



Should Lima airport concessionaire be allowed to obtain monopolistic rents by charging foreigners a transfer fee?

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SHOULD LIMA AIRPORT CONCESSIONAIRE BE ALLOWED TO OBTAIN MONOPOLISTIC RENTS BY CHARGING FOREIGNERS A TRANSFER FEE?

ENZO DEFILIPPI

ABSTRACT

Jorge Chavez International Airport (JCIA) is Peru's main airport, handling 95% of the country's international traffic. Since its concession in 2001 international transfers have grown 15 times and in 2019 represented 42% of the international outbound traffic. This substantial increase, and the fact that transfer passengers do not pay a fee for the use of the airport's infrastructure, suggest a misalignment between the incentives faced by concessionaire and the public interest. This misalignment has the potential of reducing the Peru's air connectivity in the future.

The goal of this paper is to assess: (i) if it is convenient to authorize the JCIA's concessionaire to charge a transfer fee to foreign nationals even though this might generate economic rents, and (ii) if so, whether this fee should be set by the market or by the regulator. Results suggest that it would be desirable to allow the concessionaire to charge a transfer fee even if this results in economic rents, and that JCIA faces competition within the geographic market of international transfer services, which implies that if fee is authorized it should not be set by the regulator.

KEYWORDS: air connectivity, economic regulation, airport regulation, airport competition, transfer traffic.

1. INTRODUCTION

Jorge Chavez International Airport (JCIA) is Peru's main airport. When it was concessioned to a private operator, in 2001, 90% of the international traffic it handled was O&D and only the remaining 10% was transfer traffic. Costs related to the latter were covered by the fees collected from international departures.

Neither the government agency in charge of the concession process nor its advisors foresaw major changes in the demand structure, so it was not considered convenient to create a separate fee for transfer passengers. This assumption, however, proved to be wrong. Transfer traffic¹ grew tenfold since 2002 and represented 40% of international outbound traffic² in 2020. One of the results of this demand change was an increase in the number of international routes from and to Peruvian airports increased from 21 in 2001 to 50 in 2019. In 2018, the AIJC offered 830 international flights per week (LAP, 2018).

However, the fact that the concession contract stipulates that a second runway has to be built by 2022 and a new international terminal by 2025 poses an unexpected problem for the regulator, since the concessionaire cannot collect fees from transfer passengers. Thus, the more profitable flights are those with the higher origin-and-destination-to-transfer ratio. This fact creates incentives for the concessionaire to design a terminal that discourages transfer traffic in order to repay the US\$1.5 billion investment.

This situation suggests a misalignment between the incentives faced by the concessionaire and the public interest, since airports with the largest numbers of passengers (both O&D and transfer) have higher degrees of connectivity and dilute costs more efficiently (which leads to lower passenger fees). For the JCIA's concessionaire, however, transfer passengers are nothing but free riders.

Given that JCIA handles more than 90% of Peru's international traffic (MTC, 2020), this perverse structure of incentives has the potential of negatively affecting the country's air connectivity for years.

The goal of this paper is to assess if it is convenient for the regulator to authorize the JCIA's concessionaire to charge a fee for transfer passengers even though this might allow obtaining economic rents, and if so, whether this fee should be set by the regulator or the market. The former is assessed analyzing the concessionaire's structure of incentives, while the latter is assessed analyzing the origin and destination of transfer passengers and determining if they have alternatives to connect their international flights.

The paper is structured as follows: in the following section, the importance of air connectivity for Peru is discussed. The third section presents JCIA's relevant data and analyzes the consequences of the regulator's decision not to authorize a fee for transfer passengers, while the fourth section analyzes whether a transfer fee should be set by the regulator. Section 5 presents the conclusions of the paper.

