

THE SIMPLE ECONOMICS OF WHOLESALE PRICE-PARITY AGREEMENTS: THE CASE OF THE AIRLINE TICKETS DISTRIBUTION INDUSTRY*

Jorge Padilla,[‡] Salvatore Piccolo,[†] & Nadine Watson**

ABSTRACT

This paper clarifies the differences between retail and wholesale price-parity agreements in vertical industries. In contrast to traditional wide and narrow retail price-parity arrangements, the competitive effects of wholesale price-parity depend on the complexity of the vertical supply chain, the business model operated by sellers and distributors, and the strength of competition between direct and indirect distribution channels. While retail price-parity agreements are almost always anticompetitive, wholesale price-parity agreements may positively affect consumer welfare when direct and indirect distribution channels are close substitutes. To demonstrate the relevance of our analysis for competition policy, we illustrate our findings by referring to an industry that has recently attracted policy and regulatory interest on both sides of the Atlantic: the airline ticket distribution industry. We find that, in this industry, while wholesale price-parity agreements always harm airlines, Global Distribution Systems (GDSs) have preferences more aligned with consumers: when consumers benefit from these provisions, GDSs benefit too.

JEL: K21, L13, L40

I. INTRODUCTION

Competition policy authorities all over the world are typically hostile toward *retail price-parity agreements*: vertical contracts that restrict price competition for an end-product or service across alternative distribution channels. This view is well-grounded in economic analysis. Many scholars have examined the

**Nadine Watson is Senior Vice President at Compass Lexecon.

† Salvatore Piccolo is Professor of Economics at the University of Bergamo and an Academic Affiliate at Compass Lexecon.

‡ Jorge Padilla is Senior Managing Director at Compass Lexecon, Research Fellow at CEMFI (Madrid) and teaches competition economics at the Toulouse School of Economics (TSE).

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competitive effects of such contractual agreements on firms' profits and consumer welfare.¹ Inspired by recent cases in the hotel booking industry both in the USA and across Europe,² these authors consider models with one or more competing sellers supplying products to final consumers both through their own direct distribution channels as well as the third party, indirect distribution channels, or platforms.³ These models compare unfettered competition with competition under *wide* and *narrow* retail price-parity agreements.⁴

Wide retail price-parity agreements are found to be anticompetitive absent efficiencies⁵ unless seller (or interbrand) competition is fierce and sellers can profitably delist from platforms.⁶ These agreements soften competition across indirect distribution channels; a distributor setting high commissions will not lose market share since sellers cannot offer more favorable prices through alternative distribution channels, including the direct distribution channel, which may involve lower costs. The distributor can then charge high fees, knowing that those fees will be spread across all transactions,⁷ irrespective of

¹ For insightful surveys of the literature on online MFNs see, for example, Pinar Akman, *A Competition Law Assessment of Platform Most-Favored-Customer Clauses*, 12(4), JOURNAL OF COMPETITION LAW & ECONOMICS, 781, 833 (2016), Pinar Akman & Daniel D. Sokol, *Online RPM Under Antitrust Law*, 50, REVIEW OF INDUSTRIAL ORGANIZATION, 133, 151 (2017), and Ariel Ezrachi, *The Competitive Effects of Parity Clauses on Online Commerce*, EUROPEAN COMPETITION JOURNAL, 11(23), 488,519 (2015). See also Fiona Scott Morton, *Contracts that Reference Rivals*, US Department of Justice (2012), available at: www.justice.gov.

² For a detailed account of recent cases on online markets see, for example, the work by Pinar Akman (2016) *supra* note 2. Recent evidence on the effects of retail price-parity agreements in the hotel booking industry is found in Andrea Mantovani, Claudio A. Piga & Carlo Reggiani, *Online Platform Price Parity Clauses: Evidence from the EU Booking.com case*. Available at SSRN 3381299 (2020).

³ For recent empirical evidence showing that the direct sales channel appears to be a credible alternative to the indirect channel, see, e.g., Arthur Cazaubiel, Morgane Cure, Bjørn O. Johansen & Thibaud Vergé, *Substitution between Online Distribution Channels: Evidence from the Oslo Hotel Market*, 69, INTERNATIONAL JOURNAL OF INDUSTRIAL ORGANIZATION, 102577 (2020).

⁴ Under *wide retail price-parity* the price charged to final consumers in the direct distribution channel must not be lower than the price charged to final consumers through the indirect distribution channels and, in addition, the prices charged through the indirect distribution must be identical. Under *narrow parity*, instead, the prices charged for products distributed through a certain indirect channel may be different from the prices charged through another indirect channel. However, as with the wide price-parity agreement, the price charged to final consumers in the direct distribution channel must not be lower than the price charged to final consumers through the indirect distribution channels.

⁵ For a detailed account of efficiencies associated with MFNs in online markets see, for example, Paolo Buccirossi, *Parity Clauses: Economic Incentives, Theories of Harm and Efficiency Justifications*, 1, COMPETITION L. & POLICY DEBATE 43 (2015). More recently, the beneficial effect of retail price-parity clauses on the free-riding problem generated by showrooming has been examined by Chengsi Wang & Julian Wright, *Search Platforms: Showrooming and Price-Parity Clauses*, 51(1), RAND JOURNAL OF ECONOMICS, 32, 58 (2020). We discuss efficiencies in Section V.

