Información personal o institucional

1. En calidad de qué o en representación de quién participa en esta consulta pública?
Profesionales del ámbito económico

2. Breve justificación del interés del particular o de la Institución a la que representa por participar en la consulta pública (máximo 4.000 caracteres)
[This response is taken from our consultation response note. Please see the note for further details]

1.8 Oxera is a leading consultancy firm of economic experts who specialise in the field of competition economics and damages quantification. We produced the 2009 study on the quantifying of antitrust damages for the European Commission, which helped inform its 2013 practical guide to courts. We have provided Commission-sponsored training for national judges on this topic.

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1.11 We are currently advising both claimants and defendants in ongoing damages proceedings in Spain. Our response to this consultation is made on our own behalf and not as advisers in any ongoing cases.

Bloque I: Valoración general

1. Considera necesaria la elaboración de guías o materiales adicionales de orientación sobre cuantificación de daños para actualizar los ya existentes
NS/NC

3. ¿Considera que la utilización de informes económicos técnicamente complejos en los procedimientos judiciales reduce su utilidad?
NS/NC

4. ¿Considera que los informes económicos de los que ha tenido conocimiento presentan cuantificaciones del daño rigurosas?
NS/NC

Bloque II: Valoración de la Guía

6. ¿Considera útil y práctico el documento que se somete a consulta?
NS/NC

Motive su respuesta (máximo 4.000 caracteres)
[This response is taken from our consultation response note. Please see the note for further details]

1.2 We consider the Draft Guide to be a particularly helpful step in developing the damages quantification frameworks applied in Spain. It is a well-considered set of guidelines from an economics point of view, which appropriately emphasises many of the key points also made in, for instance, the European Commission's Practical Guide ('Commission's Practical Guide') and our 2009 report prepared for DG Competition of the European Commission ('Oxera 2009 Study'). , It accurately sets out the main practical tools and insights regarding how to conduct a damages assessment for breaches of competition law. This is especially important considering the rapid growth of competition damages cases in Spain in recent years and differing judicial views on expert evidence.

1.3 In this consultation response, therefore, we do not offer a revision or reconstruction of any of the core framework proposed by the CNMC in its Draft Guide. The overall framework appears to us to be practical, balanced, and well founded in economics. This is not to say that the guidelines should be applied uncritically. As with the Commission's Practical Guide before them, their specific application to any particular case will differ, with certain elements being more relevant to some cases than to others.

7. ¿Considera que el documento que se somete a consulta aborda correctamente la problemática de la cuantificación de daños en la materia?
NS/NC

Motive su respuesta (máximo 4.000 caracteres)
[This response is taken from our consultation response note. Please see the note for further details]

1.4 In this response, we offer two ways in which we consider that the guidelines could be further expanded and developed. Both of these additions would provide additional context to the current draft guidelines, in order to ensure that courts and judges are appropriately advised and informed when tasked to evaluate differing views of experts in damages procedures.

• First, we would suggest including a broader discussion of the benefits of courts insisting on a case-specific quantitative assessment, and the costs of alternative approaches (sections 2 and 3). This will allow courts and judges to take into account the full implications of different approaches to damages quantification when determining what form of evidence would be appropriate in any given case.

• Second, we consider it advisable for the Draft Guide to also provide a framework for courts to assess whether there would be an economic expectation of harm in a given case (section 4). We discuss why the 2002 Airtours criteria provide for the appropriate framework for this. While such an assessment is not an alternative to an empirical analysis, it frequently represents a useful prelude (for instance, in the context of rebutting a legal presumption of harm) and can assist in determining whether subsequent empirical results are surprising from the perspective of economics. Such an assessment is particularly important where the conduct in question differs from 'hardcore' conduct (such as the fixing of prices at which goods are sold to purchasers or allocating customers or regions to particular suppliers, where the expectation of harm is likely higher).

1.5 Finally, we draw conclusions concerning some of the technical approaches advocated in the Draft Guide (section 5). We set out our view, based on experience, that some of the more data-intensive methods advocated are appropriate ideals to be targeted, but that they should not in all circumstances be viewed as minimum standards to be met. In particular, while the Draft Guide outlines how econometric analysis should ideally be conducted (for instance, by using large and consistent databases and applying different methodologies), practical constraints in the availability of date, for example, means that this ideal may not always be attainable.

1.6 We consider that the guidelines could outline that in cases where it is determined that the scale or complexity of an ideal analysis would not be proportionate, a higher-level approach relying at least on some informed and reliable assumptions or approximations (but still empirically well founded and specific to the case at hand) will remain preferable to reverting to an approach based on general benchmarks or averages across previous cases. Outlining this, we consider, would help ensure that the guidelines are not interpreted in a way that results in 'the perfect being the enemy of the good' and that the guidelines remain informative and relevant in all competition damages cases.

1.7 Some technical remarks concerning the econometrics appendix in the Draft Guide are set out in Appendix A1.

8. ¿Considera que los métodos de cuantificación explicados en el documento que se somete a consulta son los más habituales en la práctica?
5

9. Echa en falta algún cuidado metodológico adicional a los abordados en el documento que se somete a consulta?
NS/NC

Motive su respuesta (máximo 4.000 caracteres)
See response above

10. ¿Considera que el documento que se somete a consulta es un documento adecuado técnicamente?
NS/NC

11. ¿Considera relevante la literatura económica citada? En caso de no considerar relevante, por favor, indique si en el documento identifica referencias inadecuadas o las referencias relevantes, a su juicio, que no se han tenido en cuenta
5

12. ¿Considera útiles y comprensibles los anexos estadísticos y econométricos?
NS/NC

Motive su respuesta (máximo 4.000 caracteres)
[This response is taken from our consultation response note. Please see the note for further details]

A1.1 Specific elements notwithstanding, we consider the econometric appendix in the Draft Guide to be a clear and concise introduction to the relevant econometric methodological considerations. It offers useful and practical guidance for readers who lack a background in economics.

