The Development of West Java MSMEs as A Form of Economic Defense: An Analysis with Forecasting Methods

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Article Info	ABSTRACT
	The growth of Micro, Small, and Medium Enterprises (MSMEs) plays an increasingly vital role in driving local economies and supporting economic resilience in a region. This research aims to analyze and forecast the growth rate of MSMEs in the Bogor District, Sukabumi District, Garut District, Bandung District, and Cianjur District over the next 5 years using a forecasting method. Forecasting is an analytical approach that utilizes historical data to predict trends and patterns that may occur in the future. In the context of this study, historical data encompass various factors influencing MSME growth, such as the number of MSMEs, investments, government support, regulatory changes, as well as other external factors. This analysis employs various forecasting techniques, including statistical and machine learning methods, to generate accurate predictions. The outcomes of this research are expected to provide a deeper understanding of the key factors influencing MSME growth in these five districts and offer valuable insights for policymakers and stakeholders. Additionally, this research aims to make a significant contribution to the strategic planning of sustainable MSME development in the Bogor District, Sukabumi District, Garut District, Bandung District, and Cianjur District. With a better understanding of the dynamics of MSME growth, more effective steps can be identified to support local economic development.

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1. INTRODUCTION

Along with global economic developments and changing market dynamics, the role of Micro, Small and Medium Enterprises (MSMEs) is becoming increasingly important in a country's economy [1]. MSMEs have a strategic role in creating jobs, moving the wheels of the economy, and supporting income distribution [2]. In Indonesia, MSMEs have a significant contribution to the national economy, including in West Java, one of the provinces with great MSME potential (Ministry of Cooperatives and SMEs, 2020).

In this era of globalization, MSMEs are faced with various challenges, such as increasingly fierce market competition, changes in regulations, and changes in people's consumption patterns [3]. In this context, it is important to conduct an analysis of the growth rate of MSMEs, especially in West Java, as an effort to understand the dynamics of MSME development and formulate appropriate economic defense strategies.

In order to support the growth of MSMEs, the forecasting method is one of the relevant approaches to use [4]. Forecasting makes it possible to project the growth of MSMEs based on historical data, economic trends, and other factors that affect the development of MSMEs. Thus, the analysis of the growth rate of MSMEs in West Java using the forecasting method can provide a deep understanding of the direction of MSME development and its potential contribution to the regional and national economy.

Through this thesis, it is hoped that a deeper understanding of the factors that affect the growth of MSMEs in West Java will be obtained, as well as how the forecasting method can be used as a tool to support strategic planning in facing global economic dynamics. Thus, this thesis is expected to make a significant contribution to economic defense efforts through strengthening the MSME sector in West Java.

2. LITERATURE REVIEW

2.1 The Strategic Role of MSMEs in the National Economy

According to [2], MSMEs have a significant role in the national economy. The contribution of MSMEs to job creation, economic driving and income distribution has become a major focus in a country's economic development.

2.2 Dynamics of MSME Growth in the Globalization Era

[3] highlighted the challenges and opportunities faced by MSMEs in the era of globalization. Changes in people's consumption patterns, increasingly fierce market competition, and the impact of digitalization are important factors that affect the growth of MSMEs.

2.3 The Contribution of MSMEs to the Regional Economy

A study by the Ministry of Cooperatives and SMEs (2020) shows that MSMEs have a significant contribution to the regional economy. The growth of MSMEs in West Java is an important part in encouraging regional economic growth.

2.4 Factors Affecting MSME Growth

[1] identifies factors that affect the growth of MSMEs in the era of globalization. In this context, factors such as access to capital, government policies, and innovation are crucial factors that need to be considered in supporting the growth of MSMEs.

2.5 Forecasting Method for MSME Growth Analysis

In the context of MSME growth analysis, [4] presents forecasting methods as relevant tools. The use of forecasting methods makes it possible to project the

growth of MSMEs based on historical data, economic trends, and other factors that affect the development of MSMEs.

2.6 Impact of Digitalization on MSMEs

A study by [5] discusses the impact of digitalization on MSMEs in the modern era. Changes in business paradigms and new opportunities through digital platforms are things that need to be considered in assessing the growth of MSMEs.

2.7 Government Policy to Support MSME Growth

According to a study by [6], government policies play an important role in supporting the growth of MSMEs. Appropriate policy support can create a conducive environment for the development of MSMEs in West Java.

2.8 Innovation and Competitiveness of MSMEs

Research by [7] highlights the role of innovation in increasing the competitiveness of MSMEs. Product, process, and marketing innovations are key factors in increasing the growth of MSMEs in a competitive environment.

2.9 Internal and External Factors Affecting MSMEs

A study by [8] identified internal and external factors that affect the growth of MSMEs. In this context, factors such as management, market access, and external policies need to be considered in assessing the growth of MSMEs.

