

Regional Industry Cluster Analysis

Using Spatial Concepts

VI. Geography of US value chains

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Pre-Conference Training

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Module organization

- Why look at a national spatial extent?
- Analysis pre-requisites
- Measures
- Application: Industry concentration study

Why look at national spatial extent?

- Goal: Develop understanding of local economy within the geography of national value chains.
- Choice of correct reference population
 - Recall: Moran / LISA reference group is defined by spatial extent
 - Contrast with LQ

Analysis Pre-requisites

- Aggregate spatial units, industry, or both
 - Detailed geography and sectors yield too many zeros.
 - Why is this a problem?
- Since comparison among value chains is desired, aggregate spatial units

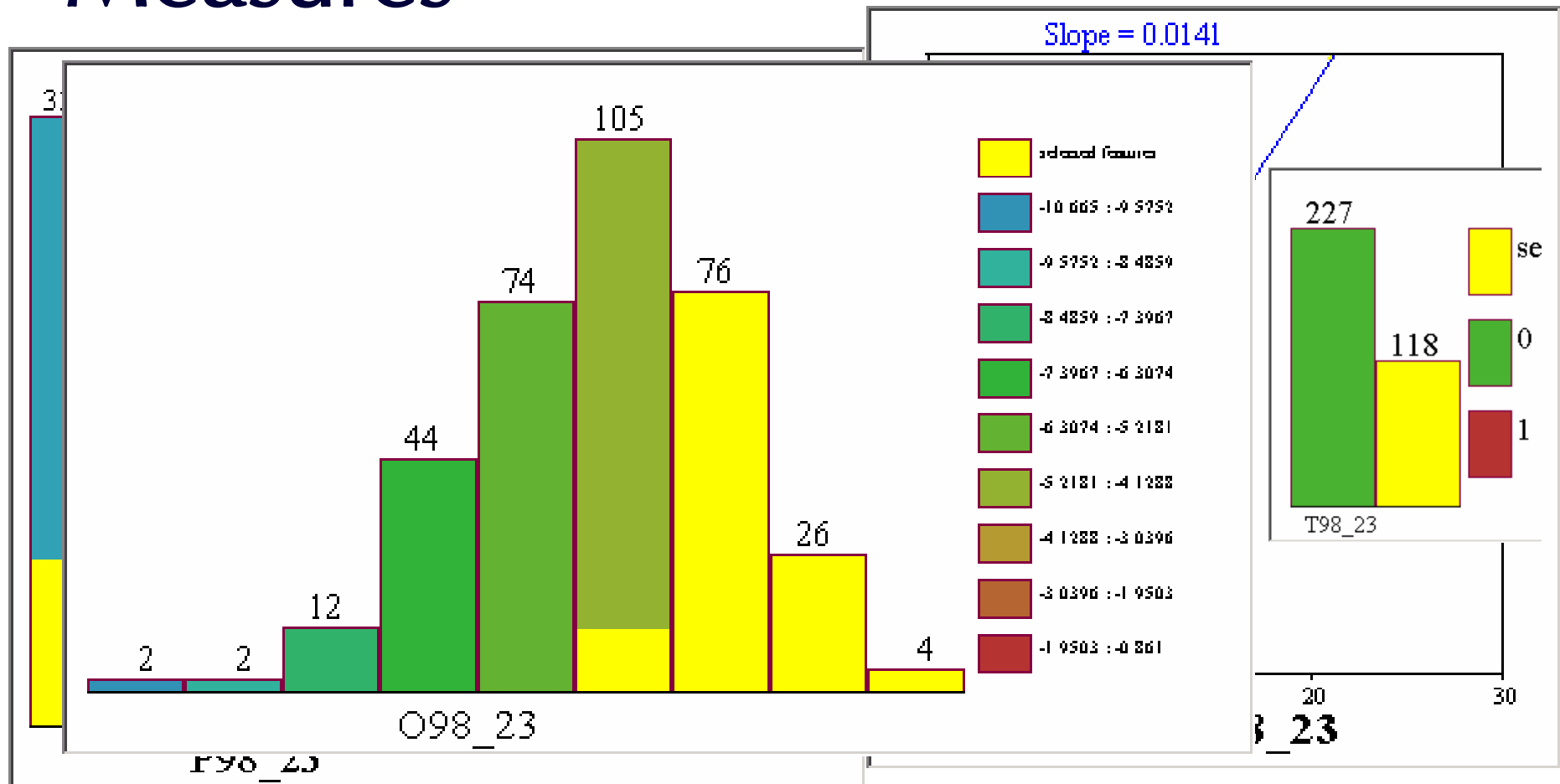
Analysis Pre-requisites

- Select aggregate geography: BEA, CEAs
- Create new shapefile for CEA geography
 - Merge FIPS, CEA correspondence
 - ArcGIS *dissolve* function
- Create new data for CEA geography
 - Merge FIPS, CEA correspondence
 - SAS PROC SUMMARY
- Calculate measures
 - See variable definitions handout

Measures

- Recall
 - LQ has severely right-skewed distribution
 - LQ and P are identical in terms of spatial distribution (LQ is linear scaling of P)
- Log odds ratio
 - Odds ratio: $P/(1-P)$
 - Even odds when $P=.5$, odds ratio=1
 - Is <1 for $P<.5$, and >1 for $P>.5$
 - $\text{Log}(P/(1-P))$, symmetric well-behaved spatial distribution

Measures



Application

- Open map: BEA_CEA.shp
- Open data and use Table > Join Table to append file BEA_CEA_DAT.DBF to map.
- Add sectors of interest (see variable defs.) and experiment with GeoDa
 - Which measures to select?
 - Create alternative weight matrices
 - Use global and local Moran's I, interpret
 - Parallel coordinates to explore among VCs

Module VI review

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