

# Optimal Enforcement of Competition Policy: The Commitments Procedure under Uncertainty\*

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## Abstract

Since the introduction of a commitments procedure in EU antitrust policy (Article 9 of Council Regulation 1/2003), the European Commission has extensively settled cases of alleged anticompetitive practices. In this paper, we use a formal model of law enforcement (Bebchuk, 1984; Shavell, 1988) to identify the optimal procedure to resolve cases in a context of uncertainty related to the law (L-uncertainty) and to the facts (F-uncertainty). We show that commitments are suboptimal when L-uncertainty is high. Furthermore, the generalized use of commitments creates an additional risk of under-enforcement when F-uncertainty is significant.

**Keywords:** Competition Policy; European Commission; Commitments; Law Enforcement; Over and Under Enforcement; Legal and Factual Uncertainty.

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# 1 Introduction

In 2003, a reform of European Union (“EU”) competition law entitled the European Commission (“the Commission”) to enter into settlements with parties suspected of infringement of Articles 101 and/or 102 of the Treaty on the Functioning of the EU (“TFEU”). In exchange for “commitments” from suspected firms to change something in their behavior or in their structure, the Commission is ready to close proceedings. With this new procedure, the Commission can allegedly restore market competition quickly.<sup>1</sup>

From a legal standpoint, the commitments procedure (Article 9 of Council Regulation 1/2003) has four main features. First, it can be applied both in anticompetitive agreements (i.e. joint ventures, distribution agreements, etc.) and abuse or dominance cases. However, it is excluded in cartel cases (the law says that Article 9 commitments are inappropriate in cases that would otherwise deserve fines<sup>2</sup>). Second, its use is optional. When firms propose changes to their conduct to allay the Commission’s concerns, the agency keeps the choice between agreeing on the proposed concessions (and rendering them mandatory) or pursuing with conventional proceedings with a view to adopting an infringement decision (Article 7 of Council Regulation 1/2003). Whilst in theory, the commitments must be offered at the parties’ initiative, and the Commission has little choice over this, the practice is that the Commission will often manifest that it is ready to receive settlement proposals from the parties. For instance, in the *Google* case, the Commissioner for competition explicitly asked Google to formulate commitments proposals. In the literature, most observers confirm that the Commission has some control over the choice of the procedural route (Mariniello, 2013). Third, commitments decisions do not give rise to an afflictive finding of infringement. When a case is closed under the commitments procedure, the Commission does not reach a finding that the firm is guilty of infringement.<sup>3</sup> It is enough for the Commission to show in a “Preliminary Assessment” or in a “summary of the main facts” that it entertains “serious doubts” of infringement. At the end of the line, there is no record of infringement for the investigated firm. In turn, the case is over when the Commission and the parties settle over proposed commitments and the Commission renders them legally binding. Fourth, the commitments procedure leads to the adoption

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<sup>1</sup>See Schweitzer (2008) for a complete description.

<sup>2</sup>Some scholars take a more restrictive view of this provision, reading that the Commission should simply not apply commitments when a discussion on fines has taken place (Gerard, *forthcoming*)

<sup>3</sup>And most often the firms claim that they did not adopt an unlawful conduct.

of behavioral or structural remedies. No fines are imposed in such cases (unless the parties shirk their obligations, for instance in the *Microsoft* case of 2013), and no damages are paid to the victims of the disputed conduct, though the Commission has occasionally used commitments to force the undertakings to reimburse customers for the overcharge (in the *Deutsche Bahn* case, for instance). Importantly, the Commission does not need to show that the proposed remedies are proportionate, i.e. that they are suitable and that they do not go beyond what is appropriate and necessary. The Commission must simply verify that the parties have not proposed a less onerous remedy. In practice, the Commission extensively uses the commitments procedure. Between May 2004 and February 2014, the Commission adopted 29 commitments decisions under Article 9 and 11 prohibition decisions under Article 7.

In the literature, the commitments procedure is often described as a superior alternative to infringement proceedings under Article 7. Wils (2008) documents two benefits on the agency side. First, the Commission can achieve earlier results<sup>4</sup> and second, it makes costs savings.<sup>5</sup> Practitioners also report benefits on the firm side. The firm under investigation avoids a variety of supplementary costs in the form of fines, follow-on damage actions and reputational stain. As a result, some practitioners have praised commitments decisions as a “win-win” instrument for both the Commission and the alleged infringer (Bellis, 2013).

In this paper, we show that the commitments procedure is not simply a fast-track replica of the infringement procedure, that enables the Commission to achieve equivalent market results without, however, being constrained by similar procedural inefficiencies.<sup>6</sup> Rather, our main finding is that the outcomes and remedies imposed differ significantly in the two procedures.

To that end, we represent the interaction between the Commission and market players as a classic cat and mouse game with three main features. First, the Commission potentially faces different *types* of firms i.e. firms responsible for a major or minor harm and engaged in lawful or unlawful conduct. The Commission ignores the firm’s type so that there is uncertainty and asymmetric information.

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<sup>4</sup>Even though in some cases commitments cases last longer than conventional infringement cases, e.g. *Rio Tinto* which lasted almost 5 years.

<sup>5</sup>In *Alrosa*, the leading case on commitments, the EU Court of justice justified the use of the commitments by “consideration of procedural economy” (Wagner-Von Papp, 2012).

<sup>6</sup>This result is standard in models of non-judicial litigation, (Bebchuk, 1984; Shavell, 1989).

Second, the Commission has two categories of procedural tools to enforce EU competition rules. On the one hand, the Commission can resort to the standard infringement procedure under Article 7. With this, the Commission carries out a painstaking, facts-intensive investigation in order to precisely establish the infringement as a matter of law and to measure the anticompetitive harm, as a matter of fact. Then, if necessary the Commission can impose a type-related remedy or close the case if no infringement can be legally established. In effect, the infringement procedure finds who is guilty or innocent and sets appropriate corrective measures. The infringement procedure thus bridges the information gap between the Commission and the firm.

On the other hand, the Commission can resort to the commitments procedure under Article 9. In this variant, the Commission does not carry out a facts-intensive investigation. The Commission uses the threat of a sanction in the infringement procedure in order to convince a firm to offer commitments and in turn settle. The expected sanction determines an upper limit on the commitments that the firm is ready to accept. In this procedure, the Commission possibly saves time and resources, but it fails to discover the firm's type entirely. In effect, the commitments procedure does not entitle the Commission to know who is guilty and innocent; and possibly the importance of the harm. Commitments do not allow the Commission to bridge the information gap as the infringement procedure .

Third, as a matter of policy, the Commission can and does follow three types of enforcement policies: a standard enforcement policy, a selective commitments policy, a generalized commitments policy.

In the standard enforcement policy, the Commission fetches all the cases that belong to a certain category under Article 7, discovers the firm's type and sets a sanction and a remedy on this basis. The EU lawmakers have indicated that the standard enforcement policy is the one applicable in cases that normally deserve a fine, such as cases of hardcore restrictions (cartels, resale price maintenance, etc.). Those firms that participate to such anticompetitive agreements know that, if they are discovered, they will face lengthy proceedings and a likely fine.

In the selective commitments policy, the Commission makes a mixed use of Article 7 and Article 9 for cases where the suspected infringement, the relevant markets and the potential remedies are similar.<sup>7</sup> This is the policy

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<sup>7</sup>This is the model initially suggested in the Regulation 1/2003 as interpreted by most competition scholars. In this variant, firms that have violated the antitrust rules know that they can face both types of proceedings.

that was recently followed in the *Samsung* (Article 9), and *Motorola* (Article 7) cases (related to abusive litigation by patent holders), in the *Microsoft I* (Article 7) and *Microsoft II* (Article 9) cases (related to the tying of Windows with complementary softwares), or in the *Mastercard* (Article 7) and *Visa* (Article 9) cases (related to multilateral interchange fees).

Finally, in the generalized commitments policy, the Commission uses Article 9 in all cases of a certain category, and accepts, applies and makes binding commitments from all types of firms. This is the policy that the Commission adopted in several sectors, such as “markets in the process of liberalization”<sup>8</sup> or “fast moving markets such as the IT sector” (European Commission, 2014).<sup>9</sup>

In this paper, we seek to assess the costs and benefits of those various approaches in terms of type-I (over-enforcement) and type-II (under-enforcement) errors. We show that when the Commission applies generalized commitments, this leads to both over and under enforcement of competition law. Over enforcement because all firms systematically settle whilst not all of them would have been guilty in the formal procedure. In other words, the Commission applies remedies to non cases. Under enforcement because remedies are lower compared to those that would be imposed in the formal procedure. Given the asymmetry of information, in order to convince all possible types to settle, the Commission must accept commitments that are set *a minima* i.e. equal to the expected sanction of the lowest possible type. Put differently, there is a sort of “race to the bottom” effect with generalized commitments. As a result of this, we conclude that, under a generalized commitments policy, the Commission remedies too often but remedies are too weak. This under enforcement effect could be mitigated if the commitments procedure was used selectively, with the Commission agreeing to settle with firms offering strong remedies and launching the infringement procedure for those who offer weak or no remedies. Being selective in the use of commitments is a tool to bridge the information gap and limit the under enforcement problem associated with commitments.

