The relation between the prosecutor, the attorney 
and the client in plea bargaining: 
a principal-agent model

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Abstract

The traditional approach of conflicts of interest in settlement and litigation considers that the major problem takes place between the attorney and his client. This analysis is applied for civil law but seems not sufficient to understand criminal law, particularly the plea bargaining procedure. In fact, when a conflict is resolved by a plea bargaining, the negotiation is made between the prosecutor and the attorney. The agency costs in the context of plea bargaining have been studied by Alschuler [1976] and Schulhofer [1988 and 1992]. This literature is limited to a legal approach and that is why it is particularly relevant to consider an economic analysis, which will allow discussing this subject introduced by academics. To this end, we consider an adverse selection model with a prosecutor (the principal), not informed about the bargaining power of the attorney, and an attorney (the agent) who is two types (low or high bargaining power). We propose a new approach of the economic analysis of plea bargaining by viewing this process as a contract between the prosecutor and the attorney. We use to incentives models (Baron-Myerson [1982], Laffont-Martimort [2002], and Bolton and Dewatripont [2005]) but we introduce a double particularity. On the one hand, the conflict is between the prosecutor and the attorney. On the other hand, our model considers that the contract corresponds to a plea bargaining and that it is ends with good deal or bad deal.

KEYWORDS : theory of incentives, agency costs, criminal law, plea of guilty

JEL CLASSIFICATION: K14, K41.
1. Introduction

In France, the “Comparution sur Reconnaissance Préalable de Culpabilité” (CRPC) designed by “plaider coupable”) is applied since October 2004. This procedure is inspired by the US plea bargaining and establishes the biggest innovation to Perben II Law. The French debates about the introduction of the plea bargaining in our legislation concern especially the roles of the actors in this procedure. For example, during the discussion in the National Assembly about this bill in 2004, Robert Badinter said that “in this procedure the prosecutor has any power, the attorney is deputy”. Contrary to, the general prosecutor near the Court of Appeal of Versailles asserts that “it’s impossible to say that the judge is by pass the prosecutor”. At the same time, attorneys had denounced the insufficient salary when they resolve the conflict by this procedure and that the defendant benefit from legal assistance. This situation led to a boycott of this procedure during two month in 2006. Today, these debates are not finished and disparities between courts are relevant.

Traditionally, the literature explores the agency problems in settlement between the attorney and his client (Miller [1987], Scotchmer and Rubinfeld [1993], Gravelle and Waterson [1993], Gilson and Mnookin [1997], Hay [1997]). In this conventional perspective, the attorney and his client act with respect to their own interests. In fact, arrangements become problematic because the interests of the client and his attorney are never perfectly aligned. Furthermore, the conflict of interest arises essentially from the “financial structure” of the lawyer-client relationship. In tort litigation, the use of contingent fees aims to avoid these agency costs between the defendant and the attorney (Daughety and Reinganum [2005]).

In a plea bargaining procedure in France the relation between attorney and client is inevitable because the defendant require having the attorney’s assistance (ART. 495-7 of the penal code). Moreover, following Schulhofer [1988], “the attorney compensated on an hourly basis generally does not have financial pressure to minimize the time spent on a case, so they

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3 In France, Robert Badinter is an attorney and a famous minister of justice because he has struggle for the abolition of the death penalty.
4 « Dans la procédure de plaider coupable, le procureur est tout puissant et l’avocat suppléant », parlementaries debates.
5 In France, the attorney is paid 5 UV (100 euros) if the defendant benefits of legal assistance. If the plea bargaining fails, the attorney is not paid.
6 For instance, in 2006, the county court in Rouen has treated 1200 cases by French plea bargaining whereas in Nancy there were only 42 cases.
do not have a personal incentive to settle quickly. But in criminal law only a minority of defence attorneys are paid on an hourly basis and in general attorneys work for a flat fee paid in advance”.

The conflicts of interest also exist when the attorney is public defender. A distinction appears between the French legal system and the US legal system. In fact, we can explicit two cases in the first system. When the defendant is poor, he benefits to legal assistance, the State pays the attorney’s fees. In more, the attorney can be appointed by the court or not whatever the structure of fees. Contrary to, in the US system, the public attorney defends the indigent defendant. In consequence, they are not certain to be paid. So, they should try to settle the highest number of conflicts and the more quickly.

