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Has the incumbent an advantage in open access passenger rail competition? A case study on the Prague – Brno line

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New Mobility - High-Speed Transport Systems and Transport-Related Human Behaviour
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Motivation

- Open access competition in CZ has developed substantially
- There is a substantial macro evidence, however much lower coverage of micro effects
- What are the impacts of OA on perception and behaviour of rail users?

What we know and what we do not know?

- The open access in CZ stimulated ridership, created high market shares for newcomers, brought innovations, created regulatory and efficiency challenges (see Tomeš et al. 2014, 2016 and Tomeš – Jandová (2018))
- However less clear is how OA changed perception and behaviour of rail users and why new operators has been so successful in gaining market shares (59% on Prague – Ostrava)

Literature

- Paha et al. (2013): **Status quo bias** with a preference for the service provider (beyond the impacts captured by loyalty enhancing tools)
- Froidh – Bystrom (2013): The **preference for established operators** – their brands are valued highly by consumers.
- Evidence based on (very limited) literature: the incumbent seems to have a significant advantage over the newcomers. However, this is not what are we observing in CZ. Why?

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Methodology

- Data from consumer survey
- Analysis of descriptive statistics
- Two logit models
- Qualitative verification

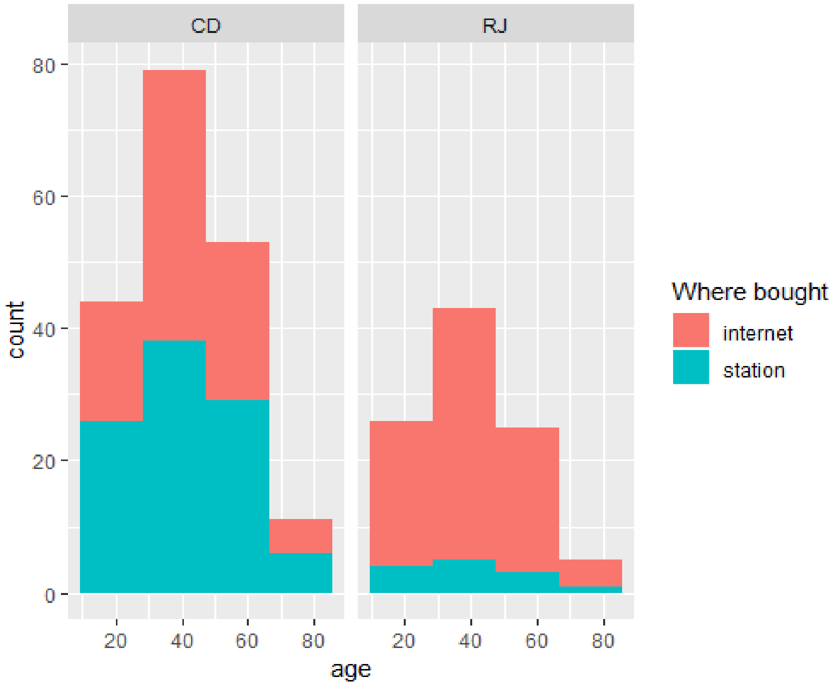
Prague – Brno line

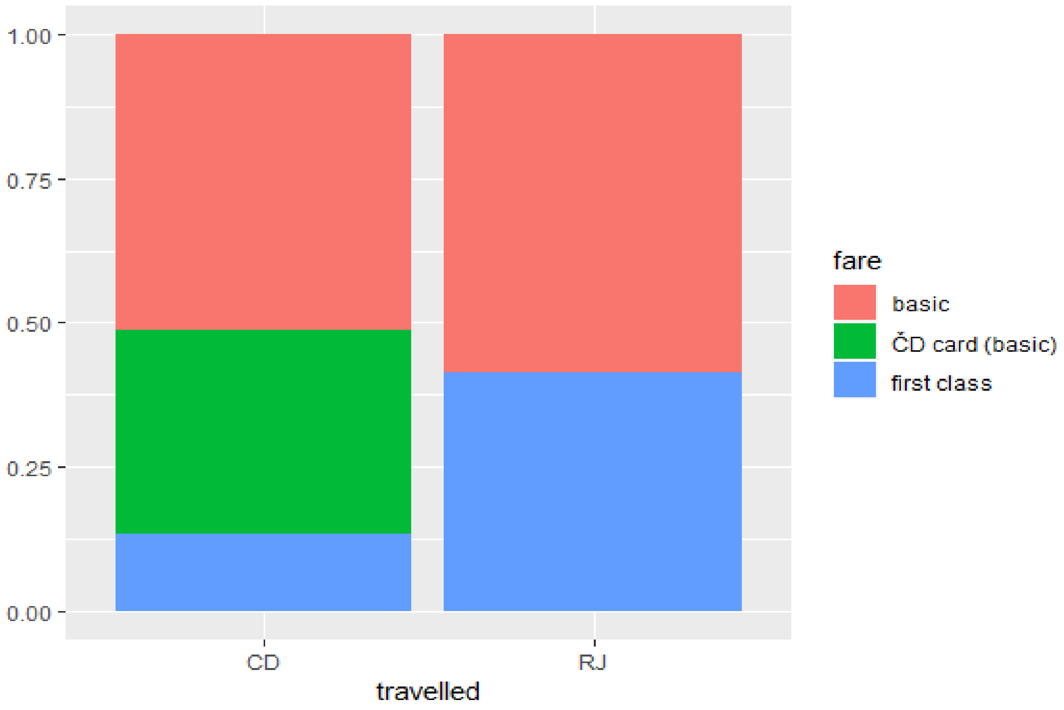
- Connection of two biggest cities in the Czech Republic
- Direct highway in-between, however often congested
- Until 2016 only ČD (incumbent) trains on the line
- In 2016 RJ entered with 4 trains per day (against ČD's 28)
- In 2017 consumer survey on this line

