



## **Analysis of Potentiality and Projection of Market Service Levy Revenue in Semarang Regency**

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### **Abstract**

Market service levy is a kind of public service levy that is potential enough because Semarang Regency manages the levies from 33 traditional markets every day. The objective of this research is to analyze the potentiality of market service levy revenue in Semarang Regency in 2011-2015 and to find out the projection of market service levy in 2016-2010. This research uses the analysis of contribution, the analysis of growth, the analysis of potentiality, and the analysis of ARIMA (2,1,2) (Auto Regressive Integrated Moving Average). The results of this research show as follows: (1) the contribution of market service levy to the regional levy and PAD (the own-source revenue) is in the insufficient and very insufficient category, (2) the growth of market service levy is fluctuating, (3) the market service levy revenue has not based on the potentiality yet, (4) the target of market service levy is under the potentiality, and (5) the projection of market levy revenue will increase in the next five years. The researcher suggested that the target setting should be based on the potentiality and the quality of market service should be improved, so that those may increase the contribution of market service levy to PAD.

## INTRODUCTION

One of the objectives of the regional autonomy implementation is to increase the regional independence and to reduce the fiscal dependence on the central government. Countries in the region are taking action to increasing economy (Dulal, et al, 2015). The increasing regional independence is related to the regional capability in managing the Own-Source Revenue (PAD) through the optimization of fundraising from the local revenue sources. Semarang is the developing regency that is trying to increase its PAD in order to have the great contribution in financing its expenditure. However, the contribution of the PAD of Semarang Regency to the Local Revenue is still relatively small, with an average of 14.6% in the insufficient category in 2011 - 2015.

Local levy as one of the sources of PAD now is more potential and has greater opportunity to be improved and developed. This is in order to finance the area and local public services (Schneider, 2015). The increased revenues from direct levies will give contribution and influence on the PAD that is used as the capital or financing in the local government's implementation (Haryono, 2015). The market service levy is a potential type of public service levy because Semarang Regency manages and takes levies from 33 general / traditional markets everyday. Market service levies are taken based on the kiosks, stalls, or market terraces for the traders.

The realization of market service levies in 2011 with the target of Rp 5,622,092,000 is realized to Rp 3,949,768,500; in 2012 with the target of Rp 5,585,789,000 it is realized to Rp 4,819,964,100. In 2013 the target is lowered to Rp 5,504,341,000, then it is realized to Rp 3,386,070,500. In 2014 the target is lowered to Rp 4.197.942.473, then it is realized to Rp 3,945,736,200. In 2015 the target is raised to Rp 6,732,136,000, it is realized to Rp 5,399,790,600. See table 2.

The data indicates that the potential market levies have not been fully explored yet. Besides, the existence of modernization

encourages the establishment of modern markets, and in a short period of time with extraordinary capital capability it leads to a decline in traditional market performance that results in an impact on market service levy revenue. The objective of this research is to know the contribution of market service levies to the local levy and PAD, to know the growth of market service levies, to know the potential service market levies, and to make the projection of market service levies in 2016 - 2020 in Semarang Regency.

Regional Autonomy, based on the Acts No. 9 of 2015 on Regional Government, Regional Autonomy is the right, authority and obligation of autonomous regions to regulate and manage their own governmental affairs and interests of the local community in the system of Republic of Indonesia. The main objective of regional autonomy is to improve the public services and to promote the regional economy. Local tax levy support for local public health services and for other local government services (Riley, et al, 2013).

Local Levy, according to the Acts No. 28 of 2009 on Local Taxes and Levies, which later is called Levies, local levy is the payment for services or granting specific permits specifically provided and / or given by the Local Government for the benefit of individuals or bodies. There are three types of local levies those are public service levy, business service levy, and certain licensing levy.

Market Service Levy, based on the Local Regulation of Semarang Regency No. 8 of 2011 on Public Service Levy, Market Service Levy is one type of public service levies that is collected as the payment for the provision of traditional / simple market facilities in the form of market terraces, stalls, kiosks, which are managed by the local government and specifically provided for the traders.