With this background, a key originality of our model is that the choice of a generalized commitments policy, of a selective commitments policy or of the standard enforcement policy should hinge on the underlying case uncertainty. There are two sources of uncertainty in our model: the availability of

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<sup>8</sup>This, for instance, is the case in the energy sector where the Commission has closed 10 cases with commitments since 2007.

<sup>9</sup>We talk of generalized commitments as meaning either that the Commission has set as a decisional practice to treat a majority (if not all) cases of a certain type under Article 9, or has expressed a marked preference for this procedure.

legal precedent (Law, or L) and the factual knowledge of the market (Facts, or F). A high L-uncertainty means that establishing the anticompetitive behavior is legally challenging for the Commission, for instance because the Court of Justice of the EU has not yet provided guidance on the relevant issue. A high F-uncertainty means that the Commission has a limited factual knowledge of the relevant market. When there is little F-uncertainty, there is a limited race to the bottom effect. Surely, there remains the risk of remedying a non-case but this, essentially, is linked to the importance of the L-uncertainty. Thus, when there is little F and L uncertainty, a generalized recourse to the commitments procedure is apposite. When the case is more uncertain, it is optimal to use a procedure that is able to screen between types: the selective commitments when there is more F-uncertainty, the infringement procedure when there is more L-uncertainty. When there is a lot of L-uncertainty, for instance because the case raises novel issues, it is recommended to treat the case under the Article 7 infringement procedure.<sup>10</sup> Commitments should be used for mature cases and not to address novel legal issues.

We then discuss the Commission’s decisional policy at the light of our model. We proceed in two steps; first identifying the decisional policy for the cases of a certain category. Second, for each category, we try to assess the importance of L and F uncertainty. Evidences that the Commission followed the “optimal” decisional policy are mixed.

Our paper cuts through three distinct fields of the law and economics literature. First, the paper can be traced to the early literature on judicial settlements (Landes, 1971), in particular in relation to the parties and defendants’ choice between a settlement and a trial in the criminal justice system. The paper shares analogies with contemporary models that have flourished following the development of game theory and the economics of information (Wang *et al.*, 1994). In essence, those models review the trade-off between litigation and negotiation under asymmetric information. Some assume that the plaintiff is informed (Png, 1987), others that the defendant is (Reinganum and Wilde, 1986; Nalebuff, 1987). Private information could be related to the importance of the damage (Bebchuk, 1984) or to the likelihood of conviction (Shavel, 1989) and the literature analyzes different frameworks for organizing settlement talks (Daughety and Reinganum, 1993).

Second, our paper’s seeks to enrich the literature on optimal law enforce-

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<sup>10</sup>As suggested by Wagner-Von Papp (2012) and Botteman and Patsa (2013) among others.

ment focusing on the specificities of the EU antitrust regime. Few papers have so far devoted extensive economic treatment to the question of what is the optimal mix between the infringement and commitment procedures in EU antitrust policy. Choné *et al.* (2014) characterize the agency choice to resort to a certain degree of commitments in terms of a trade-off between the early restoration of competition (systematic use of commitments) and the lost deterrent effect of applying the commitments procedure (no fine)<sup>11</sup> and they derive an optimal commitment policy. We approach it distinctly, through a trade-off between the full but costly restoration of competition and the partial but costless remediation of infringement, leaving aside the (important) issue of deterrence.

Third, our paper can be tied to the emerging literature on antitrust agency discretion. An increasing number of paper in both the US and the EU has been devoted to the question of how agencies discretionarily channel their limited administrative resources, and prioritize cases, procedures, and remedies (Wils, 2011). Hyman and Kovacic (2012, 2013), for instance, discuss how agencies with a complex policy portfolio apportion their resources. Schinkel *et al.* (2014) study the welfare effects of task prioritization in an agency where the head has a discretionary power over the use of budgetary resources. Our paper contributes to this literature by making recommendations on the use of commitments negotiations in antitrust, emphasizing the importance of legal and factual uncertainties.

The paper is organized as follows. We present the model in Section 2 and the main results in Section 3. In Section 4, we discuss several extensions of the model. In Section 5, we discuss the European Commission’s decisional practices in the light of our model. We conclude in Section 6.

## 2 The model

We analyze a game between a competition authority (the “Commission”) and a firm. The game starts with the Commission opening an investigation against a firm suspected of abuse(s) of dominance. The reasons underpinning the opening of investigations are manifold: complaints from rivals, customers, suppliers or trade associations, notification of a possible infringement by national competition authorities or sector specific regulators, allegations of abuse in the public domain (press, academic research, etc.). The Commission normally opens formal proceedings with a view to adopting a

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<sup>11</sup>The different deterrent effect of settlements and trials has been recognized by Polinsky and Rubinfeld (1988).

decision, be it an infringement, a commitment, or an inapplicability decision.

To enforce EU competition rules, the Commission must establish an infringement based on a theory of harm, measure its actual or likely anticompetitive effects, and design a suitable remedy. In stylized terms, the Commission therefore needs two inputs to make a case, law and facts. The law means the ability of the Commission to frame the suspected practice under a clear, foreseeable and administrable precedent in positive law. The facts means the ability of the Commission to establish and measure anti-competitive harm, as a matter of fact.

## 2.1 Uncertainty

### 2.1.1 F-Uncertainty

In our model, the firm under investigation causes a “harm” that we denote by  $H$ . This harm can come in the form of supra-competitive prices, rival foreclosure, delay in the introduction of new products, etc. The importance of the harm is *a priori* unknown to the Commission and this uncertainty is linked to the factual issues related to the case. We will refer to it as factual or F-uncertainty. Several factors affect the importance of the harm: size and number of relevant markets affected by the conduct, size of the suspected firm’s market shares, size of barriers to entry and scale, inelasticity of demand, duration of the alleged anticompetitive abuse, interest rates on financial markets, etc. At the beginning of the procedure, there is an initial asymmetry of information between the Commission and the firm in respect of the facts. Due to its greater proximity from industry, the firm possesses private information that the Commission does not have, and it can thus assess more accurately the magnitude of the harm caused to rivals or customers.<sup>12</sup> We will model this uncertainty by assuming that the firm under scrutiny can be of two possible *types*. We represent the type of the firm by a parameter  $\theta \in \{\underline{\theta}, \bar{\theta}\}$ . Firm with type  $\theta$  is responsible for a harm amounting  $H(\theta)$  and we assume that  $0 \leq H(\underline{\theta}) \leq H(\bar{\theta})$ . In other words, the firm with type  $\underline{\theta}$  is responsible for a minor harm  $H(\underline{\theta}) = \underline{H}$  while the firm with type  $\bar{\theta}$  is responsible for a major harm  $H(\bar{\theta}) = \bar{H}$ . The difference between the harm inflicted for a major and a minor harm ( $\bar{H} - \underline{H}$ ) will be our measure of the F-uncertainty. At the initial investigation stage, the Commission is unaware of the firm’s type which is private information to the firm. Nevertheless, the Commission has some “reasonable indications” that there might be a major harm represented by a prior probability  $\nu$  that

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<sup>12</sup>This modeling is similar to Bebchuk (1984).



the firm is of type  $\bar{\theta}$ :  $\nu = Prob(\theta = \bar{\theta})$ .

### 2.1.2 L-Uncertainty

In our model, the harm is caused by a practice that can be legal or illegal. The practice is illegal if it fits within a known precedent, and if it fulfills the requirements defined in the judgement to that end i.e. if it meets what legal practitioners call the “legal test” or “legal standard”. In practice, a large amount of resources is invested in trying to match harm to law. We will assume that it is not always possible for the Commission to establish an infringement as a matter of law.

