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MEASURING THE INTENSITY OF NONPROFIT COMPETITION: NEW RESEARCH METRICS

RESEARCH NOTE:

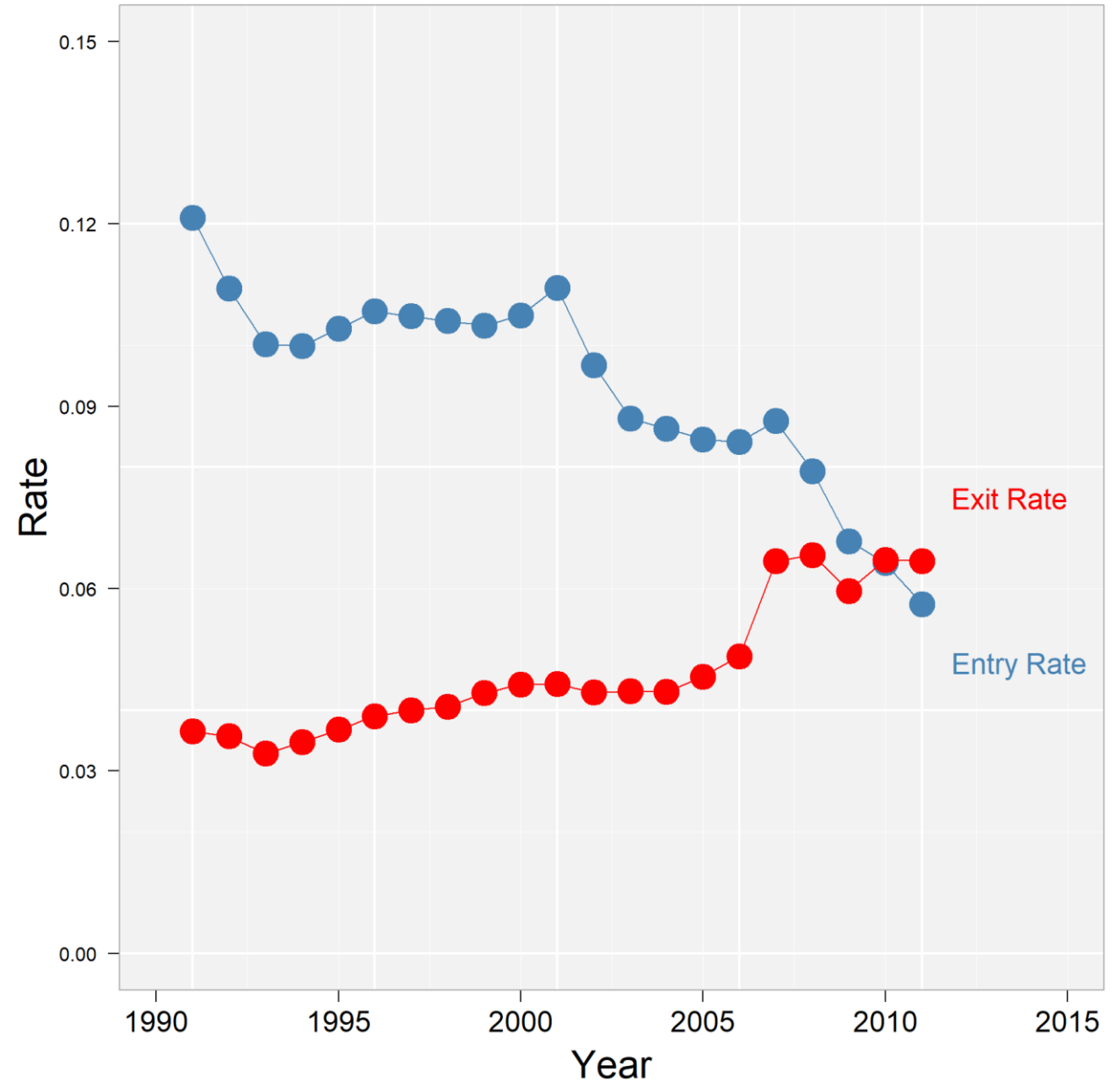
WHAT METRICS ARE BEST TO ASSESS
THE LEVEL OF COMPETITIVENESS
IN NONPROFIT “MARKETS”?

NONPROFIT SHAKE-OUT?

Klepper, S., & Simons, K. L. (2005). Industry shakeouts and technological change. *International Journal of Industrial Organization*, 23(1), 23-43.

Reichstein, T. (2003). Firm growth rate distributions, firm size distributions and the industry life cycle. *IKE Group/DRUID, Aalborg*.