The object of the Market Service Levy is the provision of traditional / simple market facilities in the form of market terraces, stalls, kiosks, which are managed by the local government, and specifically provided for the traders. While the subject of the Market Service

Levy is an individual or bodies obtaining / using local government, and specifically provided for and / or enjoying the provision of traditional / the traders. simple market facilities in the form of market terraces, stalls, kiosks, which are managed by the

**Table 1.** Subject of Market Service Levies in Semarang Regency in 2011 – 2015

| Market's Names         | Amount of Stalls (Unit) | of Amounts of Kiosks (Unit) | of Amount of Market Terraces Traders Unit) | Amount of Street Traders (Unit) | Activities |
|------------------------|-------------------------|-----------------------------|--|---------------------------------|------------|
| Bandarjo               | 803                     | 86                          | 609  | 30                              | 7 days     |
| Babadan                | 730                     | 191                         | 125  | -                               | 7 days     |
| Karangjati             | 294                     | 79                          | 20   | 20                              | 7 days     |
| Projo                  | 1,473                   | 195                         | 350  | -                               | 7 days     |
| Kembang Sari           | 232                     | 139                         | 267  | 10                              | 7 days     |
| Pringapus              | 131                     | 38                          | -  | -                               | 7 days     |
| Jimbaran               | 164                     | 52                          | 92   | -                               | 7 days     |
| Bandungan              | 325                     | 29                          | 40   | 45                              | 7 days     |
| Sumowono               | 290                     | 62                          | 110  | 16                              | 2 days     |
| Sumowono (Non Pasaran) | 121                     | -                           | -  | -                               | 7 days     |
| Warung Lanang          | 166                     | 15                          | 15   | 10                              | 7 days     |
| Kebondowo              | 120                     | 38                          | -  | 3                               | 7 days     |
| Bandongan              | 167                     | 30                          | 30   | -                               | 7 days     |
| Suruh                  | 277                     | 52                          | 8  | 6                               | 7 days     |
| Kopeng                 | 28                      | 32                          | 58   | -                               | 1 day      |
| Kopeng Pasar Pagi      | -                       | -                           | 30   | -                               | 7 days     |
| Market's Names         | Amount of Stalls (Unit) | of Amount of Kiosks (Unit)  | of Amount of Market Terrace Traders Unit)  | Amount of Street Traders (Unit) | Activities |
| Kaliwungu              | 98                      | 20                          | 107  | -                               | 7 days     |
| Kradenan               | 94                      | 20                          | 48   | -                               | 2 days     |
| Bringin                | 295                     | 8                           | 5  | 18                              | 7 days     |
| Bedono                 | 81                      | 15                          | -  | -                               | 7 days     |
| Jambu                  | 13                      | 13                          | -  | -                               | 7 days     |
| Kesongo                | 50                      | 10                          | 9  | -                               | 7 days     |
| Kebumen                | 32                      | 8                           | 9  | -                               | 7 days     |
| Gilang                 | 103                     | 23                          | -  | -                               | 7 days     |
| Getasan                | 124                     | 44                          | 32   | -                               | 2 days     |
| Truko                  | 29                      | 3                           | -  | -                               | 2 days     |
| Sambirejo              | 60                      | -                           | -  | -                               | 2 days     |
| Padaan                 | 25                      | 6                           | -  | -                               | 7 days     |
| Plumutan               | 94                      | 44                          | 17   | -                               | 2 days     |
| Susukan                | 137                     | 21                          | 5  | -                               | 7 days     |
| Mukiran                | 17                      | 5                           | 9  | -                               | 1 day      |
| Tengaran               | 8                       | 8                           | -  | -                               | 7 days     |
| Wates                  | 98                      | 17                          | 13   | -                               | 2 days     |
| Dadapayam              | 33                      | 20                          | 7  | -                               | 2 days     |
| Sendangwaru            | 13                      | 11                          | -  | -                               | 7 days     |