A1.2 In this appendix, we discuss some specific and technical elements of the econometrics appendix that, we consider, may be unclear, incomplete, or (potentially) incorrect.

IV. Envío de la respuesta

Nombre completo del particular o de la institución representada (se publicará junto a la respuesta)
Oxera Consulting LLP

Persona de contacto (se mantendrá confidencial)

E-mail de contacto (se mantendrá confidencial)

Especifique las respuestas que considere confidenciales
None

Submission to the Consultation on the CNMC Draft Damages Guide

Prepared for CNMC

22 October 2021

1 Introduction

1A Summary and outline

1.1 This note is prepared in response to the public consultation made by the Spanish National Commission of Markets and Competition ('CNMC') on the Draft Guide on Damages Quantification in Competition Infringements ('Draft Guide').[1]

1.2 We consider the Draft Guide to be a particularly helpful step in developing the damages quantification frameworks applied in Spain. It is a well-considered set of guidelines from an economics point of view, which appropriately emphasises many of the key points also made in, for instance, the European Commission's Practical Guide ('Commission's Practical Guide') and our 2009 report prepared for DG Competition of the European Commission ('Oxera 2009 Study').[2,3] It accurately sets out the main practical tools and insights regarding how to

[1] CNMC (2020), 'Borrador de guía sobre cuantificación de daños por infracciones de la competencia', G-2020-03, see https://www.cnmc.es/consultas-publicas/promocion-de-competencia/borrador-directiva-de-danos (accessed 29 September 2021).
[2] European Commission (2013), 'Commission Staff Working Document. Practical Guide. Quantifying Harm in Actions for Damages Based on Breaches of Article 101 or 102 of the Treaty on the Functioning of the European Union'.
[3] Oxera (2009), 'Quantifying antitrust damages: towards non-binding guidelines', Study prepared for the European Commission, December.

conduct a damages assessment for breaches of competition law. This is especially important considering the rapid growth of competition damages cases in Spain in recent years and differing judicial views on expert evidence.

1.3 In this consultation response, therefore, we do not offer a revision or reconstruction of any of the core framework proposed by the CNMC in its Draft Guide. The overall framework appears to us to be practical, balanced, and well founded in economics. This is not to say that the guidelines should be applied uncritically. As with the Commission's Practical Guide before them, their specific application to any particular case will differ, with certain elements being more relevant to some cases than to others.[4]

1.4 In this response, we offer two ways in which we consider that the guidelines could be further expanded and developed. Both of these additions would provide additional context to the current draft guidelines, in order to ensure that courts and judges are appropriately advised and informed when tasked to evaluate differing views of experts in damages procedures.

- First, we would suggest **including a broader discussion of the benefits of courts insisting on a case-specific quantitative assessment**, and the costs of alternative approaches (sections 2 and 3). This will allow courts and judges to take into account the full implications of different approaches to damages quantification when determining what form of evidence would be appropriate in any given case.

- Second, we consider it advisable for the Draft Guide to also **provide a framework for courts to assess whether there would be an economic expectation of harm in a given case** (section 4). We discuss why the 2002 *Airtours* criteria provide for the appropriate framework for this. While such an assessment is not an alternative to an empirical analysis, it frequently represents a useful prelude (for instance, in the context of rebutting a legal presumption of harm) and can assist in determining whether subsequent empirical results are surprising from the perspective of economics. Such an assessment is particularly important where the conduct in question differs from 'hardcore' conduct (such as the fixing of prices at which goods are sold

[4] Throughout, we focus on the main topics that are likely to have the greatest impact and do not go into every detail. As such, not mentioning or responding to a particular paragraph or section in the Draft Guide should not necessarily be taken to indicate that we agree with it.

to purchasers or allocating customers or regions to particular suppliers, where the expectation of harm is likely higher).

1.5 Finally, we draw conclusions concerning some of the technical approaches advocated in the Draft Guide (section 5). We set out our view, based on experience, that some of the more data-intensive methods advocated are appropriate ideals to be targeted, but that they should not in all circumstances be viewed as minimum standards to be met. In particular, while the Draft Guide outlines how econometric analysis should ideally be conducted (for instance, by using large and consistent databases and applying different methodologies), practical constraints in the availability of date, for example, means that this ideal may not always be attainable..

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1B About Oxera

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1.11 We are currently advising both claimants and defendants in ongoing damages proceedings in Spain. Our response to this consultation is made on our own behalf and not as advisers in any ongoing cases.

2 Risk and implications of under- and overcompensation

2.1 We consider that the Draft Guide appropriately and convincingly articulates the need for case-based analysis:[5]

> […] [I]t should be noted that damage estimates based on comparisons with previous judgments in similar cases, or on the automatic application of an average percentage of past cartels or economic literature, are not desirable. Each claim, even if it concerns the same cartel, has its own particularities that can only be taken into account if a specific model is designed for the claim under analysis. Therefore, quantifications carried out in previous judgments and academic studies should be considered as mere references when comparing whether or not the final result of the model designed for the specific case differs from the usual practice.

