Policy Brief 10-2

FEDERAL RESERVE BANK OF BOSTON ™

New England Public Policy Center
at the Federal Reserve Bank of Boston

Reforming Municipal Aid in Massachusetts: The Case for a Gap-Based Formula

by Bo Zhao and David Coyne

Local governments in Massachusetts are responsible for providing fire and police safety, emergency medical services, road maintenance, and a myriad of other municipal services. These services are essential to the local economy for individuals and businesses alike, and also play an important role in sustaining the state's economic competitiveness. State government distributes unrestricted aid with an express goal of helping equalize the ability of cities and towns to provide these services.[1] However, many local officials are concerned that the state is not targeting this aid effectively to communities that need it most, and have therefore called for municipal aid reform.[2]

This policy brief explores the concerns of local officials and suggests an approach for reforming municipal aid. We identify a measure of the need for municipal aid— the "municipal gap"—based on factors outside the control of local officials. We then use the municipal gap to evaluate the state's distribution of Unrestricted General Government Aid relative to need for aid in fiscal year (FY) 2011. Finally, we suggest a gap-based approach to allocating municipal aid in a more rational and transparent manner, without redistributing current aid.

Does the current distribution of municipal aid closely relate to municipal gaps?

A recent publication from the Federal Reserve Bank of Boston constructs the municipal gap, a measure of a community's *relative* need for municipal aid.[3] The municipal gap is the difference between the costs of providing municipal services ("municipal costs") and the ability of a city or town to raise revenue locally to pay for those services ("municipal capacity").

Municipal costs and capacity are not actual local spending and revenues, but are based instead on local economic and social characteristics outside the control of local officials. Examples of these characteristics include population density, poverty rate, jobs per capita, the value of taxable property, and the personal income of residents. Because the municipal gap focuses on such factors outside the control of local officials, it does not reward wasteful spending or punish efficient management.

The municipal gaps of Massachusetts cities and towns vary widely given different local economic and social characteristics. To show the general pattern of municipal gaps by community types, we construct prototype communities based on some actual Massachusetts cities and towns (see Figure 1). Large cities often have larger per capita municipal gaps than the average Massachusetts community, because of high municipal costs and relatively low municipal capacities. Smaller rural towns also often face large municipal gaps because they have lower taxable property values and income, resulting in lower municipal capacity. These cities and towns show a great need for municipal aid to provide local services to their residents, businesses, commuters, and visitors.

Higher-income residential suburbs and resort towns, in contrast, often have lower per capita municipal gaps, mostly because of their higher municipal capacities. Higher-income residential suburbs have higher property values and higher incomes than the average Mas-

## Figure 1. Massachusetts cities and towns face a wide range of municipal gaps

Municipal gaps of prototype Massachusetts communities (per capita, FY 2007)

Municipal gap (dollars)
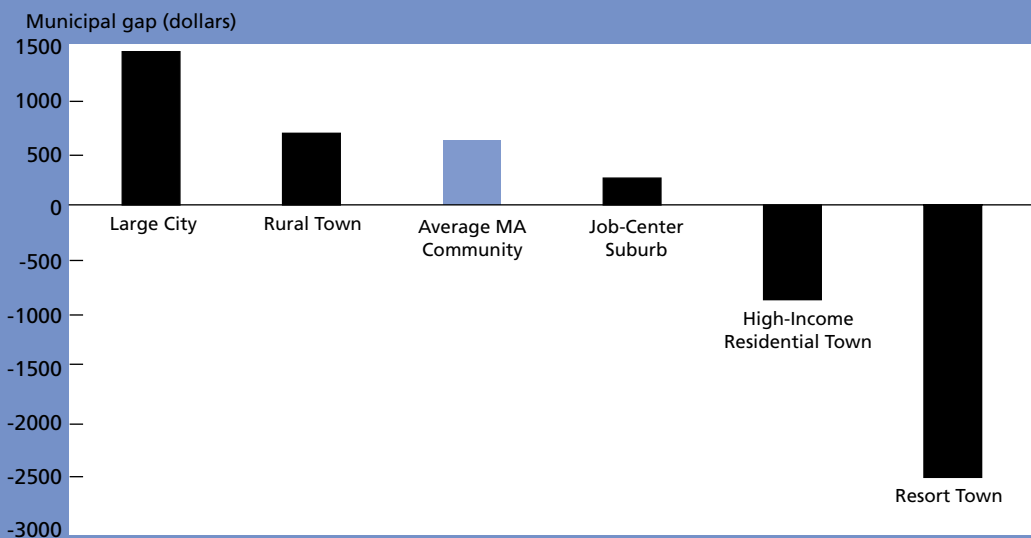
Note: The Large City prototype is based on Lawrence, Lowell, Lynn, New Bedford, Springfield, and Somerville. The Resort Town prototype is based on Eastham, Edgartown, Nantucket, Orleans, Stockbridge, and Williamstown. The Job-Center Suburb prototype is based on Andover, Braintree, Canton, Natick, and Westborough. The Rural Town prototype is based on Ashby, Ashfield, Blandford, Clarksburg, Huntington, Lanesborough, Oakham, and Whately. The Higher-Income Residential Suburb prototype is based on Belmont, Carlisle, Dover, Lincoln, and Wayland. The average MA community is defined as a hypothetical community experiencing the weighted average among 351 Massachusetts cities and towns (weighted by population size) for municipal cost and municipal capacity factors.