1 Non-resident passengers using JCIA to connect international flights.

2 Departures originating in Peru (does not consider transfer traffic).

2. INCENTIVES, DECISIONS, AND DILEMMAS

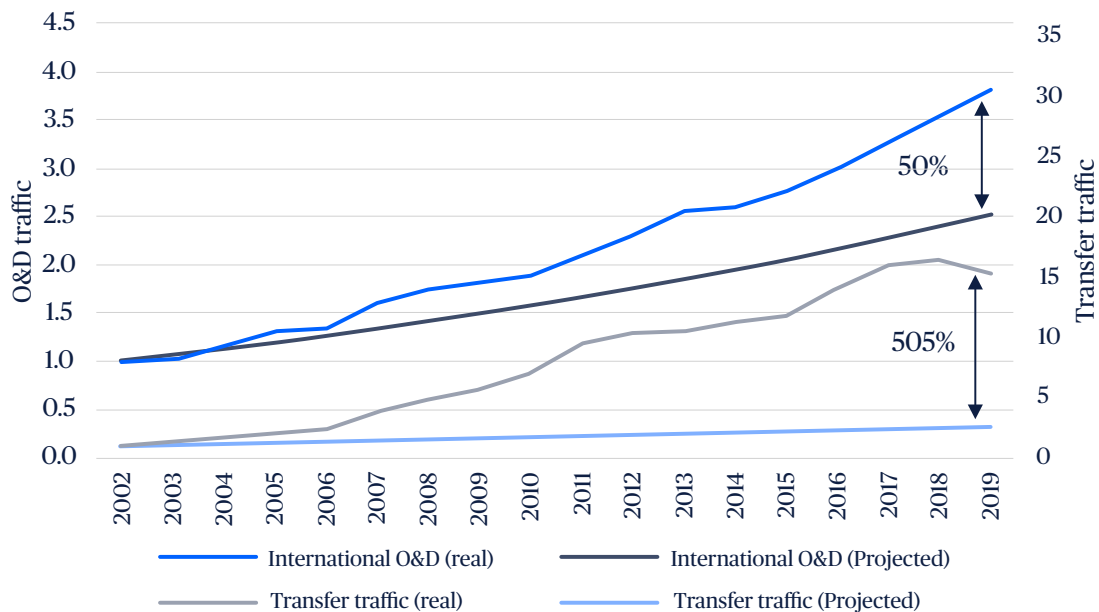
2.1 Jorge Chavez International Airport

Peru has a network of 19 airports. The most important is JCIA, serving Lima. In 2019, it handled 13 million domestic passengers and 10.4 million international passengers (95% and 84% of the country's total, respectively).

The airport was concessioned in 2001 for a period of 30 years. The concession was awarded to a consortium led by the operator of the Frankfurt airport (Ositrán, 2021). A subsidiary, Lima Airport Partners (LAP), was created to act as the concessionaire.

International traffic has grown substantially since LAP started operating the airport, especially the number of transfer passengers. Between 2002 and 2019 origin-and-destination (O&D) traffic grew 8.1% a year on average, while transfer traffic grew by more than twice that rate (174%). As a result, O&D traffic in 2019 was 50% above what was projected when the airport was concessioned, but transfer traffic was more than 5 times what was projected (see Figure 1).

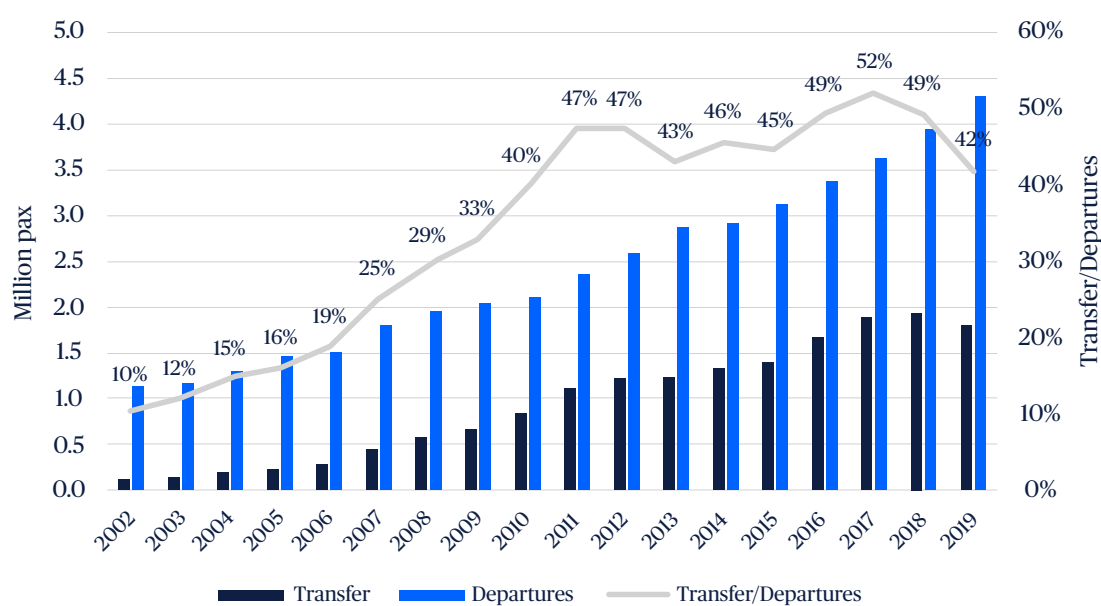
Figure 1. JCIA: Real and Projected O&D and Transfer Traffic (2002 - 2019)



Source: COPRI (2000), LAP (2020), MTC (2021) and Ositrán (2020).

