Designing Formulas for Distributing State Aid Reductions

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Motivation

- States cut local aid disproportionately and quickly during a fiscal crisis (Dye and Reschovsky 2008; Clemens 2011).
- In FY 2010, 22 states cut aid to local governments, and 20 states planned similar cuts for FY 2011 (CBO 2010).
- Traditional methods of cutting aid, ad hoc and across-the-board cuts, are widely considered unfair.

Goals of the paper

- Develop an alternative framework for distributing aid reductions
  - Cut less aid from communities that are in worse underlying fiscal health and receive relatively less existing aid
- Generalize the framework to also deal with aid increases

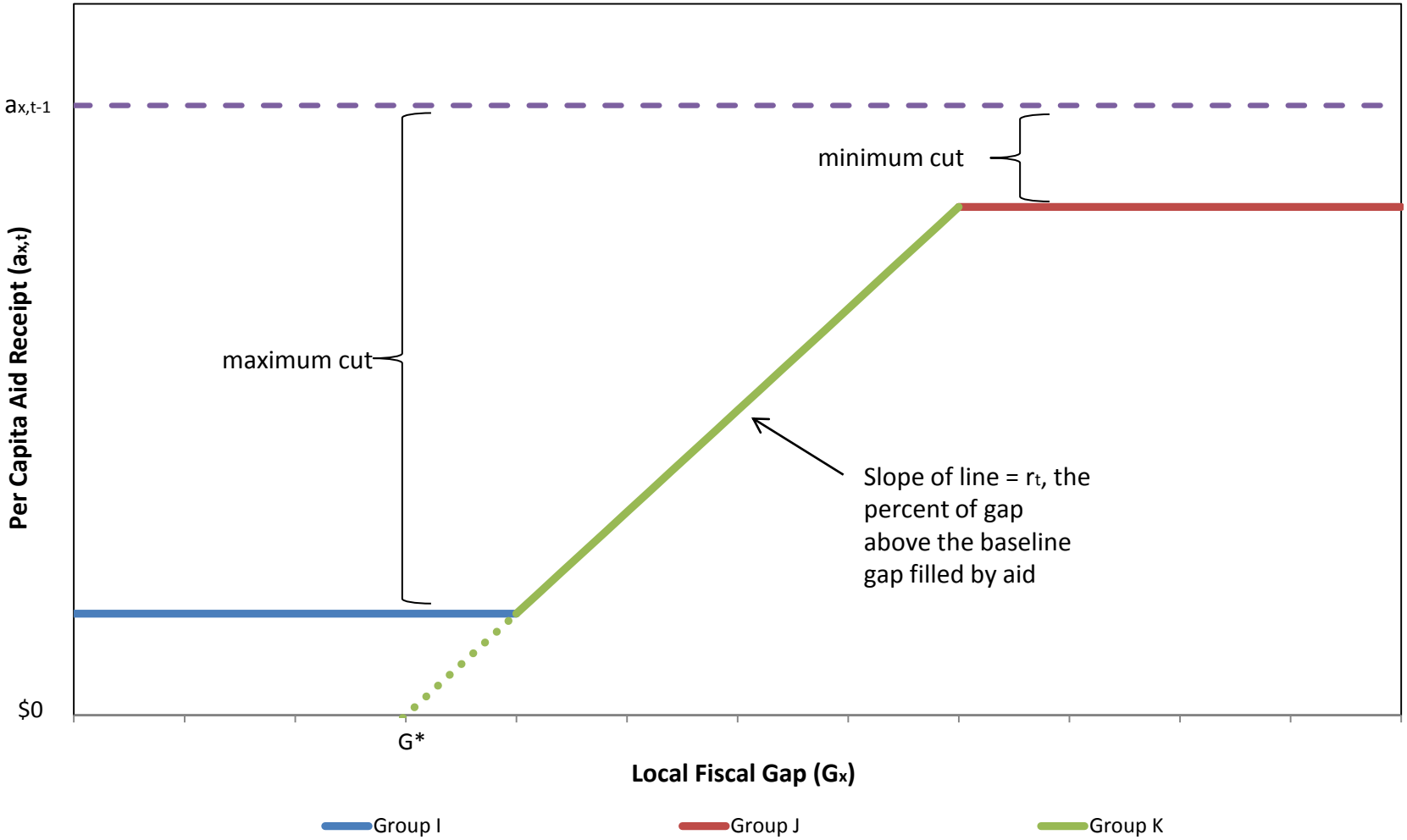
Contribution

- For the first time, provides a gap-based framework suitable for distributing aid reductions
  - Extension of existing aid-increase formula with hold-harmless
- More rational and fair approach than ad hoc and across-the-board cuts
- Help transition the aid distribution from non-gap-based to gap-based, even in years of aid cuts
- Can be used for school aid or non-school aid, and is potentially applicable to all states

Measuring underlying fiscal health

- Local fiscal gap = (underlying service costs) – (revenue-raising capacity)
- The measures of costs and capacity are based on uncontrollable local economic and social characteristics.