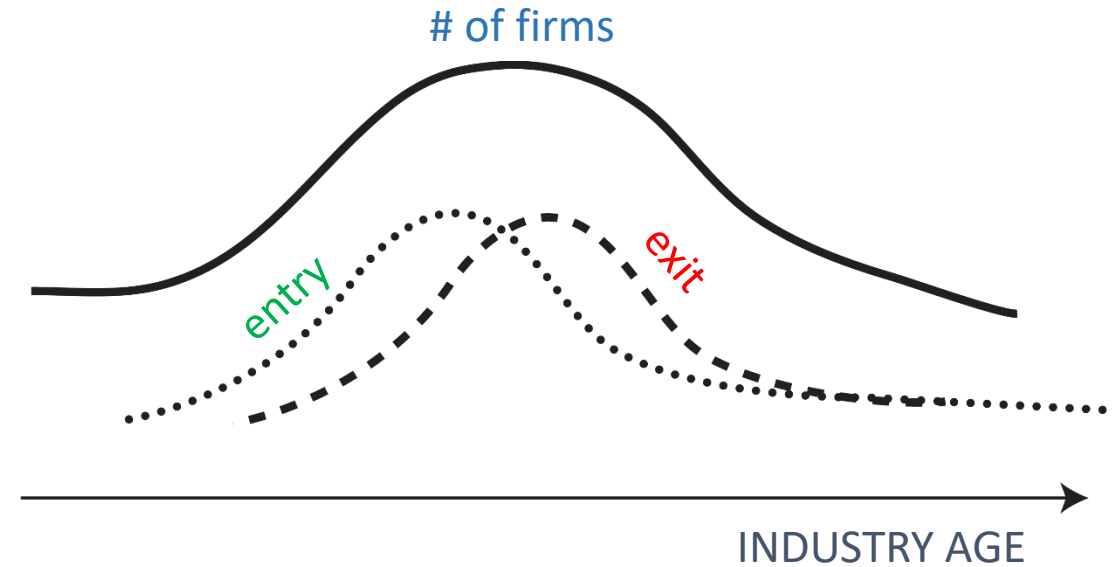
NONPROFIT SECTOR



INDUSTRY SHAKE-OUT

Klepper, S., & Simons, K. L. (2005). Industry shakeouts and technological change. *International Journal of Industrial Organization*, 23(1), 23-43.

Reichstein, T. (2003). Firm growth rate distributions, firm size distributions and the industry life cycle. *IKE Group/DRUID, Aalborg*.



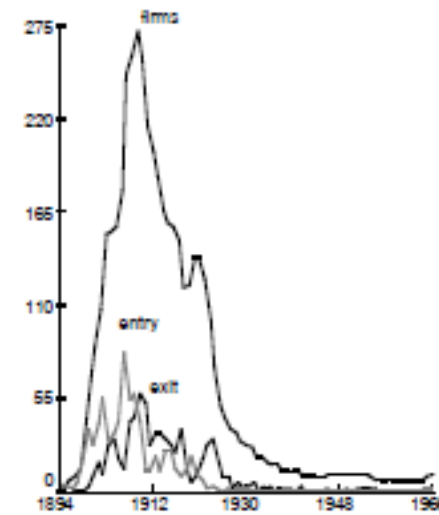
INDUSTRY SHAKE-OUT

Klepper, S., & Simons, K. L. (2005). Industry shakeouts and technological change. *International Journal of Industrial Organization*, 23(1), 23-43.

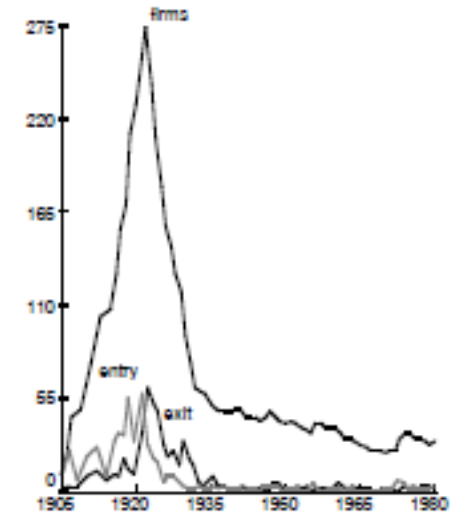
Reichstein, T. (2003). Firm growth rate distributions, firm size distributions and the industry life cycle. *IKE Group/DRUID, Aalborg*.

