

Article

What Motivates Local Governments to Be Efficient? Evidence from Philippine Cities

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Abstract: This study sought to identify the drivers of local government efficiency by investigating three key motivations: internal capacity, rewards for good performance, and compliance with the national government. This paper studied the business registration efficiency cases of 141 highly urbanized and component cities in the Philippines using the cities and municipalities competitiveness index dataset from 2017 to 2019. It was found that capacity-related factors are the most influential in motivating Philippine cities to be more efficient in their business registration processes. Having a higher institutional capacity, higher public service experiences, and good technology infrastructure contribute immensely to better service delivery. Compliance with the national government's directions on public service standards also positively influences efficiency. In addition, it was confirmed that these factors may appear differently, depending on cities' size statuses. Other policy implications and recommendations for future research are discussed.

Keywords: local government; business registration efficiency; capacity-reward-compliance framework; Philippines



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1. Introduction

This paper attempts to answer the question that has been researched since the 1960s but has rarely been investigated, in the context of developing countries: what motivates local governments to be efficient? Efficiency is still perceived as a timely topic, even in recent years; as one bibliometric and cluster analysis study revealed, local governments are the topmost government level that is studied alongside efficiency [1]. The term efficiency is usually linked with the concept of performance and production, where efficiency refers to the ratio of input over output [2]. In the context of local governments, the past literature discussed cost efficiency, where local governments can deliver public services much more cheaply, compared to larger public agencies, as well as competitiveness, since other local governments or entities can also be a competitor for such public services [3].

Efficiency is, in fact, one of the purposes of decentralization from national to local governments [4,5]. The underlying theoretical argument that provided the most insight into local government efficiency is the classical studies of Tiebout [6] and Oates [7], which emphasized the benefits of fiscal federalism and political decentralization, as well as the potential existence of competition among local governments. This argument is based on the fact that provinces, cities, and municipalities have an informational benefit over the national government. Local governments, as result of these advantages, are better at providing services according to the preferences of their constituencies; therefore, they can provide public services more efficiently [7]. Within this decentralized governance, the possibility of competition among nearby local governments may pressure local governments to improve their services and match them with citizens' tastes [8,9]. Within this mechanism, local governments provide public services more efficiently. However, to apply theories and mechanisms, conditions for success are required, but studies on these conditions and factors have not been sufficiently conducted. Furthermore, these arguments have been

extended to research questions concerning the distinctive areas of competence for local and national governments.

Previous research in local government efficiency and innovations has provided some insights into these required conditions that affect local government efficiency. For instance, one study attempted to examine the determinants of performance in Indonesian local governments, where they found out that organizational commitment, monitoring, legitimacy, management, and institutional incentives positively influence their performance [10]. These conditions are related to the local governments' own capacity, incentives, and relations with the central government. However, in many developing countries, these conditions are very different, and there are many variations. Although local government efficiency is already widely studied, especially in the Western context, most of these studies have focused on computing institutional efficiency through the input–output thread [11,12], and the research discussing the motivations for delivery of efficient public services are still few to date.

The purpose of this article is to contribute to the literature on local government efficiency antecedents, especially in the context of developing nations, and identify which factors, related to capacity, rewards, and compliance, drive public sector efficiency. Specifically, this study aims to answer a central research question: what motivates local governments to be efficient? Quantitative methods using panel regression characterizes the methodology used in this paper for the data captured from 141 Philippine cities from 2017 to 2019. Three panel regression models were generated in this study, which provide a deeper understanding on local government efficiency among cities, which, in the context of the Philippine government, receive a comparable income to provincial governments and higher income, compared to their municipal counterparts. Although this study concentrates on the city perspectives, the insights gained from this article may contribute to improving national government efforts to boost efficiency at the local levels.

2. Literature Review and Hypotheses

2.1. *The Efficiency of Local Government Services Delivery*

Local government has a significant role in assuring the usefulness and availability of public amenities to the population. These public services include social services, public safety, waste collection, infrastructure, and administrative services, as well as leisure and entertainment facilities. The increasing citizen demand for better public services, coupled with decentralization and restrictions on public revenues and debts, compels local governments to provide efficient services. The local government chooses between various types of service delivery tools, in order to efficiently provide public services. Most of these service delivery forms include the involvement of the private sector in the delivery of public services, agencification, contracting out [13,14], intermunicipal cooperation [15], and mixed public–private collaboration [15,16], as recommended by the new public management (NPM) doctrines [17]. Among most services of local government, administrative examination and approval services have the most difficulty in transferring authority and, in most cases, the government directly provides them through administrative centers. Some of the innovative tools that were introduced to increase administrative services efficiency include service integration, service coordination, service standardization, and the introduction of e-government platforms. In many developing countries, administrative services related to licenses and permits are considered to be inefficient, due to unforeseen costs and delays; they also encourage bribery and corruption. Local governments affected by NPM seek to heighten administrative efficiency and hasten service delivery through eliminating red tape.

Efficiency refers to the ratio of output to input of administrative services. Similar to other industries, providing public services can be more efficient when performance is managed, to the extent that less input would be used to attain higher levels of output. The concept of efficiency can be broadly divided into technical efficiency, as well as price or allocative efficiency [18–20]. However, public service efficiency in the local government's

administrative service is not limited to cost efficiency, but it also considers responsiveness. This is because provinces, cities, and municipalities are expected to offer services according to the preferences of their constituencies, and citizens' needs. In other words, the effectiveness of the local government is measured not only by the ratio of input to output, but also by how efficiently it reflects the needs of citizens. When defining efficiency, Zhang and Eimicke [21] stated that the efficiency of administrative services can be measured by the degree of simplification of the approval process, required time, and documents themselves.

2.2. Local Government Efficiency, the Philippines, and Other Developing Countries

In contrast to some Western countries, local governments in many developing countries experience several barriers to achieving higher efficiency in public service provision, such as insufficient government capacity, lack of resources, and lack of political motivation. The Philippines is one of the countries experiencing the same trend. Local governments in the Philippines still experience inefficiencies in public service delivery, due to its lack of service standardization, inadequate service coordination, and sometimes the political motivations of the local chief executives, such as the mayors.