2.2 This case-specific approach is well rooted in the compensatory principle, requiring damages to be based on the harm that the particular claimant bringing the case has suffered from the infringement.

2.3 However, in many cases, courts and judges may be understandably inclined to nevertheless seek apparent consistency with past practice—and relying on averages of past cases provides a straightforward solution to quantifying overcharges, especially when time and resources are limited. We consider that the Draft Guide may provide further assistance to courts and judges if it were able to outline more broadly why an approach based on generalised benchmarks or averages across previous cases is problematic.

2.4 Primarily, the cost of errors in the quantification can be sizable, given that there are generally considerable amounts of funds at issue in competition damages claims. This could include claimants receiving substantially less compensation for the harm actually suffered, but also defendants ending up paying much more in compensation than they have actually caused in harm or (relatedly) received in excessive profits from the conduct under consideration.

[5] Draft Guide, p. 21. Translation by Oxera.

2.5 The scale of monetary impact can be put into perspective when considering the distribution of past overcharges as included in the Commission's Practical Guide,[6] which is based on the Oxera 2009 Study. This distribution, shown in Figure 2.1, has an average overcharge of approximately 20%. If the average overcharge of 20% would be assumed, then the average absolute error in the estimate would be more than 11 percentage points.

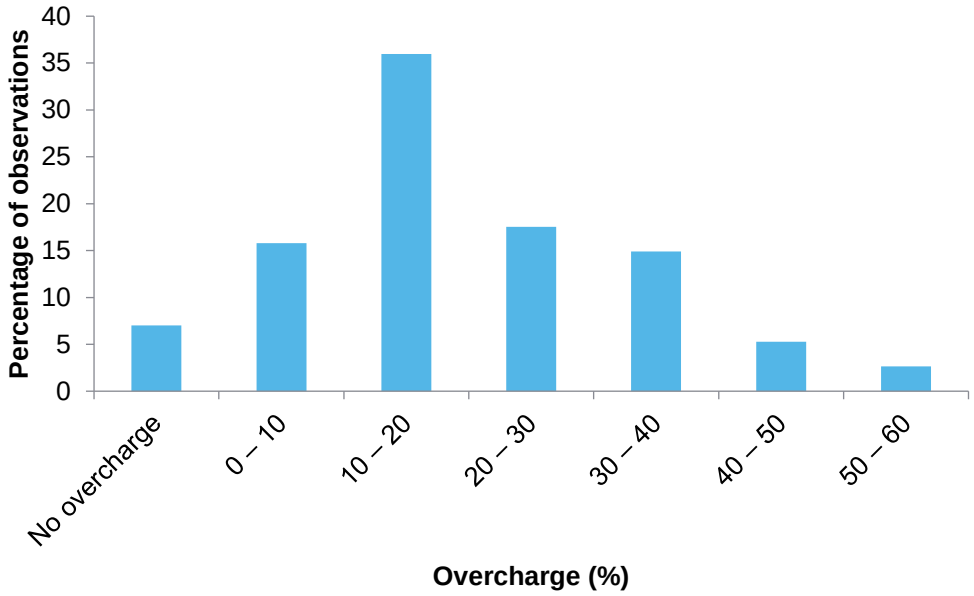
2.6 To put this average error into perspective: when a case involves a value of commerce of €100m, awarding €20m in direct damages based on a benchmark overcharge of 20% implies that, on average, more than €11m in damages would be either under- or overcompensated. On average, claimants are therefore either missing out on more than €11m in excess of harm suffered, or defendants are forced to compensate more than €11m in excess of actual harm caused.

2.7 Note, finally, that the error could of course be much higher—for instance when a cartel was ineffective at increasing prices. In that respect, it is also not possible to talk about specific estimates as either "low" or "high" based solely on the empirical distribution of cartel overcharges in past studies. Clearly, a 5% overcharge estimate should be considered "high" when the actual overcharge is close to zero; and a 30% overcharge should be considered "low" when the actual overcharge is above 50%. The same overcharge estimate in percentage terms could be both "low" and "high", depending on the facts of the case in which it arises.

2.8 The distributions of past cartel overcharges also indicate that presuming any damages based on past cases would be incorrect, as 6–7% of observations display no overcharge. Similar results are obtained when using more updated datasets and ones that is less rigorously cleaned—see, for instance, Connor (2014) and other meta-studies currently already discussed in the Draft Guide.[7]

[6] European Commission (2013), op. cit., para. 142.
[7] Connor, J. (2014), 'Cartel Overcharges', *The Law and Economics of Class Actions*, **26**, pp. 249–387; Draft Guide, section III.3, 'Metaanálisis', pp. 43–4.

Figure 2.1 Distribution of cartel overcharges in empirical cartel studies



Note: Oxera analysis based on Connor and Lande (2008) data described above and selection criteria applied by Oxera. This final distribution includes 114 observations.

Source: European Commission (2013), op. cit., para. 142, and Oxera 2009 Study, Figure 4.1.

3 Indirect cost from relying on averages

3A Introduction

3.1 The primary concern when relying on generalised benchmarks or averages is the sizable cost of error involved. In this section, we discuss three additional and broader implications that, we consider, provide further relevant context for courts and judges in determining the appropriate method of damages quantification in any given case.

