Fondazione
Eni
Enrico Mattei

Political Cycles : The Opposition Advantage

Pascal Gautier and Raphaël Soubeyran

NOTA DI LAVORO 129.2005

OCTOBER 2005

PRCG – Privatisation, Regulation, Corporate Governance

Pascal Gautier and Raphaël Soubeyran, *GREQAM, Université d'Aix-Marseille II*

Political Cycles: The Opposition Advantage

Summary

We propose a two dimensional infinite horizon model of public consumption in which investments are decided by a winner-take-all election. Investments in the two public goods create a linkage across periods and parties have different specialities. We show that the incumbent party vote share decreases the longer it stays in power. Parties chances of winning do not converge and, when the median voter is moderate enough, no party can maintain itself in power for ever. Finally, the more parties are specialized and the more public policies have long-term effects, the more political cycles are likely to occur.

Keywords: Cycles, Alternation, Public goods, Advantage, Opposition

JEL Classification: D72, H41, C72

Address for correspondence:

Pascal Gautier
GREQAM, Université d'Aix-Marseille II
Château Lafarge, Route des Milles
13290 Les Milles
France
Phone: +33 0 442935980
Fax: +33 0 442930968
E.mail: pgautier@univaix

In modern democracies, the alternation of political parties in power is a frequent phenomenon. Why isn't there a greater persistence of parties in power ? How can one explain the turnover of parties in government ? How can one explain political cycles ? We propose a theoretical model of political cycles, where the share of a party's vote decreases with the time it controls government. This effect, that we call "the opposition advantage", is different from the well known incumbent effect. Indeed, the incumbency effect measures the advantage given to the incumbent candidate competing with a challenger. The opposition effect measures the advantage of a candidate affiliated to the opposition party, when he competes against a candidate of the party in power, who is not necessarily the incumbent politician.

We propose an explanation of the opposition advantage and show that it can be a cause for political and policy cycles. We propose an infinite horizon model of repeated elections with two parties built on two main assumptions: policies have long-term effects[1], but are not irreversible, and parties have comparative advantages for the provision of two public goods. The two goods are imperfectly substituable for voters. For example, citizens need good education and security at the same time. When voters are moderate, they may wish that both parties govern, but they can only elect one of them at a time. In this context, the opposition party can offer more moderate policies. Indeed, the opposition can propose to keep the incumbent party policy long-term effect and satisfy voters in focusing on the public good that it has a comparative advantage upon. On the contrary, the party in power cannot benefit from the comparative advantage of the opposition party. These two arguments suggest that the opposition party may be advantaged.

Our analysis has to be distinguished from studies focusing on politicians' careers and swings in their popularity. A large strand of this literature deals with the "Incumbency advantage"[2]. This theory is supported by overwhelming evidence, both in Senate elections and in elections to the House of representatives. Some of the major factors of the incumbency advantage are

---

[1]Many public goods have long-term effect. Important examples are national defense activities, welfare programs, environmental clean-up, buiding states schools, roads ....

[2]Ansolabehere and Snyder (2002) provide an excellent survey of the incumbency advantage literature, and an empirical contribution on state and federal elections in U.S. for the period 1942-2000. They find strong support for the incumbency advantage in state executives elections and conclude that explanations specific to the legislators incumbency advantage are not convincing.

redistricting[3], seniority systems[4], and the lack of collective responsibility[5].

Scholars explain political cycles with psychological arguments[6], the main one being disappointment. The "Negativity effect" theory[7] is built on the following remark: voters' decisions are based on the incumbent's past performance and negative pieces of information have a greater impact than positive pieces of information. There exist two different explanations for this observation, the first one suggests that voters have a high esteem for powerful figures and are more easily disappointed than positively surprised by the government performance; the second (Abelson and Levy, 1985) states that the electorate has a strong risk aversion for potential costs of re-electing a politician who has demonstrated his bad performance. In the light of the negativity effect, Aragones (1997) obtains a result of systematic alternation of the two parties implementing different policies. In our analysis, there is no uncertainty and electorate decisions are not based on past performance, but as usually in political models, for their preferred party at each election. Finally, the negativity and incumbency effects affect the election outcome in opposing directions. The first one leads to the defeat of the incumbent , whereas the second one leads to the re-election of the incumbent. Both theories focus on individual politicians. Differently, our study does not deal with politicians but with parties.

In our model, political cycles emerge as a consequence of the opposition effect. There exists very few models considering this determinant of political cycles. Kramer (1977) and Bendor, Mookherjee and Ray (2005), study dynamic models of electoral competition between two parties with myopic behavior. Kramer (1977) suppose that the incumbent cannot change his policy whereas the challenger can locate anywhere in the policy space. He shows that candidates systematically alternate in power. Bendor, Mookherjee and

---

[3]Cox and Katz (2002) state that redistricting caused the rise of legislators incumbency advantage after the 60s.

[4]McKelvey and Riezman (1992) argue that seniority tends to create a disencentive to vote for challengers.

[5]See Persson and Tabellini (2000, chapter 4) for a survey of the incumbents accountability litterature.

[6]See Goertzel (2005) for a review of the american voters mood changes litterature. Schlesinger (1949, 1986, 1992) consider that the electorate is inevitably disappointed by the party or the ideology that is in power. Klinberg (1952) suggests that American mood in public opinion balances between introversion and extroversion. This could expalin why domestic and foreign concerns alternate through time and parties turnover in power.

[7]See Aragones (1997) for a survey.

Ray (2005) propose a model based on a satisfycing behavior of the incumbent and a search behavior of the challenger. If the winning candidate is satisfied, then he does not change his policy until he loses the election, whereas the challenger is not satisfied, then he searches a policy that can defeat the incumbent. In our study, parties, once elected, are not constrained to keep their policy the next election. Parties behave strategically, they try to win the present election in selecting their platforms and their behavior do not change whether they are in power or not.

Another topic related to our analysis are policy cycles. Many scholars argue that policy cycles are generated by economic cycles[8]. We propose a different explanation;.in our model, policy cycles are not generated by economic shocks but by the political structure. Since parties implement different policies[9], political turnover and policy changes are clearly related. In a very different framework, Roemer (1995) shows that policy cycles arise because of stochastic changes in voters preferences in a model with policy motivated candidates with uncertainty. Our approach is different in many aspects. We suppose that parties are only office motivated and the non-convergence of platforms does not result from uncertainty but from parties multidimensional heterogeneity. Furthermore, we show that perpetual cycles (but not necessarily periodic) appear in a context with no uncertainty.

In considering an infinite number of successive elections and a dynamic link coming from public policies long-term effects, our work contributes to the literature of infinite horizon models of repeated elections. This literature is mainly focused on the dynamic inefficiency of government [10]. Battaglini and Coate (2005) consider an infinite horizon model of collective spending and taxation. Public decisions are determined through a legislative bargaining process. Agents are forward looking, they take decisions in anticipating the

---

[8]A huge litterature studies political business cycles. See Berry (1991) for a survey.

[9]Hibbs (1977), Beck (1982), and Chappel and Keech (1986) show that Democrat and Republican governments have different influences on the unemployment rate. Alesina and Sachs (1988) and Tabellini and La Via (1989) show that parties are associated with different monetary policies.

[10]Baron (1996) studies a dynamic model of pork barrel policies. Gomes and Jehiel (2004) analyze the persistence of innefficiencies in a general framework of social and economic interactions that can be applied to legislative bargaining, coalition formation or exchange economies. Hassler, Storesletten and Zilibotti (2003) study public good provision in an OLG model, where an age-dependant taxation creates distorsions in human capital investment. Azzimonti, Sarte and Soares (2003) focus on the role of commitment in a dynamic public spending and taxation model.

outcomes of futures elections. The authors objective is very different from ours, because they concentrate on long-term government inefficiencies[11]. We do not analyze taxation and debt problems, then we suppose that the tax rate is fixed and that there is no saving and no debt.

Finally, in considering parties with different competences, our work contributes to the literature on valence in politics. A growing literature deals with models where policy and quality are orthogonal dimensions[12]. Here, we suppose that parties' competences are different according to the different policies[13]. Other authors analyze agency problems[14], where politicians are associated to a policy-dependent competence level and voters have incomplete information on politicians type and/or actions[15]. We extend the assumption of heterogeneous competences to the case of two dimensions, but we suppose that they are common knowledge.

The paper is organized as follows. In section 1, we present voters behavior and parties constraints. In section 2, we derive the multiple possible outcomes of the electoral competition. In section 3, we show that the opposition party is advantaged. In section 4, we present our main results: the probability of winning cannot converge; when the median voter is extremist, a party can stay in power for ever, whereas when he is moderate, no party can keep power for ever; and we show that cycles are more likely to occur when the depreciation rate is low and when parties are strongly specialized. In section

---

[11]In a close study, Azzimonti-Renzo (2005) analyzes government long-term innefficiences when the decision maker is atomistic.

[12]This litterature, initiated by Stokes (1992) focus on the problem of equilibrium existence and platforms location in spatial models when candidates have different "scores" on the quality dimension. Ansolabehere and Snyder (2000) study the unidimensional model in a world of certainty; Aragones and Palfrey (2002) analyze the case where candidates maximize their share of votes and overcome the pure strategy equilibrium non-existence problem in studying mixed strategy equilibrium for small advantage levels. Groseclose (1999) and Aragones and Palfrey (2004) add candidates policy concerns.

[13]As noticed by Prat (2002): "One may doubt that [voters] utility is separable in policy and valence. A left wing voter may prefer an inept right-wing politician to an effective right-wing politician because the latter is more likely to live up to his or promises and pass right-wing legislation. Still, an inept politician creates pure inefficiencies which are costly to all citizens."

[14]See again Persson and Tabellini (2000, chapter 4, section 4.7) for a review of this literature.

[15]Rogoff and Siebert (1988) propose a model of adverse selection and Rogoff and Sundaram (1993, 1996) study politician accountability in models with moral hazard and adverse selection.

6, we discuss two candidates objectives (re-election concerns and rent-seeker candidates). Finally, we conclude in section 7.

1 The model

We consider an infinite horizon model of repeated elections with two opportunistic parties A and B. Each period, voters elect a party and the new government implements his platform. Then, another election takes place, and so on. The government provides two durable public goods, a and b, that depreciate each period with a constant rate δ in $[0, 1]$, and the government 's budget is normalized to 1 at any period. A new government can either keep the existing stocks or transform one of the public good into the other. Specifically, if the level of public good g ($g = a, b$) after election t is g_t and $I_{g,t+1}$ new units are produced by the government in period $t + 1$, then the level in period $t + 1$ is[16]:

$$g_{t+1} = (1 - \delta) g_t + I_{g,t+1},$$

where $g = a, b$. The level g_{t+1} can be either greater or smaller than g_t. When $g_{t+1} \geq g_t$, this means that the government at time $t + 1$ chooses to keep the stock of public good g. If $g_{t+1} < g_t$, the government either undoes or does not invest enough in good g to maintain its level. A policy z_t is a couple of public goods quantities (a_t, b_t).

Voters:

Voters differ in the weight they place on the two public goods. Voter i's weight for the first public good is denoted by α_i, belonging to the unit interval $[0, 1]$. The preferences of voter i are represented by:

$$W_i (a_t, b_t) = \alpha_i \ln (a_t) + (1 - \alpha_i) \ln (b_t),$$

where a_t and b_t are the public goods stocks after date t. The policy after election t is noticed $z_t = (a_t, b_t)$.

This kind of preferences, introduced by Tabellini and Alesina (1990), allows voters to disagree about which quantities of public goods to consume.

---

[16]Azzimonti-Renzo (2005) and Battaglini and Coate (2005) make the same assumption on the long-term effect of public spending.

