

# Rental Value of a Local Government Asset Using Asymmetric Valuation

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## ABSTRACT

This study tried to identified the market and the rental value of Grha Z as one of the local assets in Province A. This study used cost approach and income approach in valuation to obtain rental value and Net Present Value (NPV) of the building, the construction cost of a new Grha Z building, management office, home generator and warehouse. Because of the limited information, this study valuate the asset asymmetrically. The result of the calculation produces the value of assets, taxable value assets as the basis for calculating the value of the rental assets according to Minister of Finance (MoF) Regulation 33/2012. The results showed that the rental value of local assets such as land and buildings in the area Grha Z can be increased by Regulation of Indonesian MoF Number 33/2012. It can be used as a material consideration in the improvement of regional asset rental agreement.

## SARI PATI

*Penelitian ini mengidentifikasi nilai pasar dan nilai sewa Gedung Grha Z yang merupakan salah satu aset daerah di Provinsi A. Nilai tersebut diestimasi dengan menggunakan pendekatan biaya dan pendekatan pendapatan. Dari kedua pendekatan ini diperoleh nilai sewa dan Net Present Value (NPV) untuk bangunan Grha Z, biaya pembangunan konstruksi baru, kantor manajemen, genset dan gudang. Karena keterbatasan informasi, penelitian ini melakukan valuasi aset secara asimetri. Penelitian ini menghasilkan nilai aset dan nilai aset kena pajak yang dapat digunakan sebagai dasar penentuan nilai sewa sesuai dengan Peraturan Menteri Keuangan 33/2012. Hasil analisis menunjukkan bahwa nilai sewa aset pada lahan dan bangunan di area Grha Z dapat ditingkatkan dengan menerapkan Peraturan Menteri Keuangan 33/2012. Oleh karena itu, hasil penelitian ini dapat digunakan sebagai bahan pertimbangan dalam perjanjian sewa aset regional*

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## INTRODUCTION

According to the Government Regulation Number 27/2014 on Central/Local Public Asset Management and the Regulation of Minister of Internal Affairs Number 17/2007, the utilization of central/local public assets can be in the form of rental, lease, cooperative utilization, build-operate-transfer or build-transfer-operate, or cooperation of infrastructure provision. The management of state property, and the use of state property in the form of rent needs to be carried out appropriately, efficiently, effectively and optimally in accordance with the principles of accountability and good governance. According to the Regulation of the Minister of Finance of the Republic of Indonesia No. 33 of 2012, the state property is all goods purchased or obtained at the expense of the State Budget or derived from other legitimate gains. According to the Regulation of the Minister of Finance of the Republic of Indonesia No. 33 of 2012 the rent is the use of state property by another party within a certain period of time by receiving cash compensation. The management and procedures for the implementation of the rent of state property in Indonesia has refer to the Regulation of the Minister of Finance of the Republic of Indonesia No. 33 of 2012.

Local Government has a lot of assets including land and buildings which can be utilized in optimizing sources of local revenues. As stated in Article 157 of Law Number 32/2004, sources of local revenue consist of own-source revenues, balance funds, and other legal local revenues. Local own-source (*Pendapatan Asli Daerah or PAD in Bahasa*) revenue can be obtained from local taxes and retribution, results of separated local assets management and other own-source revenues. In order that local assets can be the bargaining power for Local Government, an asset inventory needs to be conducted. Furthermore, the registered assets need to be valued and mapped out for their highest respective and best uses. Therefore, the research related to asset valuation is very necessary to be taken into consideration for local government to

know the value of assets and use them as well as possible in accordance with the value of use.

This research will value the assets of the Grha Z Building in Province A. The Grha Z building is a building owned by the Provincial Government A whose designation is for the library. Grha Z is built in an area of 14.6 hectares. The rental yield of the Grha Z is the largest venue in Province A that supports Meeting, Incentive, Conference and Exhibition (MICE) activities. Grha Z is used in the form of rent, namely with PT. X, a company engaged in property and management venues.

The object of the lease agreement between the provincial government and PT. X covers an area of  $\pm 45,085.2$  square meters, a building area of  $\pm 15,624.65$  square meters, office building facilities, and additional facilities built by PT. X with the approval of the Government of Province A and becoming one unit with land and buildings. The rates of Grha Z rental are charged per year from 2012 to 2017. In 2012, the contribution of the rent of Grha Z to PAD was 0.19 percent (Department of Revenue, Finance and Asset Management Province A, 2015). However, in 2013 the contribution of the rent of Grha Z to PAD had decreased. Then, in 2014 the contribution of the rent of Grha Z to PAD was 0.16 percent.