3.2 Many of the matters set out in this section will be familiar to competition practitioners at the CNMC and are likely to have been considered in formulating the Draft Guide.[8] Our suggestion, however, is that further discussion of these broader issues be included in the guidelines in order to ensure that courts and judges are informed of the wider context when they are assessing different options in damages procedures.

3B Distortion in incentives to bring claims

3.3 One risk that arises from relying on generalised benchmarks or averages across previous cases is that such approaches can increase the risk of spurious or unsupported claims.

[8] Draft Guide, p. 21: 'Finalmente, conviene destacar que…'.

3.4 There may be cases where customers are not substantially harmed by a competition law infringement (as also discussed in the previous section). However, if relying on averages and past cases becomes common practice, these customers will nevertheless have a clear incentive to litigate wherever they bought sufficient volume of the relevant product or service. In addition to the risk of excessive damages compensation, such spurious litigation risks imposing a significant additional burden on courts and judges.

3.5 Potentially less common, but equally harmful, there may be cases where a competition law infringement has caused material harm to a group of customers but where the nature of the case (for example, the total value of purchases) means that the case is not commercially viable if a 'standard' overcharge is applied. Such claimants may be deterred from bringing a case, even if they believe that the actual level of overcharge justifies the legal action, if they observe a paradigm in which similar benchmark rates are applied to competition damages claims before the court.

3.6 In short, applying a generalised benchmark across a number of dissimilar infringements means the cases that are most attractive for claimants to bring are those with the largest volume of sales at issue—not necessary those with the highest actual overall damages. This skews the focus of private enforcement away from where it is most merited.

3C Reduced incentives to develop quantitative evaluations that help reach early settlement or reduce the likelihood of appeal

3.7 If the prospect of some average cartel overcharge is sufficiently attractive relative to any actual harm incurred, claimants and defendants have a decreased incentive to actively substantiate their claim—in turn reducing the evidence base in damages proceedings.

3.8 As recognised in the Draft Guide, quantitative evaluations of harm made by experts clearly have significant importance in damages procedures.[9] The most obvious reason for this is that they make it more likely that the compensation awarded is close to the real harm caused by the infringement. But this is not the only benefit. Case-specific quantitative evaluations also help parties to establish a common base of facts themselves and reach an early settlement agreement—in order to avoid judicial costs. They establish grounds for parties

[9] Draft Guide, p. 54: 'Conviene destacar que ni…'.

to negotiate on and leave fewer components open for discussion, or for a judge to determine.

3.9 Moreover, a thorough examination of all relevant issues at trial (in part facilitated by the availability of such evidence) can reasonably be expected to reduce the likelihood of appeals, because the decision is then less likely to leave room for either party to consider that they did not get the appropriate outcome.

3D Problems with public enforcement

3.10 Finally, we consider it advisable to clearly state in the guidelines the implications of both under- and overcompensation in public efforts to deter competition law infringements.

3.11 In the case of undercompensation, the sum of the fines and compensation paid by firms may be close to or potentially even below the actual profits achieved from the illegal conduct. This can imply a monetary reward to firms for their collusive behaviour, blunting the important incentivising effect of private enforcement as a deterrence.

3.12 At the same time, overcompensation can result in excessive punishment of firms, as well as overdeterrence, where firms behave too cautiously in the market and avoid, for instance, beneficial forms of communication and cooperation that can benefit consumers—for fear of being seen to infringe competition laws and ending up paying excessive damages. Theoretically, in the extreme case, excessive damages compensation could result in firms leaving the market, leading to reduced competition and consumer welfare in the long run.

3.13 More importantly perhaps, a prospect of overcompensation also risks imposing a *chilling effect* on public enforcement: if firms expect that they will pay more than the harm inflicted by the conduct, their incentives to collaborate with authorities or to apply to leniency programmes could be significantly reduced. Since the benefits of leniency or cooperation do not extend to damages procedures, an anticipation of overcompensation will adversely affect incentives to apply for leniency or cooperate with ongoing investigations.

4 *Airtours* as the appropriate framework for supporting an economic expectation of harm

4A Introduction

4.1 The Draft Guide currently emphasises that the 2014 European Commission Damages Directive provides for a legal presumption that cartels cause harm.[10] The Draft Guide also helpfully outlines to the courts and judges which anticompetitive behaviour is punishable.[11]

4.2 An important point of context that we consider should be considered in drafting the guidelines, is that that unlawful conduct does not in itself imply harm. This point was emphasised in the Oxera 2009 Study, which—after explaining that many cartels do lead to overcharges—states that:[12]

> […] [T]he amount of the overcharge in any particular damages case would ultimately need to be determined pursuant to the requirements of applicable national law. It is possible that a cartel was ineffective and hence that the overcharge was negligible or zero. There may also be decisions by competition authorities concerning agreements that infringe Article 101 but that were never implemented. In these cases the overcharge may also be negligible or zero.

4.3 The reason why unlawfulness does not in itself imply harm is because cartel infringements are increasingly prosecuted on a by-object basis.[13] As clarified by Advocate General Kokott in the 2009 T-Mobile Netherlands case, a conduct may have no effect in the market and be declared illegal by object.[14] The Damages Directive recognises the absence of an automatic link between unlawfulness and harm by noting that the presumption of harm is rebuttable and depends on the facts of the case.

4.4 We note, however, that the Draft Guide currently omits this clarification that unlawfulness does not imply harm.[15] We consider it important—in light of the common use of by-object assessment for cartels or other horizontal infringements and the introduction of the rebuttable presumption of harm—to include this clarification and to provide courts and judges with an appropriate and straightforward framework to help them support an economic expectation of harm.

