# Evaluating the Effect of Differences in Revenue Systems on the Fiscal Health of Large U.S. Cities.

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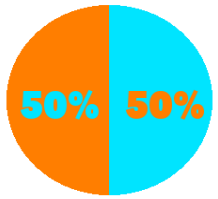
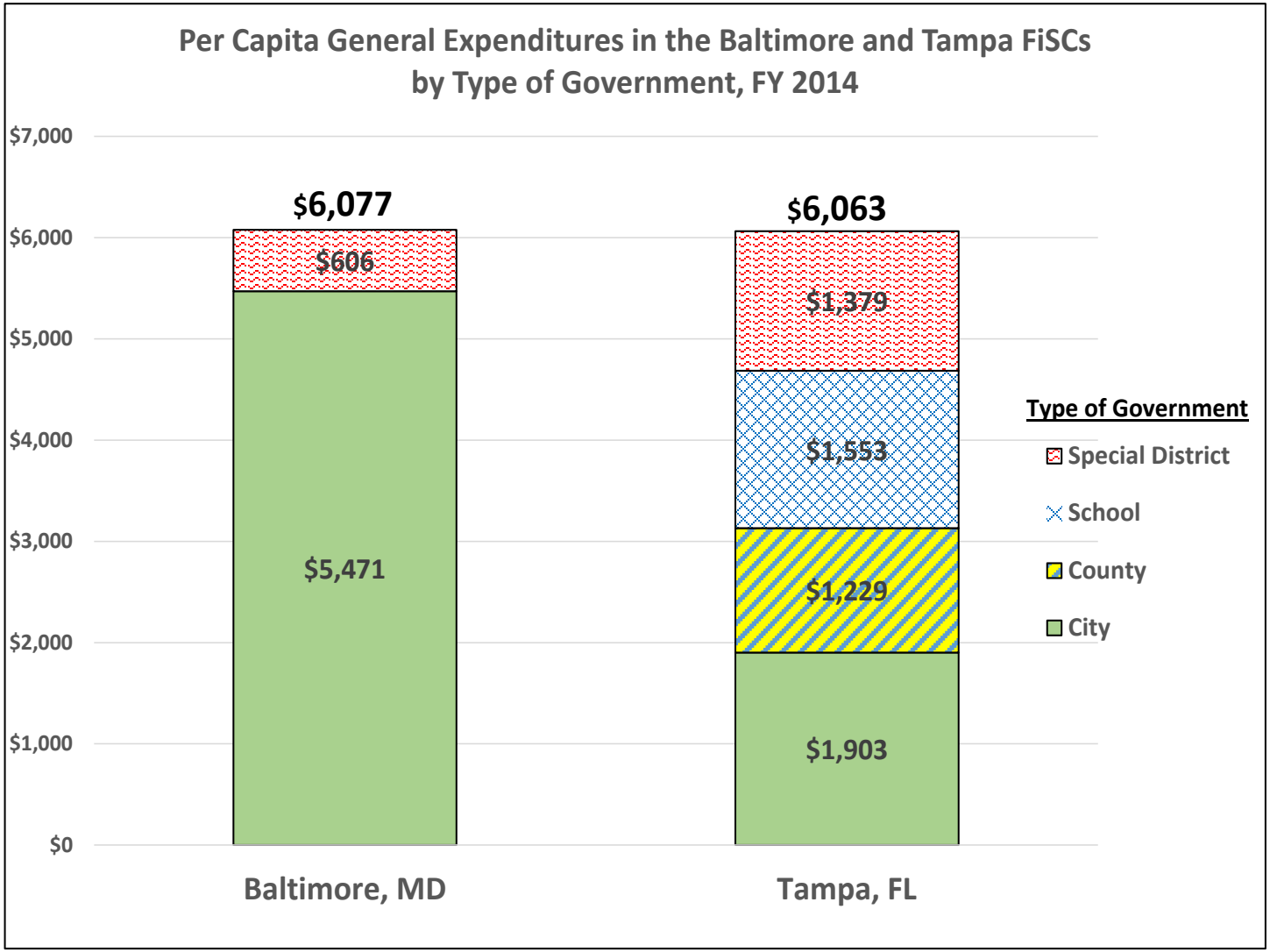
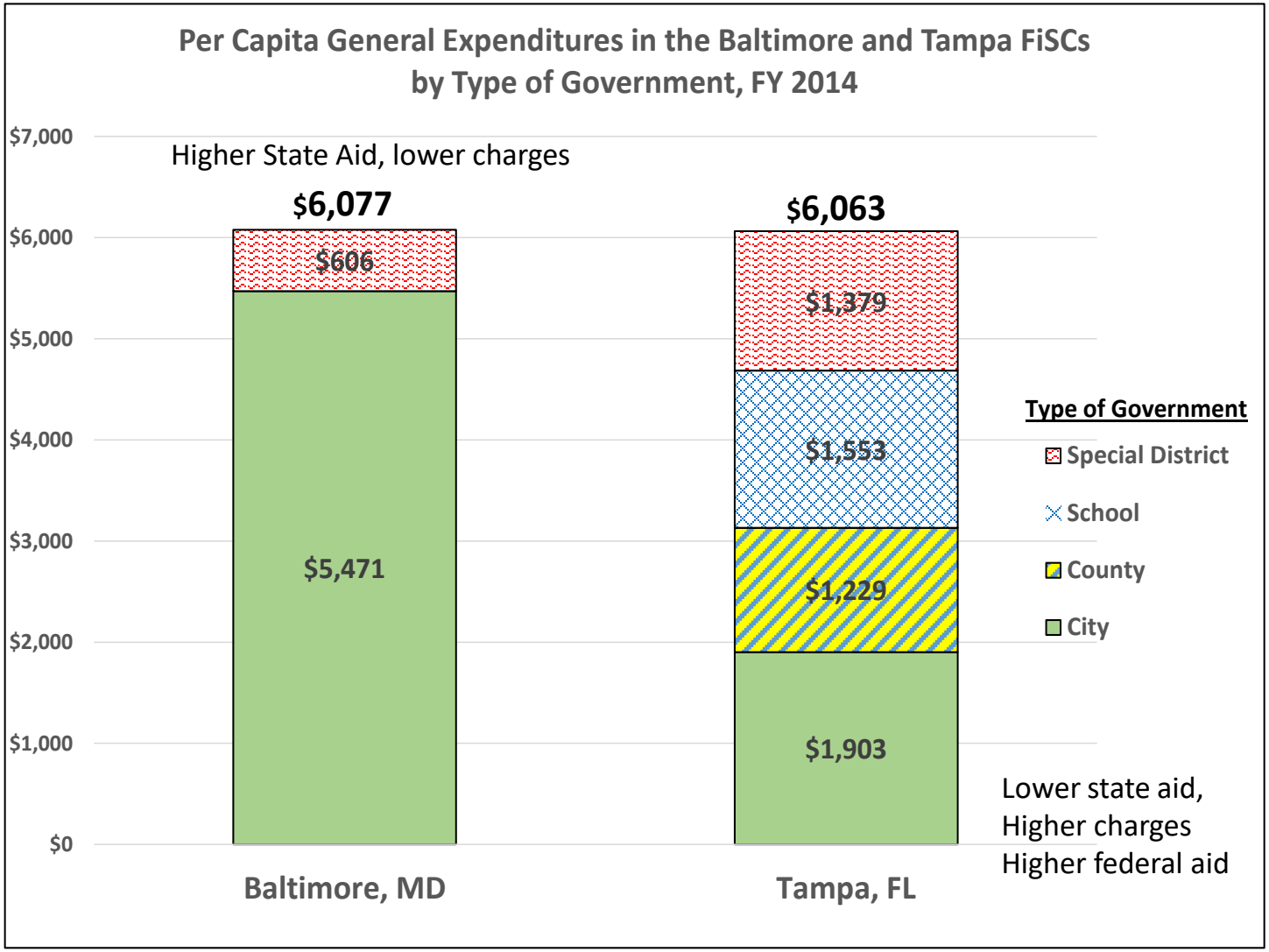
# Outline of Talk