Figure 2. The distribution of municipal aid in Massachusetts does not relate closely to the municipal gap.

Municipal aid and municipal gap in Massachusetts cities and towns (per capita, FY 2011)
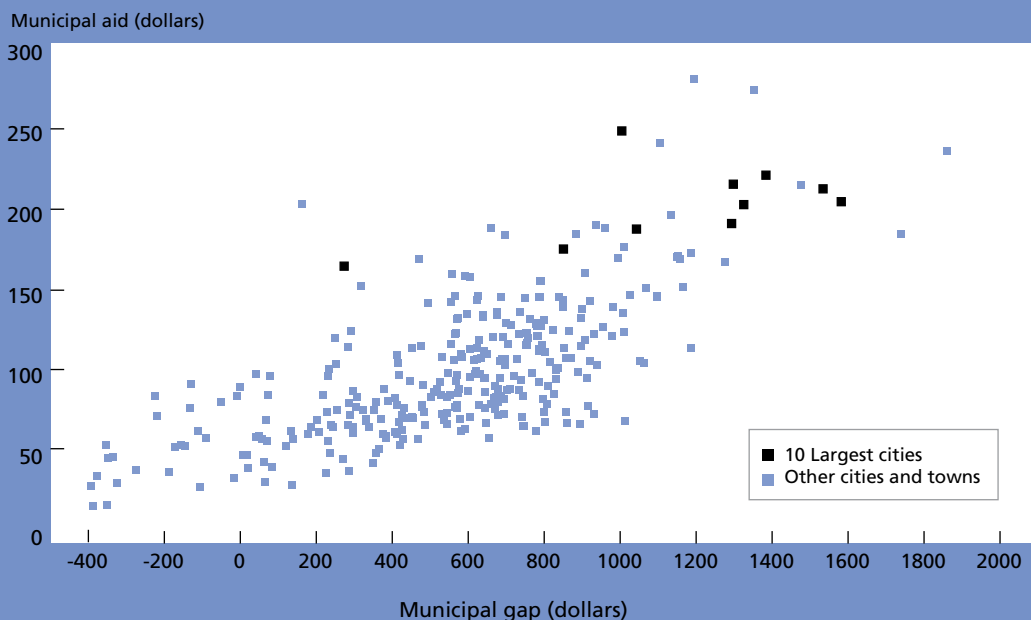
Municipal aid (dollars)

Note: To show the general pattern more clearly, 40 communities with gaps lower than -$400 have been omitted.

sachusetts community. Resort towns benefit from even higher property values, although their income levels are close to the state average. These factors drive the municipal capacity of those types of communities higher, often more than offsetting their municipal costs. However, although higher-income residential suburbs and resort towns have a negative gap, their gap measures do not imply that they do not need municipal aid. Instead, they suggest that those municipalities need less aid than some other types of communities.

An examination of the distribution of municipal aid in Massachusetts in FY 2011 reveals that municipal aid does not directly correspond to differences in the municipal gap across communities (see Figure 2). Communities receiving similar aid payments often face different municipal gaps. For instance, one community with a per capita gap close to $1,200 and another with a per capita gap of just over $300 both receive $150 in per capita aid in FY 2011.

Communities with the same municipal gap also receive different amounts of municipal aid in FY 2011. For example, one community with a per capita gap close to $600 receives $160 in per capita aid, while another community with a similar gap receives only $75. The lack of a close relationship between municipal aid and municipal gaps suggests the need for a more rational and transparent formula for distributing aid.

