Who Enforces Enforcement?:
Can Public Prosecutors in Brazil Break the Endless Regress?

Bernardo Mueller
Department of Economics
University of Brasilia, Brazil.

ABSTRACT
Enforcement is one of the greatest challenges in environmental policy-making. Even when policies are well-designed theoretically, they will not deliver the intended effects if the difficulties of enforcement are not explicitly incorporated in their design. Much of the rationale for the use of economic instruments is an attempt to economize on the informational requirements of policies and reduce the need for difficult and costly enforcement. But even in those cases enforcement remains key to success. These difficulties have lead to the search of additional means of monitoring and enforcing environmental policy, such as voluntary self-regulation and private enforcement. Although these schemes can improve enforcement under some circumstances they are not universally applicable and have only limited scope. In this paper I model the interaction of a polluter with an enforcer of environmental policy, and of these two with a third party which enforces enforcement by monitoring and potentially penalizing the first enforcer contingent on realized outcomes. From the model the characteristics of an effective enforcement enforcer are derived. The paper then examines the role of Public Prosecutors in enforcing environmental policy in Brazil and investigates to what extent their peculiar structure, preferences and powers make them effective enforcement enforcers.

Who Enforces Enforcement?:
Can Public Prosecutors in Brazil Break the Endless Regress?

Bernardo Mueller – Dept. of Economic, University of Brasilia
August, 2006

Section I – Introduction

The ability of environmental policy to deliver the intended results depends not only on sound design of the incentives built into that policy, but also rests crucially on enforcement. Enforcement requires that the actions of the economic actors involved in the use of the environment be monitored and that behavior that is at odds with that policy be constrained and possibly punished, with the offending party potentially forced to make reparations to the environment and/or to the harmed parties. Enforcement of environmental policy is typically very difficult to do, in particular in developing countries. These difficulties stem both from the characteristics of the tasks involved and from the redistribution which enforcement naturally entails. One reason why monitoring compliance with environmental regulation is difficult is because non-compliance is often difficult to observe and document. The externalities created by production and consumption are often dispersed, distant, invisible, asynchronous, sporadic and intertwined with other variables so that large information asymmetries tend to exist between enforcers of environmental policies and those being regulated. These characteristics provide incentives for strategic behavior and opportunism by the regulated so as to avoid or circumvent those restrictions. Furthermore, given the fact that environmental regulation necessarily places restrictions on some economic agents, it entails a redistribution of income that generates a demand for regulation (Stigler 1971, Peltzman 1976) whereby agents provide support or opposition to politicians so as not to be harmed by the regulation and rather shift the harm on their competitors. This implies that there are typically political forces that will lead enforcement of regulatory standards to be sub-optimal, even when there is sufficient information for the optimal level and form of enforcement to be implemented. In this light, the frequent complaint by environmental regulators that they can't fulfill their mandates because they have too few staff and budgetary resources can be interpreted as an endogenous outcome of the political game over the redistribution of income through regulation. These obstacles to

2

enforcement are arguably greater in developing countries where monitoring technologies tend to be inferior and where there tends to be a greater willingness to trade-off environmental quality for economic growth. That these and other difficulties in implementing and maintaining effective enforcement are important and ubiquitous is consistent with the current poor state of the environment in several areas in most countries in the world.

This situation has stimulated a large literature in environmental economics dedicated to designing policy in ways that are easier to enforce. Much of the preference by economists for economic instruments over command-and-control regulation is based on lower information requirements of those instruments, which are often purposefully designed to economize on the need for data and monitoring. The literature has also sought alternate ways of pursuing enforcement. One strand argues that voluntary self-regulation by firms and corporations can, in some circumstances, improve compliance and reduce the need for enforcement by the regulator (Fisman, Heal and Nair, 2005; Rondinelli and Vastag 2000; Potoski and Prakash, 2005; Khanna and Damon 1999; Dasgupta, Hettige and Wheeler, 2000; Baranzini and Thalmann, 2004). Voluntary compliance would be driven by social responsibility, concerns over the firm's image, as well as an attempt to preempt direct regulation. Another stand argues for creating means through which private parties, such as citizens and NGO's can effectively monitor compliance to environmental standards by firms and other economic agents (Nolet, 2000; Tietenberg, 1996; Naysnerski and Titenberg. 1992). The groups may be differently motivated. Some may be moved by ideology while others may, for example, wish to impose a cost on competitors. The idea of private enforcement is to build into environmental regulation the means for these groups to detect, denounce and persecute non-complying behavior. Under the proper circumstances private enforcement can either complement or substitute for direct enforcement by the regulator.

Although there is probably room for increasing use of both voluntary regulation and private enforcement throughout the world, and especially in developing countries, it is doubtful that these will render unnecessary direct forms of regulation, be they command-and-control or economic instruments. In this paper I model the enforcement of environmental policy by a regulator and the enforcement of the regulator's actions by a

third party, which can either be the agency itself, another state actor, such as a separate agency, or a private party, such as an NGO. Characteristic that the enforcement enforcer should have to be effective are derived from the model. These characteristics are then used to compare the effectiveness of different environmental policy enforcers in Brazil, a country where environmental problems are particularly salient given its size and the presence of the Amazon forest. The paper argues that public prosecutors in Brazil have a very peculiar set of characteristics that have made them particularly effective at enforcing enforcement, a fact that has not been duly recognized in the literature on the environment in Brazil. The claim in this paper is that if one wants to understand why environmental resources in Brazil are being managed in the current fashion (for example deforestation), it is crucial to understand the role of public prosecutors as they, for better or worse, play an important role in enforcement of environmental policy. That is, they hold powers that make them a binding veto point over any decision involving the use of environmental resources in the country.

In section III I describe who the public prosecutors are, what they do and why. Although most other countries in Latin America, and several in the world, have organizations apparently similar to public prosecutors in Brazil, I argue that in this country they have a particular set of characteristics that make them quite unique, with important consequences on their impact over environmental policy enforcement. In section III I show that they have absolute independence from other spheres of government (Executive, Legislative and Judiciary) which extents also to individual independence of each prosecutor within the organization itself.[1] This independence refers not only to insulation from interference by other powers, but also to financial and budgetary guarantees. The prosecutors are typically endowed with high levels of human capital, as salaries in the career are among the highest in the civil service and entrance is achieved only through an open public examination. One consequence of this is that they are particularly skillful at navigating through the judicial system which in Brazil is often an important obstacle to other members of society. Additionally the public prosecutors are endowed with a set of legal instruments that can be used to constrain and punish both

---

[1] In effect, the Constitution of 1988 has made the *Ministério Público* effectively into a fourth power within government.

polluters as well as enforcers of regulations. Finally, I argue that there is both an adverse selection process that attracts to the profession individuals that have high preferences for defending society against government and a subsequent moral hazard process where the prosecutors are further indoctrinated to act that way. The upshot is an organization that has both the will and the means to affect environmental resource use in the country and does so to a large extent by pushing other governmental agencies, such as IBAMA the federal environmental protection agency, to actually pursue their mandates according to the law.