In our paper we envisage the French case. So, we assume that the attorney is appointed by the court and the fees are different if the defendant benefit to legal assistance or not.

In other side, we consider that it would be a point of view too much simplify if we regard the agency relation in criminal law and especially in plea bargaining only between client and attorney. In fact in the context of French procedure, the prosecutor is really the only one who choice to enter in negotiation and in this fact the agency relation is between some actors: prosecutors and society, prosecutors and judges, prosecutors and attorneys. In our paper, we envisage an adverse-selection problem between attorney and his client. And we introduce the prosecutor, maximizing the social welfare, as the really contracting person who must to be carried a contract in order to solve this problem of adverse-selection. That’s why the negotiation is in our model between the prosecutor and the attorney.

From an optimistic point of view, in the economic theory of plea bargaining the prosecutor offers a contract to the defendant, who accepts or rejects it. In this way, the contract is advantageous for two actors. According to Landes [1971], Easterbrook [1983] and Scott and Stuntz [1992] the factors affecting the choice between plea and trial are: the strength of case, the probability of conviction, attitudes toward risk, trial versus negotiation costs, prosecutor’s and defendant’s resources.

Nevertheless, this economic approach does not consider that the parties can have agency cost and in reality, the plea bargaining process is more complex than this bilateral negotiation. Precisely, the prosecutor can be viewed as the society’s representative while the attorney would be the defendant’s representative. Therefore, in this context, agency problems appear between the prosecutor and the attorney. Until now, these conflicts of interest in the choice
between arrangement and trial are examined by Alschuler [1976] and Schulhofer [1988 and 1992]. They show that prosecutors and defence attorneys have personal and divergent incentive structure. Sometimes, the defence counsel will prefer to try a case to gain experience or publicity, whereas prosecutors want to settle in order to minimize the cost of legal system or/and to reduce the legal errors. The economic analysis has not studied these agency problems. That is why we try to discuss - using the theory of incentives – the conflicts of interest between the prosecutor and the attorney when the latter has good or bad bargaining power unknown by the prosecutor.

**Issues**: Conflicts of interest between the client and his attorney affect the issue of plea bargaining and are socially harmful. In consequence, how can the prosecutor, who offers the contract, encourage the attorney to accept to negotiate in the event that attorney is two types: good or bad bargaining power? How can the asymmetric information between prosecutor and attorney lead the prosecutor to mix between expected allocative efficiency and rents?

In order to answer, we use the theory of incentives and a model of adverse selection between the attorney and the prosecutor when the attorney is informed about his type. Moreover, because the prosecutor maximizes the social welfare, he wants to conclude a good plea bargain. Precisely, in the objective function of the prosecutor we introduce the total costs (costs of the legal system, costs of legal errors, costs of the crime).

As well, we assume that a good lawyer tries to reduce more the penalty on defendant. This attorney acts in order to have a good reputation and to develop his career. On the contrary the bad lawyer tries to have fees as much as possible, so he settles a lot of case and most quickly.

We make also the assumption that this problem of uncertainty on lawyer’s quality increases with the structure of attorney’s fees (legal assistance or not) and especially when the attorney is appointed by the court as it’s the case in our model.

We consider that the prosecutor is benevolent. Thus, the objective function of the prosecutor consists in maximizing the social welfare. We try to determine the optimal transfer level (the optimal fees levels) under complete information. We will then view a model under asymmetric information and we will determine the optimal levels of good plea bargaining and the optimal rents levels. We try to characterize the optimal contract when the prosecutor faces two types of attorney. In fact, we want to determine the optimal level plea bargaining under complete information and under asymmetric information.
2. The basic framework

We consider a prosecutor (the principal) who wants to know the lawyer’s type (the agent). The procedure of plea bargaining is the contract between prosecutor and attorney. The prosecutor tries to make reveal the lawyer’s type with this contract. We develop a selection-adverse model where the information concerning the bargaining power to attorney to reduce the sentence is unknown by prosecutor.

