- = cartel stability: cellular provider paper Tab 1-2, 9-10; entry Tab 5, 21; Tab 6 23 price war
 - Bourreau, Marc, Yutec Sun, and Frank Verboven. 2018. "Market Entry, Fighting Brands and Tacit Collusion: The Case of the French Mobile Telecommunications Market." <u>CEPR Discussion Paper 12866</u>.
 - one key is net present value mindset
 - second key is ability to distinguish shocks that would rationally lead to a lower cartel price
 - » positive shock of lower input costs,
 - » negative shock of lower demand
 - versus cheating
 - » information on joint issues from industry associations
 - » information on price / quantity of individual members
 - empirically turns out to be easier to coordinate raising prices
 - » new entry muddies everything, especially a low-end entrant.
 - tit-for-tat punishing of cheaters helps
 - lower market volatility helps
 - lack of cost-lowering technical innovation helps
- = technology markets: **if** perception of winner takes all **then** price wars inevitable
 - but does the winner take all?
 - how long will the price war take?
 - » Amazon!
- = all this is in addition to the "normal" constraints on Bertrand competition:
 - capacity limits
 - product differentiation
 - » beer: can firms create "spurious" differentiation to lessen competition? = "branding"?

= papers

- organizational ecology models:
 - » Carroll, Glenn R., and Michael T. Hannan. 1995. *Organizations in Industry: Strategy, Structure and Selection*. New York: Oxford University Press.
 - includes pre-craft-brewing chapter Anand Swaminathan & Glenn Carroll, "Beer Brewers"
 - » Klepper for autos, others for insurance, restaurants, many other "start-up" industries
- now applicable to craft brewers?!

= statistics: count the asterisks!

Blonigen, Bruce, and Justin Pierce. 2016. "Evidence for the Effects of Mergers on Market Power and Efficiency." Finance and Economics Discussion Series 2016–082. Federal Reserve Board of Governors.

- essence is **some version of fitting a line** to data: **count the asterisks**: does the line fit well?
- in real world data don't cooperate: seldom linear, time correlations, missing variables, truncated observations, qualitative variables [yes/no, small/medium/large], selection bias
- reverse causation vs correlation: need theory to know what affects what