

Lecture 8: Line Charts

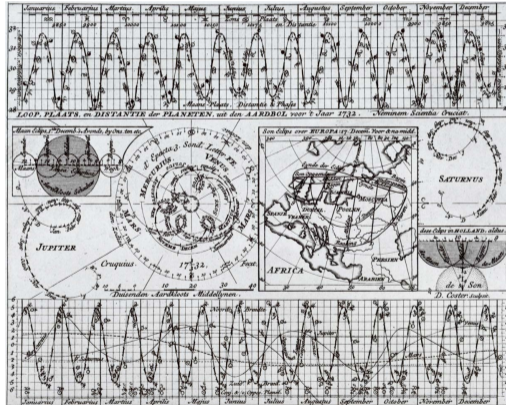
March 27, 2023

Look at the Values on the Vertical Axis



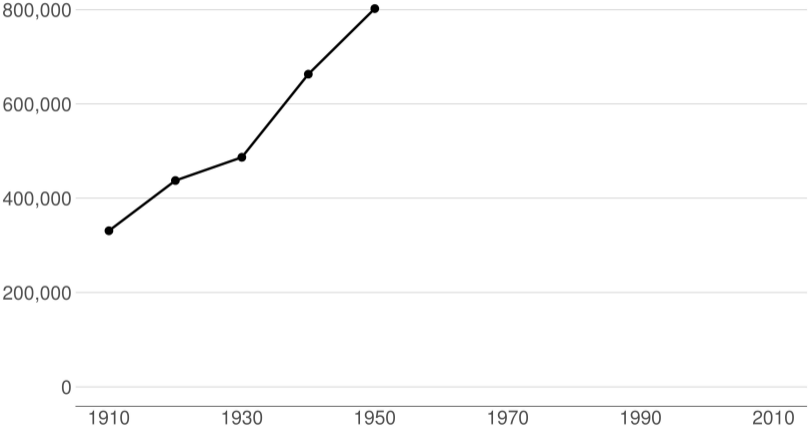
Line Chart, c. 1732

Nicolaas Kruijck (1678-1754) "land surveyor, cartographer, astronomer and weatherman" who "liked to measure things"

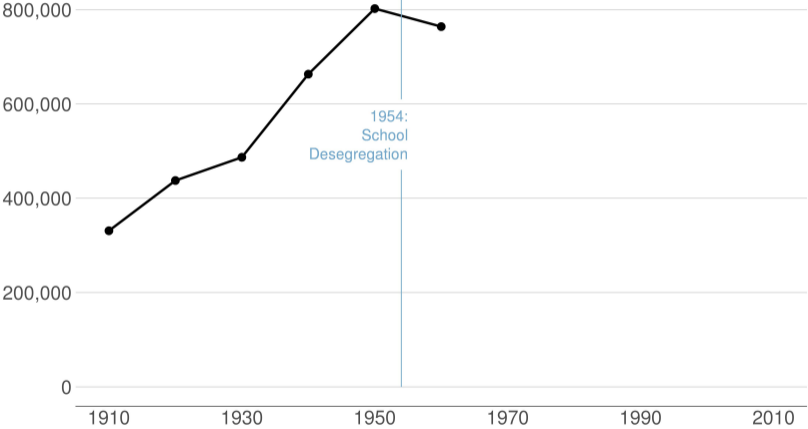


Thanks to [Wikipedia](#).

