# Economic and Institutional Factors Affecting Real Property Tax Collection in the National Capital Region

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*The study assessed the effect of economic development, internal revenue allotment (IRA), and tax administration on the real property tax (RPT) collection of local government units (LGUs) in the National Capital Region (NCR) using a multivariate regression analysis based on relevant panel data from CY 2014-2018. The study found that local economic development has a negative influence and IRA has a positive effect on RPT collection. The significant relationships between proxy variables for tax administration (i.e., government efficiency index and number of SMV revisions due) and RPT collection serve as the salient findings of the study. Government efficiency index positively affects RPT collection, while the non-revision of schedule of market values (SMVs) negatively affects RPT collection. RPT has a great potential in terms of providing a stable revenue source for local governments and introduction of tax administration reforms and their proper implementation will give LGUs greater fiscal autonomy, which may lead to a genuine and meaningful self-governance.*

***Keywords*****:** *real property tax collection, local economic development, internal revenue allotment, tax administration*

Real property tax (RPT) is a local tax levied on real properties (i.e., lands, buildings and other improvements, and machineries) primarily imposed to finance the funding requirements of local government units (LGUs) and capacitate them towards autonomy and self-governance, as provided for by Republic Act (RA) 7160 or the Local Government Code (LGC) of 1991.

RPT, due to the nature of its tax base and relatively stable yield, is considered as the "proper source" of or "best candidate" for local government revenues (Ter-Minassian, 1997; Oates, 2006; Manasan, 2005). Real properties have long been considered as a broad and rich tax base. However, data shows that RPT collection has been dismal even for a highly urbanized and developed region like the National Capital Region (NCR).

The literature points out several factors that affect RPT collection, such as economic development (Bird & Smart, 2002; Capuno, 2003., as cited in Smoke & Kim, 2003; Diana, 2008; Llanto, 2009; Manasan, 2005, 2007), internal revenue allotment (IRA) share (Bird & Smart, 2002; Capuno, 2003., as cited in

Smoke & Kim, 2003; Diana, 2008; Llanto, 2009; Manasan, 2005, 2007), and tax administration (Abiola & Asiweh, 2012; Ahuru & Oriakhi, 2014; Bird & Slack, 2002; Crandall, 2010; Emmanuel, 2018; Enahoro & Olabisi, 2012; Pangcog, 1996). These factors affect RPT collection of local governments in a positive or negative way.

This article seeks to assess the relationship of some economic and institutional factors with RPT collection of LGUs, particularly those in the NCR. It specifically seeks to answer the following questions:

a. How does the level of economic development influence RPT collection?

b. How does the IRA share influence RPT collection?

c. How does tax administration influence RPT collection?

It is hoped that the results of the study will give valuable insight to national and local policymakers on some of the institutional and economic factors affecting RPT revenues. Such information could serve as input in formulating reforms that will enhance revenue collection of LGUs, which will ultimately lead to the LGUs' greater fiscal autonomy and enhanced capabilities as partner of the state in development.

## Background of the Study

### Real property tax in a nutshell

The RPT is an *ad valorem* tax levied on real properties, such as lands, buildings and other improvements, and machineries. It is imposed and collected annually by provinces, cities, and municipalities (Republic Act 7160, Sec. 233). The power to levy RPT is vested on LGUs pursuant to the provisions of the Local Government Code of 1991 (RA 7160). Section 18 of the said law provides that LGUs shall have the power and authority to create their own sources of revenues and to levy taxes, fees, and charges, which shall accrue exclusively for their use and disposition and which shall be retained by them. Such power to generate and apply resources is geared towards ensuring the development of LGUs into self-reliant communities and active participants in the attainment of national goals.

The RPT is computed by multiplying the assessed value of a property subject to tax to the applicable RPT rate. The assessed value of a property is a certain percentage of its market value, which is derived by applying the corresponding assessment level of the property to its fair market value (FMV)[1] (National Tax Research Center (NTRC), 2016). For purposes of assessment, real

properties are classified as residential, agricultural, commercial, industrial, mineral, timberland, or special. (RA 7160, Sec. 215). The applicable assessment levels are fixed by the local *Sanggunian* (i.e., *Sangguniang Panlalawigan*, *Sangguniang Panglungsod* or *Sangguniang Bayan*) through a local ordinance, depending on the actual use of the property and at rates not exceeding those specified under Section 218 of the LGC. Provinces and cities/municipalities shall fix a uniform rate of basic real property tax applicable to their respective localities. For provinces, the RPT rate shall not exceed 1% of the assessed value of the real property. Meanwhile, for cities and municipalities within the Metropolitan Manila Area, the RPT shall not exceed 2% of the assessed value of the real property.

RPT = Assessed value x RPT rate

Where:

Assessed value = Fair market value x Assessment level (10%-60% depending on the classification of the property)

RPT rate = not exceeding 1% (for provinces) or 2% (for cities/municipalities)

RPT is paid by property owners/administrators at the city or municipal treasurer's office, accruing in the first day of January of any year. The RPT shall be paid within the first 20 days of January or of each subsequent quarter, as the case may be. The payments may be paid without interest in four equal installments to be due and payable on or before March 31 (1st installment), on or before June 30 (2nd installment), on or before September 30 (3rd installment), and on or before December 31 (4th/last installment) (NTRC, 2016). Failure of property owners/administrators to pay RPT when it is due shall subject them to payment of interest rate of 2% per month on the unpaid amount to a maximum of 72% or 36 months. Delinquency in the payment of RPT may cause this real property subject to tax to be distrained and sold at public auction to effect payment (RA 7160, Sec. 254). On the other hand, some LGUs offer early bird discount not exceeding 20% of the annual tax due to taxpayers who settle their RPT obligations in advance (Castillo, 2016).

Properties specified under Section 234 of the LGC of 1991 are exempt from the payment of RPT, such as (a) government-owned properties; (b) lands, buildings, and improvement actually, directly, and exclusively used for religious, charitable, or educational purposes; (c) all machineries and equipment that are actually, directly, and exclusively used by local water districts and government-owned or -controlled corporations engaged in the supply and distribution of water and/or generation and transmission of electric power; (d) all real property owned by duly registered cooperatives as provided for under RA 6938; and (e) machinery and equipment used for pollution control and environmental protection.

**Feasibility of RPT as a stable local government revenue source and contributor to greater fiscal autonomy**

As part of the country's commitment to greater decentralization to help attain its development goals and objectives, the RA 7160 or the LGC of 1991 was enacted (Uchimura & Suzuki, 2009). It recognized the essence of decentralization, that is, to support LGUs in becoming self-reliant governments by granting them more powers and full authority in the delivery of basic services, as well as creating revenue sources to fund these public goods and services and other development needs (Chita, 2011). Hence, the passage of the LGC of 1991 also marked the start of fiscal decentralization in the Philippines (Manasan, 2005). The provisions of the LGC on devolved revenue and expenditure assignments and greater taxing powers promoted local autonomy and made the decentralization process possible (Llanto, 2009; Chita, 2011).

