

**REPORT ON THE MONITORING EXERCISE
CARRIED OUT IN THE ONLINE HOTEL
BOOKING SECTOR BY EU COMPETITION
AUTHORITIES IN 2016**

THE PARTICIPATING AUTHORITIES ARE THE BELGIAN, CZECH,
FRENCH, GERMAN, HUNGARIAN, IRISH, ITALIAN, DUTCH, SWEDISH
AND UK NATIONAL COMPETITION AUTHORITIES AND
DG COMPETITION

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Introduction

1) This report presents the results of a coordinated monitoring exercise carried out in the online hotel booking sector by a group of eleven EU competition authorities in 2016.¹ The exercise was commissioned by the heads of the European Competition Network ('the ECN') in November 2015. The purpose was to measure the effects of recent changes to the parity clauses used by online travel agents ('OTAs') in their contracts with hotels. The results of the exercise were taken into account by the heads of the ECN in their recent discussion on future action in this sector. The conclusions of their discussion can be found at:

http://ec.europa.eu/competition/antitrust/ECN_meeting_outcome_17022017.pdf.

2) By way of background, it should be recalled that since 2010 several national competition authorities ('NCAs') have investigated OTA parity clauses,² and that these NCAs have adopted differing approaches. Germany's Bundeskartellamt has pursued a prohibition approach, whereas the French, Italian and Swedish NCAs pursued a commitments approach.^{3,4} The Bundeskartellamt prohibited the parity clause used by HRS (a major German OTA) in December 2013. In April 2015, Booking.com committed to the French, Italian and Swedish competition authorities to change its 'wide' parity clause to a 'narrow' parity clause.⁵ Booking decided to apply this change EU-wide from July 2015, and Expedia also decided to apply a narrow parity clause EU-wide, from August 2015. In December 2015, the Bundeskartellamt prohibited Booking.com's narrow parity clause in Germany.^{6,7} In addition to these antitrust measures, in France, in August 2015, the so-

¹ The group consisted of the Belgian, Czech, French, German, Hungarian, Irish, Italian, Dutch, Swedish and UK national competition authorities and DG Competition. In this report, it is referred to as 'the monitoring working group'. The Austrian and Swiss NCAs also participated during the design phase of the monitoring exercise.

² Also known as 'Most Favoured Nation' or 'MFN' clauses.

³ The OFT (now CMA) also investigated the online hotel booking sector between 2010 and 2014, though its case focussed not on OTA parity clauses but on restrictions on the ability of OTAs to offer discounted room prices.

⁴ The Irish NCA also subsequently accepted commitments from Booking.com modelled on those agreed by the French, Italian and Swedish NCAs.

⁵ In brief, 'wide' parity clauses oblige the hotel to give the OTA the lowest room prices and best room availability relative to all other sales channels, whereas 'narrow' parity clauses allow the hotel to offer lower room prices and better room availability on other OTAs and on offline sales channels, but allow the OTA to stop the hotel from publishing lower room prices on the hotel's own website.

⁶ Booking.com's appeal against the prohibition decision is pending before the German courts.

⁷ Expedia continues to apply its narrow parity clause in Germany. The Bundeskartellamt's investigation of Expedia's clause continues.

called Loi Macron⁸ rendered null and void all OTA price parity clauses and, in Austria, in November 2016, all OTA parity clauses were rendered null and void by an amendment to the law on unfair competition.^{9,10}

1 Methodology

- 3) The monitoring exercise covered various aspects of the way hotels market and sell their rooms, but focused on parameters which had been central to the theories of harm applied by the NCAs which have investigated the use of parity clauses by OTAs. The theory of harm for wide parity clauses in this sector is, first, that they lead to a softening of competition between incumbent OTAs and, second, that they foreclose entry or expansion by new or smaller OTAs. More specifically, the clauses reduce the incentives for OTAs to compete on the conditions they offer to hotels, including the commission rates they charge. Because a wide parity clause obliges the hotel to offer the same room price on all the OTAs it uses, the hotel cannot 'reward' an OTA which charges a lower commission rate, by giving it lower room prices, nor can it penalize an OTA which charges a higher commission rate, by giving that OTA higher room prices. Because wide parity clauses also apply to room availability, the same disincentives apply to competition between OTAs on this parameter. The theory of harm for narrow parity clauses in this sector is that they have the effect of preserving the restriction of competition caused by wide parity, because they reduce the incentive for hotels to offer differing room prices on different OTAs.¹¹
- 4) In light of these theories of harm, the monitoring exercise focused on:
- i) room price differentiation by hotels between sales channels;
 - ii) room availability differentiation by hotels between sales channels, and
 - iii) OTA commission rates.¹²

⁸ Article 133 of the Loi n° 2015-990 du 6 août 2015 pour la croissance, l'activité et l'égalité des chances économiques

⁹ 99. Bundesgesetz: Änderung des Bundesgesetzes gegen den unlauteren Wettbewerb 1984 – UWG und des Preisauszeichnungsgesetzes.

¹⁰ Similar legislation is being debated in the Italian parliament.

¹¹ Under a narrow parity clause, if a hotel wishes to price differentiate between its OTA partners, the hotel is obliged to offer a room price on its own website that is higher than the price it offers on at least one of the OTAs it uses.

¹² It was recognized that commission rates are only one of the parameters on which OTAs compete, however they have the advantage of being objectively measurable.

- 5) The monitoring consisted of a uniform electronic questionnaire addressed to a sample of 16,000 hotels in the ten participating Member States.¹³ Written questionnaires were also sent to a sample of OTAs, metasearch websites and large hotel chains.¹⁴ The questionnaires covered the period from January 2013 to June 2016,¹⁵ with particular focus on the period before and after the switch by Booking.com and Expedia from wide to narrow parity clauses (mid-2015). The questionnaires were sent during July and August 2016, and the replies were received by the end of September 2016.
- 6) In addition, hotel room price data was obtained from one or more major metasearch websites and from the websites of Booking.com, Expedia and HRS.¹⁶

2 Key findings

- 7) The monitoring exercise produced the following key findings, which are subject to the important limitations set out in paragraph 15 below. These findings and the other results are presented in more detail in Section 4.

Stakeholder awareness of the changes to OTA parity clauses

- 8) 47% of the hotels that responded to the electronic survey across the ten participating Member States said that they did not know that Booking.com and Expedia had recently changed or removed their parity clauses. This figure was lower in France and Germany taken together (30%). Of those hotels that knew about the changes, the majority said they had not acted upon them in any way.

Room price differentiation between OTAs

- 9) 79% of the hotels that responded to the electronic survey across the ten participating Member States said that they had not price differentiated between OTAs in the period

¹³ The sample was selected to be representative of the general population of hotels listed on at least two major OTAs in each Member State, in terms of number of rooms, star category and membership or not of a chain. Replies were received from 1600 hotels, giving a response rate of around 12 percent. Details of the sample used and a breakdown of the responses received for each Member State are given in Appendix 2 of this report.

¹⁴ Questionnaires were sent to 20 OTAs, 19 hotel chains (including the ten largest chains in the EU) and 11 metasearch websites. Replies were received from 5 OTAs, 13 hotel chains and 7 metasearch sites.

¹⁵ This period captures the effects of the Bundeskartellamt's two prohibition decisions against OTA parity clauses (HRS in December 2013 and Booking.com in December 2015), as well as the 'narrow parity' commitments decisions of the French, Italian and Swedish NCAs addressed to Booking.com (April 2015, implemented July 2015).

¹⁶ Only the metasearch data covered the period before and after the switch to narrow parity clauses.

since Booking.com and Expedia switched from wide to narrow parity clauses.¹⁷ The reasons most frequently given for not price differentiating were that the hotel saw no reason to treat its OTA partners differently; the hotel's OTA contract did not allow it to price differentiate; fear of penalization by OTAs to which the hotel did not give the lowest price; the difficulty of managing different prices on different OTAs, and not wanting the hotel's website to appear as more expensive than the OTAs.¹⁸

- 10) For the 21% of respondents that did price differentiate between OTAs, the most frequent reason given was to increase the hotel's visibility on a particular OTA (for example, its display ranking). In France and Germany taken together, a higher share of respondents (27%) said that they had price differentiated between OTAs, however this difference was not confirmed by pricing data scraped by the monitoring working group from OTA websites, which showed no significant variation between any of the participating Member States.¹⁹
- 11) In addition to the electronic survey of hotels, the monitoring working group analyzed room price data from one or more major metasearch websites. The analysis suggests that:²⁰
 - a) the switch from wide to narrow parity clauses by Booking.com and Expedia²¹ led to an increase in room price differentiation between OTAs by hotels in eight of the ten participating Member States;²²
 - b) the switch from wide to narrow parity clauses and the entry into force of the Loi Macron²³ led to an increase in room price differentiation between OTAs by hotels in France;
 - c) the prohibition of Booking.com's narrow parity clause²⁴ led to an increase in room price differentiation between OTAs by hotels in Germany.²⁵

¹⁷ Hotels were not asked whether they had price differentiated between OTAs in the period before Booking.com and Expedia switched to narrow parity clauses because (i) the previous wide parity clauses prohibited this, and (ii) the participating authorities had concerns about the reliability of replies from independent hoteliers in respect of behaviour pre-dating 2015. However, evidence from the NCA antitrust cases suggests that many hotels did not fully comply with their parity obligations under wide parity.

¹⁸ See paragraph 19) below.

¹⁹ See paragraph 19) below.

²⁰ Difference-in-differences analysis of room price data from a major metasearch website.

²¹ Booking.com and Expedia implemented the switch to narrow parity clauses EU-wide in July and August 2015.

²² Belgium, Czech Republic, Germany, Hungary, Ireland, Italy, Sweden, United Kingdom.

²³ The analysis does not distinguish between these two measures, as they took effect almost simultaneously (July-August 2015).

Room availability differentiation between OTAs

- 12) 69% of the hotels that responded to the electronic survey across the ten participating Member States said that they had not differentiated between OTAs for room availability since the switch by Booking.com and Expedia to narrow parity clauses. The reason most frequently given was that they saw no reason to treat their OTA partners differently. In France and Germany taken together, slightly more hotels said that they had differentiated between OTAs for room availability (37%, relative to 31% for all ten Member States). Irrespective of Member State, more than 80% of hotels said that they had not changed their behaviour as regards differentiating between OTAs for room availability since the switch to narrow parity clauses.

OTA commission rates

- 13) 90% of hotels that responded to the electronic survey said that there had been no change in the basic commission rate charged to them by OTAs in the period from July 2015 to June 2016. According to evidence obtained from certain OTAs, the average effective rate of commission²⁶ paid by hotels remained relatively stable or slightly decreased in the period from January 2014 to June 2016.²⁷
- 14) Very few hotels said that they engaged in trade-offs whereby they grant OTAs more favourable room prices or room availability in return for a lower commission rate.²⁸

3 Limitations of the results

- 15) The following caveats apply to the results of the monitoring exercise:
- a) in several Member States, the number of hoteliers that responded to the electronic questionnaire was low and/or hotels belonging to chains were over-represented;
 - b) inconsistencies in some of the replies suggest that hoteliers may not have fully understood some of the questions;
 - c) comparisons between Member States based on the replies to the electronic questionnaire should be treated with caution, as they do not take into account

²⁴ The Bundeskartellamt's prohibition decision was adopted in December 2015 and took effect in February 2016.

²⁵ Various data limitations do not allow for a robust comparison of these results between Member States, as explained in paragraph 22) below.

²⁶ Basic commission plus optional additional commission paid in return for increased visibility or other benefits

²⁷ See paragraphs 32) and 33) below.