Source : DKUPP Semarang Regency

**Table 2.** Target and Realization of Market Levies of Semarang Regency in 2011 - 2015 (Rupiah)

| Year | Target        | Realization   | Insufficiency |
|------|---------------|---------------|---------------|
| 2011 | 5,622,092,000 | 3,949,768,500 | 1,672,323,500 |
| 2012 | 5,585,789,000 | 4,819,964,000 | 765,825,000   |
| 2013 | 5,504,341,000 | 3,386,070,500 | 2,118,270,500 |
| 2014 | 4,197,942,473 | 3,945,736,200 | 252,206,273   |
| 2015 | 6,732,136,000 | 5,399,790,600 | 1,332,345,400 |

Source : DKUPP and DPPKAD Semarang Regency, 2016, data processed

## RESEARCH METHOD

The type of data used in this research is the secondary and primary data. Primary data is the data obtained by the researchers by conducting interviews on the informants, while secondary data is a source of research data indirectly obtained by the researchers through media intermediaries.

This research uses mixed method analysis. The strategy of mixed method used in this research is quantitative and qualitative.

### 1. Analysis of Contribution

Analysis of contribution is used to find out how much contribution given by the market service levy to the total of the local levy revenue. The formula used in calculating contributions is as follows (Halim, 2004: 162):

Contributions to the local levy

$$\frac{\text{Realisasi Retribusi Pelayanan Pasar}}{\text{Realisasi Retribusi Daerah}} \times 100\%$$

Contribution to PAD

$$\frac{\text{Realisasi Retribusi Pelayanan Pasar}}{\text{Realisasi PAD}} \times 100\%$$

**Table 4.** Classification of Criteria of Contribution

| Percentage (%) | Criteria          |
|----------------|-------------------|
| 0.00 – 10      | Very Insufficient |
| 10.10 – 20     | Insufficient      |
| 20.10 – 30     | Average           |
| 30.10 – 40     | Good Enough       |
| 40.10 – 50     | Good              |
| Over 50        | Very Good         |

Source : Department of Internal Affairs, Decree of Ministry of Internal Affairs No. 690.900.327 of 2006 (in Puspitasari, 2014)

Analysis of Growth, this analysis aims at determining the growth of market service levy, in which the following formula used is as follows (Halim, 2004: 162):

$$Gx = \frac{Xt - X(t-1)}{X(t-1)} \times 100\%$$

Description :

**Gx** : The growth rate of market service levy in Semarang Regency per year(%).

**Xt** : The real revenue of market service levy in Semarang Regency in certain year (Rp.).

**X (t-1)** : The real revenue of market service levy in Semarang Regency in the previous year (Rp).

Analysis of Potentiality, analysis of Potentiality is used to find out the potential market service levy. The formula used is as follows (Mahmudi, 2009: 73):

$$\text{Potensi} = [(JK \times T) + (JL \times T) + (JD \times T)] + (JK5 \times T) \times [\sum \text{Aktivitas Pasar}]$$

Description :

Potentiality : Potential Market Levy (Rp)

JK : The amount of Kiosks (units)

JL : The amount of Stalls (units)

JD : The amount of Market Terrace Traders (units)

JK5 : The amount of Street Traders (units)

T : Fare (Rp)

Market Activity : The amount of market activity is determined by the number of market days.

Comparison of Target with Potentiality, this method is used to determine whether the specified target is appropriate or not in accordance with the existing potentiality.

Analysis of ARIMA (Box Jenkins), the analysis of ARIMA (Autoregressive Integrated Moving Average) is a time series data analysis using the past and present values of the dependent variable for accurate short-term forecast (Hendikawati, 2015: 68). This method uses an iterative approach identifying the possible useful models.

## RESULTS AND DISCUSSION

Contribution of Market Service Levies, the results of research indicate that the contribution of service market levies in Semarang Regency in the period of 2011 - 2015 is included in the

insufficient category amounted 15.09%. See table

4.