Fiscal autonomy allows LGUs to enjoy a genuine and meaningful self-governance. The authority to tax residents, businesses, properties, and activities within their jurisdictions enables LGUs to finance the delivery of public goods and services, such as healthcare, education, local public works, legal system, police protection, public assistance, etc. It also provides funding for social and development programs, such as community development and family planning, and acts as a tool that enables the LGUs to influence business and economic activities that they wish to promote in their localities (Ledesma, 2016).

LGUs derive their revenues from local and external sources. Local revenues are sourced from tax revenues (e.g., real property tax and the business tax) and non-tax revenues (e.g., fees and charges, receipts from government business operations, and proceeds from sale of assets). Meanwhile, external sources include the internal revenue allotment (IRA) and other shares from special laws, grants and aids, and borrowings (NTRC, 2016).

The literature points out that, among the locally-sourced revenues of LGUs, RPT and user charges are the "proper sources" of local government taxation (Bird & Slack, 2002; Manasan, 2005; Oates, 2006; Ter-Minassian, 1997). This is in keeping with what fiscal federalism theory suggests on subnational taxation assignment. As Ter-Minassian (1997) mentioned, the "best candidates" for subnational taxes are those that are (a) on relatively immobile bases, (b) when the base is relatively evenly distributed, and (c) when yields are likely to be relatively stable. In actuality, these principles point out that local governments are supposed to primarily rely on RPT and user charges. Bird and Slack (2002) stated that the connection between many services funded at the local level and the benefit to property values is another reason why property taxes are considered to be an appropriate source of local government revenue. Local property tax is deemed to be a benefit tax (at least in the United States) because the revenue

from this tax finance local services. Taxpayers, in turn, are willing to pay more for better services (e.g., good schools, better access to roads and transits, etc.) and to support tax measures when they perceive that the taxes they pay are exceeded by the benefits derived from them.

In this context, it appears the Philippine tax assignment is largely consistent with the traditional view (Manasan, 2005) that, indeed, the RPT is one the most important sources of tax revenues for LGUs.

**RPT collection performance of LGUs in NCR, 2014-2018**

RPT collection data from LGUs in NCR shows that, on an annual basis, RPT revenues consistently increased from 2014 to 2017, while a slight dip of 2% was recorded in 2018. On the average, RPT taxes grew modestly by 7% during the period covered. A significant increase in collection was observed in 2017 as big cities, such as Pasay and Quezon City, updated their schedule of market values (SMV) of real properties in the same year. However, decline in year-on-year growth rate, (except for 2017) was observed. The posted RPT growth rate for CYs 2014 to 2015 was 5%, while the growth rate for the succeeding years (CYs 2015 to 2016 and 2017 to 2018) were reported at rates 3% and -2%, respectively (Table 1).

**Table 1**
*Collection Performance of LGUs in NCR, 2014-2018 (in billion PhP)*

| | 2014 | 2015 | 2016 | 2017 | 2018 | Average |
|---|---|---|---|---|---|---|
| RPT Collection | 19.62 | 20.68 | 21.29 | 25.84 | 25.34 | 22.55 |
| RPT Growth rate | - | 5% | 3% | 21% | -2% | 7% |
| Locally-sourced revenues | 62.24 | 69.60 | 74.55 | 82.02 | 88.71 | 75.48 |
| Externally-sourced revenues | 16.42 | 20.02 | 20.47 | 23.37 | 24.91 | 21.04 |
| Total revenues | 78.94 | 89.62 | 95.03 | 105.39 | 113.63 | 83.48 |
| RPT as % of Locally-sourced Revenues | 31% | 30% | 29% | 32% | 29% | 30% |
| RPT as % of total revenues | 25% | 23% | 22% | 25% | 22% | 23% |

*Notes*: Basic data from Bureau of Local Government Finance (BLGF)
Some numbers may not add up due to rounding.

From 2014 to 2018, collections from RPT represented, on the average, 30% of the locally-sourced revenues and 23% of the total revenues of LGUs in the NCR. While seemingly low, contributions of RPT to LGU revenues among local governments in the NCR is already the highest in the Philippines since local governments outside of NCR collect significantly less.

Furthermore, in spite of the slight increments in the RPT collection and locally-sourced revenues in general, LGUs continued to rely on externally-generated revenues, which comprised mainly of IRA, share from utilization of national wealth, grants and aids, borrowings, and others. These revenues contributed an average of PhP21 billion annually during the period covered.

As LGUs assumed greater responsibility, they should have the financial means to be able to perform such functions (Llanto, 2009). The fundamental rule of decentralization, "finance must follow function," entails that LGUs' financial resources be commensurate with their expenditure assignments. In the end, the provisions of the LGC for decentralization will only be as effective as the ability of the LGUs to raise revenues and finance the functions devolved to them.

## Review of Related Literature

This section critically reviews the existing literature pertinent to the effect of economic development, IRA dependency, and tax administration to RPT collection of local governments. A synthesis is provided in relation to the motivations of the study.

### Effect of local economic development to RPT collection

Substantial number of studies had been conducted to examine the effect of taxation on economic development, most especially on the macro or national level. However, this study focuses on the effect of local economic development on real property tax. The literature on this topic is not as rich as the former. Nevertheless, for purposes of determining the relationship among these variables, the related literature herein reviewed and presented includes the effect of economic development, both on the national and local levels, to RPT collection. Also, literature on determining the appropriate indicator for local economic development is integrated in the discussion.

The literature presents contrasting views on the effect of economic development on RPT collection. Various studies suggest that economic development has a positive effect on tax revenues. For example, Karran (1985, as cited by Taha et al., 2011) found that the economy and tax always grow together, and economic growth always has a positive or negative effect on tax. Such relationship between economic level and RPT collection is further amplified in Taha et al. (2011), citing that any significant increase in revenue collection positively affects economic growth, and vice versa.

Evidence on the positive relationship between economic development and tax collection was presented by a study conducted by Bird and Slack (2002),

which examined land and property taxation in 25 countries. The said study revealed that property taxes are much more significant in rich countries than in developing or transition countries. It was shown that property tax generates a substantial proportion of local government revenues in developed countries (e.g., Canada, United States, Australia, etc.). On the other hand, in most developing and transition countries (e.g., South Africa, Latvia, etc.), the share of property tax yield to revenue available for local governments is only small, though not insignificant. Bird and Slack also mentioned that the income level of a country has an effect on their tax collection, as well as their ability to improve tax collections: "As is so often the case in fiscal matters, many poor countries could do more than they do in terms of taxing land and property, but no matter what they do they are unlikely to reap the same relative rewards for their effort as more fortunate countries" (2002, p.8). For instance, low-tax-effort countries Mexico and Germany have considerable leeway to improve their tax collection, but it would be much harder for low-income Mexico than for high-income Germany to raise their tax collection, say, by an additional 1% of GDP (Bird, 1976).