²⁸ 3% of hotels that responded to the electronic survey across the ten participating Member States said that they had traded lower room prices for a lower commission rate. Likewise, 3% of respondent hotels said that they had traded better room availability for a lower commission rate.

possible composition effects (for example, the proportion of independent/chain hotels differs between Member States);

- d) the results relating to room price differentiation are based on three sources: (i) replies from hoteliers, (ii) room price data from one or more metasearch websites, and (iii) room price data from OTA websites. As regards the replies from hoteliers, it should be noted that these related to behaviour dating back twelve months, and that hoteliers or their associations have been party to the national antitrust cases and/or to private litigation relating to OTA parity clauses. As regards the metasearch pricing data, this was the only data that covered the period before and after the switch to narrow parity clauses, however the data does not distinguish between 'true' price differentiation and differentiation resulting from differences between the products offered by the OTAs on the metasearch website (for example, different categories of room, inclusion of breakfast, differing cancellation rights);
- e) France and Germany cannot be considered as jurisdictions where OTAs no longer apply parity clauses, since, in Germany, one of the big three OTAs (Expedia) continues to apply a narrow parity clause²⁹, and in France, there remain questions about the scope and enforcement of the OTA provisions of the *Loi Macron*.³⁰ Nor should the other participating Member States be considered as jurisdictions where the only OTA parity clauses still in force are narrow parity clauses: in these Member States, smaller OTAs such as HRS continue to impose wide parity clauses on their partner hotels;
- f) the monitoring exercise was carried out twelve months after Booking.com and Expedia switched to narrow parity clauses and six months after the adoption of the most recent prohibition decision in Germany (against Booking.com).³¹ On the one hand, this time span made data collection easier. On the other hand, it is possible that the sector might not yet have fully adapted to the changes made to the major OTAs' parity clauses. Furthermore, the terrorist attacks that occurred in France and Belgium during the monitoring period may have affected the results relative to more typical tourist seasons.

²⁹ The German Bundeskartellamt's investigation of Expedia's narrow parity clause continues.

³⁰ Article 133 of the *Loi Macron* renders null and void all OTA price parity clauses, but this provision relies on private enforcement. Furthermore, it is unclear whether Article 133 applies to price parity agreed voluntarily by hotels, for example as a condition of membership of an OTA's preferred partner program.

³¹ The German Bundeskartellamt's decision prohibiting HRS's parity clause was adopted in December 2013.

16) In the sections below, the results of the monitoring exercise are set out in greater detail.

4 The results in full

4.1 Hotelier awareness of the changes to OTA parity clauses

17) The purpose of measuring this parameter was to find out whether hoteliers knew about the recent changes to the parity clauses of the major OTAs (i.e. the switch from wide to narrow parity clauses by Booking.com and Expedia and the prohibition of the parity clauses of Booking.com and HRS in Germany), and whether hoteliers had changed their behaviour as a result. Across the ten participating Member States, 47% of the hotels that responded to the electronic survey said that they were not aware that certain OTAs had changed or removed their parity clauses. Of those that were aware of the changes, 60% said that they had not acted upon them in any way. One quarter of respondents said that they had changed their behaviour in relation to room pricing and one tenth in relation to room availability. In France and Germany, awareness of the changes to parity clauses was higher (70%).

4.2 Room price differentiation between sales channels

Room price differentiation between OTAs

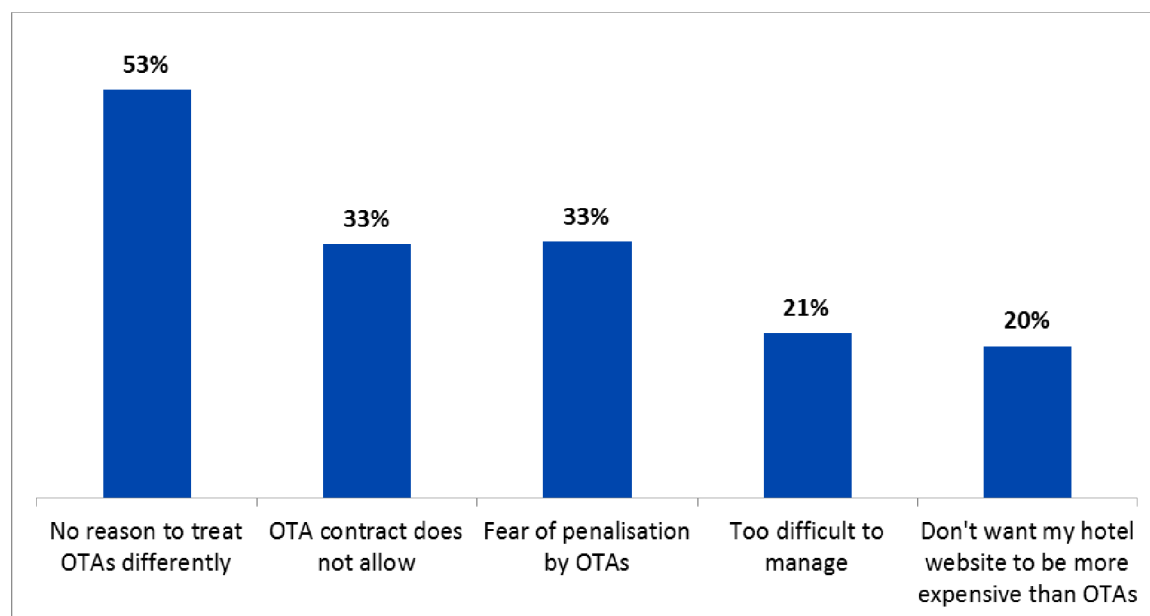
18) The remedies adopted in the antitrust investigations of OTA parity clauses (resulting in some OTAs switching to narrow parity clauses or complete prohibition of parity clauses) were intended to promote competition between OTAs, by allowing hotels the possibility to offer differing room prices to different OTAs (a practice which was prohibited by wide parity clauses). The purpose of monitoring this parameter was therefore to assess the extent to which hotels now price differentiate between their OTA partners and the reasons why hotels do or do not do this.³²

19) Across the ten participating Member States, 79% of the hotels that responded to the electronic survey said that they had not price differentiated between OTAs in the period since Booking.com and Expedia switched from wide to narrow parity clauses. The reasons most frequently given for not doing so were that the hotel saw no reason to treat its OTA partners differently; the hotel's OTA contract did not allow it to price differentiate; fear of penalization by OTAs to which the hotel did not give the lowest price (for example, less favourable display or loss of preferred partner status); the

³² Although the remedies adopted by the NCAs were intended to enable hotels to price differentiate between OTAs, an absence of price differentiation by hotels between OTAs does not, in itself, indicate a lack of competition between OTAs.

difficulty of managing different prices on different OTAs, and not wanting the hotel's website to appear as more expensive than the OTAs (see Figure 1). In France and Germany taken together, more hotels said that they had price differentiated between OTAs (27%), however this difference was not confirmed by an analysis of pricing data scraped by the monitoring working group from major OTA websites, which showed no significant variation between any of the participating Member States.³³

Figure 1. Reasons for not price differentiating between OTAs



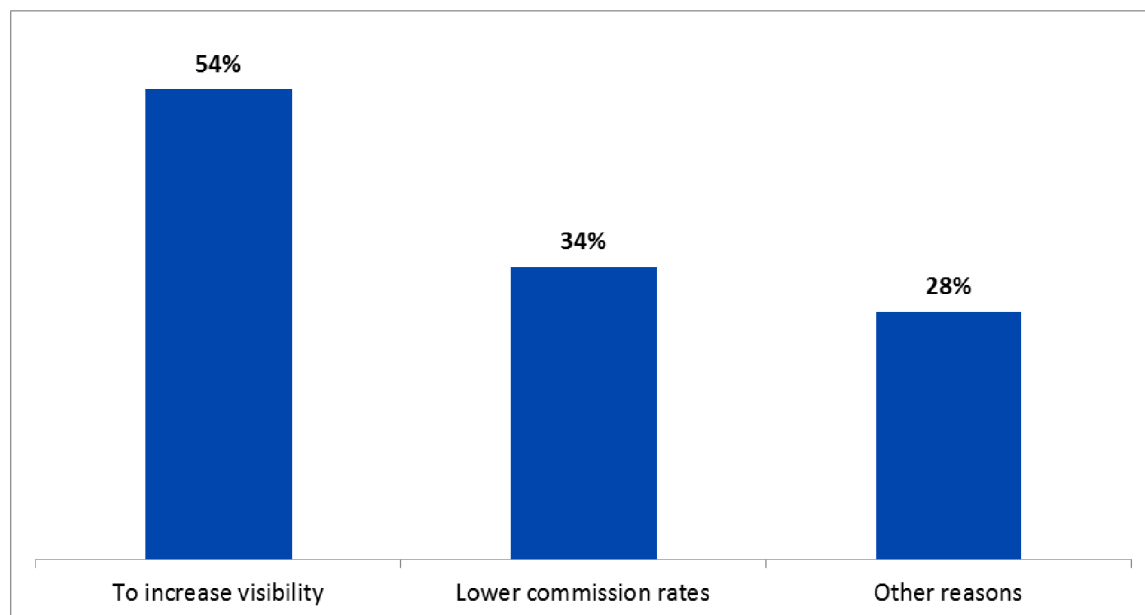
Source: Replies to the electronic hotel survey (all ten Member States).

20) For the 21% of respondent hotels that had price differentiated between OTAs during this period, the most frequent reasons given for favouring an OTA with lower prices were to increase the hotel's visibility on the OTA in question (for example, in the display ranking) and because the OTA charged a lower commission rate (see Figure 2). Across the ten Member States, only 3% of hotels said that they had granted lower room prices to an OTA in return for a lower commission rate.³⁴

³³ The methodology used for this analysis is described in Section 4.1 of Appendix 1 of this report.

³⁴ This share was 5% for France and Germany taken together. Hotels were asked whether they had granted lower room prices *in return for* a lower basic commission rate. This result therefore does not exclude the possibility that some hotels take into account already existing differences between OTA commission rates when they make decisions on pricing their rooms across OTAs.

Figure 2. Reasons for price differentiating between OTAs



Source: Replies to the electronic hotel survey (all ten Member States).

21) The monitoring working group also carried out a difference-in-differences analysis of room price data obtained from one or major metasearch websites, using hotels in Canada as a control group.³⁵ This analysis suggests that the switch from wide to narrow parity clauses by Booking.com and Expedia produced a positive effect on room price differentiation between OTAs.³⁶ The effect is statistically significant in Belgium, the Czech Republic, Germany, Hungary, Ireland, Italy, Sweden, and the UK, and is predominantly driven by chain hotels.³⁷ A statistically significant positive effect on price differentiation between OTAs was also found in France following the switch to narrow parity clauses and the entry into force of the Loi Macron.³⁸ Lastly, the analysis also

³⁵ The metasearch website(s) provided pricing data derived from searches by consumers on their website in periods before and after Booking.com and Expedia switched to narrow parity clauses. The data related to consumer searches in respect of a sub-set of hotels from the main hotel sample in each of the ten participating Member States. The methodology of the analysis is set out in Appendix 1 of this report.

³⁶ A difference-in-differences analysis calculates the effect of a treatment on an outcome by comparing the average change over time in the outcome variable for the treatment group, compared to the average change over time for the control group (which is not affected by the treatment). Here, the treatments are (i) the switch from wide to narrow parity clauses by Booking.com and Expedia, (ii) the *Loi Macron*, and (iii) the Bkart's Booking.com decision. The outcome is the frequency of observed room price differentiation between OTAs, where price differentiation is defined as a difference of at least 5%. The control group is hotels in Canada, where there were no changes to OTA parity clauses that the monitoring working group is aware of. This allows a comparison of countries where changes to parity clauses took place (the treatment group) against a country where no such changes took place (the control group).

³⁷ Italy is the only Member State where independent hotels increased their price differentiation between OTAs to a statistically significant extent following the switch to narrow parity clauses.