2.10 MSME Involvement in Global Supply Chains

According to a recent study by [9], the involvement of MSMEs in global supply chains has a significant impact on MSME growth. By understanding the dynamics of global supply chains, MSMEs can take advantage of existing opportunities to increase their growth.

3. METHODS

The research method that will be used in this journal is a forecasting method to analyze the growth of Micro, Small and Medium Enterprises (MSMEs) in West Java. The forecasting method was chosen because of its ability to make growth projections based on historical data, economic trends, and other factors that affect the development of MSMEs. Here are the steps of the research that will be carried out:

3.1 Identify Historical Data on MSME Growth

The first step is to collect historical data on the growth of MSMEs in West Java. This data includes the growth of the number of MSMEs, the contribution of MSMEs to the regional economy, and factors supporting or inhibiting MSME growth.

3.2 Historical Data Analysis

After historical data is collected, analysis is carried out to identify MSME growth trends within a certain period of time. This analysis also includes external factors that affect the growth of MSMEs, such as government policies, economic conditions, and market changes.

3.3 Forecasting Model Selection

Based on historical data analysis, the most suitable forecasting model was chosen to project the growth of MSMEs in West Java. Possible models include time series regression, trend analysis, or other relevant forecasting methods.

3.4 Implementation of Forecasting Model

The next step is to implement the selected forecasting model into the MSME growth analysis. MSME growth projections will be based on the model that has been chosen, taking into account external factors that affect the growth.

3.5 Validation and Interpretation of Results

The results of the projected growth of MSMEs will be validated to test their accuracy. Furthermore, the projection results

will be interpreted to provide a deeper understanding of the factors that affect the growth of MSMEs in West Java.

4. RESULTS AND DISCUSSION

4.1 Bogor Regency

In this sub-chapter, researchers will describe the results of forecasting research directly related to Bogor Regency. Through a careful research process and forecasting methods that have been applied, researchers have succeeded in producing significant findings that are closely related to the Bogor Regency area.

The results of the analysis that the researcher will present in this sub-chapter reflect the efforts and dedication of the researcher as a writer in exploring deeper information and understanding of forecasting relevant to Bogor Regency. These findings came about after going through a rigorous data analysis process and structured forecasting methods. Focusing on Bogor District, this sub-chapter will discuss forecasting results covering future trends and projections of the region. These findings will provide a deeper understanding of potential developments and changes that may occur in Bogor District over a period of time.

From the results of the analysis that the author has done, the following results are obtained.

Table 1 Bogor Regency Forecastin Calculation Results

Year	Point Forecast	Lo 80	Hi 80	Lo 95	Hi 95
2022	529,552	516,630.8	542,473.2	509,790.7	549,313.3
2023	552,757	534,483.7	571,030.3	524,810.3	580,703.7
2024	575,962	553,581.8	598,342.2	541,734.5	610,189.5
2025	599,167	573,324.6	625,009.4	559,644.5	638,689.5
2026	622,372	593,479.3	651,264.7	578,184.4	666,559.6
2027	645,577	613,926.6	677,227.4	597,172.0	693,982.0
2028	668,782	634,595.7	702,968.3	616,498.6	721,065.4
2029	691,987	655,440.3	728,533.7	636,093.7	747,880.3
2030	715,192	676,428.4	753,955.6	655,908.2	774,475.8
2031	738,397	697,536.6	779,257.4	675,906.4	800,887.6
2032	761,602	718,747.2	804,456.8	696,061.3	827,142.7
2033	784,807	740,046.6	829,567.4	716,351.9	853,262.1

Source: Personal analysis data, 2023

The year in the context of this study becomes a central point in understanding the dynamics of growth and change related to Bogor Regency. The timeframes included in the study, ranging from 2022 to 2033, provide important coverage for observing long-term changes. These years form a time frame that allows research to identify trends, patterns, as well as the impact of external and internal factors affecting the growth of MSMEs in the region. Through forecasting for the years to come, the study provides a broader view of possible future scenarios, which are important for strategic planning and decision-making. The year becomes a key parameter in this analysis, considering that economic changes and developments occur not only in the short term, but also in the long term. In the next chapter, the results of the year-by-year analysis will be discussed in more detail to understand the impact of forecasting on the economic growth of Bogor District.

Point Forecast in this study is the main focus in an effort to understand and forecast the growth of MSMEs in Bogor Regency. The central point of each estimate in each year presented in the forecasting table provides an invaluable understanding of the future direction of development. For example, in 2022, the Point Forecast which reached 529,552 shows the estimated number of MSME businesses in Bogor Regency at that

point in time. However, Point Forecast is not just a statistical number, but a reflection of a number of variables that are carefully collected and analyzed. In this context, Point Forecast becomes a core indicator in forecasting, describing the starting position of a long and dynamic journey. By taking into account Point Forecast values every year, this study aims to identify growth patterns, trends, and dynamics that may affect MSMEs in Bogor Regency. Further analysis of these numbers will allow for a deeper understanding of economic changes and the opportunities that exist in a given time frame. Point Forecast is not only as a result of forecasting, but also as a rationale for policies and strategies that may be applied to strengthen the MSME ecosystem in Bogor Regency.