Further evidence on the positive relationship between economic development and RPT collection was shown in a study by Diana (2008), which revealed that 1st and 2nd-class provinces in the Philippines have a higher revenue effort compared to 3rd, 4th, and 5th-class provinces. This is attributed to the greater ability of richer provinces in collecting taxes than their poorer counterparts. Similarly, a study conducted by Marasigan (2008) attributed the relatively low compliance ratio in Naga City to the city's low economic development levels as observed in the large presence of urban poor grantees who cannot afford to pay their RPT obligations. Caro (2006), in her study determining the RPT gap from 1993 to 2004 per LGU level, discovered that the performance of the RPT is attributed to the LGU's economic levels, among others. It was noted that the collection efficiency of RPT leaped to 70% in 1994 from the previous 53% of the preceding year, which is largely associated with the improved capacity of the taxpayers brought about by better economic conditions of the country.

Llanto (2009) presented another explanation for the higher revenues of relatively developed cities and the consequences of low tax revenue yield of less-developed localities. The larger revenue sources of major cities come from the fact that these relatively urbanized cities have significant tax bases compared to those in the low-income categories. In turn, these less-developed localities largely depend on IRA transfers for funding local development activities (Llanto, 2009).

On the contrary, Bahl (2002, as cited in Bird & Slack, 2002) argued that economic development does not necessarily translate to high RPT collections. This owes to the fact that the tax base of RPT (i.e., land, capital, machinery) is relatively inelastic. In general, property values (and, consequently, real property taxes) respond more slowly to annual changes in economic activity than other

aspects such as income (and income taxes). Moreover, real property reassessment occurs only on a periodic basis (i.e., every five or ten years), hence, the failure to reflect the precise and updated real property values at the time of taxation (i.e., annually).

On a similar note, Gomez (2010, p.7) stated that "the level of their [local government units] economic development is negatively related to their ability to raise revenues but positively related to their need for these revenues." The study partly explains this relationship by arguing that LGUs face various administrative, technical, and financial challenges in revenue administration. In particular, developed (and more densely populated) localities received larger shares of IRA, which makes them more dependent on the IRA than on their locally-sourced revenues (Gomez, 2010).

A study by Gsottschneider (1998) contradicted the generally accepted notion that real estate development enhances the economic base of a community, resulting in increase in real property tax collection. As mentioned in his study, most municipalities tend to pursue economic development with great fervor and often do not think strategically about the overall real estate impact of their economic development initiatives (Gsottschneider, 1998). Many forms of new development, especially those that were not properly planned, often have a detrimental effect on existing property values. Moreover, even if these new developments were successful, they seldom contribute more than 1-2% to the tax base. In his case study on the experience of Concord, New Hampshire, Gsottschneider (1998) found that the well-intentioned efforts to bolster the local economy did have unintended negative consequences on the existing the tax base of real property. Concord, the capital city of New Hampshire, has a total land area of more than 41,000 acres. In the span of more than a decade, substantial growth had occurred in the city with over 2.8 million square feet of new commercial and industrial development. However, despite this, the total assessment of the city declined from USD 1.9 billion to USD 1.5 billion, or a 19% decrease. Part of the decline is attributed to the recession in the beginning of the decade (Gsottschneider, 1998). But even if real estate markets had recovered from the recession, values remained low. The findings of the study pointed out that the lack of long-term strategy on managing its tax base and establishing the linkage between tax base management and economic development negatively affected its real property values. In addition, the study had the following observations: commercial encroachment into residential neighborhoods created use and value conflicts; due to lack of proper segregation of office development from industrial/warehouse uses, the potential tax base benefit of office development market was not maximized; and revenues were forgone because of the excessive emphasis on preserving old buildings that occupied prime real estate (Gsottschneider, 1998).

In a similar vein, Rodriguez-Vives and Gavilan-Rubio (2021) noted that property tax revenues are relatively inelastic to house prices and quantity developments, and that, despite the increase of house prices, low revenues were recorded as a result of low effective tax rates and outdated house valuation systems. The panel data analysis of 20 European Union (EU) countries from CY 1995 to 2017 revealed that the growth rate of the stock of dwellings and growth rate of the average price per square meter negatively affected the implicit property tax rate and, consequently, the total revenues. The authors mentioned that the general trend of low collection from property tax is due to the combination of absence of taxes (e.g., capital gains and wealth), low tax rates, widespread application of tax exemptions, and outdated valuation systems, which undermine the taxing potential of property taxation (Rodriguez-Vives & Gavilan-Rubio, 2021).

Relating to the Philippine setting, Guevara (2004) noted that under-taxation of land is built into the real property tax structure. The tax base, or the assessment level, is only a fraction or a percentage of the market value of the land. Under-taxation is further exacerbated by the differentiated assessment levels depending on land use, which can distort decisions on resource allocation. In terms of property valuation, RPT relies heavily on self-declaration of landowners who tend to undervalue their properties to avoid paying higher taxes. Reevaluation is also done only once in three years, or usually longer. Hence, the resulting values are generally behind current values. Likewise, local legislative councils are constrained in setting tax rates to the maximum rates provided under the LGC, which is 1% for provinces and 2% for cities and municipalities in Metro Manila. Finally, RPT exemptions are granted to real properties owned by government, charitable institutions, churches, and cooperatives, those that are used for providing water and electric power supply, and equipment for pollution control and environmental protection.

On the other hand, Sepulveda and Martinez-Vazquez (2012) provided empirical evidence of the statistically significant negative relationship between economic development and RPT collection. Using multivariate OLS regression analysis, their study revealed that expansion in economic development in Brazil, as measured by per capita regional Gross domestic product (GDP), is associated with a decline in per capita property tax collection. The authors argue that an increase in economic development manifested in higher per capita GDP signals the availability of other tax bases, such as the local tax on services in Brazil, which are more convenient to collect. As such, the availability of these alternative tax bases may push down local governments' efforts in collecting the unpopular and difficult property tax.

**Measuring local economic development**

GDP is the primary measure of economic performance and, by far, the most commonly used indicator for a country's economic development. It is defined as

"the total market value of all final goods and services produced in a given year" (McConnell, Brue, & Flynn, 2009, p. 92). On the other hand, the gross regional domestic product (GRDP) is "the aggregate of gross value added (GVA) of all resident producer units in the region" (PSA, n.d., "Definition"). Technically, RGDP is GDP at the regional level. At the local level (provinces, cities, and municipalities), measurement of economic development is scarce. According to Leskovac (n.d.), there is a lack of theoretical knowledge on the indicators of local economic development because social and economic sciences have not paid sufficient attention to the problem. Leskovac's study enumerated some proxy indicators for local economic development, which he called "micro" indicators, such as existence of industrial parks, business incubators, local policies for supporting growth of small and medium enterprises, efficiency of local government in providing services and participatory planning mechanisms. The study also identified a group of substantial indicators, which he called "macro" indicators, to indicate the stage of local development (Leskovac, 2013). Hadžić (2010, as cited in Leskovac, 2013), enumerated several macro indicators, such as total GDP per capita, amount of investments per capita, unemployment rate, number of newly started businesses, number of businesses discontinued, use of energy, number of pupils, number of schools, number of innovations and registered patents, and condition and increase of road infrastructure.