Figure 2 shows transfer as a percentage of departure traffic between 2002 and 2019. It can be seen that this percentage grew each year until 2011, from 10% to 46%. Since revenues are collected from fees paid by departing passengers, this figure also shows the extension of the free riding problem at JCIA. One third of passengers that embark at the airport do not contribute to its maintenance and expansion.

Figure 2. JCIA: Transfer Traffic and Departures (2002-2019)



Source: LAP (2020) and Ositrán (2020).

2.2 The transfer fee problem

The letter of the concession contract is not clear regarding whether the concessionaire is allowed to charge the regulated airport fee to transfer passengers.³ However, Ositrán, the transport infrastructure regulator, interpreted the clause in 2004 and ruled that it only applies to departing passengers (Ositrán, 2004).

According to Ositrán, this is not possible because the airport fee, as defined in the contract, covers a larger set of services than the one provided to transfer passengers. Thus, if the concessionaire wants to collect revenue from transfer passengers Ositrán would have to set a special fee for this purpose and deduct all the costs related to transfer traffic from the costs covered by the current airport fee (Ositrán, 2004). Otherwise, it would be allowing a regulated monopolist to obtain economic rents.

The concessionaire's behavior since 2004 (not requesting setting this fee) reveals that they do not consider this option appealing, arguably due to the uncertainty of the outcome. In this situation, it is difficult to foresee a change in the perverse incentive structure discussed above.

The main reason behind this conundrum seems to be the regulator's negative to allow the concessionaire to obtain economic rents, which is, arguably, one of the main objectives of any agency in charge of regulating monopolies. However, considering that if a transfer fee is authorized those who would pay it will be passengers of flights that do not have Peru as origin or destination (i.e., non-Peruvians), and that doing so would align the concessionaire's incentives with the public interest, would it really be an unwise decision to allow it?

2.3 Analysis under a game theory approach

We will now use a game theory approach to analyze the possible consequences of authorizing the collection of a transfer fee. In order to do so, we will assume that the regulator cannot observe if the concessionaire makes the effort to continue its strategy of promoting JCIA as a regional hub, and that no one can guarantee that connectivity will increase regardless of the level of effort put by the concessionaire. Figure 3 shows the possible outcomes, while Table 1 shows the expected profits for the concessionaire and Peruvian international travelers.

It is important to notice that if a transfer fee is allowed, those who would pay it would be foreign nationals traveling from origins outside Peru to destinations also located outside the country.