The firm has superior information about the importance of the harm (major, minor), but it does not know whether the infringement can be established as a matter of law. If the Commission investigates the case under the standard adversarial procedure (Article 7), it will be able to establish the infringement with probability  $p$ . In the following sections, the probability  $p$  will be our measure of legal uncertainty (L-uncertainty). A high probability  $p$  means that, given the applicable case-law, the firm’s liability for an unlawful abuse is more likely, or easy, to be established. The L-uncertainty depends on a range of factors: absence of judicial precedent, divergences in precedents, weakness of precedent, inaccuracy of precedent, age of precedent, inconsistency in precedents, existence of a repeated and/or ongoing proceedings on a similar legal issue before the review and appeals courts, etc.

### 2.1.3 States of the world

To summarize, combining the two sources of uncertainty, there are four possible states of the world.

1. In State 1, the firm has caused a major harm and an anticompetitive infringement can be established as a matter of law. The probability of being in State 1 is  $p\nu$ .
2. In State 2, the firm has caused a minor harm and an anticompetitive infringement can be established as a matter of law. The probability of being in State 2 is  $p(1 - \nu)$ .
3. In State 3, the firm is responsible for a major harm and an anticompetitive infringement cannot be established as a matter of law. The probability of being in State 3 is  $(1 - p)\nu$ .

4. In State 4 the firm is responsible for a minor harm and an anticompetitive infringement cannot be established as a matter of law. The probability of being in State 4 is  $(1 - p)(1 - \nu)$ .

In our model, we do not consider the possibility that the firm is not responsible of any harm but the harm is not always imputable to an unlawful conduct. If there is no anticompetitive infringement, the competition authority has no reasons to intervene.

## 2.2 Payoffs

In the optimal world, the Commission seeks to remedy all harm that constitutes an established infringement as a matter of law, and does not seek to remedy other cases. Those other cases are normally closed by the Commission. For instance, in the *Velux* case, the Commission concluded that the rebates offered by the suspected dominant company were not anti-competitive (Neven and de La Mano, 2010). *Qualcomm* (2009), *Apple iTunes* (2008) and *MathWorks* (2014) are other examples of cases that the Commission closed without finding an unlawful anticompetitive practice, sometimes after long investigations.

When anticompetitive harm is established, the Commission can impose a remedy  $R$ . The first best policy consists in setting  $R = \overline{H}$  in State 1,  $R = \underline{H}$  in State 2 and  $R = 0$  in States 3 and 4. Like any decision maker, the Commission seeks to avoid type-I and type-II errors, i.e. remedy cases where the infringement is not/cannot be established; unremedy cases where the infringement is/can be established. Moreover, the Commission wants to avoid the application of excessive or insufficient remedies in cases of established infringements.<sup>13</sup> Following that, we will say that the payoffs ( $V$ ) to the Commission when it imposes a remedy  $R$  are equal to  $-|R - H|$  if there is an infringement and to  $-R$  otherwise.<sup>14</sup> The profit of the firm is equal to  $\pi$  from which the remedy (if any) must be subtracted.

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<sup>13</sup>Note that in a dynamic perspective the Commission may want to apply excessive remedies for the purpose of deterrence.

<sup>14</sup>The Commission may pursue other objectives than the optimal enforcement of competition law. Extracting commitments and closing cases may be equally as important as the content of these commitments as the press and the taxpayers pay more attention to the Commission obtaining remedies rather than the technical nature of remedies. In the paper, we assume that the Commission acts as a benevolent administrative agency seeking to implement the first-best policy. We show that, despite that, commitments which are less demanding in terms of law and fact may still be optimal.

## 3 Two procedures, three policies

### 3.1 The procedures

To remedy the abusive practice efficiently, the Commission must bridge the information gap and assess the harm created by the firm. To do so, the Commission has two alternatives: follow the standard infringement procedure (Article 7) or negotiating commitments with the firm (Article 9).

#### 3.1.1 The infringement procedure (Article 7)

The Commission operates on budget constraints and following the standard infringement procedure is costly. The cost of the procedure is set to  $c > 0$ . If the Commission agrees to invest  $c$ , it will either establish the infringement (with probability  $p$ ) and subsequently quantify the harm  $H$  or discover that no infringement can be established (with probability  $(1 - p)$ ). With the standard infringement procedure, the Commission is able to implement the first best policy at cost  $c$ .

#### 3.1.2 The commitments procedure (Article 9)

As an alternative to the infringement procedure, the firm and the Commission can enter into commitments talks, with a view to closing the case in exchange for behavioral or structural concessions. This negotiation process, formally enshrined in Article 9, has several important features. First, the Commission has the option to return to the standard infringement procedure at any time i.e. if the parties fail to reach an agreement. Second, under Article 9, commitments should be proposed by the firm, implying that the firm is not obliged to participate in the negotiation. Third, with the commitments procedure, the parties and the Commission avoid lengthy oral and written proceedings and, in line with that, we assume that negotiating settlements is costless for both parties. In other words, the cost  $c$  represents the additional cost of the infringement procedure.<sup>15</sup>

The negotiation of commitments takes place under asymmetric information and we will (by assumption) consider that the Commission has all the

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<sup>15</sup>In addition, the investigation of the Commission must not be too mature otherwise it will be reluctant to sink all its investment i.e. commitments will not be accepted after the Commission has invested  $c$ .

bargaining power. The firm has the option to refuse the negotiation. In that case, the Commission has the option to start the infringement procedure.

If the firm agrees to start the negotiation, we suppose that it takes place as follows:

1. The Commission makes a take-it-or-leave it offer  $R$  to the firm,
2. The firm accepts or refuses the offer,
  - If the firm accepts the offer, the Commission makes the commitments legally binding and the remedy  $R$  is implemented.
  - If the firm refuse the offer, the Commission may launch an infringement procedure or abandon the case.

If the negotiation fails, the Commission can abandon the case or move back to the standard infringement procedure. If the Commission chooses the latter option, the infringement procedure determines the default point for accepting commitments.

Given the risk of type-I error (remedying a non case), the Commission never negotiates commitments when there is too much L-uncertainty. In particular, if  $p < \frac{1}{2}$ , any remedy  $R > 0$  would decrease the Commission's payoff. For this reason, we assume that  $p \geq \frac{1}{2}$ .

## 3.2 The policies

Combining the two procedures, the Commission can follow three enforcement policies: a generalized enforcement policy, a generalized commitments policy and a selective commitments policy.

### 3.2.1 Generalized enforcement

In the generalized enforcement policy, the Commission exclusively uses the infringement procedure of Article 7. With this procedure, the Commission pays the cost  $c$ , discovers the state of the world and implements the first best policy consisting in  $R(\theta) = H(\theta)$ . The payoffs of the Commission are then equal to  $\hat{V} = -c$ .

The payoffs to the firm with type  $\theta$  are  $\pi - R(\theta)$  if it is found liable of an infringement and  $\pi$  otherwise.<sup>16</sup> The *expected* payoffs to the firm with

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<sup>16</sup>Note that being involved in an infringement procedure is costly for the firm that must remunerate lawyers and consultants. In addition, it suffers from an intangible cost of

type  $\theta$  are then equal to

$$\hat{\pi}(\theta) = \pi - pH(\theta). \quad (1)$$

If instead of launching the infringement procedure, the Commission closes the case immediately without further investigation or negotiation, its payoffs would be equal to  $V = -(\nu p\bar{H} + (1 - \nu)p\underline{H})$ . These payoffs represent the expected cost of leaving anticompetitive harm non remedied. In the sequel, we assume that the Commission prefers to start an infringement procedure, that is:

**Assumption 1**  $\nu p\bar{H} + (1 - \nu)p\underline{H} \geq c$ .

### 3.2.2 Selective commitments

When the Commission uses the Article 9 procedure, it has two options. It can either use the procedure to screen among the two types of firm (selective commitments), or treat all types equally (generalized commitments). With selective commitments, the Commission screens the two types of firm. To that end, it offers them two different tracks to solve the case: the commitments procedure for a firm with type  $\bar{\theta}$  and the infringement procedure for a firm with type  $\underline{\theta}$ . The selective use of the two procedures is used as a screening device to separate the two types. If properly designed, the firm responsible of a minor harm refuses the commitments and the Commission opens an infringement procedure, while the firm responsible of a major harm negotiate commitments successfully. In other words, the proposed commitments  $\bar{R}$  must be such that the type  $\bar{\theta}$  accepts the commitments but the type  $\underline{\theta}$  refuses them. Formally,  $\bar{R}$  must satisfy:

$$\pi - \bar{R} \geq \hat{\pi}(\bar{\theta}), \quad (2)$$

$$\pi - \bar{R} \leq \hat{\pi}(\underline{\theta}). \quad (3)$$

These equations imply  $\bar{R} \in [p\underline{H}, p\bar{H}]$ . If the Commission has all the bargaining power, then it sets  $\bar{R} = p\bar{H}$ . The commitments agreed upon by the firm  $\bar{\theta}$  are equivalent to the expected remedy imposed in the infringement procedure but commitments are negotiated at no cost. In a nutshell, the selective commitments procedure uses the threat of going back to Article

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being under the scrutiny of the Commission and possibly under negative media exposure (reputational damage). Without loss of generality, we will normalize this cost to zero.