The utilization of the regional assets is still low because of the small value of its contribution and the decline in the last 3 years. In addition, the rental value does not reflect the actual asset value when viewed from a fairly extensive asset coupled with a strategic location. The government can increase PAD and utilize these assets more optimally by evaluating these assets and determining the appropriate of the rent value. Therefore, the assets rent value of the Government of Province A needs to be analyzed in order to provide the maximum benefit as one of the sources of revenue in Province A. The results of this study are expected to be a material consideration and input for the Government of Province A in determining the rental value, therefore, it can provide an optimal contribution to PAD.

In the use of assets, according to Herabat, Sirirangsi, & Satirasetthavee (2003), the fair value of assets is important because it relates to decision-making and government policies relating to the use of available resources as well as performance measurement and accountability. Therefore, the research that related to the analysis of rental value of Grha Z Building in Province A uses the cost and income approach to obtain rental values based on the Minister of Finance Regulation No. 33 of 2012 concerning the procedures for carrying out the rents of state property in Indonesia.

This research estimated the market value and rental value of local asset of Grha Z owned by Provincial Government A with the valuation date of 19 November 2015. Since the information obtained in this study was incomplete, this study used an asymmetric valuation. The value obtained from this study cannot be used as a benchmark but can be a picture of estimates and further assessment. It is expected that in estimating asset value, the further studies need to consider other variables, such as business, politics, socio-cultures, and also the ability to pay.

#### Literature Review

The research related to the utilization in the form of rent and public-private partnerships has been carried out. Moszoro & Gasiorowski (2008) found that the presence of public private partnership (PPP) can cause the more efficient capital structure. Wilmath (2003) found that the cost approach is the most appropriate in estimating the value of sports facilities.

Susanto (2014) determined the opportunity cost of the Surabaya Zoo. The opportunity costs are derived from simulated income minus the value in use. The Surabaya City Government needs to conduct a further analysis to the land of Surabaya Zoo in order to be developed in the current usage. The addition of supporting facilities is needed to increase revenue from value in use, such as the development of shop facilities, playgrounds and others.

Plimmer & Sayce (2006) use the Depreciated Replacement Cost / DRC method to assess a public asset. The DRC method calculates the costs lost from physical development without considering the value of the benefits of a public asset. Because of these weaknesses, this study does not use the DRC method because it is considered less relevant. Mulangu and Kraybill (2015) used Contingent Valuation Method/CVM in assessing the asset of irrigation system. This method was not appropriate with this study because the CVM method can cause bias in the case of this study. Newell & Marzuki (2018) used the income approach to assess the UK healthcare property. Newell and Marzuki (2018) used annual total returns to assess the risk-adjusted performance and portfolio diversification benefits of UK healthcare property over 2007–2016. In commercial property valuation, Amidu & Boyd (2018) use an exploratory study. The study adopted a cognitive position but emphasised understanding the everyday commercial property valuation practice in a naturalistic context and from the participants' perspectives. Therefore, the findings cannot be generalised.

Prastiwi, Makhfatih, & Dwiputri (2017) conducted an assessment of government-owned infrastructure with a capitalization method. In the capitalization method the absence of infrastructure prices is replaced by the difference in difference analysis as a proxy for income. This study does not use the difference in difference method as Prastiwi, Makhfatih, & Dwiputri (2017) conducted. However, this study used both cost approach and income approach to make a valuation and obtain the Net Value Value (NPV) of the Graha Z building. The cost approach and income approach method is considered to be more appropriate because the data that need in the valuation is available properly.

Lusht (1997) explains that considering and analyzing factors affecting property values are considered as a process of valuation. According to Appraisal Institute (2015), a valuation process is a systematic procedure followed by an appraiser to answer a client's

question about real property value. The process of valuation consists of several steps depending on the valuation objectives, characteristics of property, scope of valuation and availability of the data. This process provides a model which can be used in valuation to conduct market research and data analysis, apply valuation techniques and integrate the results of analytical activities into an opinion of value. Components of the valuation process are market data approach, cost approach, Discounted Cash Flow (DCF), and rent.