³⁸ The analysis does not distinguish between these two measures, as they took effect almost simultaneously (July-August 2015).

showed a positive effect on price differentiation between OTAs in Germany following the prohibition of Booking.com's narrow parity clause.³⁹ The effects are in general statistically significant for the categories 'all hotels' and 'chain hotels', but not for independent hotels. The results are robust to different choices of specification regarding selection of OTAs and treatment of outliers.

- 22) The results of the difference-in-differences analysis should be treated with caution. First, the metasearch data does not allow a distinction between 'true' price differentiation and price differentiation caused by product differentiation. This may occur, for example, where one OTA offers a non-refundable room without breakfast, whereas a second OTA offers the same room including breakfast and/or the right to cancel, or even offers a different category of room. Indeed, an analysis of pricing data scraped by the monitoring working group from the websites of the big three OTAs indicated that in 45-55% of cases where differing prices are observed, there is also a difference in room type and/or booking conditions.⁴⁰ It should be noted that when Booking.com and Expedia switched from wide to narrow parity clauses, the ability of hotels to product differentiate between OTAs increased at the same time as their ability to price differentiate between OTAs.⁴¹ As the relative importance of price and product differentiation may differ between Member States and may have developed differently over time, the analysis does not allow for robust before-and-after comparisons or comparisons between Member States. Second, the magnitude of the effect observed in Germany after the prohibition of Booking.com's narrow parity clause may be influenced by the fact - already mentioned - that one major OTA (Expedia) continues to apply narrow parity clauses in Germany.⁴²

Room price differentiation between hotel websites and OTAs

- 23) The purpose of measuring this parameter was, first, to determine the extent to which hotels which are not subject to narrow parity - whether as a result of antitrust prohibition decisions or national legislation - publish lower room prices on their own website than the prices they offer on OTAs. Second, in Member States where Booking.com and

³⁹ The effect occurs after Booking.com actually disapplied its parity clause in February 2016, pursuant to the Bundeskartellamt's prohibition decision of December 2015.

⁴⁰ The methodology of this analysis is described in Section 4.1 of Appendix 1 of this report.

⁴¹ Narrow parity removes all parity obligations in respect of room availability: the hotel may offer more favourable room availability to particular OTAs or on its own website.

⁴² The magnitude of the effects of both treatments measured in Germany (the switch to narrow parity and the prohibition of Booking.com's narrow parity clause) may also be influenced by the prohibition of the parity clause of the then largest OTA in Germany, HRS, in December 2013, i.e. before the start of the period for which observations were obtained.

Expedia apply narrow parity clauses, this parameter indicates whether hotels comply with their obligation not to undercut their OTA partners. It should be noted that hotels were not asked whether they already price differentiated - either between OTAs or between their website and OTAs - before Booking.com and Expedia switched from wide to narrow parity clauses. Therefore, it is possible that some hotels already price differentiated while they were subject to wide parity clauses, even though both these forms of price differentiation were prohibited by wide parity clauses.

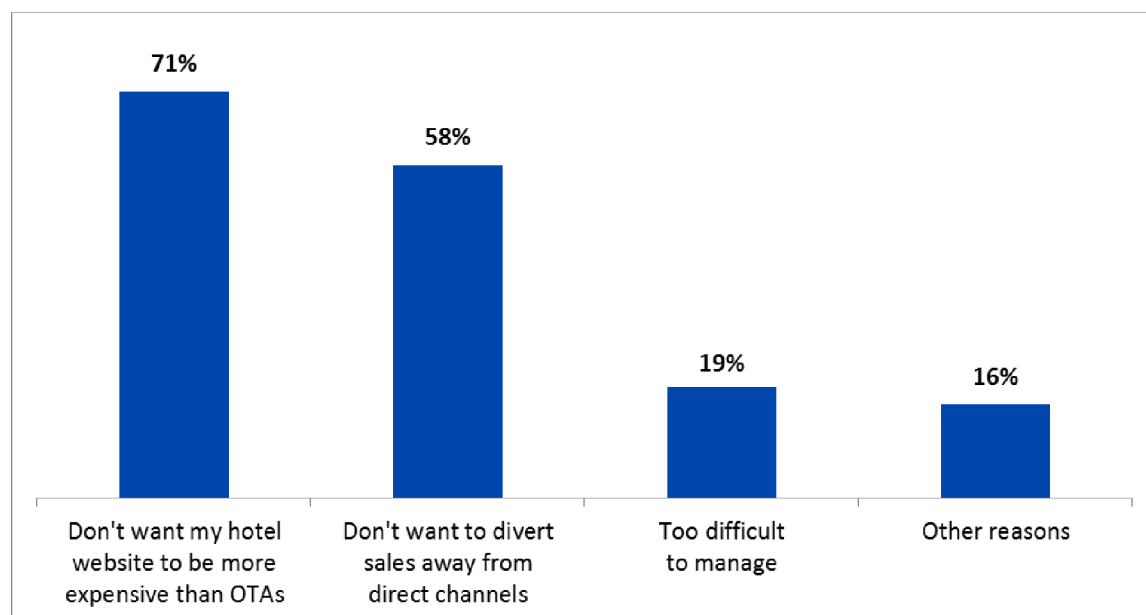
- 24) Across the ten participating Member States, 40% of the hotels that responded to the electronic survey said that, in the period since Booking.com and Expedia switched from wide to narrow parity clauses, they had undercut their OTA partners by publishing lower room prices on their hotel website. 57% of these hotels did so most of the time.⁴³ Both of these shares were higher for France and Germany taken together: 59% of hotels undercut OTAs and 74% of these did so most of the time. In the eight participating Member States where Booking.com and Expedia apply narrow parity clauses (Belgium, the Czech Republic, Hungary, Ireland, Italy, the Netherlands, Sweden, and the UK), 35% of the respondent hotels said that they undercut their OTA partners by publishing lower prices on their hotel website (even though narrow parity does not allow this). 48% of these hotels did so most of the time. The three most frequent reasons given by hotels for not price differentiating in favour of their own website relative to OTAs were, in descending order of frequency: fear of penalization by OTAs; the practice was not permitted by one or more OTA partners, and such price differentiation was too difficult to manage.
- 25) Hotels were also asked whether, in the period since the implementation of narrow parity clauses, they had offered lower room prices on at least one OTA relative to the prices published on their hotel website.⁴⁴ Across the ten participating Member States, 80% of hotels that responded to the electronic survey said that they had not done so. This share was the same in France and Germany taken together. The reasons most frequently given by respondent hoteliers were: that they did not want their hotel website to be more expensive than an OTA; that they did not want to divert sales from the hotel's direct

⁴³ In this report, "most of the time" means more than half of the time.

⁴⁴ It should be recalled that, under a narrow parity clause, if a hotel wishes to price differentiate between its OTA partners, the hotel is obliged to offer a room price on its own website that is higher than the price it offers on at least one of the OTAs it uses. The purpose of asking this question was therefore again to test hotels' willingness to make use of the greater flexibility afforded by narrow parity clauses compared to wide parity clauses.

channel to OTAs, and that such price differentiation was too difficult to manage (see Figure 3).

Figure 3. Reasons for not price differentiating in favour of an OTA vs hotel website



Source: Replies to the electronic hotel survey (all ten Member States).

26) As regards large hotel chains, the majority of respondents to the monitoring questionnaire said that they do not price differentiate, either between OTAs or between the hotel chain website and OTAs. The reasons most frequently given were that their OTA contracts do not allow them to do so or that their chain website does not enable this.

4.3 Room availability differentiation between sales channels

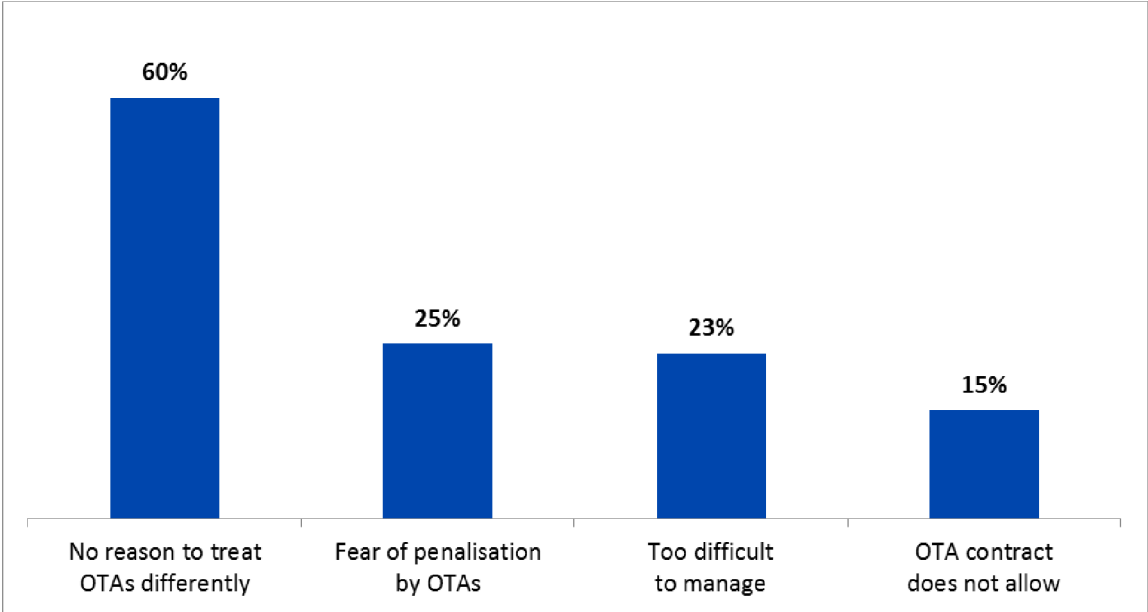
Room availability differentiation between OTAs

27) The antitrust remedies (narrow parity and prohibition of parity clauses) also sought to promote competition between OTAs by allowing hotels to differentiate between OTAs in respect of the type and number of rooms they offer (room availability).⁴⁵ For example, under both remedies, a hotel may now offer a certain category of rooms on one OTA and not on another, or offer more favourable booking conditions to a particular OTA (for example, with breakfast or cancellation rights), or may offer no rooms on a particular OTA while still making rooms available on another. Again, this type of differentiation was prohibited by wide parity clauses. The purpose of monitoring this parameter was therefore to determine the extent to which hotels now use this possibility.

⁴⁵ By contrast, Article 133 of France's *Loi Macron* does not regulate room availability parity.

28) Across the ten Member States, 69% of the hotels that responded to the electronic survey said that they had not differentiated between OTAs as regards room availability in the period since Booking.com and Expedia switched from wide to narrow parity clauses. 90% of respondents said that they had not changed their practice in this respect relative to the preceding twelve month period, when wide parity was in force. Of those hotels that did differentiate between OTAs for room availability, 31% did so most of the time. Only 3% of hotels said that they had granted better room availability to an OTA in return for a lower commission rate.⁴⁶ In France and Germany taken together slightly more hotels said that they had differentiated for room availability (37% of respondent hotels, compared to 31% in the ten Member States as a whole).⁴⁷ The reasons most frequently given by hotels for not differentiating between OTAs for room availability were that they saw no reason to treat their OTA partners differently; that they feared penalization by OTAs to which they gave less favourable availability; that differentiating for room availability was too difficult to manage, and that their OTA contract did not allow this (Figure 4).

Figure 4. Reasons for not differentiating between OTAs for room availability



Source: Replies to the electronic hotel survey (all ten Member States).

⁴⁶ Hotels were asked whether they had granted more favourable room availability *in return for* a lower basic commission rate. This result therefore does not exclude the possibility that some hotels take into account already existing differences between OTA commission rates when they allocate their rooms between OTAs.

⁴⁷ 47% of these French and German hotels said that they differentiated between OTAs for room availability most of the time.