This study opted to use the size of local economy index as the local economic development indicator of LGUs in NCR. The said index is part of the cities and municipalities competitiveness index (CMCI) developed in 2013 by the National Competitiveness Council (NCC), through the Regional Competitiveness Committees (RCCs), and with the assistance of the United States Agency for International Development (USAID). CMCI is an annual ranking of Philippine cities and municipalities based on their overall competitiveness.[2] In particular, the size of local economy index measures the size of a city/municipality economy through the number of annual business registrations, capital revenue, and permits.

**Effect of internal revenue allotment to RPT collection**

The internal revenue allotment (IRA) is a form of intergovernmental transfer, comprising the annual share of local governments out of the proceeds from national internal revenue taxes (Diana, 2008; Department of Budget and Management [DBM], n.d.). As Article X, Section 6 of the 1987 Constitution stipulates, "local government units shall have a just share as determined by law in the national taxes which shall be automatically released to them." The LGC of 1991 allocates 40% of the national internal revenue taxes to LGUs based on the collection of the third fiscal year preceding the current fiscal year. The share of LGUs in the IRA is distributed as follows: provinces (23%), cities (23%), municipalities (34%) and barangays (20%). Individual shares of LGUs shall be determined based on population (50%), land area (25%), and equal sharing (25%).

The issue of whether intergovernmental grants, such as the IRA, stimulate or substitute local government revenue has been the subject of debate over the past decades. Some argue that the IRA may substitute for locally generated revenue when the allocation formula does not explicitly take the level of LGU performance into account and when grant levels are substantial. On the other hand, others propose that IRA allows LGUs to exceed their threshold income that results in the provision of more and higher-quality services. In effect, higher IRA allotments may encourage LGUs to generate more locally-sourced revenues to complement what they receive from the national government (Manasan, 2005).

Bird and Smart (2002) support the first argument that a grant system like the IRA creates poor incentives for local governments to raise their own revenue. As they pointed out, one of the purposes of intergovernmental transfer is to equalize horizontal fiscal imbalance. It denotes that transfers are needed to equalize revenues and the actual expenditures of each local government. However, equalizing actual outlays—that is, raising all local governments to the level of the richest local government—would discourage both local revenue-raising efforts and local expenditure restraints. Under this system, those with the highest expenditures and the lowest taxes get the largest transfers.

Similar findings were observed by Diana (2008), who noted that LGUs, instead of becoming independent entities especially in terms of revenue generation, became dependent on IRA. This is consistent with the results of the study conducted by Manasan (2005), which attributed the relatively low performance of LGUs to the disincentive effect of the IRA on local tax effort. Another study conducted by Manasan (2007) revealed that IRA is counter-equalizing with respect to fiscal capacities of LGUs. Evidence proved that, from 1992 to 2000, IRA was being substituted for local tax revenues of provinces and cities. The study further suggests that LGUs that received higher IRA, whether in absolute terms or relative to their expenditure responsibilities, tended to be lax in their tax effort (Manasan, 2007). Thus, there is a need to alter the IRA distribution formula in order to provide incentive to local tax effort.

Llanto (2009) noted the importance of intergovernmental fiscal transfers to the efficiency and equity of local service delivery and fiscal health of LGUs. He warned that a wrong design of the transfer system may create a disincentive effect to tax revenue performance of local governments, hence, defeating the purpose of the grant system. He mentioned several key features of a sound intergovernmental fiscal system: (a) promotes budget autonomy at the subnational level, (b) provides adequate revenue to subnational governments; (c) provides incentives to encourage higher tax effort; (d) promotes expenditure efficiency and discourages fiscal deficits; (e) enhances equity and fairness; and (f) overall transfers increase with fiscal expenditure needs and decrease with fiscal revenue capacity (Llanto, 2009).

Contrary to the above findings, a study by Capuno (2003, as cited in Smoke & Kim, 2003), which analyzed the impact of intergovernmental transfer on local fiscal performance of provinces and cities in the Philippines, showed that IRA stimulated local revenue mobilization. Such finding contradicts the propositions on the substitutive effect of the increased IRA share on local revenue generation. The study suggests that the magnitude and distribution of the IRA (and the cost of devolved function) partly accounts for the difference in local fiscal performance of LGUs. The study also reveals that, during the period 1990-1996, local revenues of provinces and cities generally appeared to be positively correlated with their respective IRA shares. Moreover, data for the same period indicate that the local revenues of provinces and cities were elastic with respect to the IRA, as measured by the percentage change in local revenues over the percentage change in IRA. The result of panel data regression on individual LGU fiscal data from1990-1996 showed that the average IRA elasticity of the local revenues of cities is estimated to be 1.065 (controlling for year-fixed effects) and 0.929 (controlling for region-fixed effects), indicating that locally-sourced LGU revenues are positively affected by their corresponding IRA shares. Moreover, a disaggregated analysis on the effect of the IRA on different sources of local revenues showed that revenues from real properties exhibit greater responsiveness to the IRA than non-tax revenues, with real property taxes having an IRA elasticity of 0.364 compared to the 0.187 IRA elasticity of non-tax revenues (Capuno, 2003, as cited in Kim & Smoke, 2003).

**Effect of tax administration to RPT collection**

Tax administration is the implementation and enforcement of tax laws (Alink & Kommer, 2016). Administering real property tax involves key processes such as: (a) identification of the properties being taxed; (b) preparation of a tax roll (including the description of the property and the amount of assessment) and responding to assessment appeals; and (c) issuing tax bills, collecting taxes, and dealing with arrears (Bird & Slack, 2002). An effective and efficient tax administration facilitates the collection of the proper amount of tax due to the government at the least possible cost to the public (Alink & Kommer, 2016).

A great deal of researches established a positive relationship between tax administration and revenue generation in an economy (Abiola & Asiweh, 2012; Ahuru & Oriakhi, 2014; Crandall, 2010; Emmanuel, 2018; Enahoro & Olabisi, 2012). The notion that tax administration affects tax collection cannot be more emphasized in the case of real property tax because no other area of taxation is more dependent on tax administration. It was shown that tax arrears tend to be higher in countries that do not have sufficient resources or expertise to administer the property tax and where enforcement is weak (Bird & Slack, 2002). As mentioned by Bird and Slack, “How well land and property taxes are administered not only impacts on their revenue but also affects their equity and efficiency” (2002, p.27).