Basic elements

- The units of case resolved by a plea bargaining is noted q.
- The marginal value of “sentences cuts” is \( S(q) \) where \( S' > 0; S'' < 0 \) and \( S(0) = 0 \). As a consequence the marginal value of the q is positive and strictly decreasing with the decline of sentences.
- The distribution of attorney (agent) is binary. So, we have on the one side the attorney with good bargaining power (\( \beta \)) and on the other side those with bad bargaining power (\( \bar{\beta} \)), with respective probabilities \( \mu \) and \( 1 - \mu \).

More precisely we suppose that an attorney has a good bargaining power if he acts to the client’s interest and tries to minimize the sentence. Moreover we consider that a good attorney act in long term perspective to maximize his reputation and hope to develop his career. On the contrary, a bad attorney acts his own interest and tries to have the highest fees and in this fact he tries to resolve quickly the case.

The plea bargaining cost of the attorney depends on the decrease of sentences and the bargaining power of attorney. Consequence, the two cost function that depends to lawyer’s type are:

\[
C = \beta q \quad \text{with probability } \mu
\]

and

\[
\bar{C} = \bar{\beta} \bar{q} \quad \text{with probability } (1 - \mu)
\]
We denote by $\alpha \beta = \overline{\beta} - \overline{\beta}$ the spread of uncertainty on the agent’s marginal cost. When the attorney takes his decision to resolve the conflict by a good or bad plea bargaining, he knows his type $\beta$. We consider also that this information structure is exogenous.

**Timing**

1/ The Nature gets the type of the lawyer (good or bad bargaining power).
2/ The prosecutor (principal), denoted $P$, is the representative of society’s interests and proposes to attorney a contract (a plea bargaining).
3/ The attorney (agent) denoted $A$ accepts or rejects.
4/ The attorney reveals his type: low or high bargaining power.
5/ The issue of conflict arise and the contract is executed.

**Utility Function of the defendant and the attorney**

We denote by $t$ the transfer received by the attorney. In context of plea bargaining we assume that this transfer is the fees. Furthermore the quantity of case settles by plea bargaining is $q$. In consequence, the utility function of client ($V$) is:

$$V = S(q) - t$$

(1)

with :
- $S(q) =$ value for the clients of the plea bargaining;
- $t =$ transfer granting to attorney by client. We assume that the client has not the choice of the attorney and that this is the fees according to attorney.

Precisely, the utility function of client, dependant of the type of attorney is:

$$\overline{V} = S(q) - \bar{t} \text{ if } \beta = \overline{\beta}$$

and

$$\underline{V} = S(q) - \bar{t} \text{ if } \beta = \underline{\beta}$$
The utility function of the attorney (\(U\)) is:

\[
U = t - C
\]

where as we have defined above \(C = \beta q\)

These utility is also different with the type of attorney. So, we have:

\[
\overline{U} = t - \overline{C} \text{ if } \beta = \overline{\beta}
\]

and

\[
\overline{U} = \overline{t} - \overline{C} \text{ if } \beta = \overline{\beta}
\]

### 3. First-best plea bargaining levels in complete information

In the first time, there is no asymmetry information between the prosecutor and the attorney. Then, the prosecutor knows the attorney’s type (bad or good bargaining power). Consequently, the optimal production of plea bargaining are obtained by equating the principal’s marginal value and the agent’s marginal cost. The first-order conditions can be obtained by deriving the program of maximization to the prosecutor with respect to \(q\) and \(\overline{q}\).

In complete information the optimization program of the prosecutor is written as follows:

\[
\begin{align*}
\text{Max } V + U = & \text{Max } \left[ (S(q) - t) + (t - \beta q) \right] \\
\text{(t,q)} & \text{(t,q)}
\end{align*}
\]

Hence the first-best plea bargaining levels are given by the following first-order conditions:

\[
S'(q^\ast) = \beta
\]

and

\[
S'(\overline{q}^\ast) = \overline{\beta}
\]

The prosecutor is assumed to be the representative to society’s interest. In this fact, in complete information the plea bargaining levels \(q^\ast\) and \(\overline{q}^\ast\) can be obtained of their social values associated, respectively \(\overline{W}^\ast\) and \(W^\ast\) are positive.
More precisely the social value of good plea bargaining (when the attorney has a good bargaining power) is:

$$W^* = S(q^*) - \beta q^*$$  \hspace{1cm} (6)