Room availability differentiation between hotel websites and OTAs

- 29) Both antitrust remedies (narrow parity and prohibition of parity clauses) also allow hotels to differentiate in favour of their own website for room availability, a practice which was prohibited by wide parity clauses.⁴⁸ For example, a hotel may reserve a certain category of rooms to its own website, or offer no rooms on one or more OTAs, while still making rooms available on its own website. The purpose of monitoring this parameter was therefore to determine the extent to which hotels make use of this possibility. Across the ten participating Member States, 30% of the hotels that responded to the electronic survey said that for at least some of the time they offer no rooms on OTAs while still offering rooms on their website. Again, this figure was higher in France and Germany taken together (44%). However, more than three quarters of respondent hotels said that they had not changed their practice in this respect since Booking.com and Expedia switched to narrow parity clauses. Again, this suggests that some hotels did not comply with the previous wide parity clause in respect of room availability.⁴⁹
- 30) As regards large hotel chains, almost none of the respondents to the monitoring questionnaire said that they offer different room availability to different OTAs, and only one third differentiate for room availability in favour of their own website. The main reasons given were that they have no incentive to differentiate and that they feared penalization by the OTAs (e.g. a reduction in visibility).
- 31) OTAs said that they use several means to incentivise hotels to give them favourable room availability. These include membership of preferred partner programs, better visibility (for example, availability is a factor in some OTAs' ranking algorithms) and the display of 'quality' seals, which may also affect how hotels are filtered in the OTA's search results.

4.4 OTA commission rates

- 32) Part of the theory of harm applied in the national investigations of OTA parity clauses was that these clauses reduce the incentive for OTAs to compete on the commission rates they charge to hotels. While recognizing that OTA commission rates are likely to be affected by a variety of factors, the monitoring working group assessed whether these rates have changed in the period before and after the recent changes to the parity clauses

⁴⁸ In this respect, narrow parity treats room availability differently from room pricing: narrow parity clauses do not allow the hotel to differentiate in favour of its own website for the room price.

⁴⁹ Wide parity clauses obliged the hotel to observe room availability parity across all sales channels.

of the major OTAs. The basic commission rates of the three major OTAs range from ten percent to above twenty percent. 90% of hotels that responded to the electronic survey said that there had been no change in the basic commission rate charged to them by OTAs in the period from July 2015 to June 2016. Depending on the OTA, basic commission rates can vary between Member States and/or between cities or areas within a Member State. The responses to the monitoring questionnaires indicate that OTAs are paid solely on the basis of a share of each booking; they do not charge fixed fees. As already stated, only 3% of the hotels that responded to the electronic survey said that they had granted OTAs more favourable room prices in return for a lower commission rate in the period since Booking.com and Expedia switched from wide to narrow parity clauses. Likewise, 3% of respondent hotels said that they had traded better room availability in return for a lower commission rate.⁵⁰

- 33) In addition to basic commission, some OTAs also charge hotels additional commission in return for providing the hotel with optional additional services, such as better visibility on the OTA's website or membership of a preferred partner program. According to evidence obtained from certain OTAs, the average effective rates of commission paid by hotels (basic commission plus optional additional commission) remained relatively stable or slightly decreased in almost all participating Member States in the period from January 2014 to June 2016.⁵¹ This was also true for France and Germany.

4.5 Relative importance of hotels' main sales channels

- 34) The purpose of monitoring this parameter was to determine whether the recent changes to the parity clauses of the major OTAs have led to changes in the share of room sales made by hotels through each of their main distribution channels (offline sales⁵², sales via OTAs, hotel website sales).
- 35) According to the results from the electronic survey of hotels, offline sales still accounted for the largest share of hotel room sales in 2016. Sales via OTAs accounted for the second largest share and direct online sales (hotel website) took third place. Hotels

⁵⁰ These results do not exclude the possibility that some hotels take into account already existing differences between OTA commission rates when they make decisions on room pricing and room allocation between OTAs.

⁵¹ Source: questionnaires to OTAs. As some OTAs charge different commission rates for different areas within each Member State, effective commission rates can be influenced by changes in the composition of the hotels listed on the OTA (for example, the share of partner hotels located in areas where the OTA applies higher/lower commission rates).

⁵² Including telephone, email, walk-in, corporate and package bookings.

belonging to chains generally relied less on OTAs than was the case for independent hotels (see Table 1).

Table 1. Share of sales per channel, per hotel category and per year of observation

YEAR	All hotels			Chain hotels			Independent hotels		
	Offline	OTAs	Direct online	Offline	OTAs	Direct online	Offline	OTAs	Direct online
2013	54	33	13	58	28	14	53	35	12
2014	50	36	13	55	31	14	49	38	13
2015	47	40	14	52	33	15	46	41	13
H1 2016	45	41	14	48	35	17	44	42	13

Source: Replies to the electronic hotel survey (all ten Member States).

36) In France and Germany taken together, the share of sales made offline in 2016 was higher (52%) and the share of sales made via OTAs was lower (36%), compared to the ten Member States as a whole.

37) Over the period covered by the monitoring exercise, the share of sales made offline decreased by nine percentage points, mainly to the benefit of the OTAs (eight percentage point increase), rather than hotels' direct online channel (increase of one percentage point) (see Table 1). A similar trend was observed in France and Germany taken together.

4.6 Use of OTAs by hotels

38) The purpose of monitoring this parameter was to determine whether hotels' usage of OTAs generally and of particular OTAs has changed since the implementation of the changes to the parity clauses of the major OTAs. According to the replies to the electronic hotel survey, between 2014 and 2016, the number of hotels that use OTAs increased in all the participating Member States. The most frequently used OTAs were Booking.com, followed by Expedia and HRS. The main reason given by hotels for using new OTAs was to reach new customers worldwide. Hotel chains generally negotiate terms with the OTAs for the benefit of all the hotels in their chain.

4.7 OTA conversion rates ('look-to-book' ratios)

39) In the context of the national investigations into OTA parity clauses, OTAs have argued that either wide or narrow parity clauses are indispensable to prevent hotels from free riding on OTA investments. Their argument is that, absent parity clauses, consumers will use OTAs to search for and compare hotels, but will then book more cheaply on the hotel's website, thereby depriving the OTA of commission revenue. OTA conversion

rates ('look-to-book' ratios) can be used as a measure of free-riding. The monitoring working group therefore examined whether the conversion rates of the major OTAs have changed following the recent changes to their parity clauses. An analysis of conversion rate data provided by certain OTAs for a representative sub-sample of hotels in each participating Member State showed no evidence of decreases in the OTAs' conversion rates following the changes to OTA parity clauses. The results for France and Germany did not differ materially from those for the other Member States.

4.8 OTA preferred partner programs

40) The purpose of monitoring the conditions and prevalence of OTA preferred partner programs was to determine the share of hotels that belong to these voluntary programs and the extent to which OTAs use these programs to impose either wide or narrow parity obligations on member hotels. Two of the three large OTAs (Booking.com and HRS) operate voluntary preferred partner or quality seal programs. On average, hotels that belong to Booking.com's preferred program account for a small share of Booking's partners but for a significant share of the reservations made on Booking.com. Across the ten participating Member States, 30% of hotels that responded to the electronic survey said that they belong to at least one OTA preferred partner or quality seal program, though this share varies widely between Member States. Of the three large OTAs, only Booking.com sometimes charges hotels extra commission for membership of its program (up to [0%-5%]), depending on the Member State and the area.⁵³ Hotels that belong to HRS's Top Quality Seal program must give HRS wide price parity.

4.9 Scope of parity clauses

41) The national investigations into OTA parity clauses have been limited to the clauses of certain major OTAs. The purpose of monitoring this parameter was to determine the share of hotels that are still subject to a wide parity clause. Across the ten participating Member States, one in five of the hotels that responded to the electronic survey said that at least one OTA they dealt with obliged them by contract to give it price parity relative to all other sales channels (wide parity). Among these hotels, most named Booking.com, Expedia and HRS, in that order, as OTAs that imposed wide parity. This result is somewhat surprising, since Booking.com and Expedia no longer apply wide parity in any Member State. Possible explanations for the result could be that respondents did not

⁵³ Members of Booking.com's voluntary preferred partner programme must give Booking.com narrow parity, even though the *Loi Macron* has rendered parity obligations in contracts between OTAs and hotels null and void.

understand the question; did not know about the changes to Booking.com and Expedia's parity clauses; did not understand that narrow parity allows them to offer different room prices on different OTAs, or felt compelled to continue to apply wide parity, for example to avoid being penalized in terms of visibility by some OTAs.

4.10 Hotel customer loyalty schemes

- 42) The narrow parity obligation does not apply to room prices that hotels make available through customer loyalty schemes, provided that the hotel does not publish discounted prices online. As wide parity clauses were generally more restrictive in this respect, the monitoring working group wished to determine whether the recent changes to the parity clauses of the major OTAs had led to changes in hotels' use of customer loyalty schemes and the volume of sales made through these schemes.
- 43) Across the ten participating Member States, 39% of the hotels that responded to the electronic survey operate some form of customer loyalty scheme to offer lower prices or more favorable conditions to their customers. This figure is higher for chain hotels (up to 62%), for large hotels (56%) and for hotels that have a star rating of four or five stars (50%).
- 44) Loyalty schemes are more common in Member States where OTAs apply narrow parity clauses (42% of hotels) than in Germany and France, where the parity clauses of some or all OTAs have been prohibited or rendered void by legislation (29% of hotels). Approximately half the respondents to the electronic survey reported that sales via their loyalty scheme had increased in the twelve months following the switch by Booking.com and Expedia to narrow parity clauses. A more mixed picture was reported by respondents to the questionnaire sent to large hotel chains.

4.11 New entrants to the online hotel booking sector

- 45) Part of the theory of harm applied by the NCAs which have investigated OTA parity clauses is that these clauses may foreclose the entry or expansion of new or smaller OTAs. The monitoring working group therefore wished to determine whether new players had entered the OTA sector since the implementation of the changes to the parity clauses of the large OTAs. Some respondents to the monitoring questionnaires mentioned various new players or the introduction of new strategies and technologies by existing players, however the monitoring working group has no information on their market share. These included the introduction of direct or 'instant' booking and the cost-per-acquisition model by metasearch sites like TripAdvisor; technological developments relating to

mobile searching and booking, and software tools allowing hoteliers to enhance their websites and maximize direct bookings. The increasing presence of AirBnB and Google was also mentioned.

4.12 Use of metasearch sites by hotels

- 46) The monitoring working group wished to determine whether the recent changes to the parity clauses of the major OTAs have led to changes in the use of metasearch sites by hotels, and to understand the extent to which metasearch websites constitute an alternative to OTAs for hotels. Across the ten Member States, 30% of the hotels that responded to the electronic survey contract directly with metasearch sites (34% in France and Germany taken together). Direct contracts between metasearch websites and hotels still generate a relatively small share (6%) of total bookings. However, both the share of hotels that contract directly with metasearch websites and the share of bookings generated by metasearch websites has increased since 2014, and these shares are larger for chain and high category hotels. The metasearch websites used most frequently by hotels are TripAdvisor, Trivago, Google and Kayak.
- 47) There has been a marked increase in OTA payments to metasearch websites and to Google in the period monitored.

4.13 OTA best price guarantees

- 48) The monitoring working group wished to determine whether the implementation of narrow parity and the prohibition/annulment of some or all OTA parity clauses had affected the best price guarantees offered by OTAs to consumers. The replies to the monitoring questionnaires indicate that most OTAs continue to offer consumers a best price guarantee, promising to match - at the OTA's expense - lower room prices found on other OTAs or, in some cases, on any other online sales channel. These guarantees generally do not apply to prices offered to members of OTA or hotel loyalty schemes.

4.14 Expected market developments

- 49) Most of the large hotel chains that responded to the monitoring questionnaire expect the large OTAs, particularly Booking.com and Expedia, to grow further and that new entrants will face significant difficulties. The large hotel chains expect that they will need to continue to invest heavily in their brands and loyalty schemes and some anticipate further increases in the cost of advertising on search engines. Furthermore, they expect the importance of metasearch sites to grow, if price differentiation increases.