- I. Crucial Role of Cities in National Economy
- 2.  Spending and Revenue Patterns in Fiscally Standardized Cities, 2000-2014
- 3. State Aid During the Great Recession
- 4. A simple model of fiscal stress
- 5. Revenue structure and revenue performance
- 6. Fiscal Capacity and fiscal disparities– changes over time.
- 7. Conclusions

# UNITED STATES ECONOMIC ACTIVITY, SPLIT IN HALF




Per Capita General Expenditures in the Baltimore and Tampa FiSCs by Type of Government, FY 2014
$7,000
$6,000
$5,000
$4,000
$3,000
$2,000
$1,000
$0
$6,077
$606
$5,471
$6,063
$1,379
$1,553
$1,229
$1,903
Baltimore, MD
Tampa, FL
Type of Government
Special District
School
County
City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$7,000
$6,000
$5,000
$4,000
$3,000
$2,000
$1,000
$0
Higher State Aid, lower charges
$6,077
$606
$5,471
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$1,379
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Type of Government
Special District
School
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City
Lower state aid,
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Higher federal aid
Baltimore, MD
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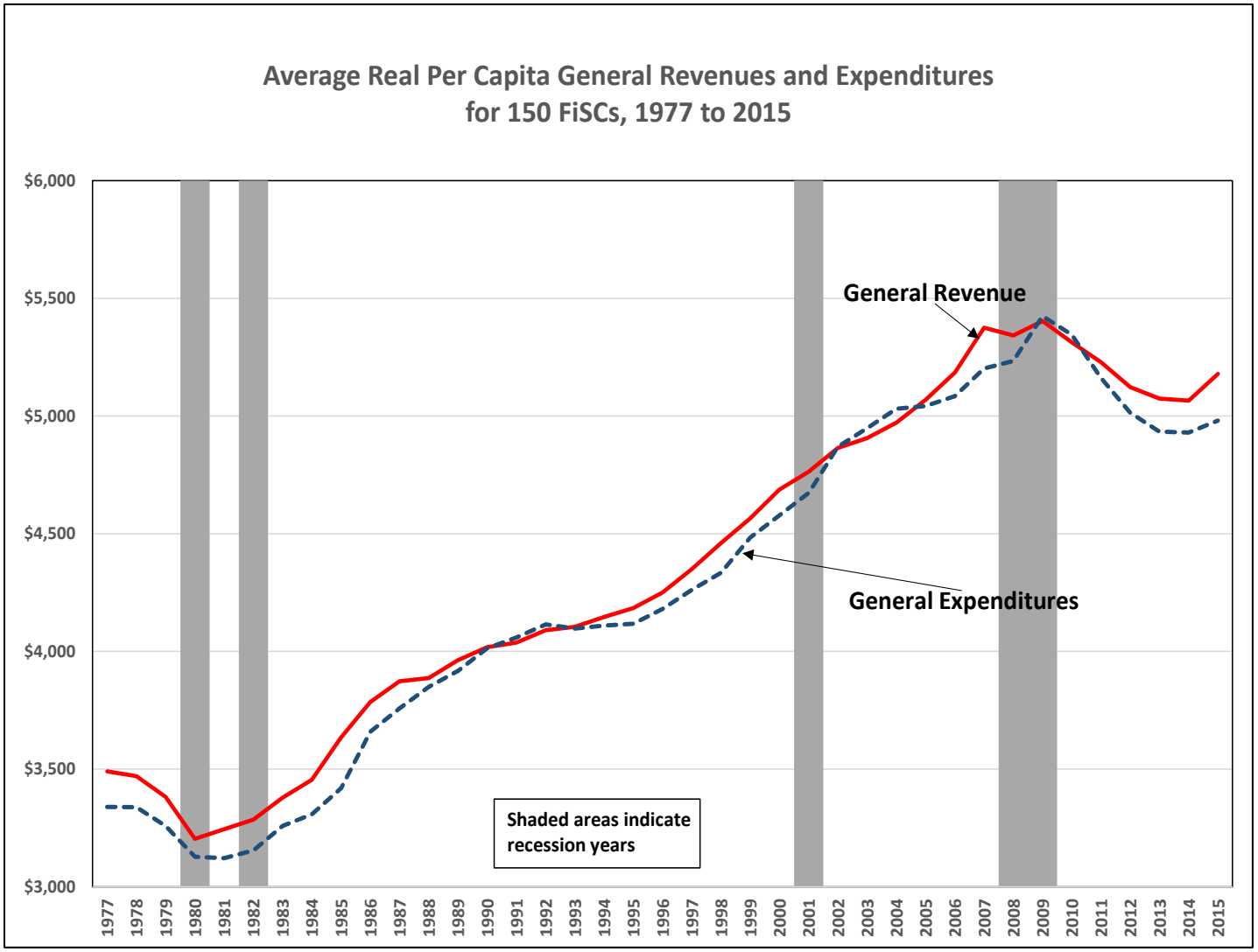
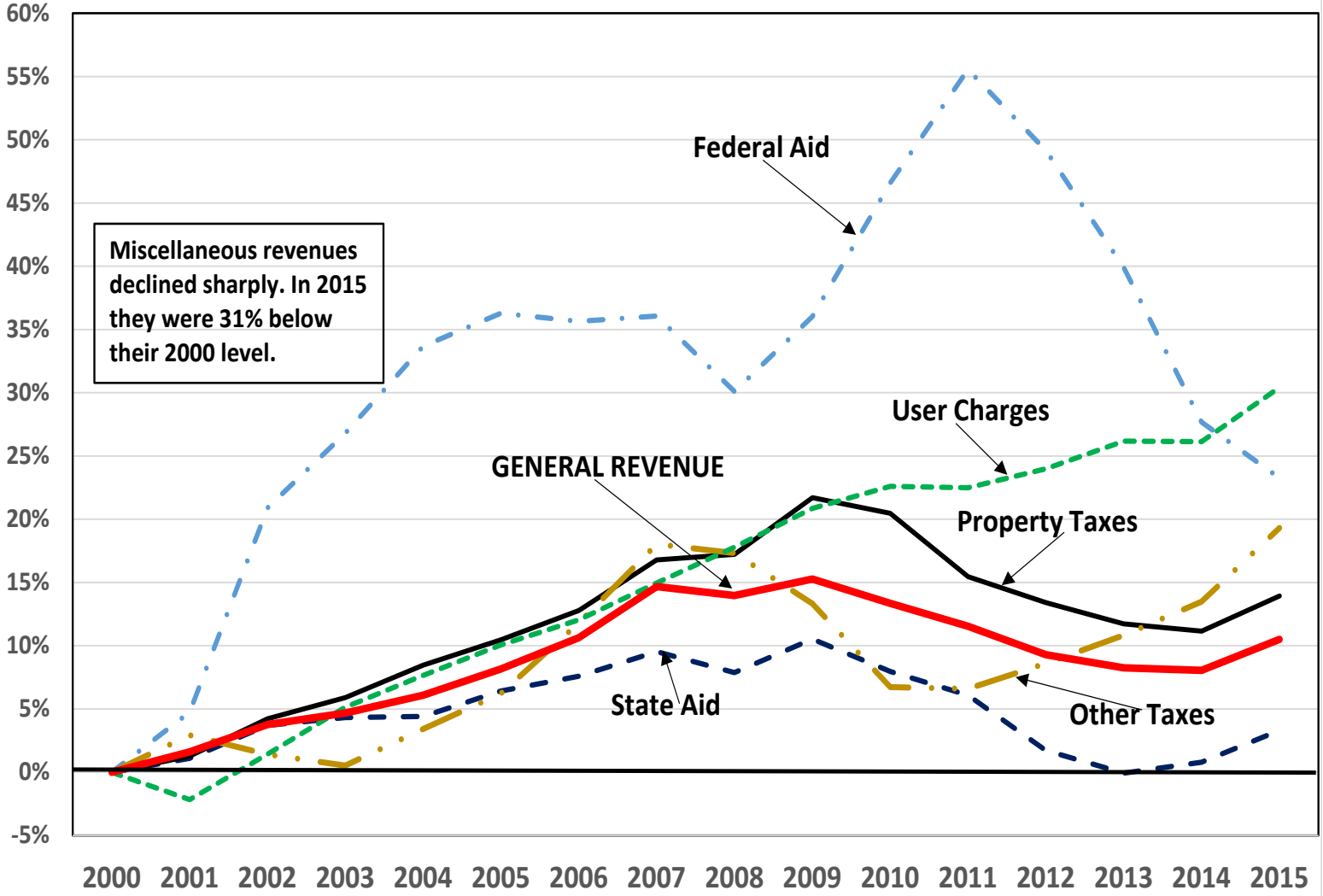
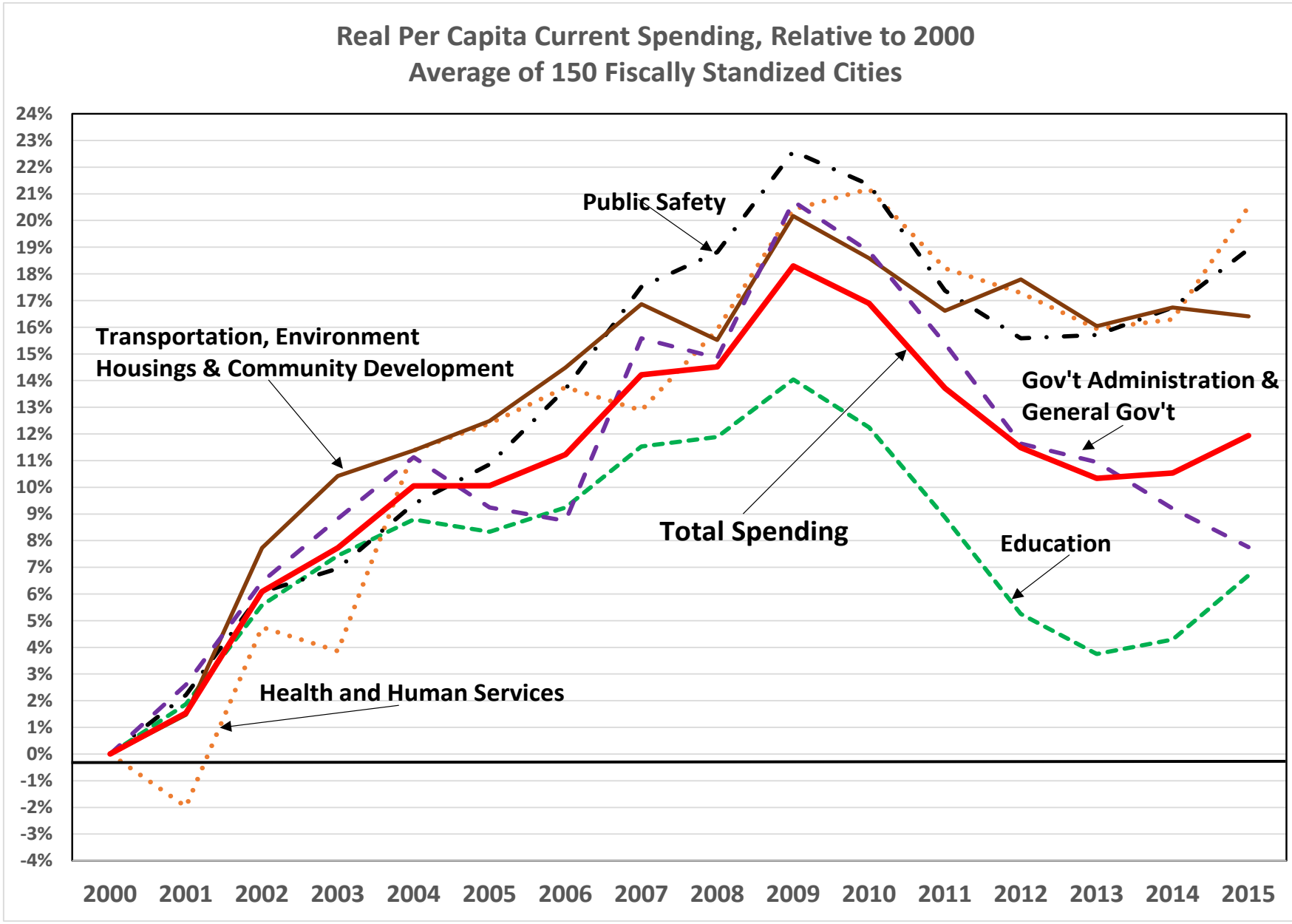
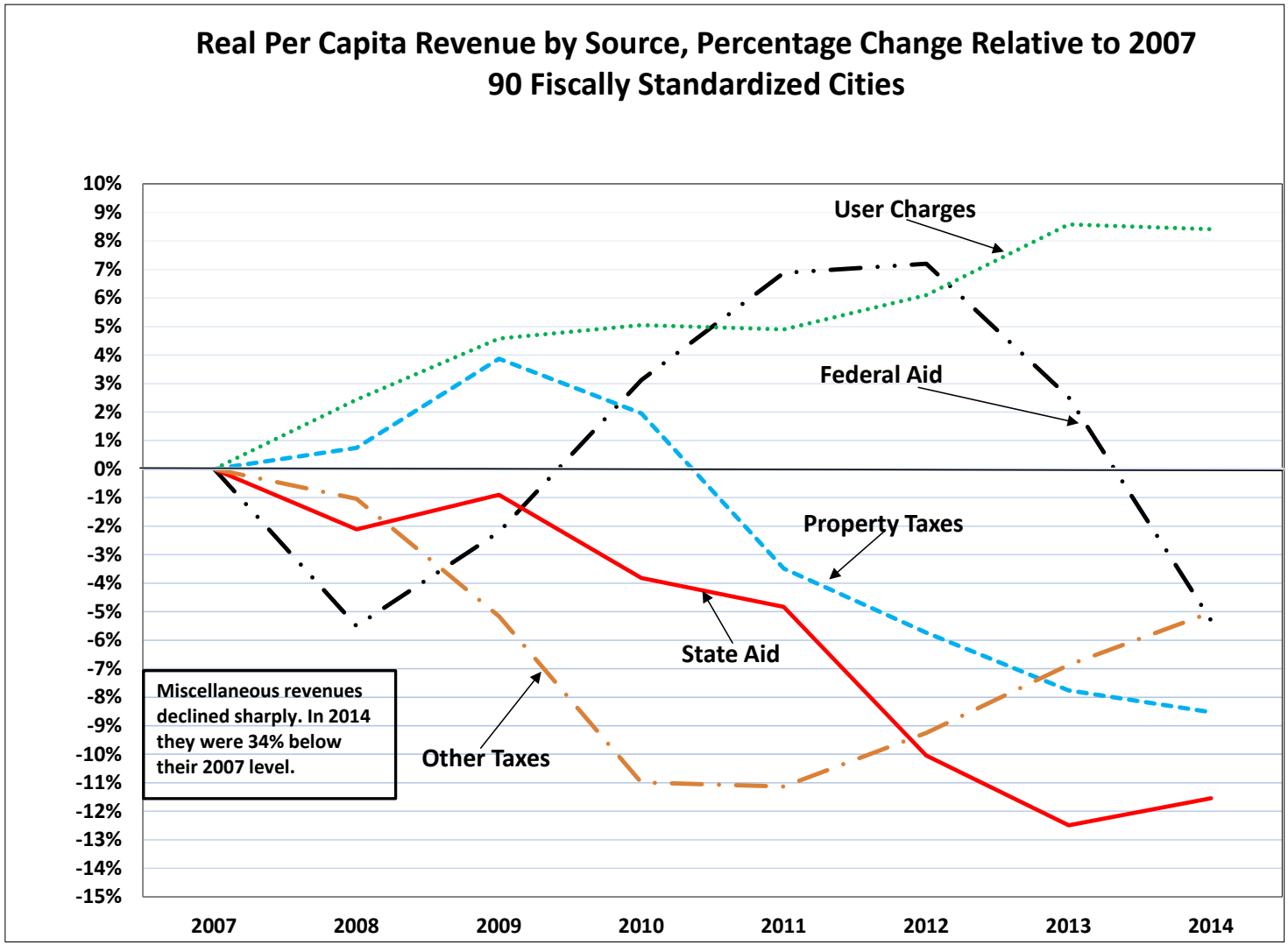