**Table 4.** Contribution of Market Service Levy to Local Levy Semarang Regency in 2011 – 2015 (Rupiah)

| Year           | Realization of Market Service Levy | Realization of Local Levy | Contribution   | Criteria            |
|----------------|------------------------------------|---------------------------|----------------|---------------------|
| 2011           | 3,949,768,500                      | 66,260,009,503            | 5.96 %         | Very insufficient   |
| 2012           | 4,819,964,100                      | 27,368,212,072            | 17.61 %        | Insufficient        |
| 2013           | 3,386,070,500                      | 28,353,829,274            | 11.94 %        | Insufficient        |
| 2014           | 3,945,736,200                      | 22,236,497,946            | 17.74 %        | Insufficient        |
| 2015           | 5,399,790,600                      | 24,311,244,992            | 22.21 %        | Average             |
| <b>Average</b> |                                    |                           | <b>15.09 %</b> | <b>Insufficient</b> |

Source : Secondary Data 2016, processed

**Table 5.** Contribution of Market Service Levy to PAD in Semarang Regency in 2011 – 2015 (Rupiah)

| Year           | Realization of Market Service Levy | Realization of PAD | Contribution  | Criteria                 |
|----------------|------------------------------------|--------------------|---------------|--------------------------|
| 2011           | 3,949,768,500                      | 133,198,913,306    | 2.97 %        | Very insufficient        |
| 2012           | 4,819,964,100                      | 156,104,077,120    | 3.09 %        | Very insufficient        |
| 2013           | 3,386,070,500                      | 215,679,554,472    | 1.57 %        | Very insufficient        |
| 2014           | 3,945,736,200                      | 248,213,019,938    | 1.59 %        | Very insufficient        |
| 2015           | 5,399,790,600                      | 278,851,900,617    | 1.94 %        | Very insufficient        |
| <b>Average</b> |                                    |                    | <b>2.23 %</b> | <b>Very insufficient</b> |

Source : Secondary Data 2016, processed

Table 5 shows that the contribution of market service levy on PAD in 2011 - 2015 is in very insufficient category with an average of

2.23%. The criterion is because the market service levy in Semarang Regency has not been optimal yet.

**Table 6.** Growth of Market Service Levies in Semarang Regency in 2011 – 2015 (Rupiah)

| Year | Realization   | Development    | Growth (%) |
|------|---------------|----------------|------------|
| 2011 | 3,949,768,500 | -              | -          |
| 2012 | 4,819,964,100 | 870,195,500    | 22.03      |
| 2013 | 3,386,070,500 | -1,433,893,500 | -29.75     |
| 2014 | 3,945,736,200 | 559,665,700    | 16.53      |
| 2015 | 5,399,790,600 | 1,454,054,400  | 36.85      |

Source : Secondary Data 2016, processed

Based on table 6, the growth of market service levies in Semarang Regency in 2011 - 2015 fluctuated. Based on an interview with Mr. Yuwan Widitianto, in 2013, the growth of market levy was the lowest one during the period of 2011 - 2015, which amounted to - 29.75%. The decline was caused by the fire in Projo Market and in 2013, and Gilang Market is still in the process of development.

Analysis of Potentiality, Based on the result of research, the potential market service

levy is Rp 8,763,947,200 per year. The largest potential market is Projo Market of Rp 2,078,300,000, while the lowest potential market is Truko Market of Rp 9,648,000, or the contribution is 0.11% per annum. See table 7.

Based on the interview in June 14, 2016 with Mr. Yuwan Widitianto as the Officer of Market Sector, he stated that the potential market service levy is not fully explored, so it requires the management and target setting in accordance

with the actual potentiality. But to realize it, there are still obstacles such as the limited number of collectors and the subject of levies that is not in accordance with the provisions.