Figure 1.—Number of Producers, Entry, and Exit in the Four Products

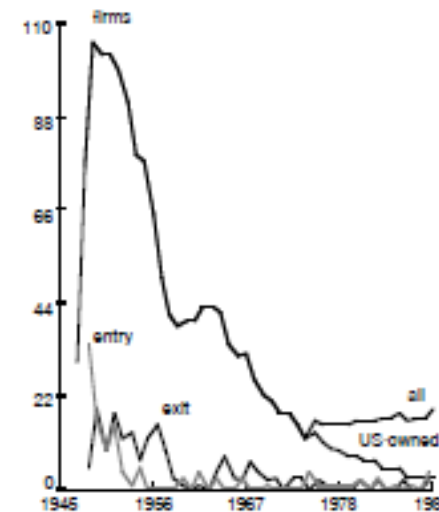
Automobiles



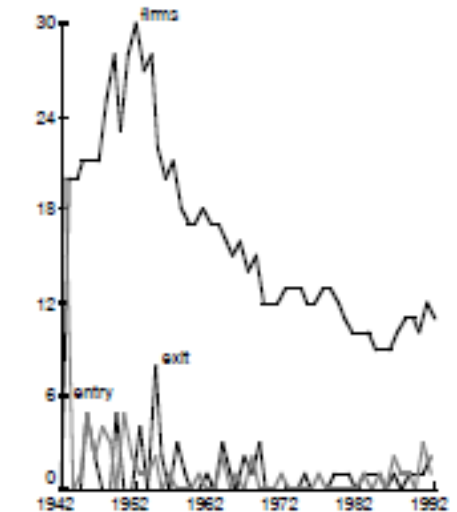
Tires



Televisions



Penicillin



Birth Rates

Death Rates

Growth Rates

1990

1991

