Quantifying Racial/Ethnic Diversity at the CSU

Philip Garcia
Matthew Case

CSU Office of the Chancellor
Analytic Studies Division

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Definitions

In demography, a diversity index is a quantitative measure that reflects

- how many different groups (R) there are in a population, and

- takes into account how evenly individuals in the population are distributed across those groups.

For a given number of groups, the value of a diversity index is maximized when all groups are equal in size.

Common Usage

- Provide summative measures of diversity when there are more than two groups

- Diversity Rankings (US News, Chronicle)

- Many other applications (Ecology/Biodiversity, Demography, Economics, Law, etc)

Context: New CSU Racial/Ethnic Data Collection

- Collected via online application (2009-present)
- Provides 113 separate options for self-identification

Latino	White	Black	Asian	AI/AN	NH/PI
23	4	4	25	33	24

- Benefits
  - Students are less likely to misidentify or decline to identify themselves
  - "Other students" is less likely to be a modal response
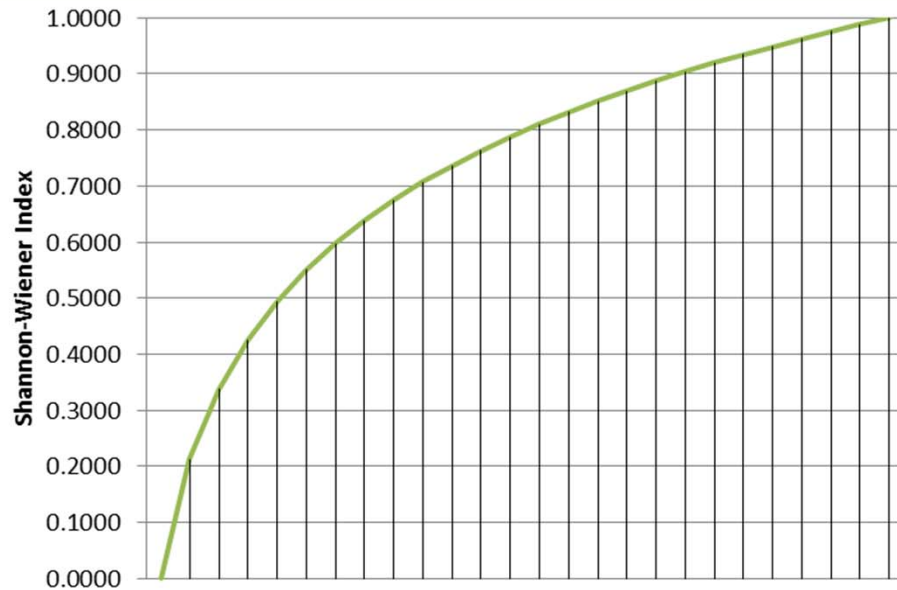 - Greater "richness" in the collection