**Table 7.** Potentiality of Market Service Levies in Semarang Regency per Year Period of 2011 – 2015 (Rupiah)

| No.                            | Market's Name          | Potential Market Levy Per Day | Market Activity in one year | Total of potentiality x Market activity in 1 year | Contribution |
|--------------------------------|------------------------|-------------------------------|-----------------------------|---|--------------|
| 1                              | Bandarjo               | 4,018,200                     | 350 days                    | 1,406,370,000                                     | 16.05%       |
| 2                              | Babadan                | 3,242,200                     | 350 days                    | 1,134,770,000                                     | 12.95%       |
| 3                              | Karangjati             | 1,273,800                     | 350 days                    | 445,830,000                                       | 5.09%        |
| 4                              | Projo                  | 5,938,000                     | 350 days                    | 2,078,300,000                                     | 23.71%       |
| 5                              | Kembang Sari           | 1,823,800                     | 350 days                    | 638,330,000                                       | 7.28%        |
| 6                              | Pringapus              | 464,300                       | 350 days                    | 162,505,000                                       | 1.85%        |
| 7                              | Jimbaran               | 744,400                       | 350 days                    | 260,540,000                                       | 2.97%        |
| 8                              | Bandungan              | 1,025,900                     | 350 days                    | 359,065,000                                       | 4.10%        |
| 9                              | Sumowono               | 964,200                       | 144 days                    | 138,844,800                                       | 3.49%        |
|                                | Sumowono (non pasaran) | 478,500                       | 350 days                    | 167,475,000                                       |              |
| 10                             | Warung Lanang          | 503,000                       | 350 days                    | 176,050,000                                       | 2.01%        |
| 11                             | Kebondowo              | 439,800                       | 350 days                    | 153,930,000                                       | 1.76%        |
| 12                             | Bandongan              | 573,500                       | 350 days                    | 200,725,000                                       | 2.29%        |
| 13                             | Suruh                  | 898,500                       | 350 days                    | 314,475,000                                       | 3.59%        |
| 14                             | Kopeng                 | 278,000                       | 72 days                     | 20,016,000  | 0.42%        |
|                                | Kopeng pasar pagi      | 48,000                        | 350 days                    | 16,800,000  |              |
| 15                             | Kaliwungu              | 488,200                       | 72 days                     | 35,150,400  | 0.40%        |
| 16                             | Kradenan               | 383,800                       | 144 days                    | 55,267,200  | 0.63%        |
| 17                             | Bringin                | 792,300                       | 350 days                    | 277,305,000                                       | 3.16%        |
| 18                             | Bedono                 | 207,000                       | 350 days                    | 72,450,000  | 0.83%        |
| 19                             | Jambu                  | 65,000                        | 350 days                    | 22,750,000  | 0.26%        |
| 20                             | Kesongo                | 140,800                       | 350 days                    | 49,280,000  | 0.56%        |
| 21                             | Kebumen                | 98,800                        | 350 days                    | 34,580,000  | 0.39%        |
| 22                             | Gilang                 | 275,000                       | 350 days                    | 96,250,000  | 1.10%        |
| 23                             | Getasan                | 418,400                       | 144 days                    | 60,249,600  | 0.69%        |
| 24                             | Truko                  | 67,000                        | 144 days                    | 9,648,000   | 0.11%        |
| 25                             | Sambirejo              | 120,000                       | 144 days                    | 17,280,000  | 0.20%        |
| 26                             | Padaan                 | 68,000                        | 350 days                    | 23,800,000  | 0.27%        |
| 27                             | Plumutan               | 340,400                       | 144 days                    | 49,017,600  | 0.56%        |
| 28                             | Susukan                | 343,000                       | 350 days                    | 120,050,000                                       | 1.37%        |
| 29                             | Mukiran                | 59,800                        | 350 days                    | 20,930,000  | 0.24%        |
| 30                             | Tengaran               | 40,000                        | 350 days                    | 14,000,000  | 0.16%        |
| 31                             | Wates                  | 262,600                       | 350 days                    | 91,910,000  | 1.05%        |
| 32                             | Dadapayam              | 134,400                       | 144 days                    | 19,353,600  | 0.22%        |
| 33                             | Sendangwaru            | 59,000                        | 350 days                    | 20,650,000  | 0.24%        |
| Total of Potential Market Levy |                        |                               |                             | 8,763,947,200                                     | 100%         |

Source : Secondary Data 2016, processed

Based on the results of the research in table 8, it is known that the potential retribution of market services is greater than the target year of 2011 - 2015. It shows that the target setting has not been in accordance with the existing potentiality.

