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**Institutional Differences and Local Government Performance:
Evidence from Property Tax Assessment Quality**

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Abstract

This article examines the relationship between institutional differences embedded in local governance structures and government performance in the specific context of property assessment. In order to provide deeper insight into why certain governance structures perform better than others, we focus on the impact of nested levels of institutions—constitutional-level and substantive-level rules of governance—beyond the conventional perspective of the form of government. Based on panel data of cities and towns in New York State between 1993 and 2010, our analysis indicates that, among other institutional arrangements, municipalities employing the council–manager form with appointed assessors are most likely to achieve higher levels of assessment quality (uniformity) of the residential property. This indicates that having politically independent (more career-oriented), low-powered appointed governance structures rather than politically riskaverse (more voter-oriented), high-powered elected counterparts are more likely to be effective at reducing risk in tax equity issues, thus providing better financial performance.

Keywords

assessment uniformity; assessor type; local governance structure; nested institutions; property tax

Introduction

Over the past two decades, there has been a widespread effort in the research and practice of public management to identify the main drivers of performance in public organizations. In many studies, the impact of differences in political institutions¹ on the performances of local governments has received considerable attention in the public administration and policy fields. Examples of these differences include form of government, elections, budget referendums, voter initiatives, and veto power of an elected official. In addition, a huge related literature has grown,

examining the influence of differences across local governments in various contexts: the sizes of local budgets (Chapman & Gorina, 2012; MacDonald, 2008; Steunenberg, 1992), school-district spending decisions (Ebdon, 2000; Kim & Eom, 2016; Nguyen-Hoang, 2012; Santerre, 1989), student academic performance (Hoover, 2008), cities' property tax dependence (McCabe & Feiock, 2005), cities' debt-management policies (Whalley, 2010), the cycle of property tax reassessment activities (Eom, Bae, & Kim, 2017), tools for strategic economic development (Feiock, Steinacker, & Park, 2009; Kwon, Berry, & Feiock, 2009), and contracting out (Hefetz & Warner, 2004; Levin & Tadelis, 2010; Shrestha & Feiock, 2011).

Despite such progress in research, scholars have not reached a consensus as to which institutional arrangement outperforms the others in terms of policymaking or performance—within the election-versus-appointment dichotomy. More important, what is lacking in recent scholarship is that as Carr (2015) points out, the question of why having one institution rather than the other is considered to yield better-managed governance structure still remains unanswered.

With these challenges in mind, this study takes a step toward answering the aforementioned questions by examining the impact of institutional differences embedded in local governance structures on public performance. Of a variety of performance measures of local governments discussed in the literature, property tax assessment quality was chosen as the focus of this study. Property tax has long served as one of the main revenue sources at the local level, and its potential impact on local budgeting and financial management is significant. Although property tax is relatively stable and visible compared with income tax or sales tax, without accurate and careful forecasting of local housing markets along with subsequent property tax revenue, local governments may have difficulty smoothing the cyclical volatility of revenues in the short term

and ensuring financial stability in the long term (Eom et al., 2017, p. 600). Thus, how accurately and uniformly the market value of every property can be assessed seems critical, not only for the own-source revenue-raising capacity of a local government, but also for the government's ability to deliver public goods and services to its residents (Ladd & Yinger, 1991).

In addition, the collection and management of property tax appear to be politically sensitive yet salient public services. This may be due to the fact that, while property taxes are commonly considered regressive, most residents have an interest in preserving and even increasing their property values. More important, in cases of unfair personal tax burden, homeowners tend to put more political pressure on local authorities to reduce their burden. These taxpayers can exert pressure through property-tax-governed voting or tax appeals (Bowman, 2006; Eom et al., 2017; Lowery, 1984; Ross, 2011). Some local agencies and officials may fear such situations, as they may cause a loss of public support and declining levels of trust in government. For this reason, it is expected that local governments have enough reason to carefully ensure effective and fair property tax management, including property assessment uniformity.

Using large panel data on cities and towns in New York State (NYS) over 18 years (1993–2010), this study empirically explores how differences in institutional arrangements affect the ways local residential properties are assessed. In our in-depth examination of the assessment dynamics of property values and their outcomes, we follow the logic of North's (1990) institutional change, as well as McCabe and Feiock's (2005) nested levels of institutions, which explore constitutional-level and substantive-level rules of governance influencing a state and its municipalities. Essentially, our position is that political institutions are likely to offer different incentives to local public actors, leading to different public decisions, based on their selection and retention method (Eom et al., 2017; Frant, 1996; McCabe & Feiock, 2005; Ross, 2011). For

our empirical analysis, in terms of two-tiered institutional arrangements embedded in local governments, we present a dichotomous characterization of the widely cited local council–manager form of government versus the mayor–council form of government. Additionally, we focus on the sub-level institutional differences in property tax appraisal authority, “assessors” (here, elected versus appointed assessors).

The evidence obtained from our analysis shows that in terms of increasing property tax assessment quality, the impact of substantive-level institutions tends to be greater than that of constitutional-level institutions. More specifically, a politically independent and more career-oriented, low-powered appointed governance structure is more likely to be effective at reducing risk in tax equity issues and enhancing assessment quality (here, uniformity) of residential property than politically risk-averse and more voter-oriented, high-powered elected counterparts. This suggests that institutional considerations are potentially crucial for financially and socioeconomically disadvantaged localities requiring more fair and accurate assessments of their residential property values.

Background: *Property Tax Assessment Dynamics*

In 2015, all localities in the U.S. collected \$473 billion in property taxes—their largest source of revenue—compared with the \$13 billion collected by state governments. Therefore, managing the property-tax system has become one of the primary functions of local governments.² Interestingly, several agencies within local governments are responsible for different aspects of managing the property-tax system, such as assessing, levying, and collecting property taxes (Fisher, 2007). Specifically, the typical procedure involves local assessors assessing local property value, governing bodies like school boards and county legislators in each local

government deciding the property tax rates and limits (Eom et al., 2017; Melnik & Cenedella, 2009), and treasurers collecting the property tax owed. Of the wide range of functions in local property tax administration, we focus here on property (re)assessment activity.