[10] Draft Guide, p. 7: 'Además, la Directiva …'.
[11] Draft Guide, pp. 8–10, subsection titled '¿Qué comportamientos anticompetitivos son sancionables y quiénes son los agentes involucrados? Efecto precio y Efecto volumen.'.
[12] Oxera (2009), p. 88.
[13] See for instance Tannebaum, S. (2015), 'The concept of the restriction of competition 'by object' and article 101(1) TFEU', Maastricht Journal or European & Competition Law, 22(138), p. 10.
[14] Advocate General Kokott's Opinion in Case C-8/08 T-Mobile Netherlands and others (2009), para. 46.
[15] EU Damaged Directive 2014/104/EU, recital 47.

4.5 In this section, we discuss how the Draft Guide could include an outline of the well-established economic principles that can be used to assess whether collusive conduct is likely to be effective. These principles are already regularly applied in merger review in the context of the *Airtours* criteria, but these criteria are reflective of fundamental economic theory that applies to coordination between firms in general. The *Airtours* criteria therefore provide for a straightforward and well-established framework for assessing whether harm is likely to arise in a given infringement.

4.6 While such an assessment is not an alternative to an empirical analysis, it will frequently represent a useful prelude (for instance, in the context of rebutting the presumption of harm) and can assist in determining whether subsequent empirical results are surprising from the perspective of economics.

4.7 This assessment on the likelihood of harm is particularly important where the conduct in question differs from 'hardcore' conduct—such as the fixing of price at which goods are sold to purchasers or allocating customers or regions to particular suppliers, where the expectation of harm is much more established.

4.8 In this section, we consider fundamental cartel theory and discuss how the *Airtours* criteria are simply a reflection of this.

4B Fundamental cartel theory: solving the prisoner's dilemma

4.9 Economists define collusion as a situation in which competing firms coordinate their behaviour for the purpose of producing a supra-competitive outcome.[16]

4.10 As collusive agreements cannot be made legally binding, they must be self-enforcing. This means that each firm needs to find it in its best interest to abide to the arrangement as long as all other firms do. However, self-enforcement of a collusive agreement is not straightforward: in principle, there is an economic 'law of gravity' that pushes firms to compete rather than collude, despite the fact that they could get higher joint profits if they coordinated. This economic gravity arises from the well-known prisoner's dilemma dynamics inherent in any attempt at effective collusion.

4.11 Table 4.1 provides the game-theoretical illustration of this. It shows that firms can increase their joint profit by both setting a high price (both receiving 3). However, each firm can always achieve a higher profit by setting a low price,

[16] A comprehensive discussion on the definition of economic collusion (and its distinction from unlawful collusive conduct) is provided in Harrington, J.E. (2017) *The Theory of Collusion and Competition Policy*, The MIT Press, Chapter 1.

irrespective of what the other firm does. This dynamic means that, in equilibrium, firms will end up setting low prices (i.e. compete).

4.12 A collusive agreement to set high prices in this framework can never be self-enforcing: it is never in the best interest of firms to abide to the arrangement, as it can always do better by setting low prices instead, irrespective of what the other firm does. If this 'game' is played once, collusion is therefore never feasible.

Table 4.1 Competition as a prisoner's dilemma

		Firm B	
		High price	**Low price**
Firm A	**High price**	3 , 3	0 , 4
	Low price	4 , 0	1 , 1

Note: The first entry in each cell in this pay-off matrix reflects the pay-off of Firm A and the second entry is that of Firm B for each combination of options. The arrows indicate the best response of each firm, given each possible action of the other firm—revealing {low,low} as the only possible mutual best response (equilibrium).

Source: Oxera.

4.13 In order to 'solve' this prisoner's dilemma and avoid the individual incentive to deviate, modern economic theory universally recognises that firms need to rely on a history-dependent **reward–punishment strategy** in which firms reward others when sticking to the collusive outcome and punish them when departing from it.[17]

4.14 One obvious example of a reward–punishment strategy is to agree to stick to the collusive outcome as long as the other firms do (reward), but to set competitive prices once at least one firm deviates from the agreement (punishment).[18] In the above illustration, such a strategy leads to a trade-off between either getting a pay-off of 3 each period (collusion), or getting a one-off higher pay-off of 4 by deviating but a lower pay-off of 1 for each period after (punishment). Such a cartel agreement is stable as long as all firms prefer to

[17] While the conceptual ideas behind repeated game theory go back much further, the first game-theoretical formalisation of reward–punishment strategies is provided by James Friedman and Dilip Abreu in in the 1970s and 1980s. See Friedman, J.W. (1971), 'A Non-Cooperative Equilibrium for Supergames', *The Review of Economic Studies*, **38**:1, pp. 1–12; Abreu, D. (1986), 'Extremal Equilibria of Oligopolistic Supergames', *Journal of Economic Theory*, **39**, pp. 191–225; Abreu, D. (1988), 'On the Theory of Infinitely Repeated Games with Discounting', *Econometrica*, **56**, pp. 383–96. For seminal textbook treatments, see Tirole, J. (1988), *The Theory of Industrial Organization*, MIT Press; Vives, X. (1999), *Oligopoly Pricing: Old Ideas and New Tools*, MIT Press; Motta, M. (2004), *Competition Policy: Theory and Practice*, Cambridge University Press.