2000

2000

2010

2010

-0.1

0.0

0.1

0.2

-0.1

0.0

0.1

0.2

Vital Rates

-0.1

0.0

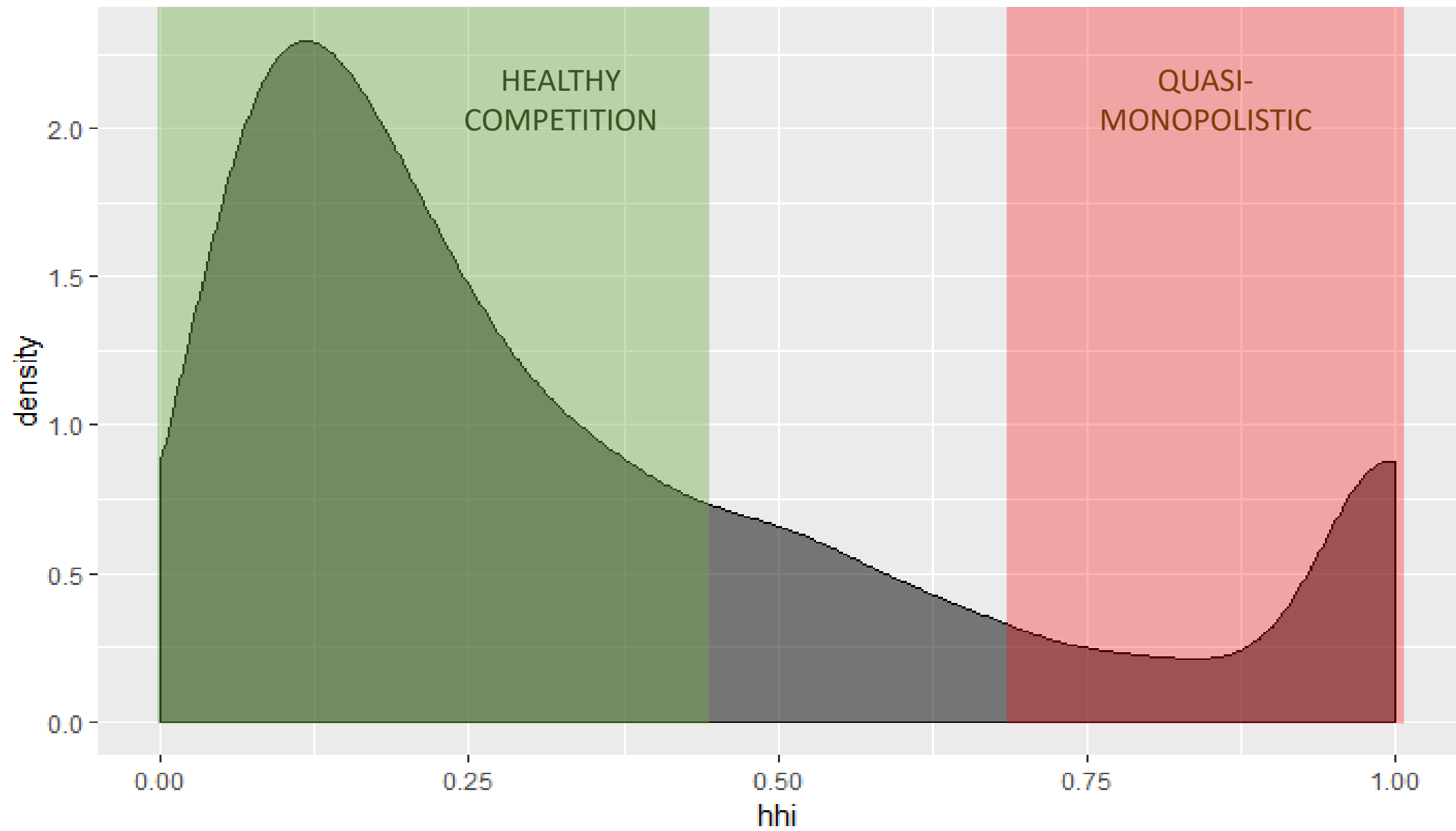
0.1

0.2

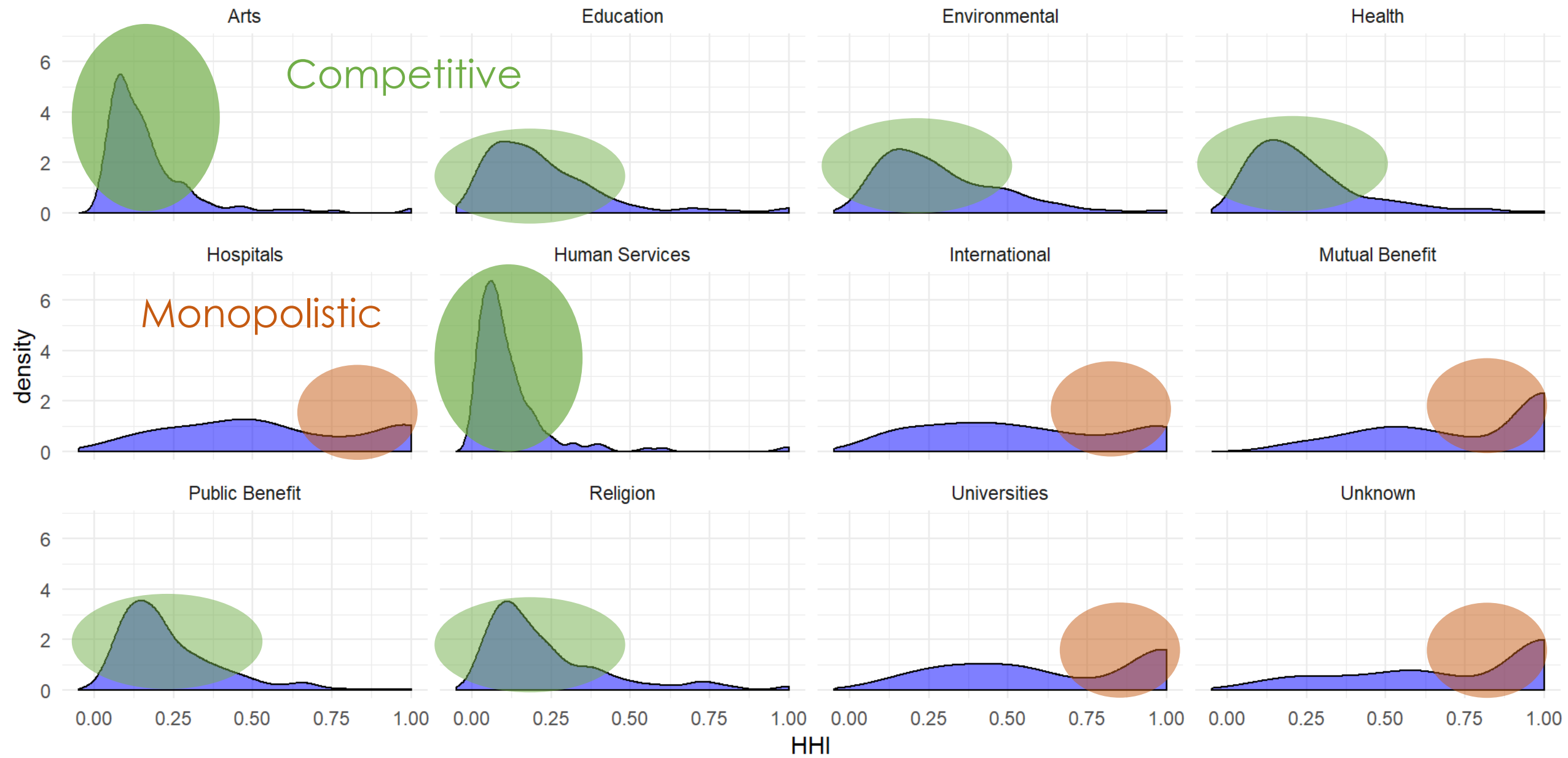
MARKET COMPETITION METRICS
 $\text{MARKET} = \text{MSA} + \text{NTEE}$