In this study, a confidence interval of 80% (Lo 80 and Hi 80) was crucial to convey forecasting results. The forecasting table displays Lo 80 and Hi 80 values for each time range from 2022 to 2033, showing a confidence interval of approximately 80% for each associated Point Forecast value. For example, in 2022, the Lo value of 80 is 516,630.8 and the Hi value of 80 is 542,473.2, which indicates that with a confidence level of 80%, we are sure that nil One method of measuring the degree of uncertainty in forecasting is this confidence interval. The uncertainty of the forecasting value increases with the confidence interval. Therefore the confidence intervals Lo 80 and Hi 80 give an idea of the extent to which we can trust the forecasting and to what extent the true value may range in the context of 80% forecasting. By understanding these confidence intervals,

stakeholders can plan appropriate strategies and take appropriate actions.

A significant element in this study was the 95% confidence interval (Lo 95 and Hi 95). Lo 95 and Hi 95 provide a broader picture of forecasting uncertainty in forecasting tables covering the years 2022–2033. The confidence interval of 95 is the lower limit, and Hi 95 is the upper limit. For example, in 2022, Lo 95 is about 509,790.7 and Hi 95 is about 549,313.3, which indicates that with a 95 percent confidence level, researchers believe that the true value will fall within this range. Due to this larger confidence interval, the level of uncertainty in forecasting increases. Confidence intervals are used in forecasting because it is impossible to make completely accurate predictions. Therefore, confidence intervals help us create a more realistic picture of possible variations in future forecasts. In the economic context of Bogor Regency, this tool is very useful because it helps stakeholders design flexible strategies and anticipate various possibilities.

From the explanation above, it can be described the prediction of MSME growth as follows.

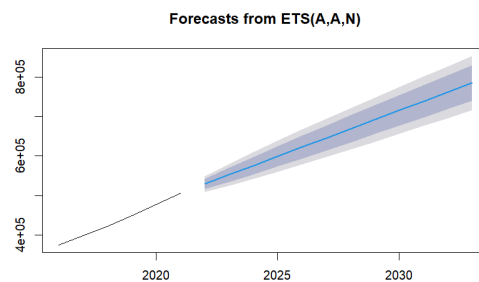Figure 1 Forecast Bogor Regency

4.2 Bandung

The author will discuss the results of forecasting research directly related to Bandung Regency in this subsection. The authors achieved significant results related to the Bandung Regency area through a careful research process and the use of the forecasting techniques they used. The results of the analysis that will be presented by the author in this subsection show the commitment and

efforts of the author as the sole author to obtain information and understand forecasting relevant to Bandung Regency. These results came after a complex process of data analysis and structured forecasting techniques. This subsection will discuss the results of forecasting on future trends and forecasts in Bandung Regency. These results will improve our understanding of

developments and changes that may occur in Bandung Regency over a period of time.

Table 2 Results of Bandung Regency Forecasting Data Analysis

Year	Point Forecast	Lo 80	Hi 80	Lo 95	Hi 95
2022	498,812	486,640.9	510,983.1	480,197.9	517,426.1
2023	520,670	503,457.5	537,882.5	494,345.7	546,994.3
2024	542,528	521,447.1	563,608.9	510,287.5	574,768.5
2025	564,386	540,043.8	588,728.2	527,157.9	601,614.1
2026	586,244	559,028.6	613,459.4	544,621.7	627,866.3
2027	608,102	578,289.1	637,914.9	562,507.0	653,697.0
2028	629,960	597,758.3	662,161.7	580,711.8	679,208.2
2029	651,818	617,393.0	686,243.0	599,169.5	704,466.5
2030	673,676	637,162.7	710,189.3	617,833.8	729,518.2
2031	695,534	657,045.6	734,022.4	636,671.1	754,396.9
2032	717,392	677,025.1	757,758.9	655,656.1	779,127.9
2033	739,250	697,088.1	781,411.9	674,769.0	803,731.0

Source: Personal analysis data, 2023

The years discussed in this study are very important to understand the changes and progress that occurred in Bandung Regency. The authors found that the period from 2022 to 2033 provides a significant picture of changes in this area over the long term. These years are an important period to observe the characteristics and changes that may affect the development of small and medium enterprises (MSMEs) in Bandung Regency. In this time frame, the author was able to see possible developments, as well as identify the influence of external and internal factors on the economic dynamics of the region. The forecasting method allows the author to explain how change and progress will occur in the next few years. This enables stakeholders to plan responsive and adaptive actions to deal with various future situations. In the next sub-chapter, researchers will explore the results of the analysis year by year to provide deeper insight into future changes that may occur in Bandung Regency.