According to Hidayati & Harjanto (2003), In the market data comparison, the market value needs to be estimated by comparing an object property to another typical property where there has been bidding or transaction. The comparison analysis in market data approach is focused on differences of legality such as property rights, physical and locational attributes, and economic characteristics such as date of sales and fund systems from each of sales transactions. Basic principles related to the use of market data approach include supply and demand, substitution, balance and externality.

Supardi, Rudianto, & Mukminin (2010) argue that property value in cost approach is obtained by comparing the cost of constructing another typical property with optimal physical and functional uses. The cost of constructing a new building or replacing an existing building reduced by accrued depreciation must be estimated earlier by an appraiser. The difference between this research and the previous researches is the used method in estimating the optimal rental value of local asset.

Discounted Cash Flow (DCF) analysis involves a cash flow projection in a certain period to value both of operational property and development/business property. This projection needs currently set market discount to obtain present value indication of cash flow concerning property and business. In operational property valuation, periodic cash flow is generally estimated as gross income reduced by vacancy, unclaimed credit and also operational

cost. Net operational income in a period and an estimate of terminal value/exit value at the end of the projection period are then discounted. The most often used applications of DCF analysis are present value, net present value, internal rate of return of cash flow. Property value can be estimated by using a formula (Hidayati & Harjanto, 2003):

$$V = \frac{NOI_1}{(1+r)^1} + \frac{NOI_2}{(1+r)^2} + \dots + \frac{NOI_n}{(1+r)^n} \dots\dots\dots (1)$$

in which:

- V = Property value;
- NOI = Net operational income;
- r = Discount factor.

Rent is defined by Siregar (2004) as utilization rights of local goods given to a third party in which he/she is required to pay the rent monthly or annually for the use of it in a certain period. The formula of rental value used by a property manager to determine the amount of rental rates for state property in the form of land and/or buildings is multiplying the basic rental rate by the rent adjustment factor. This formula is used for state property whose the utilization status is on the goods user with the book value more than Rp500,000,000. Rental rates can be mathematically estimated by using the following formula (Minister of Finance Regulation No.33 Year 2012, Article 23 and 26):

Land rent value:  
 $3,33\% \times \text{Width of Land} \times \text{Value} \dots\dots\dots (2)$

Building rent value:  
 $6,64\% \times \text{Width of Building} \times \text{Value} \dots\dots\dots (3)$

**METHODS**

An exploratory design was applied in this research. Data collection methods used in this research included surveys and personal interviews, using two-way communication between an interviewer and an interviewee (Cooper & Schindler, 2006). Based on the problem identified in this research, the rental value obtained by the Provincial Government

needs to be analyzed. One way to calculate the optimal rental value of assets is by using a rental formula of Minister of Finance Regulation 33/2012. This rental value can be used as a consideration for the local government in arranging a rental agreement for the next rental period.

Two approaches were used in this research namely cost approach using Reproduction Cost New (RCN) method and income approach using Discounted Cash Flow (DCF) method. A basic step that needs to be conducted in applying DCF method is to convert net income which has been capitalized into value (Hidayati & Harjanto, 2003). The formula used to estimate property value by using cost approach is given as follows (Supardi, Rudianto, & Mukminin, 2010):

$$\text{Property Value} = \text{Land Value} + (\text{RCN} - \text{Depreciation}) \dots \dots \dots (4)$$

The amount of rental value gained by the local government A in reference to Minister of Finance Regulation 33/2012 was determined by multiplying a land or building coefficient by market value of land or building which has been averaged with the tax object sale value (NJOP) of the land or building. The formula as follows.

$$3,33\% \times \text{Width of Land} \times \text{Value} \dots \dots \dots (5)$$

The study used combination of qualitative and quantitative method using primary and secondary data. The primary data was obtained from a field survey to get data about land market around the object of this study. The secondary data was obtained from the management of Grha Z, and some relevant institutions such as Department of Revenue Finance and Asset Management in an effort to calculate the opportunity loss due to the termination of the building construction process.

**RESULTS AND DISCUSSIONS**

As previously mentioned in the methodology part, this research applied cost approach including land

and building values, and also income approach by using Discounted Cash Flow (DCF) method. First, land value was estimated by comparing the cost of constructing a typical new property or replacing an existing building to its optimal use and function. Next, the existing cost of constructing a typical new property or replacing an existing building was reduced by accrued depreciation which had been already estimated. This land value was estimated by comparing the research object with at least three typical or equal comparators. *Second*, as the object was a commercial property, its value needed to be calculated by using income approach with DCF method. The obtained rental value from the average market rental rate was then reduced by operational costs to get net operational income (NOI). Asset market value could be then obtained by adding up all the present values from NOI which had been multiplied by discount rates.

