior on the pair of parameters α_1 and δ, pooling equilibria are likely to emerge but it will be difficult to see separating equilibria. In fact, the condition for a separating equilibrium is virtually unachievable unless policymakers discount the second period almost entirely, since it requires that δ be at most 0.125.

[INSERT FIGURE 1]

5. The Equilibrium Monetary Policy of Party R

Separating, pooling and mixed equilibria for party R are derived similarly to party D's case. In particular, if the common objective of conservative policymakers is to maximize (5) then the results obtained above can be directly extended to party R's case. This is so by substituting R for D, λ for δ, (1-P) for P, and Ω_1 for α_1.

6. Time Paths for Money Growth

Expression (12a) shows that if equilibrium is separating and the policymaker is dependable money growth will be lower in period 2. If the policymaker is weak, money growth does not change across periods as shown by (12b). On average, if equilibrium is separating we will observe decreasing money growth in pre-election periods (period 2). However, as stressed above, the likelihood of observing separating équilibria is very small.

Expression (21a) shows that if equilibrium is pooling and the policymaker is dependable money growth will be higher in period 2 if $P > \alpha_1$. Moreover, (21b) shows that if the policymaker is weak, money growth is always higher in period 2. As a consequence, on average, if equilibrium is pooling money growth will be higher in pre-election periods.

Overall, since separating equilibria are scant and pooling equilibria provide on average higher pre-electoral money growth, our model generates the prediction that money growth will tend to be higher before elections and lower
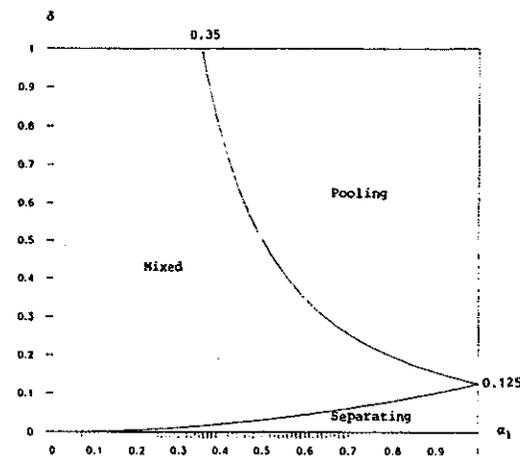
14

Figure 1.
Types of equilibrium corresponding to alternative
configurations of the parameters (P=0.5)

after elections, irrespective of the party in power.

7. Partisan Paths for Money Growth

In general, if we assume that the liberal and conservative rates of time preference are similar and that the dependability does not differ across parties, then the differences that could exist between liberal and conservative money growth rates will depend upon the difference (b-z). Since by assumption this difference is positive, our model predicts that on average money growth rates will be higher under liberal administrations.

8. Conclusions

This paper develops a political monetary model based on partisanship and commitment arguments that explains the likely existence of expansionary monetary policy in pre-election periods irrespective of the incumbent party and of permanent partisan differences in money growth. The approach taken is to incorporate the option that political parties elaborate electoral economic programs into a rational partisan electoral model. The key feature in this work is the imperfect information the public has about a policymaker's ability to stand behind his announcement when in office. This contrasts with Alesina (1988) who emphasizes the difference between previous announcements and actually implemented policies in the framework of an electoral play with rational, forward-looking and fully informed voters. In that paper voters are fully informed about the parties' objective functions and thus will not believe any preelectoral announcements other than the ones which exactly match those genuine preferences. In our framework, on the contrary, the existence of uncertainty about policymakers' type can induce the announcement of only partially credible electoral programs.

The obtained results are broadly consistent with the empirical findings of Alesina, Cohen, and Roubini for a sample that includes three decades in 18 OECD economies. At the same time, they do not rely on either an opportunistic governmental behavior or disputable effects supposedly existing in the economy.