- A gap-based aid formula could avoid incentivizing poor local management.

Figure 1. Aid cuts in the gap-based framework



Note: For simplicity, we assume that each community in this example receives an equal $1 per capita aid payment in the previous year (i.e., $a_{x,t-1}$=$1). The baseline gap is represented by G*.

Percent-cut scenario

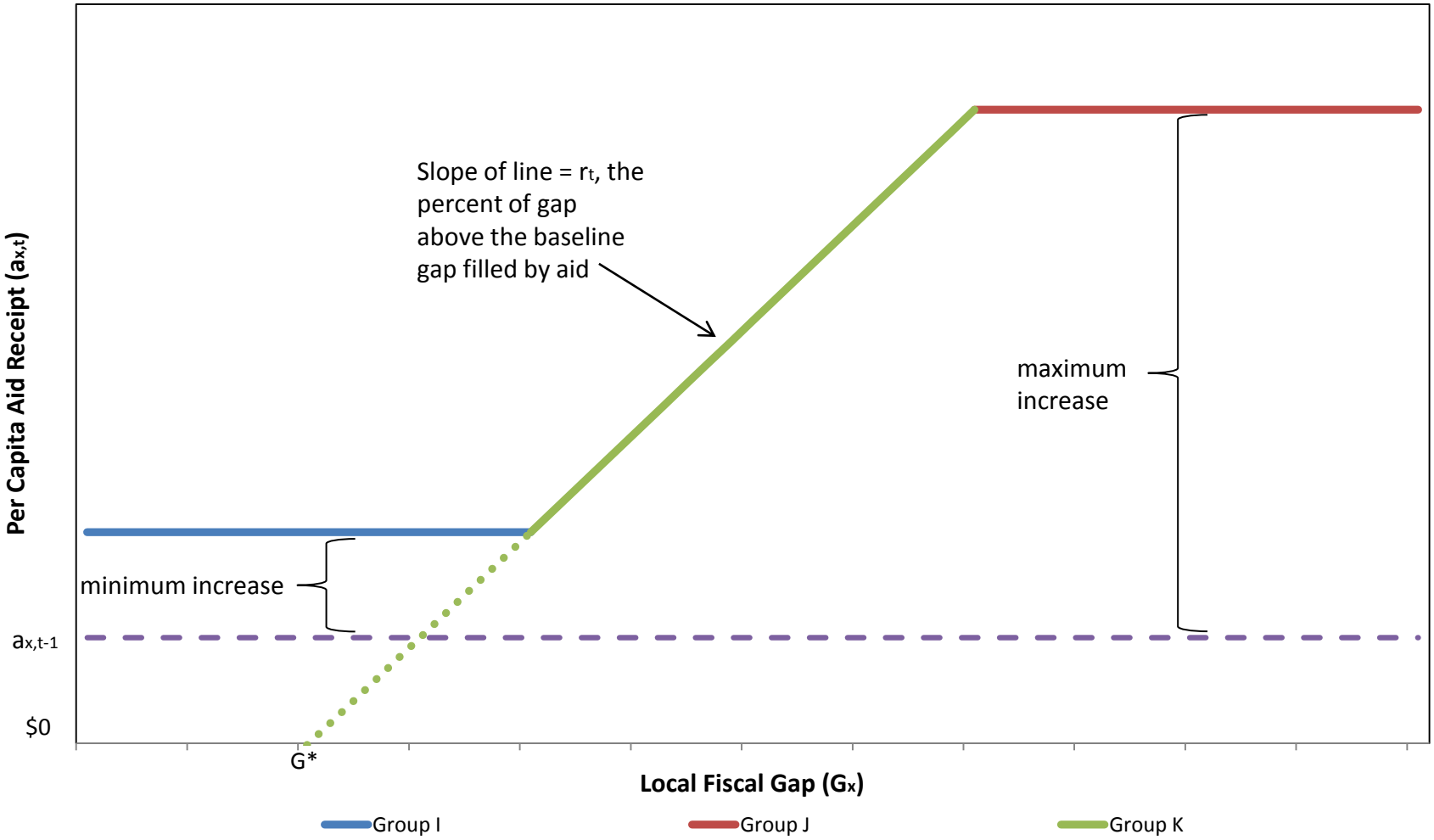
- (percent change in aid)=
  - Group I: max percent cut
  - Group J: min percent cut
  - Group K: $\frac{r_t(G_x - G_t^*)}{a_{x,t-1}} - 1$
- Holding all else equal, a community will experience a smaller percent aid cut if gap (G_x) is larger, or the existing aid ($a_{x,t-1}$) is smaller.