In the case of the Philippines, as with other developing countries, poor tax administration is an impediment to the imposition of real property tax. The potential of the real property tax as a stable revenue source has not really been fully utilized due to problems in its administration. Property valuation of LGUs for tax purposes suffer from deficiencies in technical manpower, in the system for monitoring and recording land transfers, and in the information technology system. In monitoring and recording land transfers, for instance, the law requires the register of deeds, notaries public, lawyers who administer deeds of sale, and building officials to submit documents on property transactions to the assessors. However, in practice, the assessors generally rely on taxpayers for this information (Bird & Slack, 2002; Pangcog, 1996). Property assessments are highly dependent on the data entered into the database. For this reason, records must be kept as up-to-date and accurate as possible in order to ensure that correct taxes are being collected from real properties. Although all LGUs in the NCR have computerized their record system, only a few LGUs implement best practices in land and property valuation, such as the implementation of electronic geographic information system (GIS). Through the GIS, the location and characteristics of real properties for assessment purposes are monitored and changes are tracked with respect to ownership, improvements made, or the actual use of the property for possible reassessment. Despite the benefits of GIS, some LGUs discontinued its use due to political reasons, while others were not able to upgrade their system due to lack of funding. Another source of problem is the prevalent practice among taxpayers to undervalue sales data to lessen their RPT obligations. RPT administration is vulnerable to possible collusion between taxpayers and city/municipal revenue officers to lessen RPT dues at every stage of the collection process: from the declaration of the asset to be taxed, during the assessment to determine the amount of tax liability, upon receipt of notices of non-payment, and during inspection, audit, and foreclosure procedures (Gomez, 2010).

Moreover, Bird and Slack (2002) noted that real property assessment suffers from a lack of technically qualified staff and assessment tools. As mentioned by Pangcog (1996), technical proficiency in land and property valuation and assessment plays a great role in real property taxation, and it is utterly necessary to equip valuators/assessors with necessary knowledge and tools, such as trainings, appraisal manuals, and modern equipment, etc. Politicization and the lack of expertise also affect other taxes on real properties, such as the special levy and idle land tax. Special levy, which forms part of the total RPT collection of LGUs, as well as the idle land tax, are often not implemented due to the lack of familiarity and expertise on the mechanism for its implementation and the lack of appropriate guidelines. Property taxes are perceived to be an onerous burden to constituents, such that their implementation is considered unpopular with the taxpaying public, or that gains from these taxes do not make up for the cumbersome process involved in implementing them.

It was further noted that the lack of technical know-how and manpower resources contributed to the delay in the revision of schedule of market values of properties. Property valuation is the backbone of real property taxation and regular reevaluation is vital to any property tax system to ensure correct taxes are collected and that fairness and equity are maintained (Pangcog, 1996). The requirement of the LGC of 1991 to revise the schedule of market values (SMV) of real properties once every three years is also hardly observed. Among the main reasons for the non-revision are the lack of number and technical proficiency of city/municipal assessors to revise the market values of real properties; and the political unpopularity of increasing property taxes. As of 2018, only five (i.e., Las Piñas, Malabon, Navotas, Quezon City, and San Juan) out of the 17 cities/ municipalities within the NCR use an updated SMV in assessing real property tax. Some LGUs even schedule of market values of real properties that were last revised in 1997, failing to take into account the changes in valuation for the past 22 years. Outdated SMVs erode the revenue base of real property taxes. According to the Department of Finance (DOF) (2019), provinces and cities in the Philippines are losing an estimated PhP30.5 billion in forgone revenues due to their outdated SMVs. Cities could have collected as much as PhP23.077 billion in incremental revenues from RPT, while provinces could have increased their RPT revenues by as much as PhP7.379 if their SMVs were updated and in sync with international standards on property valuation. The revenue forgone by cities could have been used to build either 513 transport terminals, 339 landfills, 1,154 satellite health centers, or 3,330 low-cost investments (DOF, 2019).

**Measuring the effectiveness of tax administration**

Despite the large literature on tax administration and their impact on tax revenue, there is a lack of quantitative measures on the effectiveness of tax administration (Das-Gupta, Estrada, & Park, 2016). Studies that quantify the impact of administrative measures on tax revenues are rare as most researches rely on qualitative methods. It may be worthy to note that the World Bank Group's "Doing Business" surveys, particularly the "Paying Taxes" survey, may provide useful, though limited, information on the compliance burden of the hypothetical representative company (Das-Gupta, Estrada, & Park, 2016). However, it is a survey at the national level, whereas the interest of this study is at the city/ municipality level.

The lack of direct measure of tax administration led this study to employ proxy variables, namely: National Competitive Council's (NCC) cities and municipalities competitiveness index (CMCI) on government efficiency; and number of SMV revisions due. The CMCI on government efficiency measures the quality and reliability of government services and government support for effective and sustainable productive expansion.

On the other hand, the number of SMV revisions due (or a gauge of the most recent period when SMV revision was undertaken) measures how up-to-date the LGUs' valuation system is with respect to the requirement of the LGC of 1991, obliging LGUs to update SMVs once every three years. The number of SMV revisions due is computed by subtracting the year that the LGU last revised its SMV to the year of interest (i.e., 2014, 2015, 2016, 2017, 2018) and dividing the computed difference by three. An updated SMV will have a score of zero. On other hand, the higher the score, the more outdated the SMV of an LGU is. Table 2 provides a more detailed information on the year of last revision of LGU valuation.

**Table 2**

*Year of Last Revision of Schedule of Market Values (SMV) of Real Properties*

| LGU | Year of Last SMV Revision |
|---|---|
| Caloocan | 2005 |
| Las Piñas | 2018 |
| Makati | 1997 |
| Malabon[a] | 2016 |
| Mandaluyong | 2001 |
| Manila | 2014 |
| Marikina | 2002 |
| Muntinlupa | 2013 |
| Navotas | 2018 |
| Parañaque | 1997 |
| Pasay[b] | 2017 |
| Pasig | 1997 |
| Quezon City[c] | 2017 |
| San Juan | 2018 |
| Taguig | 2009 |
| Valenzuela[a] | 2015 |
| Pateros | 1997 |

*Notes*: Retrieved from National Tax Research Center

[a] Prior to Malabon and Valenzuela's revision in 2016, they last revised their SMV in 1992.

[b] Prior to Pasay's revision in 2017, it last revised its SMV in 2002.

[c] Prior to Quezon City's revision in 2017, it last revised its SMV in 1996.