Alternatively the social value of bad deal, that is to say when attorney has bad bargaining power is:

$$W^* = S(\overline{q}^*) - \overline{\beta} \overline{q}^*$$  \hspace{1cm} (7)

In order plea bargaining to be always carried out, it must be that the social value be socially valuable for the least bargaining power of attorney ($\overline{\beta}$). So, the following condition must be satisfied:

$$W^* = S(\overline{q}^*) - \overline{\beta} \overline{q}^* \geq 0$$  \hspace{1cm} (8)

Because $S'$, the prosecutor’s marginal value of decrease of sentences is decreasing, the optimal good plea bargaining levels, $q^*$, is greater to optimal bad plea bargaining levels, $\overline{q}^*$ and we have $q^* > \overline{q}^*$.

In order to successful implemented contract, prosecutor must offer the agent a utility level that is at least as high as the utility level that the attorney obtains if he does not participate to this contract. The utility reservation (status quo) is normalized to zero because it is assume that this utility is independently to efficacy parameter $\beta$. In this fact $U = \overline{U} = 0$.

Following this, the attorney’s participation constraints are defined by:

$$t - \beta q \geq 0 \text{ when } \beta = \beta$$  \hspace{1cm} (9)

and

$$\overline{t} - \overline{\beta} \overline{q} \geq 0 \text{ when } \beta = \overline{\beta}$$  \hspace{1cm} (10)

According the timing of game the prosecutor makes a “take it or leave it” offer to the attorney what can be written as following in order to implement the first-best good and bad plea bargaining levels, respectively $q^*$ and $\overline{q}^*$. If $\beta = \beta$, the prosecutor offers the transfer $\overline{t}^* = \overline{\beta} \overline{q}^*$ to obtain a $\overline{q}^*$ first-best good plea bargaining level. If $\beta = \overline{\beta}$, the prosecutor offers the transfer $\overline{t}^* = \overline{\beta} \overline{q}^*$ to obtain a $\overline{q}^*$ first-best good plea bargaining level.
Furthermore the attorney accepts always the contract proposed by prosecutor because his utility is equivalent to his status quo utility level (or utility reservation):

\[ t - \beta q = U = 0 = \bar{t} - \bar{\beta} \bar{q}. \]

In consequence, whatever his power (good or bad) to decrease the sentences of the clients, the attorney accepts the prosecutor’s offers. That’s why, the plea bargaining optimal offers are \((t^*, \bar{q}^*)\) if \(\beta = \bar{\beta}\) and \((\bar{t}^*, q^*)\) if \(\beta = \beta\).

4. Optimal variables levels under asymmetric information

We now assume that the attorney is informed about his bargaining power but the prosecutor cannot to observe the attorney’s information. This adverse selection situation leads us to ask what is the decision of the attorney if the optimal menu of contract level under asymmetric information \(\{ (t^*, \bar{q}^*) ; (\bar{t}^*, q^*) \}\) is offered by the prosecutor. In fact, under asymmetric information, the prosecutor must to get more to the attorney in order to reveal his type. The attorney benefits from his informational advantage (about his bargaining power) and the prosecutor must to grant an informational rent to the attorney. More precisely, under asymmetric information the prosecutor has not all bargaining power as it is the case with in complete information. In fact, the information asymmetry about the attorney’s quality between the attorney and the prosecutor means that we must introduce \(\beta\) as a marginal cost, that is the private information of the attorney, and we have consider that the prosecutor offers the menu of contracts \(\{ (t^*, \bar{q}^*) ; (\bar{t}^*, q^*) \}\) hoping that the attorney will reveal his type so that a good attorney accepts \((t^*, \bar{q}^*)\) and a bad attorney accepts \((\bar{t}^*, q^*)\).