7 to extract strong commitments from the firm.<sup>17</sup> The threat of moving back to the Article 7 procedure is the cornerstone of the selective commitment policy. Without this threat, firms have no incentive to agree on strong commitments.

This separating mechanism works if –when commitments are refused, thus signaling a type  $\underline{\theta}$ – the Commission decides to return to the infringement procedure at cost  $c$ . Otherwise, anticipating a termination of the case after having refused strong commitments, no type will ever agree to settle. A separating equilibrium is feasible only if the Commission is better off starting an infringement procedure when it knows that it faces a firm with type  $\underline{\theta}$ . Formally, the condition writes as follow:

$$p\underline{H} \geq c. \tag{4}$$

If this condition –which is stronger than Assumption 1– does not hold true, it means that, if the parties do not agree on the commitments  $\overline{R}$ , signaling a minor harm  $\underline{H}$ , the Commission reduces its payoffs by launching the standard infringement procedure. Consequently, the threat of going back to the Article 7 procedure is not credible and this obviously leads to the collapse of the selective commitments policy, as no firm would ever accept commitments in these conditions. Thus, Equation (4) is a necessary condition for the selective use of the two procedures i.e. without a credible threat, the selective commitments policy breaks down and the firm never accepts strong commitments.<sup>18</sup>

Under the condition of Equation (4), the payoffs of the Commission are

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<sup>17</sup>In a speech to the European Parliament, the Commissioner in charge of competition policy clearly announced that if Google refuses to improve its third commitments proposal, the Commission will switch to the standard infringement procedure. *As part of our standard practice in an Article 9 procedure which leads to a commitments decision and in response to our pre-rejection letters sent before the summer, some of the twenty formal complainants have given us fresh evidence and solid arguments against several aspects of the latest proposals put forward by Google. At the beginning of the month, I have communicated this to the company asking them to improve its proposals. We now need to see if Google can address these issues and allay our concerns. If Google’s reply goes in the right direction, Article 9 proceedings will continue. Otherwise, the logical next step is to prepare a Statement of Objections.* Presentation of the Annual Competition Report to the European Parliament by the Commissioner J. Almunia, Sept. 23, 2014. [http://europa.eu/rapid/press-release\\_SPEECH-14-615\\_en.htm](http://europa.eu/rapid/press-release_SPEECH-14-615_en.htm).

<sup>18</sup>The question of committing to a procedural policy receives a lot of attention. Choné *et al.* (2014) consider both the case of full commitment where the Commission can commit to settle with a probability  $x \in [0, 1]$  and the no-commitment case resulting in the overuse of commitments (see also Wils (2006) on this point).

equal to:

$$\bar{V} = -\nu(p(\bar{H} - \bar{R}) + (1 - p)\bar{R}) - (1 - \nu)c, \quad (5)$$

$$= -2\nu p(1 - p)\bar{H} - (1 - \nu)c. \quad (6)$$

The first term in the above equation is the *cost of commitments*. It consists in a cost of both under- and over-enforcement of the law. Under-enforcement because, for the harm that would have been established, the remedy is insufficient ( $\bar{R} < \bar{H}$ ), thereby reducing the Commission's payoffs by  $(\bar{H} - p\bar{H})$ . Over-enforcement because, for the infringements that would not have been legally established, a remedy is applied, decreasing the Commission's payoffs by  $\bar{R}$ . In contrast to the formal procedure, the Commission here applies a weaker remedy but then does so more often. Summing up, the cost of commitments is equal to  $2\nu p(1 - p)\bar{H}$ . And this cost of commitments directly depends on legal uncertainty. As a result, when the probability of conviction  $p$  increases, the cost of commitments decreases. This cost should be traded-off with the savings generated by the procedure.

### 3.2.3 Generalized commitments

The alternative for the Commission is to propose commitments  $\tilde{R}$  that would be accepted by both types. Such commitments must satisfy:

$$\pi - \tilde{R} \geq \hat{\pi}(\bar{\theta}), \quad (7)$$

$$\pi - \tilde{R} \geq \hat{\pi}(\underline{\theta}). \quad (8)$$

From these equations, it must be clear that the proposed commitments are softer in the pooling case as the two conditions imply  $\tilde{R} \leq p\underline{H}$ . With this pooling mechanism, all firms agree on the proposed commitments. Those who are responsible for a high harm because the remedy is less severe (in average) compared to the infringement procedure (and the selective commitments). Those who are responsible for a low harm because commitments are equivalent (in average) to the remedy that would be imposed with the infringement procedure. Assumption 1 guarantees that generalized commitments are credible i.e. should a firm refuse the commitments, it will be formally investigated by the Commission at cost  $c$ . Finally, note that neither type finds it profitable to refuse the commitments.

With the generalized commitments, the payoffs to the Commission are equal to:

$$\tilde{V} = -\nu(p(\bar{H} - \tilde{R}) + (1 - p)\tilde{R}) - (1 - \nu)(p(\underline{H} - \tilde{R}) + (1 - p)\tilde{R}), \quad (9)$$

$$= -2p(1 - p)\underline{H} - \nu p(\bar{H} - \underline{H}). \quad (10)$$

The payoffs for the Commission can be decomposed as a *cost of commitments* and a *cost of under enforcement*, measured respectively by the first and the second term in Equation (10). The cost of commitments is the cost of applying too often a remedy that is too weak. The first term in Equation (10) measures this cost. It is similar in structure to the cost of commitments identified in the selective commitments policy. This cost is increased by the fact that the Commission settles more often but it is decreased by the fact that the remedy is smaller. But applying a weaker remedy has a cost too, when the firm is responsible for a major harm. There is an additional cost of under enforcement because major anticompetitive harms cannot be appropriately remedied. The second term in Equation (10) measures this cost. This cost is linked to the importance of the F-uncertainty. The larger the difference  $(\overline{H} - \underline{H})$ , the greater the under-enforcement cost. This under-enforcement cost also increases with  $p$  as a higher probability of conviction implies that under-enforcement of the law is more likely.

### 3.3 Comparisons

The use of the commitments procedure creates two specific costs: a cost of commitments and a cost of under-enforcement. The first arises because of L-uncertainty. Commitments are negotiated without knowing which case would be successful or not in court. Thus, commitments replicate the infringement procedure *in average*, leading to both over- and under- enforcement. And, should the L-uncertainty decrease, the cost of commitments decreases. The cost of under-enforcement is specifically linked to the generalized commitments and the absence of screening between types. This under-enforcement is particularly problematic when there is an important F-uncertainty. On the other hand, commitments avoid part or all of the costs of the legal procedure. Trading off these three dimensions, our objective is to determine the Commission's preferred route to end up a case. To that end, we compare the Commission's payoffs in the three cases,  $\hat{V}$ ,  $\overline{V}$  and  $\tilde{V}$ .

We start by a comparison of the generalized use of Article 7, giving payoffs of  $\overline{V}$ , and the generalized use of Article 9, giving payoffs of  $\tilde{V}$ . The function  $\tilde{V}$  is U-shaped in  $p$ . Thus, the equation  $\tilde{V} = \overline{V}$  admits two roots,  $p_1^-$  and  $p_1^+$  formally defined as:

$$p_1 = \frac{1}{2} + \frac{\nu(\overline{H} - \underline{H}) \pm \sqrt{(2\underline{H} + \nu(\overline{H} - \underline{H}))^2 - 8c\underline{H}}}{4\underline{H}}.$$



$\tilde{V}$  is higher than  $\bar{V}$  if there exists values of  $p$  satisfying  $p_1^+ \leq p \leq 1$  or  $\frac{1}{2} \leq p \leq p_1^-$ . Let us consider the cases in turn. The first condition holds true if, for  $p = 1$ ,  $\tilde{V} \geq \bar{V}$ :

$$\nu(\bar{H} - \underline{H}) \leq c. \quad (11)$$

This condition guarantees that  $p_1^+ \leq 1$ , meaning that generalized commitments dominate generalized infringement if there is little L-uncertainty ( $p \geq p_1^+$ ) and little F-uncertainty for condition (11) to hold true. With little L-uncertainty, the cost of commitments is small but the cost of over-enforcement is high unless factual uncertainty is limited. We thus need a combination of limited L and F uncertainty for the optimality of generalized commitments.

