MEASURING THE STRENGTH OF ILLINOIS’ MUNICIPAL RESERVES: DO COMMUNITIES HAVE THE FLEXIBILITY TO WRESTLE WITH UNFORESEEN EVENTS?

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This study explores the fiscal condition of Illinois communities by evaluating levels of unrestricted net assets for municipalities with 10,000 to 50,000 residents that issue financial reports using generally-accepted accounting principles. Recognizing that reserves available for discretionary use are critical to dealing with unforeseen events and responding to unmet needs, it uses multivariate analysis to identify relationships between poverty rates, Home Rule status, the structure of government, and other variables on reserve levels. The report also outlines important steps communities can take to bring reserves to more financially healthy levels.

INTRODUCTION

The 2008-09 recession affected Illinois cities in profound ways, resulting in losses in employment, slow growth or shrinking retail sales taxes, and lower housing values. A sharp downturn in economic activity reduced assessed values and ultimately spurred unwelcome reductions in property tax revenues. Over a relatively short period, higher unemployment coupled with escalated demands for public services put upward pressure on costs that in many instances had to be financed from a shrinking base of revenues. Adding to the stress, the State of Illinois was operating without a truly balanced budget for many years and went for more than 18 months without a budget at all, which created additional uncertainty in revenues. At this writing, the state is working with only a short-term budget.

The adverse economic and fiscal changes have not affected all municipalities to an equal extent. Illinois has many local governments that are not only fiscally healthy but have high to very high levels of discretionary reserves. These communities have the capacity to do more than support necessary capital investments (capital assets net of accumulated depreciation and related debt). Some have also set aside (restricted) reserves to complete designated projects and have funds available to cover unforeseen events such as another economic downturn, natural disasters, and new initiatives. It is not uncommon for such communities to invest in value-added activities (i.e., training, updating assets, etc.) that can bolster the quality of life.
There is growing literature on the financial condition of local governments (Hendrick, 2004; Hendrick & Crosby, 2013; Kloha, Weissert & Klein, 2005; Lipnick, Rattner & Ebrahim, 1999; Maher, 2013; Rivenbark, Roenigk & Allison, 2009; Sohl, Peddle, Wood & Kuhn, 2009; Stone, Singla, Comeaux & Kirschner, 2015; Wang, Dennis & Tu, 2007). Nevertheless, the literature lacks detailed assessments of unrestricted reserves, which provide management with added flexibility to influence or withstand economic changes. Furthermore, prior research generally considers reserve levels (“indicators”) in either a disaggregated manner or within scales (i.e., Brown’s 10-point scale) and focus heavily on the general fund reserves. Some local governments in Illinois have already begun reporting pension liabilities in their financial statements and, therefore, provide a holistic view of total liabilities contributing to the surplus or deficit in their unrestricted net position. Many others, however, do not, which makes research difficult.

This analysis takes a preliminary step to identify determinants of discretionary reserves across Illinois municipalities using full accrual-based data (see Stone, et al., 2016, p. 106, for an overview of this approach). The premise of this analysis is that municipalities should have at least some minimum amount of discretionary reserves so that they have added flexibility in operating and investing or combating contingencies. The higher the unrestricted reserves, the more financially healthy the municipality appears to be (Maher, 2013; Lipnick, Rattner & Ebrahim, 1999).

While one aspect of fiscal condition is assessment, we recognize that no single indicator can be used in isolation to truly determine fiscal condition (Kloha, et al., 2005; Maher, 2013; Mead, 2006; Hendrick, 2013; Sohl, et al., 2009; & Wang, et al., 2007). Furthermore, a single year-end assessment of financial statements is not sufficient to determine a municipality’s overall fiscal situation (Lipnick, et al., 1999). There is a wide spectrum of factors to consider, including revenue and expense trends as well as composition, liquidity, debt, management practices, timing of adopting the new pension reporting requirements, the economic environment, and other factors. However, there is one common indicator that is regularly assessed: reserves.