The Affect of R on Two Diversity Indices
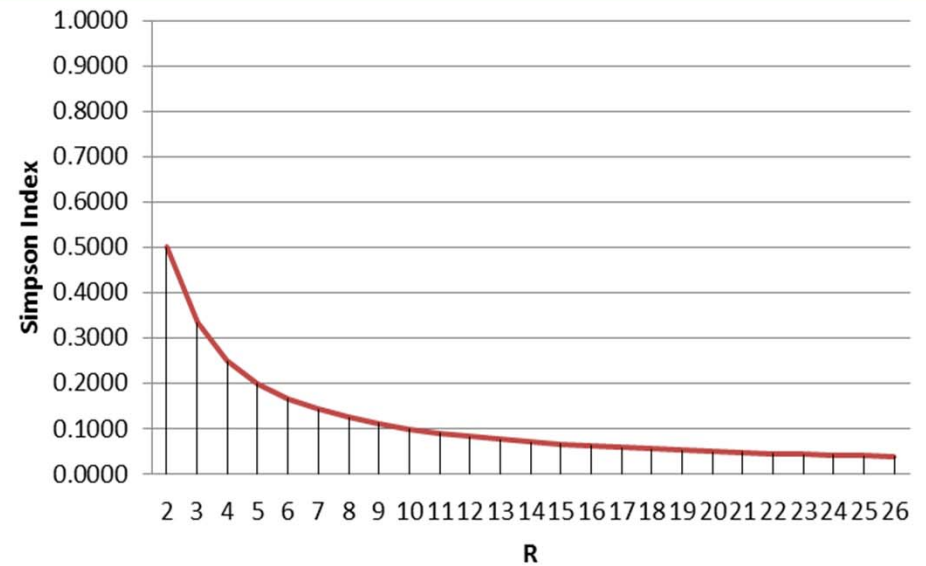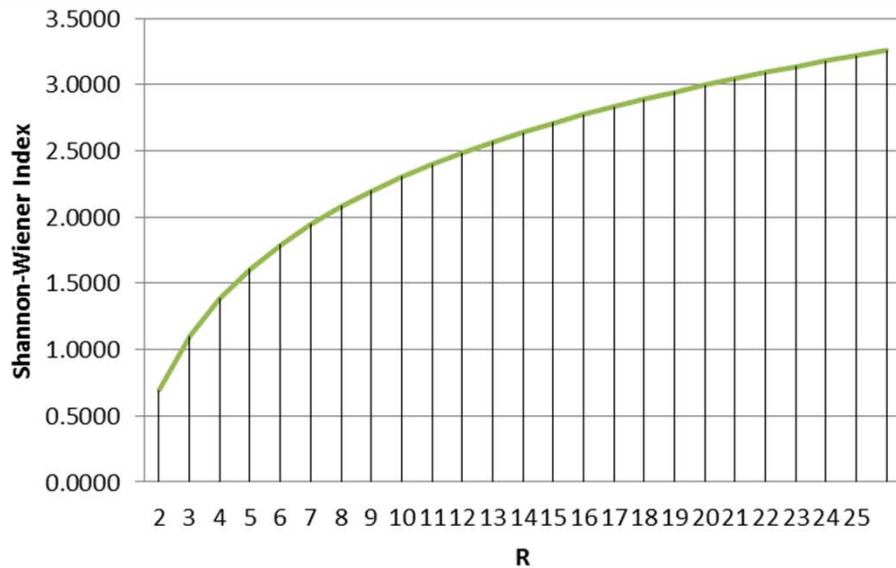
Heterogeneity
(Entropy)

Homogeneity
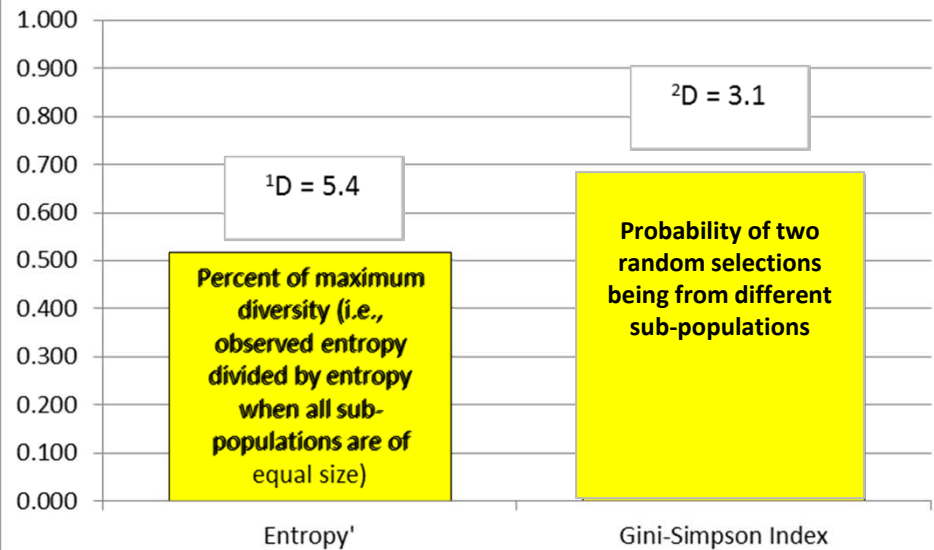(λ)