Dollar-cut scenario

- (dollar change in per capita aid)=
  - Group I: max(-$a_{x,t-1}$, max dollar cut)
  - Group J: max(-$a_{x,t-1}$, min dollar cut)
  - Group K: $r_t^{'}(G_x - G_t^*) - a_{x,t-1}$

- The dollar amount cut is bounded by the previous year's aid, because no community should lose more aid than they previously received.

Figure 2. Aid increases in the gap-based framework



Note: For simplicity, we assume that each community in this example receives an equal $1 per capita aid payment in the previous year (i.e., $a_{x,t-1}$=$1). The baseline gap is represented by G*.

Data Simulations

- Massachusetts unrestricted municipal aid
  - Created for equalization purposes
  - However, one of two major elements is effectively an ad hoc distribution
  - Across-the-board cuts of 36.4 percent between FY 2008 and FY 2012

- 24 other states offer similar unrestricted municipal aid (Fisher and Prasad 2009)

Municipal fiscal gap in Massachusetts

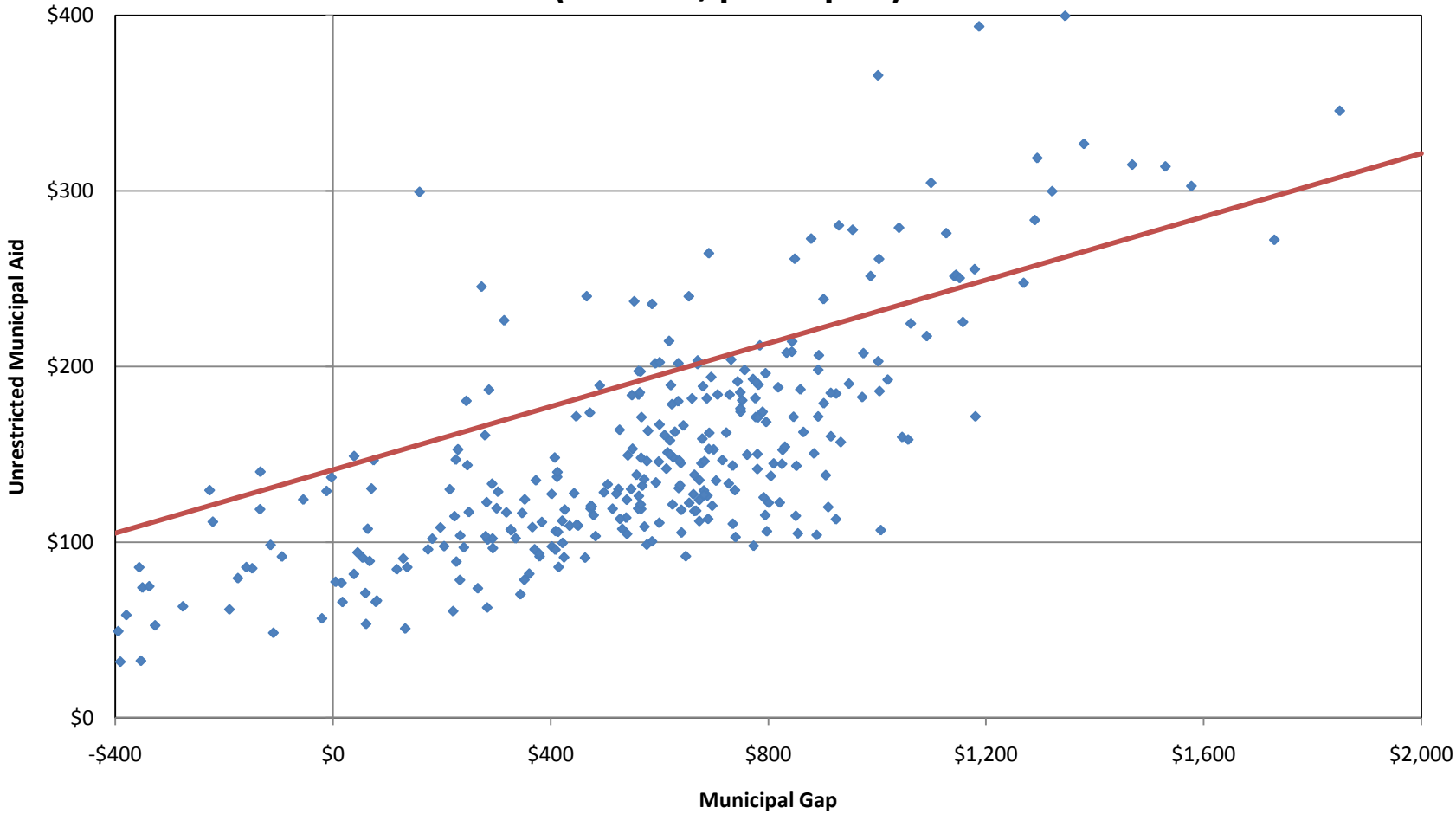
- (municipal gap)= (municipal costs) – (municipal capacity)

Municipal cost factors*
• Population density • Poverty rate • Unemployment rate • Jobs per capita

Municipal capacity factors*
• **Property tax capacity**: taxable property value and residents' income • **Other local capacity**: motor vehicle excise, local hotel/motel excise, etc • **Required reductions**: required minimum local contribution for public schools, payments to regional transit, etc