**Table 8.** Comparison of Target and Potential Market Service Levies in Semarang Regency in 2011 – 2015

| Year | Target<br>(Rupiah) | Potentiality<br>(Rupiah) | Description           | More or Less<br>(Rupiah) |
|------|--------------------|--------------------------|-----------------------|--------------------------|
| 2011 | 5,622,092,000      | 8,763,947,200            | Target < Potentiality | (-) 3,141,855,200        |
| 2012 | 5,585,789,000      | 8,763,947,200            | Target < Potentiality | (-) 3,178,158,200        |
| 2013 | 5,504,341,000      | 8,763,947,200            | Target < Potentiality | (-) 3,259,606,200        |
| 2014 | 4,197,942,473      | 8,763,947,200            | Target < Potentiality | (-) 4,566,004,727        |
| 2015 | 6,732,136,000      | 8,763,947,200            | Target < Potentiality | (-) 2,031,811,200        |

Source : Secondary Data 2016, (processed)

Description : (-) Target is less than potentiality



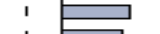

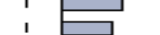
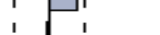
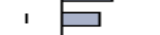
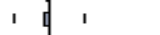

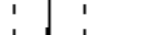

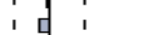

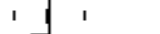

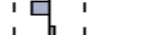

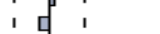

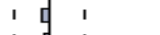



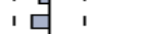

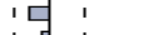



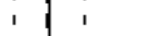

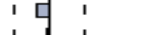

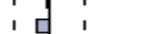

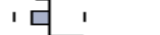



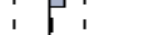


Analysis of Projection with ARIMA

Method, the ARIMA (Box - Jenkins) analysis is

used to know the projected magnitude of the market service levy revenue in January 2016 until December 2020. The tool used is Eviews 9

**Table 9.** Correlogram Test

Date: 06/18/16 Time: 13:55  
Sample: 2011M01 2015M12  
Included observations: 60

| Autocorrelation   | Partial Correlation   | AC | PAC    | Q-Stat | Prob   |       |
|---|---|----|--------|--------|--------|-------|
|  |  | 1  | 0.698  | 0.698  | 30.690 | 0.000 |
|  |  | 2  | 0.483  | -0.008 | 45.632 | 0.000 |
|  |  | 3  | 0.434  | 0.196  | 57.944 | 0.000 |
|  |  | 4  | 0.364  | -0.017 | 66.744 | 0.000 |
|  |  | 5  | 0.268  | -0.027 | 71.616 | 0.000 |
|  |  | 6  | 0.205  | -0.008 | 74.505 | 0.000 |
|  |  | 7  | 0.156  | -0.020 | 76.216 | 0.000 |
|  |  | 8  | 0.079  | -0.076 | 76.662 | 0.000 |
|  |  | 9  | 0.025  | -0.020 | 76.708 | 0.000 |
|  |  | 10 | -0.054 | -0.123 | 76.925 | 0.000 |
|  |  | 11 | -0.080 | 0.029  | 77.415 | 0.000 |
|  |  | 12 | -0.113 | -0.072 | 78.409 | 0.000 |
|  |  | 13 | -0.168 | -0.063 | 80.656 | 0.000 |
|  |  | 14 | -0.199 | -0.037 | 83.868 | 0.000 |
|  |  | 15 | -0.230 | -0.072 | 88.222 | 0.000 |
|  |  | 16 | -0.294 | -0.126 | 95.510 | 0.000 |
|  |  | 17 | -0.374 | -0.148 | 107.63 | 0.000 |
|  |  | 18 | -0.392 | -0.061 | 121.25 | 0.000 |
|  |  | 19 | -0.375 | -0.022 | 133.99 | 0.000 |
|  |  | 20 | -0.356 | -0.021 | 145.76 | 0.000 |
|  |  | 21 | -0.369 | -0.091 | 158.78 | 0.000 |
|  |  | 22 | -0.351 | -0.019 | 170.83 | 0.000 |
|  |  | 23 | -0.335 | -0.087 | 182.12 | 0.000 |
|  |  | 24 | -0.361 | -0.132 | 195.56 | 0.000 |
|  |  | 25 | -0.215 | 0.239  | 200.50 | 0.000 |
|  |  | 26 | -0.059 | 0.108  | 200.87 | 0.000 |
|  |  | 27 | -0.008 | 0.023  | 200.88 | 0.000 |
|  |  | 28 | 0.078  | 0.151  | 201.59 | 0.000 |

