EBAY-Group Presentation
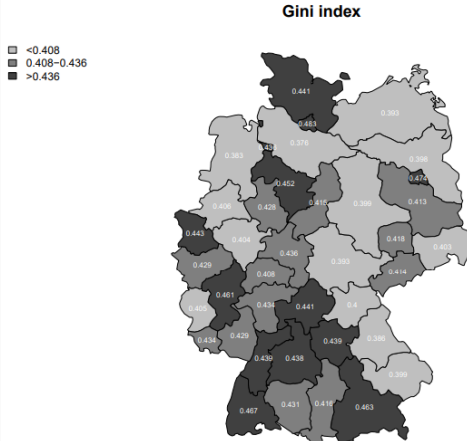
Bamberg Summer Institute in Computational Social Science

2019-08-08

Marc Luettecke, Florian Gilberg, Manuel Kleinert, Alexander Brand, Johannes Geiger

Kholodilin, K. & Siliverstovs, B. (2012) Measuring Regional Inequality by Internet Car Price Advertisements: Evidence for Germany.

Figure 7: Gini coefficient (based on car prices, mobile.de); NUTS2

Research Question
Do economic disparities between German cities/regions influence the prices of used cars?

Hypothesis:
The higher a city's GDP per capita, the higher is the expected price of used automobiles.

Data Scraping

Five cities (+50km): Munich, Jena, Düsseldorf, Stuttgart, and
Deggendorf

Sample

24 representative car models (top registrations per class in 2010)

Car model	Car class	Car model	Car class
Smart-Fortwo	minis	Mercedes-Benz-E	upper middle class car
Fiat-Panda	minis	BMW-5er	upper middle class car
Renault-Twingo	minis	Audi-A6	upper middle class car
VW-Polo	small	Mercedes-Benz-S	upper class car
Opel-Corsa	small	BMW-7er	upper class car
Ford-Fiesta	small	Audi-A8	upper class car
Opel-Astra	compact class	Mercedes-Benz-E	sports-car
Audi-A3	compact class	BMW-Z4	sports-car
VW-Golf	compact class	Porsche-911	sports-car
Mercedes-Benz-C	middle class car	VW-Tiguan	SUV
BMW-3er	middle class car	BMW-X1	SUV
VW-Passat	middle class car	Audi-Q5	SUV

(source: Kraftfahrtbundesamt)

Data

Scraped variables:

- Model & class
- Price
- Description
- Location
- Age & mileage

Merged with macroeconomic indicators:

- GDP per capita
- Household income per capita
- Car thefts per capita

Workflow

Studentenfutter / cars-inequality

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<> Code   ⓘ Issues 0   Pull requests 0   Projects 0   Wiki   Security   Insights

Group project for SICSS 2019

75 commits	1 branch	0 releases	3 contributors

Branch: master ▾   New pull request   Create new file   Upload files   Find File   Clone or download ▾

johnny80y update presentation markdown   Latest commit fe9ef17 1 hour ago

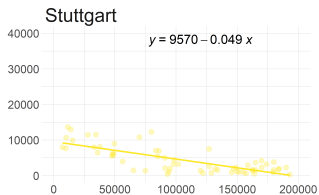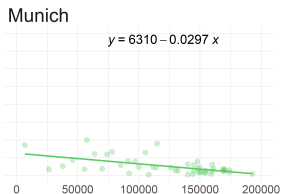| data	Update data cleaning and ebay_clean	2 hours ago
presentation	update presentation markdown	1 hour ago
vis	Update data cleaning and ebay_clean	2 hours ago
.gitignore	Initial commit	3 days ago
Grouping.R	Update data cleaning and ebay_clean	2 hours ago
README.md	Initial commit	3 days ago
app.R	removed shiny files locally	15 hours ago
cars-inequality.Rproj	first edits on presentation	2 days ago
carthefts.R	Added visualizations	4 hours ago
clustering.R	Further analyses for presentation	20 hours ago