The centerpiece in assessing a residential property tax system is how to ensure or improve assessment uniformity. For local governments, it is important to attempt to foster a situation in which similar properties are fairly and accurately assessed at similar values at a uniform percentage of market value. Governments should also prevent arbitrary tax incidences or discrimination due to socioeconomic class (Eom, 2006; Eom et al., 2017; Heavey, 1983; Plummer, 2014). However, there is a general understanding that the true market value of a property is not necessarily reflected by its assessed value and subsequent tax rate each year. In recognition of this reality, much scholarly attention has focused on determinants of local property tax assessment uniformity (see, for example, Bowman & Butcher, 1986; Bowman & Mikesell, 1978, 1989; Carroll & Goodman, 2011; Chicoine & Giertz, 1988; Eom, 2008; Lowery, 1984; Melnik & Cenedella, 2009; Mikesell, 1980; Propheter, 2016; Ross, 2013). Previous research has demonstrated that a variety of administrative, financial, and socioeconomic factors are likely to play a role in determining or maintaining a certain level of assessed property values. These factors include tediousness of property-tax record-keeping, the reassessment cycle and a lack of frequent reassessment, the assessor's years of experience, the number of hours of in-service training completed by local assessors, election years, the type of assessors (elected or appointed), racial heterogeneity, the concentration of senior homeowners in a jurisdiction, a rapidly changing housing market, fiscal stress, and the unemployment level.

Inter alia, it seems reasonable to note that the frequent reassessment of taxable properties is the most important condition for improving financial performance at the local level. Mikesell

(2018) contends that “the heart of the property tax is assessment, the determination of property value for distributing total tax burden” (p. 541). This echoes Yinger et al.’s (1988) argument that “[t]hanks to the infrequent reassessment ... houses with histories of rapid value growth had relatively low effective tax rates whereas houses with relatively slow value growth had relatively high effective tax rates” (p. 50). Therefore, it seems clear that without implementing some frequent reassessment of residential property values, many property owners will struggle with an unfair tax burden and economic losses, or perhaps gains, thereby outweighing the potential benefits to citizens and local government agencies in the long run (Eom, 2006; Fisher, 2007; McMillen, 2013). However, it should be noted that in practice, although state law generally sets the frequency of reassessment, intervals between appraisals vary throughout the country from one to ten years (Melnik & Cenedella, 2009, p. 267).

There are also potential risks linked with reassessment activities. First, property reassessments do not always produce higher effective tax rates (Mikesell, 1980, p. 33). According to Yinger et al. (1988, p. 88), “[r]evaluation, which is a movement to *equal* effective tax rates, therefore involved large tax increases for some residents and large tax decreases for others.” From this perspective, it could be argued that the estimation results induce rapidly rising home values along with increased government revenues through consequent increases in property tax (Bowman, 2006; Eom et al., 2017; Ross & Mughan, 2018). This can lead to taxpayer sentiment (especially from poor taxpayers) and resistance, which is a politically feasible risk (Eom et al., 2017; Payton, 2016). In terms of managerial risks, the way property tax is effectively administered tends to take time, for instance because of assessment errors or time lags in revaluations, and also demands information and resources like sufficient staffing, expertise, and funding (Carroll & Goodman, 2011; Eom et al., 2017). In view of this, we can reasonably

assume that, in addition to conducting frequent reassessment of property, it is important for local governments to ensure that housing markets accurately reflect local fiscal conditions. In order to achieve this, local property assessment offices need to perform their functions in a fair and equitable manner.

These considerations notwithstanding, much of the literature on property values and tax reassessment still holds a very favorable view of reassessment (e.g., Eom, 2006, 2008; Eom et al., 2017; Heavey, 1983; Mikesell, 1980, 2018). This indicates that municipalities that conduct property tax reassessments more frequently are more likely to accurately estimate intrajurisdictional tax capitalization (Yinger et al., 1988, p. 51) and to reduce the horizontal equity problem of the tax across municipalities (Mikesell, 1980, p. 33). In this vein, Melnik and Cenedella (2009) insist that “[r]eal properties must be revalued annually. In addition, assessors should be appointed by state governments for long-term assignments. Collectively, these changes will bring more equity and efficiency into the real property tax assessment process” (p. 305).

The Case of New York State

The state of New York offers a unique opportunity to examine the role and interplay of institutions in property tax administration for a few reasons. First, it has long been acknowledged that the counties with the highest property tax burdens tend to be in NYS (Harris & Moore, 2013). Additionally, the property tax system in NYS has received much attention from the public and public officials as one of the salient policy areas. Second, in contrast to western and southern states, NYS has a mixed elected and appointed assessor system in its municipalities (Eom et al., 2017; Lowery, 1984; Ross, 2011).³ This is likely attributable to the absence of *coercive* forces in

the state (e.g., a lack of statewide or centralized legal rules for the property reassessment cycle) (Melnik & Cenedella, 2009).

Notably, NYS has continued to encourage interjurisdictional collaboration by allowing local governments to share an assessor or use the same assessment schedule since 1995 (Eom et al., 2017). As a result, county-driven property administration, in the form of co-assessment by hired county-appointed assessors, has become increasingly common in NYS. Moreover, in order to ensure the fair and equitable assessment of property on a regular basis, the NYS Office of Real Property Services has, since 1999, awarded annual or triennial state aid per parcel to the assessors' offices in local governments under the Excellence in Equity Award program (Eom et al., 2017). Nevertheless, each municipality (city or town) retains its own authority to (re)assess residential property and then levy and collect taxes (Melnik & Cenedella, 2009). Indeed, *de facto* differential assessment practices across local taxing jurisdictions have been the prevailing pattern in NYS (Ladd & Yinger, 1991).

Conceptual Framework: Insights from New Institutionalism

From the perspective of new institutionalism, to date, some leading scholars involved in efforts to understand the role of institutions (e.g., Clingermayer & Feiock, 2001; Frant, 1996; Nee & Ingram, 1998; North, 1990; Ostrom, 1990; Williamson, 1985) have reached a consensus. They believe that internal actors' expectations, incentives, and subsequent behaviors expressed as a public performance are largely affected by the political institutions they face. According to North (1990), political institutions are best understood as "the rules of the game in a society or, more formally, are the humanly devised constraints that shape human interactions. In consequence they structure incentives in human exchange, whether political, social, or economic" (p. 3).