Building a gap-based formula

Because the municipal gap indicates a community's relative need for state assistance, a formula that incorporates that measure can better target municipal aid. Such a formula would

provide a vehicle for distributing higher levels of aid to cities and towns with higher gaps. However, a politically viable reform would not redistribute current funding. To avoid disrupting local budgets, policymakers could use a gap-based formula to distribute only new funds added to the municipal aid pool, while preserving the amount of aid that communities already receive. In other words, current aid would be held harmless—a practice commonly used to distribute other forms of aid. With the hold-harmless guarantee, no community would lose aid.

To determine how to distribute aid according to a gap-based formula, policymakers have three tools at their disposal: the new aid pool, the portion of the new aid pool to be distributed as minimum new aid, and the baseline gap (see "Fine-tuning the gap-based formula"). By using these three tools effectively, policymakers can significantly improve the distribution of municipal aid in a relatively short time period.

To demonstrate this, we run a 10-year simulation of municipal aid from FY 2012 to FY 2021. In this simulation, state government holds existing aid harmless and uses the sum of existing aid and new aid to fill a portion of the municipal gap each year.[4] We assume that total unrestricted municipal aid rises 5 percent each year. That means some $944 million of total municipal aid is available in FY 2012, including $45 million in the new aid pool. Municipal aid totals $1.47 billion in FY 2021, compared with $1.31 billion at the pre-recession peak in FY 2008 (the figures are not adjusted for inflation).

We also assume that state government reserves 10 percent of the new aid pool for minimum aid, leaving 90 percent of new aid to be distributed as equalizing aid based on municipal gaps. We set the baseline gap at slightly more than $50 per capita in FY 2012—higher than the gaps of one-fifth of all Massachusetts communities. We then reduce the baseline gap slightly each year to allow more cities and towns to receive equalizing aid over time.

The results of this simulation show that the overall distribution of aid becomes much

Figure 3. A gap-based approach can help the aid distribution become more closely related to the municipal gap in just a few years.
Simulation results for Massachusetts cities and towns (per capita)
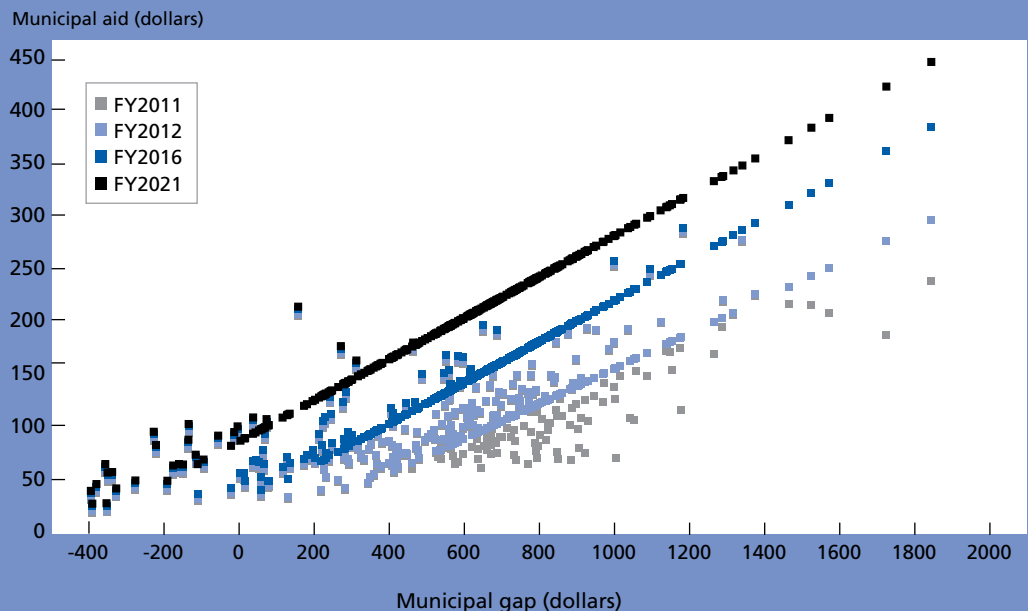
Municipal aid (dollars)

Legend: FY2011, FY2012, FY2016, FY2021

Municipal gap (dollars)

Note: To show the general pattern more clearly, 40 communities with gaps lower than -$400 have been omitted.

more closely related to municipal gaps within a few years (see Figure 3). That is, the formula produces straight, upward-sloping lines during the simulation period, as municipal aid is directly proportional to the municipal gap of communities receiving equalizing aid. The positive slope of the lines indicates that communities with larger gaps receive higher aid payments.