Average Real Per Capita General Revenues and Expenditures
for 150 FiSCs, 1977 to 2015
$6,000
$5,500
$5,000
$4,500
$4,000
$3,500
$3,000
General Revenue
General Expenditures
Shaded areas indicate
recession years
1977
1978
1979
1980
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
1991
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015

Figure 3

Real Per Capita Revenue by Source, Percentage Change Relative to 2000
149 Fiscally Standardized Cities




Real Per Capita Current Spending, Relative to 2000
Average of 150 Fiscally Standized Cities
24%
23%
22%
21%
20%
19%
18%
17%
16%
15%
14%
13%
12%
11%
10%
9%
8%
7%
6%
5%
4%
3%
2%
1%
0%
-1%
-2%
-3%
-4%
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
Public Safety
Transportation, Environment
Housings & Community Development
Gov't Administration &
General Gov't
Total Spending
Education
Health and Human Services


Real Per Capita Revenue by Source, Percentage Change Relative to 2007
90 Fiscally Standardized Cities
10%
9%
8%
7%
6%
5%
4%
3%
2%
1%
0%
-1%
-2%
-3%
-4%
-5%
-6%
-7%
-8%
-9%
-10%
-11%
-12%
-13%
-14%
-15%
2007
2008
2009
2010
2011
2012
2013
2014
User Charges
Federal Aid
Property Taxes
State Aid
Other Taxes
Miscellaneous revenues declined sharply. In 2014 they were 34% below their 2007 level.

