Changes in Consumer Behavior during the Great Recession

– a Spatio-Temporal Analysis Using Retail Data

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The Great Recession

- Housing bubble
- Asset market collapse
- GDP / Industries shrinking (construction, real estate)
- Job losses → less money to buy

California:

- Two Recessions originated here within a decade
- Two different sectors
- Different responses in retail?

How Do Recessions Affect Retail?

- Geographic differentiation
  - Cities / Periphery
  - Coast / Inland
- Sectoral choices: what to consume, what to give up?
- Drivers? Employment, income, wealth, education?

Plan: Exploit CA Retail Data

- CA Board of Equalization publishes retail data by county, quarter, and retail sector
- Data from Q1 2000, to Q2 2012
- Benefit: Covers two very different types of recessions: dot-com bubble and housing bubble

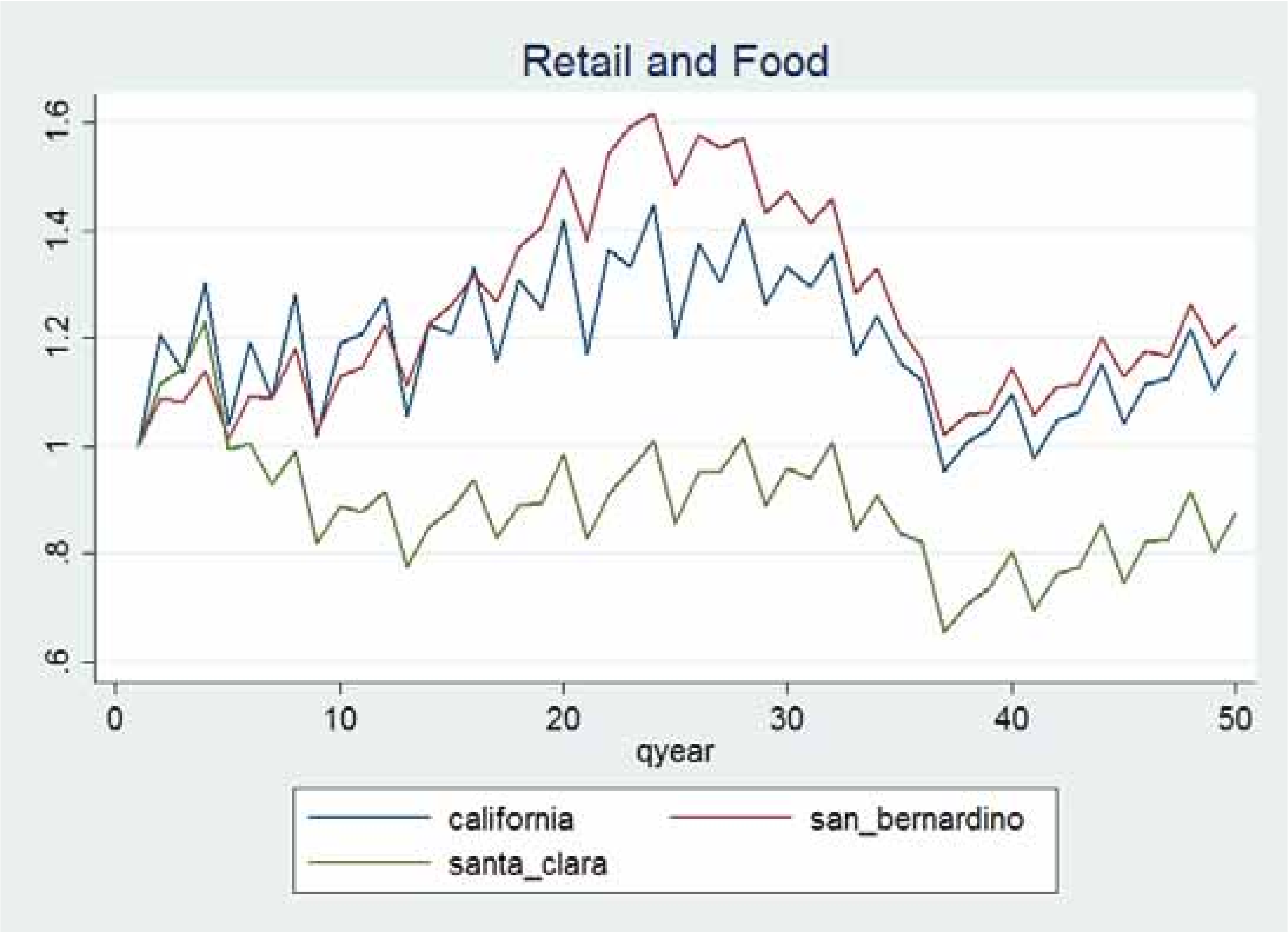
Methods

- Geographic Differentiation: Animate year over year changes in retail sales

- Sectoral Choices: Plot changes in retail sales of specific retail sectors over time for California, Silicon Valley and San Bernardino by sector