Furthermore, these preferences belong to the class of "intermediate preferences" defined by Grandmont (1978), and verify the single crossing property (Grandmont, 1978). The median voter theorem applies, i.e. the median voter's preferred policy is the unique Condorcet winner. The preferred policy of the median voter, characterized by α_m, is thus the Condorcet winner in our context.

It is important to notice that the identity of the median voter α_m, does not depend on the date, i.e, is independent of the dynamics of the model.

Parties:

At each period, both parties propose credible platforms in order to win the election. The government's

budget constraint is:

$$I_{a,t} + I_{b,t} \leq 1,$$

We define a party as a stable organization, which can provide the two public goods. We suppose that the two parties are specialized: party A has a comparative advantage in providing good a and party B a comparative advantage in providing good b. This advantage will be captured by two constants, $\eta^A \in]1, \overline{\eta}]$ and $\eta^B \in]1, \overline{\eta}]$ which are inversely related to the marginal cost of providing the public goods. Finally, we suppose that the technology for providing both public goods has constant returns to scale, with marginal costs of $1/\eta^A$ and 1 for party A and 1 and $1/\eta^B$ for party B. With these specifications in mind, we write the budget constraints of the two parties at an election at date t as:

Party A:

$$\frac{a_t - (1 - \delta) a_{t-1}}{\eta^A} + b_t - (1 - \delta) b_{t-1} \leq 1, \tag{A}$$

Party B:

$$a_t - (1 - \delta) a_{t-1} + \frac{b_t - (1 - \delta) b_{t-1}}{\eta^B} \leq 1, \tag{B}$$

where stocks of the two public goods must be positive, i.e., $a_t, b_t \geq 0$. Inequality (A) defines party A's set of policy $\mathbf{A}(t)$ and inequality (B) define party B's set of policy $\mathbf{B}(t)$.

2 Political Equilibria

2.1 The median voter choice

The median voter selects the winning party, and her choice drives the dynamics of successive elections. We start the analysis by deriving her preferred platform over the set of credible platforms. The median voter's preferred policy over $\mathbf{A}(t)$, denoted m_t^A is the solution to:

$$\underset{(a_t, b_t)}{Max} \ [W_i(a_t, b_t)] \tag{MA}$$

$$s.t. : (a_t, b_t) \in \mathbf{A}(t)$$

and her preferred platform over $\mathbf{B}(t)$, denoted m_t^B is the solution to:

$$\underset{(a_t, b_t)}{Max} \ [W_i(a_t, b_t)] \tag{MB}$$

$$s.t. : (a_t, b_t) \in \mathbf{B}(t)$$

Straightforward calculations allow us to characterize the median voters' preferred policies:

$$m_t^A = \left(\eta^A \alpha_m s_{t-1}^A, (1 - \alpha_m) s_{t-1}^A \right),$$

$$m_t^B = \left(\alpha_m s_{t-1}^B, \eta^B (1 - \alpha_m) s_{t-1}^B \right),$$

where $s_{t-1}^A = 1 + (1 - \delta) \left(b_{t-1} + \frac{a_{t-1}}{\eta^A} \right)$ and $s_{t-1}^B = 1 + (1 - \delta) \left(a_{t-1} + \frac{b_{t-1}}{\eta^B} \right)$.

Hence, the derivation of the median voter's preferred platform depends on the public goods stocks a_{t-1} and b_{t-1}. She has to compare m_t^A and m_t^B. Let $\Lambda_t(.)$ be such that:

$$\Lambda_t(\alpha_m) = \frac{s_{t-1}^A}{s_{t-1}^B} \frac{\left(\eta^A \right)^{\alpha_m}}{\left(\eta^B \right)^{1 - \alpha_m}},$$

The median voter weakly prefers m_t^A to m_t^B if and only if $W_i\left(m_t^A \right) \geq W_i\left(m_t^B \right)$. With simple computations, one can show that the median voter weakly prefers m_t^A to m_t^B if and only if $\Lambda_t(\alpha_m) \geq 1$. Not surprisingly, the more A is competent, the less B is competent, and the more α_m is high, the higher the likelihood that the median voter chooses a policy in A's policy set.

2.2 Equilibria

Parties select their platforms in order to win the election. Party A (respectively party B) maximizes is probability of victory π_t^A (respectively π_t^B). In the case where the median voter is indifferent between the two programs, we suppose that each party is equally likely to win the election. We denote by z_t^A party A's platform and by z_t^B party B's platform in the election at date t. Let $\mathbf{M}^A(t)$ (respectively $\mathbf{M}^B(t)$) be the set of party A platforms strictly preferred to m_t^B (respectively to m_t^A). Formally:

$$\mathbf{M}^A(t) = \left\{ z_t \in \mathbf{A}\left(t\right) : W_m\left(z_t\right) > W_m\left(m_t^B\right) \right\},$$

$$\mathbf{M}^B(t) = \left\{ z_t \in \mathbf{B}\left(t\right) : W_m\left(z_t\right) > W_m\left(m_t^A\right) \right\},$$

Since parties are only interested in winning the election, a platform that the rival cannot defeat is an equilibrium strategy. This leads to a multiplicity of Nash equilibria, summarized in the following proposition:

Proposition 1 *The set of Nash equilibrium is always non empty and is:*
(i) $\mathbf{M}^A(t) \times \mathbf{B}\left(t\right)$ if $\Lambda_t > 1$, and A is elected,
(ii) $\mathbf{A}\left(t\right) \times \mathbf{M}^B\left(t\right)$ if $\Lambda_t < 1$, and B is elected,
(iii) $\left(m_t^A, m_t^B\right)$ if $\Lambda_t = 1$, and A and B are elected with probability $\frac{1}{2}$.

(Proofs are reported in the appendix.)

These results lead to several observations. First, because parties only want to win the election and the information is complete, one party is in general certain to be elected (in cases (i) and (ii)). This party can propose many winning platforms, whereas the loser locates anywhere in his policy set. Figure 2 illustrates this kind of equilibrium:

Second, in very specific circumstances (in case (iii)), the median voter is indifferent between the two parties (see Figure 3). If this event occurs, it will dramatically change the dynamics of elections, as we discuss section 4.1.
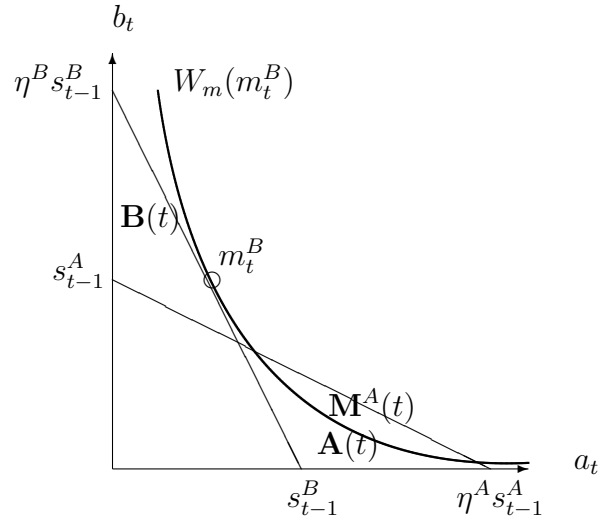
Figure 1: Candidate A winning strategies when $\Lambda_t > 1$
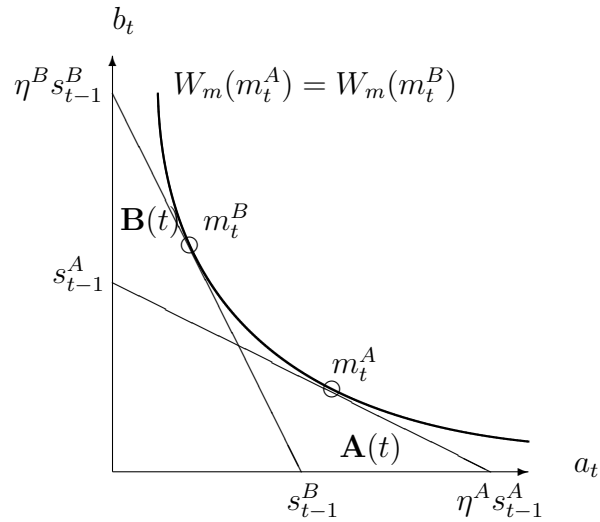
Figure 2: Equilibrium strategies when $\Lambda_t = 1$

3 The opposition advantage

In this section, we discuss about the advantage conferred to the party in the opposition. Consider two elections at dates t and $t + 1$, and suppose that B wins the election at date t. Then B implements his policy $z_t^B = \left(a_t^B, b_t^B \right) \in$

$\mathbf{M}^B(t)$, one of his equilibrium platform for election t. Since B is the winner, it is necessarily true that $\Lambda_t \leq 1$. First remark that $z_t^B \notin \mathbf{A}(t)$ because of the definitions of $\mathbf{M}^B(t)$ and m_t^A, so that z_t^B must satisfy

$$\frac{a_t^B - (1 - \delta)\, a_{t-1}}{\eta^A} + b_t^B - (1 - \delta)\, b_{t-1} > 1,$$

This simply means that if A would try to imitate B at election t, then he would violate his budget constraint. Furthermore, since B wins at t, then $(a_t, b_t) = \left(a_t^B, b_t^B\right)$. This last equation can be then rewritten as follows:

$$s_t^A - 1 > (1 - \delta)\, s_{t-1}^A. \tag{1}$$

By definition, $z_t^B \in \mathbf{B}(t)$, so that:

$$a_t^B - (1 - \delta)\, a_{t-1} + \frac{b_t^B - (1 - \delta)\, b_{t-1}}{\eta^B} \leq 1,$$

or, equivalently,

$$s_t^B - 1 \leq (1 - \delta)\, s_{t-1}^B. \tag{2}$$

Using equations 1 and 2, we obtain:

$$\frac{s_{t-1}^A}{s_t^B} < \frac{s_t^A - 1}{s_t^B - 1},$$

Furthermore, it is easy to check that $\frac{s_t^A}{s_t^B} \geq \frac{s_t^A - 1}{s_t^B - 1}$, only because s_t^A and s_t^B are strictly greater than 1. Finally, the relative advantage of party A is strictly greater at election $t + 1$ than at election t. This result is summarized in the next proposition:

Proposition 2 *At each election, the relative advantage of the opposition party increases: for all t where A is the opposition party, $\Lambda_{t+1} > \Lambda_t$.*

(Proof: see the reasoning above.)

This result states that the share of votes of the opposition party generally increases from one election to the next. The intuition of this result is that when a party is elected, since he must implement his promises, he gives the opposition party the opportunity to propose a more satisfactory platform on both dimensions. This effect drives the dynamics of elections and, when it is sufficiently large, can lead to a switch in power between the majority and the minority.

4 Political Cycles

In this section, we study the dynamics of elections and public good provision. The questions arising at this point are: What is the long run behavior of the dynamics of elections ? Does the parties' probability of winning converge to one half ? How do cycles depends on the median voter preferences ? On the parties competences ? On the durability of public goods?

4.1 Do parties' winning probabilities converge?

We focus on the special case (iii), where each candidate has one half chance of winning election k. We have shown that the sequence $(\Lambda_t)_t$ is decreasing when A is not in power, and, by symmetry, is increasing when A is in power. Then, the sequence is either always increasing and then for all t, $\Lambda_t \leq 1$, always decreasing and for all t, $\Lambda_t \geq 1$, or follows a cycle.

This sequence can not converge to 1. Indeed, suppose that there exists an election k such that $\Lambda_k = 1$. Then each party has one half chance of being elected in k. Without loss of generality, suppose that A is elected, then $\Lambda_{k+1} < \Lambda_k = 1$, and party B is elected for sure in $k + 1$. The following corollary of proposition 2 summarizes this result:

Corollary 1 *If $\Lambda_k = 1$, the elected party in k is defeated in $k + 1$.*

(The proof relies on the simple argument above.)