⁶ See, for example, Bjørn O. Johansen & Thibaud Vergé, *Platform Price Parity Clauses with Direct Sales*, University of Bergen, Bergen (2017).

⁷ See, e.g., Andre Boik & Kenneth S. Cortis, *The Effects of Platform MFNs on Competition and Entry*, 59, JOURNAL OF LAW & ECONOMICS, 2 (2016).

the distribution channel consumers use and that consumers will not be able to find lower-cost alternatives elsewhere.⁸

Absent efficiencies, narrow price-parity agreements are also likely anticompetitive when distributors are “must-have” so that they cannot be profitably delisted.⁹ The reason is that when distribution platforms cannot be delisted, any reduction in one of the distributors’ fees would not be compensated by an increase in its sales, since sellers would have no incentive to reduce the price charged in the undercutting distribution platform at the expense of their (more profitable) direct distribution channels (with a price tied to the price of the high commission distribution platform) when direct and indirect distribution are close substitutes for a majority of final consumers. Narrow parity agreements will not be anticompetitive when platforms can be delisted at a limited cost, for example, because many consumers multihome.¹⁰

However, the existing literature is less developed regarding the competitive and welfare effects of *wholesale price-parity agreements*. These are provisions requiring a seller to distribute the same product across all indirect distribution channels at the same wholesale price, which is typically used in multilayered vertical industries, where specialized retailers connect with sellers via competing indirect distribution platforms. The airline ticket distribution industry, which has recently attracted significant policy and regulatory interest on both sides of the Atlantic, is a clear example of where these provisions are implemented. Airlines deal with GDS platforms to distribute their content to local travel agencies and online travel agents (OTAs), which in turn distribute the content to final consumers.¹¹ In industries with such a structure, the set of possible parity agreements goes beyond the retail price-parity agreements extensively studied in the existing literature. Airlines can enter into bilateral agreements with GDS platforms to constrain the input prices charged through their distribution channels while leaving the retail prices offered downstream unconstrained.

⁸ In addition, wide price-parity agreements may also limit the entry and expansion of new platforms and, thus, hurt investment and innovation. Platforms that are not yet established will not be able to compete effectively in the supply of indirect distribution services by offering lower fees (in return for which they might negotiate lower prices with final consumers). Incumbent platforms will thus be able to capture an increasingly large share of consumer traffic, as network effects draw consumers and sellers to the most heavily used platforms.

⁹ See, Johansen & Vergé (2017) *supra* note 7.

¹⁰ *Id.*

¹¹ Many other emerging business-to-business (B2B) platforms feature the same multilayered structure, especially in the e-commerce (for example, Amazon, Alibaba, TradeWheel, DHGate, and ECVV) and are likely, in the future, to attract the same policy interest. Many agricultural and pharmaceutical products are also distributed through multilayered supply chains: suppliers sell their products directly at their shops and websites, or indirectly through specialized intermediaries that resell these products to local retailers dealing with final consumers.

In multilayer industries, like the airline ticket distribution industry, distribution takes place under an “agency” business model.¹² As in simpler, two-layered vertical chains, sellers (airlines) will markup the commissions charged by distributors (GDS platforms) when setting wholesale prices to the downstream intermediaries (travel agents and OTAs). In turn, distribution platforms will negotiate fees above their marginal costs, and downstream intermediaries will also markup the sellers’ wholesale prices. Retail prices will, thus, reflect multiple markups.

As shown by Bisceglia *et al.*,¹³ wholesale price-parity agreements may have a beneficial effect on consumers in such industries provided competition between direct and indirect distribution is intense enough.¹⁴ As retail price-parity agreements, wholesale price-parity reduces competition among distribution platforms when dealing with sellers. However, unlike agreements restricting retail prices, wholesale price-parity can benefit consumers by mitigating the abovementioned multiple marginalization problem. Wholesale price-parity reduces sellers’ incentives to set high wholesale prices when distributing indirectly, leading to lower final prices, and higher sales. This is because, under wholesale price-parity, any increase in the wholesale prices offered through a given distribution platform will lead to a parallel increase in the prices offered through the other distribution platforms. These wholesale price increases will then be passed on to consumers in the form of higher retail prices, causing a reduction in the demand served through the indirect distribution channel. This will be offset by the increase in demand served through the seller’s direct distribution channel but only in part since not all consumers would want (or have access to) that channel.¹⁵

The objective of this paper is to identify and clarify the logic behind the key competitive effects associated with wholesale price-parity provisions, explain the differences with traditional retail price-parity provisions, and identify the industry features that are likely to make these provisions more or less socially desirable. Given its policy relevance, we will illustrate our analysis and the

¹² That is, when platforms charge commissions to sellers for the distribution services they provide but take no possession of the sellers’ products.

¹³ Michele Bisceglia, Jorge Padilla & Salvatore Piccolo, *When Prohibiting Wholesale Price-Parity Agreements Harms Consumers*, (2020), available at SSRN: <https://ssrn.com/abstract=3454527>.