In Atienza's [22] paper, several bottlenecks to local government efficiency in the Philippines were enumerated. One of them is the continuous proliferation of traditional politicians who prefer to use coercion and patronage. On the other hand, well-intentioned politicians exist, yet they are also hindered by the lack of resources for investments in projects that would promote efficiency (e.g., e-government adoption). Another study also supported the claims that dependence on the national government for funds can also be used for patronage politics in the local levels [23]. The issue of human resources is also another important factor that persists in the Philippine local governments [22]. Due to decentralization, some national government employees were transferred to local governments, which caused a lack of motivation, as they perceived being devolved as leading to lower salaries and less career opportunities. A more recent study that focused on the current consideration of the Philippine government to adopt federalism also discussed that it might only further worsen conflicts and duplicate policies; additionally, there is no guarantee that it will lead to stronger local autonomy or efficiency [24].

However, it must be noted that the case of the Philippines is not isolated—it has also been observed in other developing countries. For instance, Nigeria has also recorded cases of local government inefficiencies caused by interruptions due to corruption, inter-governmental clashes, and poor human resource management [25]. Another study of South African municipalities showed that approximately 220 million South African Rand or around 13 million US dollars are being "wasted" per day, due to inefficient local government expenditure [26]. As theorized by Ricart-Huguet and Sellars, some of these inefficiencies observed in African countries can be attributed to the implementation of decentralization in the district or municipal level, rather than in the regional level, in which the latter is deemed to be more efficient, yet the national government opted for the former to avoid empowering political oppositions at the regional level [27].

Concerns in local government inefficiency were also recorded in the Latin American region. For instance, in Chile, the highly centralized political system, unequal population distribution, and high reliance on Municipal Common Fund contribute to inefficiency [28].

In a study of educational spending efficiency comparison, after undergoing regional splitting in Indonesian local governments, it was revealed that both the parent and resulting local governments have observed inefficiencies [29]. These inefficiencies were attributable to the internal adjustments needed by both the parent and resulting local governments after the splitting, wherein, for the former, they need to reorganize as they lost administrative area; the latter need to gain more knowledge on educational budgeting. In a follow-up study with a higher number of sample Indonesian local governments, Rambe and her colleagues [30] also discovered that regional splitting does not significantly affect local government efficiency.

2.3. Determinants of Local Governments' Public Service Efficiency

Various empirical studies have evaluated local government efficiency from diverse perspectives over the last 30 years. According to Narbón-Perpiñá and De Witte [31], these studies fall into two types, based on whether they measured the particular local public services or variety of services and facilities. Some studies, on one hand, focused on assessing a specific service, such as road maintenance, water services [32,33], street lighting [34], fire services, library services, and sport facilities. On the other hand, some studies measure the efficiency of local governments by integrating various public services [35–38].

The concept of local government efficiency is multidimensional, including innovation, responsiveness, cost effectiveness, and the improvement of public services. Based on this concept, scholars have categorized the determinants that impact local government efficiency into internal organizational [39] and structural environmental [40] factors. The internal organizational model mainly analyzes the characteristics of local governments where efficiency is high, and the structural environmental model analyzes the aspect in which environmental factors determine efficiency. This includes the local governments' determinants, pertaining to their capacity [41–43], motivations [33,44,45], and external environment [46].

Fiscal, institutional, and managerial capacities are the three main factors of local governments' capacity-related determinants. First, fiscal capacity indicates that a local government with higher self-generated fiscal revenues may afford innovative solutions more easily and have more freedom to restructure or reinvent the service delivery process. It also considered fiscal autonomy, which came from higher fees and taxes that, in turn, resulted in higher responsibility for the local government [47]. Second, institutional capacity pertains to the local governments' technological advantages, manpower, professional experience of service provider, existence of managerial agency, and service-related experience. Local governments with higher institutional capacity tend to deliver or produce services in a more cost-efficient and skilled way, since they have powerful service management tools, effective decision-making processes, and professional skills that provides superior advantages.

Political accountability, local economic growth, recognition, and business friendliness are the four main motivational determinants. Local governments' political accountability is the main factor that incentivizes local political forces to be more efficient and accountable for the local economy, reputation, and development. Bruns and Himmler [44] found that the level of local governments' political accountability pressure has incentivized or motivated mayors and councils of municipalities to be more efficient. The municipal economic situation may enhance or decrease the efficiency of public service delivery. On one hand, high commercial and industrial activity provide more pressure to local managers to improve efficiency [48], and efficient local governments may attract more businesses [49], so that this can improve the public service efficiency. On the other hand, economic growth and increased business activities may also decrease efficiency because more effort and time are required from local servants [50]. Lastly, from the perspective of local political leaders, a higher recognition of local government, regarding its performance and service efficiency, may attract business, other resources, and election wins, which, in turn, motivate them to be more efficient.

The local government's relations with the central government, coercive pressures from the central government, and competition are external environmental determinants of local government efficiency. Since many local governments somewhat rely on fiscal transfers and are advised to treat nationwide initiatives and service standards as one-stop services and platforms, they are often encouraged or sometimes pressured to be accurate in controlling local expenditures [51] and adopt a good level of service standards and managerial practices. The local government's high dependence on the central government and excessive central government interference may reduce the efficiency of local governments; however, attentive, supportive, and delegating relations may increase local service efficiency [52]. This is because many local governments in developing countries tend to have revenue inadequacy, lower service standards, inefficient service platforms, and lower managerial skills.