4.15 Other issues raised by stakeholders

50) Many hotels mentioned measures taken by OTAs to “penalize” unwanted behaviour by hotels - such as price and/or availability differentiation - without relying on parity clauses.⁵⁴ The measures included "dimming" (removing pictures and other details of the hotel) or "downgrading" the hotel (lowering its ranking) in the OTA's search results. Other issues raised included allegedly excessive OTA commission rates; measures to prevent direct contact between hotelier and customer; aggressive brand bidding by OTAs⁵⁵, and allegedly unfair or misleading OTA advertising practices.

5 Submissions received from Booking.com and Expedia

51) In addition to replying to questionnaires, Booking.com and Expedia made written submissions to the monitoring working group.

5.1 Booking.com's submission

52) Booking.com submitted various arguments against the prohibition of narrow parity clauses. To support these arguments, it relied on (i) an analysis of metasearch data relating to 40,000 of Booking.com's accommodation partners;⁵⁶ (ii) the results of a Gfk telephone survey of 3400 of its accommodation partners,⁵⁷ and (iii) internal data on the commission rates it charges to hotels in each Member State.

53) According to the analysis of metasearch data:

- a) in [30%-40%] of the metasearch results analyzed, the room price displayed on Booking.com was [0%-5%] higher or lower than the price available on another OTA;
- b) for [40%-50%] of the accommodation partners covered by the analysis, this level of price differentiation was observed in more than [40%-50%] of the searches performed;

⁵⁴ It should be noted that, in its April 2015 commitments to the French, Italian and Swedish competition authorities, Booking.com committed to not apply certain measures likely to produce effects equivalent to wide parity clauses, including linking commission rates to the observance of wide parity and directly linking display ranking to the observance of wide parity.

⁵⁵ For example, purchasing Google Adwords corresponding to the name or trademarks of the hotel, such that the OTA's website is displayed before the hotel's website when consumers make a search for the name or trade mark of the hotel.

⁵⁶ Analysis of 43 million searches performed on TripAdvisor and Trivago in respect of 40,000 Booking.com accommodation partners located in the ten participating Member States plus Austria and Switzerland between 1 October 2015 and 31 July 2016. These include hotels and other types of holiday accommodation that contract with Booking.com. (For room availability differentiation, the analysis was based on 55.5 million searches on 48,000 accommodation partners in the same twelve Member States.)

⁵⁷ Gfk survey commissioned by Booking.com of 3,400 of its accommodation partners in the ten participating Member States plus Austria and Switzerland in June 2016.

- c) accommodation partners in Germany and France (where Booking.com no longer applies a parity clause) did not price differentiate between OTAs more frequently than accommodation partners in most of the other participating Member States (where Booking.com applies a narrow parity clause);⁵⁸
- d) there was no significant change in the frequency of price differentiation between OTAs by accommodation partners in Germany in the periods before and after the prohibition of Booking.com's narrow parity clause;
- e) as regards room availability differentiation, in [5%-10%] of the metasearch results analyzed, accommodation partners made rooms available on a rival OTA and/or the accommodation's own website while offering no rooms on Booking.com.

54) According to the results of the Gfk telephone survey:

- a) [70%-80%] of accommodation partners said they do not price differentiate between OTAs. The share of partners that said they did price differentiate between OTAs was not higher in France or Germany than the average for the other Member States where narrow parity clauses have not been prohibited/annulled by law;⁵⁹
- b) for partners that did not price differentiate between OTAs, the reasons most commonly given were not expressly related to Booking.com's narrow parity clause.

55) According to Booking.com's internal data:

- a) the basic rates of commission charged by Booking.com in each Member State were not affected by whether Booking.com applies narrow parity or no parity clause in the Member State concerned.

56) The following points should be noted:

- i) the metasearch analysis did not examine whether room price differentiation by hotels between OTAs increased following the recent changes to the parity clauses of Booking.com and Expedia (narrow parity/prohibition/annulment) relative to the preceding period, when wide parity clauses prohibited such behaviour;
- ii) it is not clear to what extent the metasearch analysis relates to room price differentiation in the true sense, or price differentiation caused by differences in the products offered (different types of room, conditions, etc.);

⁵⁸ French and German accommodation partners did price differentiate more frequently than accommodation partners in the UK and Austria (where Booking.com applies narrow parity).

⁵⁹ Accommodation partners in all participating Member States plus Austria and Switzerland. Source: Gfk survey

- iii) when comparing the frequency of price differentiation between Member States, the analysis does not take into account country-specific factors other than the differences in the terms of Booking.com's contracts, nor the continued application of Expedia's narrow parity clause to some of Booking.com's partner hotels in Germany;
- iv) hotels which participated in the Gfk survey were informed that the survey was performed on behalf of Booking.com: this may have influenced their replies.

5.2 Expedia's submission

- 57) In its submission, Expedia argues that narrow parity clauses are not a key factor in the degree of price differentiation applied by hotels. Expedia relies on an analysis of 29 million price comparisons performed in respect of 66,000 of its partner hotels in the ten participating Member States plus Austria between August 2015 and October 2016.
- 58) According to this analysis:
 - a) hotels subject to narrow parity clauses offered a room price on their website which was at least 2% higher than the price on Expedia's website in [10%-20%] of the price comparisons analysed;
 - b) hotels subject to narrow parity clauses offered a room price on Expedia which differed by at least 2% from the price offered on Booking.com in [30%-40%] of the comparisons analyzed;
 - c) although price differentiation between OTAs in Germany did increase slightly following the prohibition of Booking.com's narrow parity clause, the frequency of price differentiation was lower in Germany ([20%-30%]) than the average for the other participating Member States where Booking.com's narrow parity remains in force ([30%-40%]), and a difference-in-differences analysis covering the period before and after the German prohibition decision indicates that the increase in price differentiation between OTAs in Germany was smaller than in other Member States.
- 59) The following points should be noted:
 - i) Expedia did not examine whether room price differentiation by hotels between OTAs increased following the recent changes to the parity clauses of Expedia and Booking.com relative to the preceding period, when wide parity clauses prohibited such behaviour;
 - ii) Expedia recognizes that the situation in Germany is not 'clean' for comparison purposes, as Expedia continues to apply a narrow parity clause in Germany.

Although Expedia maintains that its share of OTA bookings in Germany is only [10%-20%], this figure may under-represent the share of German hotels that contract with Expedia, and whose pricing behaviour continues to be affected by Expedia's narrow parity clause;

- iii) Expedia's submission relies on data scraped by data collection companies. Although Expedia states that the data is subject to various checks to ensure accuracy, it is not clear to what extent it shows room price differentiation in the true sense, as against price differentiation caused by differences in the products offered (different types of room, conditions, etc.).

Appendix 1:

Econometric Analysis of Price Differentiation between OTAs

1. Introduction

This Appendix describes the econometric analysis of price differentiation between OTAs carried out by the monitoring working group. **Section 2** describes the metasearch data used for the analysis. **Section 3** describes the analysis and the results. **Section 4** describes the data scraped by the monitoring working group itself, focusing on the distinction between price and product differentiation.

2. The metasearch data

Metasearch websites provide consumers with the opportunity to compare hotel offerings across the various distribution platforms, among which are OTAs. Some hotels also offer rooms directly on metasearch websites, but they are currently a rather small minority, for which much less data on prices is available. We therefore only use the metasearch data to study price differentiation *between OTAs*. By way of summary, the dataset contains hotel prices quoted by OTAs on the metasearch website(s) in question for a large sample of hotels for the Participating Member States⁶⁰ and Canada, covering both the period before and after the changes in OTA parity clauses (February 2015 through September 2016). Hotels in Canada are used as a control group, because we are not aware of any changes in OTA parity clauses there. This data should therefore make it possible to study the effect of the changes in OTA parity clauses on price differentiation between OTAs.

2.1 The sample of hotels

The monitoring working group defined a sample of hotels from each Participating Member State as follows. First, the OTAs Booking.com, Expedia and HRS provided us with a list of hotels present on their website, along with information on chain affiliation, star rating and size. Second, we removed all hotels that were present on only one of these OTAs, as these hotels would not provide information on price differentiation between OTAs. Finally, we drew a sample of hotels from this list. The sample was stratified⁶¹ to make it representative of the population with respect to hotel chain

⁶⁰ Belgium, Czech Republic, France, Germany, Hungary, Ireland, Italy, The Netherlands, Sweden and the UK.

⁶¹ In fact, we used a method called Halton sequencing where we sort observations according to the chosen variables and generate a sequence of indices spread evenly over the population. Observations corresponding to the indices are chosen for the sample which is representative of the population with respect to the variables chosen for stratification. (for details on how to generate the sequence see Halton, J. (1964), Algorithm 247: Radical-inverse quasi-random point sequence, Association for Computing Machinery, p. 701)

affiliation, star rating, and size. The sample was chosen such that we obtain ten percent of the hotels on the OTA lists for each participating Member State.

For Canada, the monitoring working group could not rely on the lists of affiliated hotels provided by OTAs. We therefore conducted the following exercise. First, we ran a Python script (as a scraping tool) visiting the metasearch website(s) in question to collect the names of all hotels in all geographic locations in Canada as defined on the metasearch website, along with information on chain affiliation and star rating (information on the size of hotels was unavailable). Second, we drew a stratified sample of hotels from this list. The stratification was done on the basis of chain affiliation and star rating, which again ensures that we obtain a random sample of hotels on the metasearch website that has sufficient observations for each possible combination of hotel affiliation and star rating. The sample size is ten percent of the complete list of hotels.

2.2 The data for hotels from the sample on price and other variables

For every hotel in the sample, the metasearch website(s) provided us with all the price data shown to website visitors when they searched on the website. For convenience, we only used search results shown in the months of February, April, June, September and November in 2015, and January, March, May, July and (partially) September 2016. For each hotel, multiple price quotes are provided, so we can assess whether hotels appearing on multiple OTAs publish the same offering on each OTA.

Importantly, the metasearch website(s) in question aim to yield results to consumers that are comparable. Therefore, only the lowest possible price quote from a given OTA is reported in response to consumer searches. However, the metasearch website(s) stated that they cannot guarantee that the prices quoted by different OTAs for a particular hotel relate to the exact same product on each OTA. For example, it may happen that for a particular hotel and room type listed on OTA x breakfast is included whereas it is not included on OTA y. Other examples are possible differences in room type ('superior' or 'luxe'), inclusion of WiFi, and cancellation conditions. The implication is that observed differences in prices may actually be driven by differences in the product. In other words, each observation reflects both possible price and product differentiation between OTAs. We will come back to the possible implications of this feature of the dataset in the next section, where the analysis is presented. For ease of exposition, in the text we often refer to price differentiation, even though observed price differences may be partly or completely caused by differences in the product. Section 4 of this appendix tries to draw careful inferences concerning the possible extent of product differentiation and 'pure' price differentiation.

Next, the data is merged with a list of hotels' attributes (chain affiliation, star rating and size) so that we can take these into account in the analysis. Further, we exclude certain OTAs for which there are

indications that they operate a wholesale model, and delete prices which deviate by more than 50% from the mean price for each search, in order to remove outliers and possibly faulty observations⁶². Only the data points with more than one price quote are kept in order to study price differentiation and we restrict the observations only to the default searches for 2 persons and 1 room, to avoid finding spurious relationships caused by inconsistent treatment of non-standard searches.