The author seeks to understand and forecast the growth of small and medium enterprises (MSMEs) in Bandung Regency by using the predictions of this research point. The Point Forecast values listed from 2022 to 2033 are the result of a thorough analysis that reflects the midpoint estimates of each year that the authors studied thoroughly. For example, Point Forecast estimates that the number of MSMEs in Bandung Regency will amount to 498,812 in 2022. In contrast, Point Forecast values show the results of various variables that the author studied, analyzed, and processed. This value is more than just a statistical number. Point Forecast is a representation of a deep understanding of the components that influence the growth of small and medium enterprises (MSMEs) in the region. The author concentrates on Point Forecast in the context of this forecasting, which tells the beginning of a complex and dynamic journey. The author tries to find growth patterns, trends, and dynamics that have the potential to affect MSMEs in Bandung Regency by looking at the Point Forecast value every year.

The 80% confidence interval (Lo 80 and Hi 80) is very important for this writing. This confidence interval for Bandung Regency provides a broader picture of the level of uncertainty in forecasting. The limits of Lo 80 and Hi 80 form the range in which the author assumes about 80% that the true value will come in. For example, the author has an 80% confidence level that the number of MSMEs in Bandung Regency will be in this range by 2022, with a Lo 80 value of around 486,640.9 and Hi 80 of around 510,983.1. One method for measuring the degree of uncertainty in forecasting is this confidence interval. The 80% confidence interval helps authors understand the extent to which they can trust the forecast and the extent to which variability is likely to occur in the context of the 80% forecast. These confidence intervals are very useful for planning and decision making, especially when there is uncertainty in future forecasts. By knowing this time span, stakeholders in Bandung Regency can make flexible plans and take responsive actions to deal with various economic situations that may occur there.

The 95% confidence interval (Lo 95 and Hi 95) is an important component of this study that provides an in-depth picture of the level of uncertainty the author has in his forecasts for Bandung Regency. In every forecasting estimate the authors made, Lo 95 and Hi 95 were the lower and upper bounds of the range in which they were about 95%

sure that the true value would be in it. For example, with a confidence level of 95%, the author estimates that the number of MSMEs in Bandung Regency will be in the range between 480,197.9 and 517,426.1 in 2022. This confidence interval is wider than the 80% confidence interval, which suggests that the author limits the degree of uncertainty of the forecast. The 95% confidence interval for Bandung Regency provides a better understanding of possible variations in future forecasting. In terms of decision-making and planning, it helps stakeholders plan adaptive actions in the face of higher levels of uncertainty. By understanding the 95% Trust Interval, authors and stakeholders in Bandung Regency can take wiser action and formulate more efficient strategies to support sustainable growth in the MSME sector. From the entire description, it can be described as follows:

Figure 2 Bandung Regency Forecast

4.3 Sukabumi Regency

The author will discuss the results of forecasting research directly related to Sukabumi Regency in this subsection. The authors achieved significant results related to the area of Sukabumi Regency through a careful research process and the use of forecasting techniques they used. The results of the analysis that will be presented by the author in this subsection show the commitment and efforts of the author as the

sole author to obtain information and understand forecasting relevant to Sukabumi Regency. These results came after a complex process of data analysis and structured forecasting techniques. This subsection will discuss forecasting results on future trends and forecasts in Sukabumi Regency. These results will improve our understanding of developments and changes that may occur in Sukabum District over a period of time.
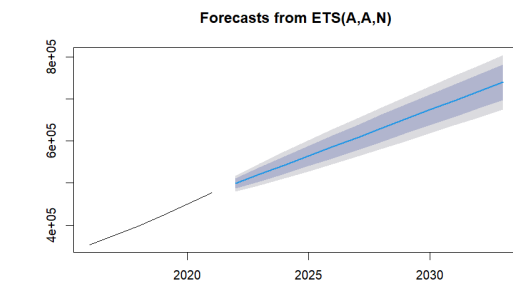
Table 3 Results of Forecaasting Analysis of Sukabumi Regency

Year	Point Forecast	Lo 80	Hi 80	Lo 95	Hi 95

2022	379,820	370,552.2	389,087.8	365,646.2	393,993.8
2023	396,464	383,357.4	409,570.6	376,419.2	416,508.8
2024	413,108	397,055.7	429,160.3	388,558.2	437,657.8
2025	429,752	411,216.5	448,287.5	401,404.3	458,099.7
2026	446,396	425,672.6	467,119.4	414,702.3	478,089.7
2027	463,040	440,338.7	485,741.3	428,321.3	497,758.7
2028	479,684	455,163.8	504,204.2	442,183.6	517,184.4
2029	496,328	470,114.8	522,541.2	456,238.3	536,417.7
2030	512,972	485,168.7	540,775.3	470,450.5	555,493.5
2031	529,616	500,308.7	558,923.3	484,794.4	574,437.6
2032	546,260	515,522.3	576,997.7	499,250.7	593,269.3
2033	562,904	530,799.5	595,008.5	513,804.4	612,003.6

Source: Personal analysis data, 2023

The study underwent a series of analyses and forecasts detailing forecasts of growth and change over the next few years. The years in the 2022 to 2033 timeframe took center stage in the study, and researchers carefully outlined forecasting results for each of these years. In this process, researchers pay attention to forecasting points that describe the forecasted values, as well as the limits of 80% and 95% confidence intervals to provide a complete picture of the level of uncertainty that may occur in this forecasting.