A growing number of communities receive equalizing aid over time. In FY 2012, 95 of 351 Massachusetts communities receive equalizing aid. That allows municipal aid to have an immediate equalizing impact on communities that have relatively large gaps but have received relatively small amounts of municipal aid. The number of communities receiving equalizing aid rises to 223 in FY 2016, and to 284 in FY 2021. That extends the benefits of equalizing aid to a broader range of communities.

The pattern of increasing equalization is particularly strong among the 10 largest cities, which have some of the largest gaps, and which are home to roughly a quarter of the state population. As Figure 2 shows, the relationship between municipal aid and the municipal gap in these cities in FY 2011 is weak, at best. However, by the end of FY 2021, almost all of the 10 largest cities receive aid in direct proportion to their gaps.

Obviously, these results are sensitive to the policy parameters specified in the formula. For instance, given the state's difficult fiscal situation, a 5 percent growth rate in municipal aid may not be feasible in the near term. If municipal aid grows more slowly, the relationship between municipal aid and the municipal gap will strengthen more gradually, and changes to the aid distribution may not be apparent after the early years of implementation.

Although Massachusetts policymakers have many high-priority objectives, now is a good time to reform municipal aid. The economic downturn has forced the state to cut municipal aid 31.6 percent since FY 2008. While this has put many cities and towns in a difficult fiscal bind, it does offer an opportunity for reform. Because the current aid pool is smaller, the state needs fewer new funds to significantly affect the distribution of municipal aid. As the economy continues to recover, state revenues are likely to rise, allowing the aid pool to grow naturally. By focusing on reform now, policymakers can agree on the approach to distributing municipal aid before the recovery spurs substantially higher state revenues.

Conclusion

Massachusetts needs a more rational, workable, and transparent system for distributing municipal aid. Many communities in the state have large municipal gaps caused by factors beyond their control, and the current distribution of municipal aid does not closely relate to those gaps.

Our simulation shows that a gap-based formula can significantly improve the distribution of municipal aid in a relatively short time period, despite limited resources. Such a formula does so without considering local policies or redistributing current aid. Implementing such a gap-based formula would provide Massachusetts with the tools it needs to alleviate the fiscal challenges its communities face, and help equalize the ability to provide municipal services across cities and towns.

Fine-tuning the gap-based formula

Implementing a gap-based formula would require careful attention by policymakers. They must consider three key policy parameters:

The **new aid pool** determines how much new aid the gap-based formula will distribute. A larger new aid pool would help the state achieve the equalization goal faster than a smaller new aid pool.

The state can reserve a portion of the new aid pool for **minimum new aid,** which policymakers would distribute equally among all municipalities on a per capita basis. They would allocate the remaining balance as equalizing aid, based on municipal gaps. Establishing a minimum level of new aid would ensure that every city and town receives at least a small increase in municipal aid each year, regardless of the size of the municipal gap. Setting the level of minimum new aid higher would obviously lower the amount available for equalizing aid, so equalization would take longer to achieve. Setting the minimum level of new aid lower could mean that communities with lower gaps would face budget difficulties, although cities and towns with larger gaps would receive higher levels of aid.

The **baseline gap** is a threshold that policymakers would set on the municipal gap. Communities with a municipal gap smaller than the baseline gap would receive only minimum new aid. To make the baseline gap more meaningful in practice, policymakers could link it to a specified percentile of the gap distribution. Setting a lower baseline gap would allow more cities and towns to receive equalizing aid, but the amount of equalizing aid per city or town would decline. Setting a higher baseline gap, in contrast, would accelerate equalization among communities with the largest gaps, but more cities and towns would receive only minimum new aid per capita.

Endnotes

[1] State government in Massachusetts distributes restricted school aid through a separate initiative, the Chapter 70 program, which is outside the purview of this policy brief.

[2] See Municipal Finance Task Force, "Local Communities at Risk: Revisiting the Fiscal Partnership between the Commonwealth and Cities and Towns," Boston, 2005.

[3] Bo Zhao with Marques Benton, Lynn Browne, Prabal Chakrabarti, DeAnna Green, Yolanda Kodrzycki, Ana Patricia Muñoz, and Richard Walker, "Does Springfield Receive Its Fair Share of Municipal Aid? Implications for Aid Formula Reform in Massachusetts," New England Public Policy Center working paper 10-4, Federal Reserve Bank of Boston, July 2010.

[4] Aid formulas can rely on other approaches to hold harmless. For more information on those, see Bo Zhao and Katharine Bradbury, "Designing State Aid Formulas," *Journal of Policy Analysis and Management* 28(2): 278–295 (2009).