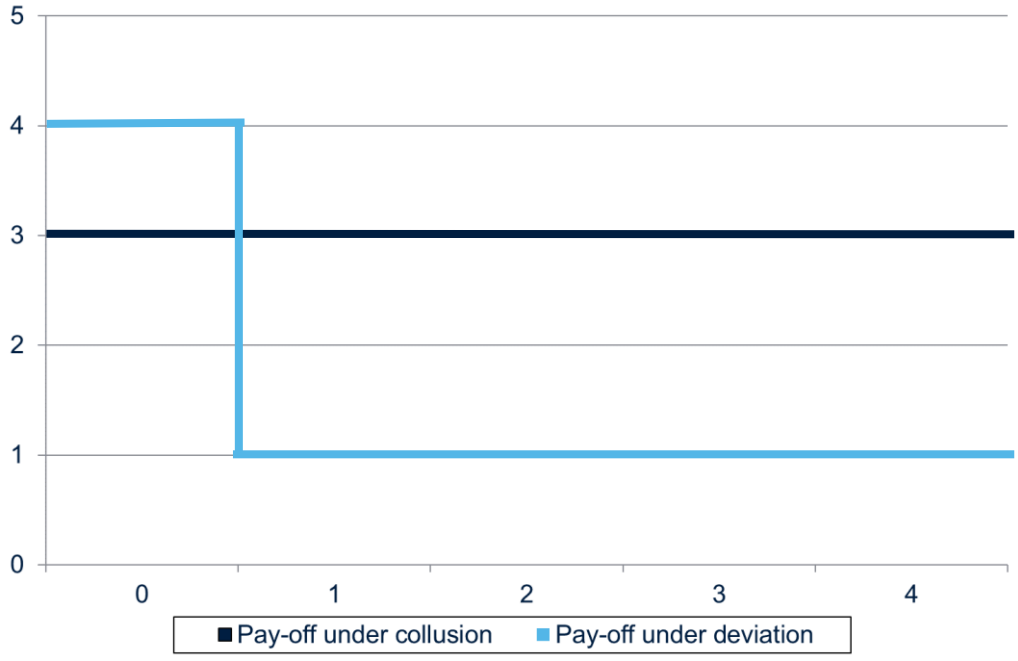
[18] In the economics literature, such a strategy is called a grim-trigger strategy, as it involves the grim response of never colluding ever again in the event of a deviation. Other, more refined strategies also exist.

receive 3 each period over receiving 4 now and only 1 each period after. This trade-off is illustrated in Figure 4.1 below**Error! Reference source not found.**.

4.15 This reward–punishment strategy reveals the fundamental mechanism that underlies the ability of firms to collude on an anticompetitive outcome despite unilateral incentives to compete: as long as firms put sufficient weight on future profits, they will be better off maintaining the collusive outcome and avoiding retaliation by competitors as a result of deviating from this outcome.

4.16 This mechanism in turn reveals that in particular monitoring competitor behaviour and the credible threat of retaliation are key for maintaining a stable collusive outcome. Moreover, it shows how a threat of future disruptions of a collusive outcome similarly risks undermining cartel stability, as firms will then be more inclined to opt for the higher short-run profit from deviation.

Figure 4.1 Per-period profits in case of a reward–punishment strategy



Note: This shows the per-period pay-off in case of collusion and deviation under a reward–punishment strategy in which firms agree to set high prices as long as the other firms do (reward), but to set low prices once at least one firm deviates from the agreement (punishment).

Source: Oxera.

4C Distinction between economic collusion and unlawful collusive conduct

4.17 Note that the above description the economic mechanism underlying collusion is distinct from what may be identified as unlawful collusive conduct. Whereas economic theory focuses on the mechanisms required to maintain an effective collusive equilibrium, competition law for a large part focuses (at least with

respect to by-object cases) on conduct that has the objective to restrict competition, regardless of the extent to which the collusion was effective.

4.18 Note that this distinction means that unlawful collusive conduct need not be effective in achieving a collusive equilibrium, and hence not collusion in the sense of economic collusion. For instance, firms (or rather executives at firms) may express a collusive intent and be prosecuted for this on a by-object basis, despite the absence of any feasible reward–punishment strategy necessary to make such conduct economically viable.

4D The *Airtours* framework for assessing the feasibility of economic collusion

4.19 When it is relevant to evaluate the likelihood that a particular piece of conduct led to higher prices through collusion, a suitable framework can actually be drawn from the framework provided by the EU General Court in its 2002 *Airtours* Decision.

4.20 The *Airtours* criteria are general in nature and can be meaningfully applied to all forms of collusive conduct (including both explicit and tacit agreements). In this framework, three conditions are necessary to conclude that a collective dominant position can impede effective competition.[19]

- **Transparency:** firms must be able to monitor to a sufficient degree whether the terms of coordination are actually being adhered to.
- **Deterrence:** firms must be able to deter deviations from the terms of coordination through a credible punishment mechanisms that can be activated if deviation is observed.
- **External stability:** outsiders should not be able to readily destabilise the coordinated outcome—such as through entry by new competitors or countervailing responses by customers.

4.21 That these criteria are a reflection of fundamental cartel theory becomes clear when considering paragraph 4.16 above, which concludes on the conditions necessary for stable collusion to occur.