3 It refers to 'embarking passengers' without differentiating between departure and transfer passengers.

Figure 3. The regulator's dilemma and possible outcomes

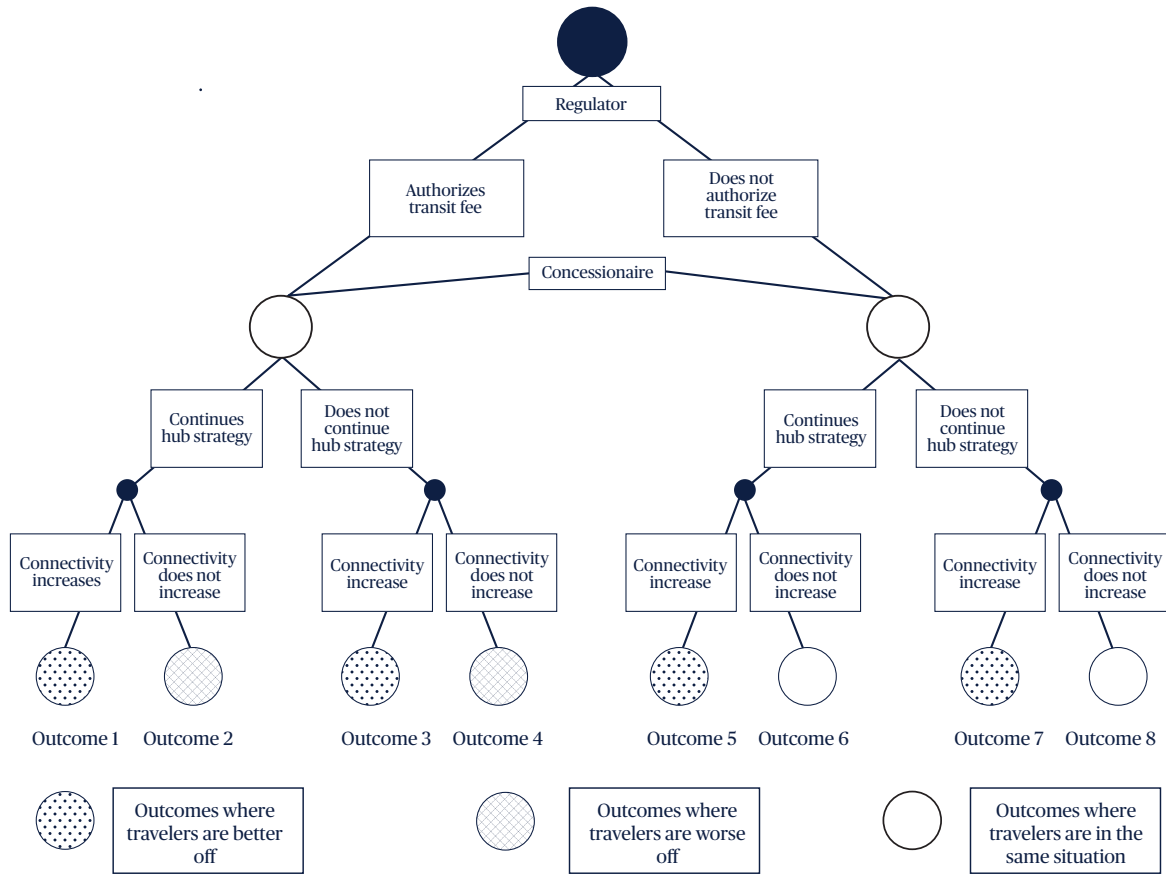


Table 1. Table of profits

Outcome	(Concessionaire; Travelers)	Concessionaire	Travelers
1	(Tf.Tq-E ; V-Tc)	Better off	Better off
2	(Tf.Tq-E ; -Tc)	Better off	Worse off
3	(Tf.Tq ; V-Tc)	Better off	Better off
4	(Tf.Tq; -Tc)	Better off	Worse off
5	(-E ; V)	Worse off	Better off
6	(-E, 0)	Worse off	Same situation
7	(0 ; V)	Same situation	Better off
8	(0 , 0)	Same situation	Same situation

Where:

- Tf = Transfer fee
- Tq = Transfer traffic
- E = Cost of the concessionaire's effort to increase connectivity
- Tc = Costs related to transfer traffic
- V = Benefits related to an increased connectivity

The four first outcomes refer to a situation where the regulator decides to authorize the transfer fee. The first outcome is the case where the concessionaire decides to continue their hub strategy and air connectivity increases. In this case, both the concessionaire and Peruvian international travelers will be better off if the revenues collected from transfer traffic are higher than the cost of the effort to increase connectivity (TfTq-E)

and if the benefits of an increased connectivity outweigh the costs related to transfer traffic that would not be deducted from the airport fee paid by Peruvian international travelers (V-Tc). Both situations seem reasonable.

The second, third and fourth outcomes refer to situations where the concessionaire would be better off since they are allowed to collect fees from transfer passengers (Tf.Tq or Tf.Tq-E) but international travelers would be worse off unless air connectivity increases (-Tc or V-Tc).

Outcomes five to eight describe situations where the regulator does not authorize the concessionaire to charge a transfer fee. The concessionaire would be worse off if they continue to implement its strategy of promoting JCIA as a regional hub (which is unlikely) and in the same situation if they do nothing. Travelers would be better off if connectivity increases due to reasons beyond the concessionaire (the growth of the economy, an increased demand for travel, or a similar reason).

As one can see, there is little to gain from the regulator's decision not to authorize a transfer fee. In this case, connectivity can only increase by chance and despite the incentives the concessionaire faces to discriminate against transfer traffic. On the other hand, even assuming that the regulator cannot know if the concessionaire makes efforts to increase connectivity or if these efforts are fruitful or not, there is a 50% probability that authorizing this fee will make Peruvian international travelers better off. Even more so if one considers that those paying the fee would be foreign nationals and the rents the concessionaire would generate from them would pay taxes and regulatory fees in Peru.