This paper uses a parsimonious approach to analyze reserves, particularly unrestricted reserves, across Illinois municipalities. It begins by examining the 2015 fiscal year’s level of discretionary reserves for those small to mid-size Illinois municipalities (populations of 10,000 - 50,000) reporting to the Illinois Office of the Comptroller using generally accepted accounting principles (GAAP).
These communities are important to study since they accurately present their unrestricted net position (UNP) to deal with contingencies. Second, a multivariate analysis identifies demographic, economic, and management factors correlated with the level of discretionary reserves available. Third, the findings from the analyses are used to highlight a need for additional research and to provide insights that can enhance the fiscal condition of municipalities across the state.

**DISCRETIONARY RESERVES – AN IMPORTANT COMPONENT OF MEASURING FISCAL CONDITION**

The Governmental Accounting Standards Board (GASB) Statement No. 54, *Fund Balance Reporting and Governmental Fund Type Definition*, revised the manner in which local governments should report fund balances. Consequently, in 2009 the Government Finance Officers Association (GFOA) also revised its best practices for maintaining levels of reserves. The former best practice focused on unreserved fund balances in the General Fund, whereas the new recommendation focuses on the newly classified unrestricted fund balance (or the sum of the committed fund balance, assigned fund balance, and the unassigned fund balance) still within the General Fund, and preferably some entities may need to focus more on the unassigned portion of the unrestricted fund balance (Gauthier, 2009).

By FY 2015, many local governments in Illinois, reporting finances in compliance with accounting principles generally accepted in the U.S., were required to recognize and disclose liabilities (payables) to a defined benefit pension plan, among other changes to pension reporting. Thus, taxpayers are beginning to see the impacts of reserves after all liabilities are considered.

**DATA AND METHODS**

Unrestricted net position balances were standardized by dividing the UNP by the annual average months’ worth of expenses (total expenses divided by 12 months) for FY 2015, in each local government with a population between 10,000 and 50,000 that reported finances using GAAP. The assumption is that a municipality should be able to access at least two months’ worth of controllable expenses in the event of another recession or an unforeseen event and still pay all obligations.

Going forward, the number of months’ worth of expenses in the UNP is referred to as “levels of discretionary reserves” or simply “levels of reserves”.
The computed levels of reserves were then compared to variables pertaining to the economy (change in population and assessed values), fiscal environment (property taxes per capita), and operating environment (form of government and government fragmentation). The regression equation is associated with 19.9% of the variation in UNP levels, which is statistically significant using the F-Ratio. However, the significance of the intercept indicates there are other factors to be considered in future research. Please refer to Table 1 for a summary of the variables considered.

**TABLE 1**
Variables Considered and Relationship to Unrestricted Net Position

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>SOURCE</th>
<th>RELATIONSHIP TO UNP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Months’ Worth of Expenses in Unrestricted Net Position (UNP)</td>
<td>Calculated based on 2015 CAFRs</td>
<td>–</td>
</tr>
<tr>
<td>% Change in EAV, 2009-2014</td>
<td>Illinois Dept. of Revenue, Property Tax Statistics</td>
<td>Not Significant</td>
</tr>
<tr>
<td>2014 State Sales Tax Revenue Per Capita</td>
<td>Illinois Dept. of Revenue, Sales Tax Statistics</td>
<td>Not Significant</td>
</tr>
<tr>
<td>2013 City Manager or Administrator</td>
<td>Documents and websites from each municipality</td>
<td>Not Significant</td>
</tr>
<tr>
<td>City Employment Scale</td>
<td>Calculated from U.S. Census Bureau (USCB), 2012 Census of Gov’t Employees and Payroll</td>
<td>Not Significant</td>
</tr>
<tr>
<td>County-level Government Structure Index</td>
<td>Calculated: USCB, 2012 Census of Governments</td>
<td>Significant -Negative (t = -1.94*)</td>
</tr>
<tr>
<td>Years With Home Rule Status</td>
<td>Office of the Illinois Secretary of State</td>
<td>Significant -Negative (t = -1.91*)</td>
</tr>
<tr>
<td>2014 % Below Poverty</td>
<td>USCB, 2014 American Community Survey 5-Year Data.</td>
<td>Significant -Negative (t = -2.23***)</td>
</tr>
</tbody>
</table>