¹⁴ Bisceglia *et al.* (2020) also consider, as a benchmark, a wholesale business model where platforms operate as wholesalers, that is the case in which platforms acquire products (for example, airline tickets) from the sellers and resell them to the downstream intermediaries after applying a mark-up. In this set-up, which is less suited to illustrate the airline ticket distribution industry, they show that wholesale price-parity unambiguously benefit consumers. See also Jeanine Miklos Thal and Greg Shaffer, *Input Price Discrimination by Resale Market*, RAND JOURNAL OF ECONOMICS, forthcoming, for a related wholesale model without a direct distribution channel.

¹⁵ Which is the case, as we explain below, when consumers exhibit preference for variety. See, for example, Kelvin Lancaster, *The Economics of Product Variety: A Survey*, 9(3), MARKETING SCIENCE, 189, 206 (1990).

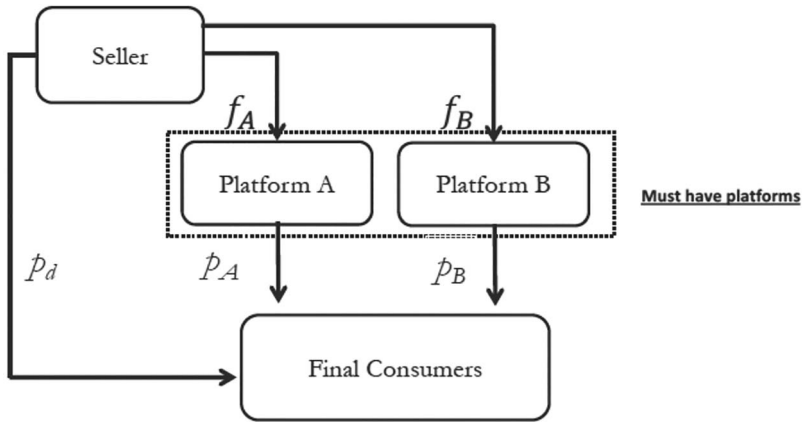


Figure 1. A two-level supply chain.

practical and policy implications that flow from it by referring to the airline ticket industry, its players, their incentives, and business organization mode.

II. REVISITING THE COMPETITIVE EFFECTS OF RETAIL PRICE-PARITY PROVISIONS

To better understand the differences between price restrictions at the wholesale and retail levels, we first review the basic economic principles shaping the different competitive effects of alternative retail price-parity clauses.¹⁶ Figure 1 describes a two-layer vertical industry in which a seller distributes its product to consumers either directly via its direct sale channel by charging them a price p_d , or indirectly through two competing platforms A and B that resell the same content to final consumers at prices p_A and p_B , respectively. Final consumers have a preference for variety in distribution. So, while some consumers may find it preferable to buy from the seller directly, many others prefer to buy from either Platform A or Platform B .¹⁷ Thus, the seller does not find it profitable to exit from either of the two platforms, which can be thus regarded as “must-have” distribution channels.

Platforms negotiate on bilateral basis fees, f_A and f_B , respectively, that the seller pays them to secure sales on their channels. These fees will be partially passed on to final consumers. Thus, both platforms negotiate their fees taking into account that a higher fee is likely to result in higher end-consumer prices. The seller and platforms face a double marginalization problem: platform fees will be set above the marginal cost of distribution for the platform, and retail

¹⁶ Notice that in the seminal model developed by Andre Boik & Kenneth S. Corts (2016), *supra* note 8, the seller has no direct distribution channel.

¹⁷ Because they may prefer to have more options available as implied by preference for variety.

prices will markup the platform's fees. Interestingly, these higher prices in the indirect channel will cause the price charged by the seller in the direct distribution system to increase because prices are "strategic complements" across channels (that is, when the end price on the direct distribution channel increases, the end prices on the indirect channel increase too and *vice versa*).

In this context, a wide retail price-parity agreement requires that consumers pay the same prices when buying from either platform; namely, it requires that $p_A = p_B = p$. It also requires that the price charged by the seller in the direct channel not be lower than that charged through the indirect channels, that is $p_d \geq p$.¹⁸ A wide retail price-parity agreement will likely soften platform competition because a platform setting high fees will not lose market share to the other platforms or to the direct distribution channel. Since the seller cannot offer more favorable prices through alternative distribution channels, including the direct distribution channel, the platforms can charge higher fees, knowing that the seller will spread them across all transactions, irrespective of the distribution channel consumers use. Therefore, they know that consumers will not be able to find lower-cost alternatives elsewhere.¹⁹

A narrow retail price-parity agreement, instead, allows consumers to pay different prices when buying through platforms. In short, p_A can be different from p_B . Like the wide price-parity agreement, however, requires that the price charged in the direct channel be greater or equal than the price charged on the two platforms, that is

$$p_d \geq \max \{p_A, p_B\}.$$

Absent efficiencies, narrow retail price-parity agreements are likely anti-competitive when platforms are "must-have" and direct and indirect distribution channels are seen as substitutes by a sufficient number of consumers. The

¹⁸ The model with direct sales is inspired by Bjørn O. Johansen & Thibaud Vergé (2017), *supra* note 7. Similar models without direct sales are discussed by Pinar Akman (2017), *supra* note 2.