Finally, in some cases we see multiple price quotes per OTA for a single combination of search characteristics.⁶³ These observations result from identical searches carried out on the same day, which can happen if a consumer checks the offers multiple times, or if a hotel appears in the search results of multiple consumers who are interested in a stay of the same length for the same number of people in the same area. As we cannot distinguish which prices belong to which search, we select the lowest price per OTA for further analysis.⁶⁴ Table 2 shows the size of the final dataset with respect to all OTAs and with respect to only Booking.com, Expedia and HRS. Given that these three OTAs tend to be the largest OTAs in the participating Member States, we explore further below whether there is a material variation in the extent of price differentiation when considering only these three OTAs compared to considering data for all OTAs in the dataset.

Table 2. Number of observations in the metasearch data

Country	All OTAs		Booking, Expedia, HRS	
	#hotels	#price info shown	#hotels	#price info shown
Belgium	84	86,236	84	72,854
Czech Republic	124	81,129	120	57,687
France	974	798,567	964	601,275
Germany	1,063	312,083	1,042	241,294
Hungary	61	62,093	56	50,375
Ireland	48	105,473	46	81,988
Italy	1,159	1,230,265	1,133	926,775
Netherlands	140	211,724	139	169,504
Sweden	78	36,901	77	30,898
United Kingdom	390	787,126	382	594,951
EU	4,121	3,711,597	4,043	2,827,601
Canada	487	836,775	406	644,383
Total	4,608	4,548,372	4,449	3,471,984

⁶² Altering the 50% threshold does not affect the results, as this step only leads to deletion of extreme observations which are rare in the dataset.

⁶³ The available characteristics are: date of search, hotel, check-in date, check-out date

⁶⁴ Selecting the highest prices does not affect the results.

3. Analysis of the metasearch data

3.1 Definition of price differentiation

We defined price differentiation as the case where at least one OTA price differs by more than 5 percent from one other OTA price. We chose 5% because it is a wide enough margin to avoid basing conclusions on irrelevant small differences due to e.g. rounding or exchange rate differences. We checked our results using a margin of 2%, and the results were similar.

Price differentiation is thus a binary variable. The disadvantage of our approach is that it does not allow for measuring the extent of price differentiation. On the other hand, using indicators that measure the extent of price differentiation would be more sensitive to large price differences caused by product differentiation or errors. Finally, as price differentiation was not allowed at all by the wide parity clauses, it is of particular interest to see whether more hotels differentiate more often. However, one should recall that the price differentiation displayed on the metasearch website may be (partly) driven by product differentiation, as explained in Section 2.2.

3.2 Preliminary information on effects

Figure 5 gives a first impression of the development of price differentiation between OTAs – as observed in the dataset – within the Participating Member States over time⁶⁵. However, it should be noted that the data shows a combination of product and price differences. The vertical bars represent the moments where changes were made to OTA parity clauses. In July/August 2015, both Booking.com and Expedia switched from ‘wide’ to ‘narrow’ parity clauses throughout the EEA. At the same time, the Loi Macron was implemented in France, which annuls any kind of OTA price parity clause. In February 2016, the decision by the German competition authority (Bundeskartellamt) to prohibit Booking.com from using any kind of parity clause came into effect. It should be noted that the Bundeskartellamt already prohibited HRS from using parity clauses in 2013, which is before the time period analysed here. This potentially affects the results found for Germany. Due to the preceding prohibition decision against HRS and the ongoing proceedings against Expedia, one cannot interpret the Booking.com decision of the Bundeskartellamt as a unitary change from wide to narrow parity clauses in Germany.

⁶⁵ Technically, the lines are local polynomial regressions with respect to time that connect the data points in a smooth way.

Figure 5. Dynamics of price/product differentiation between OTAs in the Participating Member States and Canada

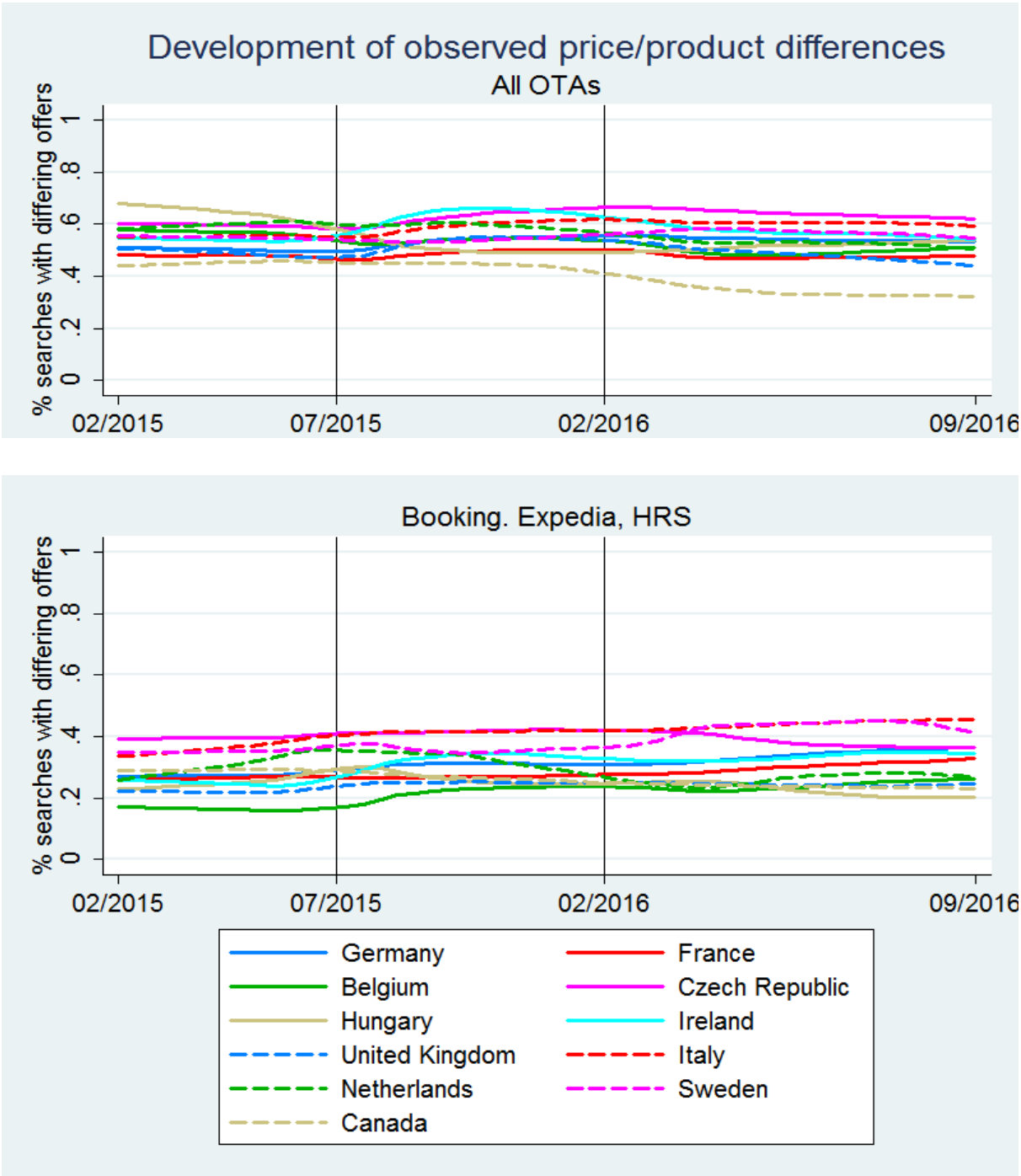


Figure 5 suggests that price differentiation and/or product differentiation were present already before the changes in the parity clauses, and that the development of price/product differentiation differs between the Participating Member States. There are no sudden changes in the level of price/product differentiation around the dates of interest for any Participating Member State. One may however note that price differentiation in Canada seems to be following a downward trend starting from the summer of 2015. The two OTA selections (the big three OTAs and all OTAs) differ

clearly in the level of offer differentiation and in the size of the gap that appears between the Participating Member States and Canada. The difference in price/product differentiation levels is to be expected, since it follows from our definition of price/product differentiation that the likelihood of price/product differentiation is potentially higher as more OTAs are included in the analysis.

3.3 *The econometric model*

To analyse the development of price differentiation in greater detail, we estimate a linear model for the binary choice between price differentiating and offering the same price through all OTA partners. To measure the effects of the changes in parity clauses, we employ a difference-in-differences approach. This means that we compare the difference between the trend of price differentiation within the Participating Member States before and after the changes, with the trend of price differentiation in Canada (where parity clauses remained unchanged) over the same period. If it is the case that the trends are the same in the Participating Member States and Canada, this would suggest that the changes to parity clauses in Europe had little effect on the trend of price differentiation.

In the model we control for:

- the number of days between the search date and check-in date
- length of stay
- weekend stays, and
- the number of OTA prices available

Because we have time series data on a sample of hotels, we can run a fixed-effects model on the level of hotels. This allows us to control for any unobserved characteristics of the hotels that may drive their decision to differentiate prices. For example, skills and beliefs of the hotel manager are likely to directly impact price differentiation by the hotel. Hence the model controls for many more factors that may influence the decision to differentiate prices than the variables that we can actually observe.

Formally, the model is written as:

$$PD = \alpha + \beta'X + \gamma'H + \delta'M + \vartheta'S + \theta'T + \varepsilon,$$

where PD is the price differentiation indicator, X is a vector that contains the 4 control variables listed above, H is a vector of dummies for each individual hotel (and hence captures the fixed effects due to unobserved hotel characteristics), M is a vector of monthly dummy variables for the time of search⁶⁶ capturing the overall time trend, S is a vector of dummy variables for months of stay⁶⁷

⁶⁶ M indicates in which month the search was carried out (February 2015 – September 2016)

accounting for eventual seasonality, T is a vector of dummy variables that equal 1 if some kind of change to the parity clause is in effect in a particular country (thus T captures all the treatments), and ε is the error term.

The vector of coefficients θ contains the coefficients of interest. This indicates whether price differentiation in the given country is lower or higher given that the parity clause differs in some way from the wide parity clause, and controlling for other factors. Note that the treatment variables T include different treatments, namely:

- 1) the switch from wide to *narrow parity clauses* by Booking.com and Expedia in all Participating Member States in July/August 2015,
- 2) the entry into force of the *Loi Macron annulling all OTA price parity clauses in France*, which coincided with the switch from wide to *narrow parity clauses* by Booking.com and Expedia in France in July/August 2015, and
- 3) the Bundeskartellamt's decision against Booking.com prohibiting Booking.com from using any kind of parity clause as of February 2016.

However, caution should be applied when comparing the effects of the treatments between Member States. The reason is that the observed level of price differentiation may be 'true' price differentiation or (partly) driven by product differentiation (see below, Section 4). The relative importance of these two factors may differ between Member States, however. And more importantly, they may have developed differently over time in the different Member States. This makes it difficult to conclude that one of the treatments has a stronger or weaker effect on 'pure' price differentiation. Regarding the comparison to Canada, it is useful to note that the change by Booking.com and Expedia to narrow parity in Europe relaxed both price and availability parity, and this is therefore likely to increase both product and price differentiation relative to Canada.

Finally, as we are mainly interested in the effect of the changes in the degree of price differentiation (i.e. estimate of θ), we are not concerned about problems relating to the chosen functional form and the binary nature of the dependent variable. The difference-in-differences model is based on comparisons of means and as such it is perfectly suitable also for binary variables. Using non-linear binary choice models such as probit or logit would lead to a rather cumbersome interpretation of the coefficients and/or marginal effects of the treatment. The linear probability model is therefore suitable for our purposes.

⁶⁷ S indicates for which month of stay (January – December) a consumer searched.

3.4 Results – prices from all OTAs included

Table 3 reports the parameter estimates from the model applied to all hotels, chains and non-chains. For clarity, narrow parity treatments are defined as dummy variables equal to 1 for a period from July 2015 onwards in *all Participating Member States* (including France and Germany). In France, the treatment coincides with the entry into force of the *Loi Macron*. The treatment measuring the effect of the prohibition of all parity clauses of Booking.com in Germany is defined as an indicator with value one for the period starting February 2016 and as such it measures an effect *in addition to the narrow parity treatment*.