The Range for Two Heterogeneity Indices

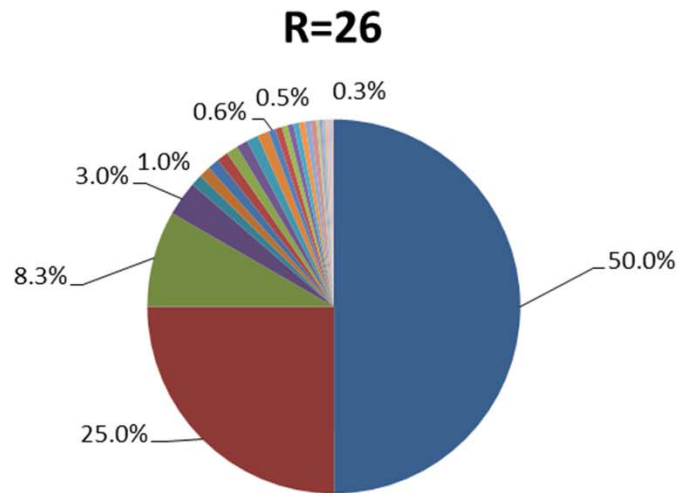Entropy' (Re-scaled)
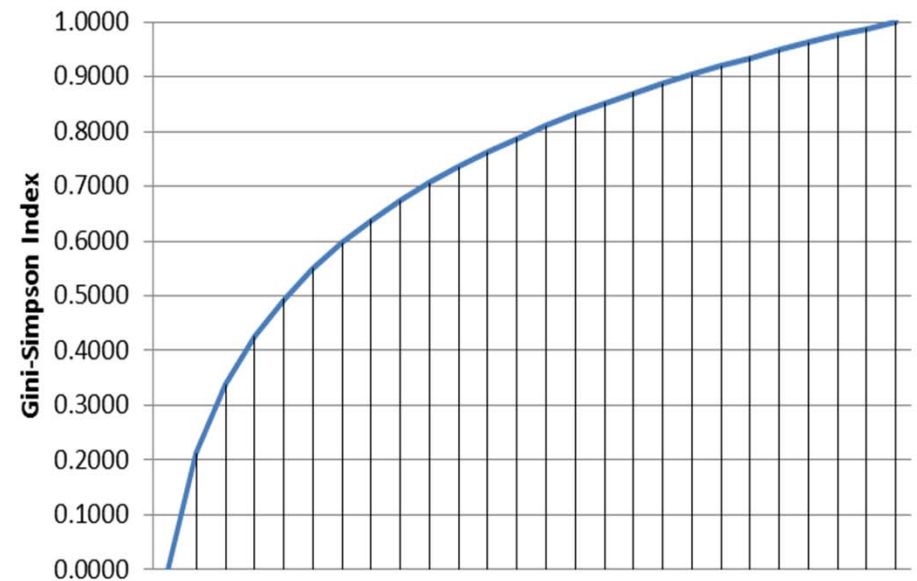
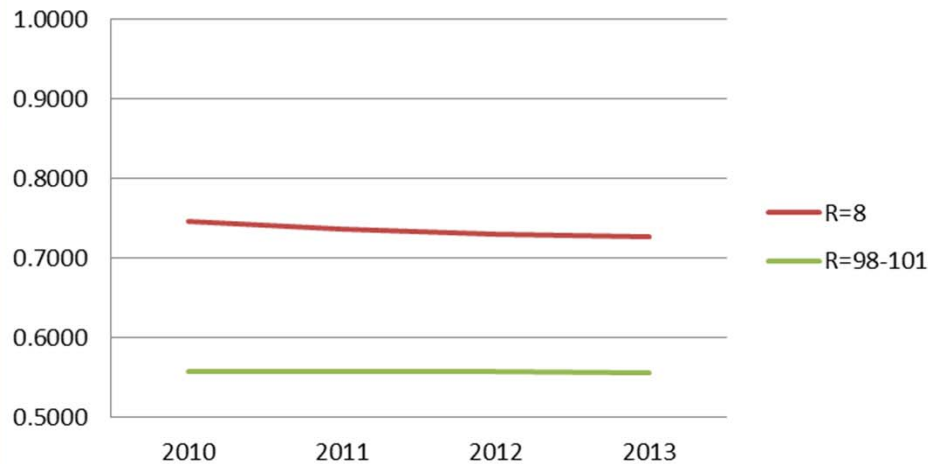Gini-Simpson