¹⁹ Andre Boik & Kenneth S. Corts (2016) *supra* note 8, for example, consider a monopolist facing two competing platforms, which first simultaneously choose whether to impose a price-parity agreement, then set per-unit commissions. After observing these choices, the monopolist sets final prices on both platforms. Within this framework, a price-parity clause is unambiguously anticompetitive since it raises platforms' commissions and retail prices. Similar results are found by Justin P. Johnson, *The Agency Model and MFN Clauses*, 84(3), THE REVIEW OF ECONOMIC STUDIES, 1151, 1185 (2017), who models competition in the upstream market. He shows that even if retail price-parity clauses are used within an agency model, this leads to higher prices, but MFC clauses do not have the same effect if the wholesale model is used. The anticompetitive nature of price-parity provisions is challenged by Bjørn O. Johansen & Thibaud Vergé (2017), *supra* note 7, who consider endogenous platform participation and the presence of direct sales channels in addition to upstream competition (two ingredients that are also present in our model). Actually, because of preference for variety, in our model delisting never occurs in equilibrium. In their setting, if upstream competition is fierce enough, consumers benefit from the introduction of a narrow or a wide price-parity clause provided that sellers can delist from platforms charging excessively high commissions. The regulatory aspects associated with retail price-parity are explored in a recent paper by Renato Gomes & Andrea Mantovani, *Regulating Platform Fees under Price Parity*, mimeo, (2020).

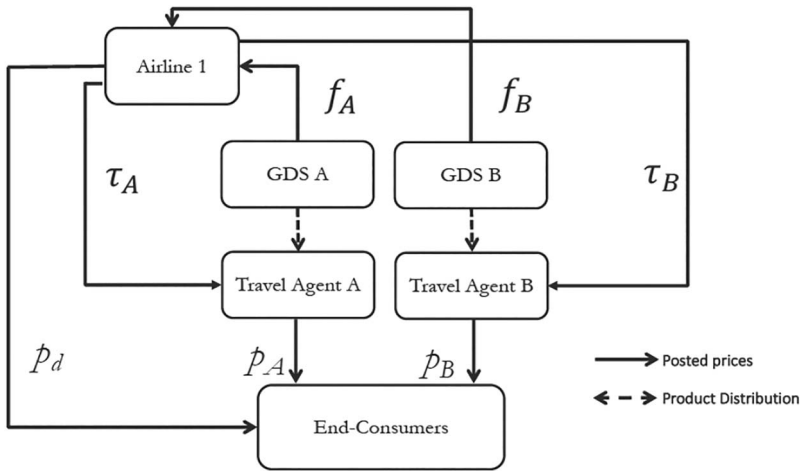


Figure 2. The airline ticket distribution industry.

reason is that when platforms cannot be profitably delisted, a reduction in the fees charged by a platform would not lead to an increase in its sales, since the seller would have no incentive to reduce the price charged on the undercutting platform at the expense of its less costly direct distribution channel (with a price tied to the price of the high commission platform). Narrow retail parity agreements will not be anticompetitive when platforms can be delisted at a limited cost because, for example, many consumers multihome.²⁰

III. COMPETITIVE EFFECTS OF WHOLESALE PRICE-PARITY

The results on retail parity discussed above also apply to industries where the relationship between final consumers and sellers involves an additional intermediation layer, such as the industry depicted in Figure 2, which provides a stylized description of the vertical structure of the airline ticket distribution industry. Yet, in these relatively more complicated industries, sellers and distribution platforms may enter into a different kind of parity agreement, constraining wholesale prices (that is, the prices charged by sellers to the intermediaries interfacing with consumers) rather than retail prices (that is, the prices paid by the end consumers).

In the model of Figure 2, a monopolistic Airline 1 can distribute its tickets to consumers directly charging prices equal to \hat{p}_d , or indirectly through travel agents (TAs), such as Travel Agent A or Travel Agent B at prices τ_A and τ_B , respectively. TAs rely on the IT infrastructure provided by the GDSs to

²⁰ See, for example, Bjørn O. Johansen & Thibaud Vergé (2017), *supra* note 7.

book Airline 1's tickets on behalf of end consumers. Travel Agent A uses GDS A's platform, while Travel Agent B uses GDS B's platform.

The airline ticket distribution industry operates an agency business model: GDS A and GDS B negotiate bilaterally with Airline 1 booking fees f_A and f_B , respectively. Airlines set wholesale prices to TAs, τ_A and τ_B to Travel Agent A and Travel Agent B, respectively.²¹ Finally, Travel Agent A and Travel Agent B set end-consumer prices p_A and p_B in competition between themselves and with Airline 1's direct distribution channel. Airline 1 will markup the booking fees charged by the GDSs, which in turn will negotiate fees above their marginal costs. But, in addition, TAs will markup (or down) the fares airlines offer taking into account the charges (or incentives) set by the GDSs. Hence, end-consumer prices may reflect more than two markups.