## Synthesis

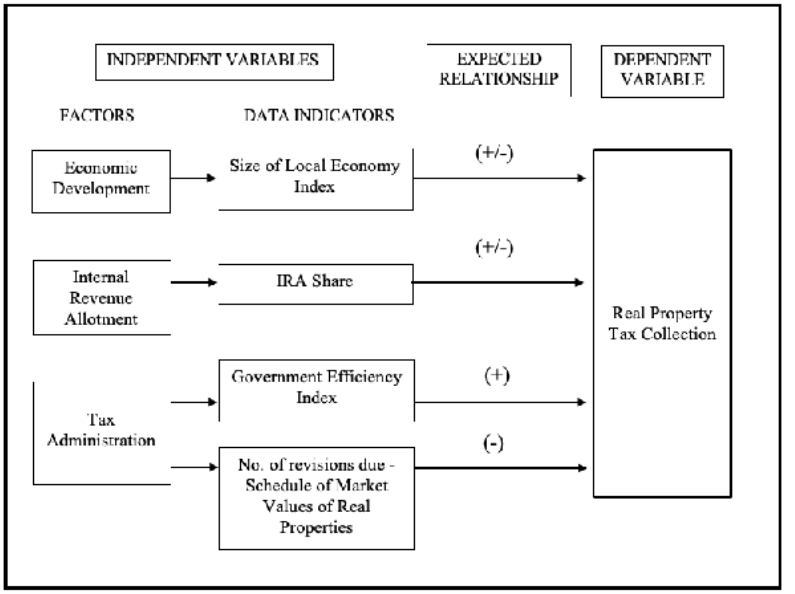
In this literature review, the relationship of some economic and institutional factors, such as local economic development, IRA share, and tax administration,

with RPT collection, has been discussed. The contrasting views on the effect of local economic development and IRA share to RPT collection bring about the need to ascertain and establish such relationships, at least for the subject population of this study. Moreover, the lack of studies using quantitative method in assessing the effect of tax administration to RPT revenues, as well as finding a suitable proxy indicator for tax administration, serve as a motivation to explore this relatively untapped area of research. The importance of determining the effect of these economic and institutional factors to LGUs' RPT collections have policy implications as implied by the literature.

## Conceptual Framework

Figure 1 presents the conceptual framework of the study. Based on the literature review, economic and institutional factors (independent variables) that affect RPT collection (dependent variable) were identified, as well as their corresponding data indicators and expected relationship to RPT collection.

**Figure 1**
*Conceptual Framework*




*Notes*: Author's own work based on the literature.

The expected association of these explanatory variables to the response variable, RPT collection, were largely drawn from the findings in the literature. The relationship between local economic development and RPT collection could either be positive or negative. The positive effect may be due to the significant

tax bases of developed and urbanized cities and municipality within the NCR and the increased capacity of their constituents to pay their RPT obligations (Diana, 2008; Llanto, 2009; Marasigan, 2008). On the other hand, the correlation with local economic development could possibly be negative since the tax base of RPT is inelastic and responds slowly (if it responds at all) to annual changes in economic activity (Bahl, 2002, as cited in Bird & Slack, 2002). On a similar note, the influence of IRA to RPT collection may be positive or negative: positive, since larger IRA share received by the LGU may be tantamount to improved capacity to collect taxes (Capuno, 2003, as cited in Smoke & Kim, 2003); or negative, as larger IRA may have a disincentive effect to the tax efforts of LGUs (Bird & Smart, 2002; Diana, 2008; Manasan, 2007). On the other hand, a more effective tax administration equates to better RPT collection (Bird & Slack, 2002). A higher government efficiency index has a positive influence to RPT collection. Meanwhile, the more outdated the SMV of real properties or more revisions due, the lesser the RPT collections will be (Pangcog, 1996).

**Table 3**
*Description of Independent and Dependent Variables*

| Variable | Indicator | Description | Source |
|---|---|---|---|
| RPT collection | RPT collection of LGUs in NCR | Local tax levied on real properties.<br><br>RPT = assessed value of the real property x RPT rate | BLGF |
| Local economic development | Size of local economy index | An index that measures the size of a city/municipality economy through the number of annual business registrations, capital revenue, and permits. | DTI Competitiveness Bureau |
| | IRA share of LGUs in NCR | An intergovernmental transfer comprising the annual share of local governments out of the proceeds from national internal revenue taxes. The distribution of shares of individual LGUs is made on the basis of the following:<br><br>Population – 50%; Land area – 25%; Equal sharing – 25% | BLGF |
| Tax administration (1) | Government efficiency index | An index that measures the quality and reliability of government services and support for effective and sustainable productive expansion. | DTI Competitiveness Bureau |

| | | | |
|---|---|---|---|
| Tax administration (2) | Number of SMV revisions due | Measures the currency of the LGU's valuation system. The LGC of 1991 requires SMV to be updated once every three years. An updated SMV will have a score of zero. The higher the score, the more outdated is the SMV of an LGU.<br><br>No. of SMV revisions due = (year-year of last SMV revision)/3 | BLGF/NTRC |

## Research Method

A quantitative research design, which mainly banks on inferential statistics, was adopted. In inferential statistics, statistical procedures are used to reach conclusions about associations between variables and are explicitly designed to test hypotheses (Lumen Learning, n.d.). This design fits well to answer the general and specific research questions: how does some economic and institutional factors (i.e., economic development, IRA, and tax administration) affect the RPT collection of LGUs within the NCR.

To understand how the identified factors/independent variables (economic development, IRA, and tax administration) influence the outcome (RPT collection), this study employs regression analysis using panel data. A multivariate regression model is used to assess the association or model the relationship between two or more independent/explanatory variables and a single dependent/response variable (Yale University, n.d.; Boston University, n.d.). The influence of the independent variables—economic development, IRA, and tax administration (i.e., government efficiency and number of SMV revisions due)—to the RPT collection of LGUs within NCR can be summed up by the regression equation as follows:

$$RPT_{it} = \beta_0 + \beta_1 SLE_{it} + \beta_2 IRA_{it} + \beta_3 GE_{it} + \beta_4 SMV\_REV_{it} + \varepsilon_{it}$$

Where:

| | |
|---|---|
| $RPT_{it}$ | LGU's real property tax collection; i = city/municipality; and t = year |
| $\beta_{i \text{ where } i=1,2,3}$ | Regression coefficient represents the change in the response variable for 1% change in the predictor variable while holding other predictors in the model constant |
| $SLE_{it}$ | Size of local economy index (measures the economic development of an LGU) |
| $IRA_{it}$ | LGU's IRA share |
| $GE_{it}$ | Government Efficiency Index (measures the effectiveness of tax administration of an LGU) |
| $SMV\_REV_{it}$ | Number of SMV revisions due (measures the effectiveness of tax administration of an LGU/how up-to-date is the valuation system of an LGU) |
| $\varepsilon_{it}$ | Error term |

The study ran two sets of regression models using fixed and random effects. The Hausman test was employed to test whether the unique errors are correlated with the regressors. Since a significant p-value rejects the null hypothesis that the errors are not correlated with the regressors, the researcher used fixed effects.