The description of the *Ministério Público* must necessarily set their existence and actions within the context of the prevailing institutional endowments in Brazil. Whereas much of the literature on regulation and policy has typically focused on the narrow working of regulatory instruments, such as quotas, taxes and ITQs, there is increasing perception that the results of the use of these instruments relies not only on their specific design, but also on how that design fits in with the country's institutional endowments and policy-making processes (Levy and Spiller, 1996; Spiller and Tomassi, 2003; Scartascini, C. and M. Oliveira. 2003; North, 1990a,b). In the case of understanding environmental enforcement in Brazil it is important consider the context of strong presidentialism, where the president uses patronage, including control over agencies such as IBAMA, to 'purchase' support form Congress (Alston and Mueller, 2006). Also it is important to consider the characteristics of the judiciary (slow and of difficult access) and how those characteristics affect environmental policy and its enforcement. It is argued in this paper that the *Ministério Público's* structure makes it a key player in the policy-making process in such an environment.

In section 5 I explore different data on the actions of the *Ministério Público* in the sphere of environmental policy to determine what how effective they are and how large is their impact relative to the size of the problems.

Section II – A Model of Environmental Regulation Enforcement

In this section we model the interaction of a polluter, a regulator which enforces environmental laws and a third party which enforces the enforcement of the regulator. The term 'regulator' is used broadly to refer to any actor that takes actions to enforce

environmental laws, such as an environmental protection agency, another governmental agency, the *Ministério Público,* an NGO or private enforcers. In a first step the model considers only the interaction of the polluter and the regulator to determine the optimal amount of effort by the regulator in enforcing environmental laws and consequently the equilibrium amount of pollution. The second step will be to consider the role of a third party which takes action to compel the regulator to be more effective in enforcing the laws. Comparative static results will show which characteristics make an actor more effective as a regulator and an enforcer of enforcement. These results can then be used to compare the characteristics of actual enforcers of environmental laws (environmental agency*,* public prosecutors or private enforcers) to determine which of these has the greater potential to affect environmental outcomes. In Section III these results will be used to compare actual enforcers of environmental policy in Brazil.

The Polluter's Problem

The polluter is an economic agent that produces a negative externality that is directly associated with costs and benefits in production or consumption. Because there is a direct link of the pollution with those costs and benefits, we can express the polluter's problem as a choice of the optimal amount of pollution, *x*:[2]

$$\max_{x} B(x) - C^P(x) - f(x)\varphi(\pi) \qquad\qquad (1)$$

where *B(x)* is the total benefit to the polluter from *x* units of pollution (which corresponds to benefits from production or consumption), $C^P(x)$ is the private cost[3] of polluting, *f(x)* the fine associated with *x* units of pollution and *φ(π)* is the perceived probability that the fine will be levied and actually have to be paid.[4] This probability is affected by *π*, which measures actions taken by the regulator to enforce the environmental laws.[5] The efforts of the regulator will initially be taken as exogenous but will subsequently be determined by

---

[2] See Perman et al. (1999: 202-203) for a description of how the choice of production translates into a choice of pollution.

[3] The social cost of pollution is larger than $C^P(x)$ as it includes the externality. If the environmental law is efficient it will require an amount of pollution equal to the amount that equalizes marginal benefit and marginal social cost. Nothing guarantees that actual laws intend to or manage to identify this level of pollution. The cost is superscripted to differentiate it from the cost of the other agents below.

[4] It is assumed that $B_x > 0$, $B_{xx} < 0$, $C_x^P > 0$, $C_{xx}^P > 0$, $f_x > 0$, $\varphi_\pi > 0$, $\varphi_{\pi\pi} < 0$.

[5] It is assumed that there is no strategic behavior by the polluter to affect the level of enforcement by the regulator. She simply observes the effort level of the regulator and chooses the optimal level of pollution taking the regulator's actions as given.

the regulator's maximization below. The fine is such that $f(x) = 0$ for $x \leq P^L$ (where P^L is the maximum amount of pollution allowed by law) and $f(x) > 0$ for $x > P^L$.

The first order condition for the optimal choice of pollution is:

$$B_x = C_x^P + f_x \varphi(\pi) \qquad\qquad (2)$$

This condition simply states that the optimal level of pollution for the polluter is that where the marginal benefit (LHS) equals the marginal cost (RHS), which is made up of the private marginal cost of polluting plus the expected fine.

Figure 1 – Optimal pollution and regulator's utility.
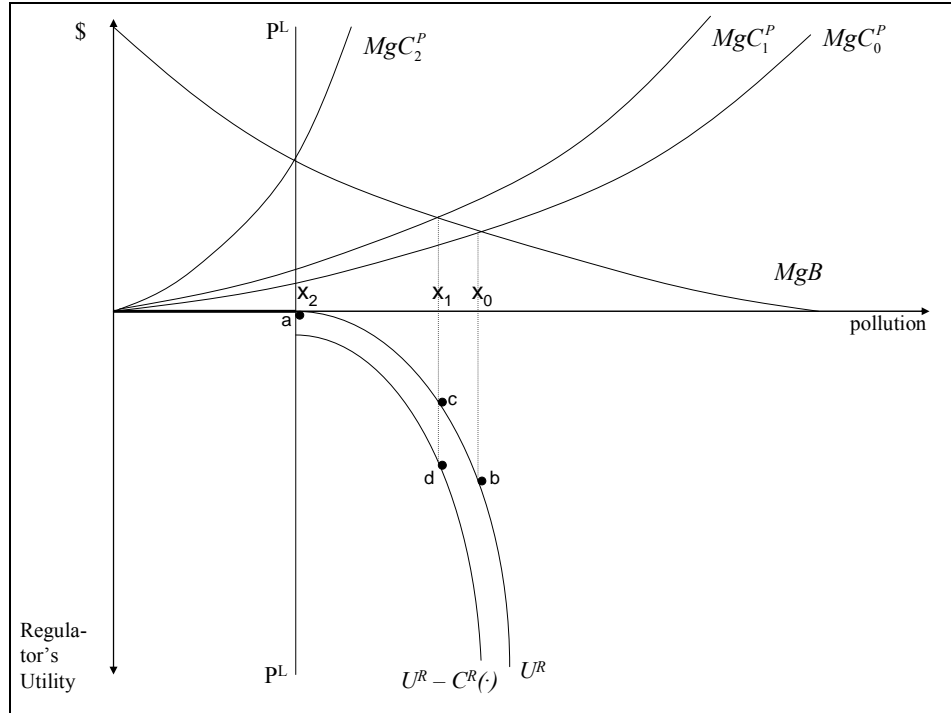
The optimal choice of pollution is shown in the upper quadrant of Figure 1. If there were no regulation the polluter would chose the level of pollution at the point where $MgBenefit = MgCost_0^P$. In order to achieve compliance with the law, that allows a maximum of P^L units of pollution, the regulator would need to impose a fine schedule such that $MgBenefit = MgCost_0^P + f_x \varphi(\pi)$. One such schedule is illustrated in Figure 1 by the difference $MgCost_2^P - MgCost_0^P$. When an optimal fine schedule is in place, the polluter will choose x_2 units of pollution, which is the maximum amount allowed by law.