**Land value estimate of market data**

This land value estimation was conducted by making adjustments to several factors considered influential for property value such as transaction time, zoning, location, legality and physical conditions. The market data in the form of comparators were used to estimate land value rented by PT X from Provincial Government A. The next step was comparing elements of property by making adjustment to the percentage and monetary unit. This adjustment was determined with a degree of quality towards the valuation object and comparator property. Every element compared to the valuation object indicating a better result (superior) was given a minus mark (-). On the contrary, if it indicated a less good result (inferior), it was given a positive mark (+). (Supardi, Rudianto, & Mukminin, 2010).

Estimating unit price of land per meter beforehand was an initial step in adjustment. The price per meter was obtained by dividing transaction price indication by the land size. It was found that the price of comparator data 1 was Rp4,000,000/m<sup>2</sup>.

Meanwhile, comparator data 2 and 3 were at the same price of Rp4,800,000/m<sup>2</sup>. The next step was adjusting each adjustment factor in percentage units and then multiplying it by the unit price per square meter of the comparator which had been multiplied by the land size of the research object in order to get adjustment factors in monetary units.

Next, each adjustment factor and its comparator data indication before adjustment were added up to know the indication of comparator value after adjustment. It was found that the value indication after adjustment obtained from comparator data 1 was Rp128,121,200,000 or Rp2,800,000/m<sup>2</sup>, comparator data 2 was Rp160,306,300,000 or Rp3,600,000/m<sup>2</sup>, and comparator data 3 was Rp154,462,700,000 or Rp3,400,000/m<sup>2</sup>. After that, a weighted average technique was then applied for the value indication for each of the comparators. It was finally found that the land value of the valuation object was Rp147,630,073,000 or Rp3,274,000/m<sup>2</sup>.

**Discounted Cash Flow (DCF)**

The object of this research was a commercial property, and thus its value needed to be calculated by using income approach with DCF method. The rental value was obtained from the average of rental value for equal property such as Grha Sarina Vidi, Grand Pacific Hall and Mataram City International Convention Center (MCIC) The Alana as presented in Table 1 below.

This market rental value became the basis for calculating the income of the research object with the occupancy level of 40% and capacity of 10,000 people. It was found that the total income was Rp253,553,333,333 and then it increased in the next

years as much as 5.43% inflation in Province A. The next step was calculating the expense of running business MCIC. The last step was subtracting annual gross income from the total cost components to obtain Net Operational Income (NOI) of the property development. Net Operational Income (NOI) was then multiplied by the discount rate of 16.71% to calculate the present value of NOI. After the present value of NOI was added to, it could be obtained that the asset value was Rp174,756,495,000 or Rp3,876,000/m<sup>2</sup>.

**Building value estimate**

Due to the limited data, the calculation of cost approach used to estimate building value of the valuation object was the unit-in-place method. This method is often used as a substitution of an accurate and comprehensive quantity survey method when facing constraints because its estimation result is acceptable. In this research, it was found that the cost of a new building for the valuation object consisting of four different buildings included Rp3,389,000/m<sup>2</sup> for the construction cost of a new Grha Z building, Rp3,041,000/m<sup>2</sup> for a management office, Rp2,998,000/m<sup>2</sup> for a home generator and Rp2,604,000/m<sup>2</sup> for a warehouse.

The building value estimate was obtained from the result of depreciation cost reduced by the construction cost. The depreciation cost for the valuation object was calculated using a straight line method. Based on the Regulation of Indonesian Minister of Public Works No.45/2007 concerning the Technical Guidelines on the Construction of State Buildings, the economic life of each of the building is 50 years.