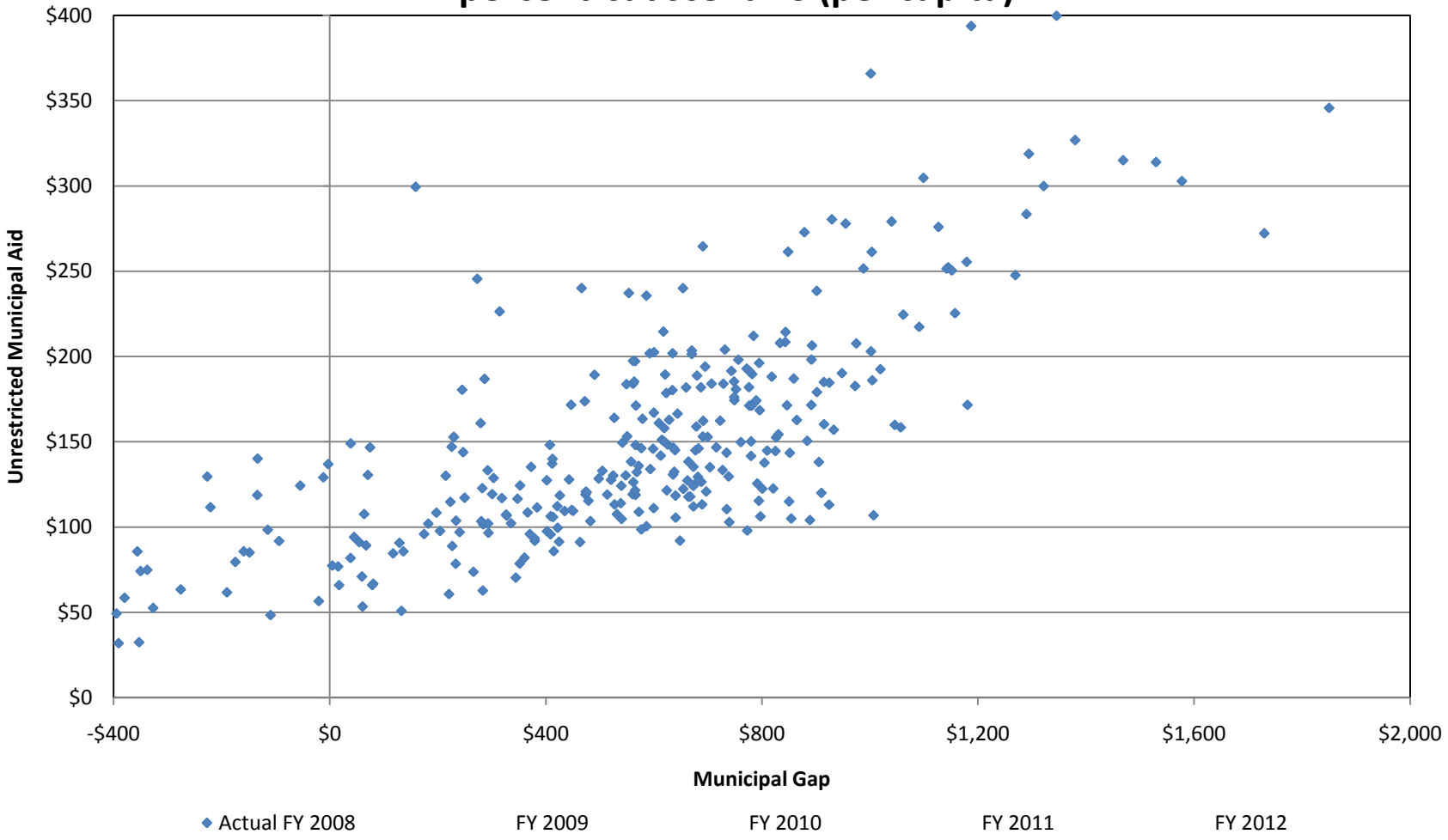
*Bradbury and Zhao, NTJ, 2009.

Figure 3. Comparing municipal aid with municipal gaps (FY 2008, per capita)



Note: To show the general pattern more clearly, 40 communities with a per capita gap below -$400 have been omitted. The red line is created from the population-weighted regression of unrestricted municipal aid on the municipal gap.

Figure 4. Simulating gap-based aid reductions under the percent-cut scenario (per capita)