The intuition of this result is that, when the median voter is indifferent between both platforms ($\Lambda_k = 1$), he would indeed like both platforms to be implemented in turn[17]. But only one party is elected, and provides a polarized platform. At the next election, the opposition party will provide a policy which uses the stock of public goods implemented by the majority, but is closer to the median voter's preferences.

4.2 Stable power

The following proposition provides sufficient conditions for a party to constantly remain in power.

---

[17]The intuition is close to Alesina and Rosenthal (1996) at the difference that, in our model, voters cannot mix policies during a unique mandate, but they get mixed policies through successive mandates with parties turnover.

Proposition 3 *There exists* $0 < \underline{\alpha} < \overline{\alpha} < 1$ *such that, for all* $\left(\alpha_m, \delta, \eta^A, \eta^B, a_0, b_0\right) \in$
$[0,1]^2 \times]1, \overline{\eta}]^2 \times R_+^2$:
(i) If $\alpha_m \in [0, \underline{\alpha}]$, *then party B wins all elections,*
(ii) If $\alpha_m \in [\overline{\alpha}, 1]$, *then party A wins all elections.*

(Proof: see the appendix)

The intuition of this result is straightforward. If the median voter has extreme tastes, then one of the two parties is abbe to keep power forever by exploiting its comparative advantage in providing one of the two policies.

4.3 Cycles

We now analyze cycles where parties alternate in power. We wish to know when these cycles are not conjunctural, namely, when they are independent of the initial stocks of public good, a_0 and b_0. We define political cycles in the following way:

Definition 1 *A set of parameters* $\left(\alpha_m, \delta, \eta^A, \eta^B, a_0, b_0\right) \in [0,1]^2 \times]1, \overline{\eta}]^2 \times R_+^2$, *exhibits* **political cycles** *if and only if no party wins an infinite number of consecutive elections.*

Formally, we study the case where the sequence $(\Lambda_t)_t$ does not converge and does not diverge. Unfortunately, because there exist many equilibria at each election, we cannot give necessary and sufficient conditions on the set of parameters such that it exhibits political cycles. However, we propose a sufficient condition for the existence of political cycles:

Proposition 4 *For all* $\left(\delta, \eta^A, \eta^B, a_0, b_0\right) \in]0, 1[\times]1, \overline{\eta}]^2 \times R_+^2$, *there exist* $\alpha_1 < \alpha_2$ *both in* $[0,1]$, *such that: if* $\alpha_m \in [\alpha_1, \alpha_2]$ *no party can maintain itself indefinitely in power.*

4.4 Comparative statics

Since there exist many equilibria, it seems complicated to provide general comparative statics. To give an insight into the influence of the depreciation rate and the candidates competences on political cycles we suppose, for simplicity, that the winning candidate always implements the median voter

preferred platform[18], that is m_t^A (respectively m_t^B) when candidate A (respectively candidate B) wins the election t. Furthermore, we consider the simple case where $\eta^A = \eta^B = \eta$, i.e. when candidates are equally competent in their respective specialities. Under these assumptions, we obtain the following comparative statics results:

Proposition 5 *The interval* $[\alpha_1, \alpha_2]$ *defined in Proposition 4 is unique and,*

$$\frac{\partial (\alpha_2 - \alpha_1)}{\partial \eta} > 0,$$

and,

$$\frac{\partial (\alpha_2 - \alpha_1)}{\partial \delta} < 0.$$

The higher the specialization of parties, the larger the parameter range for which political cycles occur. When parties become more specialized, they implement more extreme policies and the median voter is more willing to switch in order to see the other good provided. When the depreciation rate increases, goods have shorter effects and voters need less power turnover.

5 Extensions: parties' lexicographic preferences

The results presented in the precedent sections hold without specifying the choice of an elected party among the generally large set of winning policies. We now allow parties to select one policy in order to maximize a sub-objective function. In other words, parties of lexicographic preferences: they first want to be elected, and select among the winning platforms that platform which maximizes their subobjective. Formally, party A's program becomes:

$$\underset{z_t^{A*} \in \mathbf{A}(t)}{Max} \ \Pi_t^A \left(z_t^{A*}, z_t^B \right),$$

$$s.t. \ : \ \forall z_t^A \in \mathbf{A}(t), \ \pi_t^A \left(z_t^{A*}, z_t^{B*} \right) \geq \pi_t^A \left(z_t^A, z_t^{B*} \right),$$

---

[18]The median voter preferred platform is always an equilibrium platform for the winning candidate.

and candidate B's program is:

$$\underset{z_t^{B*} \in \mathbf{B}(t)}{Max} \ \Pi_t^B \left(z_t^A, z_t^{B*} \right),$$

$$s.t. \ : \ \forall z_t^B \in \mathbf{B}(t), \ \pi_t^B \left(z_t^{A*}, z_t^{B*} \right) \geq \pi_t^B \left(z_t^{A*}, z_t^B \right),$$

5.1 Re-election concerns

Suppose that parties want to be re-elected, and consider the following reduced form for a long-run, non myopic behavior of political parties. At the election at date t, the winning party's subobjective is to maximize his relative advantage in the next election, that is Λ_{t+1} for party A, and $\frac{1}{\Lambda_{t+1}}$ for party B. A party first wishes to be elected, and then to create the most favorable conditions for its re-election. If $\Lambda_t = 1$, then equilibrium programs are derived from their first objective of victory and they play $\left(m_t^A, m_t^B \right)$. But, if $\Lambda_t \neq 1$, for example $\Lambda_t > 1$, then party A can choose many winning programs. In this case, it chooses a platform $z_t^A = \left(a_t^A, b_t^A \right) \in \mathbf{M}^A(t)$. Hence, its relative advantage for the next election is $\Lambda_{t+1} = \frac{1+(1-\delta)\left(b_t + \frac{a_t}{\eta^A} \right)}{1+(1-\delta)\left(a_t + \frac{b_t}{\eta^B} \right)} \frac{\left(\eta^A \right)^{\alpha m}}{\left(\eta^B \right)^{1-\alpha m}}$. Intuitively, since Λ_{t+1} is decreasing in a_t and increasing in b_t, party A will choose a program with a minimum of good a and a maximum of good b. Unfortunately, Λ_{t+1} has no maximum in $\mathbf{M}^A(t)$, but it has a supremum value:

Proposition 6 Λ_{t+1} *admits a supremum over* $\mathbf{M}^A(t)$ *and there exists a unique corresponding program with a minimum quantity of a and a maximum quantity of b.*

(The Proof is in the appendix)

This result suggests that parties seeking re-election choose very inefficient platforms, because they do not fully exploit their comparative advantage. The intuition is that a party has to provide some of the public good that he is not competent at producing, in order to induce voters to reelect him next period. Figure 4 illustrates this inefficient platform, denoted $\overline{z}_t^A$, when A wins the election:

15
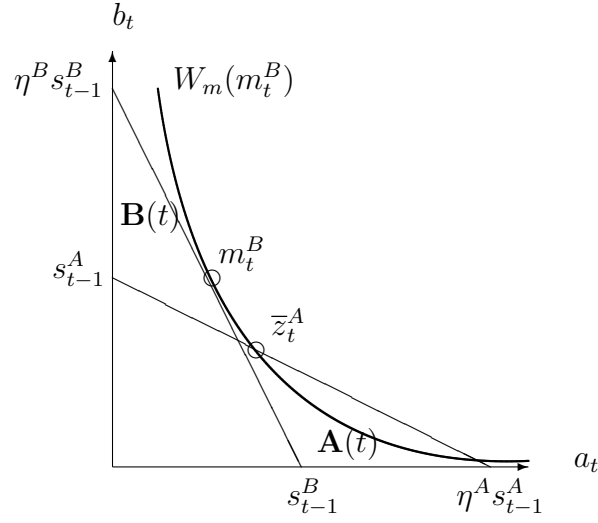
Figure 3: When candidate A has re-election concerns and $\Lambda_t > 1$

5.2 Rent-seeker candidates

The results of previous sections also hold when the candidates' sub-objective is to extract rents from power. Formally, if A wins the election, he chooses to maximize his rent from power:

$$\underset{r_t^A}{Max}\left[r_t^A\right]$$

$$s.t. \quad : \quad \frac{a_t^A}{\eta^A} + b_t^A + r_t^A \le s_{t-1}^A$$

$$\text{and,} \quad \left(a_t^A, b_t^A\right) \quad \in \quad \mathbf{M}^A(t)$$

As in the case of reelection concerns, the problem has no maximum in $\mathbf{M}^A(t)$, but a supremum exists:

Proposition 7 *(i) If $\Lambda_t \ge 1$, $r_t^{A*} = \left(1 - \frac{1}{\Lambda_t}\right) s_{t-1}^A$ is the supremum of r_t^A over $\mathbf{M}^A(t)$,*
(ii) If $\Lambda_t \le 1$, $r_t^{B*} = (1 - \Lambda_t) s_{t-1}^B$ is the supremum of r_t^B over $\mathbf{M}^B(t)$.

One can approximate the maximization program in supposing that the winning candidate P chooses to extract $r_t^{P*} - \varepsilon$, with ε being an infinitesimal positive real number. Then, the higher the relative advantage of candidate

16

A (Λ_t), the higher the rents he can extract. Figure 5 illustrates this result, where candidate A's equilibrium platform is denoted $\overline{z}_t^A$:
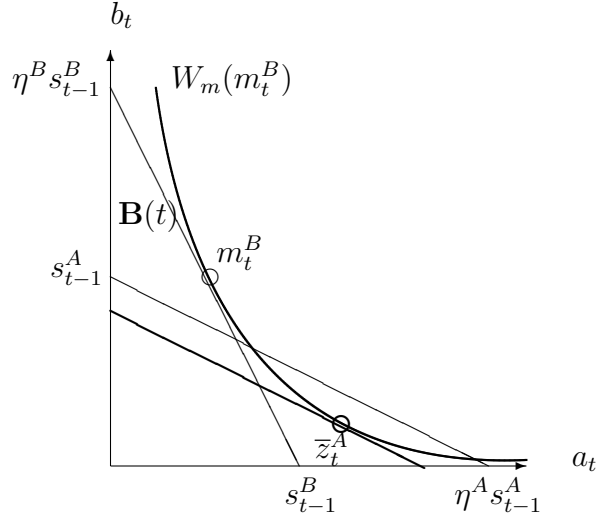
Figure 4: When candidate A has re-election concerns and $\Lambda_t > 1$

Furthermore, notice that we know from Proposition 2, that $\Lambda_{t+1} > \Lambda_t$. Hence, if A wins the election at t and $t + 1$, we obtain that $r_{t+1}^{A*} < r_t^{A*}$. This would suggest that the longer a party is in power, the smaller the rents he can extract.. We have to be cautious with this observation because of problems of enforceability. Indeed, if parties cannot be forced to implement their promises, an incumbent who is certain to lose the next election will extract all the rents from power. Persson and Tabellini (2000, chapter 4).discusses this issue and provides a survey of the relevant literature.

6   Conclusion

We have considered an infinite horizon dynamic model of public consumption with durable public goods. We have shown that the longer a party keeps power, the more the opposition is likely to come back to power. Therefore, we have been able to show that policy and political cycles can occur, when

the median voter preferences are balanced enough between the public goods provided by the two parties. This result holds when the parties' main objective is to win the election and is compatible with a large range of candidates sub-objectives, that may change from one election to the next. In particular, we have shown that a candidate seeking re-election will choose a very inefficient platform, providing the minimal quantity of the public good in which he has a comparative advantage.