2.4. Local Government Capacity and Efficiency

Local government capacity refers to municipal governments' variety of resources. Personnel, financial, knowledge, and actual technical assets are the main resources of the government. The propensity to deliver public service efficiently and effectively may be influenced by factors pertaining to the capacity of the government, such as the service-providing agency's personnel capacity, public service experience, and local governments' financial and technical support [43]. From this perspective, having an independent service agency or unit staffed with professionals and budget for specific activities may increase service specialization and give managers more liberty to make the service efficient and effective. This will result in improved outcomes as well as more personalized and accessible services [17]. Moreover, knowledge that accumulated from service experience and the higher-level adoption of information technologies are positively associated with efficiency [50]. Similarly, local government fiscal capacity, also known as revenues, may increase efficiency since increased tax revenues allow citizens to have more influence, thus resulting in higher levels of efficiency [53].

Several bottlenecks of efficient public service delivery have been documented in the past literature, especially in the case of local governments in developing countries. In Nigeria, corruption, political interferences, and poor human resources management were some of the results of the clash between different tiers in the government [25]. This clash often produces fiscally stressed local governments that have less opportunities to reform or adopt innovations [39,54,55].

However, if properly implemented, decentralization from central or national government to local governments is argued to not only raise the size of local governments but also improve their efficiency in managing financial resources and needs [9]. In their study, Piña and Avellaneda [56] argued that administrative capacity, specifically in terms of the local government's human resources, expertise, managerial practices, and capability, plays a major role in the local government's performance. As demonstrated in their case study of Chilean municipalities, the above-mentioned aspects have a proven significant positive relationship. Another case study on English local authorities also showed the importance of management capacity, which they referred to as the expenditures allotted for information technology, auditing, and human resources, among others [57]. The above-mentioned study found out that only the local governments with high capacity observed greater efficiency, in terms of public-private partnerships. Furthermore, the study of Kwon and Jang [54] also revealed that a strategic planning team within local governments was proven to contribute to its efficiency by identifying criteria and the measurement of performance.

Rainey and Steinbauer [52] mentioned five propositions that can be related to the internal capacity of governments to become efficient and effective. Four of them are related to human resources, which emphasizes that employees must be carefully selected and recruited; once they are inside the agency, they should be well-capacitated to embody professionalism and leadership. They, again, highlighted the importance of a strong organizational culture. Aside from human resources, they stressed that technology also contributes to an organization's efficiency and effectiveness. Relating all of these, in the context of business registration efficiency, the following are hypothesized:

Hypothesis 1a. *Cities with a higher level of institutional capacity (Local Economic and Investment Promotions Office in the local government) are more likely to achieve a higher level of efficiency.*

Hypothesis 1b. *Cities with more locally sourced revenue are more likely to achieve a higher level of efficiency.*

Hypothesis 1c. *Cities with a higher level of accumulated public service experience are more likely to achieve a higher level of efficiency.*

Hypothesis 1d. *Cities with a higher level of information technology capacity are more likely to achieve a higher level of efficiency.*

2.5. Rewards and Efficiency

Local governments' socio-economic and political interests are important drivers of public service performance. In a decentralized system, local governments are responsible for the region's economic development and citizens' well-being. Economic growth, fueling high commercial and industrial activity, puts more pressure on local managers and political leaders to improve their efficiency. Additionally, higher recognition and reputation of performance motivates local governments to be efficient, since it may attract more businesses and resources.

Past studies have demonstrated that a reward is a natural means to improve performance, since, without it, institutions would not care about their performance results [58,59]. Even though governance at the local level is supposed to play a vital role in guaranteeing the effectiveness and delivery of public services to the greater population, there is the argument that local governments are incentivized to do a better job if the goal of public service activities is higher citizen satisfaction on a short-term. At the local government level, elections, as an accountability mechanism, play a more significant role in molding bureaucratic attitudes and behaviors [33]. City managers are also motivated to use performance measurements, as this will not only lead to better government performance but also better personal experience for them, which they can later utilize for their career development [54]. In other words, efficiency is more of an unintended consequence of the elected officials' quest to satisfy their constituents, as well as the city manager's career growth. Furthermore, past research has also argued that the adoption of innovations that lead to efficiency are greatly driven by the organization's socio-economic interests [54,60,61].

Rewards can also be linked with compliance, especially in the case of local governments. When local governments comply and report their performance to the central authority, the former publishes the performance of the latter and, most of the time, high performers are rewarded [62]. Since sanctions are attached to rewards, most organizations are also motivated to perform well to avoid punishment [63]. Moynihan [64] also emphasizes that, aside from the fact that these rewards can be a form of motivation for performance, they should also be well-considered and designed in such a way that they will not be manipulated or abused simply for the sake of receiving an incentive. Considering this, this study hypothesizes that:

Hypothesis 2a. *Cities with a higher level of local economic growth are more likely to achieve a higher level of efficiency.*

Hypothesis 2b. *Cities with higher productivity among investors are more likely to achieve a higher level of efficiency.*

Hypothesis 2c. *Cities with higher recognition of performance are more likely to achieve a higher level of efficiency.*

2.6. Compliance with the National Government and Efficiency

The efficiency of local governments is often improved through inter-local governmental cooperation, but it is more likely to be affected by the relationship with the central or national government. Many local governments rely on some level of fiscal transfers, and they are frequently encouraged or compelled to implement national initiatives and service standards. The accountability mechanisms of these subsidies and guidelines for public services and policies may affect the effectiveness of local governments.

Motivations for public sector performance can be related to public service, missions, or tasks. Rainey and Steinbauer [52] mentioned 11 propositions to achieve high government performance; in particular, two mention the importance of oversight authorities, which,

in this study's case, would be the national government. They argued that public agencies, such as local governments, can perform better if the authorities, such as the national government, are "attentive, supportive, and delegative (p. 3)", yet they still provide the right amount of autonomy for local governments to pursue their mission. One study also showed how autonomy from the federal government led to higher levels of fiscal efficiency, as reflected by local districts' revenues [11,65]. Another study also exhibited how the central government's monitoring role led to the disclosure of local governments' revenue information, which provided motivation for the latter to perform better [10]. We believe that, aside from being voluntarily motivated, local governments are urged by the national government to perform well, due to the concept of *compliance*. When local governments need to comply with the demands set by the central authority, they are somehow forced to increase their capacity through various means, such as by upscaling the skills of their employees or investing in innovations [66].

