

Empirical analysis of network construction determinants of Azul Airlines

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Introduction

publicado em 15 de dezembro de 2008 - 15h18

-A +A 

Azul começa hoje operação com primeiro vôo entre Campinas e Salvador

Da Redação

Extracted from Portal Eventos, Dec 15th, 2008

Azul begins operations with first flight between
Campinas and Salvador

Introduction

Timeline: Azul completes ten years of operations

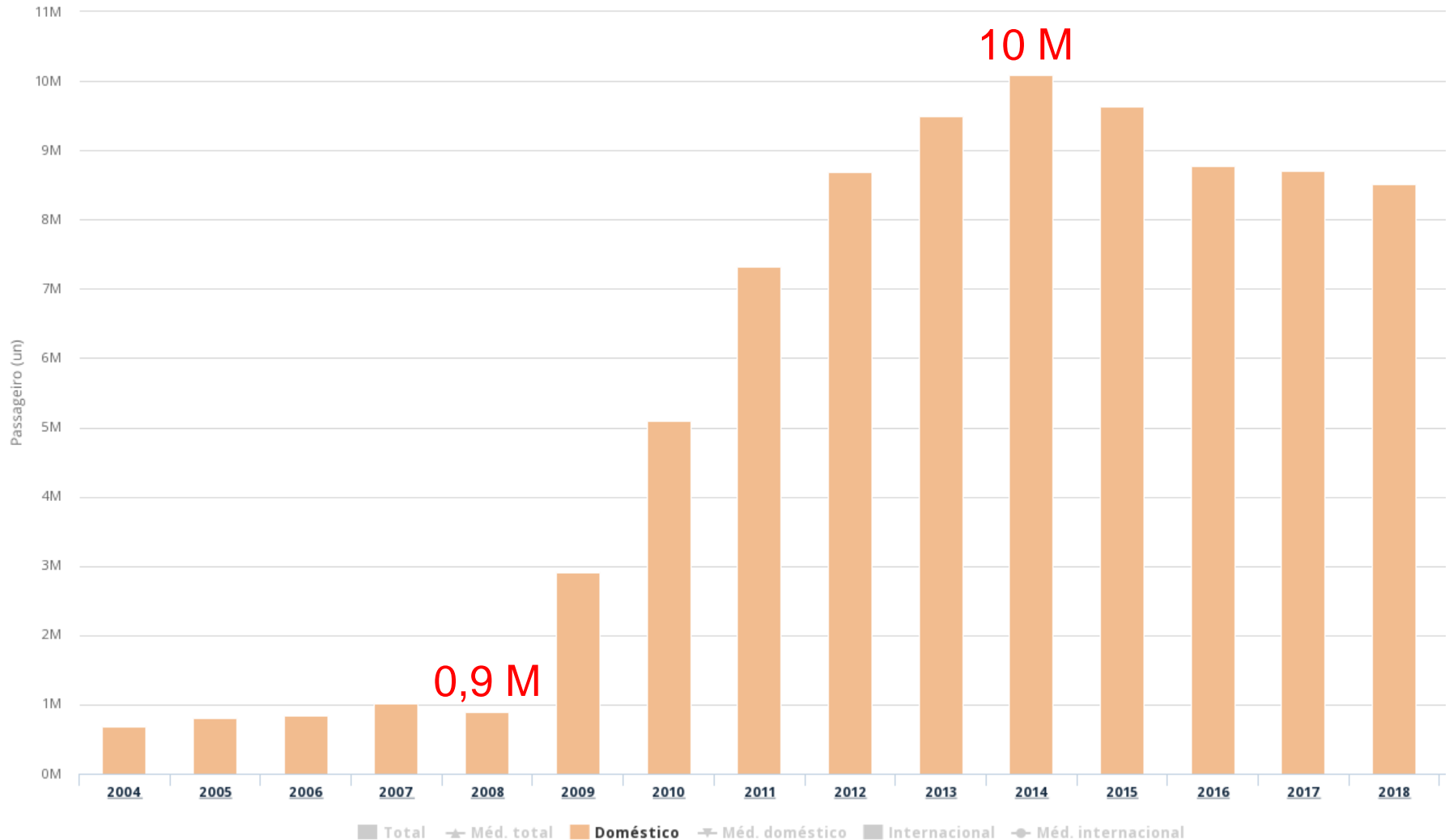
MATÉRIAS ESPECIAIS

Linha do Tempo: Azul completa dez anos de operações

EM 22/12/2018 • (DEIXE UM COMENTÁRIO)