3. SHOULD A TRANSFER FEE BE SET BY THE REGULATOR OR BY THE MARKET?

Due to its large potential to spawn market distortions, economic regulation is only warranted when competition is not possible (Guasch and Spiller, 1999). For this reason, should a transfer fee be authorized, there would still be the need to determine whether it has to be set by the regulator or left to be set by market forces. This requires the definition of the market for the service and an assessment of the degree of competition that would occur in the absence of regulation. If passengers do not have alternatives, JCIA would be in a position to exercise market power and charge high fees. In this case, regulation would be needed to mitigate market power. If transfer passengers do have alternatives, i.e, the market provides them with substitutes to JCIA, regulation would not be justified.

The standard procedure to define the relevant market involves the definition of the market for the service (to include all options that satisfy the same necessities from the view of the consumer) and the geographical area where competition would take place (Motta, 2004). In this case, the service under analysis is the provision of infrastructure to connect international flights. The alternatives to transfer at JCIA that passengers have are: (i) embarking in non-stop flights; and (ii) to use other airports to connect their points of origin and destination.

The geographic market is the area of origin and destination of passengers that use JCIA as a transfer point. In 2018, JCIA handled 1.9 million transfer passengers. Table 2 shows that almost 60% of this traffic arrived and departed from eight cities: Buenos Aires (Argentina), Bogotá (Colombia), Cancun (Mexico), La Paz (Bolivia), Miami (USA), Punta Cana (Dominican Republic), Santiago (Chile) and Quito (Ecuador) (see Figure 4).

Table 2. Origin and destination of transfer traffic at JCIA, 2018

Origin/Destination	Passengers	% of total
Santiago, Chile	260,405	13.5%
Buenos Aires, Argentina	239,470	12.4%
Cancun, Mexico	143,306	7.4%
Bogota, Colombia	129,112	6.7%
Punta Cana, Dominican Republic	106,285	5.5%
Miami, USA	95,691	5.0%
La Paz, Bolivia	87,296	4.5%
Quito, Ecuador	73,775	3.8%
	Total	58.9%

Figure 4. Origin and destination of transfer traffic at JCIA, 2018



Source: LAP (2018)

To determine if there are airports that compete with JICA for transfer traffic within the geographic market, all possible routes to and from these destinations were analyzed in January 2022 (17 combinations). These are shown in Table 3.

The analysis of Table 3 allows drawing the following conclusions:

- a. Out of 17 routes within the geographic market, JICA is transfer option for only 12 of them. There are five routes that do not use JICA as a transfer point.
- b. Passengers traveling to or from seven of the eight cities located within the geographic market have alternatives to using JICA (the only exception is La Paz, for which four out of seven routes only have JICA as an option). This evidence indicates that there are actual substitutes to using JICA as a transfer point within the geographic market.
- c. JICA is an option for all routes connecting Santiago and La Paz to other destinations within the geographic market, but only to routes connecting Buenos Aires with Bogotá and Cancun. JICA does not compete with BOG and PTY for routes connecting the Argentinian capital with Miami, Punta Cana, and Quito.
- d. JICA faces competition from Bogotá's El Dorado International Airport (BOG) and Panama's Tocumen International Airport (PTY) in all routes with origin or destination Santiago and in the Buenos Aires-Bogotá and Buenos Aires Cancun routes. There are also very price-competitive non-stop routes connecting Santiago and Buenos Aires to Bogotá and Miami.
- e. In the case of routes with origin or destination La Paz, JICA is the only option for routes connecting this city with Bogotá, Miami, Punta Cana, and Quito; but it is not an option for La Paz-Santiago and La Paz-Buenos Aires routes.
- f. The existence of competing airports and non-stop routes implies that JICA is not in a position to impose high transfer fees through the exercise of market power. In this situation, regulation is not warranted, and its application is likely to distort the market.