Summary Indices for a Hypothetical Population

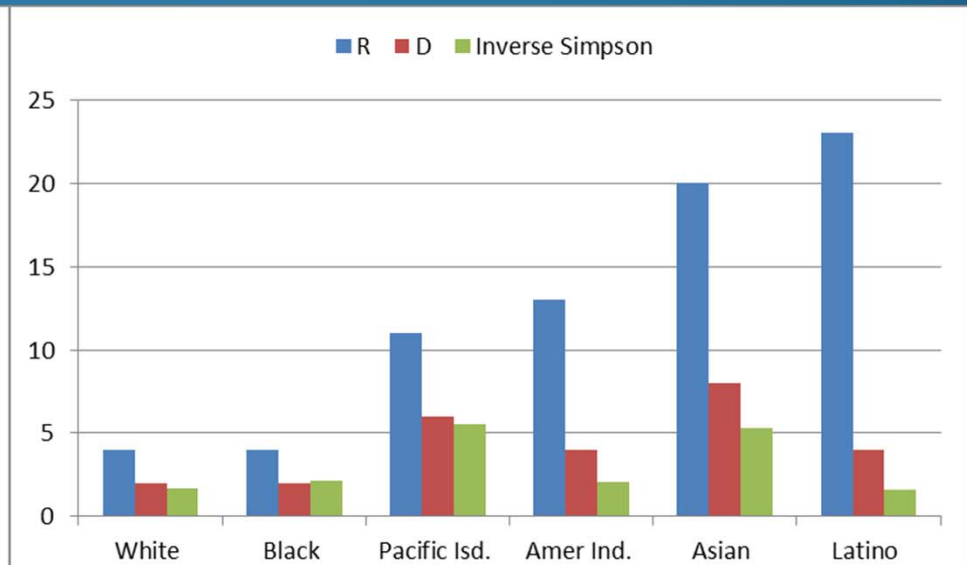Population Distribution   Observed Diversity
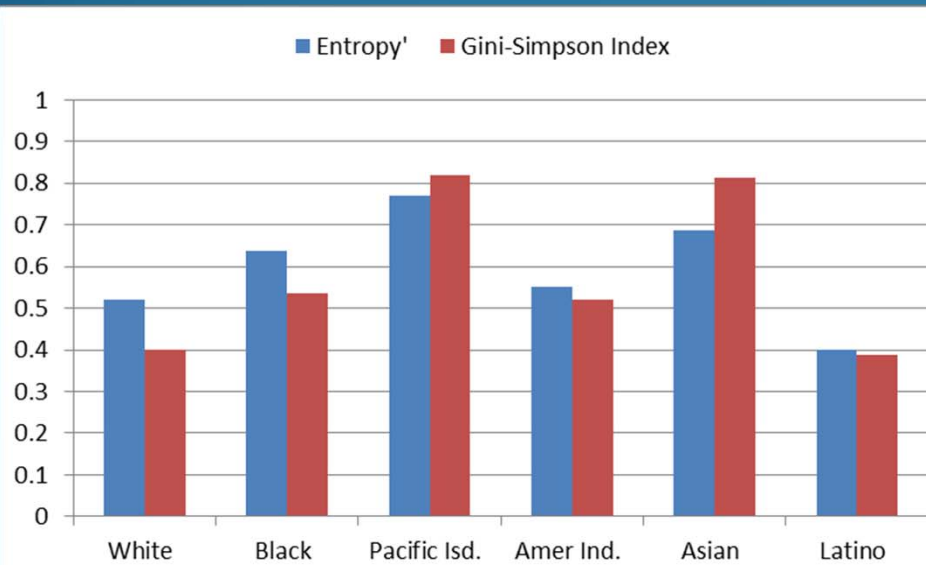
Undergraduate Diversity at the CSU