In one case of Guatemalan municipalities, the prioritization of mayors of the Forestry Law compliance in their respective locales was heavily influenced by the funding provided by the central government [67,68]. Since the central government controls the funding, it can also use it to its advantage to urge municipalities to comply [67,69].

Most of the time, local governments' performances are published by the national government (e.g., e-portals) as public information, which can be utilized by anyone, including other local governments. Being aware of others' performance can also motivate local governments to perform better. For instance, if other cities provide better public services at a cheaper cost (e.g., education and health services), this can affect the migration of people from one local government to another [3,70]. In some cases, such as in North Carolina's local governments, benchmarking practices lead to isomorphism, where both low- and high-performing local governments converge towards the average. In the same study, Gerrish and Spreen [71] also clarified that isomorphism is not entirely negative and further explained that "if governments with substantially higher liquidity ratios than peers draw down on this liquidity, that may be an improvement from the status quo, where scarce resources are tied up by local governments (p. 602)". In light of this, and in relation to the business registration and local governance efficiency in the Philippines, this study hypothesizes the ones stated below. The summary of this study's theoretical framework is illustrated on Figure 1.

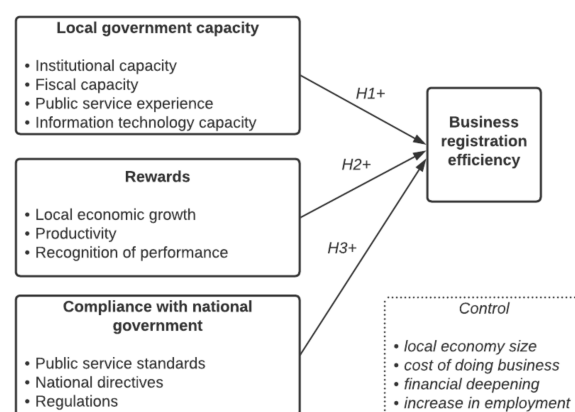


Figure 1. Theoretical framework of the study.

Hypothesis 3a. *Cities with a higher compliance with public service (business permits and licensing system) standards are more likely to achieve a higher level of efficiency.*

Hypothesis 3b. *Cities with a higher compliance with national directives are more likely to achieve a higher level of efficiency.*

Hypothesis 3c. *Cities with a higher compliance with regulations (business safety) are more likely to achieve a higher level of efficiency.*

3. Methods and Data

This article investigates the effects of the local government's capacity, rewards, and compliance with national government on public service efficiency in Philippine cities. We used the cities and municipalities competitiveness index (CMCI), annually issued by the National Competitiveness Council (NCC) and Department of Trade and Industry (DTI), which was guided by the United States Agency for International Development (USAID) (House of Representatives' 2017 Cities and Municipalities Competitiveness Index (https://cpbrd.congress.gov.ph/images/PDF%20Attachments/Facts%20in%20Figures/FF2017-21_Cities_and_Municipalities_Competitive_Index.pdf (accessed on 14 June 2021))). CMCI measures the overall competitiveness of local governments through four pillars, namely: (1) economic dynamism, (2) government efficiency, (3) infrastructure, and (4) resiliency. Unlike the other local government assessment tools (e.g., the Seal of Good Local Governance by the Department of Interior and Local Government which assesses the performance of local governments in ten areas (Department of the Interior and Local Government 2021 Seal of Good Local Governance: Pagkilala sa Katapatan at Kahusayan ng Pamahalaang Lokal (https://dilg.gov.ph/PDF_File/issuances/memo_circulars/dilg-memocircular-202138_124de7730d.pdf (accessed on 14 June 2021))), CMCI has an online data portal detailing the scores of each local government per indicator.

As of June 2021, there were a total of 146 cities and 1,488 municipalities in the Philippines (Philippine Statistics Authority (2021) Philippine Standard Geographic Code (PSGC) (<https://psa.gov.ph/classification/psgc/> (accessed on 23 January 2022))). All 146 cities and 1,461 municipalities had participated in CMCI as of 2021, and only 141 cities have complete datasets for all the given variables from the periods of 2017 to 2019 (see Table A1 for complete list of cities included in this study). We chose the given period because it is within the current administration of President Rodrigo Duterte. Years 2016, 2020, and 2021 were omitted, since the data for 2016 had a coinciding term with the previous administration, while, for the other two years, the COVID-19 pandemic affected all public service delivery, which may have caused some inconsistencies in the data analysis. Among the selected cities, 33 are highly urbanized cities (HUCs), which were defined as cities with a population of more than 200,000 citizens, with an annual income of more than PHP 50 million (approximately USD 1 million). The remaining 108 are component cities that do not meet the requirements of HUCs but have higher incomes than first class municipalities (Department of Trade and Industry (n.d.), About the index (<https://cmci.dti.gov.ph/about-index.php> (accessed on 14 June 2021))). CMCI scores for each variable were analyzed using descriptive statistics and panel regression through STATA 13 to test the hypotheses.

Specifically, we calculated the panel regression as follows:

$$Y_{it} = \beta Capacity_{it} + \beta Reward_{it} + \beta Compliance_{it} + \gamma Control_{it} + \alpha + \mu_{it} + \varepsilon_{it} \quad (1)$$

where Y_{it} is business registration efficiency for city i in year t . We also added the α or the unobserved effect, μ_{it} or the between entity error, and ε_{it} or the within entity error. CMCI calculated the index score for business registration efficiency through the number of procedures and processing time in issuing building and occupancy permits to businesses. We also included three groups of independent variables. We considered $Capacity_{it}$ through four factors. First, we considered the institutional capacity, which is measured through the presence of a Local Economic and Investment Promotions Office (LEIPO). CMCI measured this through the existence of a physical office, with staff members handling investment promotions, as well as the presence of investment-related policies at the local level. Second, we also included the cities' capacity to generate local resources, which was calculated by CMCI using the local government's collection of business tax, real property tax, and total revenue. Third, the local government's public service experience was also added, in order to measure the city's capacity, and this was evaluated using the total

number of new and renewed business registrations. Lastly, we also assessed the cities' information technology capacity, which included the total number of local cable, internet, and telecommunication providers.