The Regulator's Problem

It is assumed that the regulator's objective is to actually enforce the law, so that his utility is maximized when $x \leq P^L$. For $x > P^L$ the regulator's utility decreases with each additional unit of pollution, according to the following quadratic utility function, $-\alpha(x(\pi) - P^L)^2$. The effort π, placed by the regulator to enforce the law, is costly so $C^R(x(\pi))$ must be subtracted from the initial utility.[6] The regulator's problem is thus:

$$\max_{\pi} \quad -\alpha(x(\pi) - P^L)^2 - C^R(x(\pi))$$

subject to

$$x = \arg\max_{y} B(y) - C^P(y) - f(y)\varphi(\pi) \qquad (3)$$

This formulation states that the regulator will chose π so as to increase the probability that the pollution will be detected and punished, thus leading the polluter to optimally reduce x in accordance to her problem in (1). This effort by the regulator yields a benefit by reducing pollution, but is costly. The equilibrium condition for (3) to be maximized is:

$$-2\alpha(x(\pi) - P^L) = C_x^R \qquad (4)$$

This conditions comes from the fact that by choosing π the regulator is indirectly choosing x.[7] In equilibrium the marginal cost of increasing enforcement effort (RHS) must equal the marginal benefit (LHS). The regulator's problem can be seen in the lower quadrant of Figure 1. Utility is measured increasing vertically with a maximum point at 0. The U^R downward sloping curve for levels of pollution greater than x_1 shows the decreasing utility to the regulator as pollution increases. With no regulation the polluter chooses x_0 units of pollution and the regulator's utility is at b. With an optimal fine, such that the marginal cost of polluting becomes MgC_2^P, the polluter chooses to pollute at x_2 and the regulator's utility is at a, its highest possible level. In order to understand the regulator's choice of π start at a situation where no regulation is being realized and consider a marginal increase in π such that pollution decreases from x_0 to x_1. This brings

---

[6] It is assumed that $C_x^R < 0$, $C_{xx}^R < 0$, $x_\pi < 0$ *for* $x > P^L$ *and* $x_\pi = 0$ *for* $x \leq P^L$.

[7] Comparative statics on (2) show that $\dfrac{\partial x}{\partial \pi} = \dfrac{\varphi_\pi f_x}{B_{xx} - C_{xx} - \varphi(\pi)f_{xx}} < 0$ for $f_{xx} \geq 0$ or sufficiently small.

the regulator's utility up along U^R from point b to point c (remember that it is the vertical distance that matters). However there is also a cost of increasing enforcement effort, which is represented by the downward shift of U^R to $U^R - C^R(\cdot)$ that bring the regulator's utility down from c to d. The net effect of increasing enforcement so as to reduce pollution form x_0 to x_1 in Figure 1 is to move utility up from b to d. The regulator will continue to increase π marginally, and thus decrease x, until the net effect is zero and (4) holds, at which point the optimal amount of enforcement effort will have been reached.

Figure 2 – Regulator's costs and optimal pollution.
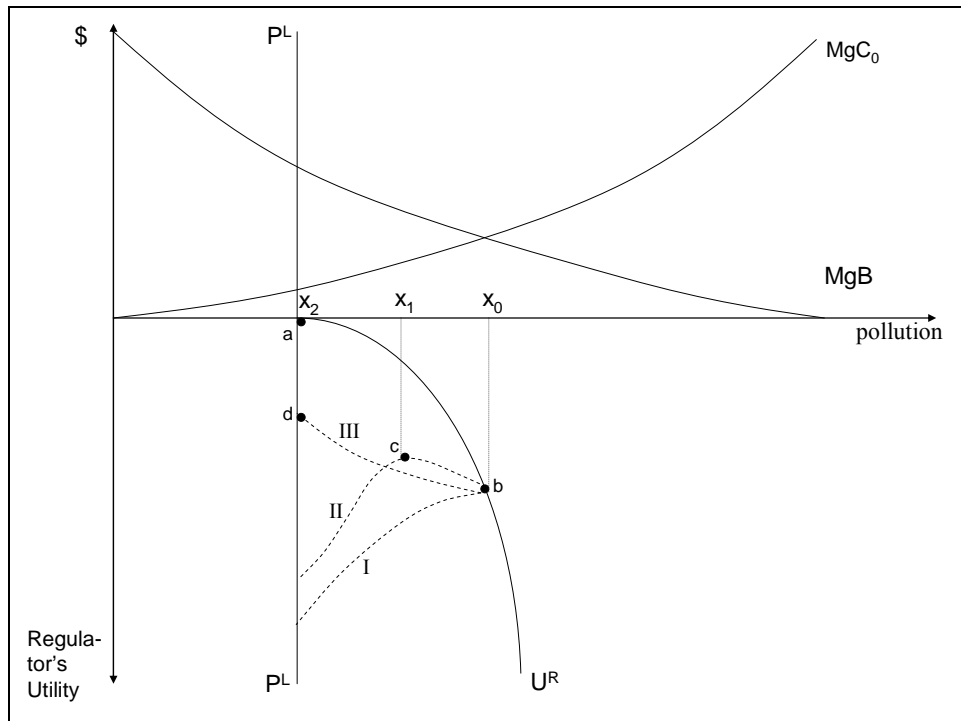
The actual equilibrium reached will depend on the regulator's cost function. Figure 2 shows examples of different loci of regulator's utilities that could arise given high, medium and low costs of regulation. If the costs of regulation are very high, any attempt to increase π will yield more costs than benefits and the locus of utilities would have a form similar to I, decreasing throughout the range x_2 to x_0. In this case the highest attainable utility would be at point b, which would be achieved by simply placing no effort in enforcing the law. If the costs of regulating are very low, an upward sloping locus such as III will result, yielding full compliance with the law and a utility at point a. Finally, if the costs of regulating are moderate, at least for the initial units of effort, an

9

interior solution such as that illustrated by x_1 and locus II would result, yielding a utility at point similar to c.

These results provide testable hypotheses as to which type of environmental 'regulator' will be most effective; an environmental regulatory agency, an NGO, private enforcers, public prosecutors, etc. By looking at the structure and process (McCubbins, Noll and Weingast, 1987, 1989) of each regulator - that is their design, governance and the institutions which constrain them - their cost of regulating can be inferred and conclusions reached about their potential effectiveness. In the next section this will be done for the case of the environmental regulatory agency in Brazil in comparison with the *Ministério Público*. First, however, the regulator's problem will be made more complex by adding a third party who can pressure for more enforcement.

The Regulator's Problem with a Third Party Enforcing Enforcement

Assume now that there is a third party, such as a different governmental agency, an NGO, private enforcers or public prosecutors, that can impose a cost on the regulator for not bringing pollution down to levels specified in the law. These costs may be imposed by, for example, taking the regulator to court or exposing him in the press. This adds a term to the regulator's objective function that penalizes him for not enforcing the law; $C^{RNE}(x(\pi),\gamma)$, where γ is the level of effort of the third party in enforcing enforcement.[8] Initially this variable will be taken as given, but will subsequently be derived endogenously from the enforcement enforcer's problem below. The regulator's problem is now:

$$\max_{\pi} \quad -\alpha(x(\pi)-P^L)^2 - C^{RE}(x(\pi)) - C^{RNE}(x(\pi),\gamma)$$

subject to

$$x = \arg\max_{y} B(y) - C^P(y) - f(y)\varphi(\pi) \qquad (5)$$

This yields the following first order condition:

$$-2\alpha(x(\pi)-P^L) - C_x^{RNE} = C_x^{RE} \qquad (6)$$

---

[8] C^{RE} now denotes the cost to the regulator of enforcing the law and C^{RNE} the cost of not enforcing the law. It is assumed that $C_x^{RNE} > 0, C_{xx}^{RNE} > 0, C_{\gamma}^{RNE} > 0$.