The first year, namely 2022, marks the beginning of the forecasting period. The forecasting points for the year were 379,820, reflecting the value that the researchers projected based on the forecasting method used. The 80% confidence interval for the year has a lower bound of 370,552.2 and an upper bound of 389,087.8, while a 95% confidence interval has a lower bound of 365,646.2 and an upper bound of 393,993.8. This confidence interval reflects the extent of possible variability in this forecasting, and by looking at this range, researchers can understand the extent to which these estimates can be trusted.

Furthermore, in 2023, the researchers' forecasting points will be 396,464. This is a growth projection for the year based on the data and forecasting methods used. The 80% confidence interval for 2023 has a lower bound of 383,357.4 and an upper bound of 409,570.6, while a 95% confidence interval has a lower bound of 376,419.2 and an upper bound of 416,508.8. In this analysis, researchers try to understand how forecasts for 2023 might vary in certain confidence levels, which certainly has implications for future planning and decision-making.

The following years, through 2033, show a continuous growth trend. In each year, researchers provide forecasting points that describe the estimated anticipated value. However, it is important to note that the 80% and 95% confidence intervals presented for each year illustrate the possible variability in this forecasting. By considering these confidence intervals, researchers can gauge the degree of uncertainty that might color the researchers' forecasts.

Forecasting points, or in simple terms, point estimation, are an important component in forecasting research for Sukabumi District. Each point in the table above reflects the projected economic growth in Sukabumi Regency for the year concerned, based on historical data and forecasting methods used in this study. These forecasting points provide an important reference point for stakeholders, researchers, and decision makers who want to understand and plan for the future of the region.

This table includes projections of economic growth in the period 2022 to 2033. In 2022, the forecasting point is 379.820. It shows the value that the researcher projects based on the data and the researcher's analysis. This reflects the baseline economic growth forecast for this year. But it should be noted that this is only the starting point of the researcher's journey in exploring the economic future of Sukabumi Regency.

The projection of forecasting points for subsequent years is also very important. This provides a clearer view of how economic growth in Sukabumi Regency is anticipated to develop from year to year. For example, in 2023, the forecasting point is 396,464, which describes the projected economic growth for the year. These projections are based on historical data and valid forecasting methods used in the study.

When we look at each year up to 2033, we can see a clear growth trend in these forecasting points. This is important because it provides insight into the long-term economic growth potential in Sukabumi Regency. These forecasting points also serve as a foundation for stakeholders to formulate better plans and policies, as well as to identify opportunities and challenges that may arise in the future.

In addition to these basic forecasting points, we also need to consider confidence intervals. The confidence interval is the range of possible values for this economic growth projection. For example, the 80% confidence interval for 2022 has a lower bound of approximately 370,552.2 and an upper bound of approximately 389,087.8. This indicates that with a confidence level of 80%, we can be sure that the forecasting points will be within this range.

The 95% confidence interval has a wider lower bound, about 365,646.2, and a higher upper bound, about 393,993.8. With this level of confidence, the range is wider, indicating a higher level of uncertainty. However, it provides a complete picture of possible variations in projections. The entire table can also be represented with the following image:
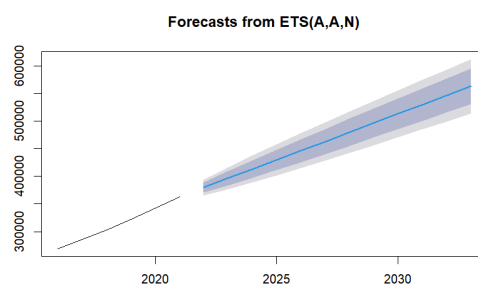

Figure 3 Forecast of Sukabumi Regency

The picture illustrates the prediction of the number of MSMEs in Sukabumi Regency from year to year until 2030

4.4 Cianjur Regency

The author will discuss the results of forecasting research directly related to Cianjur Regency in this subsection. The authors achieved significant results related to the area of Cianjur Regency through a careful research process and the use of the forecasting techniques they used. The results of the analysis that will be presented by the author in this subsection show the commitment and efforts of the author as the sole author to obtain information and understand forecasting relevant to Cianjur Regency. These results came after a complex process of data analysis and structured forecasting techniques. This subsection will discuss forecasting results on future trends and forecasts in Cianjur Regency. These results will increase our understanding of developments and changes that may occur in Cianjur Regency in a certain period of time, resulting in the following results.