Notably, the difference

$$p_i - \tau_i \geq 0, i = A, B,$$

should be interpreted as the commission applied by TAs to their customers and is shaped by two intuitive forces: (i) on the one hand, a lower commission attracts more customers, and the extent to which it does so depends on the degree of competition within and across distribution channels; (ii) on the other hand, each platform wishes to increase the commission to gain a higher margin. The trade-off between these two effects determines GDSs and TAs' profit margin observed in the market, and thus the extent of multiple marginalizations. Evidence of TAs charging positive commissions on top of the airline fares is available in Alamdari (2002).²² Service fees used to be charged mostly by traditional travel retailers but nowadays online TAs are also using this instrument. Service fees can range drastically: airline tickets often carry a service fee of \$25–\$50 per ticket.²³ In the USA or Scandinavia, TAs have already developed effective service-fee schemes and are constantly searching for solutions to generate more revenues.²⁴ Interestingly, a study conducted by the FAZ Institute in 2004 reveals that 49% of the biggest companies stated that they would still book via travel agencies if they decided to implement and/or

²¹ In Figure 2, we implicitly assume that Travel Agent A has an exclusive relationship with GDS A and Travel Agent B with GDS B. This is not typically the case. An increasing number of travel agents multihome (that is, operate with more than one GDS) and those that single-home face only limited costs of switching GDSs. For these reasons, GDSs compete for travel agents by offering incentive payments. This assumption is however not crucial for any observation here. See Section III.A.3 for a discussion on interlocking relationships.

²² Fariba Alamdari, *Regional Development in Airlines and Travel Agents Relationship*, 8(5), JOURNAL OF AIR TRANSPORT MANAGEMENT, 339, 348 (2002).

²³ See Meredith Hill, *How and How Much Do Travel Agents Get Paid?*, (2016), available at <https://www.giftedtravelnetwork.com/much-travel-agents-get-paid/> (accessed 15 october 2020).

²⁴ See Amadeus "Service Fees and Commission Cuts Opportunities and Best Practices for Travel Agencies", (2007), available at http://www.amadeus.com/travelagencies/documents/travelagencies/White%20Paper_ForWebUse.pdf (accessed 15 october 2020).

raise their commissions; which suggests the presence of product differentiation and/or switching costs in the final market.²⁵ Moreover, in many countries, especially in Germany, TAs have recently adopted a transaction-fee model, allowing them to charge specific fees for their consultancies, ticket reservations, visa services, etc.²⁶

Unlike the wide and narrow retail price-parity agreements observed, for example, in the online hotel booking industry, the wholesale parity agreements in the airline industry do not constrain the prices charged through the direct distribution channel, p_d . Furthermore, the latter do not constrain the prices charged to consumers by Travel Agent A and Travel Agent B, p_A and p_B , either. The only operative constraint imposed by the wholesale price-parity agreements observed in the airline ticket distribution industry concerns the input prices or fares offered by Airline 1 through the two indirect distribution channels, that is, the fares τ_A and τ_B available through the two GDSs. Those fares are restricted to be identical: $\tau_A = \tau_B$. Bisceglia *et al.* find that, in industries like this, wholesale price-parity provisions may be procompetitive absent efficiencies depending on the degree of product differentiation across distribution channels.²⁷ Specifically, they show that the constraint on access prices implied by such provision generates a new trade-off shaped by the following effects. First, each GDS anticipates that under the parity provision, the airline has less incentive to pass on platforms' fees to TAs. Hence, as in Boik and Corts,²⁸ platforms' fees are higher under parity, which harms consumers because they are passed on to them. Second, wholesale price-parity mitigates the marginalization problem, which benefits consumers. This is because any increase in the fares offered through TAs using a given GDS will lead to a parallel increase in the fares offered through the other GDSs. These fare increases will then be passed on to consumers in the form of higher ticket prices and will cause a reduction in the demand served through the indirect distribution channel, which will be offset *only in part* by the increase in the demand served through the airline's direct distribution channel, given that not all consumers prefer to operate through that channel. Third, to counterbalance the effect of higher platform fees on the multiple marginalization problem, Airline 1 has an incentive to reduce the direct channel price. In fact, by doing so, it (i) diverts business toward that channel, which (other things being equal)

²⁵ FAZ Institute—Geschäftsreisen—mit Travelmanagement erfolgreich ans Ziels, 2004.

²⁶ See *supra* note 26.

²⁷ Michele Bisceglia, Jorge Padilla & Salvatore Piccolo (2020), *supra* note 14. In order to model preference for variety, the authors posit that the products/services distributed through the direct and the indirect channels are differentiated and consider standard linear demand functions *à la* Singh & Vives (1984). (See Nirvikar Singh & Xavier Vives, Price and Quantity Competition in a Differentiated Duopoly, *RAND JOURNAL OF ECONOMICS*, 546, 554 (1984).) Results do not change when assuming a demand functions originated from preferences *à la* Shubik-Levitan. Moreover, according to business practice, they consider linear contracts. Results are still valid as long as at each layer of the vertical chain there is a marginalization problem.

²⁸ Andre Boik & Kenneth S. Corts (2016), *supra* note 8.

increases its profits; and (ii) reduces platforms' incentive to increase their fees because they face more intense competition from the direct channel.²⁹

The net effect is to increase consumer surplus when the different distribution channels are not too differentiated, that is when competition between the direct and indirect distribution channels is sufficiently strong. Essentially, competition within and between the distribution channels erodes the TAs' markups and magnifies the procompetitive effect of wholesale price-parity on the marginalization problem. When platforms benefit from parity, consumers do too. By contrast, absent efficiencies, the seller and the intermediaries are always better off without parity. Interestingly, while the platforms can easily persuade TAs to prefer the wholesale price-parity regime through appropriate side payments, that would not be possible with the seller. This is because while the joint profit of the platforms and the TAs is higher with parity, total industry profit may well be lower without parity. As a result, in these cases, the only way to increase consumer surplus is to allocate more decision rights to the platforms than the monopolist.