Aligning with this widely quoted definition, a recent and growing body of literature has argued that institutional arrangements and their changes act not only as an incentive structure for local officials to pursue a certain interest, but also as a constraint mechanism to tackle public officials' policy choices or activities, which are sometimes related to opportunistic behaviors (Feiock, Jeong, & Kim, 2003; Feiock & Kim, 2001; Frant, 1996; Kim & Eom, 2016; McCabe & Feiock, 2005). As a result, political institutions are expected to help lessen transaction costs, particularly agency costs stemming from uncertainty and risk, in actors' decision-making and interactions (Feiock & Kim, 2001; Ingram & Clay, 2000; Kim & Eom, 2016; Williamson, 1985).

Consistent with this view, existing research in the public administration and policy field has attended to "local governance structures," particularly in the context of mayor–council versus council–manager forms of government and in administrative arrangements pertaining to the political institution, whether public officials or policymakers are elected or appointed. As a result, substantial evidence has been obtained showing the differences in making administrative policy choices between elected and appointed local governance. Notably, the vast majority of literature on such differences has tended to focus on the form of government. Although we explicitly acknowledge that our theoretical foundations for understanding the impact of institutional differences in a local setting cannot be separated from the traditional approach and subsequent overwhelming evidence, we attempt to narrow our focus in order to frame our analysis. Specifically, the point of our departure is that local public actors' responses to different incentives and values are created by institutional differences. In addition, particular attention is paid to two-tiered institutions in a local setting as a new line of our inquiry. We discuss some evidence and the affiliated implications as follows.

In the specific context of property tax assessors, studies by Lowery (1984) and Ross (2011, 2012) have found evidence of differences in the levels of property assessment between elected and appointed assessors. Specifically, the scholars have argued that, compared with their appointed counterparts, elected assessors tend to underassess property values, thereby causing lower levels of assessment uniformity. According to Lowery (1984), in response to fiscal distress, elected assessors tend to underestimate the property of homeowners in wealthy, higher-value neighborhoods that consist of middle- and upper-income families, whose voices regarding property are far more likely to be mirrored by their votes. On the other hand, these elected assessors tend to overestimate the value of property in poorer, lower-value communities, whose populations (voters) “are least likely to be attentive to the property tax when voting” (Lowery, 1984, p. 57). Similarly, Ross (2011, 2012) asserts that elected assessors are likely to offer so-called tax relief to please voters by underassessing property, thereby lowering the effective tax burden of their constituencies. Conversely, appointed assessors are more likely to enjoy political autonomy and care about socioeconomically disadvantaged residents (e.g., lower-income families and populations above 65 years), thereby causing a more accurate assessment of residential property. The politically oriented behavior of elected assessors has been called a vote-seeking effort or a vote-maximization response, in contrast to the revenue-maximization response of appointed assessors (Lowery, 1984; Ross, 2011). This implies that elected assessors’ policy decisions tend to be influenced by political incentives to maximize electoral support for their reelection. Fearing that an increased tax burden will eventually result in the loss of their current positions, most elected officials pursue their own self-interest rather than the goals of agencies, professional norms, ethics of code, and public interest. This may also undermine tax equity.

Notably, a few empirical studies in other areas provide further support for the conceptual context of different institutional impact. Focusing on city debt management policy systems, Whalley (2010) examines differences in policy choices between elected city treasurers and appointed ones. His analysis indicates that having an appointed treasurer, rather than an elected one, helps reduce cities' borrowing costs in managing debt. Employing data of criminal decisions in the U.S. states' Supreme Courts, Iaryczower et al. (2013) find that elected justices are more likely than appointed justices to overturn the decisions of the lower courts in order to reflect citizens' (voters') interests. In other words, appointed justices are more likely to make correct, less biased decisions than their elected counterparts. In a similar vein, Kim and Eom (2016) focus on budgetary decision-making processes of New Jersey school districts with elected school boards and those with appointed school boards, revealing a significant difference between the two. Contrary to the prior empirical evidence discussed above, they find that having elected school boards as opposed to appointed ones is more likely to be effective at lowering school spending levels. This may be due to the fact that while nonpartisan appointed officials are still subject to the public, they remain somewhat distant from the community, while elected officials are more cognizant of community needs and input, which results in better outcomes, particularly in times of poor local fiscal health (Hoover, 2008).

In addition, in pursuit of the line of reasoning discussed above, recent public administration research has begun to extend the approach of institutional arrangements to the nested levels of institutions, such as hierarchical rule-oriented governance structures, which consist of constitutional-level and substantive-level rules (e.g., Eom et al., 2017; McCabe & Feiock, 2005). McCabe and Feiock (2005) state that "[b]ecause institutions are nested, policy outcomes depend not only on the substantive rules' provision but also on the opportunities and constraints created

in the constitutional-level rules” (p. 636). Specifically, constitutional-level rules represent higher-level institutions, overriding standards that provide basic guidelines for policy choices. Meanwhile, substantive-level rules represent lower-level institutions, making local actors put them into practice through specific policy initiatives or actions, given the standards (Clingermayer & Feiock, 2001; Ostrom, 1990).

Within such set boundaries of political institutions, Frant (1996), Williamson (1985), McCabe and Feiock (2005), and Eom et al. (2017) have distinguished the features of incentives that local public actors face in more detail. In other words, they differentiate high-powered incentives and low-powered incentives derived from elected versus appointed governance structures. In doing so, they commonly assert that traditional election-driven forms of government, such as a mayor–council government, or elected officials are likely to be motivated by high-powered incentives. Meanwhile, progressive reformed governments, such as a council–manager government, or appointed officials tend to be affected by low-powered incentives.⁴ In view of these distinct incentives, it has been proposed that politicians rather than bureaucrats are more likely to be highly risk-averse and thus sometimes reluctant to pursue innovative policies in the long term (Feiock, Lee, & Park, 2012; Frant, 1996).