Descriptive statistics of the survey (N=286)

Variable		%	Variable		%
Gender			Operator		
-	Male	49	-	RJ	35
-	Female	51	-	ČD	65
Education			Purpose		
-	Primary	2	-	Work	69
-	Secondary	27	-	Study	12
-	Tertiary	71	-	Private	19
Age			Frequency		
-	0–24	14	-	Weekly	25
-	25–39	41	-	Monthly	35
-	40–59	33	-	Other	40
-	60–76	12			

Where customers bought their tickets?

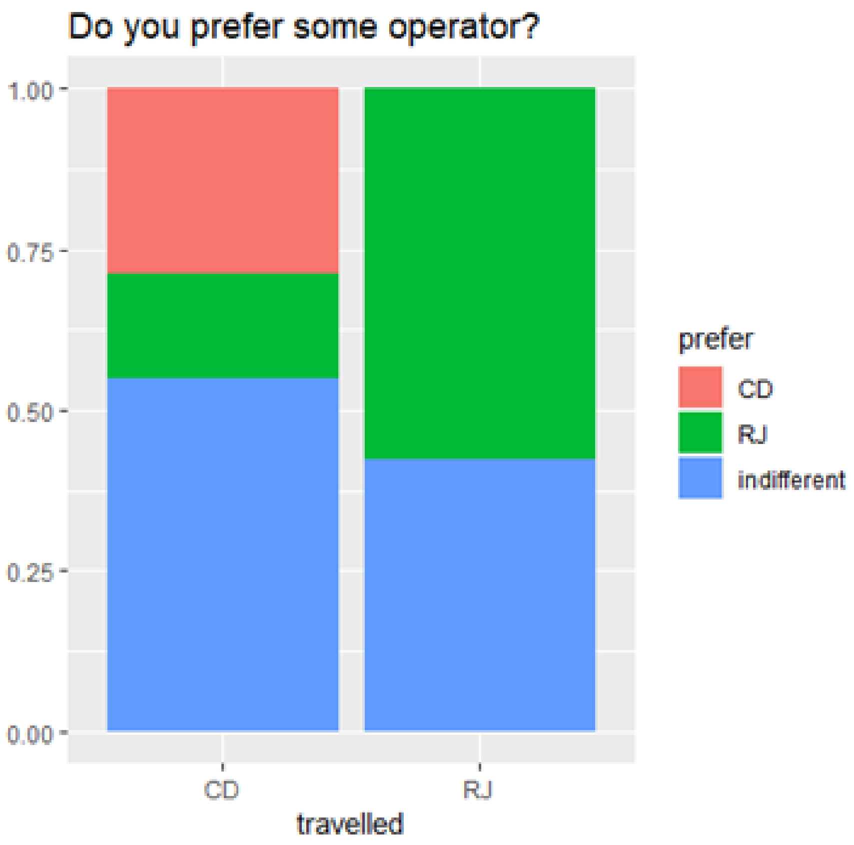


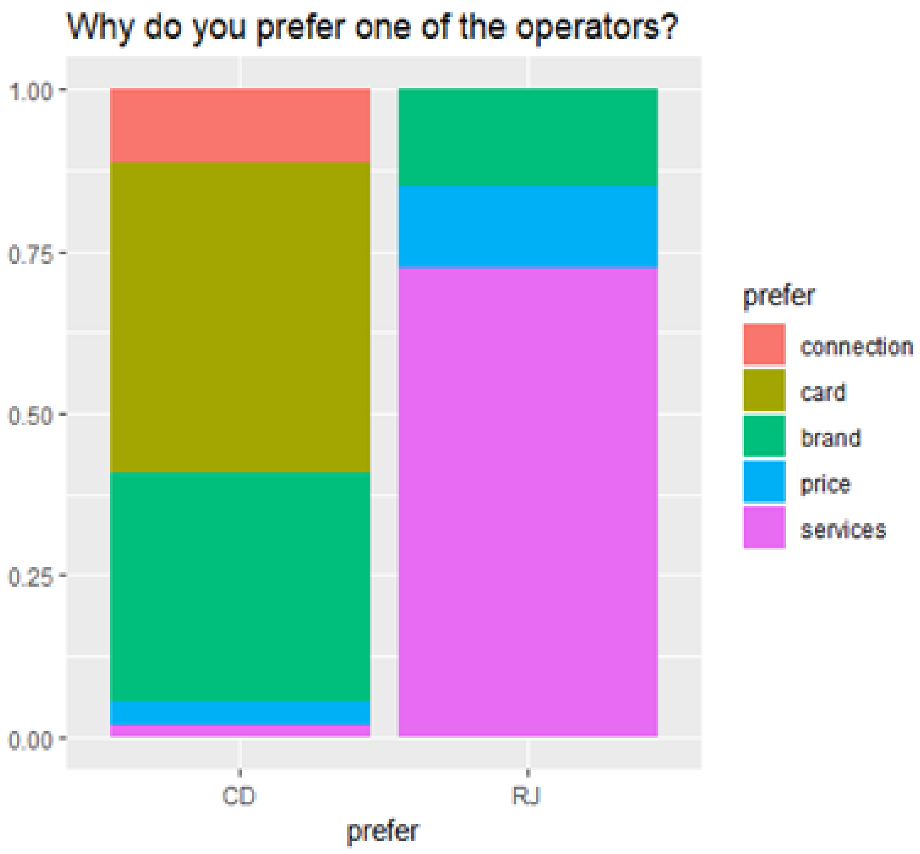


What was the most important choice factor?

Reasons	Total %	ČD %	RJ %
Departure time	65	75	45
Quality of services	18	6	42
Loyalty card	9	13	0
Price	8	6	13

What were the users preferences?





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What was changed by competition?

Change	%
Quality	41
Price	18
ČD improvement	27
More connections	26

Who is travelling with the incumbent?

Variable	Coefficient	Std. error	P-value	Significance	Slope at mean
Tried both operators	−1.05	0.37	0.005	***	−0.14
Business trip	0.80	0.38	0.035	**	0.10
Price	−1.91	0.64	0.003	***	−0.25
Services	−3.91	1.76	0.003	**	−0.50
Quality	−1.93	0.49	0.000	***	−0.25
Card	4.18	1.14	0.000	***	0.54
First class	−1.59	0.40	0.000	***	−0.21
Spend time working	−0.87	0.38	0.020	**	−0.11
Age	0.02	0.01	0.088	*	0.003
Number of observations	285				
McFadden R^2	0.40				
ML pseudo R^2	0.40				
Cragg and Uhler’s pseudo R^2	0.55				

Who is travelling more often?

Variable	Coefficient	Std. error	P-value	Significance	Slope at mean
Tried both operators	1.45	0.49	0.003	***	0.19
Travelled ČD	−0.93	0.42	0.028	**	−0.12
Better prices	1.38	0.49	0.005	***	0.18
More connections	−1.05	0.71	0.141		−0.14