4.22 In many cases, the *Airtours* criteria will apply straightforwardly (in particular, in hardcore conduct such as the fixing of purchaser prices or the allocation of

[19] Note that the 2004 Horizontal Merger Guidelines by the European Commission also explicitly refer to these three criteria as conditions that need to be met in order to conclude on concerns on coordinated effects

customers) and little analysis will be required to establish whether the criteria are satisfied. However, in some cases, they may not apply, or may apply only for certain customers or time periods.

4.23 It should be clear from the above discussion on fundamental cartel theory that in the absence these conditions, collusion cannot be self-enforcing. In cases where the likelihood of harm arising is important to evaluating the evidence on quantification of losses, it will frequently be informative for the court to consider the conduct at issue with reference to the *Airtours* criteria. We consider that the inclusion of a description of these criteria in the CNMC guidelines, with an emphasis on their general importance and relevance in assessing the likelihood of harm, is therefore merited.[20]

5 Concluding thoughts

5.1 We consider that the Draft Guide correctly identifies the relevant issues surrounding the damage estimation process and is likely to provide an informative and practical reference for courts and judges in Spain. As explained in the previous sections, we consider that the discussion of certain issues could be usefully expanded in the guidelines in order to make sure that courts and judges consider them when they are making decisions in damages procedures.

5.2 Our final and concluding comment is one of interpretation and applies in particular to the discussion of some of the more technical aspects of the damages quantification methodologies. We consider that the Draft Guide establishes the appropriate starting point by describing how to approach damage estimations in an ideal scenario in which large and consistent data sets can be used to estimate multiple methods.[21] Some technical observations and suggestions with respect to the methodologies are included in Appendix A1. The high standard of economic evidence described in the Draft Guide

[20] In addition to the fundamental *Airtours* criteria for cartel stability, there is a range of prominent factors that can help to support cartel stability. Although few of these factors are essential, they can collectively still help support or rebut an economic expectation of harm based on theory. This includes *structural factors* (few firms, high entry barriers, high frequency of interaction and price adjustments, increased market transparency, multi-market contact, and structural links between colluding firms such as common ownership or joint ventures), *demand-side factors* (growing market, limited demand fluctuations or cycles, low demand sensitivity, and limited countervailing buyer power), and *supply-side factors* (limited technological progress or innovation, symmetry between firms in, for instance, costs and capacity, and product similarity in terms of quality and horizontal positioning). Public policies such as cartel fines and leniency also affect the ability of firms to stabilise collusive agreements. For a discussion of these, see in particular Ivaldi, M., Jullien, B., Rey, P., Seabright, P. and Tirole, J. (2003), 'The Economics of Tacit Collusion', Final Report for DG Competition, European Commission, March and Ivaldi, M., Jullien, B., Rey, P., Seabright, P., and Tirole, J. (2007), 'The Economics of Tacit Collusion: Implications for Merger Control', in *The Political Economy of Antitrust*, Emerald Group Publishing Limited.

[21] Draft Guide, pp. 14–9.

should indeed be sought whenever practical and cost effective in the circumstances of the case under consideration. However, in reality, this may not always be the case, and courts and judges may frequently be faced with situations, in particular for infringements that took place many years previously, where practical considerations such as the availability of data constrain the scale or complexity of the analysis that can be proportionately undertaken.

5.3 We consider that the guidelines could outline that in cases where it is determined that the scale or complexity of an ideal analysis would not be proportionate, a higher-level approach relying at least on some informed and reliable assumptions or approximations (but still empirically well founded and specific to the case at hand) will remain preferable to reverting to an approach based on general benchmarks or averages across previous cases. In particular, with respect to the methodologies put forward in the Draft Guide, it should in our view be made clear that where they cannot be followed precisely due to practical constraints (which would themselves need to carefully examined and considered), some alternative simplified or more narrowly defined variant may be appropriate, as long as the methodological compromises are transparent and carefully considered.[22]

5.4 This would properly contextualise the methodological discussion as an ideal to be targeted rather than a minimum standard to be met. It would also mitigate the risk of the guidelines being interpreted too rigidly, where a court, for example, seeing a particular case-specific econometric analysis, fails to conform to the standards in the guidelines and reverts instead to some alternative approach—for instance, based on an average of previous cases. Such an interpretation would amount to 'the perfect being the enemy of the good'. This would be a regrettable outcome for a set of guidelines with great potential to inform and enhance the quantification of damages in one of the EU's fastest-growing and most dynamic jurisdictions for resolving competition damages claims.

[22] To take two examples set out in the Oxera 2009 Study (section 4.6.1), (i) when data on the price charged by a firm is not available, the average price in the industry or market could, for example, be used as an approximation or when the relevant data is incomplete, or (ii) when one of the firms in a cartel no longer exists or is not able to complete a data request because of failures in its information systems, such data gaps can be solved by using imputation or interpolation.

A1 Comments on the econometrics appendix

A1.1 Specific elements notwithstanding, we consider the econometric appendix in the Draft Guide to be a clear and concise introduction to the relevant econometric methodological considerations. It offers useful and practical guidance for readers who lack a background in economics.

A1.2 In this appendix, we discuss some specific and technical elements of the econometrics appendix that, we consider, may be unclear, incomplete, or (potentially) incorrect.

A1A Elements that may be unclear

A1.3 The econometric appendix states that 'for an estimator to offer guarantees, it has to be efficient and consistent'.[23] We agree that these properties are important. However, we suggest also including impartiality or 'unbiasedness' as a requirement of a sensible estimator. An unbiased estimator has an expected value equal to the relevant population parameter.[24] We note that a consistent estimator is not by definition unbiased.[25]

A1.4 The appendix seems to use the term 'significatividad estadística' (or 'statistical significance' in English) to refer to the significance level.[26] However, statistical significance is used to refer to results in which the obtained p-value is below the significance level.[27] For the avoidance of confusion, we therefore suggest changing 'significatividad estadística' for 'nivel de significatividad' (or 'significance level' in English) when referring to the choice of a threshold probability of rejecting the null hypothesis.