** Significant 5% confidence level; * Significant 10% confidence level
Additional analysis was also conducted to evaluate the effects of Home Rule (HR). Figure 1 summarizes the 159 municipalities included in the analysis, subdivided by HR versus non-HR and grouped by ranges of reserves (number of months’ worth of expenses in discretionary reserves). For instance, the first bar to the left reflects the total number of municipalities (51, or 32.1%) in our sample that have no (zero or negative amounts) months’ worth of expenses reserved in their UNP. Also, a larger portion of municipalities with no reserves have HR status (33 of the 51).

**FIGURE 1**
Size of Reserves by Home Rule vs. Non-Home Rule Status

*Number of Municipalities with Populations 10,000-50,000*

![Size of Reserves by Home Rule vs. Non-Home Rule Status](chart)

*Source: Compiled by authors using data from local government 2015 Comprehensive Annual Financial Reports (CAFRs).*

More than half (57.3%) of the sample municipalities maintain moderate or better levels of UNP. Another 17 cities (10.7%) had positive balances, but these were below the desired two-month mark so are classified as low in subsequent analyses. Municipalities below this level may need to reconsider their net position, but since the measure is for only one year, it may not accurately represent their reserve position. Also, slightly more than half (55%) of the municipalities have HR status and had a less favorable position in the low-to-no ranges as well as the high-to-very high ranges.
FACTORS ACCOUNTING FOR DIFFERENCES IN DISCRETIONARY RESERVES

A cursory review of the data suggests that regional differences in socioeconomic conditions may be partially responsible for the differences in fiscal outcomes. Municipalities in relatively prosperous regions may fair better than those with long-term declines in population and employment. Likewise, differences may be explained by the internal structure of governments, such as whether the entity has a full-time manager or relies primarily on part-time elected personnel, perhaps with limited financial experience.

A variety of idiosyncratic factors also appear to come into play. For instance, one municipality incurred a $15 million loss to its reserves by settling a lawsuit, yet even after accounting for that charge, its UNP remained negative. Another municipality, which has the highest level of reserves observed in this sample, accounts for an airport in its financials. These issues can affect reserve levels in ways unique to each community.

Such issues are explored below using multiple regression analysis that evaluates the factors affecting UNP in a sample of municipalities, with the caveat that the results should be revisited once all municipalities have had a chance to adopt the new pension and other post-employment benefit (OPEB) reporting requirements. The discussion is not intended to evaluate the fiscal position of any specific community or to criticize management approaches. Rather, its goal is to shed light on differences between cities with high levels of reserves and those that could face difficulties when an adverse economic or natural situation occurs. In the regression model, the number of months’ worth of expenses reserved in savings is the dependent variable. Table 1 lists the variables used in the regression and their observed relationship to UNP. The regression results appear in the Appendix (Table 2).

The results show that increased populations and higher property tax burdens are related to lower fiscal reserves. One might expect a municipality’s economic base to be crucial in explaining fiscal health due to the fact that business closings or job reductions can shrink the tax base. High unemployment can also create upward pressure for government expenditures on services. Several variables may account for these factors. Nevertheless, the results show that neither the change in the number unemployed (between 2000 - 2009) nor change in per capita income (between 2009 - 2014) are statistically related to levels of UNP. Nor are changes in equalized assessed valuations (2009 - 2014), which initially were thought to reflect declining revenue-raising powers. However,
population change (2000 - 2010) and the property tax burden (property tax revenue per capita) are significantly related, in a negative way, to UNP. The reasons for this latter finding are complex: although Illinois’ population has declined as a whole, some communities within the state have gained residents (from other Illinois communities). Increased populations, in these cases, may have prompted more investment in infrastructure and capital assets, or adding services and programs funded in part by increased debt, property taxes, or drawing down reserves.

A higher concentration of poverty is also found to have a negative impact on reserves. Cities with relatively high concentrations of residents facing poverty are likely to provide additional services, despite having a lower tax base. A high proportion of these observations came from Cook County (Figure 2).