Table 4 Table of Cianjur Regency Forecasting Data Analysis Results

Year	Point Forecast	Lo 80	Hi 80	Lo 95	Hi 95
2022	354,130	345,489.2	362,770.8	340,915.0	367,345.0

2023	369,648	357,428.0	381,868.0	350,959.1	388,336.9
2024	385,166	370,199.6	400,132.4	362,276.9	408,055.1
2025	400,684	383,402.3	417,965.7	374,253.9	427,114.1
2026	416,202	396,880.5	435,523.5	386,652.3	445,751.7
2027	431,720	410,554.3	452,885.7	399,349.9	464,090.1
2028	447,238	424,376.5	470,099.5	412,274.3	482,201.7
2029	462,756	438,316.0	487,196.0	425,378.2	500,133.8
2030	478,274	452,351.5	504,196.5	438,628.9	517,919.1
2031	493,792	466,467.2	521,116.8	452,002.4	535,581.6
2032	509,310	480,651.5	537,968.5	465,480.7	553,139.3
2033	524,828	494,895.2	554,760.8	479,049.8	570,606.2

Source: Personal analysis data, 2023

The table above provides a comprehensive picture of the projected economic growth of Cianjur Regency during the period from 2022 to 2033. As an author, this study allowed me to reveal significant results related to economic trends that occurred in the period.

First, let's focus on the period from 2022 to 2025. The table shows that the Point Forecast projection, which reflects the average economic growth in Cianjur Regency, in 2022 is projected to be around 354,130. This reflects positive growth projections in the regional economy at the beginning of the study period. Over the next three years, i.e. until 2025, it is estimated that economic growth will continue to accelerate, reaching 429,752 in that year. These projections show significant growth trends during this period, which could reflect a variety of factors including increased investment, growth of specific economic sectors, or effective strategic planning efforts by local governments.

Then, in the period 2026 to 2029, the projection of economic growth in Cianjur Regency continues to show a positive trend. In 2026, the Point Forecast is projected to reach 446,396, reflecting continued steady economic growth. In 2029, the projected economic growth will reach 496,328. Factors that might contribute to this growth trend could include supportive economic policies, infrastructure upgrades, or diversification of economic sectors. This positive trend illustrates that Cianjur Regency has a growing economic potential during this period.

The last period we will discuss is from 2030 to 2033. The table shows that economic growth projections continue to increase, reaching 562,904 by 2033. During this period, economic growth projections show significant improvements, which may reflect changes in economic policies, increased cooperation with the private sector, or other factors contributing to strong economic growth in Cianjur District.

Year 2022 to 2025. This table shows that in 2022, Point Forecast economic growth of Cianjur Regency is projected to reach 354,130. This is an important figure, as it reflects the economic conditions of the beginning of the study period. This economic growth trend is expected to continue to accelerate over the next three years, with projections to reach 429,752 by 2025. This created a solid picture of growth in the region during the initial period of the study.

Furthermore, in the period from 2026 to 2029, Point Forecast projections continue to show a positive growth trend. In 2026, the projection reaches 446,396, which is an indicator of consistency in economic growth. In 2029, the Point Forecast projection reaches 496,328, indicating that the Cianjur Regency area still maintains solid growth momentum. Factors that may be contributing to this

growth trend include local government efforts to improve infrastructure, boost investment, and stimulate potential sectors of the economy.

Finally, in the period from 2030 to 2033, this table notes that the economic Point Forecast projection of Cianjur Regency continues to increase, reaching 562,904 in 2033. This is an important milestone in this study, indicating that Cianjur Regency has stronger economic potential in the future. Positive economic growth in this period could be the result of a variety of factors, including supportive government policies, sustained investment, and strong cooperation with the private sector.

In reviewing the results of research analysis for Cianjur District, we can see that the data provided in the economic projection table has significant value in planning the development of this region. In recent years, Cianjur Regency has shown an encouraging trend of economic growth. In this paragraph, we will detail the results of the analysis to provide a deeper understanding of the economic journey of Cianjur Regency.

Economic Growth Trends: The economic projection table for Cianjur Regency shows that economic growth in recent years has experienced a steady increase. In 2022, the point forecast of economic growth reached 354,130 with an 80% confidence interval range (Lo 80) of around 345,489.2 and a 95% confidence interval (Lo 95) of around 340,915.0. This shows a conservative projection for the year, with higher growth potential, especially if we look at the 95% confidence interval range.

Investment Increase Potential: The results of this analysis show that Cianjur Regency has the potential to increase investment. With a stable economic growth projection, investors can see Cianjur Regency as a promising place to expand their business. Factors such as natural resources, infrastructure, and available labor are essential elements that can support higher economic growth. With the right development strategy, Cianjur Regency can attract more investments that will bring benefits to the economy and local communities.