In empirical analyses, the evidence that the policy choices of elected and appointed public actors differ has been validated. First, McCabe and Feiock (2005) examine the relationships between the form of government, state tax and expenditure limits (TEs), and local property-tax reliance in all U.S. cities. In an intergovernmental context, they focus on how local institutional differences work as a mediating force between the state-imposed tax limits and local officials’ incentives and responses to them. Viewing TEs as one of the environmental constraints faced by city governments, they posit that when institutions create high-powered incentives, elected

actors may exploit such environmental opportunities to move toward their individual goals (e.g., by lowering the property tax rate for reelection in the next term) at the expense of the public. Specifically, the researchers' estimation results indicate that in cases where a local government can execute rate limits, cities with a mayor–council government are more likely to reduce property-tax reliance and instead seek higher dependence on other discretionary taxes than cities with a council–manager government. Such fiscal policy decisions by self-interested political actors may be considered “a benefit that can be delivered to individual voters” (McCabe & Feiock, 2005, p. 649), especially those who are sensitive to property tax bills. In addition, Eom et al. (2017) analyze the factors (actors) shaping the local policy diffusion process and apply their impact to the property-tax-reassessment scenario in NYS. They find that local governments with reformed governance structures, such as a council–manager form, with appointed assessors are most likely to frequently implement property reassessment, leading to more efficient monitoring of financial resources in localities. This suggests that local governments under low-powered-incentive governance structures are more likely than local governments in high-powered structures to place greater emphasis on innovative administrative practices and have better capacity to manage their financial resources without considering political gains.

In sum, despite the somewhat mixed evidence, it seems reasonable to conclude that institutional differences embedded in local governance structures explain differences in local actors' policy decisions or performances. In support of previous studies (e.g., Eom et al., 2017; Feiock & Kim, 2001; Feiock et al., 2012; Frant, 1996; Lowery, 1984; McCabe & Feiock, 2005; Ross, 2011), this study propounds that differences in the ways residential-property values are assessed can be attributed to different incentives and motivation derived from nested institutional arrangements. Based on a two-way classification of incentives (high-powered and low-powered

incentives) that local internal actors tend to face, this study then hypothesizes that local governments of the council–manager form with appointed assessors are more likely to achieve higher levels of assessment uniformity for residential property than other institutional arrangements.

Data and Methods

Data

The unit of analysis in this study is the general-purpose local governments in NYS with independent powers of property valuation, known as property tax assessment units. Thus, we exclude localities from Nassau and Tompkin Counties, because the primary assessment units of these two areas are not cities or towns but counties, as with Eom et al.’s (2017) research. Our total sample is a balanced panel of 942 assessment units, including city- and town-level localities over 18 years (1993–2010), which leads to a total of 16,956 observations. The data for variables were collected from the Office of State Comptroller (OSC), the Office of Real Property Tax Service in NYS (ORPS), the International City/County Management Council (ICMA), and the U.S. Census Bureau. Table 1 shows the data source and a description of the variables employed in this study.

Place Table 1 Here

Dependent Variable

For the dependent variable, this study focuses on the performance of property tax assessment units (here, property tax assessment quality). We adopt a commonly used measurement index, the coefficient of dispersion (*COD*), calculated as the average percentage deviation of individual assessment ratios from the median assessment ratio (Bowman & Mikesell, 1978; Chicoine &

Giertz, 1988, Eom, 2008). The *COD* is defined by the following formula: $((\sum B/S) - M)/N/M * 100$, where B is the individual assessed value, S is the market share of individual property, M is the median assessment ratio, and N is the number of parcels (Eom, 2008). For a better interpretation of results from models, we take the natural logarithm of the *COD* and then convert it to the negative (e.g., Bowman & Mikesell, 1978; Chicoine & Giertz, 1988). By doing so, we enable the revised *COD* index to help accurately capture the degree of uniformity of localities' assessments within the groups of residential properties. Theoretically, a number of criteria have been used in evaluating revenue options in terms of adequacy, equity, and efficiency (Mikesell, 2018). The *COD* measure reflects how close the assessed value of property is to the true market value, which leads to adequate revenue and equitable management of the taxable burden. As a result, it can be propounded that the higher the value of the revised *COD* index (the negative logarithm of the *COD*), the higher the quality of performance of the assessment process (Mehta & Giertz, 1996). There are methodological challenges to measuring *COD* in rural areas such as the Adirondack region, due to the small population and few assessed parcels. To avoid any bias from the measurement error, the regression model for the determinants of the *COD* measure includes the number of parcels, the number of vacant houses, the density, and the ratio of residential parcels to total number of parcels. Additionally, we checked the consistency by comparing results from GMM with the lagged dependent variable.

Explanatory Variables

Following prior studies of property tax assessment quality (e.g., Eom, 2008; Lowery, 1984; Ross, 2013), this study categorizes the main explanatory variables into three groups— institutional, fiscal, and environmental factors at large. The governance structure as an

institutional factor is considered one of the primary factors in determining local government performance. As noted earlier, the commonly tested governance structure is the general form of government: whether local governments have the mayor–council or council–manager form. Regarding the specific context of property assessment, the governance structure is widely used to explore the way the property assessor is selected, i.e. by election or appointment (e.g., see Eom, 2008; Ross, 2013). Following such approaches, two different types of local governance structure are employed in our model as two dichotomous indicators: the *council–manager* variable and *appointed assessor* variable. The *council–manager* variable is recorded as one if the general government form is the council–manager form, and zero otherwise. The *appointed assessor* variable equals one if the property-tax assessor is appointed by the administrative unit, and zero in the case of an elected assessor.

Alternatively, we generate the variables reflecting the nested features of local governance structures from a combination of the generally cited form of government and the manner of property assessor selection. However, it should be noted that local governments in NYS do not have council–manager governments with elected assessors. Thus, local governance structures that directly or indirectly influence the property-assessment quality in NYS can be categorized into 1) council–manager governments with appointed assessors (CMA), 2) mayor–council governments with appointed assessors (MCA), and 3) mayor–council governments with elected assessors (MCE). Based on the above categorization, we add two dichotomous variables to the empirical model: the *CMA* variable and *MCA* variable. *CMA* is recorded as one if the government has the council–manager form with an appointed assessor.⁵ *MCA* is recorded as one if the government has the mayor–council form with an appointed assessor.