**FIGURE 2**

Average Unrestricted Net Position by Level of Poverty Concentration

*In Months of Reserve, Sorted by Quartile*

![Bar chart showing average unrestricted net position by level of poverty concentration in months of reserve, sorted by quartile.]

Source: Compiled by authors using data from local government financial statements and data from the U.S. Census Bureau, 2014 American Community Survey 5-Year Estimates.

Municipalities located within a county with a high number of units of government are associated with lower levels of unrestricted reserves. This conclusion was drawn by constructing a Herfindahl Index\(^5\) measure of government concentration, where a higher index value reflects more
governmental fragmentation (i.e., a larger number of local governments) in the county. Governmental fragmentation is found to be negatively correlated with UNP, indicating that municipalities where more government units provide services had lower reserve balances. This finding may lend credence to the view that a local government’s ability to operate within its fiscal means (or its choice to do so) is diminished when more units of government are operating. It is not known whether this result is due to affordability, management practices, or diffused transparency and accountability, but the relationship warrants further analysis. It suggests that the structure of governments in the county where a municipality is located may affect the costs of services in a significant way. On one hand, if other units of government, such as special districts and townships, deliver more services, it may relieve a municipal government of the need to cover those costs. At the same time, though, smaller governments may suffer from reduced economies of scale. Thus, one might expect a negative relationship between levels of UNP and governmental fragmentation.

Several findings related to these issues are noteworthy.

**FINDING 1**

*Municipalities with Home Rule status are associated with lower levels of reserves.*

Past research on governmental fragmentation suggests HR authority minimizes the need to create additional units of local government because they are not bound by state-imposed limits on taxation and debt (Chicoine & Walzer, 1985). Because they have more flexibility in adjusting to changing economic conditions, HR municipalities might be anticipated to have a higher level of UNP, when everything else is held constant. Somewhat unexpectedly, HR municipalities (adjusted for number of years with HR) have statistically significant lower levels of UNP. Presumably, this position reflects municipalities responding with high levels of discretion to local priorities. Local priorities may have called for comparable management practices, regardless of the formal structure of management. The management expertise and resources within a city are also important to fiscal health because well-informed decision making can avoid serious problems later.

To evaluate this, a variable was developed with a designation of 0 if the municipality has neither an administrator nor manager; a 1 if it has an administrator but not a council-management government; and a 2 if it has a council-management form with a manager. This variable is, of course, an
imprecise estimate of management proficiency because neither capacity nor experience of the management team is measured. No statistically significant correlation was found between a council-manager government and levels of UNP. This finding suggests that local priorities and/or conditions are more important than the type of government used.

**FINDING 2**

*Broadening a government’s scope of services tends to result in lower reserves, but the differences may be offset by other factors, such as declining populations and/or lower concentrations of poverty.*

Scope of services is measured using an employment scale based on the 2012 Census of Government Employment and Payroll data. One point is assigned for each of 17 governmental functions (e.g., police, fire protection, libraries, highways, etc.) where a municipality has at least one full-time-equivalent employee. This variable is significantly and negatively correlated with level of reserves, but had no relationship after controlling for other factors in the regression analysis. Municipalities that deliver a broader range of services are expected to have lower reserves because they face additional current operating expenses and are exposed to greater risks of adverse events. Likewise, these municipalities face pressure to maintain current service levels during economic downturns, or at least minimize service reductions.

In the 2008–09 Recession, municipalities with broader service responsibilities may have borrowed or drawn down their reserves to fund current operations and to mitigate service reductions. Earlier, evidence was found to show that increases in population and higher concentrations of poverty tend to result in lower levels of reserves. Consideration of these variables could explain why the analysis shows that scope of services is less important. This may be especially true in areas with higher concentrations of vulnerable populations who depend on more expensive services – for example, public healthcare or public transportation versus bike-trail maintenance or brush-removal programs. Thus, the scope (number of different types) may be the same, but the cost of the package of services may be higher.