A1.5 Separately, the appendix sets out assumptions specific to the error term that should be satisfied in order to obtain a consistent and efficient estimator.[28] Given that when residuals follow a normal distribution with zero mean and constant variance, assumptions one (zero mean), two (constant variance) and three (no autocorrelation) are satisfied, we suggest that these three assumptions are omitted, to avoid confusion for readers.

[23] Draft Guide, p. 68. Translation by Oxera. Original text: 'Para que el cálculo del valor de un estimador ofrezca garantías, tiene que ser eficiente y consistente'.
[24] Wooldridge, J.M. (2006), *Introductory Econometrics, A Modern Approach*, third edition, Thomson Higher Education, p. 767.
[25] Ibid., p. 774, footnote 24.
[26] Draft Guide, p. 71: 'La incertidumbre estadística es …'.
[27] Wooldridge refers to the probability of rejecting the null hypothesis when it is in fact true as the 'significance level'. See ibid., p. 129, footnote 24. In addition, Wooldridge refers to statistical significance in the context of the qualitative judgement of rejecting or not rejecting hypotheses. See ibid., p. 135, footnote 24.
[28] Draft Guide, p. 73: 'Para que estas propiedades …'.

A1.6 Further, the appendix states that the power of a statistical test is typically 0.8 or 0.9.[29] To us, it is not fully clear whether this is a general statement, or meant as a threshold to determine an appropriate sample size. To our knowledge, there is no particular reason why a statistical test would typically have a power of 0.8 or 0.9. If this statement indeed relates to determining the appropriate sample (in the ideal case), we would suggest to further clarify this point.

A1B Elements that may be incorrect or incomplete

A1.7 According to the definition presented in the appendix, 'homoskedasticity' refers to situations in which the error term does not depend on time.[30] This holds for time series data, but we think that the concept has to be interpreted more generally. For this, we propose to clarify that the concept refers to situations in which the error term has a constant variance across observations.

A1.8 The appendix proposes solutions to heteroskedasticity that, we consider, may be inappropriate. In particular, we do not consider making use of dummy variables or taking natural logarithms to be appropriate solutions to the problem of heteroskedasticity.[31] Rather, we would suggest listing the use of heteroskedasticity consistent standard errors as a solution.[32]

A1.9 In addition, the econometric appendix mentions multicollinearity as one of the methodological concerns. It defines multicollinearity as a situation in which the exogenous variables in the regression model are not linearly independent.[33] However, we consider that a distinction should be made here between perfect and imperfect multicollinearity.

- Perfect multicollinearity occurs when there is an exact linear dependence between exogeneous variables, which creates a situation in which the regression coefficients cannot be estimated.[34] In such a case, one of the exogenous variables needs to be omitted.
- 'Imperfect multicollinearity', on the other hand, refers to high but imperfect correlations between some of the exogenous variables—which is less severe.[35] Specifically, imperfect multicollinearity in a model leads to higher

[29] Draft Guide, p. 78: 'La potencia que habitualmente …'.
[30] Draft Guide, p. 74: 'Si en una regresión econométrica …'.
[31] Draft Guide, p. 74: 'En caso de presencia …'.
[32] Ibid., section 8.2, footnote 24.
[33] Draft Guide, p. 76: 'La multicolinealidad significa que …'.
[34] More specifically, the matrix of observations of the exogenous variables is not full rank in the presence of perfect multicollinearity. This makes it impossible to calculate an inverse of the transformed matrix and therefore does not allow one to calculate regression coefficients. See ibid., p. 821, footnote 24.
[35] Ibid., p. 102, footnote 24.

standard errors, thereby affecting the precision of the estimate but not its consistency or bias.[36]

A1.10 Relatedly, it is mentioned in the econometric appendix that a potential solution to multicollinearity is to transform variables.[37] However, we note that any linear transformation would not affect the degree of multicollinearity. Therefore, we suggest omitting this solution.

A1.11 Separately, the appendix states that the purpose of the zero conditional mean assumption on the error term is to 'avoid […] the factors not included in the model […] not hav[ing] a systematic impact'.[38] Since satisfying this assumption ensures (rather than avoids) that variables that are excluded from the specification of the model are not a determinant of the dependent variable and correlate with at least one of the independent variables,[39] we suggest clarifying this explanation.

A1.12 Finally, the appendix states that the higher the level of R^2, the better the model is.[40] However, R^2 merely indicates the degree of variation in the dependent variable that is explained by the independent ones. Since generally for damages, we are looking for the effect of a particular variable on another (for instance, a cartel dummy on overcharge), we would not consider a higher R^2 to be necessarily 'better' for the purpose of damages estimation.

[36] Ibid., footnote 24, p. 103.
[37] Draft Guide, p. 76: 'Para paliar este problema …'.
[38] Draft Guide, p. 73. Translation by Oxera. Original text: 'para evitar que los factores no incluidos en el modelo no tengan una incidencia sistemática sobre él'.
[39] Ibid., footnote 24, p. 99.
[40] Draft Guide, p. 77: 'La medida más utilizada …'.