Table 3. Alternatives to JCIA within the geographic market, January 2022

Santiago-Bogotá			Buenos Aires-Bogotá			La Paz-Bogotá		
Transfer airport	Dur	Price	Transfer airport	Dur.	Price	Transfer airport	Dur.	Price
Non-Stop	6h	552	Non-stop	6h35m	1,878	Lima (LIM)	6h38m	735
Lima (LIM)	8h34m	860	Lima (LIM)	9h29m	1,650	La Paz-Cancun		
Santiago-Cancun			Panama (PTY)	9h51m	1,464	Transfer airport	Dur.	Price
Transfer airport	Dur.	Price	Sao Paulo (GRU)	11h50m	1,218	Lima (LIM)	10h27	849
Lima (LIM)	11h14	925	Buenos Aires-Cancun			La Paz-Miami		
Bogotá (BOG)	11h50m	922	Transfer airport	Dur.	Price	Transfer airport	Dur.	Price
Panama (PTY)	10h31m	1,547	Panama (PTY)	11h54m	1,803	Santa Cruz (VVI)	11h20m	712
Mexico (MEX)	13h1m	1,245	Lima (LIM)	11h15m	2,557	Lima (LIM)	13h17	633
Santiago-Miami			Bogotá (BOG)	12h0m	1,984	La Paz-Punta Cana		
Transfer airport	Dur.	Price	Houston (IAH)	14h40m	1,329	Transfer airport	Dur.	Price
Non-Stop	8h9m	742	Buenos Aires-Miami			Lima (LIM)	10h27	714
Bogotá (BOG)	11h10m	834	Transfer airport	Dur.	Price	La Paz-Quito		
Lima (LIM)	11h10m	895	Non-stop	8h42	1,332	Transfer airport	Dur.	Price
Santiago-Punta Cana			Panama (PTY)	11h38m	1,005	Lima (LIM)	13h24m	743
Transfer airport	Dur.	Price	Bogotá (BOG)	12h25m	1,177	La Paz-Santiago		
Panama (PTY)	10h9m	975	Buenos Aires-Punta Cana			Transfer airport	Dur.	Price
Bogotá (BOG)	10h20m	861	Transfer airport	Dur.	Price	Santa Cruz (VVI)	5h35m	633
Lima (LIM)	10h55m	898	Bogotá (BOG)	10h40m	1,684	La Paz-Buenos Aires		
Santiago-Quito			Panama (PTY)	11h0m	1,674	Transfer airport	Dur.	Price
Transfer airport	Dur.	Price	Buenos Aires-Quito			Santa Cruz (VVI)	5h15m	442
Bogotá (BOG)	9h15m	1,125	Transfer airport	Dur.	Price			
Panama (PTY)	9h48	1,177	Bogotá (BOG)	9h35m	2,236			
Lima (LIM)	11h56m	860	Panama (PTY)	13h56m	1,607			

Source: Google Flights (January 16th, 2022). Travel dates: Thursday, February 17th, 2022; to Tuesday, February 22nd, 2022.

The following options were not considered: (a) flights with more than one stop; (b) flights that last twice as much as the fastest non-stop option; (c) flights that last 50% more than the fastest one-stop flight; and (d) flights that cost twice as much as the cheapest option.

Given that JCIA is the only option for four routes connecting La Paz with Bogotá, Cancun, Punta Cana and Quito, it would be possible for JCIA to exercise market power and impose higher-than-reasonable transfer fees for these routes in an unregulated market. However, according to what is shown in Table 2, passengers with origin or destination La Paz represent only 4.5% of the transfer traffic at JCIA.

In this case, regulating a fee that has the potential to distort the market because a fraction of 4.5% of the traffic could be subject to higher-than-reasonable prices does not seem to be reasonable either. Evidence strongly suggests that it would not be possible for JCIA to exercise market power in at least 95%+ of the market.

4. CONCLUSIONS

The objective of this paper was to assess if it is convenient for the regulator to authorize the JCIA's concessionaire to charge a fee for transfer passengers and if so, whether this fee should be set by the regulator or by the market. The study provides evidence that it would be desirable to allow JCIA's concessionaire to obtain economic rents if this aligns the economic incentives they face with the public interest. Indeed, even assuming that the regulator cannot know if the concessionaire makes efforts to increase connectivity or if these efforts are fruitful or not, there is a 50% probability that Peruvian international travelers will be better off.

There is also evidence that JCIA faces competition for transfer traffic within the geographic market of the service, which implies that in the event that the fee is authorized, it should not be set by the regulator. The fact that there are non-stop options and other airports willing to deviate transfer traffic from JCIA illustrates how easily a misalignment of the incentives faced by the JCIA's concessionaire and public interest can result in reduced connectivity.

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