**WHAT CAN WE LEARN FROM THESE RESULTS?**

The findings described above provide useful insights for helping to understand why some municipalities have higher levels of discretionary reserves six years after the recession.
First, despite the deficiencies in reserves at some municipalities, more than half have UNP levels equal to more than two months’ worth of expenses, a level considered prudent. At the same time, 61% of the municipalities that have a negative level of UNP are located in Cook County. This finding is consistent with the work of Hendrick (2004), who found a high concentration of fiscally-strained municipalities in southern Cook County more than a decade ago. The current situation does not seem to be related to adverse changes in economic conditions such as unemployment, but could be related to poverty in large parts of the county.

Second, local conditions and priorities, as well as professional practices used by municipalities, tend to override the effects of the type of government. One reason for this may be that municipalities with low or no reserves and run by a council and manager may consider it essential to maintain local programs in spite of a poor economy. Conversely, municipalities with high levels of reserves, but without a council-manager form of government, may still have adopted professional practices despite not having that legal designation. Sohl (2012) found municipalities with higher levels of discretionary reserves were more likely to have a formal policy in writing pertaining to reserves. Further research pertaining to policies adopted with regards to unrestricted reserves would be beneficial.

Finally, in Home Rule municipalities, local leaders seem to have adjusted taxes and debt to reflect economic conditions, poverty, and other factors. Those with more severe conditions tend to maintain a lower level of UNP. This is especially true when there is a higher reliance on property taxes and more government fragmentation. The HR cities also had larger average decreases in Equalized Assessed Valuation (EAV), which helps explain their lower reserves. Nevertheless, there are exceptions. Some municipalities, in spite of a declining population and the lack of HR power, may have adjusted their budgets (i.e., cut costs) to allow for high reserves. Such communities could enjoy the benefits of greater revenue diversification or may employ other strategies not considered in the analysis.

**Suggestions for future research**

Discussions about the fiscal condition of large cities such as Detroit and Chicago often raise the unsettling question about whether they can withstand another economic downturn or financial setback. The descriptive research in this article provides a preliminary assessment for understanding Illinois municipalities’
preparedness in terms of reserves for contingencies. The findings suggest that many mid-size Illinois municipalities appear to be in a solid financial position, but some clearly do not have enough reserves to weather a serious setback. The following concerns are raised from this research.

1. Financial information would be more useful if it were complete, timely, consistent with GAAP, and captured in a machine-readable format. The fiscal data used in this research was extracted manually from each municipality’s annual audit because it was not collected in a single data repository. Reserves should be monitored regularly and holistically with reliable and machine-readable information. In addition, not all local governments were current in their reporting or used GAAP; more than a dozen local governments had to be excluded from the dataset for these reasons. Illinois could work towards more timely reports, when required, and report on a GAAP basis where pension and OPEB liabilities are included as a component of the statement of net position. These are critical components of fiscal health.

2. Spatial analysis would be helpful to more fully understand the fiscal impacts of the many layers of government in Illinois. More sophisticated analyses using refined data are needed for serious generalizations or to suggest policies. For instance, governmental fragmentation is captured at the county level. Assessing the impact on a given municipality would be more accurate using the number of local governments overlapping with the municipality. This requires spatial analysis and was not feasible for this initial assessment of reserves.

3. Reevaluating levels of discretionary reserves once all municipalities have implemented the pension and OPEB reporting requirements would allow for a more thorough evaluation of the condition of Illinois cities. Ongoing monitoring of reserves in conjunction with the data presented here is necessary due to the variation in reporting pensions and OPEB. By FY 2016, the remaining municipalities should be reporting their net pension liabilities along with deferred outflows of resources in their government-wide financial statements. Yet, some may receive extensions so it will be important to reassess these findings beyond FY 2016. Also, the GASB’s required reporting for other post-employment benefits will impact local governments beginning in FY 2017 (some have already started to report these amounts within their financial statements as well).