Extracted from Ponte Aérea, Dec 22th, 2018

Azul in Viracopos airport: Pax



Azul in Brazil

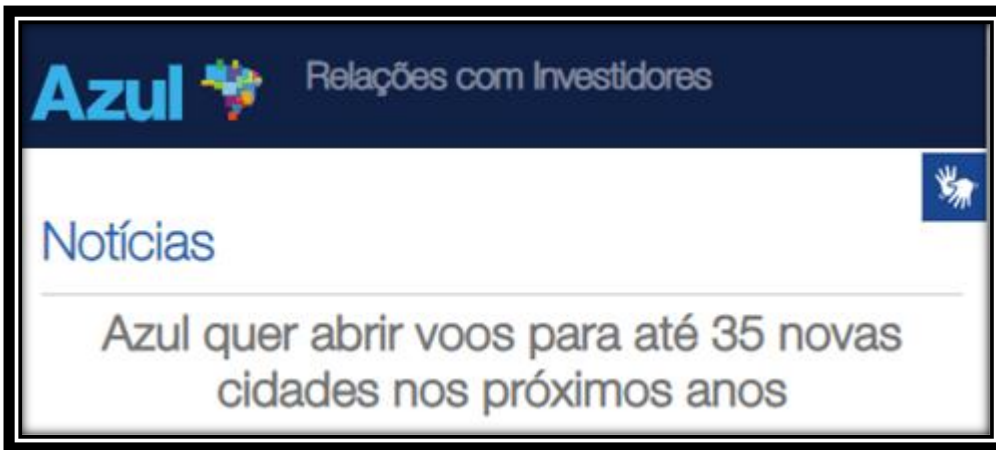
December, 2008



December, 2018



Azul in Brazil



Azul wants to enter up to 35 new cities in the next few years.

December, 2018









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Virgin America Gets Takeover Bids From JetBlue and Alaska Air

By [Ed Hammond](#), [David Welch](#), and [Mary Schlangenstien](#)

March 28, 2016, 3:45 PM GMT-3



Valor^{INTERNATIONAL}

Briefs

Azul and Trip merge to create Brazil's third largest airline

05:24 PM (GMT -03:00) – May 28 2012



Valor^{INTERNATIONAL}

Briefs

Azul and Trip merge to create Brazil's third largest airline

05:24 PM (GMT-03:00) – May 28 2012










Regional airline
81 cities served



Objectives of the research

- Analyze the network construction determinants of Azul Airlines.
- Effects of the merger on its business model.
- Compare Azul's entry determinants with JetBlue's.

Literature review

Authors	Conclusions
Morrison & Winston (1990) Joskow et al. (1994) 	Presence in the pair of airports (+)
Sinclair (1995) 	Hub (+)
Dresner et al. (2002) 	Presence of airport barriers (-)
Ito & Lee (2003) 	Density (+)
Boguslaski et al. (2004) Oliveira (2008)  	Distance (+) Density (+)
Müller et al. (2012) 	Long routes (+) Concentrated airports (-) Concentrated routes (+) Presence of LCCs in the routes (-)
De Wit & Zuidberg (2012) 	Distance (+) Mergers and acquisitions Shift to primary airports
Dobruszkes et al. (2017) 	Primary airports (+)

Econometric model

- Model: Probit
- Structure: Panel data
- Observation: Directional city-pair
- Number of observations: 70.816
- Time period: December, 2008 to December, 2018
- Data source: ANAC (SINTAC and VRA); compiled by NECTAR
- Variables lagged in 12 months