However, contrary to the situation with complete information, the prosecutor does not know the attorney’s type, so he must encourage the attorney to accept his own menu of contract. That’s why we can now define the incentive constraints. The two incentive constraints are written as follow:

\[ t - \beta q \geq \bar{t} - \bar{\beta} \bar{q} \text{ when } \beta = \bar{\beta} \]  \hspace{1cm} (11)

and

\[ \bar{t} - \bar{\beta} \bar{q} \geq t - \beta q \text{ when } \beta = \beta \]  \hspace{1cm} (12)
In other words, in order to encourage the attorney to accept his own contract, dependent on his type, the prosecutor must offer a contract that gives the attorney an utility greater than the one he will obtain if he imitates the other type.

Furthermore, as with complete information, the attorney will accept the contract if the associated utility level is at least as great as in the situation where he does not participate to the game with the prosecutor. In this way, the two participation constraints defined above must be satisfied:

$$ t - \beta \bar{q} \geq 0 \text{ when } \beta = \beta $$  \hspace{1cm} (13)

and

$$ \bar{t} - \beta \bar{q} \geq 0 \text{ when } \beta = \bar{\beta} $$  \hspace{1cm} (14)

Consequently, when we apply an adverse-selection model to plea bargaining, a menu of contracts offered by the prosecutor which reveal the lawyer’s quality must satisfy both incentive and participation constraints.

In fact, if we extend the framework of Laffont-Martimort [2002] and apply it to agency costs existing in the context of a plea bargaining, one of the characteristics of the menu of contracts necessary to encourage the attorney to reveal his type is that the level of a good plea bargaining is higher than the level of a bad plea bargaining.

We can easily note that it is the case if we add the incentive constraints, because we have:

$$ t - \beta \bar{q} + \bar{t} - \bar{\beta} \bar{q} \geq \bar{t} - \bar{\beta} \bar{q} + t - \beta \bar{q} $$

$$ \Rightarrow \quad - \beta \bar{q} - \bar{\beta} \bar{q} \geq - \bar{\beta} \bar{q} - \beta \bar{q} $$

$$ \Rightarrow \quad \beta \bar{q} - \bar{\beta} \bar{q} - \beta \bar{q} - \bar{\beta} \bar{q} \leq 0 $$

$$ \Rightarrow \quad (\beta - \bar{\beta}) \bar{q} \leq - (\beta - \beta) \bar{q} $$

$$ \Rightarrow \quad \bar{q} \geq \bar{q} $$  \hspace{1cm} (15)

As shown in the standard theory of incentives, it is impossible that the agent have the same utility level in asymmetric information as it is the case under complete information. It is the reason that we must introduce in our model the concept of informational rents. In fact, under incomplete information and in the plea bargaining procedure, if the prosecutor wants to
maintain the utility level of attorney at their status quo, he must to granting informational rents to the attorney.

**Question** : what must be the minimum level of the information rent that permits to know the attorney’s type when he accepts his own contract ? So, at optimum, the rents correspond to the participation constraints as Baron and Myerson [1982] have shown it.

If we denote by $\pi$ the information rent level, dependent on the attorney’s type, the profit realized by the attorney at optimum is exactly equal to the information rent defined above and we have:

$$\pi^* = t - \beta \, q$$

(16)

and

$$\pi^* = \bar{t} - \bar{\beta} \, \bar{q}$$

(17)

However, we must also take into account the mimetic behaviour of the good attorney. In fact, the good attorney gain more in monetary terms to accept the contract of the bad attorney. It’s easy to show that. For example, $\beta < \bar{\beta}$ and $q < \bar{q}$, so $\bar{t} > t$. The transfer granting to bad attorney is better than the good attorney’s transfer.

In other words, if the good attorney chooses to accept the contract initially offered to the bad attorney, his profit will be :

$$\bar{t} - \bar{\beta} \, \bar{q} = \bar{t} - \bar{\beta} \bar{q} + \alpha \beta \bar{q} = \bar{\pi} + \alpha \beta \bar{q}$$

(18)

with $\alpha \beta = \bar{\beta} - \beta$.

Consequently, the prosecutor must offer the contract ($\bar{\pi} + \alpha \beta \bar{q}$) in order to encourage the attorney of $\bar{\beta}$ type to accept the contract corresponding to his type.