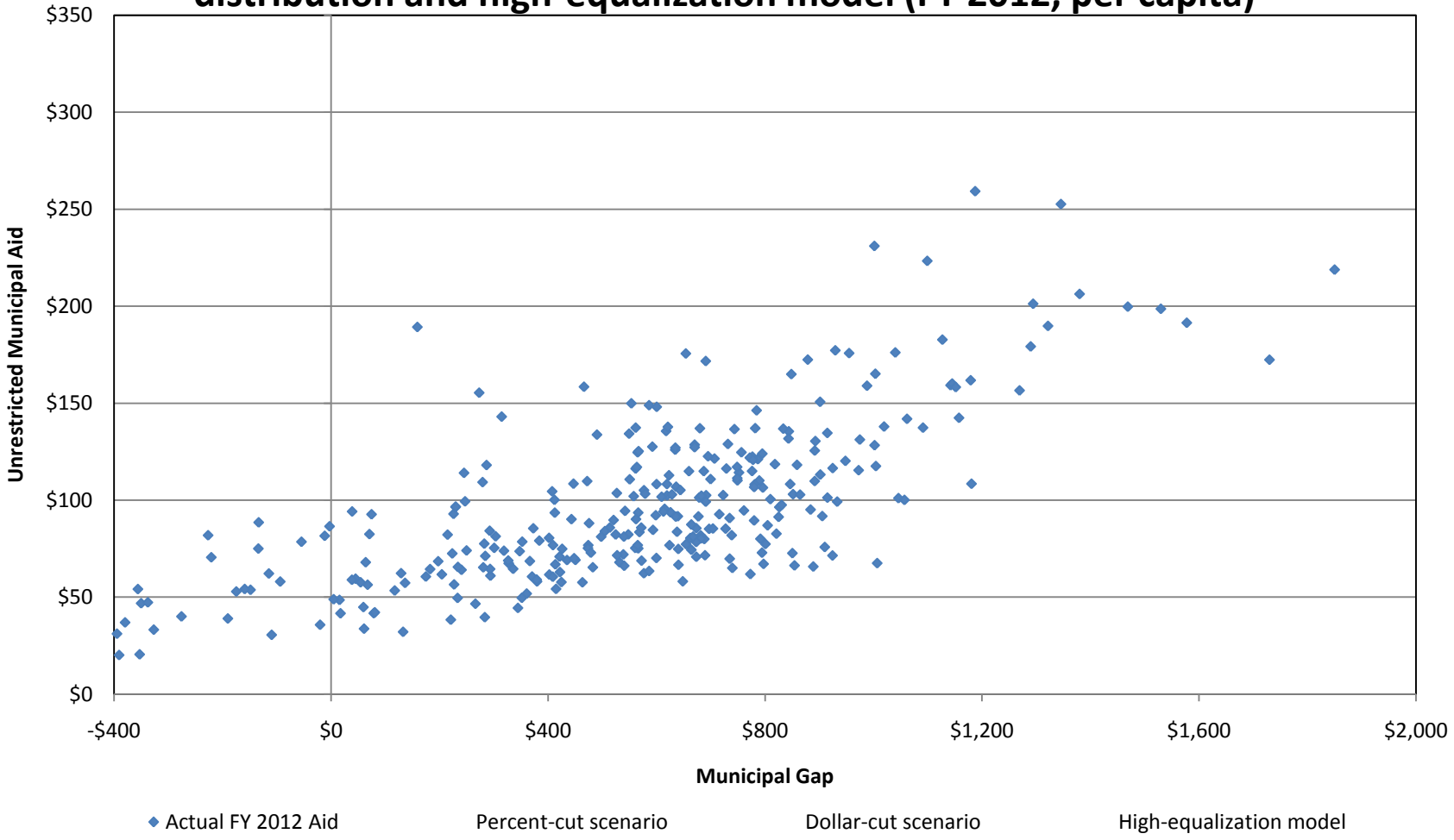


Note: To show the general pattern more clearly, 40 communities with a per capita gap greater than -$400 have been omitted.

Figure 5. Simulating gap-based aid reductions under the dollar-cut scenario (per capita)