1 year x 10 years



December, 2009
51 routes



December, 2018
464 routes

Effects of the merger



May, 2012
259 routes



June, 2012
594 routes

Post-merger



June, 2012
594 routes



December, 2018
464 routes

Explanatory variables

Variable	Description
KM	Route distance
PAX	Total number of revenue passengers in the city-pair/1000
MAXCON	Maximum passengers in connection in the city-pair
MAXCON_HUBAZ	Maximum passengers in connection interacted with Azul's hub
TOURISM	Passengers share in charter flights
LARGEHUB	Presence of a hub considered large by FAA in the route
MAXDEL	Maximum delay in the city-pair
HHI	Concentration index of the route
HHI_HUBAZ	Concentrated index of the route interacted with Azul's hub
MAXHHI	Concentration index in the city-pair
PRES_GLO	Presence of the LCC Gol in the route
PRES_WEB	Presence of the LCC Webjet in the route
PRES_TIB	Presence of the regional airline TRIP in the route
PRES_RGC	Presence of small regional airlines in the route
PRES_ONE	Presence of the FSC Avianca in the route

Distance variables

	(1)	(2)	(3)
	ALL_SAMPLE	BEF_MERGER	AFT_MERGER
KM_250_500	base case	base case	base case
KM_500_1000	-0.1376***	-0.0070	-0.1968***
KM_1000_2000	-0.5952***	0.1986***	-0.7761***
KM_2000m	-0.9395***	-0.0346	-1.1739***

p<0.25, * p<0.10, ** p<0.05, *** p<0.01

Demand variables

	(1)	(2)	(3)
	ALL_SAMPLE	BEF_MERGER	AFT_MERGER
PAX	0.5861***	0.7097***	0.5468***
MAXCON	-0.1540***	-1.6880***	0.0497
MAXCON_HUBAZ	2.0523***	2.6634***	1.9789***
TOURISM	0.4302***	0.6894***	0.5335***

p<0.25, * p<0.10, ** p<0.05, *** p<0.01

Airport variables

	(1)	(2)	(3)
	ALL_SAMPLE	BEF_MERGER	AFT_MERGER
LARGEHUB	0.2633***	0.0336	0.3183***
MAXDEL	0.1016	0.5859***	-0.6837***




p<0.25, * p<0.10, ** p<0.05, *** p<0.01

Competition variables

	(1)	(2)	(3)
	ALL_SAMPLE	BEF_MERGER	AFT_MERGER
HHI	-2.3838***	-1.3319***	-2.6480***
HHI_HUBAZ	0.7528***	0.7497***	0.8326***
MAXHHI	-0.4521***	-3.4283***	-0.1726***
PRES_GLO	-0.9925***	-0.1399***	-1.2396***
PRES_WEB	0.7247***	0.2581***	-0.6811***
PRES_TIB	0.1553***	-0.0381	0.7694***
PRES_RGC	-1.0299***	-0.1502***	-1.2384***
PRES_ONE	-1.1569***	-0.8705***	-1.1983***

p<0.25, * p<0.10, ** p<0.05, *** p<0.01

Comparing Azul with JetBlue

Variable			
Distance	+	-	+
Passengers	+	+	NS
Own hub	+	+	+
Competitors' hub	NS	+	NS
Route HHI	-	-	+
Airport HHI	-	-	-
Presence of a LCC	-	-	-

JetBlue's parameters were extracted from Müller, Hüschelelath & Bilotkach (2012).

Considerations

- Entry determinants:
 - Connection with its hubs;
 - Avoids concentrated routes and airports;
 - Route dominance.
- Effects of the merger:
 - Entering shorter routes.
- Comparison with JetBlue:
 - Azul before the merger was closest to JetBlue's business model;
 - Focus on longer routes.

References

- Available at Research Gate:
 - <https://tinyurl.com/thesis-azul>

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