Summing up, wholesale price-parity provisions cannot be presumed anti-competitive even in the absence of efficiencies. Consumers and platforms' preferences are always aligned: as long as platforms benefit from price-parity at the wholesale level, consumers gain as well, which need not be the case for the seller and the TAs. Thus, prohibiting wholesale price-parity agreements may just disadvantage the indirect distribution channel and increase the seller's ability to exercise market power at consumers' expense. Therefore, it follows that such clauses cannot be presumed anticompetitive and, instead, will be procompetitive when downstream competition between the direct and indirect distribution channels is strong, as we believe it is the case in the airline distribution industry.

A recent International Air Transport Association (IATA) survey, for example, shows the growth of direct share at the expense of indirect distribution channels between 2015 and 2019.³⁰ Carriers are expecting to see around 45% of reservations coming through their own online, direct-channels by 2021, up from around 35% in 2016. This suggests that airlines are successfully pushing their direct distribution channels, to the detriment of the indirect GDS powered offline channels. The Lufthansa Group, for example, recently stated that the percentage of bookings processed by its direct channels or through application programming interface-based connections hit 52% in 2019 up from 45% in 2018, and just 30% in 2015. Lufthansa expects further

²⁹ Notably, this effect is crucial and specific to the setting analyzed in Bisceglia *et al.* (2020) compared to other existing models assuming that the upstream suppliers only sell through indirect channels. See Jeanine Miklos Thal and Greg Shaffer (2020) *supra* note 15.

³⁰ See Phocuswright, "Evolution of Air Distribution: New Distribution and Retailing Models (Part 3)", (2019), available at <https://www.phocuswright.com/Travel-Research/Technology-Innovation/Evolution-of-Air-Distribution-New-Distribution-and-Retailing-Models-Part-3> (accessed 15 October 2020).

direct booking gains for its network airlines as it expands an initiative to push additional price points exclusively through direct channels.³¹ In line with this picture, survey evidence shows that the share of European travelers that shop for travel online and book their air travel through a travel provider website than through online travel agencies has sharply increased over the last years. For example, in France, it has grown up to nearly 45% in 2018 starting from nearly 35% in 2012, with a drop to 30% in 2014 (similar patterns are found in Germany and the UK).³²

A. Robustness and Extensions

The results above depend on some of the assumptions underlying the agency model. In the remainder of this section, we discuss some of the most policy-relevant extensions.

1. *Alternative Bargaining Protocols*

The agency model described above assumes that platforms make “take-it-or-leave-it” offers to the airline. The analysis considerably simplifies in the opposite scenario where the airline has full bargaining power and proposes contracts to the platforms. As intuition suggests, in this case, platforms make zero profits, so the only source of inefficiency is related to the TAs’ markups. Wholesale price-parity then provides a commitment device to mitigate double marginalization. Importantly, the same outcome realizes if the airline bilaterally bargains with each platform over the fee that maximizes their joint profit, and the bilateral surplus is then split through a fixed payment. In this case, efficient bargaining aligns the airline and the platforms’ incentives toward reducing the multiple marginalization problem. Hence, wholesale price-parity may be procompetitive, irrespective of the relative bargaining power of platforms and seller, but it is more likely to do so the greater is the bargaining power of the airline.

2. *Resale Price Maintenance*

RPM, or even a price-cap, allows the airline to eliminate the TAs’ markups. Thus, wholesale price-parity has no positive effect on consumer welfare because there is no marginalization problem to address. However, wholesale price-parity leads to higher fees and, therefore, higher retail prices and lower

³¹ See The Beat, “Lufthansa Group’s Direct Booking Share Surpasses 50 Percent”, (2019), <https://www.thebeat.travel/News/Lufthansa-Group-Direct-Booking-Share-Surpasses-50-Percent> (accessed 15 october 2020).

³² See Phocuswright, “Europe Consumer Travel 2018: Shopping and Booking”, (2018), available at <https://www.phocuswright.com/Travel-Research/Consumer-Trends/Europe-Consumer-Travel-2018-Shopping-and-Booking>, (accessed 15 october 2020).

consumer surplus for the same reasons illustrated in Section II. Hence, wholesale price-parity will prove anticompetitive when implemented alongside RPM.

3. *Interlocking Relationships*

Some TAs patronize more than one platform, that is, they multihome. Thus, in practice, platforms compete not only for the business of single-homing TAs but also to increase their share of the business of multihoming TAs. This may thus incentivize platforms to lower their fees to gain market shares downstream whether or not there is wholesale price-parity. Hence, the likelihood that the net competitive effect of these provisions is positive will increase.