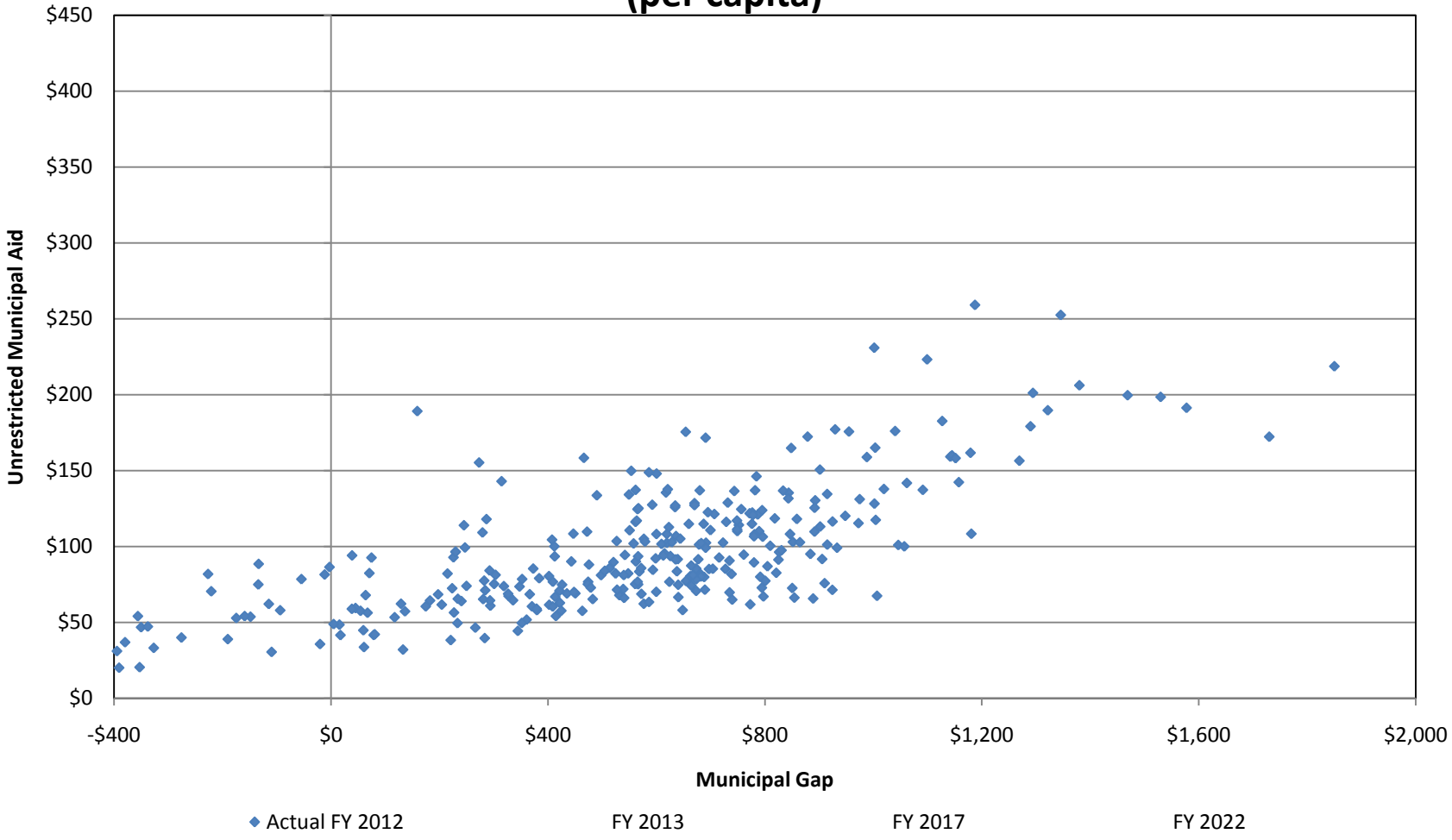
Note: To show the general pattern more clearly, 40 communities with a per capita gap below -$400 have been omitted.

Figure 6. Comparing simulated gap-based cuts with the actual distribution and high-equalization model (FY 2012, per capita)