4. Municipalities could benefit from clearer guidance on the levels of reserves that they should strive to maintain. The GFOA’s current recommended best practices for maintaining levels of reserves should be revisited and
adjusted, possibly to account for individual types of reserves (restricted versus unrestricted) as well as the size of the municipality and other factors such as economic indicators, revenue diversification, and types of services needed in that geographical area. We considered access to discretionary reserves as favorable for this assessment but recognize that some levels of discretionary reserves that are very high are not favorable. Very high levels of reserves could indicate taxpayers were either overcharged and/or did not receive services they were promised. More guidance is needed from the GFOA to help local governments determine what constitutes a healthy level of reserves, beyond the obvious that negative levels are unfavorable.

5. Conducting detailed comparative case studies would foster a more context-sensitive understanding of why some municipalities maintain higher reserves than others. Such case studies could illustrate the subtle role of municipal leadership and training as well as the technical factors that shape policy involving discretionary reserves. This research could also explore the relationships between HR, property taxes, and levels of reserves, as well as the relationship between governmental fragmentation and levels of reserves. The results would foster a greater understanding of why some communities plan for contingencies while others operate with dangerously low levels of reserves.

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1 Implementation of the new pension reporting was effective for fiscal years beginning after June 15, 2014, yet some municipalities adopted the new standard earlier than required.

2 Cities that did not report funds to the Office of the Comptroller using generally accepted accounting principles (GAAP), or those who received qualified or adverse audit opinions, were excluded from the analysis.

3 Gauthier states, “GFOA recommends, at a minimum, that general-purpose governments, regardless of size, maintain unrestricted fund balance in their general fund of no less than two months [italics not in original] of regular general fund operating revenues or regular general fund operating expenditures.” Gauthier also states other funds, besides the general fund, are being explored as a component of the recommended minimum level of reserves.

4 Density of local governments within a given county.

5 For a more complete definition and methods of construction see www.businessdictionary.com/definition/Herfindahl-index.html.
Measuring the Strength of Illinois’ Municipal Reserves

6 The U.S. Census Bureau conducts a Census of Governments, but data for smaller municipalities is only available in five-year increments.

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**REFERENCES**


## APPENDIX

### TABLE 2
Results of Multiple Regression Analysis

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>REGRESSION COEFFICIENT</th>
<th>STANDARDIZED COEFFICIENT</th>
<th>T-VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>28.47</td>
<td></td>
<td>2.99***</td>
</tr>
<tr>
<td>% Change in EAV, 2009-2014</td>
<td>0.00</td>
<td>0.00</td>
<td>0.04</td>
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<tr>
<td>2014 Sales Per Capita</td>
<td>0.00</td>
<td>0.04</td>
<td>0.45</td>
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<tr>
<td>2000-2009 % Change in Unemployed</td>
<td>0.01</td>
<td>0.07</td>
<td>0.78</td>
</tr>
<tr>
<td>City Manager or Administrator Present (Ordinal)</td>
<td>1.11</td>
<td>0.05</td>
<td>0.62</td>
</tr>
<tr>
<td>City Employment Scale (0-13, 1 point each for having 1+ FTE in 13 gov. functions)</td>
<td>-0.41</td>
<td>-0.10</td>
<td>-1.07</td>
</tr>
<tr>
<td>2014 Property Tax Revenue Per Capita</td>
<td>-0.01</td>
<td>-0.20</td>
<td>-2.20**</td>
</tr>
<tr>
<td>2012 County-Level Government Structure Index (1 Is Most Fragmented)</td>
<td>-21.97</td>
<td>-0.20</td>
<td>-1.94*</td>
</tr>
<tr>
<td>Years of Home Rule Status</td>
<td>-0.08</td>
<td>-0.18</td>
<td>-1.91*</td>
</tr>
<tr>
<td>2000-2010 Population Change</td>
<td>-0.04</td>
<td>-0.18</td>
<td>-2.10**</td>
</tr>
<tr>
<td>2014 % Below Poverty</td>
<td>-0.22</td>
<td>-0.20</td>
<td>-2.23**</td>
</tr>
</tbody>
</table>

Observations: 159 Illinois municipalities with populations between 10,000 and 50,000.

*=significant at 10% confidence level; **=significant at 5%; ***=significant at <1%. Adj. R-squared = .199, SEE = 8.003, F = 4.725***, all variables have VIFs below 2.0.