4. *Competing Airlines*

With competing airlines in the upstream market, the effect of wholesale price-parity depends on the degree of competition between the direct and the indirect distribution channels, as well as on the possibility for the airlines to develop their own direct distribution channels (in competition not only between them but also with the indirect distribution channels, see Section III.C). In this respect, it is useful to recall that Johnson³³ shows that when there is no direct channel, the same logic of Boik and Corts³⁴ applies with competing airlines. Actually, competition in the upstream market makes the anticompetitive effect of parity provisions even worse because platforms charge higher commissions to the airlines, who pass on these higher commissions to the TAs, thus reducing consumer surplus. By contrast, Johansen and Vergé³⁵ show that retail price-parity provisions may actually improve consumer surplus when competition in the upstream market is fierce enough and airlines, distributing their products also through their own direct channel, can delist from platforms charging commissions that are too high, and intensify competition through their direct channels.

5. *Specific Investments and the Hold-up Problem*

Platforms often invest in activities that improve the quality of their products/services, and this incentive is higher as their profits grow large. Hence, the effect of wholesale price-parity on such investments depends on whether the provision increases or reduces platforms' profits, which in turn depends on the extent of competition within and between distribution channels. When wholesale price-parity benefits both platforms and consumers, the airline would have the incentive to negotiate such a provision to stimulate platforms'

³³ Justin P. Johnson (2017), *supra* note 20.

³⁴ Andre Boik & Kenneth S. Corts (2016), *supra* note 8.

³⁵ Bjørn O. Johansen & Thibaud Vergé (2017), *supra* note 7.

investments. However, as soon as investments are sunk, the airline will want to terminate the contract: a standard hold-up problem.

6. *Price Commitment*

One last comment worth making is that when the airline can commit to the price in the direct channel before TAs set their retail prices, the beneficial effect of wholesale price-parity is completely dissipated. The reason is the following. Wholesale price-parity induces the platforms to increase the fees charged to the airline. However, when the airline sets its prices early on and commits to them, it cannot compensate for the impact on sales of its higher access price with a lower price in the direct channel.

B. Full-Content Agreements

Two different kinds of wholesale price-parity agreements are common in the airline distribution industry: (a) the agreements that we have considered thus far, which only limit the airlines' pricing discretion across indirect distribution channels, and (b) so-called *full-content* agreements (FCAs), according to which airlines negotiate with GDSs a retail price to be charged in the direct distribution channel in exchange for lower GDS fees. Unlike retail price-parity agreements, FCAs are likely to be efficient.

While these agreements may limit the moderating effect on platforms' fees of competition from the direct distribution channel, airlines will not give up the leverage provided by its direct distribution channels unless platforms reduce their fees by as much as they would do in the absence of a full content agreement. Hence, access and retail prices need not be higher under a full content agreement. Furthermore, consumer welfare will tend to be higher if consumers can find the same content in their preferred distribution channel, which is precisely what a full content agreement ensures.

C. Direct Connect Solutions

Direct connect refers to a distribution channel through which airlines distribute their content directly to TAs on a one-to-one basis. [Figure 3](#) offers a stylized description of the industry under such an agreement.

It has been argued that these solutions may be procompetitive, since airlines may save on GDS fees, either by diverting traffic away from GDSs or because, by providing a threat to GDSs, direct connect may enable airlines to negotiate lower GDS fees.

In a recent article, Padilla and Piccolo³⁶ study the extent to which this logic is grounded on solid economic principles and argue that things are

³⁶ Jorge Padilla & Salvatore Piccolo, *Does Direct Connect Benefit Travellers?* 188, *ECONOMICS LETTERS*, 108952, (2020).

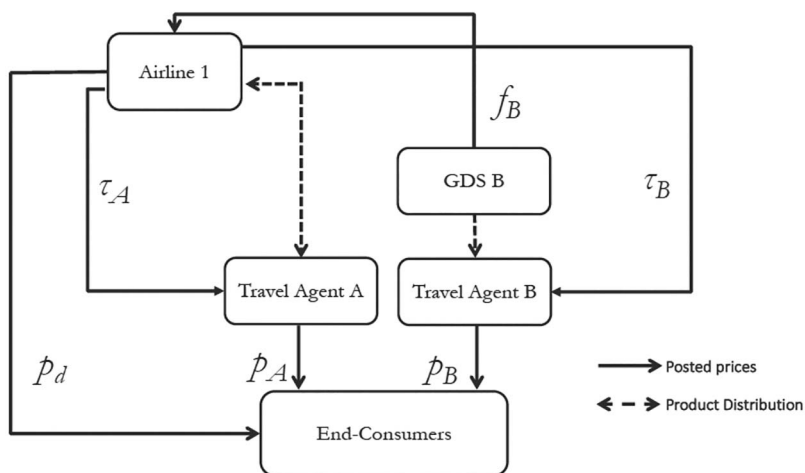


Figure 3. Industry structure with direct connection.

not as simple as they look. They consider an agency model in which an airline distributes its fares (content) both directly, through its own distribution channel, and indirectly, through two TAs. Absent direct connect, the TAs rely on the IT infrastructure provided by GDSs to buy the airline's content on behalf of final consumers. By contrast, with direct connect, the airline grants direct access to its content to one TA, while the other continues to access the market through a GDS. Figure 3 illustrates the payment structure under direct connection.