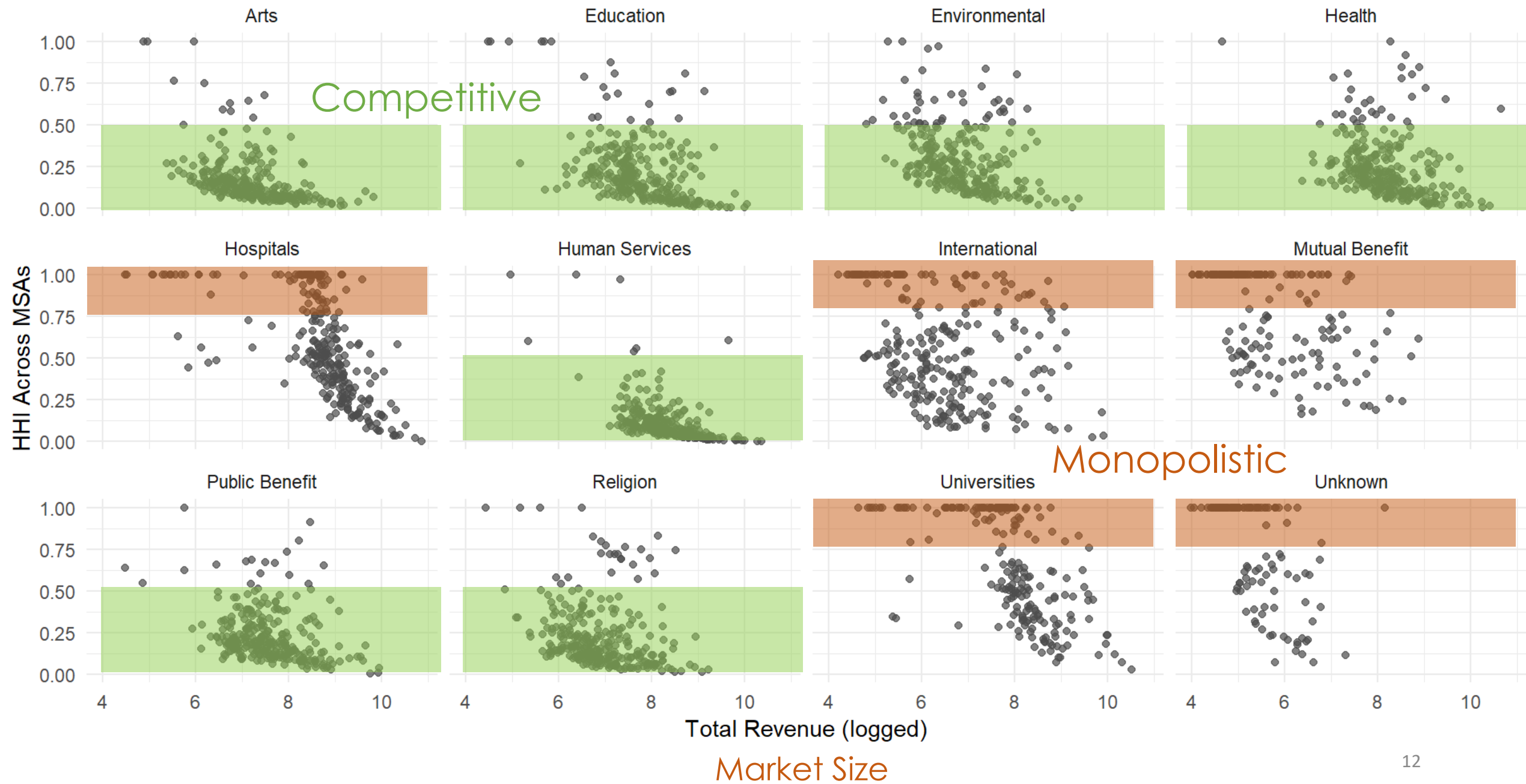
MARKET COMPETITION METRICS

1. HHI
2. CR4 – four-firm competition ratio
3. Kwoke index – HHI of three largest firms in market
4. Gini coefficient
5. Density – number of nonprofits
6. Demand density – number of nonprofits / 10,000 people
7. Big Dog Ratio (# orgs rev > \$1m / # orgs)
8. Little Pup Ratio (# orgs rev < \$100k / # orgs)
9. Density of commercial nonprofits
10. Resource availability index (total rev / # orgs – ave size of org in market)
11. Fundraising efficiency for NPs with > \$1m in revenue
12. Ave fiscal health in market
13. Ave growth rate in market
14. Growth equity: ave growth rate top quintile / ave growth rate smallest quintile
15. Birth rates (rate of new org formation) [should this be new orgs / current, or new orgs per 10k people?]
16. Five-year “smallness” index
17. Death rate (rate of closure) [closures per 10k people? What is expected rate?]
18. Five-year closure rate
19. Philanthropic capital
20. Generosity index



285 MSAs + 12 NTEE Categories = 2,979 “markets” examined





WHAT CAN A COMPETITION METRIC TELL US?

Healthy Features:

- Efficient market outcomes
- “Thick” markets mean less price gauging and overall better quality of services

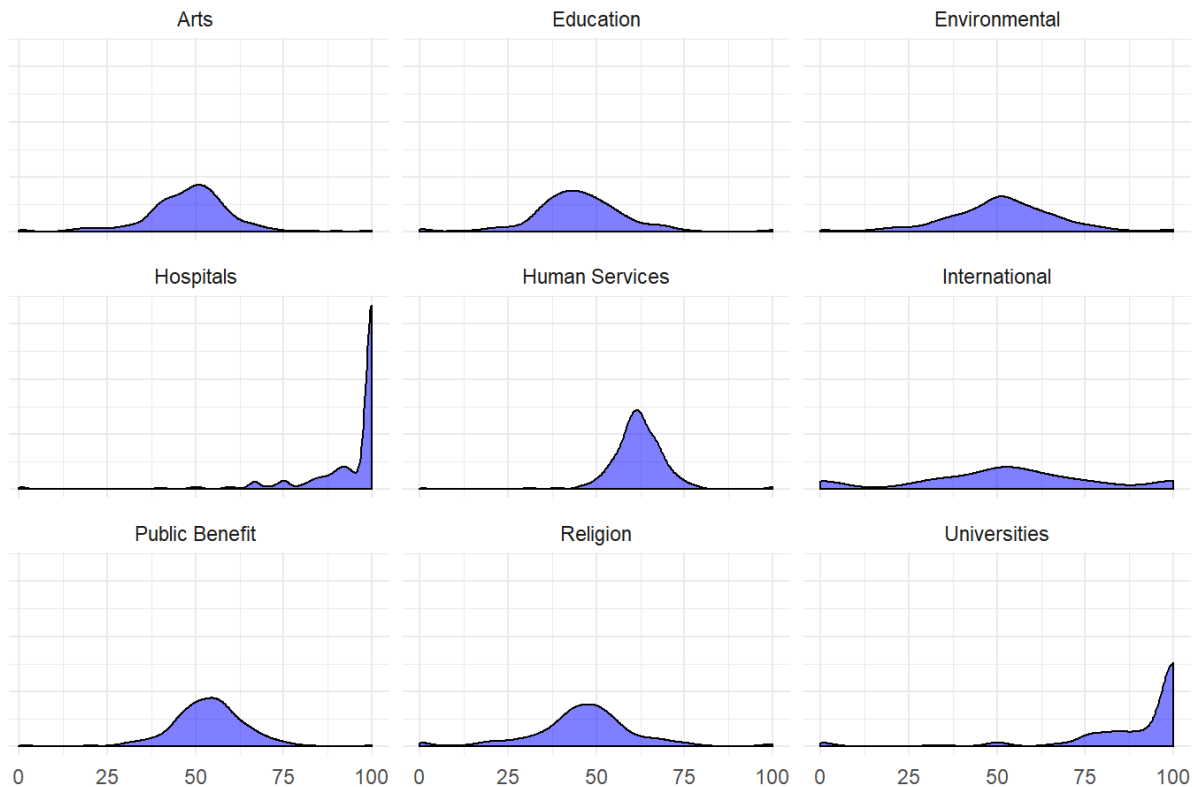
Unhealthy Features:

- Unfair / unhealthy competition (see *Set in Stone* by Woronkiewicz et al. 2012)
- Limited market entry and liability of newness suppresses innovation and efficiency

CURRENT STATE OF PRACTICE:

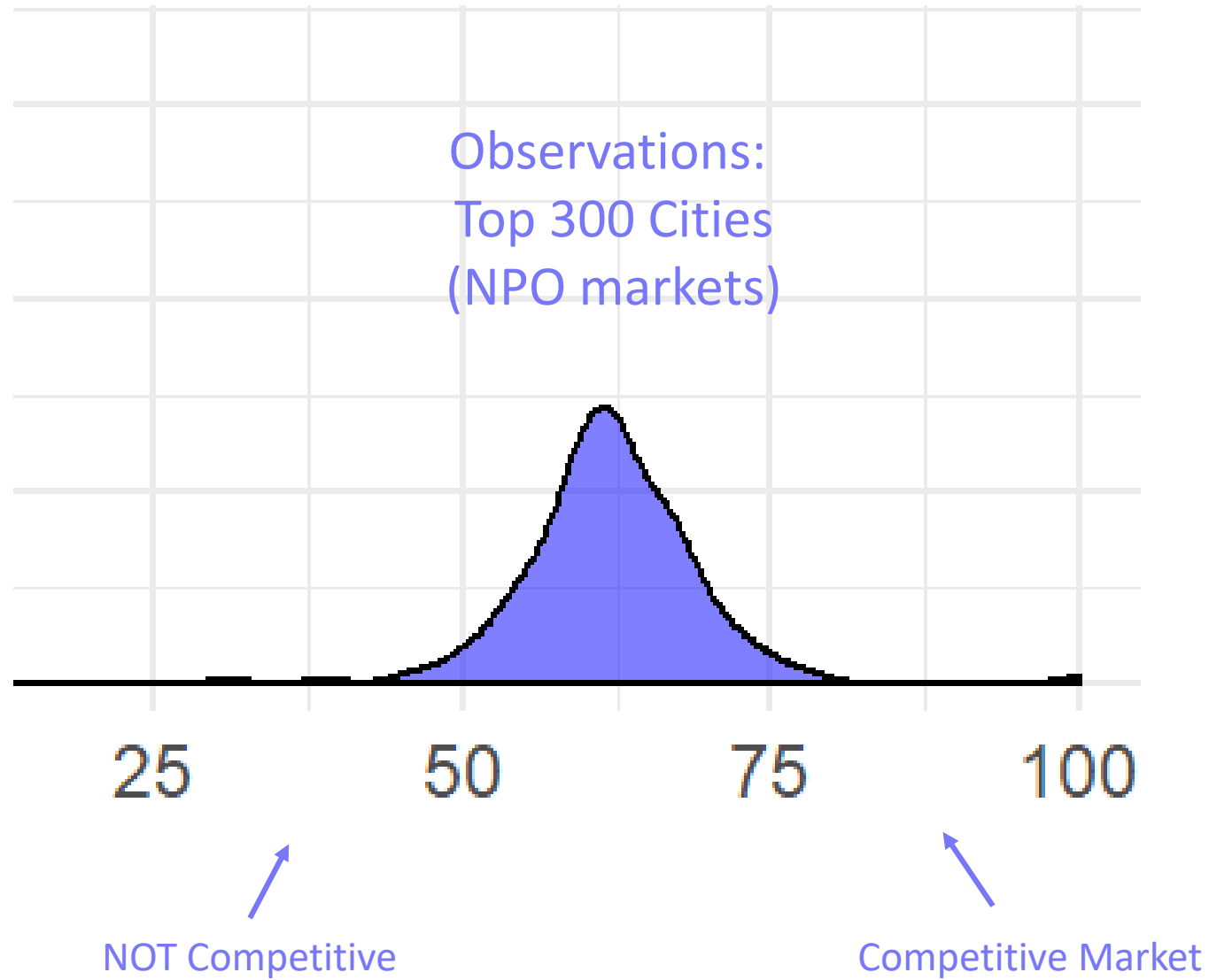
- HHI (Thornton & Belski, 2010; Seaman, Wilsker, & Young, 2014)
- Density (Harrison & Thornton, 2014; Leczy & Van Slyke, 2013)
- Fundraising efficiency (Brooks, 2004; Ritchie & Kolodinsky, 2003)

OUR CONTRIBUTION:

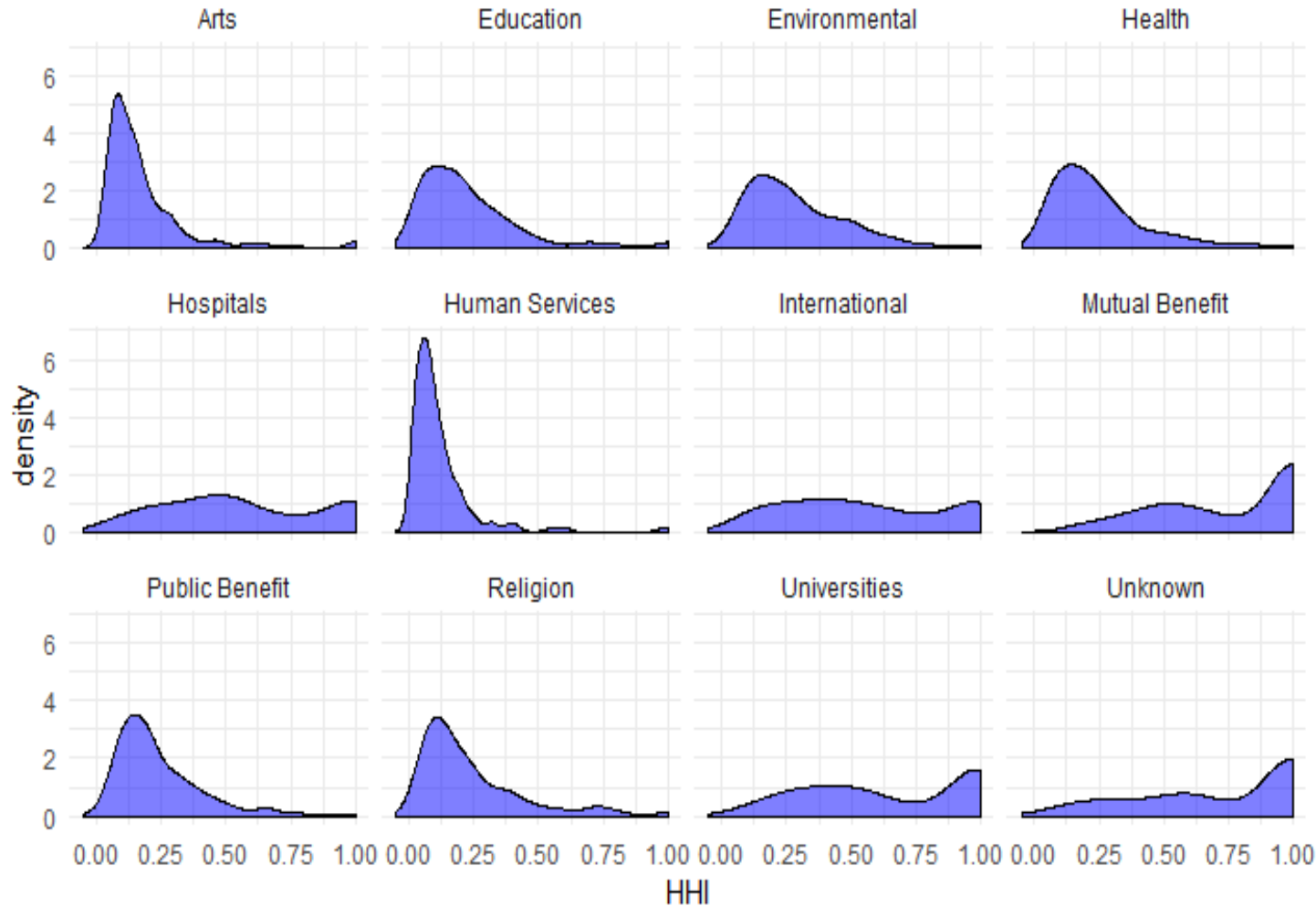


- Ten metrics created
- Calculated for 300 metro areas
- 12 subsectors
- Years: 2000, 2005, 2010, 2015
- Open data, open code

Percentage of Firms with Revenue > \$100k



METRIC 1: HHI



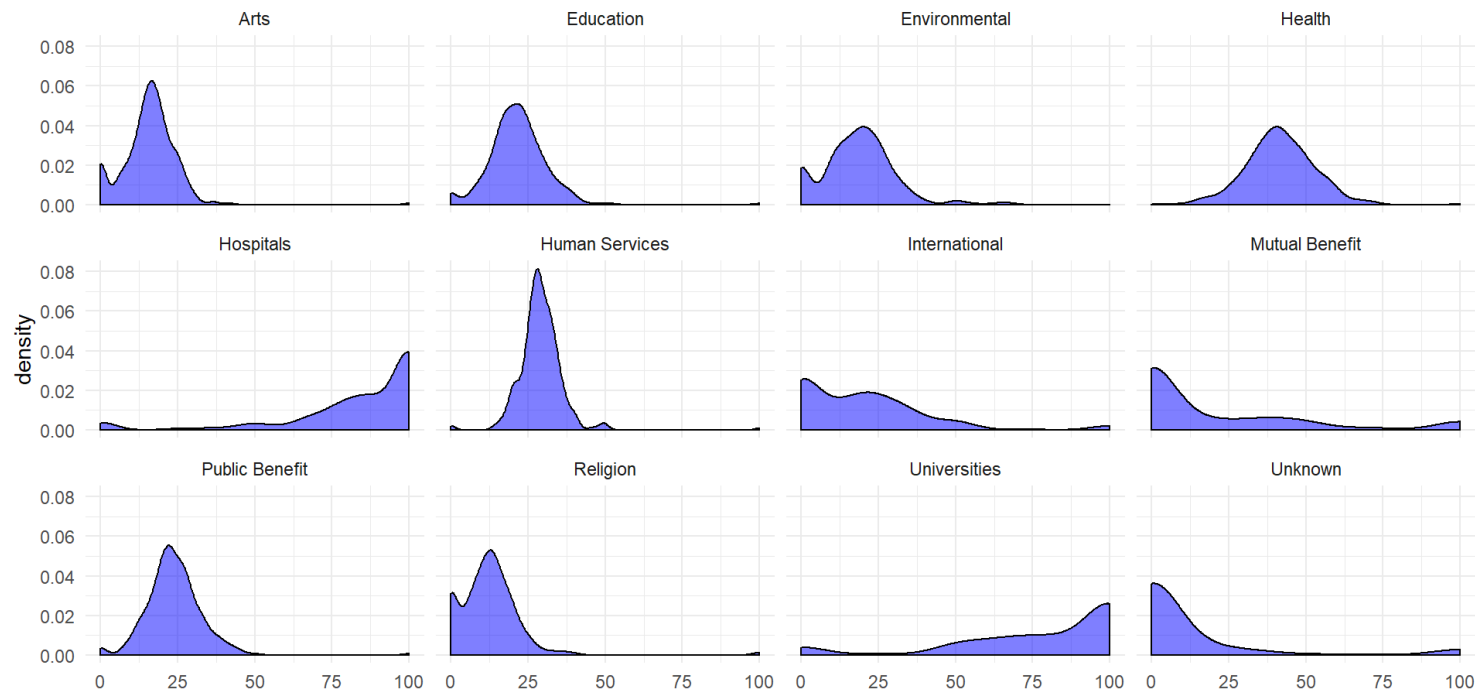
Definition: HHI measures market concentration, with zero being “perfectly competitive” and one being monopolistic.