Turning to the second case, the second roots  $p_1^-$  is higher than  $\frac{1}{2}$  if:

$$\bar{H} + \nu(\bar{H} - \underline{H}) \leq 2c. \quad (12)$$

Again, this condition can be satisfied only if there is little F-uncertainty. In that case however, generalized commitments are preferred if there is an important L-uncertainty (a low  $p$ ). The reasoning mirrors the above one. For low values of  $p$ , the cost of commitments is high but the cost of over-enforcement is limited, especially if there is little factual uncertainty.

Summarizing our findings we have:

**Lemma 1** *If condition (11) holds true, the generalized use of Article 9 dominates the generalized use of Article 7 if there is little L-uncertainty,  $p \geq p_1^+$ . If condition (12) holds true, the generalized use of Article 9 dominates the generalized use of Article 7 if there is a large L-uncertainty,  $p \leq p_1^-$ .*

In addition, we can show that an increase in F-uncertainty decreases the parameter space for which generalized commitments dominate.

**Corollary 1** *An increase in F-uncertainty increases  $p_1^+$  and decreases  $p_1^-$ .*

Next, we integrate the selective commitments in our comparisons. Selective commitments are feasible if Equation (4) holds true. If it is not the case, then the Commission is left with only two possible procedural routes and the optimal choice is described in Lemma 1. From now on, we suppose that selective commitments are feasible  $p\underline{H} \geq c$ .

Comparing selective commitments and the generalized infringement procedure, the former dominates the later if:

$$c \geq 2p(1 - p)\bar{H}. \quad (13)$$

This condition holds true if  $c \geq \bar{H}/2$  or if  $p \geq p_2 = \frac{1}{2} + \frac{\sqrt{H(\bar{H}-2c)}}{2\bar{H}}$  and  $\frac{1}{2} < p_2 < 1$ . We thus have

**Lemma 2** *Under the condition of Equation (4), the selective use of Article 7 and Article 9 dominates the generalized use of Article 7 if there is little L-uncertainty,  $p \geq p_2$ , or if the cost of the procedure is prohibitively high  $c \geq \bar{H}/2$ .*

Selective commitments are associated with a cost of commitments but allows the Commission to make savings on procedural costs. If L-uncertainty is low enough, the cost of commitments is limited and the selective use of the two procedures dominates the generalized use of the infringement procedure. Notice that F-uncertainty plays no role in this comparison as, in both cases, the Commission bridges the information gap and discovers the firm's type either through the case investigation or by the firm's decision to refuse the proposed commitments.

Last, we compare selective and generalized commitments. It can be shown that the condition for having  $\bar{V} \geq \tilde{V}$  for  $p = \frac{1}{2}$  is equivalent to condition (4). Thus, if generalized commitments dominate, it is only for larger values of  $p$ . This implies that the possibility of having generalized commitments that are optimal when the L-uncertainty is large is a specific result that only emerges when the Commission cannot commit *ex-ante* to a credible policy announcement to limit the use of commitments.

Given the preceding, the equation  $\tilde{V} = \bar{V}$  admits at most one root  $p_3$  in  $[\frac{1}{2}, 1]$  defined as:

$$p_3 = \frac{1}{2} + \frac{\nu(\bar{H} - \underline{H}) + \sqrt{(2(\bar{H} - \nu\underline{H}) + \nu(\bar{H} - \underline{H}))^2 - 8(1 - \nu)c(\bar{H} - \nu\underline{H})}}{4(\bar{H} - \nu\underline{H})}$$

Comparing the different thresholds  $p_1^+$ ,  $p_2$  and  $p_3$ , we can describe the optimal procedural track.

**Proposition 1** (1) *If  $\nu(\bar{H} - \underline{H}) \leq (1 - \nu)c$ , the generalized use of Article 9 is optimal if  $p \geq \text{Max}[p_1^+, p_3]$ ; the selective use of Article 7 and 9 is optimal if  $p_2 \leq p \leq \text{Max}[p_1^+, p_3]$ , this set is possibly empty. (2) *If  $(1 - \nu)c \leq \nu(\bar{H} - \underline{H}) \leq c$ , the selective use of Article 7 and 9 is optimal if  $p \geq \text{Max}[p_2, p_3]$ ; the generalized use of Article 9 is optimal if  $p_1^+ \leq p \leq \text{Max}[p_2, p_3]$ , this set is possibly empty. (3) *If  $c \leq \nu(\bar{H} - \underline{H})$ , the selective use of Article 7 and 9 is optimal if  $p \geq p_2$ . In all other cases, the infringement procedure is optimal.***

Despite their analytical complexity, our comparisons produce clear-cut qualitative results that can be summarized as follows. First, there is a specific cost associated with the negotiation of commitments, and this cost increases with L-uncertainty. So a large degree of L-uncertainty is against commitments, in general. Second, there is a specific under enforcement cost when commitments are generalized and this cost increases with factual uncertainty. So, an important F-uncertainty is against generalized commitments. Commitments therefore are only recommended when there is little L-uncertainty. If this limited L-uncertainty is associated with a large factual uncertainty, selective commitments are recommended. If it is associated with a limited F-uncertainty, generalized commitments are recommended. The figure below offers a quick summary of these policy recommendations.

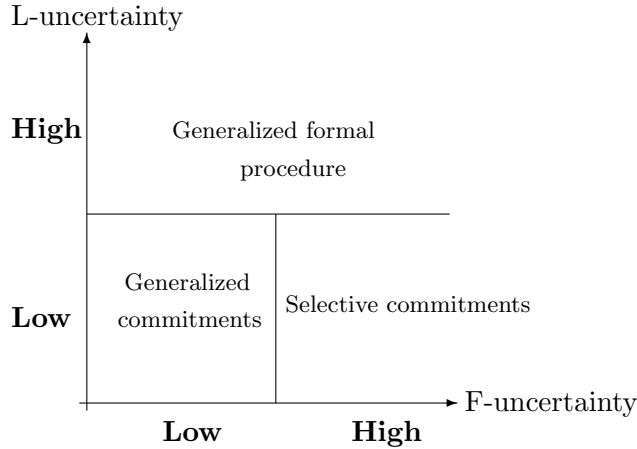


Figure 1: Recommended procedural choice

## 4 Extensions

### 4.1 Limited behavioral and structural remedies

In the baseline model, we supposed that the remedies the Commission can impose with the commitments procedure and the infringement procedure are equivalent. But, as explained above, the Commission has at its disposal a larger range of sanctions when it uses the infringement procedure, as it can impose remedies and fines while the latter are excluded from the commitments procedure. Moreover, decisions adopted under Article 7 pro-

ceedings act as a trigger for follow-on damages actions before the courts, thus giving a higher probability that  $H$  will be fully remedied. This creates an additional difference between the two procedures.<sup>19</sup> To integrate these features in the model, we will consider that remedies are limited in scope. More precisely, we assume that the Commission cannot always perfectly remedy the harm without fines (and possible follow on actions for damages). Let us suppose that the highest possible remedy is set at  $\hat{R}$  and  $p\underline{H} < \hat{R} < p\overline{H}$  i.e. remedies cannot perfectly remedy a major harm. In that case, selective commitments are also associated with a cost of under enforcement. With selective commitments, the firm with type  $\bar{\theta}$  settles and the remedy  $\hat{R}$  is implemented, while the firm with type  $\underline{\theta}$  is brought back in the formal procedure. The associated payoffs to the Commission are:

$$\bar{V}' = -\nu(p(\overline{H} - \hat{R}) + (1 - p)\hat{R}) - (1 - \nu)c, \quad (14)$$

$$= \bar{V} - \nu(2p - 1)(p\overline{H} - \hat{R}). \quad (15)$$

The negotiated remedy is insufficient when there is a major harm, creating a cost of under enforcement that can be measured by the last term in Equation (15). This cost comes in addition to the traditional cost of commitments identified above.

If instead the Commission uses the formal procedure, it can impose the remedy  $\hat{R}$  and complement it with a fine  $f$  to fully compensate for the inflicted harm:  $\hat{R} + f = \overline{H}$ , leading to the same payoffs as before for the firm and the Commission (assuming that fines and remedies are perfectly substitutable). Finally, with generalized commitments, there is already an under-enforcement of competition law and, as long as  $p\underline{H} \leq \hat{R}$ , the payoffs are left unchanged.

When behavioral and structural remedies are limited, the selective use of Article 7 and Article 9 is associated with lower payoffs. Interestingly, the lower the possible remedy  $\hat{R}$ , the higher the under enforcement problem. Selective commitments are therefore inappropriate when remedies are limited. Consequently, the optimal policy is generalized commitments or a generalized infringement, depending on L and F uncertainty.