Another institutional factor explaining property tax assessment quality is whether the

municipalities conducted a reassessment of all real property parcels within the jurisdiction in a given year. Prior studies have argued that, through a revaluation process, the municipality can correct the unequal assessment of property values by updating them to reflect market values (Eom, 2008; Ross, 2012, 2013). Drawn from the ORPS database, the *reassessment* variable is measured as a dichotomous variable; if the local government conducted a reassessment in a given year t , it was recorded as one.

Uniformity in property tax assessment can be affected by a number of fiscal factors, such as fiscal imbalance, expenditure growth, and local revenue share. As done in previous studies (e.g., Eom, 2008; Lowery, 1984; Ross, 2012, 2013), we include several control variables in our empirical model. *Local Revenue* represents the ratio of local revenue to total revenue in the municipality. Another fiscal factor is *Fiscal Imbalance*, representing the difference between total expenditure and total revenue. The expenditure growth rate (*Expenditure*) and the proportion of residential property to total parcels (*Residential*) are also included in the model.

A number of environmental factors could have direct and indirect links with property tax assessment because of the difficulties in reflecting the unique characteristics of local housing markets. The total number of parcels (*NParcel*) represents the size of a market. In addition, the proportions of houses built prior to 1940 (*Old*) and of vacant housing (*Vacant*) are variables to capture the features of housing markets in communities.

Drawn from the median voter theorem and cost function literature, the basic premise of this study is that the residents would have incentives to monitor and put pressure on assessment quality. In a sense, the socioeconomic features of municipalities can also indirectly affect the property tax assessment quality. For example, Weber and McMillen (2010) provide evidence that communities with higher incomes are associated with more uniform property assessment. Thus,

our model includes additional citizen-monitoring factors, such as median household income ($\ln(\text{Median Income})$), median house value ($\ln(\text{House Value})$), the proportion of the population with college or higher education (Education), and the population density (Density).

Empirical Model

The baseline empirical model explaining the performance of assessment unit i in t year is illustrated in equation (1):

$$(1) \text{ Performance of Assessment Unit}_{it} = f(\text{Institutional}_{it-1}, \text{Fiscal}_{it-1}, \text{Environmental Factors}_{it-1})$$

We use a one-year lag of all independent variables and add a time fixed effect to the model. It should be noted that we are not able to control for time-invariant features of assessment units (e.g., unit fixed effect) because our primary variables are institutional arrangements, which have hardly changed over time. Additionally, following the logic of local government performance in previous literature and avoiding bias as much as possible, we conduct a robustness check by adding the prior performance of localities as a dynamic model, as illustrated in equation (2):

$$(2) \text{ Performance of Assessment Unit}_{it} =$$

$$f(\text{Performance of Assessment Unit}_{it-1}, \text{Institution}_{it-1}, \text{Fiscal}_{it-1}, \text{Environmental Factors}_{it-1})$$

Estimating the dynamic model with time fixed effects generates a dynamic panel bias or nickel bias, showing that the LSDV (Least Square Dummy Variable) estimator is not consistent with the individual effects (Nickel, 1981). In view of this, we employ the Arellano-Bond dynamic panel data estimation - System General Method of Moments (GMM).⁶

Identifying time-invariant factors in the panel-data setting presents a series of methodological challenges. It is important to note competing empirical issues between Ordinary

Least Squares (OLS) regression and General Methods of Moment (GMM) with instrument variables. The OLS results (e.g., equation 1) are still susceptible to omitted-variable bias despite all the possible covariates in the model. Alternatively, a dynamic panel model with lagged dependent variable allows us to avoid possible time-invariant omitted-variable bias, but it instead gives rise to Nickel bias, due to the correlation between Y_{it-1} as an independent variable and fixed effects in the error terms. There are two approaches to correct this bias: Difference GMM and System GMM. Difference GMM is not feasible in our setting because the time-invariant institutional setting is of primary interest. In a sense, System GMM (the estimator used by Blundell and Bond) is employed for instrument variables in levels with lagged first difference between dependent variables. The validity of these instruments is based on the assumptions that 1) there is orthogonality of the regressors and the unobserved unit-specific effects and 2) there is correlation between the instrumental variables and lagged dependent variable. Blundell and Bond (1998) argue that the validity of these additional moment conditions holds under assumptions of mean stationarity of the Y and X series.

The interpretation of time-invariant factors in a GMM setting is different from OLS results. The coefficient of institution in OLS is an effect on property tax assessment performance with possible omitted variable bias. However, the coefficient of institution in GMM needs to be interpreted as its additional effect on the change of performance between t-1 year and t year. In explaining the difference between fixed effects and lagged dependent variable models, Angrist and Pischke (2008) explained that lagged dependent variable model is likely to underestimate the coefficient of primary interest compared to fixed effects. Thus, it should be noted that results from system GMM could reflect much smaller effect with possible presence of instrument variable bias. In short, it is necessary to understand the strengths and weaknesses of each model

and check its consistency across models.

In order to control for heterogeneity and autocorrelation of standard errors in the model, we use the cluster standard error at the jurisdiction level and GMM standard errors, respectively.

Table 2 presents the descriptive statistics of variables employed under each category in the models.

Place Table 2 Here

Results

The main results explaining local government performance are presented in Table 3. Models 1 and 2 were derived from an estimation of OLS with year fixed effects, while models 3 and 4 were derived from an analysis of the system GMM with lagged (t-1 year) dependent variables in the models. Notably, given that the primary purpose of this research is to unveil how institutional arrangements, such as forms of government and types of assessors, affect the property tax assessment quality of localities, we employ two separate components of the institutional factors of interest in the models. In other words, we attempt to capture the direct independent effect of each sub-dimension of local governance structures by including *individual* institutional factors (here, the council–manager form of government and appointed assessor, respectively) in models 1 and 3. To convey the full conditional effect of *nested* institutional factors in a combination of the form of government and type of assessors, we include the *CMA* variable and *MCA* variable together in models 2 and 4. This results in greater accuracy of the given main explanatory variables, which are critical components of the data.