Another efficiency driver that we included in this study is $Reward_{it}$, which we measured through three factors. The first was the local economic growth. CMCI assessed this by computing the rate of gross sales of companies registered in the city, together with the total capitalization of new businesses. Second, we also included the cities' productivity measured through the gross sales and number of employees of registered companies. Lastly, we also considered the recognitions and awards received by the cities from regional, national, and international bodies.

Moreover, $Compliance_{it}$ involves three factors, where the first one is the compliance of cities with the national government, in terms of the mandated public service standards. This was measured through the existence of electronic business permits and licensing system (BPLS) software (from the national government or created by the city), adoption of business-one-stop-shop, and the number of procedures and processing time of the mayor's permit for new and renewed business applications. We also investigated the cities' compliance with the national directives, through the presence of a local comprehensive development plan, which contains the sectoral goals of a local government, including economic development. The third compliance factor is compliance with regulations, which is measured through business safety. It was measured through the number of approved occupancy permits vis-à-vis fire safety inspections.

We also considered several control variables or $Control_{it}$. The first is the local economy size, which was calculated using the actual value of the local economic growth. Next, we also controlled for the cost of doing business in a city, wherein CMCI included the costs of electricity, water, diesel, land, rent, and minimum wage in various industries. Financial deepening was also controlled, which included the number of banks, cooperatives, and other financial institutions in a city. We also controlled for the increase in employment, which includes the number of employees in new and renewed businesses in the city.

4. Results and Discussion

4.1. Descriptive Statistics

The summary of the descriptive statistics is presented in Table 1. The total number of observations for all the variables is 423, since there were three years of data for the 141 cities. Each CMCI indicator, the dependent, independent, and control variables of this study, contributes 2.5% to a city's score for a given year. As shown in Table 1, the mean count for business registration efficiency is 1.952. For the capacity-related factors, the means are as follows: institutional capacity is 2.367, capacity to generate local resources is 0.626, public service experience is 0.525, and information technology capacity is 0.598. For the rewards-related factors, they have the following means: local economic growth is 0.242, productivity is 0.247, and recognition of performance 0.425. Compliance-related factors have the following means: compliance with public service standards is 1.968, compliance with national directives is 2.172, and compliance with regulations is 0.384. This study also used four control variables, which generated the following means: local economy size is 0.174, cost of doing business is 1.797, financial deepening is 0.626, and increase in employment is 0.279.

Table 1. Descriptive statistics of all independent, dependent, and control variables.

Variables	Obs.	Mean	Std. Dev.	Min	Max
Business registration efficiency	423	1.952	0.369	0	2.499
Institutional capacity	423	2.367	0.470	0	2.5
Fiscal capacity	423	0.626	0.537	0	2.485
Public service experience	423	0.525	0.480	0	2.5
Information technology capacity	423	0.598	0.335	0	2.0
Local economic growth	423	0.242	0.335	0	2.5
Productivity	423	0.247	0.423	0	2.5
Recognition of performance	423	0.425	0.333	0	2.125
Compliance with public service standards	423	1.968	0.381	0.668	2.494
Compliance with national directives	423	2.172	0.479	0	2.5
Compliance with regulations	423	0.384	0.344	0	2.030
Local economy size	423	0.174	0.344	0	2.5
Cost of doing business	423	1.797	0.279	0.010	2.326
Financial deepening	423	0.626	0.509	0	2.5
Increase in employment	423	0.279	0.438	0	2.5

Note: highest possible index score per variable is 2.5.

4.2. Panel Regression Results

The results of the panel regression models are shown in Tables 2–4. Since the dataset used for this study consists of three years (2017–2019), we programmed the dataset on STATA 13 as panel data before running regression. Three panel data regression models were tested in this study. The panel regression of all the cities is summarized in Table 2, whereas the panel regressions for highly urbanized cities and component cities are detailed in Tables 3 and 4, respectively. All results of analyses incorporated both the random effects model (Model 1) and fixed effects model (Model 2).

Table 2. Panel regression models of business registration efficiency of all cities.

Variables	Business Registration Efficiency		
	(1) ****	(2)	
Local government capacity	Institutional capacity	0.083 (0.036) **	0.074 (0.043) *
	Fiscal capacity	0.019 (0.030)	0.023 (0.034)
	Public service experience	0.095 (0.043) **	0.103 (0.058) *
	Information technology capacity	0.195 (0.062) ***	0.148 (0.086) *
Rewards	Local economic growth	−0.103 (0.052) **	−0.056 (0.061)
	Productivity	−0.005 (0.042)	0.014 (0.045)
	Recognition of performance	0.041 (0.052)	0.031 (0.061)
Compliance with national government	Compliance with public service standards	0.106 (0.046) **	0.088 (0.057)
	Compliance with national directives	−0.022 (0.038)	−0.037 (0.048)
	Compliance with regulations	−0.093 (0.084)	−0.243 (0.133) *
Control variables	Local economy size	−0.013 (0.081)	−0.089 (0.123)
	Cost of doing business	−0.017 (0.067)	−0.098 (0.087)
	Financial deepening	−0.006 (0.046)	0.001 (0.067)
	Increase in employment	−0.036 (0.050)	−0.014 (0.058)
R2		0.108	0.052

Notes: standard errors in parentheses; * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$; **** the use of random effects (Model 1) was justified by the Hausman test, which generated a p value of 0.3134; $N = 423$.

Table 3. Panel regression models of business registration efficiency of highly urbanized cities.