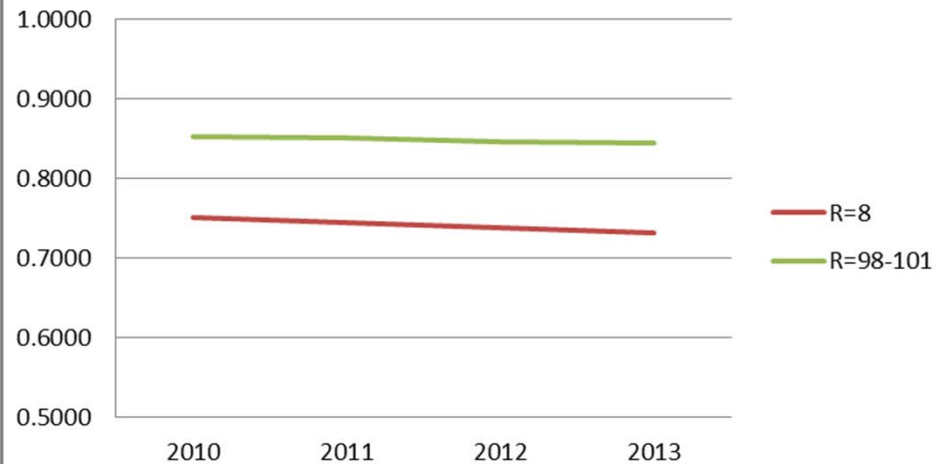
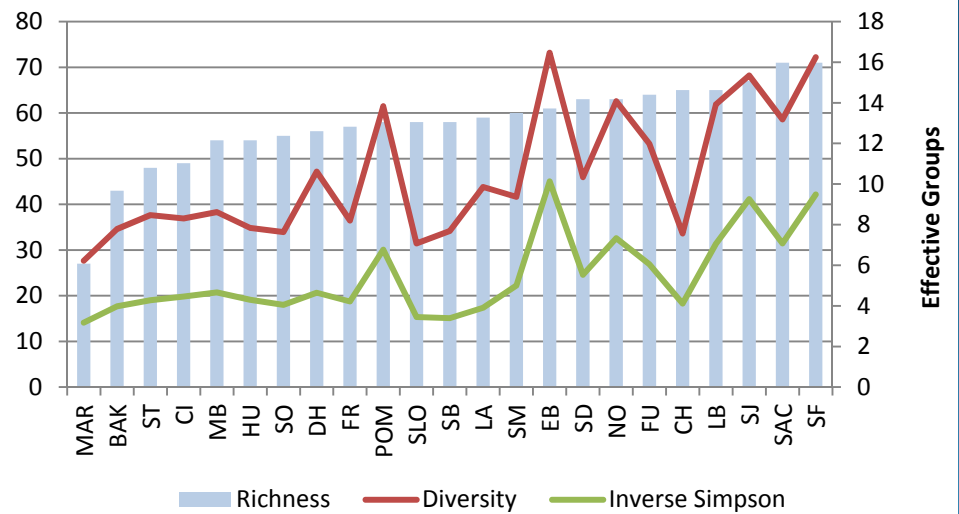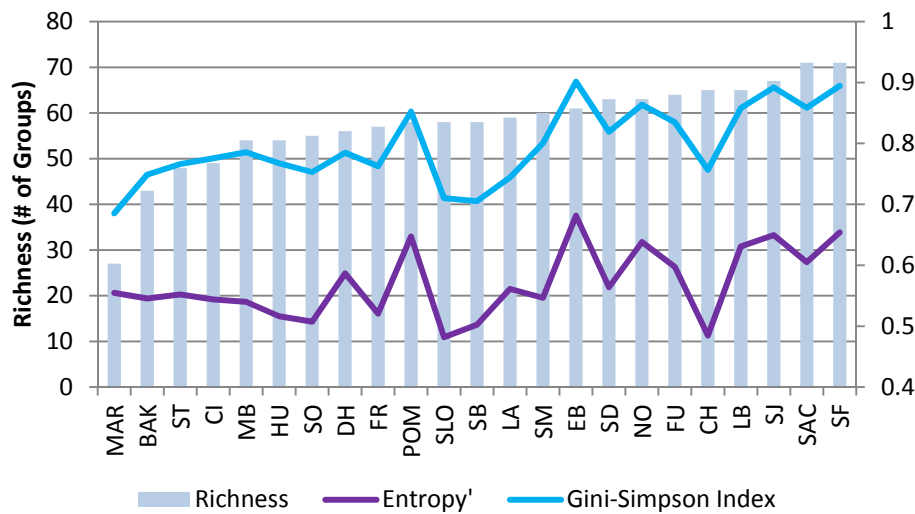H' > reward for evenness   1-λ > reward for richness