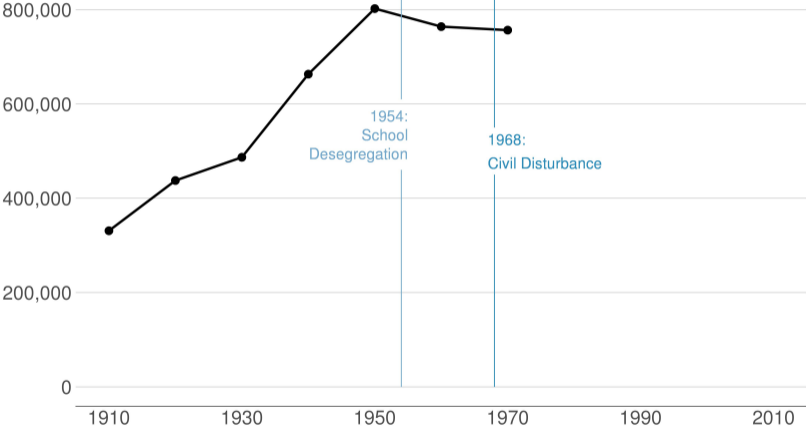
DC Gains Population Through 1950



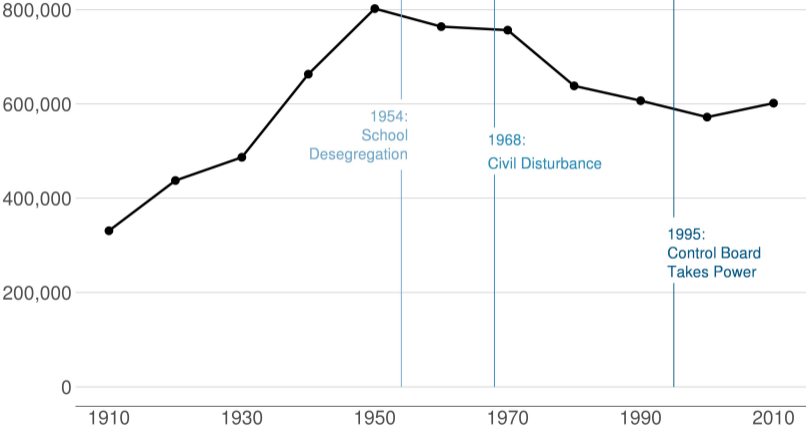
Population Loses Start with Desegregation



Continue After Civil Disturbance



Population Turns Up After 2000



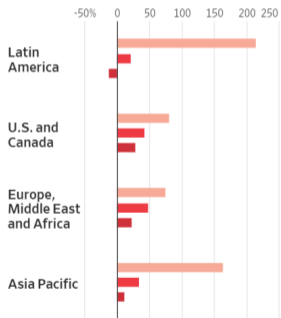
Something That Should be a Line Chart

Slower Ride

Uber's growth in Latin America has slowed in recent years.

Change in revenue from previous year

■ 2017 ■ 2018 ■ 2019*



*first nine months

Source: Uber's SEC filings

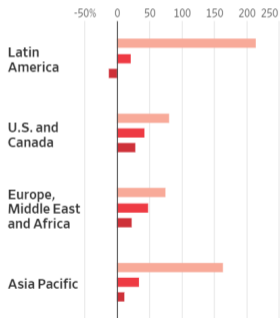
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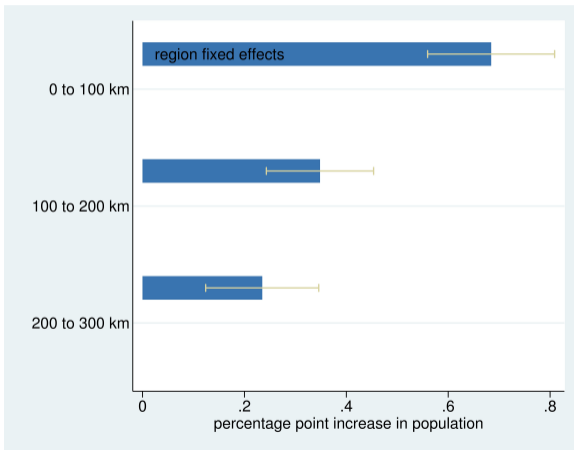
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Source: Uber's SEC filings