**Optimization program of the prosecutor in information asymmetric**

Following the described timing, the menu of contracts offered by the prosecutor under asymmetric information is before the prosecutor knows the attorney’s type. So, the prosecutor must offer the menu of contracts $\{ (t, q); (\bar{t}, \bar{q}) \}$. In consequence, because the attorney benefits
from an informational advantage about his bargaining power, the prosecutor’s benefit can be written in expected utility and we have:

\[
\text{Max } \mu [(S(q) - 1) + (1 - \mu)(S(\bar{q}) - \bar{t})] \quad (19)
\]

subject to:

\[
\begin{align*}
\bar{t} - \beta \bar{q} &\geq 0 \\
\bar{t} - \beta \bar{q} &\geq 0 \\
\bar{t} - \beta \bar{q} &\geq \bar{t} - \beta \bar{q} \\
\bar{t} - \beta \bar{q} &\geq \bar{t} - \beta \bar{q}
\end{align*}
\]

where \( \mu = \text{Prob} [\beta = \bar{\beta}] \) and \((1 - \mu) = [\beta = \beta] \).

Using the definitions of informational rents, the transfers between the prosecutor and the attorney can now be written in the following way: \( t = \pi + \beta q \) et \( \bar{t} = \bar{\pi} + \bar{\beta} \bar{q} \), respectively for the good and bad attorney.

Therefore, in incomplete information, the prosecutor must take into account the rents granted to the attorney so as that the menu of contract is yet: \( \{(\pi, q); (\bar{\pi}, \bar{q})\} \).

The objective function of the prosecutor is then written as follow:

\[
\text{Max } \mu [(S(q) - \beta q) + (1 - \mu)(S(\bar{q}) - \bar{\beta} \bar{q})] - \mu \pi + (1 - \mu) \bar{\pi} \quad (24)
\]

When the prosecutor knows the attorney’s type, the optimization program of the prosecutor defined above (24), allows us to say that the prosecutor tries under asymmetric information to maximize the welfare reduced to the informational expected rents. Thus, the prosecutor is disposed to decrease the expected allocative efficiency in order to cut his expected loss which ensures informational rents.
The incentive constrain are yet:
\[
\pi \geq \pi + \alpha \beta q
\]
\[
\pi \geq \pi + \alpha \beta q
\]
whereas the participation constraints are:
\[
\pi \geq 0
\]
\[
\pi \geq 0.
\]
Finally, we try to determine the second-rang optimum by solving the following maximization program of the prosecutor:
\[
\text{Max } \mu [\pi(S(q) - \beta q)] + (1 - \mu) [\pi(S(q) - \beta q)] - (\mu \bar{\pi} + (1 - \mu) \pi)
\]
subject to:
\[
\begin{cases}
\pi \geq \pi + \alpha \beta q \\
\pi \geq \pi + \alpha \beta q \\
\pi \geq 0 \\
\pi \geq 0
\end{cases}
\]
The resolution of this maximization program consists in determining which constraints will be saturated at optimum. We can easily show that the incentive constraints for the good attorney and the participation constraints for the bad attorney are verified whereas the participation constraints of the good quality attorney are also verified. In other words, the ability of the $\beta$ type attorney to imitate the behaviour of the $\bar{\beta}$ type attorney implies that the participation constraints of the high bargaining power attorney are always satisfied. We easily remark that this result is obtained here because we have $\pi \geq 0$ et $\bar{\pi} \geq \bar{\pi} + \alpha \beta q$, what implies immediately that $\pi \geq 0$.
Because the prosecutor can minimize the rents according to attorney with bas bargaining power, $\pi$ is saturated and we have $\pi = 0$. So, there is only the attorney with bad bargaining power who has a positive rent, that is to say $\pi = \alpha \beta q$. 
The simplification of incentive and participation constraints lead us to resolve the maximization program of the prosecutor taking exclusively into account the incentive constraint of the $\beta$ attorney and the participation constraints of the $\bar{\beta}$ attorney.