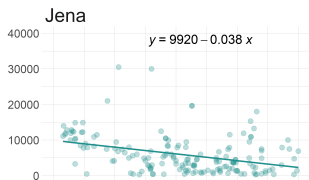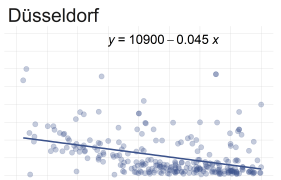1. • Data scraping
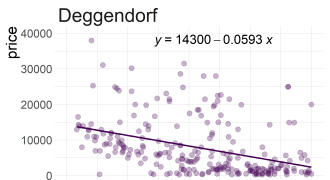2. • Data processing
3. • Matching with other indicators (ZIP-code level)
4. • Regression
5. • Mapping / visualization

Analysis

OLS: (price $\sim$ cities $+$ mileage $+$ age $+$ gdp_pc)

**Regression on effects on price
with Deggendorf as a reference category**

Analysis

Mean of car price by county

Map Visualization

https://cloud.sowi.uni-
due.de/index.php/s/37LjkxP7DCe4j36
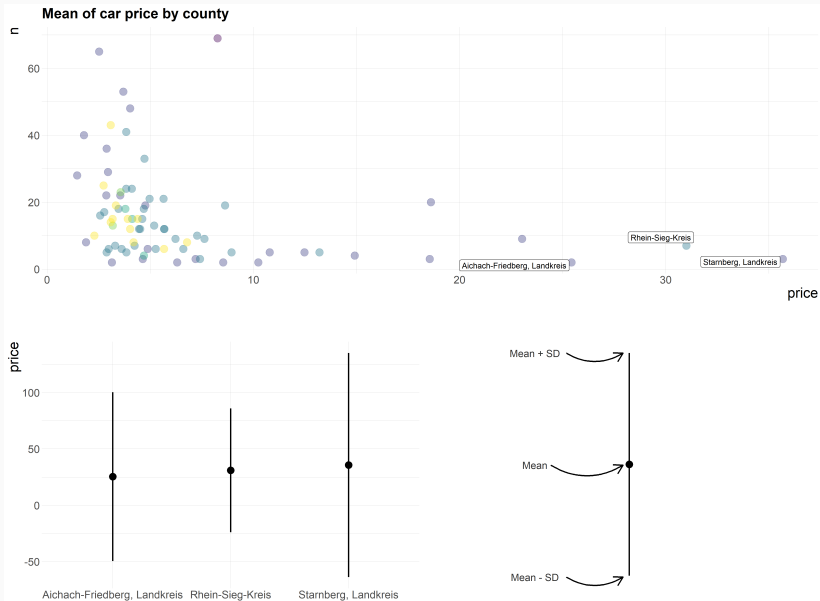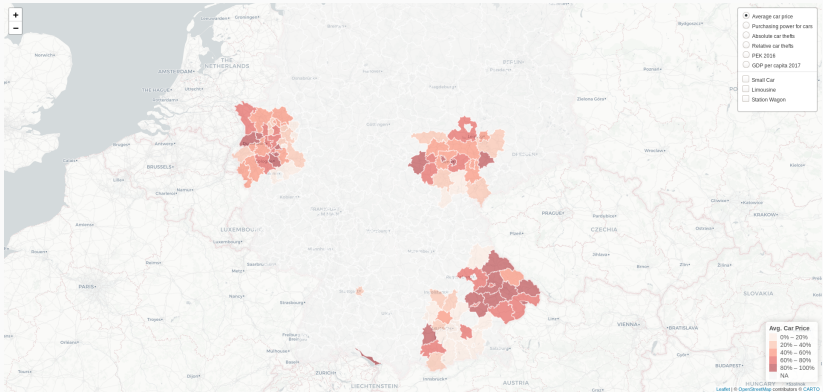
Next Steps

- Extend data collection (more cities, car models, other products)
- Access APIs of other platforms
- Include additional control variables (condition, configurations, etc.)

- Tool for policy advisors
- Potential robustness test for consumer index measures (purchasing power)
- Tool for prospective car sellers/buyers

Sources:

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  www.bka.de/DE/AktuelleInformationen/StatistikenLagebilder/Polize

Reproduceability

https://github.com/Studentenfutter/cars-inequality

Questions?