Table 1. Market Rental Value

Name of Building	Capacity (person)	Occupancy level (%)	Price Per Pack (Rp)
<i>Grha Sarina Vidi</i>	4.000	60	126.000
<i>Grand Pasific Hall</i>	5.000	50	125.000
<i>MCIC The Alana</i>	5.000	40	270.000
<b>Average of Rental Rate</b>			<b>173.667</b>

Source: Primary Data, 2015 (processed)

### Asset market value estimate

The valuation object used in this study was Grha Z area under agreement between PT X and Provincial Government A including  $\pm 45,085.2$  m<sup>2</sup> of land and  $\pm 15,624.65$  m<sup>2</sup> of building. This object was valued by using cost approach with Reproduction Cost New (RCN) method and then reduced by depreciation cost with a straight line method for the building and market approach for the land. Asset market value estimate could be calculated by adding building value estimate and land value estimate. The asset market value then became the calculation basis for estimating the land and building rent of the object under agreement between PT X and Provincial Government in reference to based on the Regulation of Indonesian Minister of Finance Number 33/2012.

### Reconciliation

As the land value using two approaches generated two different values, the reconciliation needs to be conducted by weighting each approach. The weight was given according to some criteria such as appropriateness, accuracy, and also quantity and quality of evidence/ comparator data (quantity of evidence). Several questions of each of the criteria indicated 40% weight to the cost approach and 60% weight to the income approach. After reconciliation, the land market value was Rp181,552,000,000 or Rp4,027,000/m<sup>2</sup>.

### MANAGERIAL IMPLICATIONS

Considering the Regulation of Indonesian Minister of Finance Number 33/2012, the land rental value indication in this valuation object was obtained by multiplying coefficient 3.33% by land value. Coefficient 6.64% was multiplied by building value

in order to get the building rental value indication. Before the land and building values were multiplied by the coefficient, however, they were divided by the tax object sale value (Nilai Jual Objek Pajak / NJOP in Bahasa) which had been adjusted to their classification. The asset rental value estimate is presented in Table 2.

The result of calculation using a rental formula from Regulation of Indonesian Minister of Finance 33/2012 showed that the land rental value was Rp149,896,300,000 and the building rental value was Rp4,991,500,000. From the indication of land and building rental value, it could be calculated that the total of asset rental value indication with the valuation date of 19 November 2015 was Rp7,984,400,000. It can be also seen from the calculation that the rental value can be increased up to Rp7,984,400,000. If the rental agreement is improved, this rental value based on the Regulation of Indonesian Minister of Finance Number 33/2012 can be used as a consideration for calculating current asset rental values on average. However, this rental value calculation cannot be considered as the only justification because the data used in this study are only based on the assumption. In addition, there are still many other factors which cannot be measured by monetary units. It is also necessary to consider how to determine proper rental values of government assets.

The results of this study indicate that the rent value of local assets in the form of land and buildings in the Grha Z area can be increased so as to achieve the rental value based on the Minister of Finance Regulation 33/2012. If there is an improvement in the lease agreement, the rent value of the assets of

Table 2. Asset Rental Value Estimate

Description	Percentage (%)	Market value (Rp)	Rental value (Rp)
Land	3,33	149.896.300.000	4.991.500.000
Building	6,64	45.073.600.000	2.992.900.000
<b>Total</b>			<b>7.984.400.000</b>

Source: Primary Data, 2015 (processed)

that area can be taken into consideration or can be averaged with the current rental value of the asset.

## CONCLUSION

Based on the analysis, discussion, and research objectives, it can be drawn some conclusions, they are: *First*, The estimate of local asset value in the form of land and building in Grha Z area using cost approach with the unit-in-place method and income approach with the Discounted Cash Flow method, with the valuation date of 19 November 2015, was Rp181,552,000,000. *The second*, the estimate of local asset value in the form of land and building in Grha Z area which can be gained by Provincial Government A based on the Regulation of Indonesian Minister of Finance Number 33/2012, with the valuation date of 19 November 2015, was Rp7,984,400,000.

The results of this study show that the rental value of local assets in the form of land and building in Grha Z area can be increased to achieve rental value in reference to the Regulation of Indonesian Minister

of Finance Number 33/2012. If the rental agreement is improved, this local asset rent can be a good consideration for calculating current asset rental values on average. The Government of Province A needs to reassess the estimation of reasonable asset values in order to adjust to the value movements, the physical conditions and market conditions of the assets. In addition, it is recommended that the Government of Province A needs to submit an assessment to an independent institution to achieve the objectivity of judgment.

Due to the limitations of this study, there are some aspects which need to be highlighted. The calculation of local asset rental value cannot be determined by only considering the market value. Many other variables also need to be taken into account such as business, politics, social, cultures, and also Grha Z tenants' ability to pay rent. In addition, parts of the data used in this study are only based on the assumption because of some constraints in obtaining the actual data. ■

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