This is similar to (4), except that there is now an additional term on the marginal benefit side. It is now the case that increasing regulatory effort not only brings pollution down, which benefits the regulator directly, but also reduces C^{RNE}, the cost imposed on the regulator for non-performance. In equilibrium both of these marginal benefits must equal the marginal cost of regulating, C_x^R.

Figure 3 – Cost of enforcement and costs of non-enforcement.
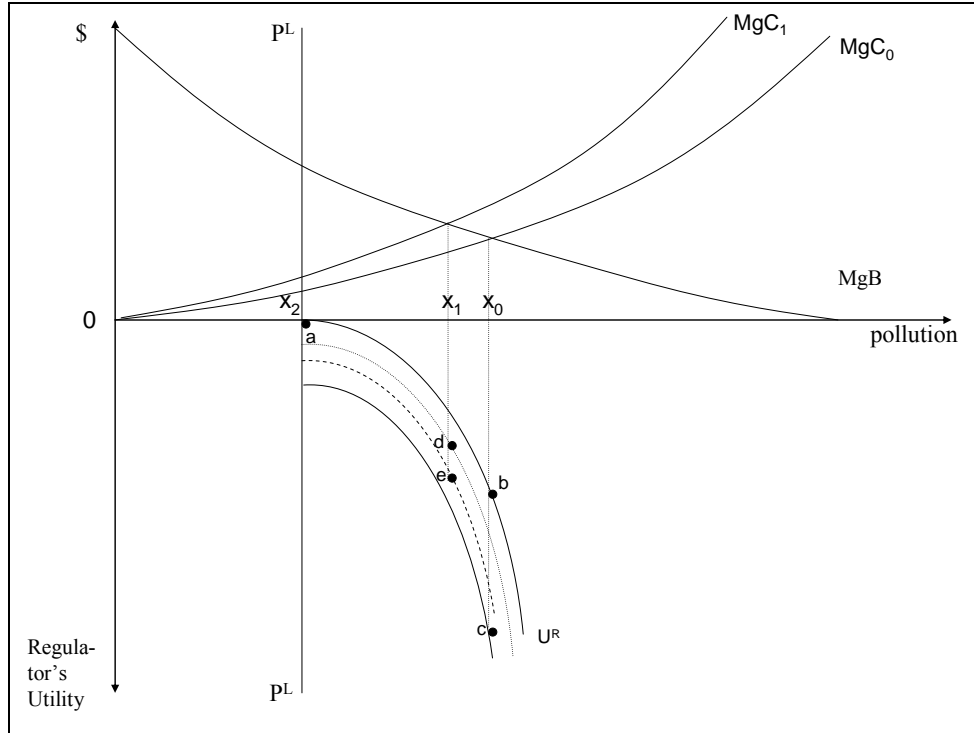
The regulator's choice process is shown in Figure 3. Without any effort at regulation the regulator has no C^{RE} and pollution is set at x_0 by the polluter. But the regulator is penalized by the third party with a cost of C^{RNE}, which lowers his utility from b to c. If the regulator increases π marginally, pollution is reduced to x_1. This not only increases utility directly, but also reduces the cost of not enforcing bringing the regulator's utility up to point d. But the increase in π also entails a cost through C^{RE}, which brings utility down to e. As drawn in Figure 3 the net effect on the regulator's utility of the increase in π that reduced pollution from x_0 to x_1 was positive, as e is higher vertically than c. The regulator will thus consider increasing π further until the net effect is zero and the equilibrium level of pollution has been reached. As before the actual

equilibrium will depend on the regulator's costs of enforcing and of not enforcing, the net effect of which will determine a solution such as those depicted in Figure 2.

The parameter γ measures the level of effort placed by a third party to enforce the enforcement activities of the regulator. Comparative static results show that an increase in γ leads to more effort by the regulator: $\dfrac{\partial \pi}{\partial \gamma} = \dfrac{-C_\gamma^{RNE}}{x_\pi \left(2\alpha + C_{xx}^{RE} + C_{xx}^{RNE}\right)} > 0$. The final step of the analysis is thus to ask how the third party chooses how much effort to put towards pressuring the regulator, given the fact that its choice of γ leads to more effort by the regulator and hence less pollution.

The Enforcement Enforcer's Problem

Assume that the enforcement enforcer's utility is maximized when the law is respected and pollution is such that $x=P^L$.[9] His utility is $-\beta\left(x(\pi(\gamma))-P^L\right)^2$, excluding the cost of effort, which is similar to that of the regulator except for the preference intensity parameter β which measures how sensitive his utility is to a change in pollution (the greater the parameter the higher the sensibility). The choice variable is γ, which is the level of effort to enforce the enforcement of the regulator, which also creates a cost $C^{EE}(x(\pi(\gamma)))$. The enforcement enforcer's problem is thus:

$$\max_{\gamma} \; -\beta\left(x(\pi(\gamma))-P^L\right)^2 - C^{EE}(x(\pi(\gamma)))$$

subject to

$$\pi = \arg\max_{\lambda} \; -\alpha\left(x(\lambda)-P^L\right)^2 - C^{RE}(x(\lambda)) - C^{RNE}(x(\lambda),\gamma)$$

and

$$x = \arg\max_{y} \; B(y) - C^P(y) - f(y)\varphi(\pi) \qquad (7)$$

This formulation recognizes that the enforcement enforcer's effect on pollution works through his ability to affect the regulator's actions, who in turn pressures the polluter through the fine. Thus an equilibrium must be a triplet (x, π, γ) that simultaneously satisfies all elements of (7). The first order condition for this problem is:

$$-2\beta\left(x(\pi(\gamma))-P^L\right) = C_x^{EE} \qquad (8)$$

---

[9] Setting the enforcement enforcer's preferred pollution more or less stringent than the law does not change the analysis as what matters is the preference intensity parameter β.

which states that the enforcement enforcer will put pressure on the regulator up to the point where the marginal benefit of doing so (RHS) equals the marginal cost of that effort (LHS).

