

The Price is Right

Information and dynamics on an online platform

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The value of reputation on online marketplaces

What?

Reputation systems create dynamic incentives for sellers on online platforms. We estimate the value of reputation for sellers and find it is substantial.

Why?

- Reputation systems prevalent on marketplaces for under-utilized assets.
- Increasing share of spending is through online marketplaces, that actively manage the displayed information.
- Policy debate on regulation of platform companies : reputation is valuable for sellers, and they invest in it. It acts as a switching cost. Motivation for reputation portability requirements.

How?

- dynamic oligopoly model of reputation, pricing and entry
- with heterogeneity in costs between sellers

Reputation system on a large ride-sharing marketplace

Empirical context : transportation online marketplace

- City-to-city ride-sharing
- Global platform company, profitable since 2018. Dominant in the market of ride-sharing.
- Drivers are non-professionals, taking passengers on their trip for a fee. Platform charges 18% commission.
- Used in this project : French spider data from Lambin and Palikot (2020), authors' spider data, InsideAirbnb.com

Reputation system on a large ride-sharing marketplace

Ne passez à côté d'aucune annonce !

744 Bordeaux - Toulouse disponibles



Trier par

Date


Heure de départ : 0h - 24h

Prix
De 11 € à 64 €

Conducteurs qui approuvent automatiquement (346)



Julie D
25 ans
 Pièce d'identité vérifiée
5/5 - 1 avis
 127 amis

Aujourd'hui à 03:30
Lorient → Cenon → Balma → Font-Romeu-Odeillo-Via
 RDV à 71 Avenue Jean Jaurès, 33150 Cenon, France : voir avec le conducteur
 RDV à 105 Route d'Agde, 31500 Toulouse : voir avec le conducteur

19,00 €
par place
1 place restante



Emma L
31 ans
4,5/5 - 125 avis

Aujourd'hui à 05:40
Bordeaux → Balma
 33000 Bordeaux, France
 31240 Balma, France

18,00 €
par place
3 places restantes
 

Harun G
28 ans

Aujourd'hui à 06:00
Bordeaux → Toulouse
 Bordeaux, France
 Toulouse, France

12,00 €
par place
3 places restantes


Posted prices and reputation

Unobserved heterogeneity in costs matters

Table: Price regression on driver observables and time and market effects - BlaBlaCar.

	<i>Dependent variable:</i>			
	Posted prices - per seat			
	Pooling	Within	Pooling	Within
	(1)	(2)	(3)	(4)
Reviews (Log number)	-0.331*** (0.016)	0.309*** (0.047)	-0.355*** (0.021)	0.305*** (0.056)
Average rating	-0.331*** (0.039)	0.023 (0.088)		
Average rating ([4.5, 4.95])			-0.295*** (0.064)	0.120 (0.108)
Average rating ([4.95, 5])			0.053 (0.083)	0.067 (0.140)
Reviews x Average rating ([4.5, 4.95])			0.045*** (0.017)	0.007 (0.033)
Reviews x Average rating ([4.95, 5])			-0.149*** (0.030)	-0.022 (0.051)
Route effects	X	X	X	X
Weekend, SNCF strike	X	X	X	X
Driver observables	X	X	X	X
Driver unobservable FE		X		X
Observations	112,305	112,305	112,305	112,305
Adjusted R ²	0.922	0.832	0.922	0.832

Estimation

Parameters to estimate : Distribution of marginal costs c and setup costs κ

Useful assumption : a terminal reputation state

There exists a terminal reputation state \bar{w} such that $\forall p, \mathbb{P}(\bar{w}, M', \Sigma' | \bar{w}, M, \Sigma, p) = 1$

- Once a seller is in the terminal state, buyers are not sensitive anymore to the exact number of reviews.
- The dynamic part of the sellers' pricing FOC in the terminal state simplifies to a static FOC, and can be used to derive marginal costs for sellers.
- The marginal costs are now data, if the demand system is well identified.

Recover setup cost distribution and value function using pricing and entry policy regressions

The rest of the estimation is in line with Bajari, Benkard and Levin (2007).

Value of reputation

Table: Value of being on the platform at the terminal reputation state

Route	Value (EUR)	Trip IP	Listing IP	Profit per trip (EUR)	Setup cost incurred (EUR)
chambery paris	166.626	0.1	0.445	6.507	2.820
la-rochelle paris	234.498	0.1	0.486	8.384	3.693
montauban paris	121.447	0.1	0.430	4.851	2.107
paris dijon	160.006	0.1	0.574	5.075	2.296
paris rouen	247.164	0.1	0.822	5.777	2.779

Value of reputation

Counterfactual loss of reputation : randomly select a sample of incumbent drivers, and recompute their value of being on the platform if they were in the no reputation state.

Table: Counterfactual value of reputation - estimates sample of a 100 drivers

Route	Value more than 10 reviews (EUR)	Change in value (EUR)	Profits more than 10 reviews	Change in per period profits perc.
chambery paris	197.012	-44.550	6.654	-0.725
la-rochelle paris	202.037	-42.803	6.639	-15.485
montauban paris	94.654	-12.578	4.218	-8.877
paris dijon	148.759	-44.939	6.590	-18.002
paris rouen	268.199	-174.423	6.215	-2.322

Thank you for tuning in!