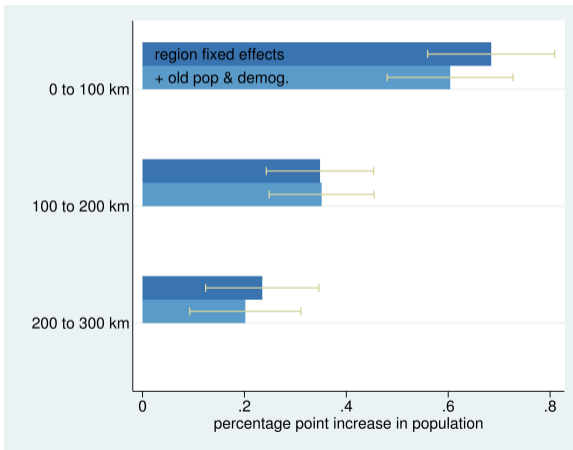
- We use lines to show change over time
- Lines make pace of change obvious
- These bars have to point out years
- Vertical alignment of lines would show that they are the same year

From this very interesting [WSJ article](#) about Soft Bank's funding of Uber and its competitors

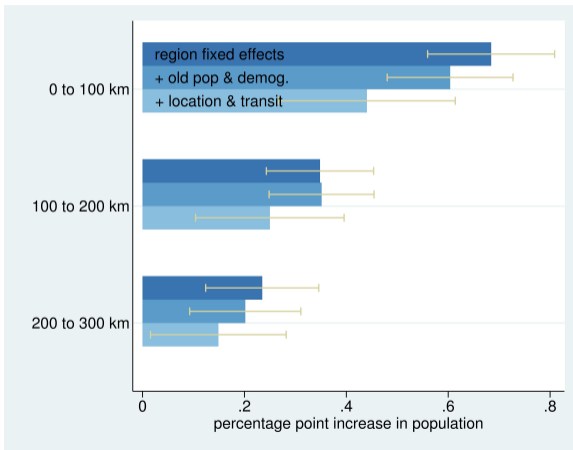
Bars with Error Bars, Building



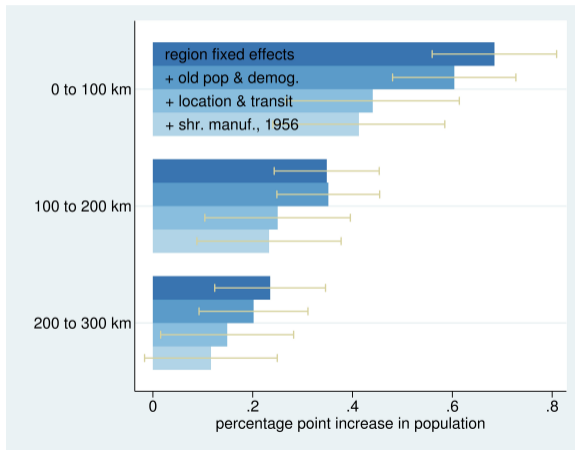
Bars with Error Bars, Building



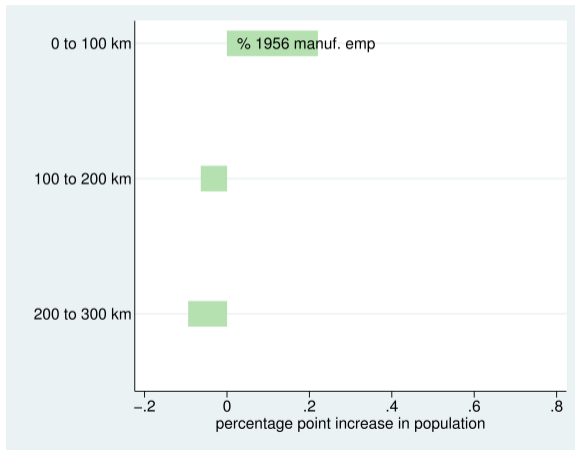
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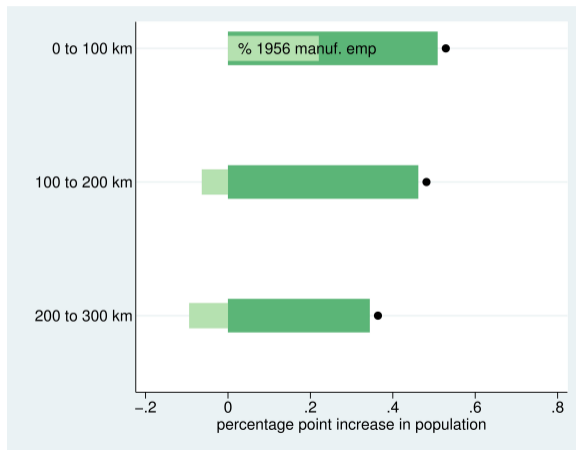
Bars with Error Bars, Building