Table 3. Results from the difference-in-differences model based on prices from all OTAs

	All		Chains		Non-chains	
	coef	t-stat	coef	t-stat	coef	t-stat
Narrow parity						
Belgium	0.071*	(2.2)	0.100*	(2.3)	0.014	(0.3)
Czech Republic	0.141***	(4.6)	0.153***	(4.5)	0.084	(1.8)
Germany	0.102***	(4.6)	0.139***	(5.9)	0.036	(0.2)
Hungary	0.082*	(2.3)	0.060*	(2.6)	0.069	(1.3)
Ireland	0.118**	(3.3)	0.167***	(3.5)	0.036	(0.7)
Italy	0.155***	(7.3)	0.195***	(7.6)	0.080*	(2.2)
Netherlands	0.030	(0.8)	0.054	(1.2)	0.009	(0.2)
Sweden	0.126***	(4.9)	0.175***	(6.0)	0.041	(0.9)
United Kingdom	0.114***	(4.7)	0.149***	(5.9)	0.065	(1.4)
Loi Macron/narrow parity (F)	0.087***	(4.2)	0.134***	(6.4)	0.007	(0.2)
No parity by Booking.com (DE)	0.035**	(3.3)	0.045**	(2.7)	0.021	(1.6)
<u>Controls</u>						
# OTAs	0.054***	(59.5)	0.054***	(43.8)	0.055***	(42.4)
# days until stay/100	0.007**	(3.2)	0.002	(0.8)	0.013***	(3.9)
weekend	0.002	(1.3)	0.005**	(2.8)	-0.003	(1.6)
intercept	0.154***	(16.6)	0.167***	(14.5)	0.136***	(9.6)
Month of stay dummies	YES		YES		YES	
Month of search dummies	YES		YES		YES	
Length of stay dummies	YES		YES		YES	
Hotel fixed effects	YES		YES		YES	
R ²	0.083		0.092		0.076	
F-statistic (p-value)	131.9 (0.000)		84.8 (0.000)		73.8 (0.000)	
# hotels	4,608		1,834		2,774	
# observations	4,548,372		2,538,662		2,009,710	

*, **, *** denote statistical significance at: * 5%, ** 1% and *** 0.1% significance level (the t-statistic is based on cluster robust standard errors)

We can note three main results:

1. the coefficients for treatment effects of the switch to narrow parity by Booking.com and Expedia are positive and statistically significant at 5% significance level for all Participating Member States except The Netherlands. This includes also France where the treatment consisted of the switch to narrow parity by Booking.com and Expedia and the entry into force of the *Loi Macron*;
2. it appears that the effects are driven by chain hotels. For independent hotels only, there is no statistically significant effect of any treatment, except in Italy;
3. the results for the Bundeskartellamt's Booking.com decision exhibit a positive significant effect, suggesting that the prohibition of Booking.com's parity clauses led to an increase in observed price differentiation between OTAs.

3.5 Results – prices from Booking.com, Expedia and HRS only

The results from an alternative specification focusing on price differentiation among the three major OTAs are presented in Table 4.

Table 4. Results from the difference-in-differences model based on prices from Booking.com, Expedia and HRS

	All		Chains		Non-chains	
	coef	t-stat	coef	t-stat	coef	t-stat
Narrow parity						
Belgium	0.105**	(2.8)	0.169***	(4.0)	0.003	(0.1)
Czech Republic	0.101**	(3.0)	0.148**	(2.9)	0.032	(0.6)
Germany	0.066*	(2.6)	0.113***	(4.1)	-0.011	(0.2)
Hungary	0.081*	(2.2)	0.101**	(3.1)	0.036	(0.5)
Ireland	0.124	(1.9)	0.198*	(2.3)	-0.002	(0.0)
Italy	0.118***	(4.8)	0.157***	(5.2)	0.050	(1.2)
Netherlands	0.028	(0.4)	0.051	(0.6)	0.006	(0.1)
Sweden	0.097*	(2.2)	0.173***	(5.5)	-0.048	(0.4)
United Kingdom	0.050	(1.9)	0.086**	(3.2)	-0.002	(0.0)
Loi Macron/narrow parity (F)	0.056*	(2.3)	0.091***	(3.7)	-0.000	(0.0)
No parity by Booking.com (DE)	0.041**	(2.8)	0.071**	(3.3)	-0.003	(0.2)
<i>Controls</i>						
# OTAs	0.001*	(2.0)	0.002*	(2.2)	0.001	(0.7)
# days until stay/100	-0.006*	(2.2)	-0.007	(1.9)	-0.005	(1.2)
weekend	0.008***	(7.2)	0.010***	(6.2)	0.007***	(3.7)
intercept	0.196***	(16.7)	0.174***	(12.5)	0.226***	(11.6)
Month of stay dummies	YES		YES		YES	
Month of search dummies	YES		YES		YES	

Length of stay dummies	YES	YES	YES
Hotel fixed effects	YES	YES	YES
R ²	0.021	0.022	0.023
F-statistic (p-value)	25.5 (0.000)	16.8 (0.000)	12.6 (0.000)
# hotels	4,449	1,754	2,695
# observations	3,471,984	1,980,271	1,491,713

*, **, *** denote statistical significance at: * 5%, ** 1% and *** 0.1% significance level (the t-statistic is based on cluster robust standard errors)

While the magnitudes of the effects are different from the previous specification for some Participating Member States, we observe estimates suggesting the same effects as the specification considering pricing information from all OTAs. That is, all treatments appear to have a significant positive effect on observed price differentiation. Although the t-statistics of the parameter estimates are below the threshold corresponding to the 5% significance level for Ireland and the United Kingdom, we do not consider this to be of major importance, as it is only marginally below this threshold. The estimated effects for the narrow parity treatment in Germany and in the UK appear to be most affected by the different subset of OTAs included in the analysis.

3.6 Remaining specifications

The above versions of the model rest on the assumption of a common trend in price differentiation for all countries, both treated (i.e. Participating Member States) and untreated (i.e. Canada). Although Figure 5 shows that the trends in the pre-treatment period are not wildly different for most countries, we may wish to add country-specific linear trends to check the robustness of the results. The problem of using additional trends is that a treatment effect is only identified (i.e. disentangled from the trend) if there is a significant break in the time-series. This does not seem to be the case judging from Figure 5 and it is rather unrealistic to expect for treatments of this nature, where we expect the effects to be steady, rather than immediate. Moreover, we have carried out a statistical test for the common trend assumption which does not invalidate the assumption.⁶⁸

The robustness of the results from the difference-in-differences analysis was further tested by making alternative choices such as:

- different sets of OTAs (e.g. OTAs listing more than 1000 hotels, largest website per OTA corporate group);
- treatment of outliers (all observations, 20% deviation from mean);
- 2% threshold for price differentiation.

⁶⁸ See for how to test for the common trend assumption e.g. Autor, David H. "Outsourcing at will: The contribution of unjust dismissal doctrine to the growth of employment outsourcing." *Journal of labor economics* 21.1 (2003): 1-42.

All mentioned choices and their combinations lead to similar results.

4. Insights from the data scraped from Booking, Expedia and HRS

The monitoring working group also scraped data from hotel room offerings on OTAs. This was done in order to perform a ‘sanity check’ on the metasearch data. Relative to the metasearch data, the scraped data has the advantage that it contains slightly more information on the product being offered, such as whether breakfast is included. It is therefore possible to obtain more insight into the amount of *price* differentiation between OTAs as distinguished from *product* differentiation between OTAs. The downside is that this data is not historical, and so we cannot use it to estimate the effect from the treatments to parity clauses. The next two sub-sections describe the data collection procedure and the results, respectively.

4.1 Data collection process

To obtain detailed data at room level, we ran a Python script acting as a virtual consumer which saves prices from the websites of Booking.com, Expedia, and HRS. The procedure is designed as follows:

- save all hotels from top 20 destinations on Booking.com for each Participating Member State (Canada is excluded);
- look for hotels in the same destinations on Expedia and HRS;
- save URLs of the hotel pages along the way;
- hotels from the three websites are matched based on names and city (with manual quality control checks);
- for each hotel, price data on room level is gathered from all three OTAs, on the basis of a one night stay for two people, for a night one month ahead of the scraping date⁶⁹;
- for each hotel, prices from different OTAs are scraped immediately one after another to avoid any differentiation arising from prices changing over time);
- attributes of the offer are saved along with the price for breakfast, if available. The attributes are breakfast inclusion, free cancellation and the name of the room. While there are other characteristics (for example, spa access), they are not recorded in a sufficiently similar way across platforms to be able to scrape them accurately;
- we ran three rounds of the scraping exercise, on September 6th and 20th and October 3rd, 2016.

Table 5 provides information on the size of the dataset.

⁶⁹ Only one stay date has been used, due to time constraints. A stay date one month ahead was used in order to avoid looking at too many fully-booked hotels.

Table 5. Size of the scraped dataset

Member State	#hotels	#searches with price available
Belgium	487	1,326
Czech Republic	656	1,656
France	2,490	6,538
Germany	2,225	4,983
Hungary	334	872
Ireland	300	808
Italy	1,983	4,866
Netherlands	646	1,670
Sweden	421	1,100
United Kingdom	1,513	4,072
Total	11,059	27,891

4.2 Price differentiation and product differentiation

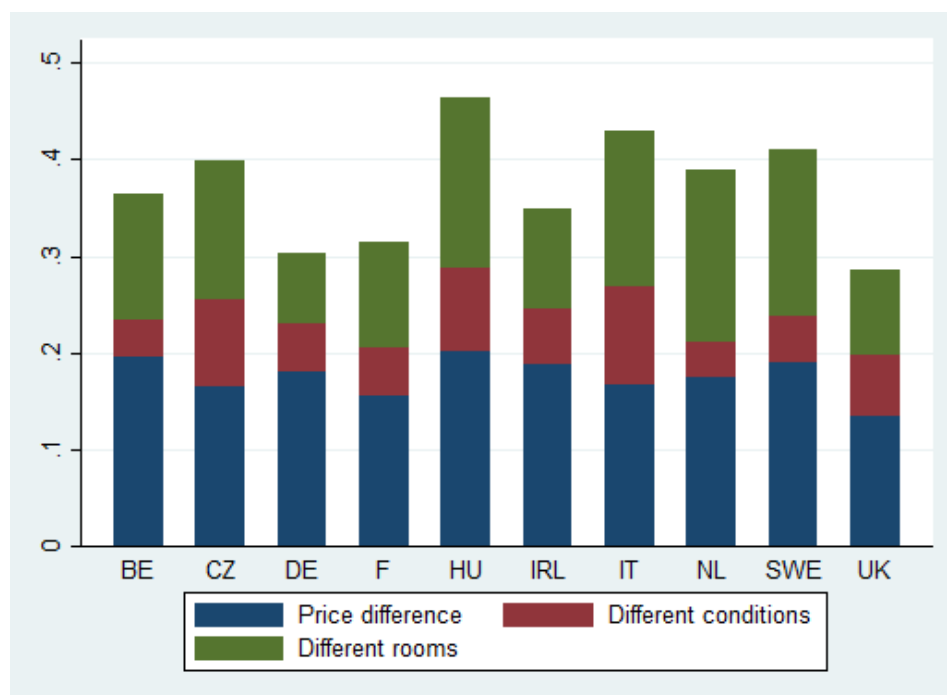
Within this set of selected prices, price differentiation between OTAs is shown in Figure 6, where the entire bar for a Participating Member State shows the share of cases where prima facie price differentiation is observed. So, for example, apparent price differentiation was observed in approximately 40% of searches across the selected hotels in the Czech Republic. Because we collected data in September and October 2016, it was not possible to check the levels of price differentiation when wide parity clauses were still in place.