Formula:

$$HHI = \sum_{i=1}^N S_i^2$$

Observations: Arts and human services are competitive across all cities, whereas some cities have monopolistic hospital and university subsectors.

METRIC 2: DENSITY OF LARGE NPOS

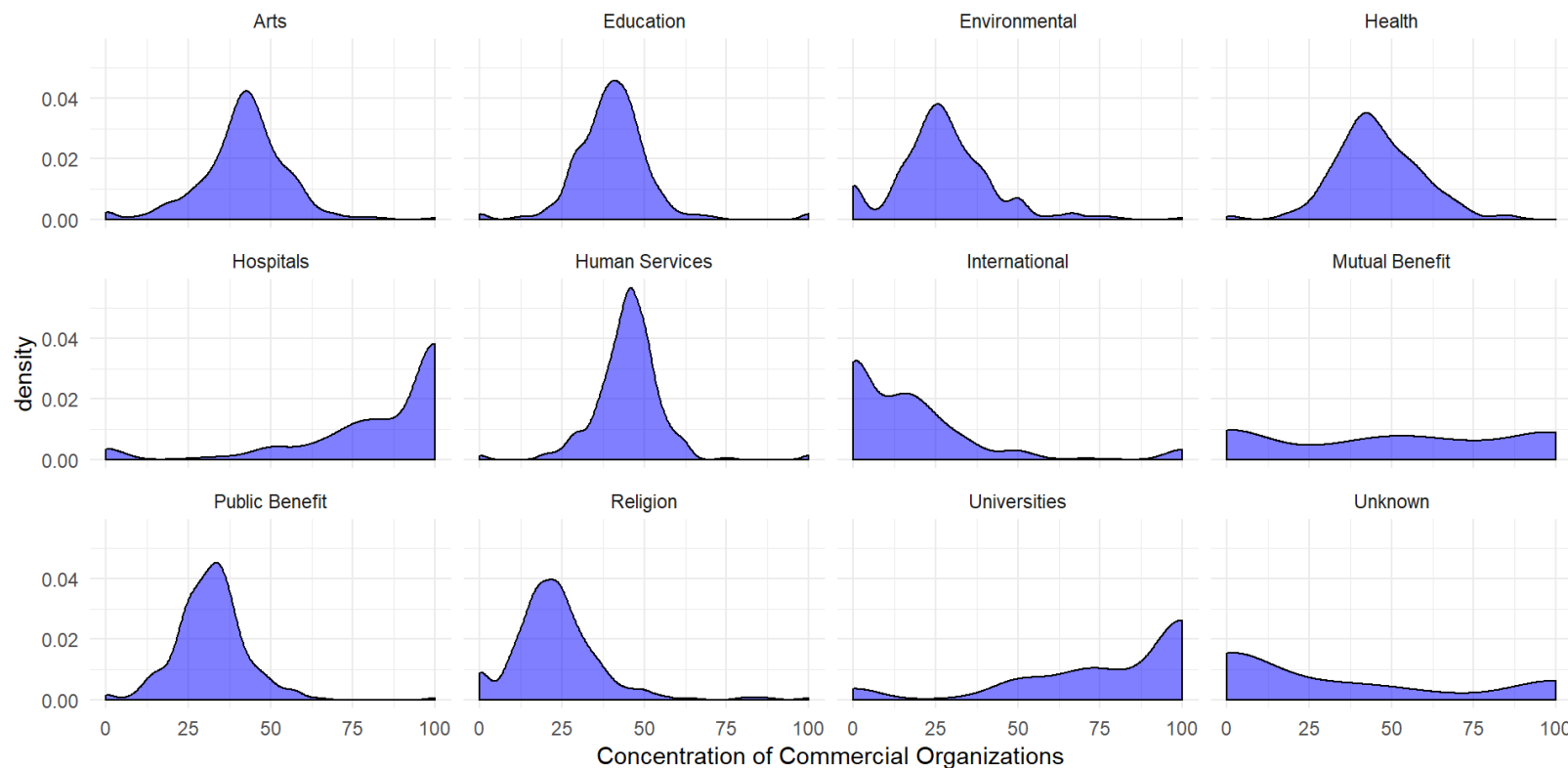


Definition: Percentage of organizations in each market with revenue over \$500k.

Formula: $\frac{\# \text{ of large nonprofits}}{\# \text{ of nonprofits}}$

Observations: Arts and human services are pretty “competitive”, hospitals and universities are less so.

METRIC 3: COMMERCIALIZATION



Definition: Percentage of organizations in each city that have at least half of revenues coming from commercial sources

Formula: $\frac{\# \text{ of commercial nonprofits}}{\# \text{ of nonprofits}}$

Observations: Most subsectors have one-quarter to half of nonprofits that rely primarily on commercial revenues.

ASPIRATIONS:

Better theory

- Beyond the HHI: different types of market competitiveness

Better data

- Open data and code to make it easy to incorporate into your scholarship

Better models

- Meaningful market-level controls improve empirical estimates

? QUESTIONS ?

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