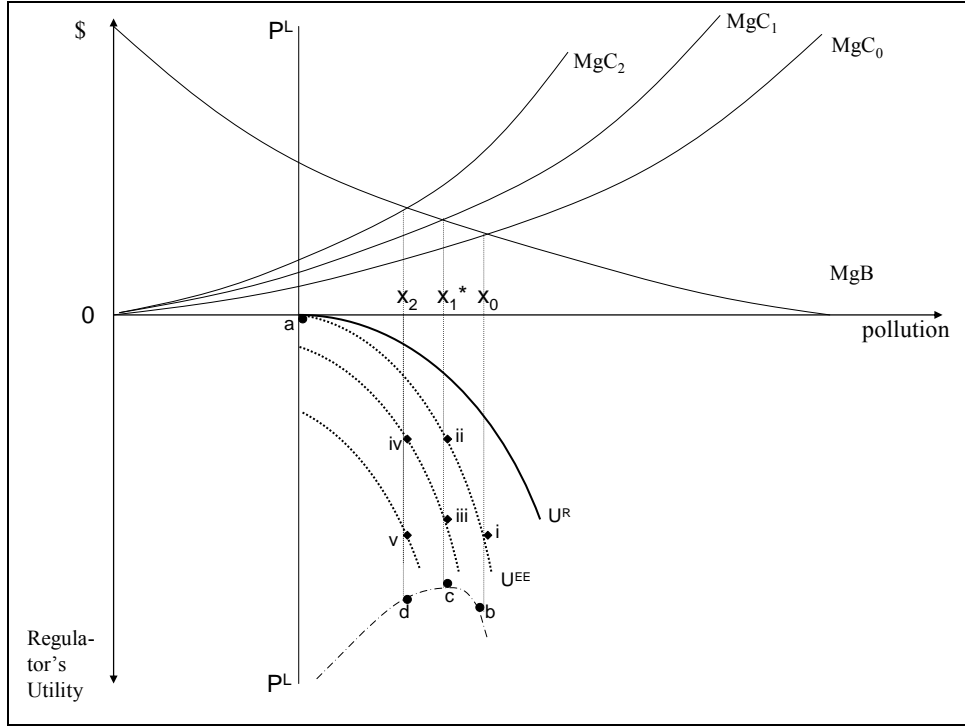Figure 4 – Enforcement enforcer's choice of effort.

Figure 4 illustrates the enforcement enforcer's problem. His utility curve U^{EE}, for $x>P^L$, is drawn with a greater slope than that of the regulator, that is $\beta>\alpha$.[10] Starting at the point where the regulator is expending no effort, that is $\pi=0$, pollution is at x_0 and the enforcement enforcer's utility is at point *i*. If he marginally increases pressure on the regulator by increasing γ, pollution decreases to x_1 and his utility increases to point *ii*. However, the associated cost of effort lowers his utility to point *iii*. Because *iii* is higher than *i*, the net effect was positive and the enforcement enforcer will have the incentive to increase γ further. This brings pollution down to x_2, which has an effect of increasing utility to point *iv* (marginal benefit) but decreasing it to *v* (marginal cost). This time the net effect is negative as *v* is lower than *iii*. Thus the enforcement enforcer will choose to leave γ at the previous level, where x_1 units of pollution were realized. For this to be an

---

[10] This greater slope does not tell us anything about their relative utilities as one cannot make interpersonal utility comparisons.

equilibrium it is necessary that, simultaneously, the choice of π^* by the regulator that is compatible with x_1^* be the choice that maximizes his utility, and the choice of x_1^* by the polluter be that which maximizes her utility given the expected fine associated with π^*. In Figure 4 these conditions are met, as $x_1^*(\pi^*)$ maximizes the regulator's utility (at point *c* in the regulator's locus of utilities given γ^*) and $x_1^*(\pi^*)$ is the point where

$$MgB = MgC^P + f\left(x_1^*(\pi^*)\right)\varphi(\pi^*).$$

In the next section it will be of interest to know what happens to this equilibrium when there is a change in two parameters. The first is the enforcement enforcer's preference intensity, β, which measures how much he cares about pollution levels. The second is a new parameter ω now added to his cost function ($C^{EE}(x(\pi(\gamma)),\omega)$), which measures personal or institutional characteristics of a given enforcement enforcer that provide greater or smaller ability pressure the regulator.[11] Comparative statics on (8) show that:

$$\frac{\partial\gamma}{\partial\beta} = \frac{2\left(x(\pi(\gamma)) - P^L\right)}{-x_\pi\pi_\gamma\left(2\beta + C_{xx}^{EE}\right)} > 0 \qquad \text{for } x > P^L \qquad (9)$$

and

$$\frac{\partial\gamma}{\partial\omega} = \frac{C_{x\omega}^{EE}}{-x_\pi\pi_\gamma\left(2\beta + C_{xx}^{EE}\right)} < 0 \qquad\qquad (10)$$

Result *(9)* states that the greater the enforcement enforcer's preference for achieving low pollution the more effort that will be expended in pressuring the regulator. Result (10) shows that an enforcement enforcer that has better access to resources, staff and policy instruments (that is, lower ω), will expend more effort to compel the regulator to uphold the environmental law.

---

[11] A higher ω represents greater impediments for the enforcement enforcer to influence the regulator, so $C_\omega^{EE} > 0 \text{ and } C_{x\omega}^{EE} < 0$. These costs can be related to budgetary issues, political control by other governmental actors, availability of policy instruments, staff capacity, etc.

Section III – The History, Structure, Preferences, Motivation, Resources and Instruments of Public Prosecutors in Brazil

In this section I describe the role of the *Ministério Público* (public prosecutors) in Brazil in order to consider whether their structure, preferences, powers and instruments qualify them as effective enforcers of environmental policies. Although several countries have public prosecutors,[12] in Brazil the MP plays a particularly important role in shaping public policy. I describe how the country's political institutions give the MP the independence, the legal instruments and the resources, which allow it to be an extremely active watchdog of the actions of the other political actors. This, together with an intense motivation to protect society from the misconduct and omission of the other political actors, has made the MP a central figure in the process of making and implementing policy (in general and not only environmental).[13]

The *Ministério Público* (MP) has existed in Brazil since 1609 (Macedo Jr. 1999), however its role and institutional organization has changed over time as different Constitutions have redefined its structure. As in most countries, one of its purposes is to prosecute, in the name of the State, those who commit crimes. However, in Brazil the MP has taken on an additional role that has lead it to turn much of its attention to the process of public policy making. These changes started in 1985 when a legal instrument known as the "public civil suit" (*ação civil pública*) was created, through which the MP could take to court any person or entity for harm done to the environment, consumer rights, or the artistic, cultural, historical, tourist and landscape patrimony of the nation.[14] It was the 1988 Constitution, however, that amplified the scope of the public civil suits by stating that it is the institutional role of the *Ministério Público* to "promote civil inquiries and public civil suits for the protection of public and social patrimony, of the environment

---

[12] For a database on the organization of *Ministerio Públicos* in the Americas see Base de Datos Políticos de las Américas. (1998) Designacion del Ministerio Publico. *Análisis comparativo de constituciones de los regímenes presidenciales*. [Internet]. Georgetown University y Organización de Estados Americanos. En: http://www.georgetown.edu/pdba/Comp/Control/Publico/designacion.html. 15 de enero 2004.

[13] This more active role played by the MP is recent, as it began with changes introduced in the 1988 Constitution and has been evolving since. As such there is very little academic work available on the MP, apart from the very legalistic and biased work done by its own members (frequently dissertations for Master degrees.) Important exceptions are Arrantes (1999 and 2004).