As a first observation, the level of apparent price differentiation is roughly similar to that in the metasearch dataset. It should be noted that we use the same definition for price differentiation here as in the previous section. However, since we have many price quotes for each hotel from each of the three OTAs (depending on room type, conditions, etc.), we compute price differentiation only over *the set of lowest price quotes* from each OTA for a given hotel. This is also how the metasearch website constructs its search results for consumers: it selects from each OTA the lowest price quote for a particular hotel in the search results. Hence, although this way of selecting prices might well lead to the comparison of diverging products, it is an appropriate way to check the metasearch data.

Using the data on room type difference and condition differences in the scraped data, we separate ‘pure’ price differentiation between OTAs from price differences due to differences in room type and from price differences due to differences in conditions (namely breakfast and cancellation policies). So, for example, of the 40% of searches which gave rise to apparent price differentiation in the Czech Republic, less than half of these searches (and 17% of total searches in the Czech republic) appear to

represent 'pure' price differentiation, rather than a mix of price differentiation and differences in the type of room offered or differences in the conditions of the offer.

Figure 6. Price differentiation between OTAs in the scraped dataset



To identify differences between room types across OTAs, we identified the most frequent strings in room names used on OTAs and checked for their presence on all OTAs where a hotel is listed. Table 6 lists the recognised strings.

Table 6. Non-standard room type indications⁷⁰

Budget	Superior	Other
Budget	Superior	(De)luxe; Executive; Royal;
Economy	Comfort	Uitzicht (=view); Familie (family);
Klein (=small)		Studio; Appartement; VIP;
Voordelig (=cheap)		Premium; Suite;
		Privilege

For 'budget' and 'superior' type rooms, rooms are considered identical only when, on all OTAs, their name contains strings belonging to the same group in the table above. For other types of rooms, rooms are only considered identical when, on all OTAs, the room name contains identical strings from the category 'other' in the above table. The above approach likely misses some inconsistencies

⁷⁰ We scraped from Dutch language websites; we did this because scraping from English language websites would yield prices in pounds sterling or American dollars by default. We have given relevant translations where necessary.

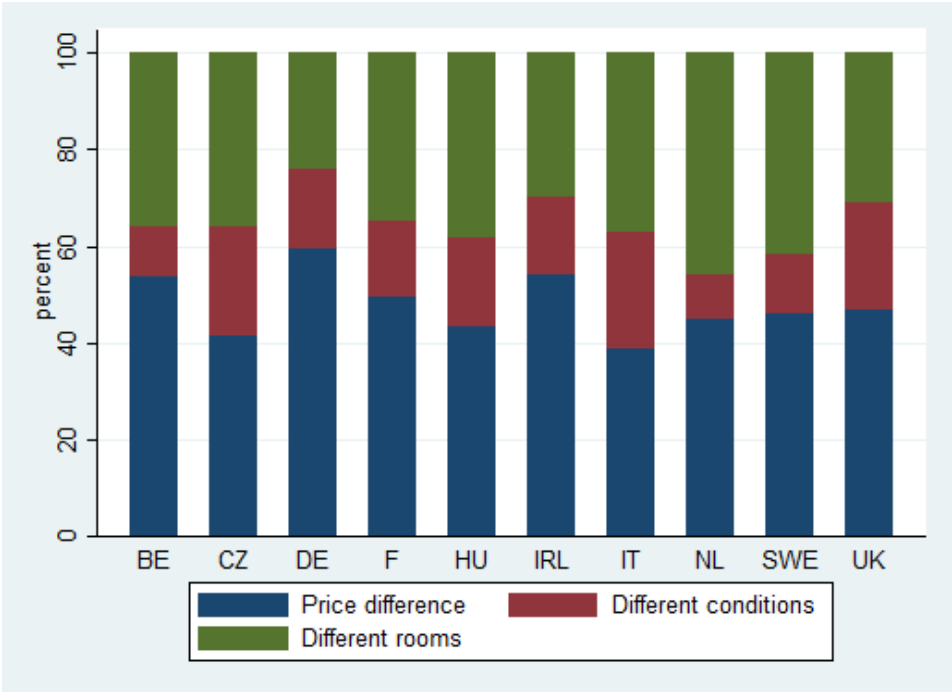
between room types with atypical names⁷¹, but it also probably marks some identical rooms as different when the name differs but the room is the same. For example, a room may be called “Royal” on one OTA and “Deluxe” on another. As the majority of the observations use the standard names, we believe that the extent of the unavoidable error is unlikely to influence the results – especially if we look at differences between Member States, as the same approach is applied to all Member States.

With regard to booking conditions, we identify offers with free breakfast and free cancellation and hence, we are able to correct for these factors that may drive price differences. Of course, there are other factors that may drive price differences, but these two seem to be relatively important. For example, free WiFi is something that most hotels offer to all guests or to no guests, and is unlikely to be a differentiator between OTAs. Nevertheless, it should be noted that our control for product differences is not perfect.

The resulting breakdown of the sources of differences in prices is depicted in Figure 7.

This Figure is identical to Figure 6, except that each bar has been normalised to 100 percent, and should be interpreted as follows.

Figure 7. Presence of room or condition differences given a price difference



As stated above, for each hotel in a particular Member State we have selected the lowest price quote from each OTA. Then, we checked whether there was differentiation between these price quotes.

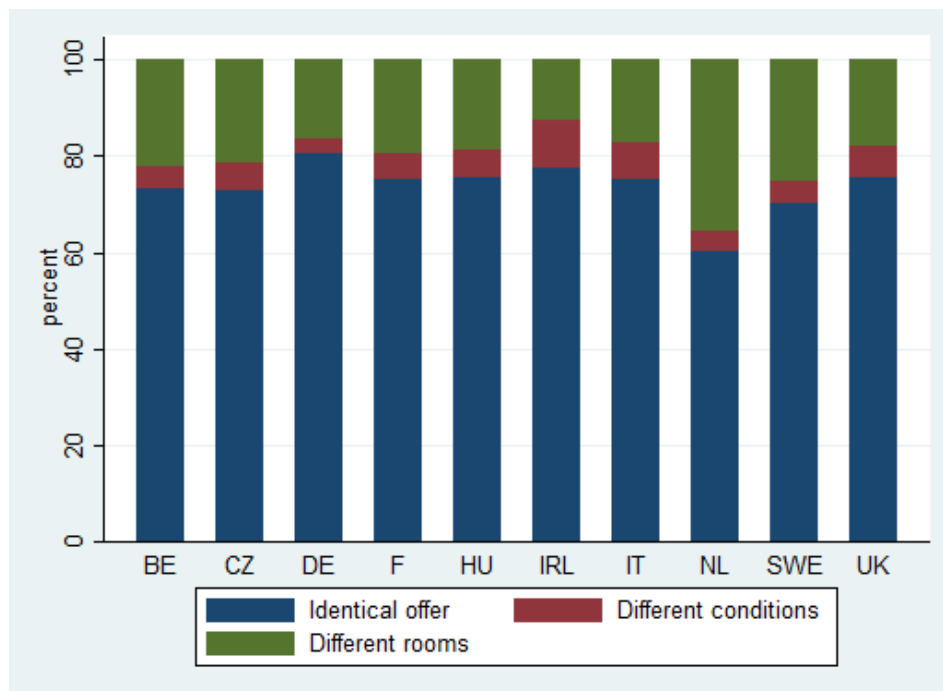
⁷¹ For example, we miss differences such as “room with whirlpool bathtub” and “standard room”.

Next, we checked if there were differences in the room type for these price quotes, and we checked if there were differences in conditions for these price quotes. So, for Belgium, for example, when price differentiation occurs for a given hotel, in about 55 percent of the cases this difference *cannot* be explained by differences in room type or differences in conditions (breakfast or cancellation). In about ten percent of the cases, the price difference may be explained by differences in the conditions, and in about 35 percent of the cases the price differences may be explained by differences in room type.

Figure 7 shows that differences in conditions are an infrequent driver of price differentiation. Room type differentiation is more common. Price differentiation cannot be explained by differences in room type or conditions in about 40-60 percent of the cases.

Another challenge with our data is the possibility of seeing the same price for different rooms or for rooms with different conditions. Therefore, it is important to check whether in the cases where we do not observe a price difference, the room type and conditions are the same. This is shown in Figure 8.

Figure 8. Presence of room or condition differences given no price difference



As can be seen in Figure 8, in most cases when there is no price differentiation, there are no differences in room type or conditions either. The only notable exception here is the Netherlands, where in forty percent of the cases when there is no price difference, there is a difference in room type, conditions, or both.

Appendix 2:

Electronic survey of hotels – composition of samples and response rates

Country	Variable	Value	Sample	Replies
BELGIUM	Part of chain	YES	28%	28%
		NO	72%	72%
	Star rating	2 or less	18%	20%
		3	52%	54%
		4	27%	24%
		5	2%	1%
	Number of rooms	Average	53	55
Median		30	27	
Number of hotels			966	86

Country	Variable	Value	Sample	Replies
FRANCE	Part of chain	YES	49%	36%
		NO	51%	64%
	Star rating	2 or less	35%	29%
		3	47%	51%
		4	16%	17%
		5	2%	3%
	Number of rooms	Average	48	49
Median		36	30	
Number of hotels			3080	93

Country	Variable	Value	Sample	Replies
CZECH REPUBLIC	Part of chain	YES	10%	19%
		NO	90%	81%
	Star rating	2 or less	3%	2%
		3	51%	46%
		4	42%	46%
		5	4%	6%
	Number of rooms	Average	47	56
Median		28	32	
Number of hotels			352	289

Country	Variable	Value	Sample	Replies
GERMANY	Part of chain	YES	17%	16%
		NO	83%	84%
	Star rating	2 or less	13%	4%
		3	59%	60%
		4	26%	33%
		5	2%	3%
	Number of rooms	Average	53	59
Median		31	33	
Number of hotels			1210	1113

Country	Variable	Value	Sample	Replies
HUNGARY	Part of chain	YES	15%	32%
		NO	85%	68%
	Star rating	2 or less	6%	5%
		3	51%	31%
		4	40%	64%
		5	3%	0%
	Number of rooms	Average	64	102
		Median	37	65
Number of hotels			694	78

Country	Variable	Value	Sample	Replies
IRELAND	Part of chain	YES	31%	59%
		NO	69%	41%
	Star rating	2 or less	6%	0%
		3	46%	44%
		4	42%	37%
		5	6%	19%
	Number of rooms	Average	80	126
		Median	67	103
Number of hotels			595	35

Country	Variable	Value	Sample	Replies
ITALY	Part of chain	YES	9%	10%
		NO	91%	90%
	Star rating	2 or less	16%	10%
		3	48%	53%
		4	33%	32%
		5	3%	4%
	Number of rooms	Average	44	46
		Median	30	31
Number of hotels			4290	374

Country	Variable	Value	Sample	Replies
NETHERLANDS	Part of chain	YES	35%	32%
		NO	65%	68%
	Star rating	2 or less	13%	10%
		3	46%	46%
		4	39%	42%
		5	2%	2%
	Number of rooms	Average	63	70
		Median	36	32
Number of hotels			1630	121

Country	Variable	Value	Sample	Replies
SWEDEN	Part of chain	YES	44%	64%
		NO	56%	36%
	Star rating	2 or less	7%	1%
		3	46%	24%
		4	45%	72%
		5	2%	3%
	Number of rooms	Average	91	127
		Median	62	117
Number of hotels			999	116

Country	Variable	Value	Sample	Replies
UNITED KINGDOM	Part of chain	YES	47%	66%
		NO	53%	34%
	Star rating	2 or less	10%	4%
		3	51%	33%
		4	36%	56%
		5	4%	8%
	Number of rooms	Average	74	213
		Median	47	89
Number of hotels			2638	137