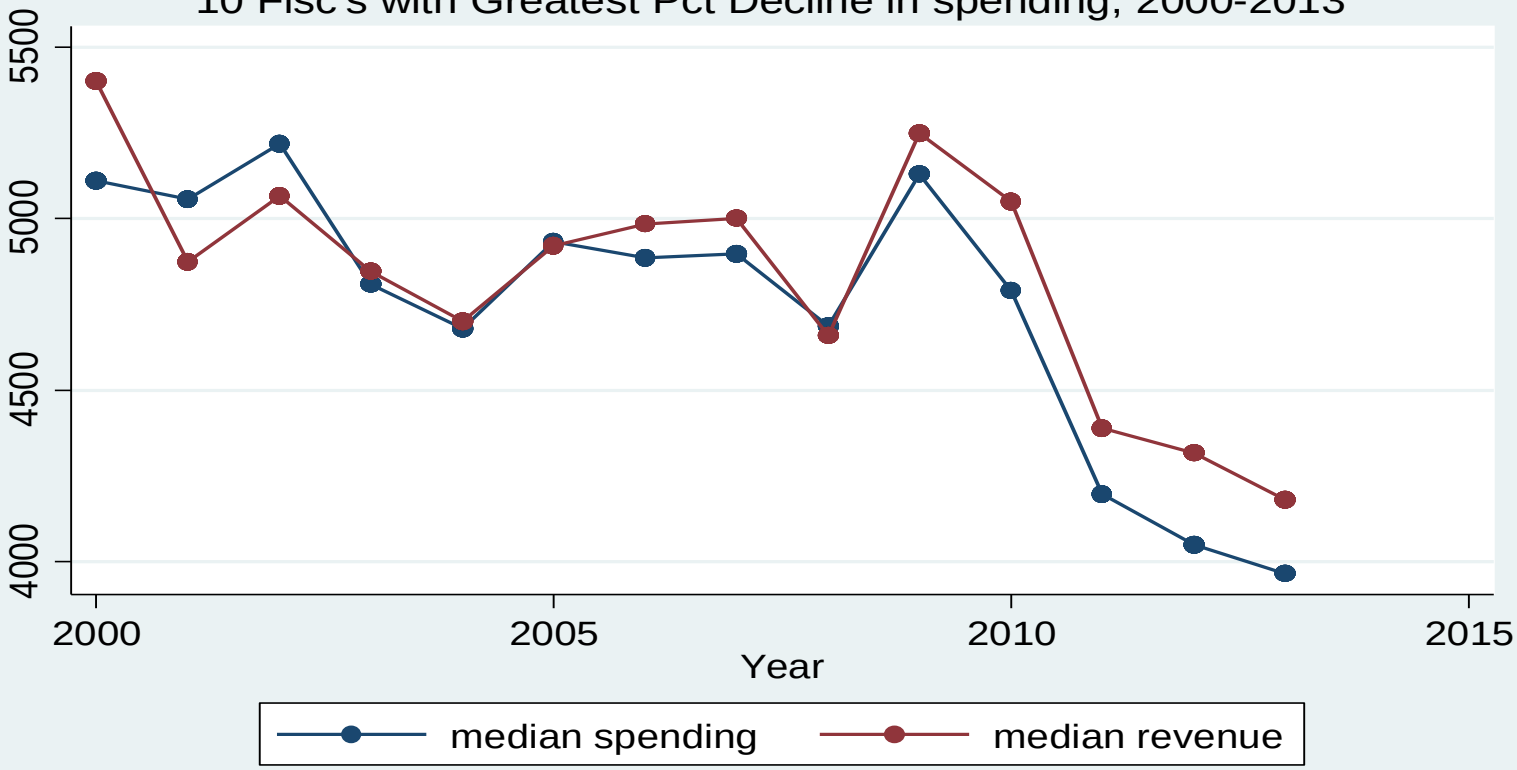
# Outliers in revenue and spending patterns

- Biggest decrease; did not share in the boom period. Hard hit by the Great Recession

- Biggest increase;  shared in the boom period. Revenue and spending stable during the Recession.

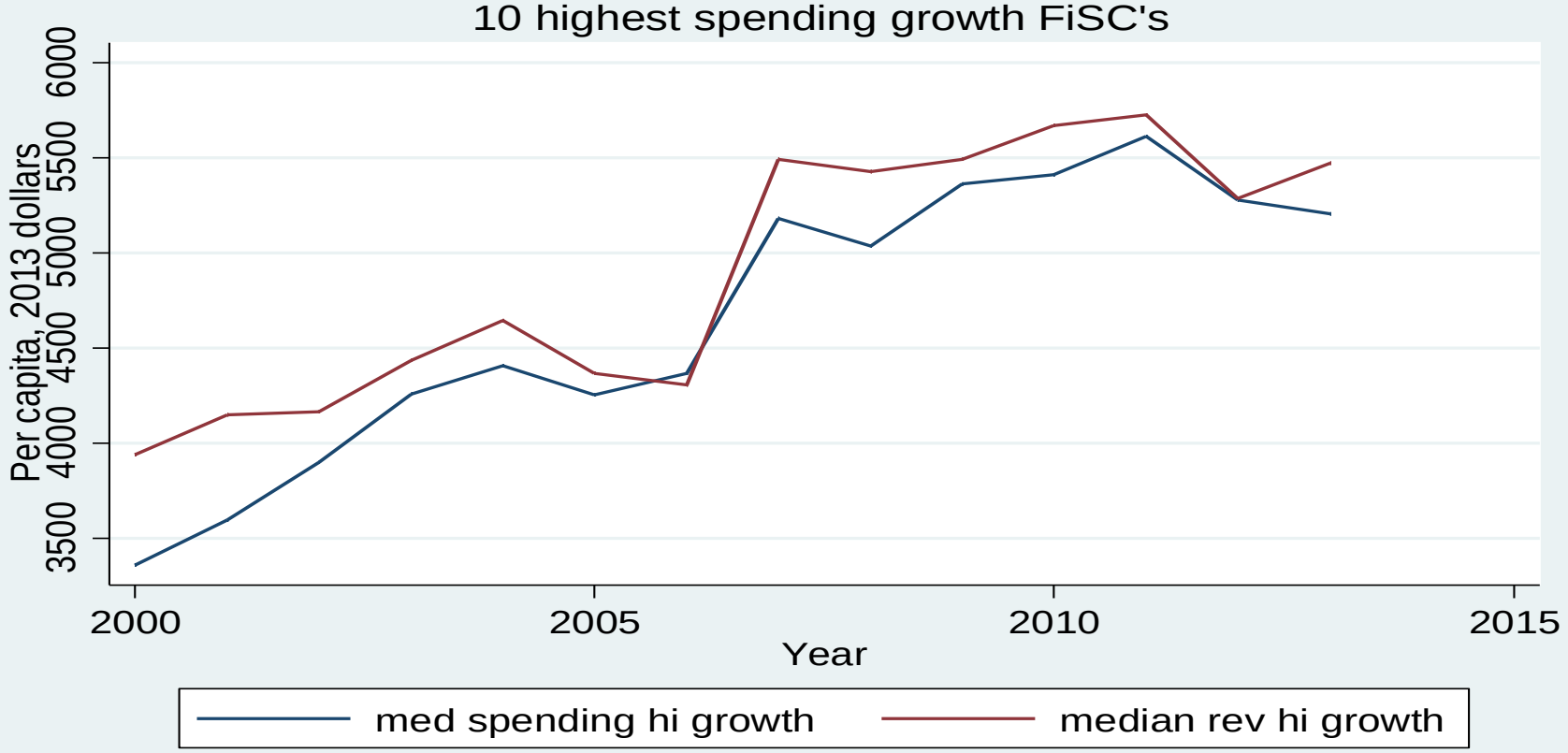
- No geographic pattern

# Fig 2. Median Spending and Revenue, 2000-2013




Louisville, Knoxville, Mesa, Gary, St Paul, Richmond, Columbia, Wilmington, Detroit, Las Cruces