7 Appendix

Proof of Proposition 1:
(i) If $\Lambda_t > 1$, by definition, the median voter strictly prefers m_t^A than m_t^B. Hence, $m_t^A \in \mathbf{M}^A(t) \neq \emptyset$. Let $z_t^A \in \mathbf{M}^A(t)$ and $z_t^B \in \mathbf{B}(t)$, then $W_m\left(z_t^A\right) > W_m\left(m_t^B\right) \geq W_m\left(z_t^B\right)$. Then $\left(\pi_t^A, \pi_t^B\right) = (1,0)$ and no party has an incentive to deviate. This implies that $\mathbf{M}^A(t) \times \mathbf{B}(t) \subset \mathbf{E}(t)$. Now, choose $z_t^A \notin \mathbf{M}^A(t)$, then $W_m\left(m_t^B\right) \geq W_m\left(z_t^A\right)$. In this case $\pi_t^A < 1$, then party A has an incentive to move and play, for example, m_t^A.
(ii) The proof is the symmetric reasoning of case (i).
(iii) If $\Lambda_t = 1$, by definition, $W_m\left(m_t^A\right) = W_m\left(m_t^B\right)$. Suppose that party A plays m_t^A and party B chooses $z_t^B \neq m_t^B$. Since m_t^B is the unique preferred program of the median voter in $\mathbf{B}(t)$, we have that $W_m\left(m_t^B\right) > W_m\left(z_t^B\right)$, and $\pi_t^B\left(m_t^A, z_t^B\right) = 0 < \pi_t^B\left(m_t^A, m_t^B\right) = \frac{1}{2}$. The same is true concerning party A, then $\left(m_t^A, m_t^B\right)$ is the unique equilibrium.

Proof of Proposition 3:
Let us consider an election at date t. Public goods stocks are $\left((1-\delta)a_{t-1}, (1-\delta)b_{t-1}\right)$, and:

$$\Lambda_t(\alpha_m) = \frac{1 + (1-\delta)\left(b_{t-1} + \frac{a_{t-1}}{\eta^A}\right)}{1 + (1-\delta)\left(a_{t-1} + \frac{b_{t-1}}{\eta^B}\right)} \frac{\left(\eta^A\right)^{\alpha_m}}{\left(\eta^B\right)^{1-\alpha_m}},$$

This is a continuous and strictly increasing function of α_m. Its value is $\frac{1+(1-\delta)\left(b_{t-1}+\frac{a_{t-1}}{\eta^A}\right)}{\eta^B + (1-\delta)(\eta^B a_{t-1} + b_{t-1})} < 1$, and $\frac{\eta^A + (1-\delta)\left(\eta^A b_{t-1} + a_{t-1}\right)}{1+(1-\delta)\left(a_{t-1}+\frac{b_{t-1}}{\eta^B}\right)} > 1$ when $\alpha_m = 1$. Then, there exists a unique value of α_m, denoted $\widehat{\alpha}_t$, such that $\Lambda_t = 1$:

$$0 < \widehat{\alpha}_t = \frac{\ln\left(\eta^B \frac{s_{t-1}^B}{s_{t-1}^A}\right)}{\ln\left(\eta^A \eta^B\right)} < 1,$$

Since this is true for all t, there exist $0 < \underline{\alpha} < \overline{\alpha} < 1$, such that for all t :

$$\underline{\alpha} < \widehat{\alpha}_t < \overline{\alpha},$$

Finally, if $0 \leq \alpha_m \leq \underline{\alpha}$, then, for all t, $\Lambda_t < 1$, and B wins. If $\overline{\alpha} \leq \alpha_m \leq 1$, then, for all t, $\Lambda_t > 1$, then A wins.

Proof of Proposition 4:

In section 3, we have shown that, when B wins the election t, the two following inequalities hold:

$$s_t^A > (1 - \delta) s_{t-1}^A + 1, \tag{3}$$

and,

$$s_t^B \leq (1 - \delta) s_{t-1}^B + 1. \tag{4}$$

Claim 1: We claim that there exists k such that for all $t \geq k$, B wins the election t. Then the two precedent inequalities hold for all $t \geq k$, then, for all $t > k$:

$$s_t^A > (1 - \delta)^{t-k} s_k^A + t - k, \tag{5}$$

$$s_t^B \leq (1 - \delta)^{t-k} s_k^B + t - k. \tag{6}$$

Combining Inequalities 5 and 6 leads to the following inequality:

$$\frac{s_t^A}{s_t^B} > \frac{(1 - \delta)^{t-k} s_k^A + t - k}{(1 - \delta)^{t-k} s_k^B + t - k},$$

Since B wins forever after k, then for all $t > k$, $\Lambda_t \leq 1$. Furthermore $(\Lambda_t)_t$ is increasing, then it converges to a value $\widetilde{\Lambda}$. Remember that $\Lambda_{t+1} = \frac{s_t^A}{s_t^B} \frac{(\eta^A)^{\alpha_m}}{(\eta^B)^{1-\alpha_m}}$. Hence, since $(1 - \delta) < 1$,

$$\widetilde{\Lambda} > \frac{(\eta^A)^{\alpha_m}}{(\eta^B)^{1-\alpha_m}},$$

Then, there exists a real number $0 < \varepsilon_1 < 1$, such that a necessary condition for Claim 1 is:

$$\widetilde{\Lambda} > \frac{(\eta^A)^{\alpha_m}}{(\eta^B)^{1-\alpha_m}} + \varepsilon_1 > \frac{(\eta^A)^{\alpha_m}}{(\eta^B)^{1-\alpha_m}}.$$

Claim 2: We claim that there exists k such that for all $t \geq k$, A wins the election t. Then for all $t > k$, $\Lambda_t \geq 1$. By an argument symmetric to that of Claim 1, $(\Lambda_t)_t$ converges to $\widehat{\Lambda}$, and there exists a real number $0 < \varepsilon_2 < 1$, such that a necessary condition for Claim 2 is:

$$\widehat{\Lambda} < \frac{(\eta^A)^{\alpha_m}}{(\eta^B)^{1-\alpha_m}} - \varepsilon_2 < \frac{(\eta^A)^{\alpha_m}}{(\eta^B)^{1-\alpha_m}}.$$

Finally, if,

$$\frac{\ln\left(\eta^B\right) + \ln\left(1 - \varepsilon_1\right)}{\ln\left(\eta^A\eta^B\right)} \leq \alpha_m \leq \frac{\ln\left(\eta^B\right) + \ln\left(1 + \varepsilon_2\right)}{\ln\left(\eta^A\eta^B\right)},$$

then $\widehat{\Lambda} < 1 < \widetilde{\Lambda}$, and Claim 1 and 2 are contradictory, so that no party can win an infinite number of consecutive elections. Then there exist $\alpha_1 < \alpha_2$ such that no party can win an infinite number of consecutive elections.

Proof of Proposition 6:

First we prove that $\overline{a}_t = \underset{a_t \in \left[0, \eta^A s^A_{t-1}\right]}{\arg\min} \left(W_m\left(a_t, s^A_{t-1} - \frac{a_t}{\eta^A}\right) = W_m\left(m^B_t\right)\right)$ exists and is unique. This equation is equivalent to:

$$\left(\frac{\mu}{\alpha_m}\right)^{\alpha_m} \left(\frac{1-\mu}{1-\alpha_m}\right)^{1-\alpha_m} = \frac{1}{\Lambda_t\left(\alpha_m\right)}, \tag{7}$$

where $\mu = \frac{a_t}{\eta^A s^A_{t-1}} \in [0,1]$. Here $\Lambda_t > 1$, and, by proposition 3, $\alpha_m > 0$. The right-hand side of (7) is null when $\mu = 0$ and equal to 1 when $\mu = \alpha_m$. Thus 7 admits a solution. If $\alpha_m = 1$, then the right-hand side is strictly decreasing in μ, and the solution is unique. If $\alpha_m < 1$, then the right-hand side is concave in μ, is null when $\mu = 0$ or 1, and maximal when $\mu = \alpha_m$. Thus 7 has two different solutions. Hence, the set of solutions is finite, then the argmin exists and is unique. Now, consider the following maximization program:

$$\underset{z^A_t \in \mathbf{A}(t)}{Max} \Lambda_{t+1},$$
$$s.t. \ : \ W_m\left(z^A_t\right) \geq W_m\left(m^B_t\right).$$

Since Λ_{t+1} is strictly decreasing in a_t and strictly increasing in b_t, $\overline{z}_t = \left(\overline{a}_t, s^A_{t-1} - \frac{\overline{a}_t}{\eta^A}\right)$ is the unique solution to this maximization problem, and the optimal value of Λ_{t+1} is a supremum of Λ_{t+1} over $\mathbf{M}^A(t)$.

Proof of Proposition 7: (i) It is simple to verify that the median voter's preferred program in $\mathbf{A}(t)$ when candidate A extracts a rent r^A_t is $\widetilde{z}^A_t = \left(\eta^A\alpha_m\left(s^A_{t-1} - r^A_t\right), (1 - \alpha_m)\left(s^A_{t-1} - r^A_t\right)\right)$. Then, the median voter weakly prefers $\widetilde{z}^A_t$ to m^B_t if and only if:

$$r^A_t \leq \left(1 - \frac{1}{\Lambda_t}\right)s^A_{t-1}.$$

21

(ii) Symmetrically, the median voter preferred platform in $\mathbf{B}\left(t\right)$, when candidate B extracts a rent r_t^B, is $\widetilde{z}_t^B = \left(\alpha_m\left(s_{t-1}^B - r_t^B\right), \eta^B\left(1 - \alpha_m\right)\left(s_{t-1}^B - r_t^B\right)\right)$. Then, the median voter weakly prefers $\widetilde{z}_t^B$ to m_t^A if and only if:

$$r_t^B \leq \left(1 - \Lambda_t\right) s_{t-1}^B.$$

Proof of Proposition 5:

Claim 1: There exists k such that for all $t \geq k$, B wins the election t.
Then at $t+1$, he implements $m_{t+1}^B = \left(\alpha_m s_t^B, \eta\left(1 - \alpha_m\right) s_t^B\right)$ and:

$$s_{t+1}^A = 1 + \left(1 - \delta\right)\left(\eta\left(1 - \alpha_m\right) + \frac{\alpha_m}{\eta}\right) s_t^B,$$

and,

$$s_{t+1}^B = 1 + \left(1 - \delta\right) s_t^B.$$

Since $\delta > 0$, then s_t^B converges to $\frac{1}{\delta}$, and s_t^A to $1 + \frac{1-\delta}{\delta}\left(\eta\left(1 - \alpha_m\right) + \frac{\alpha_m}{\eta}\right)$. Hence, Λ_t converges to:

$$\widetilde{\Lambda}\left(\alpha_m\right) = \left(\delta + \left(1 - \delta\right)\left(\eta\left(1 - \alpha_m\right) + \frac{\alpha_m}{\eta}\right)\right)\left(\eta\right)^{2\alpha_m - 1},$$

By Proposition 2, $\left(\Lambda_t\right)_t$ increases and we obtain that *Claim 1* is equivalent to $\widetilde{\Lambda}\left(\alpha_m\right) \leq 1$. The inequality is weak, because by Corollary 2 Λ_t cannot attain its limit when $\widetilde{\Lambda}\left(\alpha_m\right) = 1$. Let $f^B\left(\alpha_m\right) = \widetilde{\Lambda}\left(\alpha_m\right) - 1$, then *Claim 1* is equivalent to $f^B\left(\alpha_m\right) \leq 0$. Now we turn to the symmetric Claim for party A:

Claim 2: There exists k such that for all $t \geq k$, A wins the election t.
With the same arguments as those of *Claim 1*, we obtain that $\left(\Lambda_t\right)_t$, which is now decreasing, converges to:

$$\widehat{\Lambda}\left(\alpha_m\right) = \frac{1}{\delta + \left(1 - \delta\right)\left(\frac{1-\alpha_m}{\eta} + \eta\alpha_m\right)}\left(\eta\right)^{2\alpha_m - 1},$$

And *Claim 2* is equivalent to $\widehat{\Lambda}\left(\alpha_m\right) \geq 1$. Let $f^A\left(\alpha_m\right) = \frac{1}{\widehat{\Lambda}\left(\alpha_m\right)} - 1$, then *Claim 2* is equivalent to $f^A\left(\alpha_m\right) \leq 0$. Furthermore,

$$f^A\left(\alpha_m\right) \propto \delta + \left(1 - \delta\right)\left(\frac{1 - \alpha_m}{\eta} + \eta\alpha_m\right) - \left(\eta\right)^{2\alpha_m - 1},$$

22

The right-hand term is clearly strictly concave in α_m and is equal to $\delta \left(1 - \frac{1}{\eta} \right) > 0$ when $\alpha_m = 0$ and $\delta (1 - \eta) < 0$ when $\alpha_m = 1$. Hence, $f^A (\alpha_m)$ as a unique root in $]0, 1[$, denoted α_2. Furthermore, $f^A \left(\frac{1}{2} \right) = \delta + \frac{(1-\delta)}{2} \left(\frac{1}{\eta} + \eta \right) > 0$, then $\alpha_2 > \frac{1}{2}$. Observe that $f^A (1 - \alpha_m) = f^B (\alpha_m)$, then $f^B (\alpha_m)$ has a unique root $\alpha_1 < \alpha_2$. Finally, *Claim 1* and *Claim 2* are both contradicted if and only if $\alpha_m \in [\alpha_1, \alpha_2]$.

Now we can turn to the comparative statics. α_2 is implicitly defined as a function of δ and η by:

$$\delta \eta + (1 - \delta) \left(1 - \alpha_2 + \eta^2 \alpha_2 \right) - (\eta)^{2\alpha_2} = 0, \tag{8}$$

Then, differentiating this equation with respect to η leads to $\frac{\partial \alpha_2}{\partial \eta} = \frac{N(\delta, .)}{D(\delta, .)}$ with,

$$N = 2\alpha_2 (\eta)^{2\alpha_2 - 1} - \delta - 2\alpha_2 (1 - \delta) \eta,$$

and,

$$D = (1 - \delta) \left(\eta^2 - 1 \right) - 2 (\eta)^{2\alpha_2} \ln \eta,$$

It is easy to verify that $\frac{\partial N}{\partial \delta} = 2\alpha_2 \eta - 1 > 0$ because $\alpha_2 > \frac{1}{2}$. Since $\eta > 1$, we obtain:

$$N \leq 2\alpha_2 \left((\eta)^{2\alpha_2 - 1} - \eta \right) < 0,$$

Furthermore,

$$\frac{\partial D}{\partial \eta} \propto (1 - \delta) (\eta)^{2(1 - \alpha_2)} - (1 + 2\alpha_2 \ln \eta),$$

Let $g(\alpha_2) = (1 - \delta) (\eta)^{2(1 - \alpha_2)} - (1 + 2\alpha_2 \ln \eta)$, then $g'(\alpha_2) < 0$. Since $g(1) = -\delta - 2\alpha_2 \ln \eta$, then $\frac{\partial D}{\partial \eta} < 0$. Furthermore, when $\eta = 1$, $D = 0$, then,

$$D < 0,$$

Finally,

$$\frac{\partial \alpha_2}{\partial \eta} > 0.$$

Concerning the depreciation rate, differentiating 8 with respect to δ leads to:

$$\frac{\partial \alpha_2}{\partial \delta} = \frac{1 + (\eta^2 - 1) \alpha_2 - \eta}{D},$$

23

Here, the numerator of the right-hand side is increasing in α_2 and is equal to $(\eta - 1)^2$ when $\alpha_2 = \frac{1}{2}$, then it is always positive, hence:

$$\frac{\partial \alpha_2}{\partial \delta} < 0.$$

References

[1] Abelson, R.P., and A. Levy (1985), "Decision Making and and Decision Theory", in G. Lindzey and E. Aronson eds., *The Handbook of Social Psychology* (3rd ed., vol. 1), New York: Random House.

[2] Alesina, A., and H. Rosenthal (1996), "A Theory of Divided Government", *Econometrica* 64, 6: 1311-1341.

[3] Ansolabehere, S. and J.M. Snyder (2002), "The Incumbency Advantage in U.S. Elections: An Analysis of State and Federal Offices, 1942-2000", *mimeo*, MIT.

[4] Alesina, A. and J. Sachs (1988), "Political Parties and the Business Cycle in the United States, 1948-1984", *Journal of Money, Credit and Banking* (February): 63-84.

[5] Ansolabehere, S. and J.M. Snyder (2000), "Valence Politics and Equilibrium in Spatial Election Models", *Public Choice* 103: 327-336.

[6] Aragones, E. (1997), "Negativity Effect and the emergence of ideologies", *Journal of Theoretical Politics* 9, 2: 198-210.

[7] Aragones, E., and T. Palfrey 2002. "Mixed Equilibrium in a Downsian Model with a Favored Candidate." *Journal of Economic Theory* 103: 131-161.

[8] Azzimonti-Renzo, M. (2005), "On the dynamic inefficiency of government", *mimeo*, University of Iowa.

[9] Azzimonti-Renzo, M., P. Sarte, and J. Soares (2003), "Optimal public investment and time consistency", *Federal Reserve Bank of Richmond Working Paper* 03-10.

[10] Banks, J., and R. Sundaram (1996), "Electoral accountability and selection effects", *mimeo*, University of Rochester.

[11] Banks, J., and R. Sundaram (1993), "Adverse selections and moral hazard in a repeated elections model", in *Political Economy: Institutions, Information, Competition and Representation*, W. Barnett, M. Hinich, and N. Schofield eds., New York: Cambridge University Press.

[12] Baron, D. (1996), "A Dynamic Theory of Collective Goods Programs", American Political Science Review 90, 2: 316-330.

[13] Battaglini, M., and S. Coate (2005), "Inefficiency in Legislative Policy-Making: A Dynamic Analysis", *NBER Working Paper* #11495.

[14] Beck, N. (1982), "Parties, Administrations, and American Economic Outcomes", *American Political Science Review* 76: 83-94.

[15] Bendor, J., D. Mookherjee and D. Ray, "Satisficing and Selection in Electoral Competition", *New York University Working Paper.*

[16] Berry, J.L.(1991), *Long-Wave Rhythms in Economic Development and Political Behavior*, The Jhons Hopkins University Press, Baltimore.

[17] Chappel, H., and W. Keech (1986), "Party Differences in Macroeconomic Policies and Outcomes", *Amercian Economic Review* (may): 71-74.

[18] Cox, G.W., and J. Katz (2002), *Elbridge Gerry's Salamander: The Electoral Consequences of the Reappointment Revolution*, New York: University of Cambridge Press.

[19] Goertzel, T. (2005), "Cycles in the Mass Psychology of American Electoral Behavior", forthcoming in *Journal of Psicologia Politica.*

[20] Gomes, A., and P. Jehiel (2004), "Dynamic Processes of Social and Economic Interactions: On the Persistence of Inefficiences", *PIER Working Paper* 01-13, University of Pennsylvania.

[21] Grandmont, J.M. (1978), "Intermediate preferences and the majority rule", *Econometrica* 46: 317-330.

[22] Groseclose, T. (1999), "Character, charisma, and candidate locations: Downsian models when one candidate has a valence advantage", *Working Paper, Stanford University.*

[23] Hassler, J., K. Storesletten and F. Zilibotti (2003), "Democratic Public Good Provision", *mimeo*, IIES: Stockholm.

[24] Hibbs, D.A (1977), "Political parties and Macroeconomic policy", *American Political Science Review* 71: 1467-78.

[25] Klinberg F. 1952. "The historical alternation of moods in American foreign policy." *World Politics* 4: 239-273.

[26] Kramer, G. (1977), "A dynamical model of political equilibrium", *Journal of Economic Theory* 16: 310-334.

[27] Persson T., and G. Tabellini (2000), *Political Economics: Explaining Economic Policy*, The MIT Press.

[28] McKelvey, R.D. and R.G. Riezman (1992), "Seniotity in Legislatures", *American Political Science Review* 86: 951-965.

[29] Prat, A., (2002), "Campaign Spending with Office-Seeking Politicians, Rational Voters, and Multiple Lobbies", *Journal of Economic Theory* 103: 162-189.

[30] Rogoff, K. (1990), "Equilibrium political business cycles", *American Economic Review* 80: 21-36.

[31] Rogoff, K., and A. Siebert (1988), "Elections and macroeconomic policy cycles", *Review of Economic Studies* 55: 1-16.

[32] Roemer, J.E. (1995), "Political Cycles", *Economics and Politics* 7: 1-20.

[33] Schlesinger A. (1992),. "The turn of the cycle.". *The New Yorker* 68 (November 16): 46-54.

[34] Schlesinger A. (1986),. *The Cycles of American History*. Boston: Houghton Mifflin.

[35] Schlesinger A. (1949), *Paths to the Present*. New York: MacMillan.

[36] Stokes, D. (1992), "Valence Politics", in *Electoral Politics*, Dennis Kavanagh eds., Oxford: Clarendon Press: 141-164.

[37] Tabellini, G., and A. Alesina (1990), "Voting on the budget deficit", *American Economic Review* 80: 37-39.

[38] Tabellini, G., and V. La Via (1989), "Money, Debt, and Deficits in the U.S.", *Review of Economics and Statistics* (february).

NOTE DI LAVORO DELLA FONDAZIONE ENI ENRICO MATTEI

Fondazione Eni Enrico Mattei Working Paper Series

Our Note di Lavoro are available on the Internet at the following addresses:

http://www.feem.it/Feem/Pub/Publications/WPapers/default.html
http://www.ssrn.com/link/feem.html
http://www.repec.org