Footnotes

(1) Backus and Driffill (1985) are somewhat less explicit about the source of the differences between strong and weak policymakers; these authors consider a strong policymaker as one who never inflates. This may be due to his not being concerned about monetary surprises or to his being irrevocably committed to a zero money growth rate.

(2) It can be shown that the DW policymaker may have a time consistent mixed strategy constructed from the two pure strategies and an appropriately defined mixing probability. The condition for this strategy to emerge is $P^2\alpha_1^2/2 < \delta < P^2/2\alpha_1^2$. However, for this case to be interesting it needs to be demonstrated that the mixed strategy is preferred by the weak policymaker to either of the pure strategies. Since such a demonstration is very cumbersome from an analitical viewpoint because it will depend upon four parameters (α_1, δ, b, and P), our analysis will be restricted to the two pure strategies.

References

Alesina, Alberto. "Credibility and Policy Convergence in a Two-Party System with Rational Voters." American Economic Review 78 (1988): 796-805.

Alesina, Alberto, and Nouriel Roubini. "Political Cycles in OECD Economics". The Review of Economic Studies 59 (1992): 663-88.

Alesina, Alberto, Gerald Cohen, and Nouriel Roubini. "Macroeconomic Policy and Elections in OECD Democracies." Economics and Politics 4 (1992): 1-31.

_____."Electoral Business Cycle in Industrial Democracies". European Journal of Political Economy 9 (1993): 1-24.

Ayuso, Juan. "Los Efectos de un Anuncio de Inflación". Investigaciones Económicas 15 (1991): 627-44.

Backus, David, and John Driffill. "Inflation and Reputation". American Economic Review 75 (1985): 530-8.

Barro, Robert J. "Reputation in a Model of Monetary Policy with Incomplete Information". Journal of Monetary Economics 17 (1986): 3-20.

Cukierman, Alex. Central Bank Strategy, Credibility, and Independence: Theory and Evidence. Cambrige, Massachusetts: The MIT Press, 1992.

Cukierman, Alex, and Nissan Liviatan. "Optimal Accommodation by Strong Policymakers under Incomplete Information". Journal of Monetary Economics 27 (1991): 99-127.

Ellis, Christopher J. and Mark A. Thoma. "Credibility and Political Business Cycles". Journal of Macroeconomics 15 (1993): 69-89.

Fratianni, Michele, Jürgen von Hagen, and Christopher Waller. "Central Banking as a Principal-Agent Problem." CEPR Discussion Paper No. 752 (1993).

Nordhaus, William D. "The Political Business Cycle." The Review of Economic Studies 42 (1975): 169-90.

Rogoff, Kenneth. "Equilibrium Political Budget Cycles." American Economic Review 80 (1990): 21-36.

Rogoff, Kenneth, and Anne Sibert. "Equilibrium Political Business Cycles." The Review of Economic Studies 55 (1988): 1-16.

Vickers, John. "Signalling in a Model of Monetary Policy with Incomplete Information". Oxford Economic Papers 38 (1986): 443-55.

SERIE DE DOCUMENTOS DE TRABAJO DEL *ICAE*

9301   *"Análisis del Comportamiento de las Cotizaciones Reales en la Bolsa de Madrid bajo la Hipótesis de Eficiencia"*. Rafael Flores de Frutos. Diciembre 1992. (Versión final aceptada para publicación en Estadística Española)

9302   *"Sobre la Estimación de Primas por Plazo dentro de la Estructura Temporal de Tipos de Interés"*. Rafael Flores de Frutos. Diciembre 1992.

9303   *"Cambios de Estructuras de Gasto y de Consumo en el Cálculo del IPC"*. Antonio Abadía. Febrero 1993. (Versión final publicada en Revista de Economía Aplicada, Vol.1, Nº1)

9304   *"Tax Analysis in a Limit Pricing Model"*. Félix Marcos. Febrero 1993.