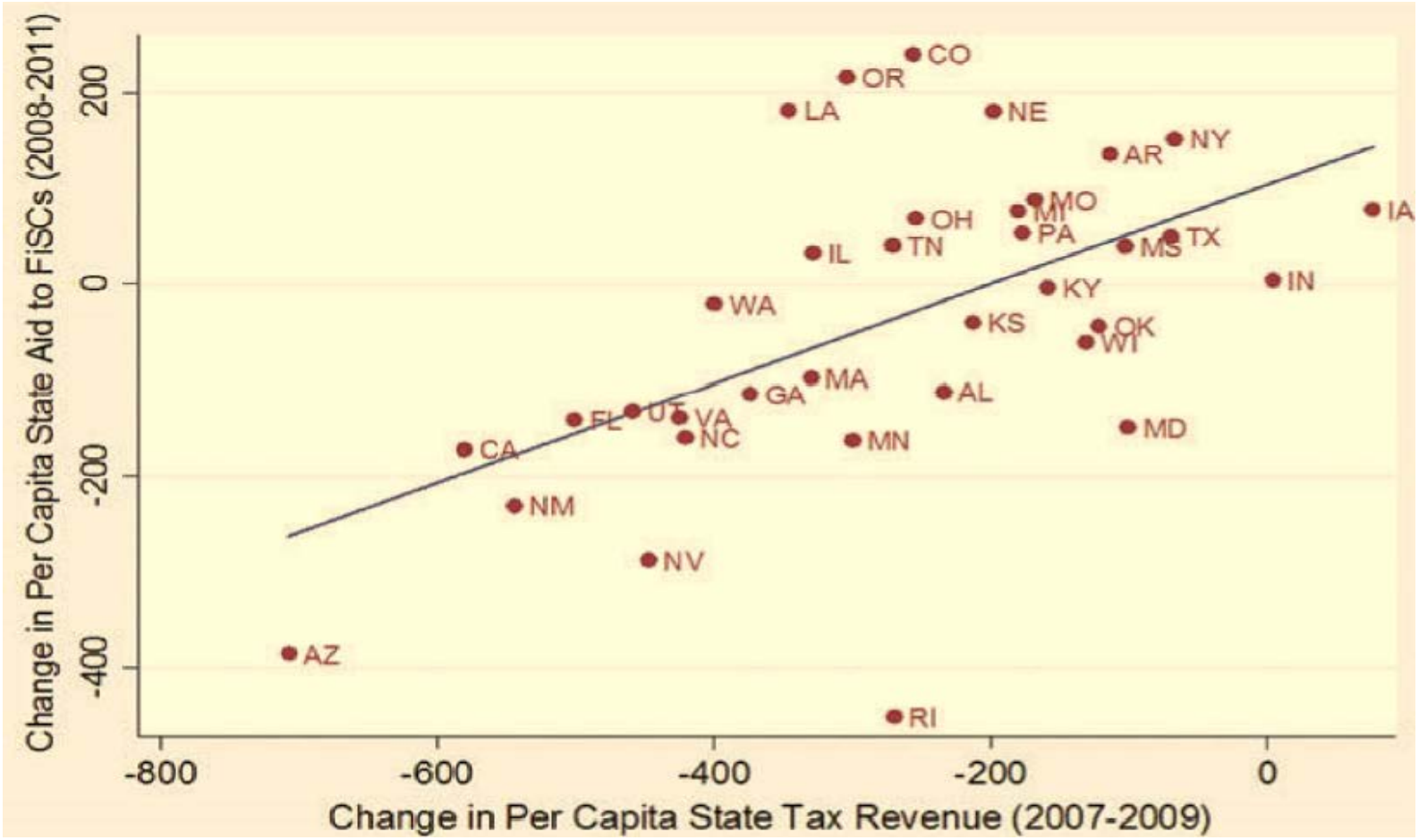
# Fig. 3 Median spending and revenue 2000-2013




Cities: Balt, Prov, Syr, Burl, Cedar Rapids, Montgomery, New Orl., Baton Rouge, Cheyenne, Wash DC

# Political Economy of State Aid to Cities during the Great Recession

- There was substantial variation in the amount of reduction in state tax revenue from2007 to 2009. The recession hit some states harder than others, and some states chose to raise tax rates to offset revenue losses.
- The Change in state aid to FiSC's was on average proportional to the drop in state tax revenues during the recession.
- Some states protected state aid more than others.
  - AZ and RI had a among the biggest cuts, given their tax reductions. (Helps to explain fiscal pressure that has led to teacher strikes in AZ in 2018.
  - Colorado, Oregon, and Nebraska increased state aid, despite tax revenue reductions.


Change in Per Capita State Aid to FiSCs (2008-2011)
200
0
-200
-400
CO
OR
LA
NE
NY
AR
MO
MI
IA
OH
PA
TX
IL
TN
MS
IN
KY
WA
KS
OK
WI
MA
GA
AL
FL
UT
VA
NC
MN
MD
CA
NM
NV
AZ
RI
-800
-600
-400
-200
0
Change in Per Capita State Tax Revenue (2007-2009)

# A Simplified Model of Fiscal Stress

- Fiscal Stress = (Actual Revenue - Predicted Spending –)/Actual Revenue
- < 0 implies fiscal stress
- > 0 implies fiscal health

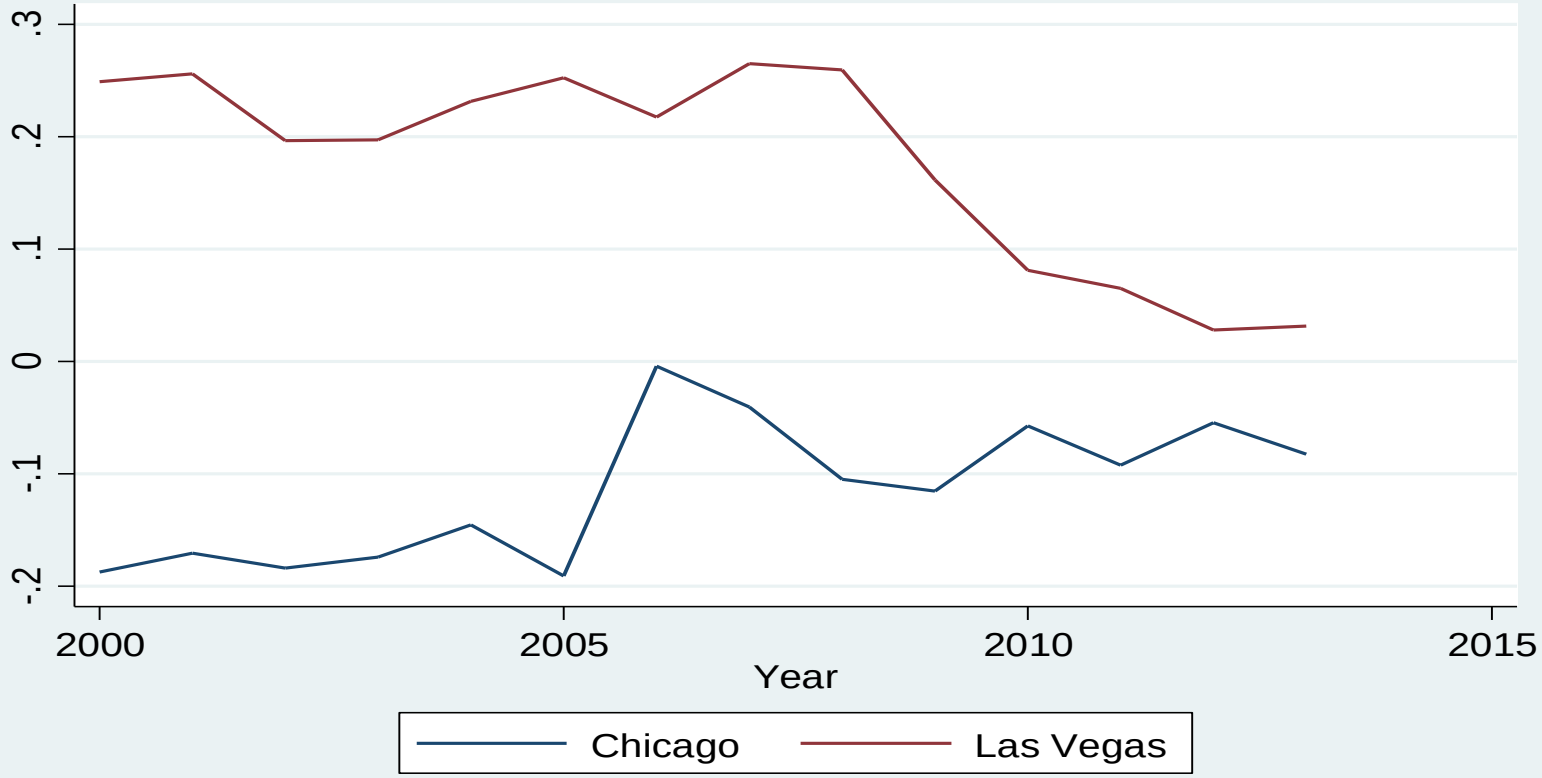
- Predicted Spending = f[(city population (+), population change (-), density (+), median income(+), intergovernmental aid (+)]
  - Estimated for 90 FiSC's
  - a measure of what the typical city would spend, given its characteristics;
  - Density has strongest effects on public safety, social services, health, and education
  - Population loss increases spending per capita; ratio of fixed to variable costs higher in declining cities; including higher pension costs.