[14] Public civil suits can be initiated by states, municipalities, public companies and even civil society. However in practice it is mostly the MP that takes the initiative. Other entities have preferred to invoke the MP rather than do so themselves.

and of other diffuse and collective interests."[15] This apparently innocuous article has in effect allowed the MP to take into their jurisdiction the monitoring of all public policy, for practically any act of public policy making can be construed to affect "diffuse and collective interests." What it did in effect was to stipulate that a series of social conflicts that previously would have been mediated only in the political arena could now also be brought to the judicial arena.

Clearly, simply establishing a new role for the MP in the Constitution would be innocuous was it not accompanied by other provisions that granted the MP the conditions necessary to carry out that role. The Constitution did in fact provide those conditions, in terms of independence, resources and legal instruments. Whereas before the Constitution the MP was part of the Executive power, the new charter made the MP autonomous, not only in terms of insulation from interference by the other powers but also in term of budgets, which are fixed and automatic. The Executive's only prerogative is to choose the head of the federal MP from one of its members at the start of the term, being immovable thereafter.[16] This independence extends to the level of the individual prosecutors. The entrance into the career is by public exam open to all citizens with the necessary qualifications, though exams are difficult and vacancies often remain unfilled. The 1988 Constitution establishes that prosecutors cannot be fired, transferred nor have their salaries reduced. In addition each prosecutor is independent within the profession, being immune from internal pressure as in effect there is only administrative and not functional hierarchy (Arantes, 1999:90). Salaries are among the highest in the country for public sector jobs and as a consequence they attract highly competent people.

In addition to resources the MP possesses a set of powerful legal and judicial instruments. The first of these is the "Adjustment of Conduct" warrant, through which they can request that an individual, firm or governmental entity cease or change a certain behavior or be prosecuted. In practice this instrument has been a credible threat as it can impose significant costs even if the case is struck down in court. The MP also has the

---

[15] 1988 Constitution art. 129-III.
[16] There is a federal MP and state level MPs in each of the 26 states plus the Federal District. Prosecutors are known as *promotores* and *procuradores*. *Promotores*, the first stage of the career at the state level, act in specific municipalities. They can eventually be promoted to state *procuradores* by seniority and merit. At the federal level there are only *procuradores*. At the state level the head *procurador* is chosen by the governor from a list of three names voted by all members of the state's MP.

right to request free expert advice from police and other governmental organizations so as to investigate a given issue. They can also impose daily fines until certain types of behavior cease. And most importantly, they can take to court those who harm collective and diffuse interest through the public actions suits. In practice this has proven a tremendously effective instrument for the prosecutors are highly trained and know how to use the often tortuous Brazilian judicial system. Even though judges have the final word and often strike down public civil action suits, many of those being prosecuted find it better to negotiate.

Generous endowments of human and financial resources as well as an effective set of instruments are not enough to explain the new role taken by the MP. There remains the issue of motivation, that is, what this largely independent organization chooses to do with these endowments. In part the separation of the MP from the Executive meant that the MP was no longer charged with being the Executive's advocate, that is, defending the Executive's interest before the judiciary. This role was ascribed to a new governmental entity (the Union's General Advocacy) leaving the MP unencumbered to be the advocate of society, defending in particular diffuse and collective interests, prominently among which is environmental policy. Interestingly what evolved was a very particular pattern of preferences and motivations in the (mostly young) prosecutors, where they see themselves as playing messianic role in society: defending the weak and defenseless (hyposufficient in their terminology). Importantly for the theme of this paper, they see a large part of their role as defending society from government, who they see as being responsible, by omission and by commission, of many violations against diffuse and collective interests. For example, rather than simply prosecuting a polluter, they will prosecute the environmental agency for allowing the pollution to occur. The reasons for this zealotry are difficult to ascertain. It may be due to a self-selection process where individuals with that view of the world are more attracted to a job where they can "make a difference", or it may be induced by an *esprit de corp* that induces most members to adopt a common vision. A survey by Arantes (1999) with 763 members of the MP shows that they see the social and political performance of the Executive and Legislature, at all levels and political parties as very poor. In addition they see themselves as the most important institution to defend, broaden and consolidate social rights.

Having described the evolution of the MP it is useful to look at some examples that illustrate that they can and do affect policy making at federal and local level in Brazil. The first example involves the constitutional provision that a fixed proportion of the federal budget must be applied to health-related expenditures. In late 2003 it was perceived that President Lula's budgetary proposal for 2004 included in the R$35.8 billion that should be spend on the health, expenditures in sewage and in its anti-poverty program, so that in effect only R$32.5 billion would reach the actual health system. The congressmen who represent the health providers' interest in Congress quickly denounced this attempt to get round the constitutional limitation, nevertheless Presidential powers could probably easily get the proposal approved. The Executive argued that sewage and anti-hunger expenditures were in effect closely related to health. However, when the head of the federal MP officially recommended that the budgetary proposal be revised, the President backed down and made the necessary changes. This is an example of the MP serving as a check on the President and constraining the policy making process.

A second example is the implementation of educational policy through the creation of a fund to finance schools and improve teachers' wages. This fund (FUNDEF) was created by a Constitutional amendment in 1996 (Cardoso administration) and received earmarked resources from a series of other constitutional funds as well as fixed proportions from a series of tax revenue sources. The idea of the fund is that resources get credited directly to the bank accounts of each state and municipality as soon as the money is received by each of those sources, so that there are less hold-ups and delays. Furthermore the size of the transfer is proportional to the number of students enrolled, guaranteeing a minimum amount per student, thus giving incentives for schools to increase enrollment rates. The resources must be spent entirely in fundamental public education and at least 60% of the resources must go to teacher's wages. This is a hard-wiring of policy so as to avoid the volatility which would potentially otherwise ensue and which could seriously compromise the policy's effectiveness.

The idea of the fund is that there are gains to decentralizing this type of expenditure. However, the policy makers recognized at the same time the inherent difficulty in monitoring the use of resources in such a decentralized system. In order to deal with this the receipt of the funds is contingent on the creation of local councils

composed of representatives from the state, teachers, parents and school employees. These councils are independent from the state and municipal governments and are in charge of exercising social control over the use of the transferred resources. Despite all the merits of decentralized participatory monitoring, it was clear that the councils would not be enough to check the myriad forms of fraud and corruption that this kind of transfer traditionally fostered in Brazil. The Ministry of Education thus sought to involve the MP in the task of monitoring the program by signing an agreement for cooperation. The ministry created a manual and special courses for prosecutors, describing the program and the main problems to look for, such as, fraud in school censuses, delaying wages, or not using at least 60% of the resources for wages, unrepresentative councils, use of resources for non-education related expenditures, etc. The MP would monitor the program even without this agreement, as they see the constitutional guarantee of universal public education an important diffuse and collective interest. However, by explicitly bringing the MP on board the Executive facilitated that monitoring and improved the working of its educational policy. Whereas local councils and the Auditing Offices can provide some check over improper use of resources, they lack the independence, resources, legal instruments and motivation that make the MP so much more effective for this task. Although there is no systematic data on the MPs participation, a cursory examination of the home-pages of the various state MPs shows quite a prominence of FUNDEF-related cases. In the state of Bahia for example, in 2003, 92 of 415 counties were being investigated by the MP for misuse of FUNDEF resources. This example shows the use of the MP by other political actors to ensure the proper functioning of policy. The MP not only serves as a commitment that the rules will be enforced, but they also serve as a commitment for the Executive that this hard-wired policy will be followed at the state an local levels. With the MP so closely involved it becomes even more difficult for the Executive to get round the constitutional constraints on educational expenditures should such a need arise.