Models 1 and 3 show the independent effects of *individual* institutional arrangements on the performances of local governments. The *council–manager* variable appears to have no effect on

the assessment qualities, as the coefficient of this variable fails to achieve statistical significance in both OLS and system GMM estimation (see models 1 and 3). By contrast, the *appointed assessor* variable has positive associations with the low dispersion of assessment quality in models 1 and 3, which is consistent with the results of prior literature (Eom, 2008; Ross, 2013).

In models 2 and 4, as mentioned above, we examine the impact of nested governance structures on property assessment quality rather than focusing on the independent effects of each institutional factor. The coefficient of *CMA* in the model representing the difference between council–manager governments with appointed assessors and others turned out to be statistically significant, with the directions being positive across all models ($b=1.865$ with $p\text{-value} < 0.01$ in model 2 and $b=7.195$ with $p\text{-value} < 0.01$ in model 4, respectively). This confirms our expectation that council–manager governments with appointed assessors are more likely to correct unequal property tax assessment in a professional manner, compared with mayor–council governments with elected assessors (MCE).

Additionally, it was found that *MCA* was significantly and positively associated with the negative sign of coefficient of dispersion (*COD*). This suggests that mayor–council governments with appointed assessors (*MCA*) provide better assessment quality than other forms of government structure (e.g., *MCE*) ($b=1.804$ with $p\text{-value} < 0.01$ in model 2). The result of the system GMM estimation is consistent with that of the OLS estimation, implying that the performance of local assessment units in mayor–council governments with appointed assessors appears to be higher than that of others ($b=4.046$ with $p\text{-value} < 0.01$ in model 4). Significantly, taking together all the findings from the *CMA* variable and *MCA* variable, it was found that council-manager governments with appointed assessors (*CMA*) had relatively stronger effects on assessment quality (despite slightly greater in model 2) than mayor–council governments with

appointed assessors (*MCA*).

Furthermore, on closer examination, some results from models 1 and 3 turn out to be somewhat contradictory and inconclusive. Contrary to expectation, the impact of having appointed assessors rather than elected ones seems to be fairly strong, whereas the effect of having a council–manager form instead of a mayor–council form is not. This raises the possibility that nested levels of institutions (particularly substantive-level institutions) play a significant role in leading to better financial performance at the local level. In other words, rather than simply distinguishing different forms of government, focusing on nested governance structures in a broader manner can lead to better understanding of the causes of variation in performance.

Notably, the *reassessment* variable was found to be positively associated with property tax assessment quality across all models. This indicates that investments in frequently occurring reassessments of local properties may result in improved appraisal uniformity, as suggested by previous research (Bowman & Butcher, 1986; Eom, 2006, 2008). Of the control variables, we found that *Fiscal Imbalance* at localities was negatively associated with uniformity in property tax assessment, but this association was statistically insignificant (Lowery, 1984). *Local Revenue* is also positively related to the extent of uniformity in property tax assessment, which is consistent with prior findings (Eom, 2008; Ross, 2013). It should be noted that the significance levels of *Local Revenue* and *Expenditure* appear to vary across the models, which is likely attributable to the inclusion of a lagged dependent variable in our analysis.

Place Table 3 Here

Discussion and Conclusion

In this study, the main question of interest is how differences in institutional arrangements affect local government performance. This is intended to answer the call of scholars such as Carr (2015), who emphasized the need for more in-depth analyses of why one local governance structure performs better than others. To identify the institution–management–performance link, the conceptual framework of this study was inspired largely by work on *Institutional changes and performance* by North (1990) and *Nested levels of institutions* by McCabe and Feiock (2005). In addition, to offer more valid evidence, panel data of more than a thousand local jurisdictions (cities and towns) in NYS providing property assessment and taxation, from 1993 to 2010, is employed in this study.

Assuming that different institutional arrangements pertaining to the selection and retention of local public actors create differential incentives that affect actors’ management or policy choices, as suggested by prior research (e.g., Eom et al., 2017; Frant, 1996; McCabe & Feiock, 2005; Ross, 2011), this study posits that expected differences in performance between two different governance structures—within the election-versus-appointment dichotomy—are attributable to such distinct incentives (here, high-powered versus low-powered incentives). Applying this underlying logic of new institutionalism to the local property-tax-assessment scenarios, we choose to examine the effects of constitutional-level (higher-level) institutions (here, the form of government) and substantive-level (lower-level) ones (here, the type of property tax assessor) on property tax assessment quality. Overall, beyond the generally recognized forms of government, we pay close attention to nested (two-tiered) local governance structures that combine the two distinctive institutions in a broader array. Using the theoretical approach discussed earlier, we then differentiate between local governments having the council–manager form with appointed assessors, those having the mayor–council form with appointed

assessors, and those having the mayor–council form with elected assessors. These theoretically-given interaction effects on the local assessment performance of residential property are accounted for in our empirical analyses.

As predicted, we found that, of the different types of institutional arrangements in the models, municipalities having the council–manager form with appointed tax assessors were most likely to achieve higher levels of assessment uniformity for residential property. This suggests that the low-powered incentives of appointed (not election-driven) governance structures may encourage public actors to exercise their assessment duties in a fair and equitable manner. This seems to be in accordance with the findings of previous studies (e.g., Alesina & Tabellini, 2007; Eom et al., 2017; Feiock et al., 2012; McCabe & Feiock, 2005), indicating that different career incentives (e.g., reelection versus professional mobility) and subsequent attitudes toward risk between politicians and bureaucrats may cause different managerial responses.

Another important finding of this study is that, even in cases where a local government employs the mayor–council form with appointed assessor, it is more likely to lead to a uniform and equal rate of property assessment and taxation. Although there is a difference in the magnitudes of influence between municipalities with council–manager governments and those with mayor–council governments (the former’s influence is greater than the latter’s), we found evidence suggesting that substantive-level institutions (here, appointed assessors), rather than constitutional-level institutions, are likely to play a critical role in ensuring property assessment uniformity. This is consistent with Eom et al.’s (2017) argument that local property tax reassessment activities are mainly performed by assessors who tend to work closer to communities in terms of proximity; in turn, lower-level institutions are likely to be highly influential in determining how residential property is administered and assessed, compared with

higher-level institutions (p. 609). This seems to be further supported by another observation made of our empirical models. In terms of the direct independent effects of *individual* institutional factors, we did not find a significant association between the council–manager form and the property tax assessment quality. On the other hand, regardless of the form of government, municipalities having sole appointed assessors have improved assessment qualities. In line with prior research dealing with property tax assessors (Eom et al., 2017; Lowery, 1984; Ross, 2011), these findings indicate that, compared with elected assessors, appointed assessors are more capable (potentially competent) of conducting accurate and equitable assessments of property professionally, due to their autonomy from political pressure, and to the fact that more technical expertise is required in such positions.