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<sup>19</sup>In addition, under Article 9, the firm must offer commitments that must be agreed by all the parties while under Article 7, the Commission has the initiative to propose and impose a remedy. This might be another source of asymmetric information and the firm may have a better knowledge of what remedies can be effectively implemented.

## 4.2 Endogenous L-uncertainty

Legal uncertainty, that we considered so far to be exogenous, depends on a wide range of factors including the number and the precision of judicial and decisional precedents and the guidance provided by the Commission and the Courts. It is widely acknowledged that formal, Article 7, decisions contribute to the establishment of case law while commitments decisions do not. Therefore, when the Commission uses the formal procedure, resulting in an infringement or an inapplicability decision, this contributes to clarifying the law and, therefore, the L-uncertainty is partially endogenous to the enforcement policies selected and implemented by the Commission.

Suppose that, when the Commission uses the formal procedure, it contributes to a reduction of the L-uncertainty. This means that when the Commission takes an infringement decision, by establishing a precedent, it increases the probability  $p$  by a factor  $\Delta \geq 0$ . Given that the payoffs associated with selective and generalized commitments are both increasing in  $p$  (provided that  $p$  is sufficiently large in the case of  $\tilde{V}$ ), reducing L-uncertainty by taking infringement decisions reduces the cost of using the commitments procedure in the future.

If we adopt a dynamic perspective and we suppose that the Commission has to tackle different cases, using the infringement procedure has an additional benefit as it reduces the cost of commitments for the coming cases. Reducing the L-uncertainty by  $\Delta$  reduces the cost of the generalized commitments by  $\frac{\partial \tilde{V}}{\partial p} \Delta$ . For that reason, there is an additional benefit in using the formal infringement procedure for novel cases i.e. when L-uncertainty is large.

## 5 Discussion of the Commission's decisional policy

In this section, we discuss the Commission's decisional policy in the past 10 years, in light of the findings of our model.

### 5.1 Statistical overview

Since 1 May 2004, the Commission has officially adopted 11 antitrust decisions under the Article 7 infringement procedure and 29 antitrust decisions under the article 9 commitments procedure. These statistics do not include unpublished decisions.

Of the 11 decisions under Article 7, the Commission’s search engine indicates that 5 related to anticompetitive agreements cases under Article 101 TFEU and 6 were abuse of dominance cases under Article 102 TFEU. In the 29 decisions under Article 9, the Commission’s search engine indicates that 23 were abuse of dominance cases and 16 were anticompetitive agreements. This is because 10 of those cases were examined under both legal provisions.

## 5.2 Generalized commitments

As explained previously, there are generalized commitments when the Commission treats all the cases of a certain category under the Article 9 procedure. Put differently, there is a generalized commitments policy when the negotiation of commitments is the sole issue for a certain type of case. This is the policy followed in abuse of dominance cases in the energy sector or in relation to specific practices that the Commission has declared non-priority targets, such as exploitative abuses.

### 5.2.1 Energy

In the electricity and gas sectors, the Commission’s decisional practice is clear. The conventional procedural route to handle such cases is the discussion of commitments. In 10 cases, the Commission closed abuse of dominance proceedings with commitments.<sup>20</sup> Of course, there is an exception to this. In March 2014, the Commission adopted an Article 7 decision and inflicted a €1.031 m fine on *OPCOM*, the Romanian power exchange for having abused its dominant position. However, this only marginally alters the finding that abuse of dominance cases in the energy sector are subject to a generalized commitments policy.

Against this background, our model would tend to classify the Commission’s generalized commitments policy in the energy sector as close to optimality. This is because, in this sector, there is both little F-uncertainty and L-uncertainty.

In so far as F-uncertainty is concerned, we believe that the Commission’s asymmetry of information with the firm is less marked than in other sectors. First, because the Commission’s investigations in this sector often deal with incumbents conduct whose dominant position is so obvious, that

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<sup>20</sup> *Distrigaz* (2007), *German Electricity Balancing Market* (2008), *German Electricity Wholesale Market* (2008), *RWE Gas Foreclosure* (2009), *GDF Foreclosure* (2009), *Long Term Electricity Contracts in France* (2010), *Swedish Interconnectors* (2010), *EON Gas Foreclosure* (2010), *ENI* (2010) and *CEZ* (2013).

a large component of potential harm is established. Second, in the energy sector, the Commission enjoys a historically rich factual expertise, following the wide ranging “sector inquiry” that was completed in 2007. This exercise led the Commission to amass an incredible amount of information on energy markets across Europe. All stakeholders were consulted in the process, giving the Commission a 360 degree view on electricity and gas markets. Third, in energy markets, the Commission is not alone. It works in complementarity with 28 national regulatory authorities in gas and electricity and with a European-wide regulator (ACER, Agency for the Cooperation of Energy Regulators) whose purposes are to stimulate market competition. This unique institutional specificity has informational merits, for the Commission can rely on the assistance of those institutions to gather updated market data and expert opinions on energy-related issues.

In so far as L-uncertainty is concerned, of course, there are endogenously not many precedents from the EU courts in the energy sector. On close examination, most if not all of the practices at hand in the energy sector concern classic theories of antitrust liability. In *CEZ*, the pre-emptive reservation of transmission capacity that was deemed to deprive rivals from means of competing, and to limit entry, was akin to an exclusive purchasing contract. In *RWE gas foreclosure*, the Commission took objection to a plain vanilla refusal of access by RWE to its transport network, and to the setting of excessive prices that squeezed rivals. Finally, in *Distrigaz* and in *Long term electricity contracts* in France, the Commission combatted a classic example of exclusive dealing, by remedying to long duration contracts with energy customers.

### **5.2.2 Non-priority cases (excessive pricing)**

A second illustration of the generalized commitments policy can be found in non-priority cases. These “non-priority” cases relate to conducts or sectors for which the Commission has explicitly manifested disinterest in public statements. A good illustration of this relates to exploitative abuses, and in particular excessive pricing for which the Commission expressly manifested a lack of interest in its 2009 Guidance Paper on enforcement priorities and all cases (*S&P* and *Rambus*) were thus handled under the Article 9 procedure.

In *S&P*, the Commission scrutinized the prices charged by Standard & Poors for the distribution of International Securities Identification Numbers (ISINs) in Europe to information service providers (news agencies) and financial institutions (banks, etc.). ISINs are the international key identifiers for securities based on the international standard ISO 6166. ISINs are in-

dispensable for a number of operations such as interbank communication, clearing and settlement, custody, reporting to authorities and reference data management. S&P has been designated by the American Bankers Association as the competent National Numbering Agency and as such enjoyed a monopoly for distribution of US ISINs. The ISO however provided for cost-recovery principles, the fair pricing of ISIN, and the absence of charge for indirect users (i.e. financial institutions that source their ISIN from information service providers, together with other data). S&P however levied charges on indirect users, and applied charges in excess of costs on direct users. Moreover, S&P charged for access to the full ISIN database rather than to the relevant ISIN number. The Commission had concerns that S&P may have charged unfairly high prices for the distribution of US ISINs in Europe in breach of EU antitrust rules on the abuse of a dominant market position. However, it brought the case to a settlement, under which S&P committed to abolish all charges to indirect users for the use of ISINs within the EU. In respect of direct users and ISPs, S&P committed to distribute ISIN records separately from other added value information at an initial price of \$15,000 per year.

In a second case, *Rambus*, the Commission expressed concerns that Rambus Inc. might have abused a dominant position by intentionally concealing from the JEDEC SSO –in which Rambus participated– that it had patents and patent applications which were relevant to technology used in DRAM standards<sup>21</sup> being adopted by JEDEC, and subsequently claiming unreasonable royalties for those patents from suppliers of DRAM products. The Commission’s view was that absent its intentionally deceptive conduct, Rambus would not have been able to charge the royalties it subsequently did. The Commission eventually closed its investigation by adopting an Article 9 decision that rendered legally binding commitments offered by Rambus including a promise to cap the royalties that it would charge for certain patents essential for those DRAM products.

Excessive pricing cases do not generate much discussion in terms of L-uncertainty. Article 102(a) prohibits dominant firms from *directly or indirectly imposing unfair purchase or selling prices or other unfair trading conditions*. And it is abundantly clear that this provision provides a textual legal basis to catch dominant firms exploitative prices. Since the late 1970s, the case-law has confirmed that EU competition agencies and courts could administer Article 102(a) to curb dominant firms exploitative prices (*United Brands*, 1978). The fact that the Commission has made little use of it is

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<sup>21</sup> “Dynamic Random Access Memory” is a memory chip technology.



simply a deliberate policy choice.