Fixed Effects (FE):

$$RPT_{it} = \beta_0 + \beta_1 SLE_{it} + \beta_2 IRA_{it} + \beta_3 GE_{it} + \beta_4 SMV\_REV_{it} + \alpha_i + \varepsilon_{it}$$

Where:

$\alpha_i$ = LGU fixed effects, $i$ = 1…17

Assumption: $\mathrm{Cov}(\alpha_i, X_{it}) \neq 0$

Random Effects (RE):

$$RPT_{it} = \beta_0 + \beta_1 SLE_{it} + \beta_2 IRA_{it} + \beta_3 GE_{it} + \beta_4 SMV\_REV_{it} + \mu_{it}$$

Where:

$\mu_i = \alpha_i + \varepsilon_{it}$

Assumption: $\mathrm{Cov}(\alpha_i, X_{it}) = 0 \rightarrow$ Can be tested by Hausman test, $H_o$ is RE

It is worthy to note that an exploratory data analysis was employed prior to the conduct of multivariate regression analysis, particularly scatterplot and bivariate analysis, to confirm the existence of relationship between the dependent variable and each of the independent variables, and to determine the direction of influence of the predictors on the outcome variable. The results of the bivariate analyses suggested that the independent variables , i.e., local economic development and non-revision of SMV, have a significant negative influence on RPT collection, while IRA has a significant positive influence on RPT collection. Meanwhile, there was no statistically significant relationship found between government efficiency index and RPT collection.

## Scope and Limitations

The scope of the study covers the NCR, as represented by its 16 cities and one municipality. The result of the study is based on data from 2014 to 2018, hence they only account for the years covered. Although numerous underlying factors/variables affect RPT collection of LGUs within the NCR, the study only focuse on the influence of local economic development as indicated by the size of local economy index; IRA share of an LGU; and tax administration as represented by government efficiency index and number of SMV revisions due. It is important to note that one of the limitations of the study is the use of proxy indicators for tax administration because quantitative measure for this variable is scarce.

## Analysis and Interpretation of Results

The study ran the panel regression model using R plm package. The result of the Hausman Test (significant p value) suggests that fixed effects shall be used in the study. The result of the panel regression using fixed effects is shown in Table 4.

**Table 4**
*Panel Regression Result Using Fixed Effects*

| Independent Variable | | Dependent Variable log (RPT) | | |
|---|---|---|---|---|
| | | Coefficient | Standard Error | *P Value* |
| log (SLE) | | -0.169 | 0.057 | 0.005*** |
| log (IRA) | | 1.652 | 0.288 | 2.786e-07*** |
| log (GE) | | 0.477 | 0.171 | 0.007*** |
| SMV_REV | | -0.141 | 0.075 | 0.064* |
| Observations | 85 | | | |
| $R^2$ | 0.565 | | | |
| Adjusted $R^2$ | 0.429 | | | |

*Note*: *p< 0.1; **p< 0.05; ***p< 0.01

The regression result shows that all independent variables are statistically significant. The proxy variables for tax administration, i.e., government efficiency and number of SMV revisions due, exhibited their expected signs (denoting direction of association), which is positive and negative, respectively. In terms of local economic development, a negative coefficient was obtained, while the coefficient for IRA denotes a positive association.[3]

Moreover, the answers to the research questions laid out by this study can be gleaned from the result of the regression above. The main findings of the study are:

1. There is a negative relationship between local economic development and RPT collection of LGUs.

The negative coefficient of the size of local economy variable implies that local economic development has a negative influence on RPT collection of LGUs in NCR, and that for every 1% increase in the size of local economy index, RPT collection is reduced by 0.17%. This result is aligned with the findings of Sepulveda and Martinez-Vazquez (2012) for Brazil, i.e., expansion in economic development signals the availability of other tax sources that are more convenient to collect. Hence, the reliance on RPT as a source of local tax revenue significantly declines (Sepulveda & Martinez-Vazquez, 2012). In NCR, the relative lesser importance is observed in RPT collections compared with other local tax revenues. For CY 2014-2018, RPT revenues contributed to an average of 35% of total local tax

revenues. This is substantially lower than the share of business taxes with an average of 59%. More importantly, it may be noted that, between 2014 and 2018, the share of RPT to local tax revenues decreased from 37% to 33%, while that of business taxes—which is easier to collect for LGUs—increased from 57% to 60% (Table 5).

**Table 5**
*Breakdown of Locally-Sourced Revenues of LGUs in NCR, CY 2014-2018*

| Particulars | | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|---|
| Total local revenues | In billion PhP | 62.44 | 69.52 | 74.47 | 81.96 | 88.61 |
| Total local tax revenues | In billion PhP | 53.56 | 59.40 | 63.51 | 70.99 | 76.56 |
| Real Property Taxes | In billion PhP | 19.59 | 20.66 | 21.27 | 25.82 | 25.32 |
| | As % of local tax rev | 37% | 35% | 33% | 36% | 33% |
| Business Taxes | In billion PhP | 30.79 | 35.38 | 38.63 | 41.39 | 46.28 |
| | As % of local tax rev | 57% | 60% | 61% | 58% | 60% |
| Other Taxes | In billion PhP | 3.17 | 3.37 | 3.61 | 3.78 | 4.96 |
| | As % of local tax rev | 6% | 6% | 6% | 5% | 6% |
| Total local non-tax revenues | In billion PhP | 8.89 | 10.12 | 10.96 | 10.97 | 12.06 |

Notes: Basic data from Bureau of Local Government Finance (BLGF).
Some numbers may not add up due to rounding.

2. IRA has a positive influence on RPT collection.

Interestingly, the result of the regression showed that the IRA share of an LGU has a positive influence on their RPT collection, and for every 1% increase in IRA, RPT increases by 1.65%. It opposes the common perception that IRA was being substituted for local taxes and that it creates a disincentive for local governments to raise their own revenue (Bird & Smart, 2002; Diana, 2008; Manasan, 2007). On the contrary, the findings of the study showed that IRA actually stimulated local government revenues, specifically RPT collection. It is consistent with the findings of Capuno (2003, as cited in Smoke & Kim, 2003) that during 1990-1996, IRA stimulated local revenue performance of Philippine provinces and cities. Local revenues (especially revenues from real properties, which exhibited greater responsiveness compared with other revenue sources), were elastic with respect to the IRA. A possible explanation was provided by Manasan (2005): IRA allowed LGUs to exceed their threshold income, which, in turn, permitted them to provide more and higher-quality services and greater ability to collect taxes. In effect, higher IRA allotments encourage LGUs to generate more locally-sourced revenues to complement what they receive from the national government.

3. Government efficiency has a positive influence to RPT collection.

The positive association between government efficiency and RPT collection is consistent with that suggested in literature, i.e., that tax administration/ government efficiency has a positive influence to revenue collection. Effective and efficient tax administration facilitates the collection of the proper amount of tax due. This is particularly important to real property taxes, which heavily depend on administration (Alink & Kommer, 2016; Bird & Slack, 2002). As previous studies suggested, poor tax administration impeded the imposition of real property tax in the Philippines, and the potential of RPT as stable revenue source has not been fully utilized due to problems in administration, such as deficiencies in technical manpower, system for monitoring and recording land transfers, and information technology systems. The regression coefficient suggests that, for every 1% increase in government efficiency index, RPT collection is increased by 0.48%. Hence, these findings present opportunities for local governments to improve their revenue collection without resorting to tax rate hikes. Alternatively, their attention must focus in improving the tax administration system in place for RPT.