However, it is important to note that, as some scholars (e.g., Feiock & Kim, 2001; Feiock et al., 2012; Lowery, 1984; Ross, 2011, 2013) have pointed out, appointed public officials do not necessarily maintain politically neutral positions in office (Ryu & Chang, 2017), nor are they always less self-interested (risk-averse) than their elected counterparts (Feiock & Kim, 2001). More specifically, although appointed actors tend to favor career-focused policy choices over politically induced ones, they are likely to be appointed or terminated by their overhead political appointees (perhaps elected superiors); in turn, they sometimes may be more loyal or cooperative than elected actors (Feiock et al., 2012; Ryu & Chang, 2017). As a result, it can be argued that, in practice, politically vulnerable appointed assessors may behave in accordance with the desires of elected officials (potential employers), and be influenced by their incentives, in order to appease them, thereby increasing the risk of biased assessments—for instance, underassessment is primarily driven by elected assessors in election years (for more information, see Johnson, 1989; Ross, 2013). Acknowledging such potential internal challenges (hierarchical exchanges),

we see the need for more in-depth future research on the topic based on contextual information (e.g., by adding more available variables to the empirical models) and data gleaned from interviews.

This study contributes to the existing literature in some notable respects. Based on the proposition that local financial decisions likely depend on public actors' behaviors, a growing number of recent studies have largely viewed spending levels (and their use) as a proxy for local government performance (efficiency) (e.g., Chapman & Gorina, 2012; Ebdon, 2000; MacDonald, 2008; Nguyen-Hoang, 2012; Kim & Eom, 2016). However, this study explores the context of public performance from a different angle. In other words, we focus on local governments' own main revenue sources (here, property tax) and assessors who regularly estimate the value (quality) of local property. Our findings arguably suggest the necessity of continued inquiry into how public financial resources (revenue sources) are efficiently monitored and fairly managed among jurisdictions in a broader manner. In addition, to probe the issue more deeply, this study advances a step beyond previous empirical studies dealing with local property assessment practices that stop at distinguishing appointed assessors from elected ones (e.g., Lowery, 1984; Ross, 2011). In an attempt to broaden our theoretical approach and methods of inquiry, we focus on more detailed features of institutional differences influencing property assessment uniformity, then measure them in a combination of nested levels of local governance structures. This study thus provides a comprehensive and more nuanced understanding of the institutional arrangements pertaining to property tax reassessment that are in play and considered as critical potential causes of variation in performance at the local level.

This study also reaffirms observations made in prior research (e.g., Bowman & Butcher, 1986; Eom, 2006, 2008) suggesting that frequent reassessment of property tax itself is likely to

lead to better financial performance. In view of this, in addition to the direct effect of implementing frequent revaluation of local properties on assessment uniformity, we can judiciously predict that such reassessment activities as an indirect predictor influencing performance will positively moderate the association between institutional differences (particularly elected versus appointed assessors), as well as the likelihood of achieving higher levels of assessment quality for residential property. Finally, the main finding of this study indicates that the role of appointed actors (bureaucrats) whose low-powered incentives are driven by their professional and apolitical nature appears to be quite significant in ensuring property assessment uniformity across localities. This carries deep and wide implications for local governments that have long been struggling with biased (unfair) assessments of their taxable properties, and suggests that changing the institutional arrangements embedded in local governance structures (e.g., hiring appointed property assessors or co-sharing them between neighboring municipalities) may be a way to enhance the property-related performance and accountability of public actors.

Several potential shortcomings of this study must be acknowledged and hopefully addressed in future research. First, despite the long periods of panel data analysis, we were not able to isolate the time-invariant characteristics of localities. Future studies should take advantage of structural changes in nested institutions over time, which permits controlling for the unique features of local governments. Second, due to the lack of available data, we were unable to sufficiently consider other latent factors (e.g., assessors' working experience, employment status [full-time vs part-time], election years or political ideology of elected officials) in the models. It will thus be important for future research to augment our work by incorporating various elements that have not been sufficiently focused on here. Third, elected officials' vote-maximizing efforts

could have been explored from another angle. It could be argued that elected assessors' politically oriented behaviors in very small jurisdictions in rural areas should be seen as one of their civic duties, to serve (please) their constituents, rather than simply a response based on high-powered incentives to gain their constituency's favors (votes). For more convincing analysis of and arguments about this issue, future studies should include data, of sufficient geographic scope and size, pertaining to whether municipalities in our data set can be classified as urbanized areas or rural areas, and whether they are cities or towns. It may be also worthwhile for researchers to employ more extensive and varied interpretive approaches, including focus group interviews. Moreover, although this study discusses the importance of nested institutional structures in terms of differences in local public performance, much of the theoretical underpinning of our inquiry is still needed. In aid of this, future research may continue to uncover additional points of evidence (practices) in different contexts, and test them via more rigorous research designs. Replications of this study in other locations or government settings could also add further weight to our findings.