Excessive pricing cases generate more debates in terms of F-uncertainty. First, there is a widespread view that competition authorities lack the information and expertise necessary – particularly on the competitive price and on costs levels – to carry out price controls (Fisher and McGowan, 1983). This requires significant resources and expertise in a vast array of disciplines, including not only law and economics but also accounting and financial analysis. Accordingly, this task would be better left to sector-specific regulators (Motta and de Streel, 2006). Second, there is a complete uncertainty on the incentive effects of high prices. In particular, the view that high prices are self-correcting remains quite widespread, and that if competition agencies were ever to apply Article 102(a) to dominant firms prices, they might deter competitive entry, and therefore undermine the dynamic nature of the competitive process (Gal, 2004).

Our model suggests that a high level of F uncertainty creates a risk of under-remediation. In *Rambus*, there was high F-uncertainty licensing rates for patented products are in principle secret and the incentives effects are high when it comes to patented, technology-driven products. That explains why the Commission possibly under-remedied the case, by setting a 1.5% cap for future standards, leaving untouched the past harm inflicted by Rambus through patent harm. Moreover, there is evidence that many of Rambus' licensing rates were below 1.5%, so the remedy did not change much to the firms licensing conduct. In contrast, in *S&P*, there was less F-uncertainty on the appropriate licensing level. ISIN are covered by the ISO policy. Under this policy, ISO-covered standards must be accessible on cost-recovery grounds, no more. The Commission could therefore do little harm by mandating in a decision a licensing level known by all market players to be the industry norm. Moreover, the supply of ISIN numbers is not a risky activity comparable to the production of patentable technology, but rather a regulatory rent conferred by decision of a public institution.

### 5.3 Selective commitments

The selective commitments policy is applied when the Commission entertains commitments talks with the parties, but maintains an effective threat to return to the infringement procedure . According to our model, the selective commitments policy is recommended when there is little L-uncertainty but possibly a large F-uncertainty.

### 5.3.1 Standard Essential Patents

The *Samsung* and *Motorola* decisions are a good example of a selective commitments policy. By way of reminder, those two cases arose in the context of the so-called smartphone war. Back in 2011, Apple ignited a worldwide patent war with Samsung for alleged infringement of several design patents. Apple contended before the US courts that Samsung's phones copied some features of its iPhone. In Apple's view, Samsung infringed 4 of its design patents on the shape of the initial iPhone, as well as a number of design patents on various graphical user interfaces (icons for applications). Samsung replicated 6 days later by starting patent litigation in France, Germany, the Netherlands, Italy and the United Kingdom, and asking the court to remove Apple's allegedly infringing product from the market. Amongst the patents in suit were, however, a number of so-called standard essential patents (SEP) on 2G and 3G mobile telephony that Samsung had previously committed to grant access to on so-called FRAND terms. In defense, Apple thus argued that Samsung's actions for infringement were a violation of its FRAND promises and this was in turn akin to an unlawful abuse of a dominant position. Apple subsequently lodged abuse of dominance complaints against Samsung before the Commission, arguing that with Samsung was using courts proceedings as a bargaining device, to extract from Apple supra-competitive licensing terms, a strategy known as "patent holdup" (Shapiro, 2001). Apple also lodged similar complaints against Motorola.

In April 2014, the Commission adopted two decisions in those cases. The decision in the Samsung case is based on Article 9. With it, the Commission closed the case, in exchange for a commitment by Samsung to stop seeking injunctions in court, and to abide by a predetermined 12 months licensing framework. In contrast, the decision against Motorola is an article 7 decision that finds Motorola guilty of an infringement of Article 102 TFEU, and that orders Motorola to cease seeking injunctions in court on the basis of the litigious SEPs.

Interestingly, since Apple's initial complaints of 2011 the Commission ran both cases in parallel, though under distinct procedures. In this, the two cases are an example of selective commitments, because the firm that was discussing commitments with the Commission under Article 9 - Samsung - could credibly anticipate that a failure to reach commitments would expose it to a return to the Article 7 procedure, as this procedure was the one followed with Motorola in parallel investigation. Surely, it may be argued that the threat remained imperfect, or lacked credibility because the cases

were not really identical. In reality, however, both cases are similar. Both arose from informal complaints from the same company –Apple– made at a similar moment in time. Moreover, at a stylized level, both cases are look alike in terms of legal and factual issues: they concern the right of standard essential patents (SEP) owners to enforce their intellectual property (IP) portfolios in court, by asking judges to grant injunctions preventing the sale of unlicensed rival products, despite the existence of a previous pledge to openly license on FRAND terms.

If we review those cases through the lenses of our model, it is strikingly clear that both cases were decided in a state of total L-uncertainty. As mentioned in a large number of academic papers, the legal standard applicable to the seeking of injunctions in Courts remains uncertain. Several tests compete in the case-law of the EU courts (Petit, 2013; Jones, 2013). Even more importantly, the legal uncertainty was empirically confirmed when two German courts in Dusseldorf and Mannheim addressed requests for clarification to the Court of Justice of the European Union and to the EU Commission, respectively.<sup>22</sup>

In so far as F-uncertainty is concerned, the discussion is less easy. To some extent, one must consider that the facts are well-established, given that it is easy to prove whether the companies have, or not, sought injunctions and have, or not, made FRAND pledges. Moreover, the relevant markets and the dominant position should be easy to establish, because the existence of a SEP gives rise to a licensing market on which the patent holder is likely dominant. The main uncertainty concerns the harm inflicted to rivals. The rate of award of injunctions by courts is indeed unclear. There is thus some uncertainty as to whether SEPs holder can at all resort to injunctions in order to extract supra competitive royalties or cross-licensing terms (hold up) or exclude as efficient rivals (foreclosure).

On close examination, the outcome of the Article 9 *Samsung* case is more severe than the outcome of the Article 7 *Motorola* case. Whilst in *Motorola*, the Commission merely found an infringement and ordered Motorola to cease and desist without fines, in *Samsung*, the commitments decision forces Samsung to comply with a predefined licensing framework under the threat of fines. Moreover, Motorola has kept its right to appeal the decision before the General Court whilst Samsung has lost it with the commitments decision.

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<sup>22</sup>In addition, some courts in the Member States have crafted new and distinct tests to deal with such cases (the German Supreme Court has for instance elaborated a novel legal theory called the *Orange Book Standard* to deal with such cases).

This is in line with our model that predicts that, with selective commitments, stronger remedies are applied for the cases closed with commitments and weaker ones for cases closed with an infringement decision. It remains to establish whether these different outcomes reflect some underlying factual differences between the cases or are due to another source of heterogeneity between firms.

### 5.3.2 Multilateral interbank fees

The *Visa* decision of 2002 and the *MasterCard* decision of 2007 are again illustrations of the selective commitments policy. In the first decision, the Commission exempted Visa's multilateral interbank fees model under conditions. In the second decision, it found that MasterCard had violated Article 101 TFEU, by setting on behalf of its members (i.e. banks) multilateral interbank fees (MIFs). Those are fees charged by a cardholder's bank (the issuing bank) to a merchant's bank (the acquiring bank) for each sales transaction made at a merchant outlet with a payment card. Those fees are in turn often transferred by the acquiring bank to the merchant, who subsequently pass them on to customers, thus inflating consumer price.

Since then, the Commission opened two additional investigations against MasterCard and Visa, in relation to other types of MIFs and rules set by both cards' systems. Both investigations concerned similar practices, according to the Commission's own declarations. In 2010 (and subsequently in 2014), the Commission closed the Visa case yet with another Article 9 commitments decision. The case against MasterCard is still ongoing, under the Article 7 procedural route.

The MIFs cases primarily deserve discussion in terms of F-uncertainty. There is little L-uncertainty on the applicability of Article 101 to MIFs. As early as 2001, the Visa grouping had itself notified its regulations to the Commission, conceding the applicability of Article 101 to their regulations, but advocating a possible exoneration on the ground that the MIFs anticompetitive effects were unclear and outweighed by redeeming efficiency benefits.

In contrast, the degree of F-uncertainty surrounding those cases was high. Economists disagree on the opportunity to launch antitrust actions against card networks (Wright, 2012) and on the welfare effect of regulating MIFs (Rochet and Tirole, 2011). Furthermore, in several instances, the Commission admitted that it enjoyed a poor degree of factual information on the welfare effects of MIFs, and in particular on the possibility that MIFs yield efficiencies. This is strikingly clear from the decision of the EU

Commission, in 2007, to open a sector inquiry into retail banking targeting, in particular, the level of interchange fees.