4. The non-revision of SMV has a negative influence to RPT.

The non-revision of SMVs of real properties has a significant negative influence to RPT collection. Such non-revision is attributed to problems in the administration of RPT, such as the lack of technically qualified staff and assessment tools. As Pangcog (1996) indicated, property valuation is the backbone of real property taxation and regular valuation is vital to any property tax system to ensure correct taxes are collected and that fairness and equity is maintained. In the case of LGUs in NCR during the period covered by the study, every 1% increase in the score of SMV revisions due is associated with 0.14% decrease in RPT collection. Such finding leads to the conclusion that the non-revision of the majority of LGUs in NCR (only five out of 17 LGUs have updated SMVs) cost them a huge amount of revenue loss. As the DOF (2019) estimated, a total of PhP30.5 billion were forgone due to the outdated SMVs of LGUs.

Finally, post-estimation diagnostics were conducted to test for multicollinearity, heteroskedasticity, serial correlation, and cross-sectional dependence (Table 6). The results of Variance Inflation Factor and Studentized Breusch-Pagan tests confirmed the absence of multicollinearity and heteroskedasticity, respectively. These suggest that standard errors of regression coefficients in the study's model are not inflated and, consequently, the regression predictions are efficient, consistent, and unbiased. Therefore, the tests of hypotheses in the study are valid (Siegel, 2016; The Comprehensive R Archive Network, n.d.). Meanwhile, the results of the Pesaran CD test and Breusch-Godfrey/Wooldridge tests suggest the presence of cross-sectional dependence and

serial correlation, respectively. According to relevant econometric literature, serial correlation and cross-sectional dependence are highly likely to be present among panel data models (Basak & Das, 2018; De Hoyos & Sarafidis, 2006; Henningsen & Henningsen, 2019). On the one hand, cross-sectional dependence arises if the individuals in the sample are no longer independently drawn observations but affect each other's outcomes (Henningsen & Henningsen, 2019). This is the case in the study wherein the subject of analysis are LGUs in NCR. On the other hand, serial correlation is present when error terms of the time periods of the panel model are correlated (Williams, 2015). Again, this is the case for the study since data for LGUs in NCR are collected repeatedly over several consecutive years. The author recognizes that the findings of this study may possibly be affected by the presence of the aforementioned cross-sectional dependence and serial correlation.

**Table 6**
*Results of Diagnostic Tests*

| Tests | Results |
|---|---|
| a. Studentized Breusch Pagan Test | data: plm.fixed<br>BP = 4.5989, df = 4, p-value = 0.331 |
| b. Variance Inflation Factor | log(SLE) log(ira) log(GE) log(smv_rev + 1)<br>1.418820 1.218663 1.220089 1.147324 |
| c. Breusch-Godfrey/Wooldridge Test | data: log(rpt) ~ log(SLE) + log(ira) + log(GE) + smv_rev<br>chisq = 12.76, df = 6, p-value = 0.04701<br>alternative hypothesis: serial correlation in idiosyncratic er |
| d. Pesaran CD Test | data: log(rpt) ~ log(SLE) + log(ira) + log(GE) + smv_rev<br>z = 12.68, p-value < 2.2e-16<br>alternative hypothesis: cross-sectional dependence |

## Conclusions and Recommendations

The findings of the study bring about a new point of view in understanding the association between several economic and institutional factors and RPT revenues of LGUs in NCR. Specifically, the results run counter to several common conceptions such as: (1) economic development automatically leads to increase in RPT collection; and (2) intergovernmental grants like the IRA disincentivize LGUs in generating locally-sourced revenues. As suggested by previous researches, economic development initiatives, when not properly planned, may cause unintended detrimental effects to property valuation (Gsottschneider, 1998). This may be the reason why, despite continuous development and urbanization in the NCR, RPT collection posed decreasing revenue growth rates in the last five years (Table 1). Moreover, the results do not support the claim that IRA has substitutive and disincentivizing effect to local revenues, at least for LGUs in the NCR during the period covered by the study. The IRA share received by LGUs does not necessarily translate to lax enforcement of local taxation but, as gleaned from the results of the study, it complements the revenue collection of LGUs and provides them greater fiscal decentralization.

Finally, the significant relationships of the proxy variables for tax administration (i.e., government efficiency index and number of SMV revisions due) and RPT collection serve as the salient findings of the study. Tax administration is a tax policy and there may be no area in taxation that is more dependent on administration than real property taxes (Bird & Slack, 2002). The room for improvement in administering RPT and the opportunities for generating significant amount of revenues through improved administration are both great. Reforms in RPT administration may start by strictly enforcing the updating of SMV of real properties used by LGUs in assessing RPT to ensure that correct taxes are collected and efficiency is maintained. RPT has a great potential in terms of providing a stable revenue source for local governments. It has a rich, broad, and permanent tax base, making it one of the best sources of local government revenues. If properly implemented, it will give LGUs greater fiscal autonomy, which may lead to genuine and meaningful self-governance. In line with this, the recommendations of the study are as follows:

1. Development projects of the government must be critically designed and guided by expert urban planners as well as property assessors to ensure that the projects will not cause unintended negative consequences to land values;

2. Greater attention should be given to improvement in tax administration, such as capacity building for tax administrators and provision of modern tools and equipment to accurately assess RPT dues and minimize human errors/discrepancies;

3. Reforms in real property valuation and assessment need to be institutionalized to minimize politicization of SMV revision and;

4. Policy studies exploring the generally underdeveloped area in public fiscal administration, such as the development of an index that will quantitatively measure tax administration to more accurately determine the relationship between tax revenues and tax administration, may be conducted. These studies may open other areas of research in tax administration.

## Endnotes

[1] Section 199 (c) of the LGC defines fair market value (FMV) as "the price at which a property may be sold by a seller who is not compelled to sell and bought by a buyer who is not compelled to buy." In practice, the FMV is based on the assessment of the municipal or city assessor as written in the tax declaration (Castillo, 2016).

[2] The NCC adopts the competitiveness framework developed by Michael Porter, which mainly banks on the idea of productivity. Local competitiveness is how a city or municipality identifies and uses its resources to improve its standard of living. The CMCI ranks cities and municipalities based

on their overall competitiveness score, which is the sum of scores on three main pillars: economic dynamism, government efficiency, and infrastructure.

[3] The researcher also ran a regression model with the lagged values of the independent variables to see whether there are differences in the lagged and instantaneous effects of these variables. However, regression results were statistically insignificant and were thus excluded in the final model.

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