	Variables	Business Registration Efficiency	
		(1) ****	(2)
Local government capacity	Institutional capacity	0.052 (0.076)	0.013 (0.086)
	Fiscal capacity	−0.116 (0.086)	−0.120 (0.096)
	Public service experience	0.047 (0.127)	−0.019 (0.187)
	Information technology capacity	0.160 (0.169)	0.277 (0.235)
Rewards	Local economic growth	−0.041 (0.095)	−0.105 (0.107)
	Productivity	0.091 (0.083)	0.072 (0.092)
	Recognition of performance	0.231 (0.105) **	0.154 (0.121)
Compliance with national government	Compliance with public service standards	0.211 (0.136)	0.177 (0.159)
	Compliance with national directives	−0.093 (0.083)	−0.026 (0.104)
	Compliance with regulations	0.120 (0.266)	−0.314 (0.393)
Control variables	Local economy size	−0.028 (0.168)	−0.055 (0.312)
	Cost of doing business	−0.296 (0.206)	−0.253 (0.266)
	Financial deepening	−0.097 (0.180)	0.023 (0.246)
	Increase in employment	0.001 (0.093)	0.035 (0.108)
	R ²	0.205	0.196

Notes: standard errors in parentheses; ** $p < 0.05$, **** Hausman test $p = 0.8589$, thus following Model 1; $N = 99$.

Table 4. Panel regression models of business registration efficiency of component cities.

	Variables	Business Registration Efficiency	
		(1) ****	(2)
Local government capacity	Institutional capacity	0.105 (0.041) **	0.077 (0.054)
	Fiscal capacity	0.041 (0.032)	0.047 (0.038)
	Public service experience	0.111 (0.045) **	0.123 (0.064) *
	Information technology capacity	0.151 (0.064) **	0.128 (0.094)
Rewards	Local economic growth	−0.016 (0.083)	−0.033 (0.098)
	Productivity	−0.036 (0.050)	−0.029 (0.055)
	Recognition of performance	−0.010 (0.062)	−0.030 (0.074)
Compliance with national government	Compliance with public service standards	0.060 (0.046)	0.073 (0.063)
	Compliance with national directives	0.021 (0.041)	−0.039 (0.059)
	Compliance with regulations	−0.067 (0.086)	−0.130 (0.159)
Control variables	Local economy size	−0.060 (0.099)	−0.099 (0.153)
	Cost of doing business	−0.013 (0.070)	−0.087 (0.095)
	Financial deepening	−0.026 (0.045)	−0.026 (0.072)
	Increase in employment	−0.029 (0.064)	−0.039 (0.086)
	R ²	0.104	0.096

Notes: standard errors in parentheses; * $p < 0.1$, ** $p < 0.05$, **** Hausman test $p = 0.8722$, thus following Model 1; $N = 324$.

After the setup, random effects were first generated to see the relationships between the capacity-, reward-, and compliance-related variables and government efficiency (see Model 1 in Table 2). This type of panel regression considers the differences across every city, which may influence the relationship between each independent variable and local government efficiency. It can be observed from Model 1 in Table 2 that almost all capacity-related factors showed significant positive relationships with efficiency, except for capacity to generate local resources. Meanwhile, only one compliance-related and one rewards-related factors exhibited significant relationships with the dependent variable, particularly the compliance with public service standards (BPLS standards) and local economic growth. However, it is important to stress that, although the local economic growth coefficient was significant, it was opposite to the hypothesized sign.

To counter check the significance of the random effects model, we also ran a fixed effects model (see Model 2 in Table 2). This type of panel regression ensured that all the characteristics of each city were controlled during the regression. Findings showed both similar and varying trends, compared to the random effects model. First, they were similar, in terms of having significant relationships between efficiency and the capacity-related factors, excluding the capacity to generate local resources. Varying trends were shown, wherein no rewards-related factors were found to be significant, while, for the compliance-related factors, compliance with business safety showed a significant yet negative influence on efficiency.

To decide which model to use for the interpretation of the relationship between the dependent and independent variables, this study also ran a Hausman test. The test generated a P value of 0.3134, which is >0.05 and, thus, in line with the random effects model or Model 1 in Table 2.

Table 3 summarizes the statistical results of the panel regression analysis for 33 highly urbanized cities, while Table 4 displays the results for the 108 component cities. As a result of conducting the Hausman test to detect model misspecification between the fixed effects and random effects models, it was confirmed that the random effects model was suitable in all analyses. Therefore, based on the random effects analysis results, the hypothesis testing results are presented. The statistical results of Model 1 in Tables 3 and 4 show that the positive effect of local government capacity on local government efficiency was only found in component cities. For the component cities, the capacity of public service delivery agency, public service experience, and higher technological capacity made the cities more efficient in delivering public services. Meanwhile, for the highly urbanized cities, it was found that high recognition of performance, as a reward, had a positive effect on improving the efficiency of local governments. This suggests that factors affecting the service efficiency of local governments may appear differently, depending on the size of the city or urbanization level.

The results of this research contribute to the limited literature on the antecedents of government efficiency, particularly on the motivations of local governments to perform better. Based on the random effects model, it can be deduced that almost all capacity-related factors have a significant relationship with business registration efficiency. First, institutional capacity showed a positive relationship. Since the LEIPO is the office in charge of all business and investment-related activities and policies in the local government, and if said office is present in the city, the prioritization of those projects (e.g., funding) would be highly considered by key decision makers. Moreover, both the public service experience and information technology capacity yielded significant positive relationships with business registration efficiency. This suggests that, when there is adequate investment in technology (e.g., electronic BPLS infrastructure), this can help in producing more business registrations in a shorter period, thus making business registration more efficient in a city. Past studies on Philippine electronic BPLS also highlighted the influence of technology in making the process more efficient, both for citizens and the civil servants [72–74]. This is also aligned with the NPM doctrines, which urge government agencies to “do more with less”, which, in this case, is through utilizing e-government systems [75].