- Future work: regress sales on employment, income and other potentially explanatory variables

Retail and Food Services
(California, San Bernardino, Santa Clara)



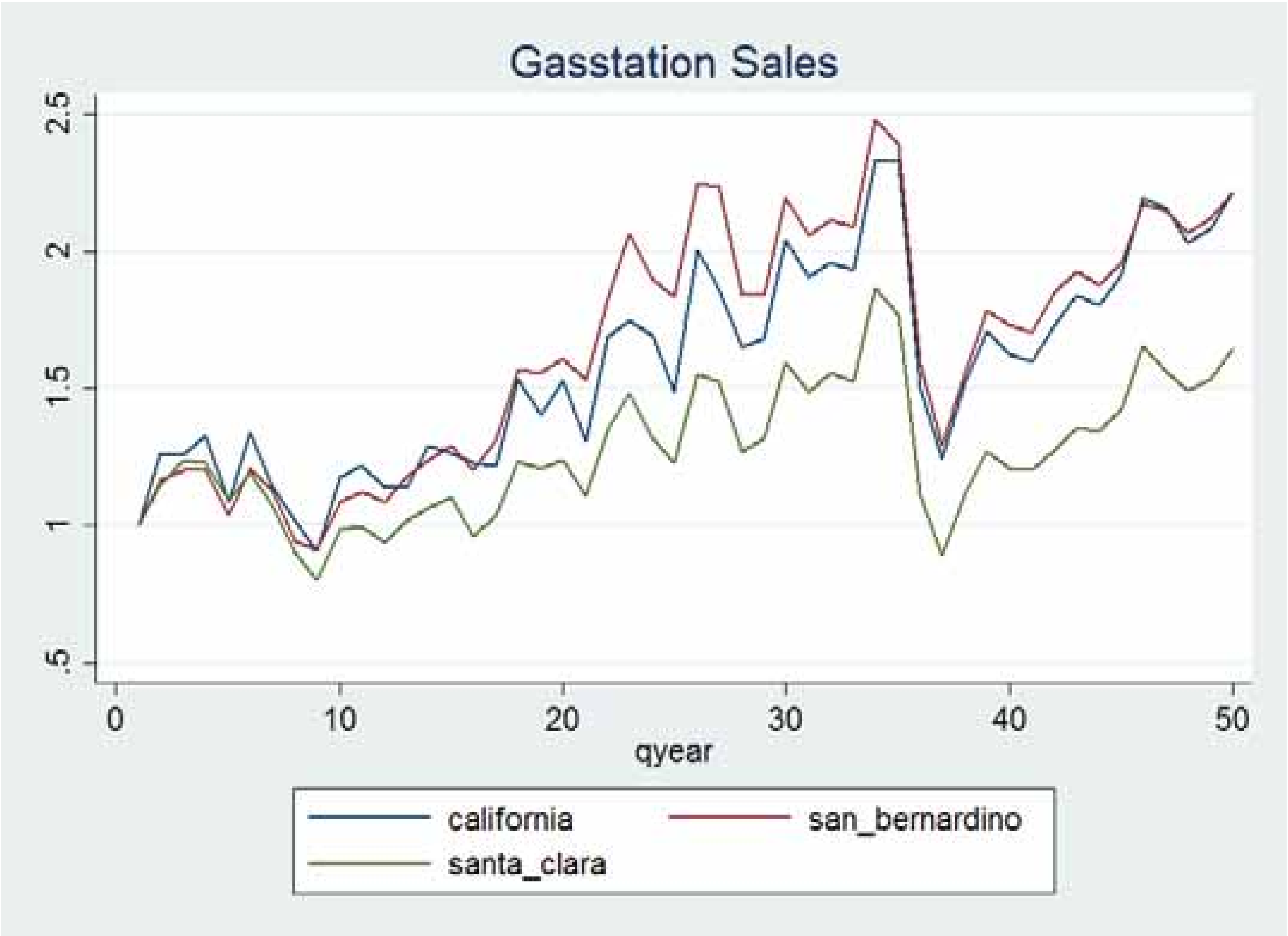
CA Retail

- CA Retail mirrors employment
- Centers slightly more volatile than periphery
- Not a question of coastal / inland