Undergraduate Intra-group Diversity at the CSU

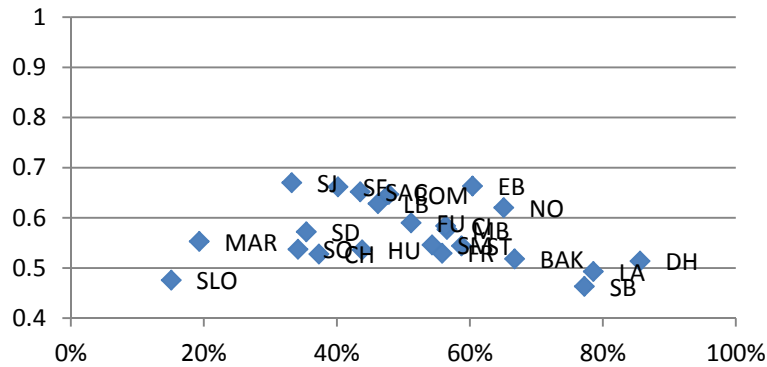Observed Diversity

"True" Diversity
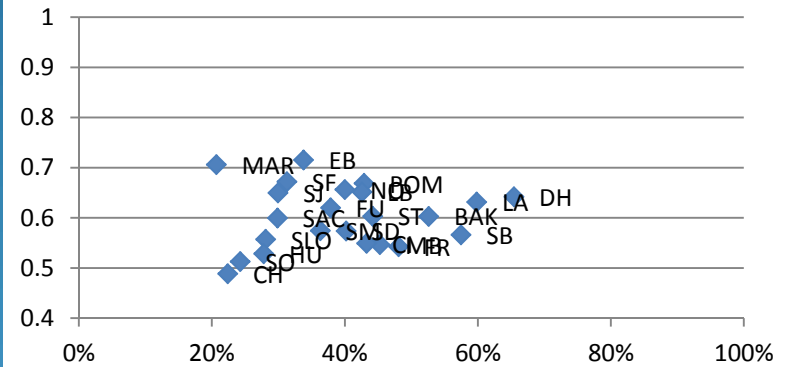
Diversity Across Campuses

Diversity by %URM

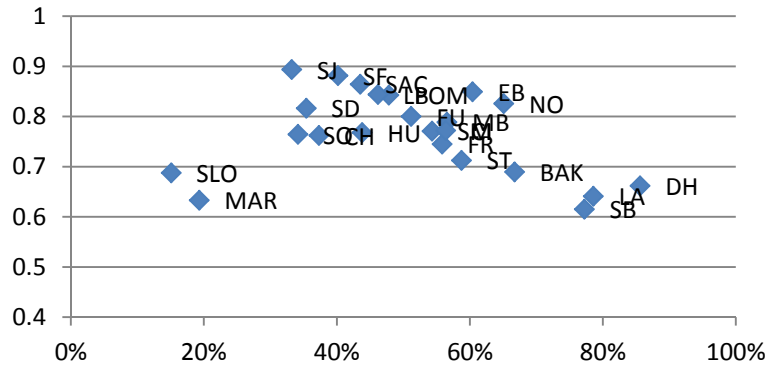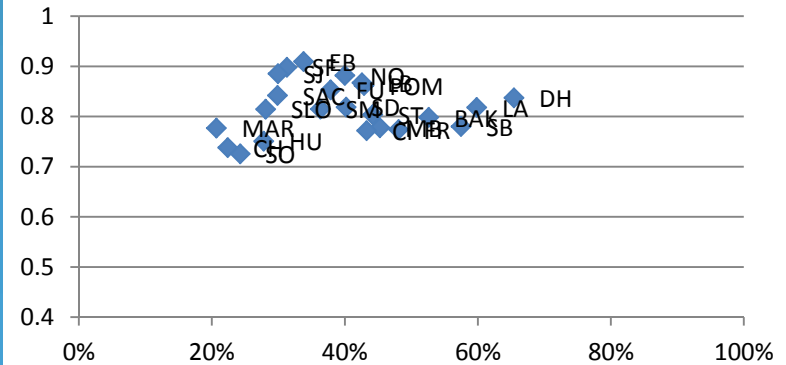First Time Freshmen   Undergrad Transfers
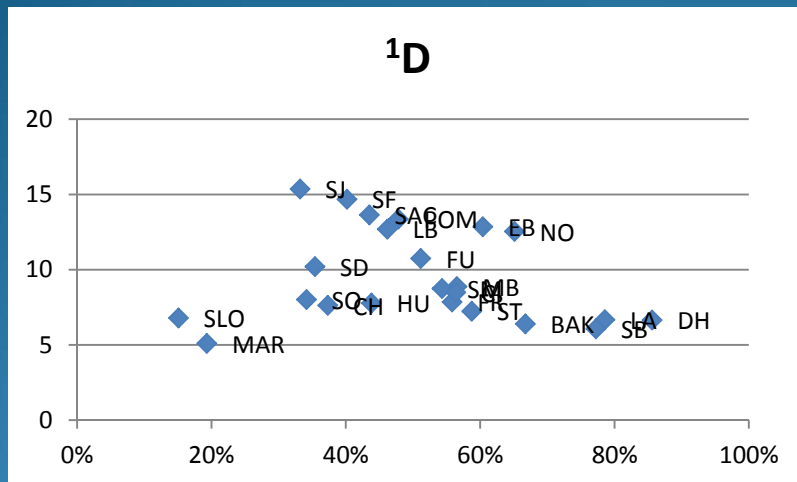
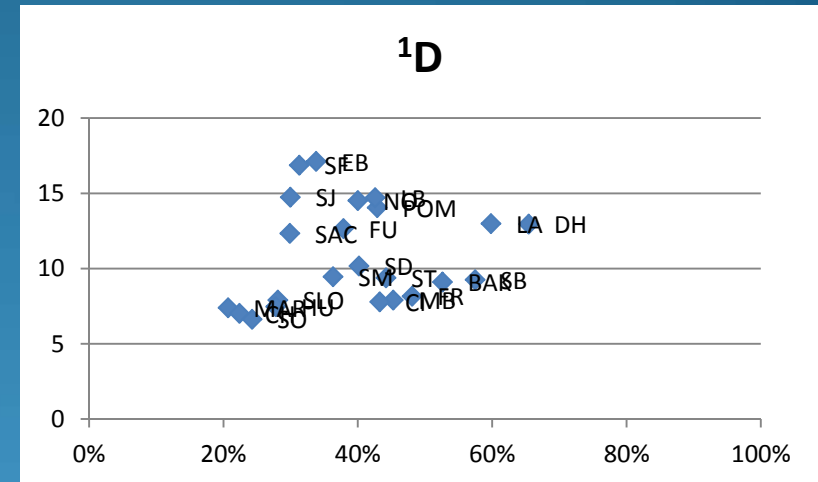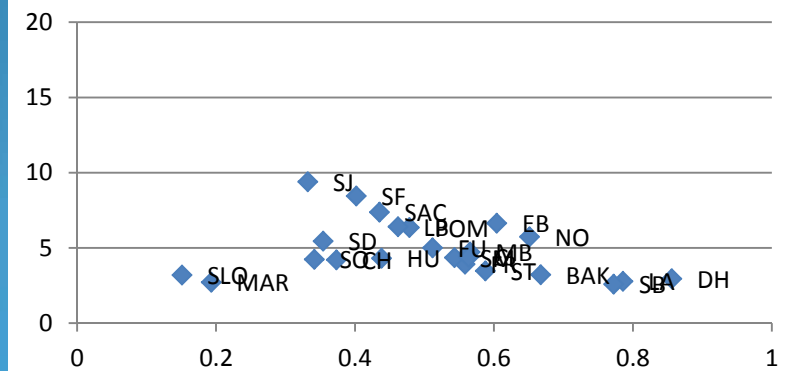# Diversity by %URM