As a final example I cite a case that is representative of an increasing number of situations where the MP tries to deny a public administrator the choice of not carrying out their obligations due to lack of resources. In 2003 a doctors' union in the state of Mato Grosso denounced to the MP that more than 150 people had died that year in the queue

for beds at state hospitals' emergency wards. The MP entered with a suit in the courts requiring all patients currently waiting for space in the emergency wards should be immediately served. The judge denied the request arguing that governments are subject to budget constraints and resources are scarce. The prosecutor promised to appeal and argued that the issue wasn't a question of resources but of mismanagement. In the end the state secretary of health, the director of the hospital and the prosecutor had a series of meetings where they discussed how to deal with the problem including the redirecting of resources from other expenditures to the hospital. This example shows the MP constraining expenditure choices by policy makers. Though the MP cannot create policy, it can enforce policies defined in the Constitution or in laws. This generally applies to specific laws such as the requirement that every child have access to education. But increasingly prosecutors have been invoking more general constitutional rights, such as a right to "education, health, work, leisure, security, social welfare, maternity protection and childhood." (Article 6 of the Constitution). Increasingly prosecutors have been using public civil suits against public administrators invoking such rights as the basis of demands that public policy be changed. Although judges tend to strike down many of these suits, it is not uncommon for these suits to be effective in changing how policy makers use their resources. Precedents are being determined in daily practice and legal scholars debate whether the MP is within its rights to pursue this line of action (Carvalho, 2003). The fact is that the role of the MP is still in evolution and there are strong pressures for the broadening of their influence.

In order to have an idea of the extent to which the MP participates in the policymaking process in the manner described above I collected data on the number of public civil suits from 1996 to 2003. There is no systematic database with information on the MPs production as each prosecutor is in essence an autonomous unit, so what I chose to do is to look at the number of public civil suits against governmental entities on appeal at the 1st Regional Federal Tribunal in Brasilia, responsible for 14 states. I chose to look only at those suits on appeal because many suits are quickly struck down in the first instance and then have little effect. Those that reach the appeal stage are those where the MP won and the governmental entity appealed (they are obliged by law to appeal every defeat) or where the government won and the MP has decided to appeal.

Number of Public Civil Suits on Appeal
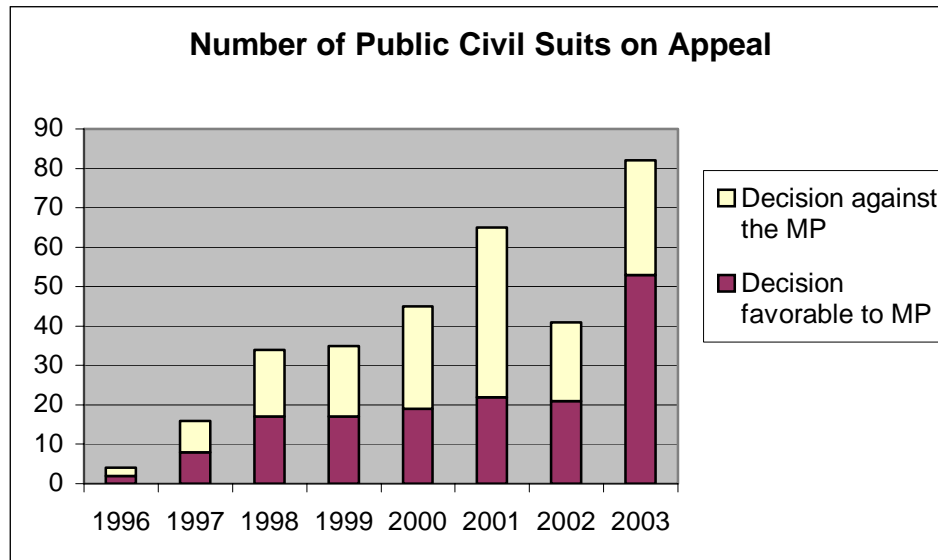
The data show that the participation of the MP has been growing over time and that the MP does in fact succeed in many instances. Furthermore, one must also consider that even those suits that lost in the first instance or on appeal may have an effect on policy makers' future behavior.

Together these examples and data show that the MP has been playing an important role in the policy making process in Brazil, not only by constraining other political actors, but also by serving as commitment devices for policies by performing as arbitrators, mediators, coordination mechanisms and notaries. By doing so the MP has brought the judicial branch into political transactions. This judicialization of politics implies that the MP are increasingly important political actors in the policy making process. Their interference into the policy making process has already aroused reactions from the other political actors. A law was proposed by the Executive in 2001 that sought to forbid prosecutors from releasing information on investigations before their conclusion, a strategy often adopted as a means to buttress their cases since newspapers and other media can be used as evidence in investigation and also to gain popular support. This law, informally known as the Gag Law, was dropped due to the reaction it caused in the press, being construed as arbitrary and equivalent to censorship. Nevertheless the dissatisfaction of many political actors with the active role played by the MP, which they see as overstepping their bounds, remains, and suggests that in the future there will be further clashes to determine more precisely what that role will be.

Section IV – The Impact of Public Prosecutors in Brazil on Environmental Policy.[17]

The purpose in this section is to explore different sources of data on the actions of the *Ministério Público* so as to determine the form and size of their impact on environmental enforcement and ultimately on environmental quality. If, as argued above, the public prosecutors have characteristics and motivations that make them effective at environmental enforcement, then we should expect this to be reflected somehow in that data. To do this I first explore case studies of salient cases where the MP had a great impact on enforcement or on the enforcement by other agencies. Subsequently I explore a study on the impact of enforcement by IBAMA, the federal environmental regulator, against deforestation in the Amazon (Brito, Barreto and Silva, 2005). These authors take a sample of 55 cases where IBAMA has investigated instances of deforestation and follow each case to its conclusion to determine how effective that agency is at enforcing deforestation restrictions. This is used as a benchmark to compare the effectiveness of the MP in similar cases. The third source of data to be used is a large survey conducted by IBGE with all 5560 municipalities in Brazil in 2002 about the quality of the environment, the greatest environmental problems and the existence of institutions to address those issues. The idea is to use that data to create a measure of environmental quality in each municipality that can then be regressed against a set of controls (such as income) and a measure of MP presence. This can be measured for example by the number of state prosecutors dedicated exclusively to environmental issues, or the number belonging to the Association of Environmental Prosecutors. The idea is to try to isolate the effect of the MP over environmental outcomes. The richness of this survey, together with another similar survey on municipal public management should allow several empirical strategies for testing for those effects. A fourth set of data that will be used are records by the federal MP of the number of processes they have pursued. This data has only recently been made available to the public by the MP and involves the number of civil inquiries, adjustment of conduct warrants and civil public suits. This data will be explored to quantify its impact and discern how and when each instrument is used.