NOTE DI LAVORO PUBLISHED IN 2004

IEM	1.2004	*Anil MARKANDYA, Suzette PEDROSO and Alexander GOLUB*: Empirical Analysis of National Income and So2 Emissions in Selected European Countries
ETA	2.2004	*Masahisa FUJITA and Shlomo WEBER:* Strategic Immigration Policies and Welfare in Heterogeneous Countries
PRA	3.2004	*Adolfo DI CARLUCCIO, Giovanni FERRI, Cecilia FRALE and Ottavio RICCHI:* Do Privatizations Boost Household Shareholding? Evidence from Italy
ETA	4.2004	*Victor GINSBURGH and Shlomo WEBER:* Languages Disenfranchisement in the European Union
ETA	5.2004	*Romano PIRAS:* Growth, Congestion of Public Goods, and Second-Best Optimal Policy
CCMP	6.2004	*Herman R.J. VOLLEBERGH:* Lessons from the Polder: Is Dutch CO2-Taxation Optimal
PRA	7.2004	*Sandro BRUSCO, Giuseppe LOPOMO and S. VISWANATHAN* (lxv): Merger Mechanisms
PRA	8.2004	*Wolfgang AUSSENEGG, Pegaret PICHLER and Alex STOMPER* (lxv): IPO Pricing with Bookbuilding, and a When-Issued Market
PRA	9.2004	*Pegaret PICHLER and Alex STOMPER* (lxv): Primary Market Design: Direct Mechanisms and Markets
PRA	10.2004	*Florian ENGLMAIER, Pablo GUILLEN, Loreto LLORENTE, Sander ONDERSTAL and Rupert SAUSGRUBER* (lxv): The Chopstick Auction: A Study of the Exposure Problem in Multi-Unit Auctions
PRA	11.2004	*Bjarne BRENDSTRUP and Harry J. PAARSCH* (lxv): Nonparametric Identification and Estimation of Multi-Unit, Sequential, Oral, Ascending-Price Auctions With Asymmetric Bidders
PRA	12.2004	*Ohad KADAN* (lxv): Equilibrium in the Two Player, k-Double Auction with Affiliated Private Values
PRA	13.2004	*Maarten C.W. JANSSEN* (lxv): Auctions as Coordination Devices
PRA	14.2004	*Gadi FIBICH, Arieh GAVIOUS and Aner SELA* (lxv): All-Pay Auctions with Weakly Risk-Averse Buyers
PRA	15.2004	*Orly SADE, Charles SCHNITZLEIN and Jaime F. ZENDER* (lxv): Competition and Cooperation in Divisible Good Auctions: An Experimental Examination
PRA	16.2004	*Marta STRYSZOWSKA* (lxv): Late and Multiple Bidding in Competing Second Price Internet Auctions
CCMP	17.2004	*Slim Ben YOUSSEF:* R&D in Cleaner Technology and International Trade
NRM	18.2004	*Angelo ANTOCI, Simone BORGHESI and Paolo RUSSU* (lxvi): Biodiversity and Economic Growth: Stabilization Versus Preservation of the Ecological Dynamics
SIEV	19.2004	*Anna ALBERINI, Paolo ROSATO, Alberto LONGO and Valentina ZANATTA:* Information and Willingness to Pay in a Contingent Valuation Study: The Value of S. Erasmo in the Lagoon of Venice
NRM	20.2004	*Guido CANDELA and Roberto CELLINI* (lxvii): Investment in Tourism Market: A Dynamic Model of Differentiated Oligopoly
NRM	21.2004	*Jacqueline M. HAMILTON* (lxvii): Climate and the Destination Choice of German Tourists
NRM	22.2004	*Javier Rey-MAQUIEIRA PALMER, Javier LOZANO IBÁÑEZ and Carlos Mario GÓMEZ GÓMEZ* (lxvii): Land, Environmental Externalities and Tourism Development
NRM	23.2004	*Pius ODUNGA and Henk FOLMER* (lxvii): Profiling Tourists for Balanced Utilization of Tourism-Based Resources in Kenya
NRM	24.2004	*Jean-Jacques NOWAK, Mondher SAHLI and Pasquale M. SGRO* (lxvii):Tourism, Trade and Domestic Welfare
NRM	25.2004	*Riaz SHAREEF* (lxvii): Country Risk Ratings of Small Island Tourism Economies
NRM	26.2004	*Juan Luis EUGENIO-MARTÍN, Noelia MARTÍN MORALES and Riccardo SCARPA* (lxvii): Tourism and Economic Growth in Latin American Countries: A Panel Data Approach
NRM	27.2004	*Raúl Hernández MARTÍN* (lxvii): Impact of Tourism Consumption on GDP. The Role of Imports
CSRM	28.2004	*Nicoletta FERRO:* Cross-Country Ethical Dilemmas in Business: A Descriptive Framework
NRM	29.2004	*Marian WEBER* (lxvi): Assessing the Effectiveness of Tradable Landuse Rights for Biodiversity Conservation: an Application to Canada's Boreal Mixedwood Forest
NRM	30.2004	*Trond BJORNDAL, Phoebe KOUNDOURI and Sean PASCOE* (lxvi): Output Substitution in Multi-Species Trawl Fisheries: Implications for Quota Setting
CCMP	31.2004	*Marzio GALEOTTI, Alessandra GORIA, Paolo MOMBRINI and Evi SPANTIDAKI:* Weather Impacts on Natural, Social and Economic Systems (WISE) Part I: Sectoral Analysis of Climate Impacts in Italy
CCMP	32.2004	*Marzio GALEOTTI, Alessandra GORIA ,Paolo MOMBRINI and Evi SPANTIDAKI:* Weather Impacts on Natural, Social and Economic Systems (WISE) Part II: Individual Perception of Climate Extremes in Italy
CTN	33.2004	*Wilson PEREZ:* Divide and Conquer: Noisy Communication in Networks, Power, and Wealth Distribution
KTHC	34.2004	*Gianmarco I.P. OTTAVIANO and Giovanni PERI* (lxviii): The Economic Value of Cultural Diversity: Evidence from US Cities
KTHC	35.2004	*Linda CHAIB* (lxviii): Immigration and Local Urban Participatory Democracy: A Boston-Paris Comparison

KTHC	36.2004	*Franca ECKERT COEN and Claudio ROSSI* (lxviii): Foreigners, Immigrants, Host Cities: The Policies of Multi-Ethnicity in Rome. Reading Governance in a Local Context
KTHC	37.2004	*Kristine CRANE* (lxviii): Governing Migration: Immigrant Groups' Strategies in Three Italian Cities – Rome, Naples and Bari
KTHC	38.2004	*Kiflemariam HAMDE* (lxviii): Mind in Africa, Body in Europe: The Struggle for Maintaining and Transforming Cultural Identity - A Note from the Experience of Eritrean Immigrants in Stockholm
ETA	39.2004	*Alberto CAVALIERE:* Price Competition with Information Disparities in a Vertically Differentiated Duopoly
PRA	40.2004	*Andrea BIGANO and Stef PROOST:* The Opening of the European Electricity Market and Environmental Policy: Does the Degree of Competition Matter?
CCMP	41.2004	*Micheal FINUS* (lxix): International Cooperation to Resolve International Pollution Problems
KTHC	42.2004	*Francesco CRESPI:* Notes on the Determinants of Innovation: A Multi-Perspective Analysis
CTN	43.2004	*Sergio CURRARINI and Marco MARINI:* Coalition Formation in Games without Synergies
CTN	44.2004	*Marc ESCRIHUELA-VILLAR:* Cartel Sustainability and Cartel Stability
NRM	45.2004	*Sebastian BERVOETS and Nicolas GRAVEL* (lxvi): Appraising Diversity with an Ordinal Notion of Similarity: An Axiomatic Approach
NRM	46.2004	*Signe ANTHON and Bo JELLESMARK THORSEN* (lxvi): Optimal Afforestation Contracts with Asymmetric Information on Private Environmental Benefits
NRM	47.2004	*John MBURU* (lxvi): Wildlife Conservation and Management in Kenya: Towards a Co-management Approach
NRM	48.2004	*Ekin BIROL, Ágnes GYOVAI and Melinda SMALE* (lxvi): Using a Choice Experiment to Value Agricultural Biodiversity on Hungarian Small Farms: Agri-Environmental Policies in a Transition al Economy
CCMP	49.2004	*Gernot KLEPPER and Sonja PETERSON:* The EU Emissions Trading Scheme. Allowance Prices, Trade Flows, Competitiveness Effects
GG	50.2004	*Scott BARRETT and Michael HOEL:* Optimal Disease Eradication
CTN	51.2004	*Dinko DIMITROV, Peter BORM, Ruud HENDRICKX and Shao CHIN SUNG:* Simple Priorities and Core Stability in Hedonic Games
SIEV	52.2004	*Francesco RICCI*: Channels of Transmission of Environmental Policy to Economic Growth: A Survey of the Theory
SIEV	53.2004	*Anna ALBERINI, Maureen CROPPER, Alan KRUPNICK and Nathalie B. SIMON:* Willingness to Pay for Mortality Risk Reductions: Does Latency Matter?
NRM	54.2004	*Ingo BRÄUER and Rainer MARGGRAF* (lxvi): Valuation of Ecosystem Services Provided by Biodiversity Conservation: An Integrated Hydrological and Economic Model to Value the Enhanced Nitrogen Retention in Renaturated Streams
NRM	55.2004	*Timo GOESCHL and Tun LIN* (lxvi): Biodiversity Conservation on Private Lands: Information Problems and Regulatory Choices
NRM	56.2004	*Tom DEDEURWAERDERE* (lxvi): Bioprospection: From the Economics of Contracts to Reflexive Governance
CCMP	57.2004	*Katrin REHDANZ and David MADDISON:* The Amenity Value of Climate to German Households
CCMP	58.2004	*Koen SMEKENS and Bob VAN DER ZWAAN:* Environmental Externalities of Geological Carbon Sequestration Effects on Energy Scenarios
NRM	59.2004	*Valentina BOSETTI, Mariaester CASSINELLI and Alessandro LANZA* (lxvii): Using Data Envelopment Analysis to Evaluate Environmentally Conscious Tourism Management
NRM	60.2004	*Timo GOESCHL and Danilo CAMARGO IGLIORI* (lxvi): Property Rights Conservation and Development: An Analysis of Extractive Reserves in the Brazilian Amazon
CCMP	61.2004	*Barbara BUCHNER and Carlo CARRARO*: Economic and Environmental Effectiveness of a Technology-based Climate Protocol
NRM	62.2004	*Elissaios PAPYRAKIS and Reyer GERLAGH*: Resource-Abundance and Economic Growth in the U.S.
NRM	63.2004	*Györgyi BELA, György PATAKI, Melinda SMALE and Mariann HAJDÚ* (lxvi): Conserving Crop Genetic Resources on Smallholder Farms in Hungary: Institutional Analysis
NRM	64.2004	*E.C.M. RUIJGROK and E.E.M. NILLESEN* (lxvi): The Socio-Economic Value of Natural Riverbanks in the Netherlands
NRM	65.2004	*E.C.M. RUIJGROK* (lxvi): Reducing Acidification: The Benefits of Increased Nature Quality. Investigating the Possibilities of the Contingent Valuation Method
ETA	66.2004	*Giannis VARDAS and Anastasios XEPAPADEAS*: Uncertainty Aversion, Robust Control and Asset Holdings
GG	67.2004	*Anastasios XEPAPADEAS and Constadina PASSA*: Participation in and Compliance with Public Voluntary Environmental Programs: An Evolutionary Approach
GG	68.2004	*Michael FINUS*: Modesty Pays: Sometimes!
NRM	69.2004	*Trond BJØRNDAL and Ana BRASÃO*: The Northern Atlantic Bluefin Tuna Fisheries: Management and Policy Implications
CTN	70.2004	*Alejandro CAPARRÓS, Abdelhakim HAMMOUDI and Tarik TAZDAÏT*: On Coalition Formation with Heterogeneous Agents
IEM	71.2004	*Massimo GIOVANNINI, Margherita GRASSO, Alessandro LANZA and Matteo MANERA*: Conditional Correlations in the Returns on Oil Companies Stock Prices and Their Determinants
IEM	72.2004	*Alessandro LANZA, Matteo MANERA and Michael MCALEER*: Modelling Dynamic Conditional Correlations in WTI Oil Forward and Futures Returns
SIEV	73.2004	*Margarita GENIUS and Elisabetta STRAZZERA*: The Copula Approach to Sample Selection Modelling: An Application to the Recreational Value of Forests