Price	−0.98	0.82	0.233		−0.13
Services	1.35	0.62	0.030	**	0.17
Card	−2.34	1.09	0.033	**	−0.30
First class	1.05	0.41	0.011	**	0.14
Number of observations	285				
McFadden R^2	0.27				
ML pseudo R^2	0.22				
Cragg and Uhler's pseudo R^2	0.37				

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Discussion

- According to Fröidh – Byström (2013) and Paha et al. (2013), there is an advantage for established operators which forms a substantial barrier to entry.
- However, this holds only when the incumbent provides good service quality. When the incumbent delivers poor or unstable quality, customers may become fed up with such an operator and then have a strong preference for a newcomer.

Qualitative verification

- We utilized moderated discussion with 12 train users in October 2018. The respondents consisted of 5 women and 7 men travelling by rail between Brno and Prague.
- Despite its lower frequency and substantial lower connectivity, the respondents strongly preferred RJ, which was valued especially for its lower prices and additional on-board services. The services of the incumbent were for many respondents plagued by unreliability, overcrowding, and lateness.

Conclusion

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- Former studies concluded that the incumbent has the advantage due to under such conditions entry into a rail passenger market may be harder than is usually thought.
- However, the Czech passengers highly valued the services of the new operator and seemed to have a bias against the incumbent due to the lower quality of its services in history and on other lines.