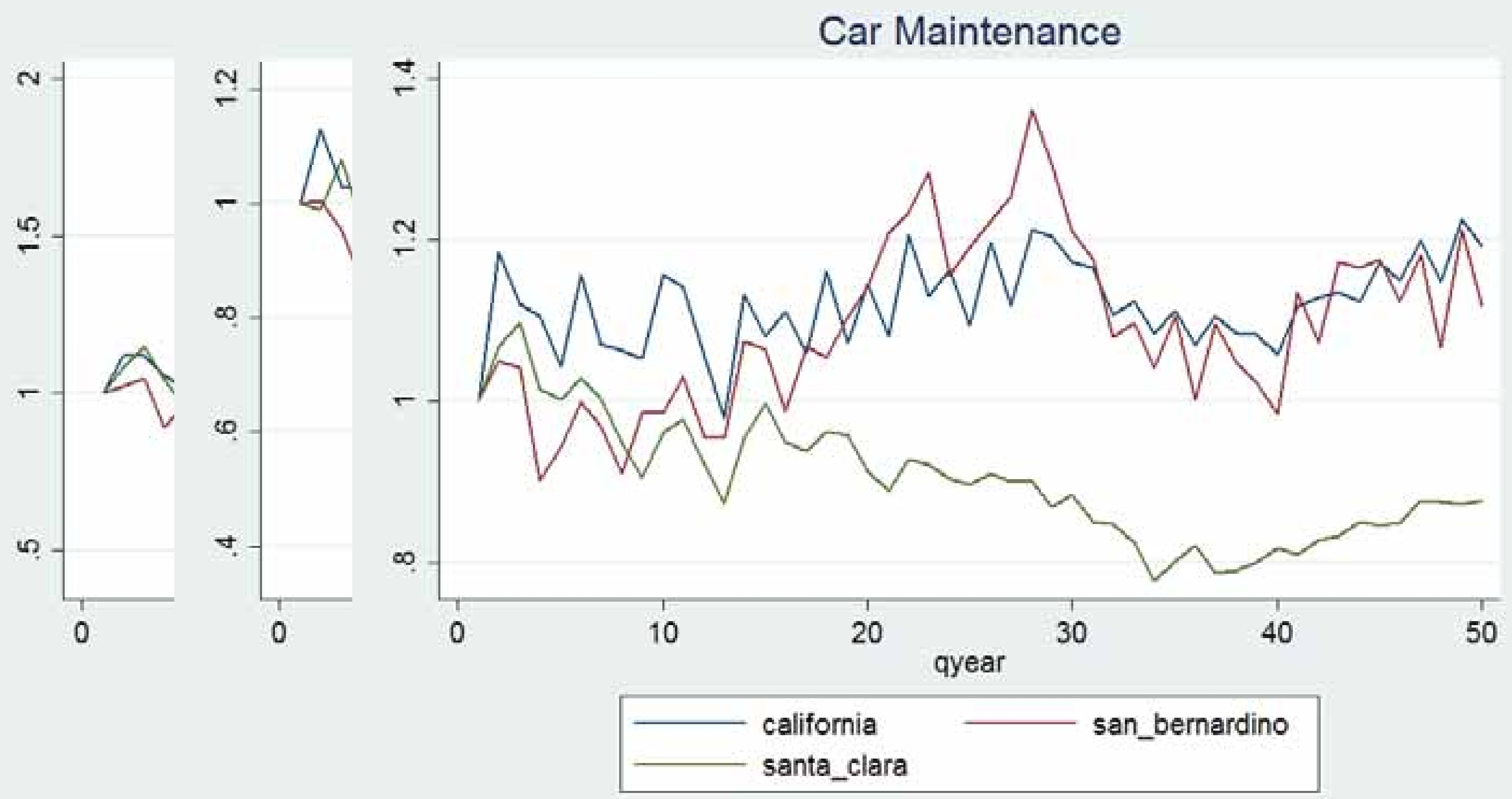
Comments

- For the following plots, only data for 36 large counties available, therefore do not represent total retail
- However, large counties represent almost all of total retail in CA; on average less than 3% of the retail in CA happens in small counties
- All data displayed is real (inflation-corrected) relative sales; First Quarter 2000 = 1