CCMP	74.2004	*Rob DELLINK and Ekko van IERLAND*: Pollution Abatement in the Netherlands: A Dynamic Applied General Equilibrium Assessment
ETA	75.2004	*Rosella LEVAGGI and Michele MORETTO*: Investment in Hospital Care Technology under Different Purchasing Rules: A Real Option Approach
CTN	76.2004	*Salvador BARBERÀ and Matthew O. JACKSON* (lxx): On the Weights of Nations: Assigning Voting Weights in a Heterogeneous Union
CTN	77.2004	*Àlex ARENAS, Antonio CABRALES, Albert DÍAZ-GUILERA, Roger GUIMERÀ and Fernando VEGA-REDONDO* (lxx): Optimal Information Transmission in Organizations: Search and Congestion
CTN	78.2004	*Francis BLOCH and Armando GOMES* (lxx): Contracting with Externalities and Outside Options
CTN	79.2004	*Rabah AMIR, Effrosyni DIAMANTOUDI and Licun XUE* (lxx): Merger Performance under Uncertain Efficiency Gains
CTN	80.2004	*Francis BLOCH and Matthew O. JACKSON* (lxx): The Formation of Networks with Transfers among Players
CTN	81.2004	*Daniel DIERMEIER, Hülya ERASLAN and Antonio MERLO* (lxx): Bicameralism and Government Formation
CTN	82.2004	*Rod GARRATT, James E. PARCO, Cheng-ZHONG QIN and Amnon RAPOPORT* (lxx): Potential Maximization and Coalition Government Formation
CTN	83.2004	*Kfir ELIAZ, Debraj RAY and Ronny RAZIN* (lxx): Group Decision-Making in the Shadow of Disagreement
CTN	84.2004	*Sanjeev GOYAL, Marco van der LEIJ and José Luis MORAGA-GONZÁLEZ* (lxx): Economics: An Emerging Small World?
CTN	85.2004	*Edward CARTWRIGHT* (lxx): Learning to Play Approximate Nash Equilibria in Games with Many Players
IEM	86.2004	*Finn R. FØRSUND and Michael HOEL*: Properties of a Non-Competitive Electricity Market Dominated by Hydroelectric Power
KTHC	87.2004	*Elissaios PAPYRAKIS and Reyer GERLAGH*: Natural Resources, Investment and Long-Term Income
CCMP	88.2004	*Marzio GALEOTTI and Claudia KEMFERT*: Interactions between Climate and Trade Policies: A Survey
IEM	89.2004	*A. MARKANDYA, S. PEDROSO and D. STREIMIKIENE*: Energy Efficiency in Transition Economies: Is There Convergence Towards the EU Average?
GG	90.2004	*Rolf GOLOMBEK and Michael HOEL* : Climate Agreements and Technology Policy
PRA	91.2004	*Sergei IZMALKOV* (lxv): Multi-Unit Open Ascending Price Efficient Auction
KTHC	92.2004	*Gianmarco I.P. OTTAVIANO and Giovanni PERI*: Cities and Cultures
KTHC	93.2004	*Massimo DEL GATTO*: Agglomeration, Integration, and Territorial Authority Scale in a System of Trading Cities. Centralisation versus devolution
CCMP	94.2004	*Pierre-André JOUVET, Philippe MICHEL and Gilles ROTILLON*: Equilibrium with a Market of Permits
CCMP	95.2004	*Bob van der ZWAAN and Reyer GERLAGH*: Climate Uncertainty and the Necessity to Transform Global Energy Supply
CCMP	96.2004	*Francesco BOSELLO, Marco LAZZARIN, Roberto ROSON and Richard S.J. TOL*: Economy-Wide Estimates of the Implications of Climate Change: Sea Level Rise
CTN	97.2004	*Gustavo BERGANTIÑOS and Juan J. VIDAL-PUGA*: Defining Rules in Cost Spanning Tree Problems Through the Canonical Form
CTN	98.2004	*Siddhartha BANDYOPADHYAY and Mandar OAK*: Party Formation and Coalitional Bargaining in a Model of Proportional Representation
GG	99.2004	*Hans-Peter WEIKARD, Michael FINUS and Juan-Carlos ALTAMIRANO-CABRERA*: The Impact of Surplus Sharing on the Stability of International Climate Agreements
SIEV	100.2004	*Chiara M. TRAVISI and Peter NIJKAMP*: Willingness to Pay for Agricultural Environmental Safety: Evidence from a Survey of Milan, Italy, Residents
SIEV	101.2004	*Chiara M. TRAVISI, Raymond J. G. M. FLORAX and Peter NIJKAMP*: A Meta-Analysis of the Willingness to Pay for Reductions in Pesticide Risk Exposure
NRM	102.2004	*Valentina BOSETTI and David TOMBERLIN:* Real Options Analysis of Fishing Fleet Dynamics: A Test
CCMP	103.2004	*Alessandra GORIA e Gretel GAMBARELLI:* Economic Evaluation of Climate Change Impacts and Adaptability in Italy
PRA	104.2004	*Massimo FLORIO and Mara GRASSENI*: The Missing Shock: The Macroeconomic Impact of British Privatisation
PRA	105.2004	*John BENNETT, Saul ESTRIN, James MAW and Giovanni URGA*: Privatisation Methods and Economic Growth in Transition Economies
PRA	106.2004	*Kira BÖRNER*: The Political Economy of Privatization: Why Do Governments Want Reforms?
PRA	107.2004	*Pehr-Johan NORBÄCK and Lars PERSSON*: Privatization and Restructuring in Concentrated Markets
SIEV	108.2004	*Angela GRANZOTTO, Fabio PRANOVI, Simone LIBRALATO, Patrizia TORRICELLI and Danilo MAINARDI*: Comparison between Artisanal Fishery and Manila Clam Harvesting in the Venice Lagoon by Using Ecosystem Indicators: An Ecological Economics Perspective
CTN	109.2004	*Somdeb LAHIRI*: The Cooperative Theory of Two Sided Matching Problems: A Re-examination of Some Results
NRM	110.2004	*Giuseppe DI VITA*: Natural Resources Dynamics: Another Look
SIEV	111.2004	*Anna ALBERINI, Alistair HUNT and Anil MARKANDYA*: Willingness to Pay to Reduce Mortality Risks: Evidence from a Three-Country Contingent Valuation Study
KTHC	112.2004	*Valeria PAPPONETTI and Dino PINELLI*: Scientific Advice to Public Policy-Making
SIEV	113.2004	*Paulo A.L.D. NUNES and Laura ONOFRI*: The Economics of Warm Glow: A Note on Consumer's Behavior and Public Policy Implications
IEM	114.2004	*Patrick CAYRADE*: Investments in Gas Pipelines and Liquefied Natural Gas Infrastructure What is the Impact on the Security of Supply?
IEM	115.2004	*Valeria COSTANTINI and Francesco GRACCEVA:* Oil Security. Short- and Long-Term Policies

CCMP	157.2004	*Valentina BOSETTI, Marzio GALEOTTI and Alessandro LANZA*: <u>How Consistent are Alternative Short-Term Climate Policies with Long-Term Goals?</u>
ETA	158.2004	*Y. Hossein FARZIN and Ken-Ichi AKAO*: <u>Non-pecuniary Value of Employment and Individual Labor Supply</u>
ETA	159.2004	*William BROCK and Anastasios XEPAPADEAS*: <u>Spatial Analysis: Development of Descriptive and Normative Methods with Applications to Economic-Ecological Modelling</u>
KTHC	160.2004	*Alberto PETRUCCI*: <u>On the Incidence of a Tax on PureRent with Infinite Horizons</u>
IEM	161.2004	*Xavier LABANDEIRA, José M. LABEAGA and Miguel RODRÍGUEZ*: <u>Microsimulating the Effects of Household Energy Price Changes in Spain</u>

NOTE DI LAVORO PUBLISHED IN 2005

CCMP	1.2005	*Stéphane HALLEGATTE*: <u>Accounting for Extreme Events in the Economic Assessment of Climate Change</u>
CCMP	2.2005	*Qiang WU and Paulo Augusto NUNES*: <u>Application of Technological Control Measures on Vehicle Pollution: A Cost-Benefit Analysis in China</u>
CCMP	3.2005	*Andrea BIGANO, Jacqueline M. HAMILTON, Maren LAU, Richard S.J. TOL and Yuan ZHOU*: <u>A Global Database of Domestic and International Tourist Numbers at National and Subnational Level</u>
CCMP	4.2005	*Andrea BIGANO, Jacqueline M. HAMILTON and Richard S.J. TOL*: <u>The Impact of Climate on Holiday Destination Choice</u>
ETA	5.2005	*Hubert KEMPF*: <u>Is Inequality Harmful for the Environment in a Growing Economy?</u>
CCMP	6.2005	*Valentina BOSETTI, Carlo CARRARO and Marzio GALEOTTI*: <u>The Dynamics of Carbon and Energy Intensity in a Model of Endogenous Technical Change</u>
IEM	7.2005	*David CALEF and Robert GOBLE*: <u>The Allure of Technology: How France and California Promoted Electric Vehicles to Reduce Urban Air Pollution</u>
ETA	8.2005	*Lorenzo PELLEGRINI and Reyer GERLAGH*: <u>An Empirical Contribution to the Debate on Corruption Democracy and Environmental Policy</u>
CCMP	9.2005	*Angelo ANTOCI*: <u>Environmental Resources Depletion and Interplay Between Negative and Positive Externalities in a Growth Model</u>
CTN	10.2005	*Frédéric DEROIAN*: <u>Cost-Reducing Alliances and Local Spillovers</u>
NRM	11.2005	*Francesco SINDICO*: <u>The GMO Dispute before the WTO: Legal Implications for the Trade and Environment Debate</u>
KTHC	12.2005	*Carla MASSIDDA*: <u>Estimating the New Keynesian Phillips Curve for Italian Manufacturing Sectors</u>
KTHC	13.2005	*Michele MORETTO and Gianpaolo ROSSINI*: <u>Start-up Entry Strategies: Employer vs. Nonemployer firms</u>
PRCG	14.2005	*Clara GRAZIANO and Annalisa LUPORINI*: <u>Ownership Concentration, Monitoring and Optimal Board Structure</u>
CSRM	15.2005	*Parashar KULKARNI*: <u>Use of Ecolabels in Promoting Exports from Developing Countries to Developed Countries: Lessons from the Indian LeatherFootwear Industry</u>
KTHC	16.2005	*Adriana DI LIBERTO, Roberto MURA and Francesco PIGLIARU*: <u>How to Measure the Unobservable: A Panel Technique for the Analysis of TFP Convergence</u>
KTHC	17.2005	*Alireza NAGHAVI*: <u>Asymmetric Labor Markets, Southern Wages, and the Location of Firms</u>
KTHC	18.2005	*Alireza NAGHAVI*: <u>Strategic Intellectual Property Rights Policy and North-South Technology Transfer</u>
KTHC	19.2005	*Mombert HOPPE*: <u>Technology Transfer Through Trade</u>
PRCG	20.2005	*Roberto ROSON*: <u>Platform Competition with Endogenous Multihoming</u>
CCMP	21.2005	*Barbara BUCHNER and Carlo CARRARO*: <u>Regional and Sub-Global Climate Blocs. A Game Theoretic Perspective on Bottom-up Climate Regimes</u>
IEM	22.2005	*Fausto CAVALLARO*: <u>An Integrated Multi-Criteria System to Assess Sustainable Energy Options: An Application of the Promethee Method</u>
CTN	23.2005	*Michael FINUS, Pierre v. MOUCHE and Bianca RUNDSHAGEN*: <u>Uniqueness of Coalitional Equilibria</u>
IEM	24.2005	*Wietze LISE***: <u>Decomposition of CO2 Emissions over 1980–2003 in Turkey</u>
CTN	25.2005	*Somdeb LAHIRI*: <u>The Core of Directed Network Problems with Quotas</u>
SIEV	26.2005	*Susanne MENZEL and Riccardo SCARPA*: <u>Protection Motivation Theory and Contingent Valuation: Perceived Realism, Threat and WTP Estimates for Biodiversity Protection</u>
NRM	27.2005	*Massimiliano MAZZANTI and Anna MONTINI*: <u>The Determinants of Residential Water Demand Empirical Evidence for a Panel of Italian Municipalities</u>
CCMP	28.2005	*Laurent GILOTTE and Michel de LARA*: <u>Precautionary Effect and Variations of the Value of Information</u>
NRM	29.2005	*Paul SARFO-MENSAH*: <u>Exportation of Timber in Ghana: The Menace of Illegal Logging Operations</u>
CCMP	30.2005	*Andrea BIGANO, Alessandra GORIA, Jacqueline HAMILTON and Richard S.J. TOL*: <u>The Effect of Climate Change and Extreme Weather Events on Tourism</u>
NRM	31.2005	*Maria Angeles GARCIA-VALIÑAS*: <u>Decentralization and Environment: An Application to Water Policies</u>
NRM	32.2005	*Chiara D'ALPAOS, Cesare DOSI and Michele MORETTO*: <u>Concession Length and Investment Timing Flexibility</u>
CCMP	33.2005	*Joseph HUBER*: <u>Key Environmental Innovations</u>
CTN	34.2005	*Antoni CALVÓ-ARMENGOL and Rahmi İLKILIÇ* (lxxii): <u>Pairwise-Stability and Nash Equilibria in Network Formation</u>
CTN	35.2005	*Francesco FERI* (lxxii): <u>Network Formation with Endogenous Decay</u>
CTN	36.2005	*Frank H. PAGE, Jr. and Myrna H. WOODERS* (lxxii): <u>Strategic Basins of Attraction, the Farsighted Core, and Network Formation Games</u>