Source : Eviews Output, 2016

:

**Table 10.** Result of Unit Root Test First Difference Level 1

|  |           | t-Statistic | Prob.* |
|--|-----------|-------------|--------|
| Augmented Dickey-Fuller test statistic |           | -7.732016   | 0.0000 |
| Test critical values                   | 1% level  | -3.550396   |        |
|  | 5% level  | -2.913549   |        |
|  | 10% level | -2.594521   |        |

\*MacKinnon (1996) one-sided p-values

Source: Output Eviews, 2016

Based on table 10, the ADF value is -7.732016 so that the value is greater than the t -

statistic at the critical value at level 5% that is equal to -2.913549, which indicates that the data is stationary.

To see the suitable model for forecasting, it is assumed that the model has the best goodness of fit as seen in the highest F-statistic and R-Squared (R<sup>2</sup>) values, and it also should have the smallest RMSE (Root Mean Squared Error) value. In testing the model parameter, the best model obtained is ARIMA model (2,1,2).

Forecasting, the final step after selecting the best model is forecasting. Here are the forecasting results of the ARIMA model (2,1,2) and the acquisition of market service levies from January 2016 to December 2020.

**Table 11.** Estimation of Tentative Model of ARIMA to Market Service Levies

| Model         | Constanta              | AR (1)                  | MA (1)                  | AR (2)                   | MA (2)                    | R <sup>2</sup> | F        | RMSE        |
|---------------|------------------------|-------------------------|-------------------------|--------------------------|---------------------------|----------------|----------|-------------|
| ARIMA (1,1,0) | 3816420<br>(0.517594)  | -0,111302<br>(0.578487) | -                       | -                        | -                         | 0.012537       | 0.355484 | 119,000,000 |
| ARIMA (0,1,1) | 3594297<br>(0.500628)  | -                       | -0.285828<br>(2.633106) | -                        | -                         | 0.034644       | 1.004837 | 120,000,000 |
| ARIMA (1,1,1) | 3871827<br>(0.438504)  | -0.766837<br>(4.487823) | -4.487823<br>(9.494818) | -                        | -                         | 0.089065       | 1.792517 | 119,000,000 |
| ARIMA (2,1,1) | 3413487<br>(0.583220)  | -                       | -0.166064<br>(1.093316) | -0.311819<br>(-3.190352) | -                         | 0.126043       | 2.644052 | 122,000,000 |
| ARIMA (2,1,2) | 1888055<br>(0.949799)* | -                       | -                       | 0.541847<br>(5.161167)   | -1.000000<br>(-0.003206)* | 0.220838       | 5.196206 | 91,574,459  |