## Fig. 5. Predicted Surplus/Deficit, Share of General Revenue

90 Fiscally Standardized Cities, 2000-2013


Surplus = Revenue - Predicted Spending. See text for spending model.

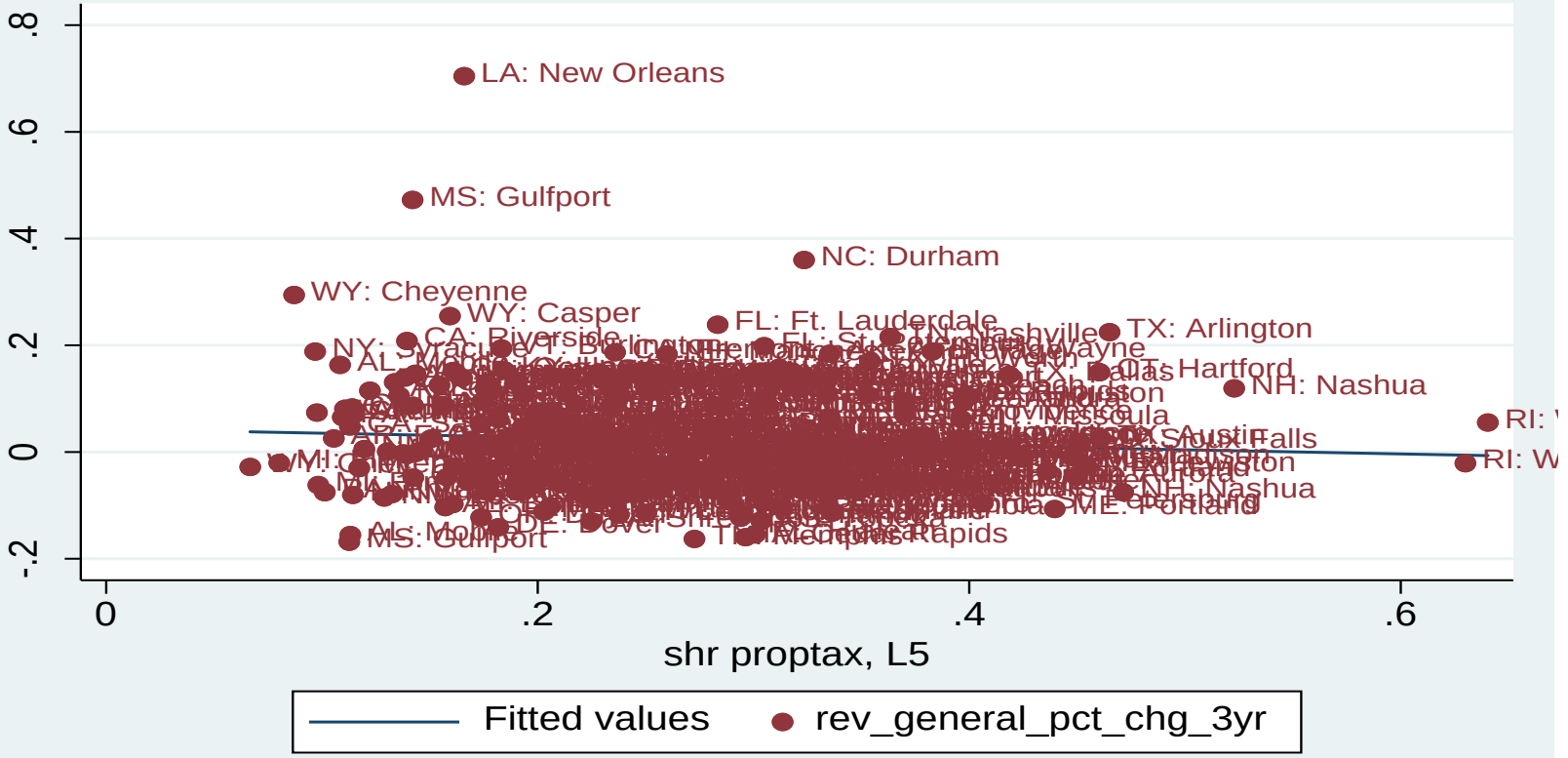
## Fig. 6. Predicted Surplus or Deficit: Chicago and Las Vegas