CTN	37.2005	*Alessandra CASELLA and Nobuyuki HANAKI* (lxxii): <u>Information Channels in Labor Markets. On the Resilience of Referral Hiring</u>
CTN	38.2005	*Matthew O. JACKSON and Alison WATTS* (lxxii): <u>Social Games: Matching and the Play of Finitely Repeated Games</u>
CTN	39.2005	*Anna BOGOMOLNAIA, Michel LE BRETON, Alexei SAVVATEEV and Shlomo WEBER* (lxxii): <u>The Egalitarian Sharing Rule in Provision of Public Projects</u>
CTN	40.2005	*Francesco FERI*: <u>Stochastic Stability in Network with Decay</u>
CTN	41.2005	*Aart de ZEEUW* (lxxii): <u>Dynamic Effects on the Stability of International Environmental Agreements</u>
NRM	42.2005	*C. Martijn van der HEIDE, Jeroen C.J.M. van den BERGH, Ekko C. van IERLAND and Paulo A.L.D. NUNES*: <u>Measuring the Economic Value of Two Habitat Defragmentation Policy Scenarios for the Veluwe, The Netherlands</u>
PRCG	43.2005	*Carla VIEIRA and Ana Paula SERRA*: <u>Abnormal Returns in Privatization Public Offerings: The Case of Portuguese Firms</u>
SIEV	44.2005	*Anna ALBERINI, Valentina ZANATTA and Paolo ROSATO*: <u>Combining Actual and Contingent Behavior to Estimate the Value of Sports Fishing in the Lagoon of Venice</u>
CTN	45.2005	*Michael FINUS and Bianca RUNDSHAGEN:* <u>Participation in International Environmental Agreements: The Role of Timing and Regulation</u>
CCMP	46.2005	*Lorenzo PELLEGRINI and Reyer GERLAGH*: <u>Are EU Environmental Policies Too Demanding for New Members States?</u>
IEM	47.2005	*Matteo MANERA*: <u>Modeling Factor Demands with SEM and VAR: An Empirical Comparison</u>
CTN	48.2005	*Olivier TERCIEUX and Vincent VANNETELBOSCH* (lxx): <u>A Characterization of Stochastically Stable Networks</u>
CTN	49.2005	*Ana MAULEON, José SEMPERE-MONERRIS and Vincent J. VANNETELBOSCH* (lxxii): <u>R&D Networks Among Unionized Firms</u>
CTN	50.2005	*Carlo CARRARO, Johan EYCKMANS and Michael FINUS*: <u>Optimal Transfers and Participation Decisions in International Environmental Agreements</u>
KTHC	51.2005	*Valeria GATTAI*: <u>From the Theory of the Firm to FDI and Internalisation:A Survey</u>
CCMP	52.2005	*Alireza NAGHAVI*: <u>Multilateral Environmental Agreements and Trade Obligations: A Theoretical Analysis of the Doha Proposal</u>
SIEV	53.2005	*Margaretha BREIL, Gretel GAMBARELLI and Paulo A.L.D. NUNES*: <u>Economic Valuation of On Site Material Damages of High Water on Economic Activities based in the City of Venice: Results from a Dose-Response-Expert-Based Valuation Approach</u>
ETA	54.2005	*Alessandra del BOCA, Marzio GALEOTTI, Charles P. HIMMELBERG and Paola ROTA*: <u>Investment and Time to Plan: A Comparison of Structures vs. Equipment in a Panel of Italian Firms</u>
CCMP	55.2005	*Gernot KLEPPER and Sonja PETERSON*: <u>Emissions Trading, CDM, JI, and More – The Climate Strategy of the EU</u>
ETA	56.2005	*Maia DAVID and Bernard SINCLAIR-DESGAGNÉ*: <u>Environmental Regulation and the Eco-Industry</u>
ETA	57.2005	*Alain-Désiré NIMUBONA and Bernard SINCLAIR-DESGAGNÉ*: <u>The Pigouvian Tax Rule in the Presence of an Eco-Industry</u>
NRM	58.2005	*Helmut KARL, Antje MÖLLER, Ximena MATUS, Edgar GRANDE and Robert KAISER*: <u>Environmental Innovations: Institutional Impacts on Co-operations for Sustainable Development</u>
SIEV	59.2005	*Dimitra VOUVAKI and Anastasios XEPAPADEAS* (lxxiii): <u>Criteria for Assessing Sustainable Development: Theoretical Issues and Empirical Evidence for the Case of Greece</u>
CCMP	60.2005	*Andreas LÖSCHEL and Dirk T.G. RÜBBELKE*: <u>Impure Public Goods and Technological Interdependencies</u>
PRCG	61.2005	*Christoph A. SCHALTEGGER and Benno TORGLER*: <u>Trust and Fiscal Performance: A Panel Analysis with Swiss Data</u>
ETA	62.2005	*Irene VALSECCHI*: <u>A Role for Instructions</u>
NRM	63.2005	*Valentina BOSETTI and Gianni LOCATELLI*: <u>A Data Envelopment Analysis Approach to the Assessment of Natural Parks' Economic Efficiency and Sustainability. The Case of Italian National Parks</u>
SIEV	64.2005	*Arianne T. de BLAEIJ, Paulo A.L.D. NUNES and Jeroen C.J.M. van den BERGH*: <u>Modeling 'No-choice' Responses in Attribute Based Valuation Surveys</u>
CTN	65.2005	*Carlo CARRARO, Carmen MARCHIORI and Alessandra SGOBBI*: <u>Applications of Negotiation Theory to Water Issues</u>
CTN	66.2005	*Carlo CARRARO, Carmen MARCHIORI and Alessandra SGOBBI*: <u>Advances in Negotiation Theory: Bargaining, Coalitions and Fairness</u>
KTHC	67.2005	*Sandra WALLMAN* (lxxiv**)**: <u>Network Capital and Social Trust: Pre-Conditions for 'Good' Diversity?</u>
KTHC	68.2005	*Asimina CHRISTOFOROU* (lxxiv): <u>On the Determinants of Social Capital in Greece Compared to Countries of the European Union</u>
KTHC	69.2005	*Eric M. USLANER* (lxxiv): <u>Varieties of Trust</u>
KTHC	70.2005	*Thomas P. LYON* (lxxiv): <u>Making Capitalism Work: Social Capital and Economic Growth in Italy, 1970-1995</u>
KTHC	71.2005	*Graziella BERTOCCHI and Chiara STROZZI* (lxxv): <u>Citizenship Laws and International Migration in Historical Perspective</u>
KTHC	72.2005	*Elsbeth van HYLCKAMA VLIEG* (lxxv): <u>Accommodating Differences</u>
KTHC	73.2005	*Renato SANSA and Ercole SORI* (lxxv): <u>Governance of Diversity Between Social Dynamics and Conflicts in Multicultural Cities. A Selected Survey on Historical Bibliography</u>
IEM	74.2005	*Alberto LONGO and Anil MARKANDYA*: <u>Identification of Options and Policy Instruments for the Internalisation of External Costs of Electricity Generation. Dissemination of External Costs of Electricity Supply Making Electricity External Costs Known to Policy-Makers MAXIMA</u>

(lxv) This paper was presented at the EuroConference on "Auctions and Market Design: Theory, Evidence and Applications" organised by Fondazione Eni Enrico Mattei and sponsored by the EU, Milan, September 25-27, 2003

(lxvi) This paper has been presented at the 4th BioEcon Workshop on "Economic Analysis of Policies for Biodiversity Conservation" organised on behalf of the BIOECON Network by Fondazione Eni Enrico Mattei, Venice International University (VIU) and University College London (UCL) , Venice, August 28-29, 2003

(lxvii) This paper has been presented at the international conference on "Tourism and Sustainable Economic Development – Macro and Micro Economic Issues" jointly organised by CRENoS (Università di Cagliari e Sassari, Italy) and Fondazione Eni Enrico Mattei, and supported by the World Bank, Sardinia, September 19-20, 2003

(lxviii) This paper was presented at the ENGIME Workshop on "Governance and Policies in Multicultural Cities", Rome, June 5-6, 2003

(lxix) This paper was presented at the Fourth EEP Plenary Workshop and EEP Conference "The Future of Climate Policy", Cagliari, Italy, 27-28 March 2003

(lxx) This paper was presented at the 9th Coalition Theory Workshop on "Collective Decisions and Institutional Design" organised by the Universitat Autònoma de Barcelona and held in Barcelona, Spain, January 30-31, 2004

(lxxi) This paper was presented at the EuroConference on "Auctions and Market Design: Theory, Evidence and Applications", organised by Fondazione Eni Enrico Mattei and Consip and sponsored by the EU, Rome, September 23-25, 2004

(lxxii) This paper was presented at the 10th Coalition Theory Network Workshop held in Paris, France on 28-29 January 2005 and organised by EUREQua.

(lxxiii) This paper was presented at the 2nd Workshop on "Inclusive Wealth and Accounting Prices" held in Trieste, Italy on 13-15 April 2005 and organised by the Ecological and Environmental Economics - EEE Programme, a joint three-year programme of ICTP - The Abdus Salam International Centre for Theoretical Physics, FEEM - Fondazione Eni Enrico Mattei, and The Beijer International Institute of Ecological Economics

(lxxiv) This paper was presented at the ENGIME Workshop on "Trust and social capital in multicultural cities" Athens, January 19-20, 2004

(lxxv) This paper was presented at the ENGIME Workshop on "Diversity as a source of growth" Rome November 18-19, 2004

(lxxvi) This paper was presented at the 3rd Workshop on Spatial-Dynamic Models of Economics and Ecosystems held in Trieste on 11-13 April 2005 and organised by the Ecological and Environmental Economics - EEE Programme, a joint three-year programme of ICTP - The Abdus Salam International Centre for Theoretical Physics, FEEM - Fondazione Eni Enrico Mattei, and The Beijer International Institute of Ecological Economics

(lxxvii) This paper was presented at the Workshop on Infectious Diseases: Ecological and Economic Approaches held in Trieste on 13-15 April 2005 and organised by the Ecological and Environmental Economics - EEE Programme, a joint three-year programme of ICTP - The Abdus Salam International Centre for Theoretical Physics, FEEM - Fondazione Eni Enrico Mattei, and The Beijer International Institute of Ecological Economics.