As a consequence, the maximization program of the prosecutor can now be written in this way:

$$\text{Max } \mu[(S(q) - \beta q)] + (1 - \mu)[(S(\bar{q}) - \bar{\beta} \bar{q})] - \mu \bar{q} \alpha \beta$$

At optimum, we have:

$$\frac{\partial \text{Max}}{\partial q} = \mu (S'(q) - \beta) = 0$$

(33)

$$\frac{\partial \text{Max}}{\partial \bar{q}} = (1 - \mu)(S'(q) - \bar{\beta}) - \mu \alpha \beta = 0$$

(34)

We obtain:

$$S'(\bar{q}) = \bar{\beta} + \frac{\mu}{(1 - \mu)} \alpha \beta$$

(35)

and

$$S'(q) = \bar{\beta}$$

(36)

If we compare the first-order conditions and the second-order conditions, we have:

**Complete Information**:

$$S'(q) = C'(q, \beta) = \beta \text{ and } S'(\bar{q}) = C'(q, \bar{\beta}) = \bar{\beta}$$

**Incomplete information**

$$S'(\bar{q}) = \bar{\beta} \text{ and } S'(\bar{q}) = \bar{\beta} + \frac{\mu}{(1 - \mu)} \alpha \beta$$

So, we have : $q^{FB} = q^{SB} = \beta$ et $\bar{q}^{SB} < \bar{q}^{FB}$. Furthermore, we have : $q^{FB} = q^* > \bar{q}^* > \bar{q}^{SB}$
**Optimal transfer levels under asymmetric information**

We know that $\pi = t - \beta q$ and $\bar{\pi} = \bar{t} - \bar{\beta} \bar{q}$. These equations enable us to write the transfers, respectively for the good and bad attorney in the following way: $t = \pi + \beta q$ and $\bar{t} = \bar{\pi} + \bar{\beta} \bar{q}$.

We can then write more precisely the second-best transfers under asymmetric information as:

$$t^{SB} = \alpha \beta \bar{q} + \beta q^*$$  \hspace{1cm} (37)

and

$$\bar{t}^{SB} = \bar{\beta} \bar{q}^{SB}$$  \hspace{1cm} (38)

To conclude, we can say that under complete information, the prosecutor has the whole bargaining power and the attorney has no interest to refuse the good plea bargaining proposed by the prosecutor. But, under asymmetric information, the optimal plea bargaining defined under complete information (“first-best”) can not implemented under incomplete information. Indeed, it is conceivable that an attorney’s type imitate the attorney’s other type: there is not auto-selection of the contract. So, if the prosecutor does not know the efficacy parameter of the attorney, the fact that there is an informational rent under asymmetric information does not permit him to maximize his profit. The expected allocative efficiency is ineffective but it is nevertheless optimal, because there is informational rent granted to the attorney. Finally, the issue of the plea bargaining under asymmetric information is not Pareto-efficient because when the prosecutor makes his offer to the attorney, he makes an arbitration between rents and efficacy.

**Conclusion**

As a benchmark, we have envisage the situation where the prosecutor is benevolent. To extend this first approach, we consider the possibility that he is guided by personal interest as in the United States. This research allow us to discuss the Boari and Fiorentini’s results [2001]. These authors show that institutional variables are divergent between accusatorial and
inquisitorial system affecting the issue of plea bargaining\(^7\). Finally, we will make a comparison between the French and the US systems, presuming that the prosecutor wants to reduce the costs of the legal system, as it is the case for French procedure. We envisage a collusion between attorney and prosecutor and a judge who became the principal and tries to control this situation. We will discuss the effect of the distinction between accusatorial and inquisitorial system. In fact in US the prosecutor is an elected officer so that his advance of career depends on his performance, results and reputation. In this situation, sometimes the prosecutor would solve the conflict by a trial notably when the defendant is a famous person and in consequence that the case is very media. On the contrary in France or Italian legal system the prosecutor is a magistrate not an elected officer so that the advance of career is realized with his seniority. We ask us how the difference between the two systems can to affect the issue of plea bargaining.

\(^7\) Prosecutors, attorneys are not the same objective function because whether prosecutor is a state employee or an elected officer (BOARI et FIORENTINI [2001], “An economic analysis of plea bargaining: the incentives of the parties in a mixed penal system”; International Review of Law and Economics Vol. 21, Issue 2, pp. 213-231.).
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