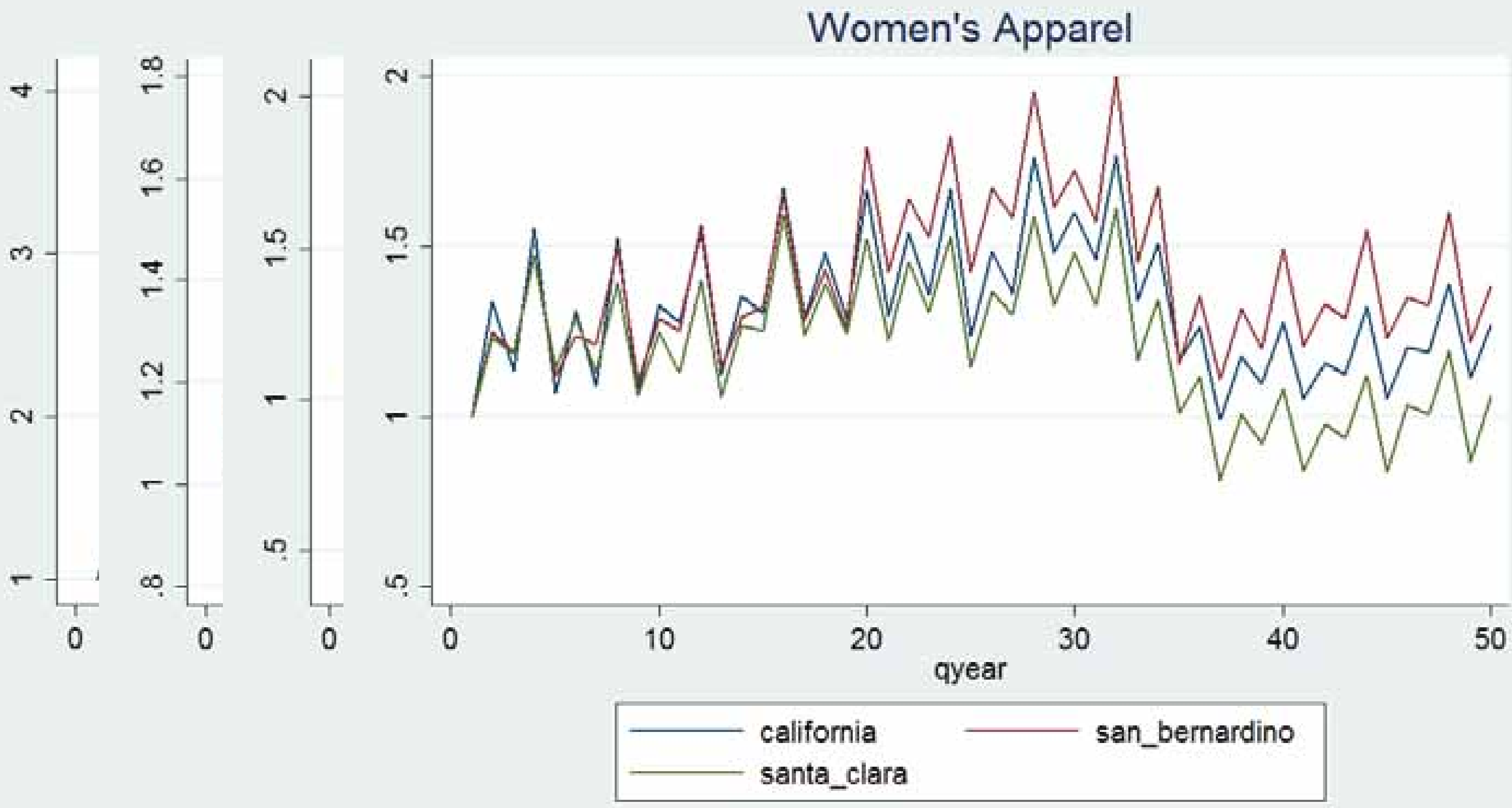
Almost all Post-War Recession Were Preceded by an Oil Price Increase