\*

**Table 12.** Result of *Forecasting* Market Service Levies in Semarang Regency in January 2016 – December 2020 (Rupiah)

| Months    | 2016          | 2017          | 2018          | 2019          | 2020          |
|-----------|---------------|---------------|---------------|---------------|---------------|
| January   | 450,216,721   | 472,873,376   | 495,530,031   | 518,186,686   | 540,843,341   |
| February  | 452,104,776   | 474,761,431   | 497,418,086   | 520,074,741   | 542,731,396   |
| March     | 453,992,830   | 476,649,485   | 499,306,140   | 521,962,795   | 544,619,451   |
| April     | 455,880,885   | 478,537,540   | 501,194,195   | 523,850,850   | 546,507,505   |
| May       | 457,768,939   | 480,425,594   | 503,082,249   | 525,738,905   | 548,395,560   |
| Months    | 2016          | 2017          | 2018          | 2019          | 2020          |
| June      | 459,656,994   | 482,313,649   | 504,970,304   | 527,626,959   | 550,283,614   |
| July      | 461,545,048   | 484,201,704   | 506,858,359   | 529,515,014   | 552,171,669   |
| August    | 463,433,103   | 486,089,758   | 508,746,413   | 531,403,068   | 554,059,724   |
| September | 465,321,158   | 487,977,813   | 510,634,468   | 533,291,123   | 555,947,778   |
| October   | 467,209,212   | 489,865,867   | 512,522,522   | 535,179,178   | 557,835,833   |
| November  | 469,097,267   | 491,753,922   | 514,410,577   | 537,067,232   | 559,723,887   |
| December  | 470,985,321   | 493,641,977   | 516,298,632   | 538,955,287   | 561,611,942   |
| Total     | 5,527,212,254 | 5,799,092,116 | 6,070,971,976 | 6,342,851,838 | 6,614,731,700 |

Source : Secondary Data 2016, processed with *Eviews*



**Table 13.** Comparison of Result of Realization with Potentiality of Market Service Levy Revenue in Semarang Regency (Rupiah)

| Year | Realization   | Potentiality  | Difference    | Description              |
|------|---------------|---------------|---------------|--------------------------|
| 2011 | 3,949,768,500 | 8,763,947,200 | 4,814,178,700 | Potentiality>Realization |
| 2012 | 4,819,884,000 | 8,763,947,200 | 3,944,063,200 | Potentiality>Realization |
| 2013 | 3,386,070,500 | 8,763,947,200 | 5,377,876,700 | Potentiality>Realization |
| 2014 | 3,945,736,200 | 8,763,947,200 | 4,818,211,000 | Potentiality>Realization |
| 2015 | 5,399,790,600 | 8,763,947,200 | 3,364,156,600 | Potentiality>Realization |

Source : Secondary Data 2016, processed

Table 13 shows that the realization of market service levy revenue in Semarang Regency in 2011 - 2015 is smaller than the existing potentiality. This indicates that the potential market service levy revenue in Semarang Regency has not been fully explored and the market service levy revenue actually can still be maximized. This can be seen from the projection that the market service levy revenue in the next five years will increase.

**Table 14.** Result of Projection of Market Service Levy Revenue in Semarang Regency in 2016 – 2020 (Rupiah)

| Year | Projection    |
|------|---------------|
| 2016 | 5,527,212,254 |
| 2017 | 5,799,092,116 |
| 2018 | 6,070,971,976 |
| 2019 | 6,342,851,838 |
| 2020 | 6,614,731,700 |

Source : Secondary Data 2016, processed with *Eviews*

## CONCLUSION

Based on the results and discussions conducted, it can be concluded that the contribution of market service levy to the local levy and PAD in Semarang Regency in 2011 - 2015 in the category of insufficient and very insufficient, the growth of market service levy in Semarang Regency in 2011 - 2015 fluctuated. The lowest growth is in the period of 2012/2013 while the highest growth is in the period of 2014/2015. The potential market service levy in Semarang Regency has not been fully excavated yet; the target of market service levy has not been

in accordance with the potentiality; and based on ARIMA analysis (2.1,2), the projection of market service levy revenue will rise for five year. It indicates that the revenue of market service levy can still be maximized.

The researcher's suggestion is that determining the target in accordance with the potentiality and improving the quality of market service are expected to increase the contribution of market service levy to PAD in Semarang Regency.

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