In line with this, compliance with public service standards (BPLS standards) also turned out to positively influence efficiency. This supported the findings of Setyaningrum and Martani [10], wherein, since the national government monitors the performance of local governments in Indonesia, local governments perform better. In this study, the NCC and DTI's monitoring and evaluation of Philippine local governments' compliance, particularly with BPLS standards, motivated cities to perform better, as shown by their business registration efficiency. This meant that, when more cities abide by the policies related to business registration (e.g., Joint Memorandum Circular No. 01-2016 or the revised standards in processing business permits and licenses in all cities and municipalities), this can also lead to higher evaluation scores from monitoring entities, such as the NCC and DTI, who are responsible for CMCI.

For the contrasting significant finding observed with local economic growth, the past literature shed some light on this. Rodríguez-Pose et al. [76] tested the common assumptions on decentralization, in that it leads to government efficiency and economic growth if local governments move from current to capital expenditures. Findings from India and Mexico showed that low economic growth was observed with this attempt to shift. Moreover, since local economic growth is an indirect reward, the effects on local governments take time to be seen, which somehow lessens their ability to motivate governments, in terms of efficiency. Several factors also affect local economic growth, which could also be one of the probable reasons why it exhibited a contrasting trend in this study. Other studies have also reported that a better economic situation in a local government may also lead to a reduced efficiency of public service delivery, wherein, due to an increased demand in business activities, civil servants are left with higher workloads [50].

Additionally, in terms of the insignificant findings, some possible explanations are described as follows: according to Burby, May, and Paterson [66], compliance takes place when the "costs of disobeying the law exceed the benefits of non-compliance" (p. 326). Compliance with both national directives and regulations did not show significant results in this study, which could mean that, although the national government has stipulated sanctions for violators, it is possible that the income generated from the taxes of businesses is much greater. Additionally, since the local governments that are part of this study's sample are highly urbanized and component cities with large annual incomes, this can be a possible reason for the results of these variables against government efficiency.

For the rewards-related factors, productivity and recognition of performance both yielded insignificant findings. This study included both indirect and direct rewards. Similar to local economic growth, productivity is also an indirect reward, which takes time to observe. Meanwhile, for direct rewards, such as the recognition of performance, past studies have also shown that recognizing a local government's performance does not automatically translate to better performance. In the study of Plaček et al. [77], they found in their experiment that the efficiency of Czech municipalities that utilized some form of excellence prizes did not totally differ from municipalities that did not use any form of recognition.

In terms of the observed trends in the grouped panel regression results (see Tables 3 and 4), only the capacity-related factors turned out to have a significant positive relationship with business registration efficiency for component cities, whereas for the highly urbanized cities, it is only the rewards-related factors. This can be explained by several differences between the two types of cities used in this study. For instance, component cities have a smaller size and financial resources, compared to their highly urbanized counterparts, which may have translated to a stronger emphasis on building their local government capacity, thus driving their efficiency. On the other hand, since highly urbanized cities have the highest income bracket amongst local governments in the Philippines, they could have paid more attention to being recognized for their performance, rather than other aspects, such as their capacity and compliance with the national government. This difference in the local government size was also evident in recent studies. Although it did not measure the determinants of efficiency, but rather focused on the changes in efficiency and effectiveness after integrating an intervention,

the study of Basílio, Pires, Borralho, and dos Reis [78] on Portuguese municipalities revealed that larger municipalities recorded better performance than their smaller counterparts. In summary, the results of the hypothesis testing from the three panel regression models are summarized on Table 5.

Table 5. Summary of hypothesis testing based on the three panel regression models.

H#	Hypothesized Relationship with Business Registration Efficiency	Table 2 Overall Cities (N = 423)	Table 3 Highly Urbanized Cities (N = 99)	Table 4 Component Cities (N = 324)
1a	Institutional capacity (+)	Accepted	Not accepted	Accepted
1b	Fiscal capacity (+)	Not accepted	Not accepted	Not accepted
1c	Public service experience (+)	Accepted	Not accepted	Accepted
1d	Information technology capacity (+)	Accepted	Not accepted	Accepted
2a	Local economic growth (+)	Not accepted	Not accepted	Not accepted
2b	Productivity (+)	Not accepted	Not accepted	Not accepted
2c	Recognition of performance (+)	Not accepted	Accepted	Not accepted
3a	Compliance with public service standards (+)	Accepted	Not accepted	Not accepted
3b	Compliance with national directives (+)	Not accepted	Not accepted	Not accepted
3c	Compliance with regulations (+)	Not accepted	Not accepted	Not accepted

5. Conclusions

5.1. Summary

Like individuals, institutions such as governments have motivations to increase and improve their performance. Government efficiency is continuously a timely subject matter, which has been evident since the 1990's [1]. Efficiency is also at the heart of the doctrines and debates of NPM and post-NPM [75,79]. However, despite the success of NPM reforms in the West, developing countries, such as Asia, encountered challenges. Manning [80] stated that this difficulty in improving efficiency can be attributable to decreased public expectations, low accountability, high transaction costs, and the culture of public service in these developing countries. He further explained that, in order to conquer these challenges, the capabilities and motivations of governments must be taken into consideration. In the context of local government efficiency, this study has found that building the capacity of local governments and having a cooperative relationship with the national government in public service standardization and integration may improve public service efficiency by enhancing accountability and assisting local governments with the scarcity or lack of resources.

This study attempted to shed some light on local government efficiency by investigating the effects of local government capacity, rewards, and compliance with the national government on the local government efficiency, in the case of Philippine highly urbanized and component cities. Through the random effects panel regression, this paper arrived at the following conclusions (also illustrated in Table 5).

First, in the random effects model for all 141 cities, it can be deduced that more capacity-related factors drive cities to be more efficient in their business registration processes. This also means that higher institutional capacity, extensive public service experience, and better ICT infrastructure in local governments are vital instruments for driving better public service delivery.