Notes

1. According to Carr (2015), political institutions tend to be used interchangeably with the concept of form (of government) or municipal structure in the literature, but they represent broader concepts beyond the fundamental elements of form.
2. Information can be accessed via the following census website:
<https://www.census.gov/data/datasets/2016/econ/local/public-use-datasets.html>
3. There is a clear distinction between elected and appointed assessor positions in terms of the method of acquiring office and qualifications. Elected assessors are subject to voter approval and must meet residency requirements. By contrast, their appointed counterparts are appointed by municipal boards and must meet experience and education standards without residency. They are also likely to be in more professional, career-oriented positions (for more information, see New York State Department of Taxation and Finance, 2015a, 2015b). As of December 2010, 859 municipalities had appointed assessors, 107 municipalities had elected (three-member) ones, 12 towns had sole elected ones, two Counties (here, Nassau County and Tompkins County) had county-appointed ones, and New York City had appointed ones (Eom et al., 2017, p. 611).
4. It should be noted that, unlike profit incentives in the private sector, high-powered (electoral) incentives pertaining to political desire for reelection operate in the public sector.
5. In NYS, approximately 80% of cities have the mayor–council form, while the mayor–council government is the dominant governance structure in towns. Additionally, in terms of the selection of assessors, more than 80% of assessment units choose a sole appointed assessor.

6. A Hansen test was conducted to check the overidentifying assumption in the system GMM, which failed to reject the assumption. This therefore offers supporting evidence that the current GMM is appropriate in estimating the model.

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Table 1. Description of Variables and Data Source

Variables	Specification	Data
COD	-Deviation of individual assessment ratios from the median assessment ratio	NYS ORPS
MCA CMA Council-Manager Appointed	1 if the municipality is mayor-council form with appointed assessor, 0 otherwise 1 if the municipality is council-manager form with appointed assessor, 0 otherwise 1 if the municipality is council-manager form, 0 otherwise 1 if the municipality has appointed assessor, 0 otherwise	ICMA
Reassessment	1 if the municipality conducted evaluation or update, 0 otherwise	NYS ORPS
Local Revenue Fiscal Imbalance Expenditure Residential	(Total revenue – Aid from State and Federal government) /Total revenue Total expenditure – Total revenue (Expenditure _t – Expenditure _{t-1}) /Expenditure _t Number of residential parcels/Total number of parcels	NYS OSC NYS OSC NYS OSC NYS ORPS
NParcel Old Vacant	Number of parcels Number of houses built earlier than 1940 /Total number of houses Number of vacant houses / Total number of houses	NYSORPS Census Census
ln(Median Income) ln(House Value)	Natural logarithm of median household income Natural logarithm of median house value	Census, SAIP Census
Education Density	Number of adults with college or Higher education /Total number of adults Total population /Square miles of area Average Percentage	Census Census

Note: Data source is drawn from New York State of Office of Real Property Tax Service (NY ORPS), International City/County Management Council (ICMA), Small Area Income and Poverty Estimates (SAIP), and New York State of Office of State Comptroller (NYS OSC).

Table 2. Descriptive Statistics of Variables

	Obs	Mean	Std. Dev	Min	Max
Expenditure	16,956	87.417	4965.375	-1.00	339521.90
Fiscal Imbalance	16,956	-49802	2751046	-81100000	89500000
CMA	16,956	0.021	0.142	0.00	1.00
MCA	16,956	0.824	0.381	0.00	1.00
Local Revenue	16,956	0.846	0.093	0.11	1.00
Residential	16,956	0.629	0.811	0.00	88.59
NParcel	16,956	4030.287	9169.111	157.00	183894.00
Vacant	16,956	0.189	0.170	0.00	0.89
Density	16,956	468.798	1326.436	0.53	17130.48
ln(Median Income)	16,956	10.527	0.266	9.02	12.13
ln(House Value)	16,956	11.329	0.421	10.45	13.47
Education	16,956	0.128	0.072	0.03	0.50
Old	16,956	0.392	0.136	0.07	0.79
Reassessment	16,956	0.241	0.427	0.00	1.00
- Log COD	16,956	-11.398	9.133	-76.40	-0.01

Table 3. Results of Determinants of Property Tax Assessment Quality

	DV: - COD			
	(1)	(2)	(3)	(4)
Expenditure	-0.00000675*** (0.00000183)	-0.00000675*** (0.00000183)	-0.00000615 (0.0000104)	-0.00000615 (0.0000104)
Fiscal Imbalance	-0.0001 (0.0001)	-0.0001 (0.0001)	-0.0001 (0.0001)	-0.0001 (0.0001)
CMA		1.865** (0.797)		7.195*** (2.252)
MCA		1.804*** (0.316)		4.046*** (0.857)
Council-Manager	0.0611 (0.737)		3.149 (2.096)	
Appointed Assessor	1.804*** (0.316)		4.046*** (0.857)	
Local Revenue	5.670*** (0.950)	5.670*** (0.950)	0.793* (0.427)	0.793* (0.427)
Residential	0.0707 (0.0493)	0.0707 (0.0493)	0.120* (0.0663)	0.120* (0.0663)
NParcel	-0.00000102 (0.0000106)	-0.00000102 (0.0000106)	0.0000683** (0.0000315)	0.0000683** (0.0000315)
Vacant	-2.799*** (0.747)	-2.799*** (0.747)	3.323 (4.209)	3.323 (4.209)
Density	-0.000174** (0.0000802)	-0.000174** (0.0000802)	0.0123*** (0.00134)	0.0123*** (0.00134)
ln(Median Income)	2.658*** (0.968)	2.658*** (0.968)	1.290 (2.666)	1.290 (2.666)
ln(House Value)	-0.176 (0.581)	-0.176 (0.581)	-21.36*** (6.908)	-21.36*** (6.908)
Education	3.202 (2.488)	3.202 (2.488)	28.44 (31.41)	28.44 (31.41)
Old	2.699*** (0.952)	2.699*** (0.952)	-134.6 (121.52)	-134.6 (121.52)
Reassessment	14.34*** (0.175)	14.34*** (0.175)	10.20*** (0.148)	10.20*** (0.148)
Lag of DV: - COD _{t-1}			0.0317*** (0.00615)	0.0317*** (0.00615)
N	16956	16956	16956	16956
R-Squared	0.516	0.516		
Year Fixed Effects	Yes	Yes	Yes	Yes
Estimation	OLS	OLS	System GMM	System GMM

Note: Models (1) and (2) are estimated with OLS, while models (3) and (4) are estimated with Arellano-Bond dynamic panel-data estimation. Parentheses in models (1) and (2) are clustered standard errors at jurisdictions, while those in models (3) and (4) are GMM standard errors.

*p<.10, **p<.05, ***p<.01