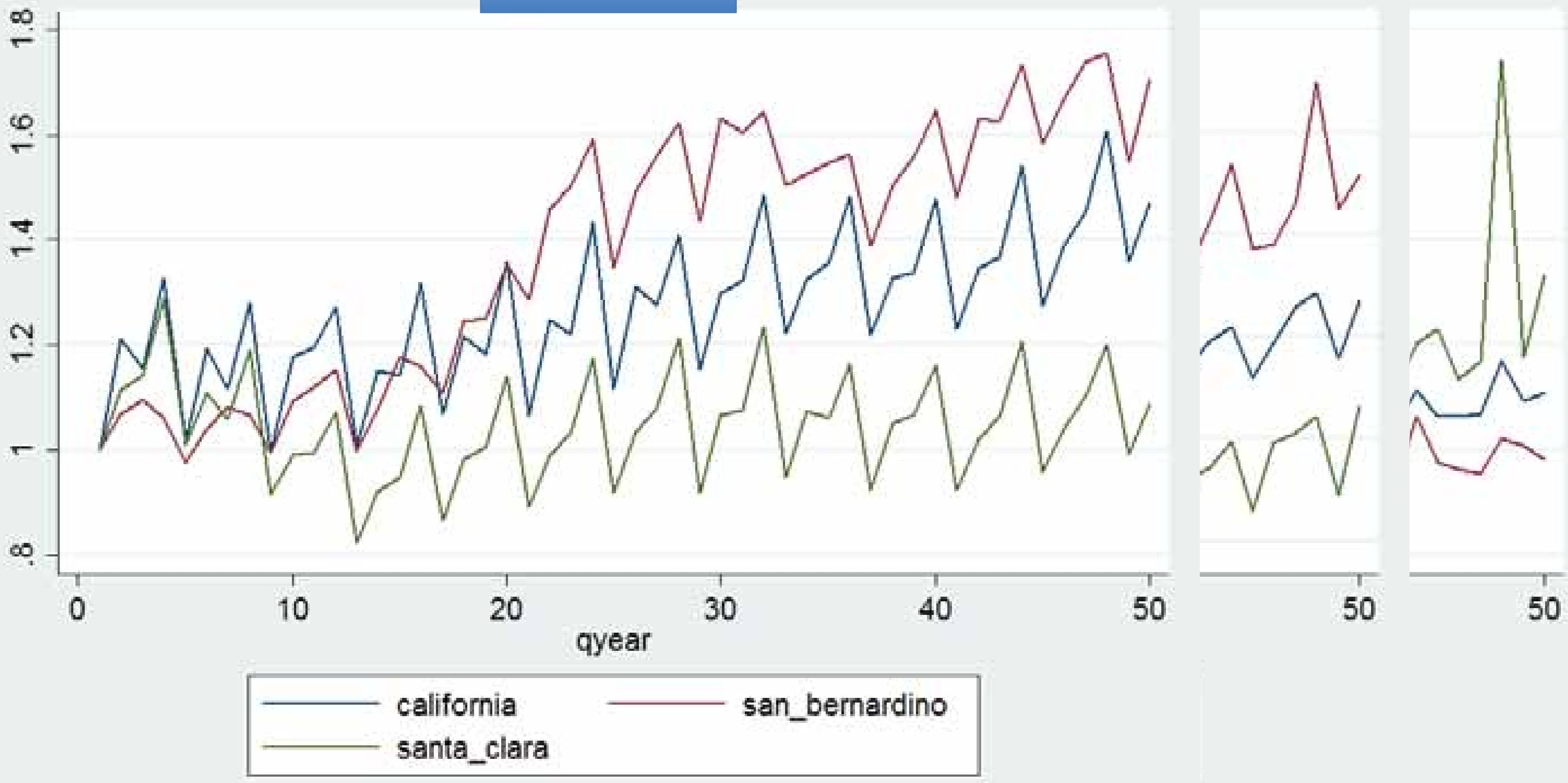
New Cars, Used Cars, Maintenance



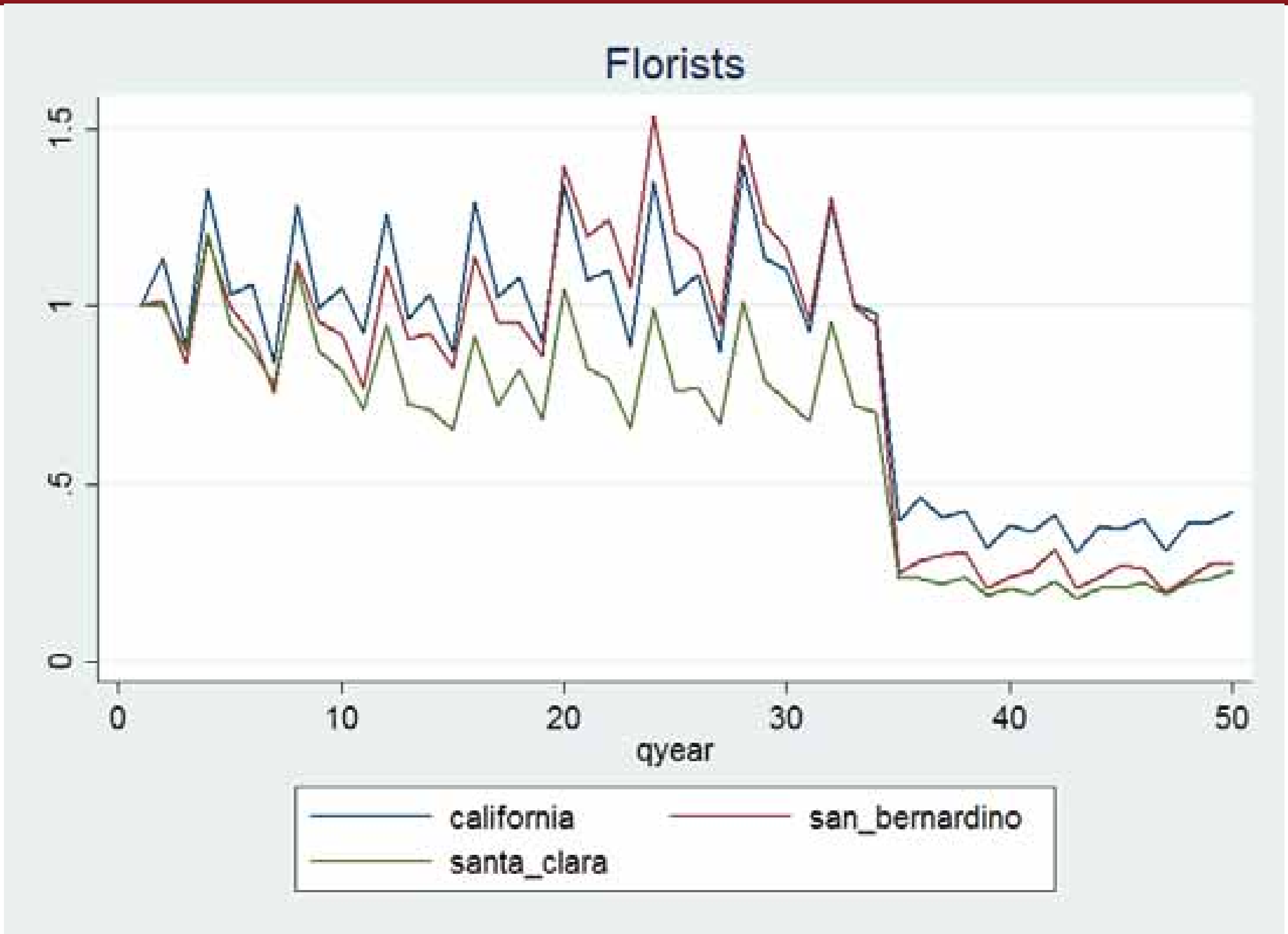
Apparel: Men's, Women's, Family, Shoes



Recession Proof Retail:



What to Give up First?



Future Research

- Regression Analysis
- Candidate explanatory variables: employment, income, income distribution, wealth, housing values
- Preliminary results (cross section): employment highest explanatory power in poorer areas

Summary

- Spatio-temporal analysis shows:
  - Strong relationship between employment and retail
  - Retail more volatile than employment
  - Stark sectoral variation

- Two California recessions provide natural experiment to study dependence in detail

- Many options for future research

Thank You!

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