---

[17] This section is still under elaboration as some of the data used has just recently been made public by the *Ministério Público*. Here I simply describe the data available and how I intend to use it.

Section V – Conclusion

In Brazil the new Environmental Crime Law of 1998 is considered a reasonably well designed piece of legislation, which together with several other laws and regulations, should allow the Ministry of Environment and its operational arm IBAMA the legal means to pursue their mandate to protect the environment. However, it has been argued here the country's institutional arrangements are such that one would not expect much effectiveness from those efforts. The model in section two shows that when the costs to the regulator are large, the equilibrium level of compliance will be low. These costs can include not only administrative and logistic cost, but also the political costs of contradicting the interests of those in power or those it relies on for support. The model also shows how the preferences of the regulator affect compliance. Given the political nature of appointments at IBAMA, the poor results of its enforcement efforts, highlighted in section IV, are not surprising.

The model then considers how a third party who enforces the enforcement of the regulator would affect the equilibrium. It is shown that this effect depends on both the preferences of this third party over environmental outcomes as well as over the costs it faces in penalizing the original regulator. I argued in sections III and IV that the *Ministério Público* in Brazil possesses several characteristics that not only give it the financial, legal, political and human capital means to enforce that enforcement, but also that they typically posses a zealotry that gives them the motivation to actually do so. Empirical data was explored to show that the MP is in effect having a large impact on the use of environmental resources in Brazil as well as on the design of environmental policy. Given that this is true, it is odd that although Brazil features frequently as the object of studies on environmental issues (to a large extent but not exclusively because of the Amazon), there is little perception in that literature of the important role played by the *Ministério Público*. It is expect that this paper will be a first step in amending this situation.

References

Alston, L.J. and B. Mueller. 2006. "Pork for Policy: Executive and Legislative Exchange in Brazil," The Journal of Law Economics and Organization. Vol.22, No.1 Spring.

Alston, L., Libecap, G. and Mueller B., 2000, "Property Rights to Land and Land Reform: Legal Inconsistencies and the Sources of Violent Conflict in the Brazilian Amazon" *Journal of Environmental Economics and Management*, 39:162-188.

Alston, L., Libecap, G. and Mueller B., 1999, "A Model of Rural Conflict: Violence and Land Reform Policy in Brazil", *Environment and Development Economics*, Cambridge:UK, 4:135-160.

Arantes, Rogério B. 2004. *Ministério Público e Política no Brasil*. EDUC/PUC-SP.

Baranzini A. and P. Thalmann (eds). 2004. *Voluntary Approaches to Climate Protection*. Edward Elgar Publishing.

Brito, B., P. Barreto and T. Silva. 2005. "Aplicação da Lei de Crimes Ambientais pelo IBAMA na Proteção de Florestas no Pará" working paper Imazon.

Carvalho, Eduardo S. 2003. "Ação Civil Pública: Instrumento para Implementação de Prestações Estatais Positivas" Fundação Escola do Ministério Público do Rio de Janeiro.

Dasgupta, S., H. Hettige, and D. Wheeler. 2000. "What Improves Environmental Compliance?: Evidence from Mexican Industry." Journal of Environmental Economcs and Management. 39(1):39-66.

Fisman, Heal and Nair, 2005. "Corporate Social Responsibility: Doing Well by Doing Good?" Working Paper Columbia Business School.

Khanna, M. and L. Damon. 1999. "EPA's Voluntary 33/50 Program: Impact on Toxic Releases and Economic Performance of Firms." Journal of Environmental Economics and Management. 37(1):1-25.

IBGE. 2003. *Perfil dos Municípios Brasileiros: Gestão Pública 2001*, Rio de Janeiro.

IBGE. 2005. *Perfil dos Municípios Brasileiros: Meio Ambiente 2002*, Rio de Janeiro.

Levy, B. and P. T. Spiller (1996). Regulations, institutions, and commitment : comparative studies of telecommunications. Cambridge ; New York, Cambridge University Press.

Laffont, J.-J. and D. Martimort. 1998."Transaction Costs, Institution Design and the Separation of Powers", *European Economic Review*, vol. 42, 1998, p. 673-684.

Macedo Jr., R.P. 1999. "A Evolução Institucional do Ministério Público Brasileiro" in A.A.M.C. Ferraz (ed) *Ministério Público: Instituição e Processo*. IEDC-Atlas, 2ª ed.

McCubbins, M.D., R. Noll and B.R. Weingast. (1987). "Administrative Procedures as Instruments of Political Control", *Journal of Law Economics and Organization*, 3:234-277.

McCubbins, M.D., R. Noll and B.R. Weingast. (1989). "Structure and Process, Politics and Policy: Administrative Arrangements and Political Control of Agencies." Virginia Law Review 75: 431-482.

Mueller, B., 2001, "Institutions for Commitment in the Brazilian Regulatory System," *Quarterly Review of Economics and Finance*, Vol. 41: 621-643.

Naysnerski, W. and T. Titenberg. 1992. "Private Enforcement of Environmental Law" *Land Economics.* 68(1): 28-48.

Nolet. G. 2000. "Environmental Enforcement in Latin America and the Caribbean" in Lopez and Jordan (eds) *Sustainable Development in Latin America: Financing and Policies Working in Synergy*, Inter-American Development Bank, Interamer Collection, no. 69.

North, D.C. 1990a. *Institutions, Institutional Change and Economic Performance*, New York: Cambridge University Press.

North, D. C. 1990b. "A transaction cost theory of politics." *Journal of Theoretical Politics*, 2(4): 355-367.

Peltzman, S. 1976. "Towards a More General Theory of Regulation." *Journal of Law and Economics* 19: 211-240.

Perman, R.J., Y. Ma, J. McGilvray and M. Common (1999) *Natural Resource and Environmental Economics*, Second edition, Addison Wesley Longman.

Potoski, M. and A. Prakash. 2005. "Green Clubs and Voluntary Governance: ISO 14001 and Firms' Regulatory Compliance." American Journal of Political Science. 49(2):235-248.

Rondinelli, D. A. and G. Vastag. 2000. "Panacea, Common Sense, or Just a Label? The Value of ISO 14001 Environmental Management Systems." European Management Journal. 18(5):499-510.

Scartascini, C. and M. Oliveira. 2003. "Political Institutions, Policymaking Processes and Policy Outcomes: A Guide to Theoretical Modules and Possible Empirics," Latin American Research Network – IADB, Design Paper.

Spiller, P. T. and E. H. Tiller (1997). "Decision costs and the strategic design of administrative process and judicial review**."** *Journal of Legal Studies* XXVI (June).

Spiller, P. T. and M. Tommasi. 2003. "The Institutional Foundations of Public Policy: A Transactions Approach with application to Argentina," *Journal of Law Economics and Organization*, Vol.19, No.2, Oct.

Stigler, G. (1971). "The Theory of Economic Regulation." *Bell Journal of Economics* 2(Spring): 3-21.

Tietenberg, T. 1996. "Private Enforcement of Environmental Regulations in Latin America and the Caribbean: An Effective Instrument for Environmental Management?" Inter-American Development Bank, June, ENV-101.