Second, the compliance of local governments with the public service standards set by the national government positively influences efficiency. In our case study on business

registration efficiency, we have seen how the governance of a platform, in this case, the e-BPLS, is an essential tool for increasing efficiency. To take advantage of the platform government, there must be a good cooperation between the national and local governments. The services and standards must also be well-reviewed and integrated into the platform. With a well-thought platform, it can address some of the concerns of developing countries, which affect their efficiency, such as the lack of human and financial resources. In fact, this is pursuant with the ideals of NPM of using e-government systems to do more with less [75]. Several e-government projects were already implemented worldwide, and one of the examples of the platform government is Russia's Gosuslugi, which uses the technical prowess of federal experts, but with standardization at the central level [81]. However, we must emphasize that, in order to avoid any resistance and conflicts between the national and local governments, participatory collaboration must be implemented in the design and implementation of the platform.

Contrary to the hypothesized outcome, local economic growth turned out to have a negative relationship with efficiency, and previous studies have also documented the same trend, which could have stemmed from it being an indirect reward to the local government, as well as leading to disadvantageous work environments for civil servants, who then receive larger workloads, due to the pressure to deliver more efficient public services.

Third, this study also compared the motivations of highly urbanized cities with their component city counterparts and observed that the differences in their structure (e.g., size and income) also led to contrasting efficiency drivers, where the former is driven by recognitions from the national government and the latter is more driven by capacity-related drivers.

5.2. Policy Implications

The Philippine case study we presented in this article provided valuable insights, especially for reviewing and drafting relevant policies, not just for the Philippine government perusal, but also for other countries, especially the ones from developing economies. In relation to the previously presented conclusions, we also present the following policy recommendations.

First, for local governments, our findings reveal that increasing the city's capacity greatly drives the local government efficiency. Thus, we recommend that local governments invest and strategize on interventions that would further upskill their human resources and upgrade their e-government systems. It is also vital that both the workforce and infrastructure aspects complement one another to maximize efficiency.

Second, national government agencies (such as the DTI and DILG in the Philippines) may utilize the results of this study to refine their existing assessment tools for local governments. The positive relationship between compliance with public service standards and efficiency means that the mechanisms that integrate public service standards and service coordination are effective. However, the national government should also keep in mind that they must continuously innovate and update their performance measurement tools; otherwise, some local governments might manipulate their performance information, once they are already aware of how they are being evaluated.

Third, and still related to compliance-related factors, the national government must also review existing sanctions for non-compliant local governments, in order to increase compliance and business registration efficiency.

Lastly, the national government may also develop tailored scorecards, strategies, or roadmaps for each level of local government, as we observed a difference in motivations for efficiency between component and highly urbanized cities, which differ in land area, population, and income.

5.3. Recommendations

Although the findings of this article presented valid empirical evidence on the relationship between motivation and performance improvement, there are still limitations.

First, only Philippine cities were considered in this study—these cities have higher income compared to their municipal counterparts, which could have affected their motivations, especially since this study focused on business registration efficiency and economy-related independent variables. Future research can also compare the motivations of cities with municipalities.

Furthermore, future studies can also consider other forms of capacity, compliance, and rewards as motivation (e.g., grants from the national government) to add to the growing literature regarding motivations for efficiency.

Lastly, other instruments can also be used to capture richer data and explanations regarding why local governments are motivated to increase their efficiency through capacity, rewards, and compliance. Although empirical evidence through statistical analysis, as we presented in this study, is sufficient to explain the phenomenon, a mixed methods approach by adding a qualitative perspective could also further explain the statistical trends observed. For instance, in-depth interviews and focus group discussions with key local government officials, especially the local chief executives of local governments, may provide valuable codes that can be further explained through a thematic analysis. These emerging themes and codes can also be used to further validate, enhance, and extend the framework we proposed in this article.

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Appendix A

Table A1. List of Philippine cities included in the study.

Highly Urbanized Cities (N = 33)	Component Cities (N = 108)
Angeles, Bacolod, Baguio, Butuan, Cagayan De Oro, Caloocan, Cebu, Davao, General Santos, Iligan, Iloilo, Lapu Lapu, Las Pinas, Lucena, Makati, Malabon, Mandaluyong, Mandaue, Manila, Marikina, Muntinlupa, Navotas, Olongapo, Paranaque, Pasay, Pasig, Puerto Princesa, Quezon, San Juan, Tacloban, Taguig, Valenzuela, Zamboanga	Alaminos, Antipolo, Bacoor, Bago, Bais, Balanga, Batangas, Bayawan, Baybay, Bayugan, Binan, Bislig, Bogu, Cabadbaran, Cabanatuan, Cabuyao, Cadiz, Calamba, Calapan, Calbayog, Candon, Canlaon, Carcar, Catbalogan, Cauayan, Cavite, Cotabato, Dagupan, Danao, Dapitan, Dasmaringas, Digos, Dipolog, Dumaguete, El Salvador, Escalante, Gapan, General Trias, Gingoog, Guihulngan, Himamaylan, Igacos, Ilagan, Imus, Iriga, Isabela, Kabankalan, Kidapawan, Koronadal, La Carlota, Laoag, Legazpi, Ligao, Lipa, Maasin, Mabalacat, Malaybalay, Malolos, Masbate, Mati, Meycauayan, Naga (Camarines Sur), Naga (Cebu), Ormoc, Oroquieta, Ozamiz, Pagadian, Palayan, Panabo, Passi, Roxas, Sagay, San Carlos (Negros Occidental), San Carlos (Pangasinan), San Fernando, San Jose, San Jose Del Monte, San Pablo, San Pedro, Santa Rosa, Santiago, Science City of Munoz, Silay, Sibalay, Sorsogon, Surigao, Tabaco, Tabuk, Tacurong, Tagaytay, Tagbilaran, Tagum, Talisay, Tanauan, Tandag, Tanguib, Tanjay, Tarlac, Tayabas, Toledo, Trece Martires, Tuguegarao, Urdaneta, Valencia, Victorias, Vigan

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