According to our model, when L-uncertainty is limited, using the commitments procedure selectively is appropriate even though the F-uncertainty is important, as it is the practice for the MIFs-related cases. Conversely, when L-uncertainty is high as in the SEP-related cases, selective commitments are not appropriate even if F-uncertainty is limited.

#### 5.4 Generalized infringement procedure

Besides cartels (they are excluded from the commitments procedure) the infringement procedure in modern EU competition law has been applied in two categories of cases, margin squeeze cases in the telecommunications sector and pay-for-delay cases in the pharmaceutical sector.

#### 5.5 Margin squeeze

In the past 10 years, all the antitrust cases related to telecommunications were dealt with under Article 7 (*Telekomunikacja Polska*, 2011; *Telefonica S.A.*, 2007; *Telefonica and Portugal Telecom*, 2013; *Slovak Telekom*, 2014). Importantly, three of those cases concern margin squeeze practices. A margin squeeze occurs when a dominant infrastructure provider adjusts its wholesale access rates and its retail prices in order to force rival input purchasers to compete at a loss on the retail market. In the early 2000s, entrants in the newly liberalized EU telecommunications markets increasingly complained before the Commission that incumbent players were using margin squeeze strategies to force them off the market. From a F-uncertainty standpoint, those cases generated little discussion. In liberalized industries like telecommunications, sector-specific regulators monitor the industry on a daily basis, and are subject to EU oversight, under the Framework Directive on electronic communications. It can thus be safely assumed that the Commission enjoyed as much factual information as it needed on those cases.

However, from a legal standpoint, the early margin squeeze allegations lodged with the Commission did not fall neatly within existing theories of antitrust liability. In margin squeeze cases, the retail prices are above cost, so it is difficult to analyze them under the precedent applicable to predatory pricing cases. Moreover, in a margin squeeze case, the dominant firm actually grants access to its infrastructure, so the case-law on refusal of access

to an essential facility is not applicable. The US Supreme Court confirmed the existence of high L-uncertainty in 2004 when it granted certiorari in the *Trinko* case, hinting that the margin squeeze theory was, at the time, a novel issue for which there was a need of guidance. It later held that margin squeeze was not a valid theory of antitrust liability under Section 2 of the Sherman Act.

With this background, and absent a precedent of the Court of Justice of the EU confirming that margin squeezes could be deemed abusive, the Commission thus aptly chose to cast margin squeeze cases under the infringement procedure.

Interestingly, L-uncertainty dissipated dramatically in October 2010, when the Court of Justice held in *Deutsche Telekom v Commission* that margin squeezes could, under certain conditions, breach Article 102 TFEU. The Court of Justice repeated the statement in *TeliaSonera* in 2011, insisting at §56 – this is actually one of the most discussed angles of the judgment – that margin squeezes are a novel, “independent” form of abuse, “distinct” from the conventional abuses known in EU competition law, and in particular of refusals to supply. If our model is right, then this means that the Commission could have stopped treating margin squeeze cases under the infringement procedure after 2010, and pursued them with generalized commitments.

## 5.6 Pay-for-delay

Similarly, the infringement procedure also appears to be the dominant one in pharmaceutical cases, and in particular in pay-for-delay cases. In *Lundbeck* (2013), *Johnson&Johnson* (2013) and *Servier* (2014), the Commission issued article 101 and/or 102 TFEU infringement decisions against pharmaceutical companies that sought to delay generic entry into the market. In those cases, a drug originator had paid generic entrants to stay off the market after the expiry of its patent (and possibly before). None of those cases were dealt with under the Article 9 procedure. And all gave rise to significant fines.

Like in the telecommunications sector, the pay-for-delay cases did not occur in a high F-uncertainty context. In 2007, the Commission launched a wide ranging sector inquiry in the pharmaceutical sector and published the findings of this investigation in 2009. Its report explained that it had garnered evidence that originators had entered into pay for delay settlements with generic firms. It announced that such settlements would in the future

be subject to “focused monitoring”, by subjecting pharmaceutical players to mandatory reporting requirements on a periodic basis.

In contrast, the pay for delay cases were started in a state of high L-uncertainty. In the scholarship and in practice, a fierce amount of discussion took place on the applicable legal test, and in particular on whether those new cases should be dealt with under the rule of reason or under a per se prohibition regime (Cotter, 2004; Carrier, 2009). The decision of the US Supreme Court to grant certiorari in the *Actavis* case in 2014 bears testimony to the high degree of L-uncertainty that prevailed at the time. It suggests that “pay-for-delay” were new for which an authoritative clarification was needed. The US Supreme Court eventually held that pay for delay cases ought to be treated under the rule of reason. In the EU, no similar judicial precedent exists. The Commission has thus safely decided to treat these cases under the Article 7 framework.

## 6 Concluding remarks

In this paper, we have shown that the commitments procedure does not fully replicate the outcome of the infringement procedure, and that under some conditions, it may lead to under and/or over enforcement of the EU competition rules. Under enforcement, because the remedies applied by the Commission do not entirely eradicate the anticompetitive harm caused by the impugned practice. In brief, the remedies administered by the Commission are under-fixing (a type-II error). Over enforcement, because the Commission applies remedies too often. Put simply, with the commitments procedure, the Commission may be solving non-cases (a type-I error).

A critical feature of our paper is to explain that those enforcement errors may be caused by the legal uncertainty (L-uncertainty) and factual uncertainty (F-uncertainty) that surrounds the interaction between the agency and the firm. In particular, we show that the influence of L and F-uncertainty on the risk of enforcement errors depends on the type of enforcement policy followed by the Commission, i.e. a generalized commitments policy, a selective commitments policy, or a formal enforcement policy. With this, we are able to formulate a number of policy recommendations that could help agencies refine their enforcement strategies with a view to achieving a more optimal enforcement mix.

More fundamentally, our findings pave the way for further research. Firstly, in the future, we intend to improve our understanding of the determinants of F and L-uncertainty, and provide a more exhaustive concep-

tualization of those parameters. For instance, we will try to integrate the existence of complaints in F-uncertainty. The existence of complaints is indeed likely to reduce F-uncertainty, because complainants can supply the Commission with whatever industry data it needs.<sup>23</sup> Similarly, the fact that the Commission has issued a Statement of Objections (or a Letter of Facts or Supplementary Statement of Objections) should also be integrated in our model, for it also likely diminishes F-uncertainty (in addition to increasing the reluctance of the Commission to abandon the Article 7 track). Finally, the presence in the industry of a sector specific regulator could be factored-in because it reduces both L-uncertainty (because companies are used to face regulatory constraints) and F-uncertainty (because regulators and antitrust agencies often cooperate).

Secondly, we tend to believe that our model could reach a higher degree of granularity in relation to L-uncertainty, in the sense that a distinction could be drawn between Article 101 and Article 102 TFEU cases. In particular, the application of “*rule of reason*”-type analysis or the admission of efficiency defenses is more widespread in Article 101 cases than in Article 102 cases. In turn, this suggests that L-uncertainty may be higher in Article 101 TFEU cases than in Article 102 TFEU cases. On the other hand, there is a considerable amount of soft law guidance under Article 101 TFEU, and the rate of success of appeals in Article 101 cases is certainly higher than in Article 102 TFEU cases (which are almost never dismissed by the Court of Justice). Finally, our model could reach a higher degree of accuracy within the Article 102 cases by distinguishing between exclusionary abuse cases and exploitative abuse cases, for the later are often deemed to generate insuperable evidentiary issues. By the same token, our analysis of the Article 101 cases could distinguish between horizontal and vertical cases, for the later are generally smaller cases, where F-uncertainty is presumably lower. And in the same vein, the model could distinguish between restriction by object and restriction by effect cases, given that the degree of F-uncertainty is considerably smaller in “object” cases.

Finally, we hope to enrich our model so as to control for the bargaining dynamics inherent in the negotiation of commitments. For instance, we do not test the relevance of who is the first to make the offer to negotiate commitments, i.e. the Commission or the firm. Indeed, there may be some ground to believe that the bargaining power lies with the agent that does

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<sup>23</sup>On the other hand, Wagner-Von Papp (2012) argues that complaints give rise to a risk of the Commission becoming the agent of third parties, and in in turn of disproportionate remedies.



not solicit the opening of commitments negotiations. In the same perspective, the model should integrate parameters such as the intensity of judicial review, the presence of a Statement of Objections, the participation of formal complainants to the procedure, as well as their number, the existence of parallel cases with the same firm, be it before the Commission or before the EU Courts, etc. All those factors, and others, potentially affect the Commission and the parties' bargaining power.

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