The model shows that the effect of direct connect on consumer surplus is ambiguous and depends on the degree of competition between TAs and between them and the direct distribution channel. When granting direct access to its sales system, the airline has an incentive to reduce demand for the content distributed indirectly. The TA using the GDS platform is thus charged an input price larger than the TA operating under direct connection. Since input prices are passed on to travelers, the demand for the content distributed directly and through the TA operating under direct connect increases. The airline can then increase the price paid by travelers in the direct channel without being afraid of losing business to the indirect channel (in particular to the TA using the GDS platform). When many passengers consider the direct and indirect distribution channels to be close substitutes, TAs increase their prices too, thereby harming consumers.

IV. POLICY IMPLICATIONS

Building on the most recent economic literature, we have assessed the competitive effects of wholesale price-parity agreements in multilayered industries

operating an agency distribution model, where sellers distribute directly and indirectly (through distribution platforms), intermediaries connect with sellers through indirect distributors and consumers deal with sellers either directly or indirectly through intermediaries (and hence platforms).

While retail price-parity agreements, both wide and narrow, are typically anticompetitive absent efficiencies, the opposite may be true for wholesale price-parity agreements in the industries just described. A necessary condition for that positive outcome is that intrabrand competition and, specifically, competition between direct and indirect distribution, is strong enough. Wholesale price-parity is more likely to increase consumer welfare when (i) the distribution platforms' bargaining power is significant; (ii) intermediaries multihome, and (iii) there is significant interbrand competition (that is, competition among sellers).

The procompetitive nature of wholesale price-parity agreements is due to these provisions reducing the multiple margins that pile up along the supply chain. Therefore, there is no justification as a matter of economics to treat these provisions, which are commonly observed in the airline ticket distribution industry, as anticompetitive *per se*. Rather, their competitive assessment should be based on a case-by-case approach, since they need not restrict competition and, instead, could be consumer welfare-enhancing even in the absence of efficiencies. This is in sharp contrast with retail price-parity agreements, as those typically observed in the hotel booking industry.

Hence, a policy that deals with parity agreements without distinguishing between wholesale and retail price-parity and/or without investigating in detail the economic context under which such clauses operate is bound to result in overenforcement. Importantly, competition authorities should not presume that consumers' incentives are necessarily aligned with those of the sellers and necessarily in conflict with those of indirect distribution platforms. We have identified circumstances under which the opposite is true.

Our analysis and its conclusions abstract from possible efficiencies associated with parity restrictions as well as from information-based efficiencies that typically arise when distribution platforms are able to collect consumer data and use such information to customize and advertise their products. Distribution platforms, such as OTAs and GDSs, typically need to invest substantial resources in the development of their platforms. Those investments include building infrastructure, developing algorithms, securing contracts with their B2B customers, and implementing targeted marketing to attract a sufficient volume of users to make their platforms economically viable. They must also make some recurring investments in expanding their facilities and refining their algorithms. OTAs and GDSs often argue that they need price-parity to appropriately recoup these investments. In the absence of parity, for example, their customers could use their functionality to review and compare options but then might use a cheaper alternative, that is, another platform or the direct distribution channel to make their bookings. When bookings are

not made on their platforms, they obviously fail to be remunerated for the efforts put in their development, and alternative distribution outlets effectively “free-ride” on their investments.³⁷ Parity clauses would provide some form of *ex-post* protection by eliminating their customers’ incentives to a showroom and, therefore, free-ride.³⁸ Of course, this protection is less critical when platforms can monetize the data they collect from their users in different ways, making it less likely that they would be unable to profit from their investments even if showrooming were a problem.

We conclude by discussing the three potential extensions of the analytical framework reviewed here. First, we have not considered sellers’ incentives with attractive direct distribution channels to discriminate against indirect distribution channels to foreclose competing sellers unable to distribute directly on a level playing field. Secondly, in situations where multiple sellers distribute their products through competing distribution platforms, it would be crucial to assess the competitive implications of “platform neutrality,” that is, the obligation, sometimes imposed on platforms such as GDSs, to treat all sellers equally, and whether wholesale price-parity is needed to ensure positive welfare outcomes when such form of neutrality is required. Thirdly, we have not investigated who—sellers or distributors—is likely to impose the parity clauses in reality. If the distributors impose them, because they are more likely to benefit from them, that may suggest that they have some bargaining power *vis-à-vis* sellers. However, that inference may be unjustified as such clauses may be the *quid pro quo* for platform neutrality and/or a mechanism to incentivize investment by indirect distributors.

³⁷ With multihoming the free-riding problem due to showrooming is more severe, but on the other hand direct and indirect distribution channels also compete more fiercely, which makes wholesale price-parity better for consumers. Hence, it seems that wholesale price-parity agreements are less of a concern with multihoming.

³⁸ Another class of instruments that has the same potential competitive effects of price-parity agreements are price-matching guarantees. Platforms may offer standard price-matching guarantees in the hope that this would stop consumers for further search, with suitably designed small print or hassle costs. See, e.g., Maria Arbatskaya, Morten Hviid, & Greg Shaffer, *On the incidence and variety of low-price guarantees*, 47(1), THE JOURNAL OF LAW AND ECONOMICS, 307, 332 (2004).