Impact on Community Well-being: Increased economic growth also impacts people's well-being. With higher economic growth, it is expected to create new jobs and increase people's income. This has the potential to reduce poverty rates and improve people's access to education, health, and infrastructure services. Local governments and stakeholders need to ensure that the positive impact of this economic growth can be felt by all levels of society, especially those in rural areas.

Natural Resources Management: Cianjur Regency has the potential of natural resources that can support economic growth. In this context, there needs to be sustainable management to preserve these natural resources. Overutilization can threaten the environment and have a negative impact on the long term. Therefore, local governments must have sustainable policies in natural resource management, so as to provide long-term benefits.

Dependence on Certain Sectors: The results of economic projection analysis also raise concerns related to dependence on certain economic sectors. In some cases, rapid economic growth can be caused by rising prices of certain commodities. Therefore, economic diversification measures should be an important part of long-term planning. Cianjur Regency needs to maintain a balance between agriculture, industry, tourism, and other sectors to reduce risks depending on one sector.

Impact of the Pandemic and Global Economic Conditions: It is important to remember that economic growth projections are always vulnerable to changes in global economic conditions. The COVID-19 pandemic, for example, has had a major impact on economies around the world. Therefore, in planning economic growth in Cianjur District, it is necessary to consider the potential impact of global economic changes, and strive to become more resilient to external disturbances.

The results of the analysis of economic projections of Cianjur Regency show encouraging potential in terms of economic growth. However, prudent measures and sustainable strategies are needed to effectively manage this growth and ensure the benefits can be felt by the whole community. Communities, local governments, and other stakeholders must work. The results of the study can also be seen in the following figure:
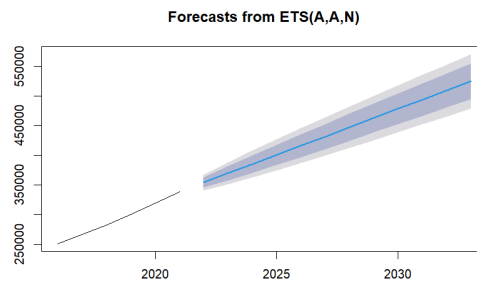

Figure 4 Results of Forecasting Analysis of Cianjur Regency

4.5 Garut Regency

The author will discuss the results of forecasting research directly related to Garut Regency in this subsection. The authors achieved significant results related to the Garut Regency area through a careful research process and the use of the forecasting techniques they used. The results of the analysis that will be presented by the author in this subsection show the commitment and efforts of the author as the sole author to obtain information and understand forecasting relevant to Garut Regency. These results came after a complex process of data analysis and structured forecasting techniques. This subsection will discuss forecasting results on future trends and forecasts in Garut Regency. These results will increase our understanding of developments and changes that may occur in Garut Regency in a certain period of time, resulting in the following results:

Table 5 Results of Forecasting Analysis of Garut Regency

Year	Point Forecast	Lo 80	Hi 80	Lo 95	Hi 95
2022	365,897	356,968.9	374,825.1	352,242.6	379,551.4
2023	381,931	369,304.8	394,557.2	362,620.8	401,241.2
2024	397,965	382,501.1	413,428.9	374,315.0	421,615.0
2025	413,999	396,142.8	431,855.2	386,690.3	441,307.7
2026	430,033	410,069.2	449,996.8	399,500.9	460,565.1
2027	446,067	424,197.7	467,936.3	412,620.8	479,513.2
2028	462,101	438,479.5	485,722.5	425,975.0	498,227.0
2029	478,135	452,882.5	503,387.5	439,514.7	516,755.3
2030	494,169	467,384.7	520,953.3	453,205.9	535,132.1
2031	510,203	481,969.9	538,436.1	467,024.1	553,381.9
2032	526,237	496,625.8	555,848.2	480,950.6	571,523.4

2033	542,271	511,343.1	573,198.9	494,970.9	589,571.1

Source: Personal analysis data, 2023

The results of data analysis related to estimated numbers or values called "Point Forecast" and 80% and 95% confidence intervals involving Garut Regency. In this context, "Point Forecast" refers to the estimated number or value in certain years, which in this case ranges from 2022 to 2033. "Lo 80," "Hi 80," "Lo 95," and "Hi 95" refer to 80% and 95% confidence intervals that give us information about the extent of uncertainty around these estimates.

To understand the results of the analysis better, we need to look in more detail at what is presented in this data table. The table shows the results of the forecasting analysis for the year ranges mentioned above. Each year has a "Point Forecast" number, which is the middle value of the forecast, which most likely represents our best forecast for the year. For example, in 2022, the "Point Forecast" is 365,897.