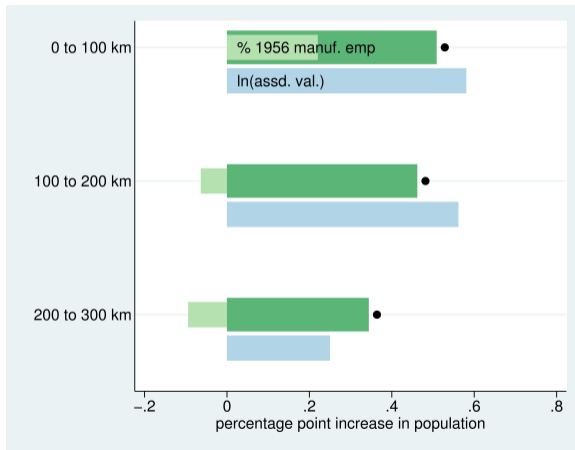
Interaction Effects



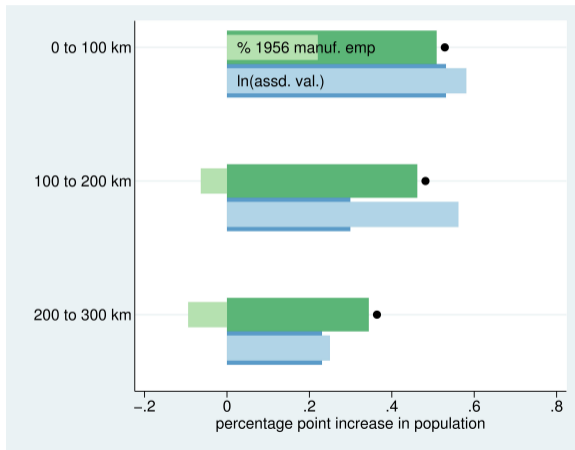
Interaction Effects



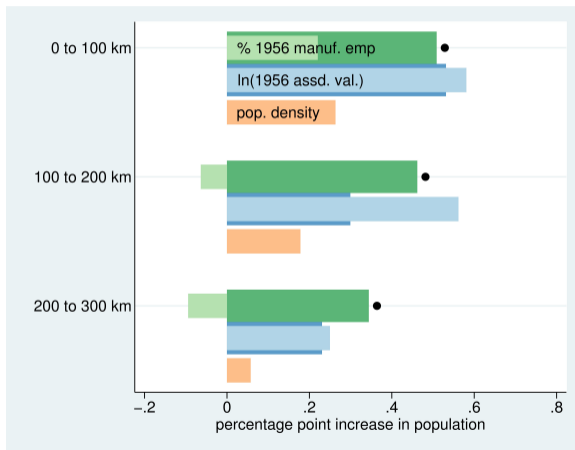
Interaction Effects



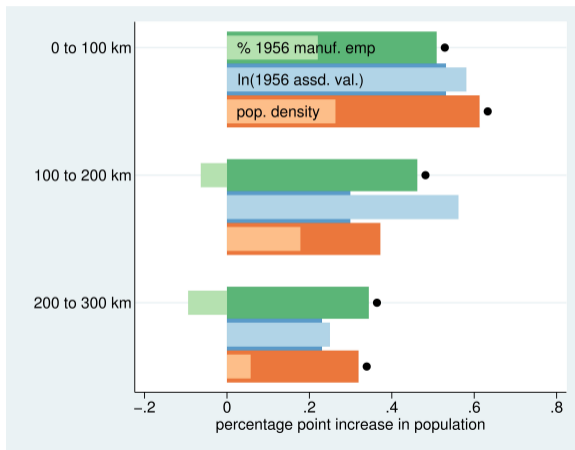
Interaction Effects



Interaction Effects



Interaction Effects



A Great Use of Annotations