First Time Freshmen
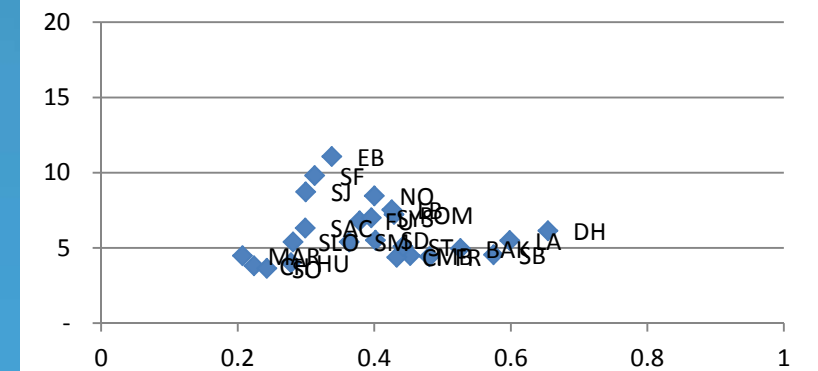
Undergrad Transfers

Takeaways

- Diversity indices are being calculated for your institution from public data

- Richness "tradeoffs"

- Shannon's entropy could be considered a fairer measure of diversity as it relies directly on observed relative frequencies without favoring rare or common groups

Future Directions

- Extensions to ethnic/race indices
  - Gender
  - Pell

- Other indices
  - Country of Origin/Language
  - Socioeconomic Status
  - Discipline/Major

- Other populations (Faculty, K-12 "pipeline", CA pop)

THANK YOU

Philip Garcia
Matthew Case
Analytic Studies Division
CSU Office of the Chancellor
pgarcia@calstate.edu
mcase@calstate.edu

Website: www.calstate.edu/as