Predicted Surplus = (Predicted Spending - Actual Revenue)/Actual Revenue

# Revenue Growth and Property Tax Share, 149 FISC's

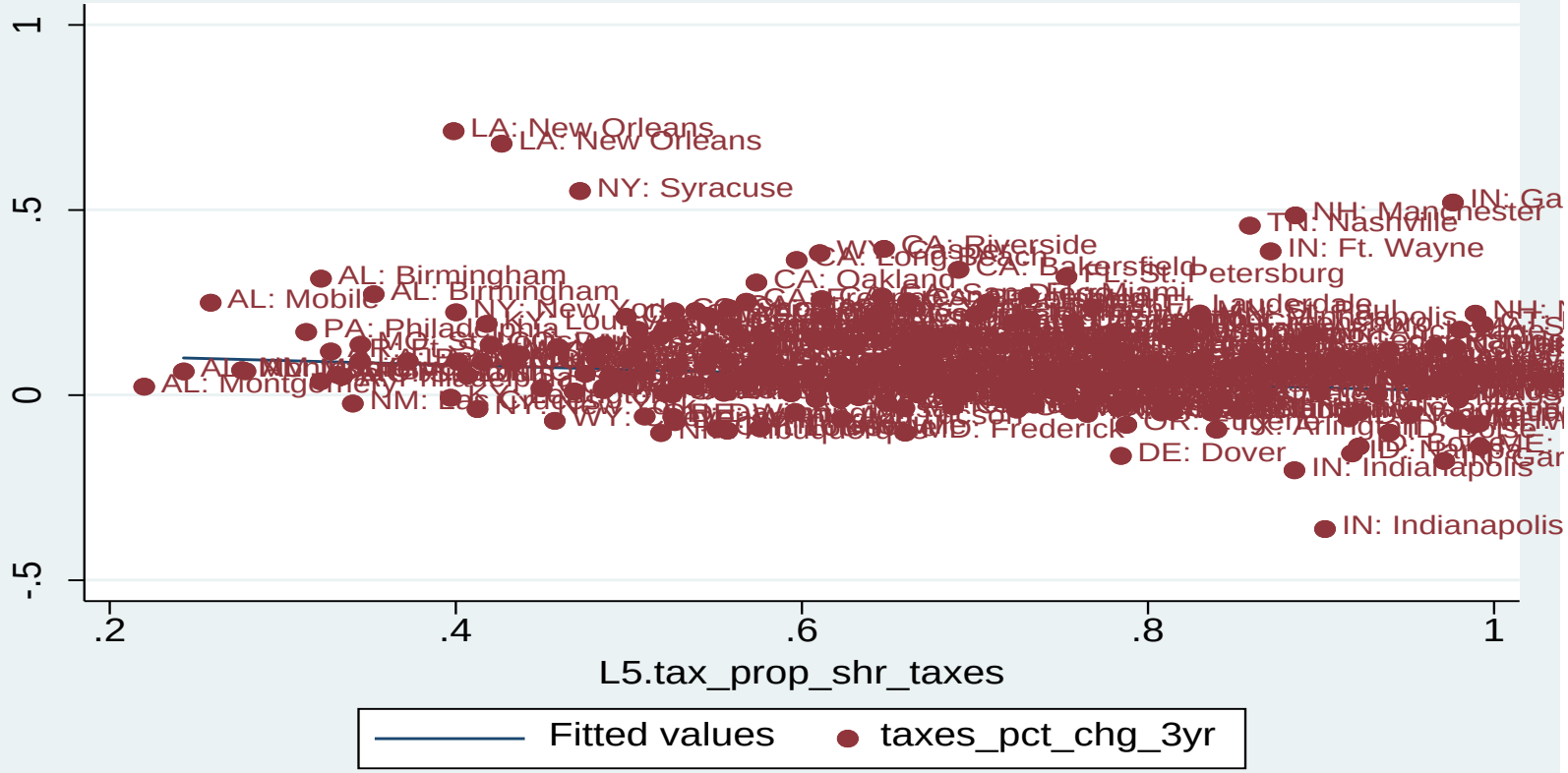
## 3 year avg revenue growth versus lagged property tax share




Years are 2007 and 2014. Property tax share of revenue lagged 5 years.

# Growth in Taxes versus Property Tax Share in 149 FISC's

3 yr percent change in taxes vs. lagged property tax share, 2007 and 2014



# Revenue Structure and Revenue Growth*

(149 FiSC's, 2003 – 2014)

$$\text{Property Tax} = \text{const} + 484(\text{Property tax rate})_{-3} - 42(\text{Property tax rate}^2)_{-3} + .08(\text{Current Charges}) + .154(\text{Non Property Taxes}) + .02(\text{Med HH Inc})$$

→ Rev max property tax rate = 11.5 percent of MV.
Maximum observed rate = 4 percent

Adj Rsq = .42; 1788 observations. All variables significant at the one percent level.

# Why property tax share uncorrelated with revenue growth?

- Rate well Below revenue maximizing point

- Other revenue sources (charges, non-property taxes) are positively correlated with property tax levels.

# Fiscal Capacity 149 FISC's, 2000 and 2014

| | 2000 | | | | |
|---|---|---|---|---|---|
| | Mean | Standard Deviation | Coefficient of Variation | Minimum | Maximum |
| Actual Tax Capacity | 1637 | 576 | 0.35 | 638 | 4142 |
| Actual Own-Source Revenue-Raising Capacity | 2424 | 804 | 0.33 | 1063 | 5175 |
| Actual Total Revenue-Raising Capacity | 4242 | 1116 | 0.26 | 2127 | 7570 |

| | 2014 | | | | |
|---|---|---|---|---|---|
| | Mean | Standard Deviation | Coefficient of Variation | Minimum | Maximum |
| Actual Tax Capacity | 1875 | 739 | 0.39 | 489 | 5383 |
| Actual Own-Source Revenue-Raising Capacity | 2865 | 1155 | 0.40 | 1077 | 7169 |
| Actual Total Revenue-Raising Capacity | 4683 | 1397 | 0.30 | 2248 | 9958 |

| | 2000 | | | | |
|---|---|---|---|---|---|
| Potential State & Local Revenue-Raising Capacity | 4807 | 1053 | 0.22 | 2887 | 8209 |
| Actual State & Local Revenue-Raising Capacity | 3991 | 1053 | 0.26 | 1985 | 7265 |

| | 2014 | | | | |
|---|---|---|---|---|---|
| Potential State & Local Revenue-Raising Capacity | 5273 | 1388 | 0.26 | 3112 | 10896 |
| Actual State & Local Revenue-Raising Capacity | 4432 | 1341 | 0.30 | 2213 | 9374 |

# Fiscal Capacity

- ·Local Fiscal Capacity Measured by Representative Tax Capacity, plus charges
- ·Total fiscal capacity includes state and federal aid
- ·Equalizing effect of State Aid
- ·Increase in fiscal disparities, 2000-2014
- 1.Increase in Tax capacity disparities
- 2. Tax capacity disparities not decreased from charges
- 3. 15% increase in variation in overall fiscal capacity

# Conclusions

- **There is substantial cyclical sensitivity in city fiscal stress**
- In the aftermath of the Great Recession, the typical large city experienced a substantial decline in its ability to maintain prior service levels. **The average fiscal gap increased by 15 percent between 2007 and 2013.**
- **But some cities, e.g. Chicago, show persistent fiscal distress**
- **Revenue composition**—differences in the share of revenue that come from the property tax, other taxes, or state aid—**do not have a statistically significant effect on revenue growth or fiscal stress.**
- **Local fiscal capacity**, **varies enormously across cities – more than 6 times higher in highest vs. lowest.** Disparities have increased by 21 percent between 2000 and 2014.