However, keep in mind that in forecasting analysis, it is important to consider the degree of uncertainty surrounding the forecast. Therefore, we also have "Lo 80" and "Hi 80," which represent the lower and upper bounds of the 80% confidence interval. In other words, we are 80% sure that the actual value will be between "Lo 80" and "Hi 80." Similarly, "Lo 95" and "Hi 95" represent the boundaries of the 95% confidence interval. This means we are 95% sure that the actual value will be between "Lo 95" and "Hi 95."

Analysis of this data is an important tool to assist us in better decision making, especially when we have forecasts or predictions where uncertainty is a significant factor. The 80% and 95% confidence intervals give us a more complete picture of the level of uncertainty around our forecasts. For example, if we only look at the "Point Forecast" for 2022, we might only get one number. However, by looking at "Lo 80" and "Hi 80" as well as "Lo 95" and "Hi 95," we get a much richer picture of the extent of possible variations.

Garut District is the location of research in this context, and the results of this analysis can be used to make better decisions in various contexts, such as budget planning, human resource planning, or regional development planning. By having confidence intervals, we can better gauge risk and uncertainty and make more informed decisions.

However, it is very important to remember that this analysis is only a tool that helps in decision making. Conditions on the ground, external changes, and other factors can also affect actual future results. Therefore, the use of the results of this analysis should be considered in conjunction with the broader context and with a good understanding of the underlying assumptions.

It is also important to plan an appropriate response strategy based on the results of this analysis, so that Garut District can respond effectively to existing forecasts and uncertainties. This includes budget planning, development planning, and other actions necessary to achieve the goals that have been set.

Thus, this analysis is a very important tool in the context of planning and decision making in Garut District. By understanding the value of "Point Forecast" and confidence intervals of 80% and 95%, stakeholders in Garut District can make better decisions and plan responses accordingly to achieve the goals that have been set.

5. CONCLUSION

Based on the results of the research that the author has made on the page above, the following implications can be taken:

1. The results of research on the profile of MSMEs in Bogor Regency, Bandung Regency, Sukabumi Regency, Cianjur, and Garut Regency illustrate significant diversity in the characteristics and dynamics of the MSME sector in each region. MSMEs in

West Java have become an important pillar in developing the cultural and economic heritage of the region. Since the pre-independence period, many MSMEs started from traditional businesses such as batik, weaving, and ceramics, becoming a vital vehicle for caring for and developing the cultural wealth of the people of West Java. Post-independence, full support from the central and provincial governments through various training programs, capital assistance, and access to markets has illustrated their commitment to spur MSME growth amid economic and technological changes. Factors such as cooperation between MSMEs, increased access to finance, technology utilization, partnerships, and human resource empowerment are key to the significant development of the MSME sector in West Java. Currently, MSMEs in the province, which include the food and beverage, handicraft, fashion, agriculture, and other sectors, have successfully developed products with local characteristics, utilized e-commerce platforms, and achieved certification for market expansion. Despite facing challenges of intense competition, access to capital, human resources, financial management, and seasonal market character, MSMEs in West Java remain the backbone of the region's economy, making important contributions to economic growth, job creation, and poverty alleviation.

2. The forecasting results for Bogor, Bandung, Sukabumi, Cianjur, and Garut districts provide an in-depth picture of projected economic growth in these regions. Overall, there is a positive trend in the Point Forecast for each district during the period 2022 to 2033. Each district showed an increase in Point Forecast value from year to year, reflecting solid economic growth potential.

3. MSMEs have an integral role in stimulating economic growth and creating positive social impacts in various districts. Strategic measures in each district, such as strengthening MSMEs, collaboration between sectors, and capacity building, have been implemented to maximize local economic potential.

Recommendations

To optimize the role of MSMEs in economic growth and build a resilient economic defense in West Java, an integrated approach that includes a number of strategic steps is needed.

1. Strategic advice to improve the profile and condition of MSMEs in West Java. Strengthening supporting infrastructure, information technology training programs, MSME cooperation with research institutions, special support for superior sectors, and increased collaboration between districts are key. With these steps, it is expected that MSMEs can be more innovative, competitive, and contribute significantly to West Java's overall economic growth.

2. It is necessary to strengthen digital literacy and IT-specific training for MSME actors in West Java. Local governments, especially in Bandung Regency, can formulate policies that encourage IT adoption in MSME business processes, such as e-commerce and digital marketing. Also, collaboration between MSMEs and research institutions is needed to identify relevant IT trends and potentially increase competitiveness.

    Strengthening cooperation between MSMEs and local governments, especially in the provision of supporting facilities and access to markets. Expansion of financial access to support MSME capital, focusing on Bogor, Bandung, Sukabumi, Cianjur, and Garut

regencies. Training and mentoring programs are needed to improve the skills and competitiveness of MSMEs, especially in Sukabumi, Cianjur, and Garut regencies. Fourth, stimulate collaboration between MSMEs and universities in Bandung Regency to encourage innovation and improvement of local products.

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