9305   *"El Tipo de Cambio Propio: Reformulación del Concepto y Estimación para el Caso Español"*. José de Hevia Payá. Junio 1993. (Versión final aceptada para publicación en Revista Española de Economía)

9306   *"Price Volatility Under Alternative Monetary Instruments"*. Alfonso Novales. Abril 1992.

9307   *"Teorías del Tipo de Cambio: Una Panorámica"*. Oscar Bajo Rubio. Simón Sosvilla Rivero. Junio 1993. (Versión final publicada en Revista de Economía Aplicada, Vol.1, Nº2).

9308   *"Testing Theories of Economic Fluctuations and Growth in Early Development (the case of the Chesapeake tobacco economy)"*. Rafael Flores de Frutos. Alfredo M. Pereira. Diciembre 1992.

9309   *"Maastricht Convergence Conditions: A Lower Bound for Inflation?"*. Jorge Blázquez. Miguel Sebastián. Marzo 1992.

9310   "Recursive Identification, Estimation and Forecasting of Nonstationary Economic Time Series with Applications to GNP International Data". A. García-Ferrer. J. del Hoyo. A. Novales. P.C. Young. Marzo 1993.

9311   "General Dynamics in Overlapping Generations Models". Carmen Carrera. Manuel Morán. Enero 1993. (Versión final aceptada para publicación en Journal of Economic Dynamics and Control)

9312   "Further Evidence on Forecasting International GNP Growth Rates Using Unobserved Components Transfer Function Models". A. García-Ferrer, J. del Hoyo, A. Novales, P.C. Young. Septiembre 1993. (De próxima aparición en un volumen de homenaje a A. Zellner)

9313   "Public Capital and Aggregate Growth in the United States: Is Public Capital Productive?". Rafael Flores de Frutos. Alfredo M. Pereira. Julio 1993.

9314   "Central Bank Structure and Monetary Policy Uncertainty". José I. García de Paso. Abril 1993.

9315   "Monetary Policy with Private Information: A Role for Monetary Targets". José I. García de Paso. Julio 1993.

9316   "Exact Maximum Likelihood Estimation of Stationary Vector ARMA Models". José Alberto Mauricio. Julio 1993. (Versión final aceptada para publicación en Journal of the American Statistical Association)

9317   "The Exact Likelihood Function of a Vector ARMA Model". José Alberto Mauricio. Julio 1993.

9318   "Business Telephone Traffic Demand in Spain: 1980-1991, An Econometric Approach". Teodosio Pérez Amaral. Francisco Alvarez González. Bernardo Moreno Jiménez. Septiembre 1993. (Versión final aceptada para publicación en Information Economics and Policy)

9401   "Contrastes de momentos y de la matriz de información". Teodosio Pérez Amaral. Junio 1994. (Versión final aceptada para publicación en Cuadernos Económicos del ICE)

9402   "A partisan explanation of political monetary cycles". José I. García de Paso. Junio 1994.

9403   "Estadísticos para la detección de observaciones anómalas en modelos de elección binaria: Una aplicación con datos reales". Gregorio R. Serrano. Junio 1994.

9404   "Effects of public investment in infraestructure on the spanish economy". Rafael Flores de Frutos. Mercedes Gracia Díez. Teodosio Pérez Amaral. Junio 1994.

9405   " Observaciones anómalas en modelos de elección binaria". Mercedes Gracia. Gregorio R. Serrano. Junio 1994. (Versión final aceptada para publicación en Estadística Española)

9406   " Permanent components in seasonal variables". Rafael Flores. Alfonso Novales. Junio 1994.

9407   " Money demand instability and the performance of the monetary model of exchange rates". Rodrigo Peruga. Junio 1994.

9408   " Una nota sobre la estimación eficiente de modelos con parámetros cambiantes". Sonia Sotoca. Junio 1994.

9409   " Distribución de la renta y redistribución a través del IRPF en España". Rafael Salas. Junio 1994.

9410   " Trade balances: Do exchange rates matter?". Rodrigo Peruga. Junio 1994.