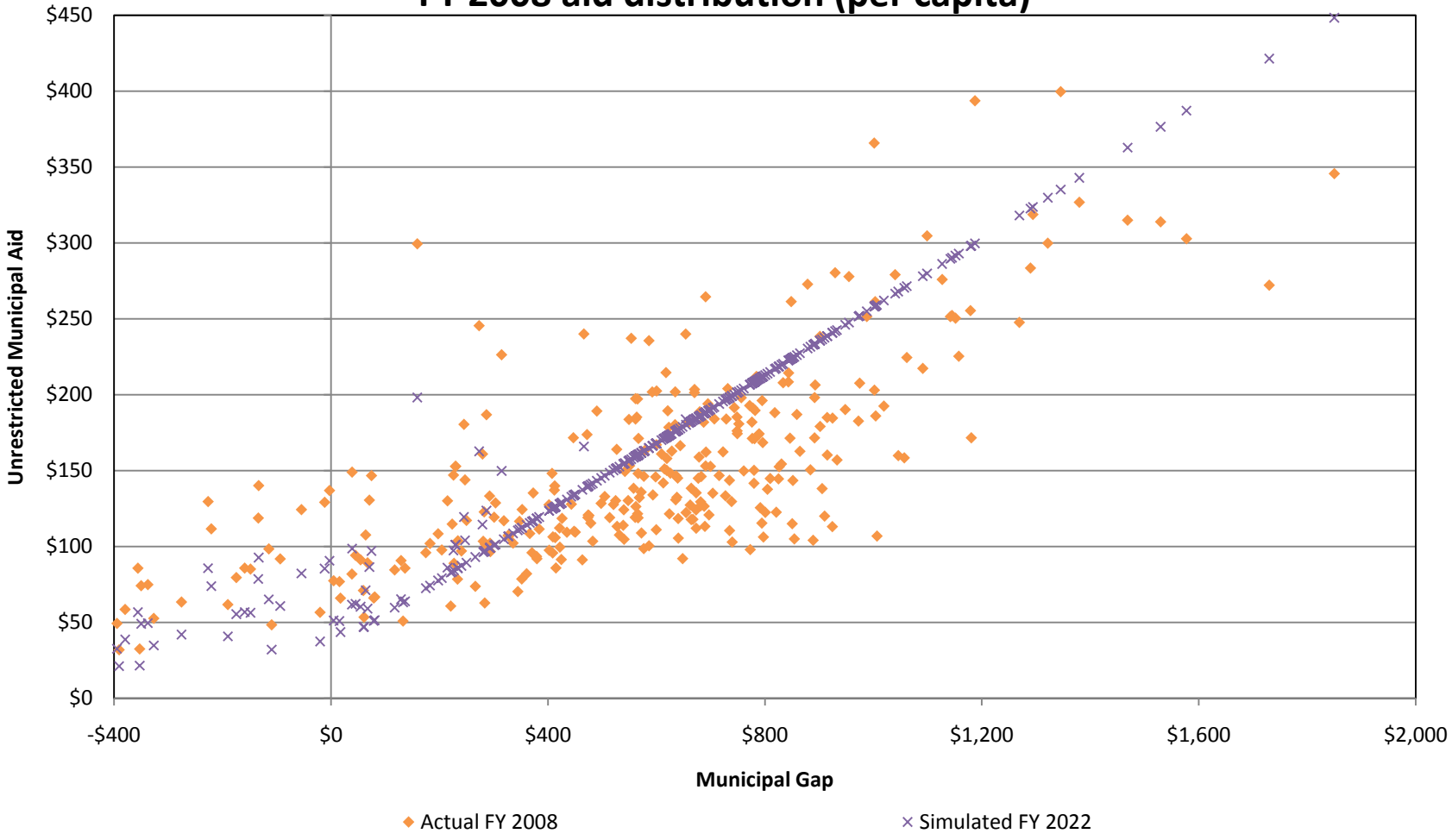
Note: To show the general pattern more clearly, 40 communities with a per capita gap below -$400 have been omitted.

Figure 7. Simulating aid increases using the gap-based framework (per capita)



Note: To show the general pattern more clearly, 40 communities with a per capita gap below -$400 have been omitted.

Figure 8. Comparing simulated FY 2022 aid distribution with actual FY 2008 aid distribution (per capita)



Note: To show the general pattern more clearly, 40 communities with a per capita gap below -$400 have been omitted.

Conclusion

- The traditional ad hoc and across-the-board aid-cut approaches are not fair.
  - Ignore differences in underlying local fiscal health
  - Prolong or exacerbate existing aid inequities
- States may consider adopting the gap-based framework.
  - Helps reduce the burden of aid cuts for higher-gap communities
  - Better aligns state aid with underlying local fiscal health

Caveats of the aid-cut formula

- Preserves some inequity among the maximum-cut and minimum-cut communities
- More complicated than ad hoc or across-the-board methods

Additional Materials

Table 1. Average percent of aid cut from FY 2008 to FY 2012 by quintile of the gap distribution

Quintile	Actual cuts	Percent-cut scenario	Dollar-cut scenario
1	36.7	72.0	100.0
2	36.4	55.9	62.3
3	35.4	38.2	36.5
4	36.0	26.0	24.5
5	36.6	27.2	25.0

Note: Average is population-weighted.