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# *Is The Blue Economy A Driver Of Fisheries Sector Growth In Java?*

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## Abstract

The blue economy is one of the main strategies for promoting sustainable economic growth, particularly in maritime countries such as Indonesia. The potential for developing the blue economy in Indonesia, especially on the island of Java, is enormous, with the value of capture fisheries production showing a positive trend every year. However, when viewed from the contribution of the fisheries sector to GDP, it is still small compared to other sectors, accounting for around 2.54% of total national GDP in 2024. This study aims to analyze the impact of the blue economy, measured through production value, the number of fishing households and fishing companies (RTP-PP), and the realization of fisheries sector investments on the regional domestic product (GRDP) of six provinces (Banten, Jakarta Special Capital Region, West Java, Central Java, Yogyakarta Special Region, and East Java) on the island of Java. The research method used is quantitative analysis with a multiple regression model using the common effect model (CEM) as the selected model in this study. The data used are sourced from the Central Statistics Agency (BPS) and the Ministry of Marine Affairs and Fisheries (KKP) for the period 2018–2022. The findings of this study indicate that the blue economy sector, specifically the value of fisheries production and RTP-PP, has a positive and significant impact on the GRDP of the six provinces on the island of Java from 2018 to 2022. However, the variable of actual investment in the fisheries sector has a less significant impact on the fisheries sector GRDP in Java. The results of this study indicate that increasing the fisheries production sector and the number of RTP-PP can serve as drivers in maximizing the economic benefits of the blue economy for the growth of the fisheries sector. Therefore, the government needs to optimize policies that encourage factors in the blue economy oriented toward sustainability and efficiency in the fisheries and marine sectors.

*[Ekonomi biru adalah salah satu strategi utama untuk mendorong pertumbuhan ekonomi berkelanjutan, khususnya di negara-negara maritim seperti Indonesia. Potensi pengembangan ekonomi biru di Indonesia, khususnya di Pulau Jawa, sangat besar, dengan nilai produksi perikanan tangkap menunjukkan tren positif setiap tahun. Namun, jika dilihat dari kontribusi sektor perikanan terhadap PDB, masih kecil dibandingkan sektor lain, hanya sekitar 2,54% dari total PDB nasional pada tahun 2024. Studi ini bertujuan untuk menganalisis dampak ekonomi biru, yang diukur melalui nilai produksi, jumlah rumah tangga perikanan dan perusahaan perikanan (RTP-PP), serta realisasi investasi sektor perikanan terhadap produk domestik regional bruto (PDRB) enam provinsi (Banten, DKI Jakarta, Jawa Barat, Jawa Tengah, Daerah Istimewa Yogyakarta, dan Jawa Timur) di Pulau Jawa. Metode penelitian yang digunakan adalah analisis kuantitatif dengan model regresi berganda menggunakan model efek umum (CEM) sebagai model yang dipilih dalam penelitian ini. Data yang digunakan bersumber dari Badan Pusat Statistik (BPS) dan Kementerian Kelautan dan Perikanan (KKP) untuk periode 2018–2022. Temuan penelitian ini menunjukkan bahwa sektor ekonomi biru, khususnya nilai produksi perikanan dan RTP-PP, memiliki dampak positif dan signifikan terhadap PDRB enam provinsi di Pulau Jawa dari tahun 2018 hingga 2022. Namun, variabel investasi aktual di sektor perikanan memiliki dampak yang kurang signifikan terhadap PDB sektor perikanan di Jawa. Hasil penelitian ini menunjukkan bahwa peningkatan sektor produksi perikanan dan jumlah RTP-PP dapat berfungsi sebagai pendorong dalam memaksimalkan manfaat ekonomi biru bagi pertumbuhan sektor perikanan. Oleh karena itu, pemerintah perlu mengoptimalkan kebijakan yang mendorong faktor-faktor dalam ekonomi biru yang berorientasi pada keberlanjutan dan efisiensi di sektor perikanan dan kelautan].*

**Keywords**: *Blue Economy, GRDP, Fisheries, Investment*

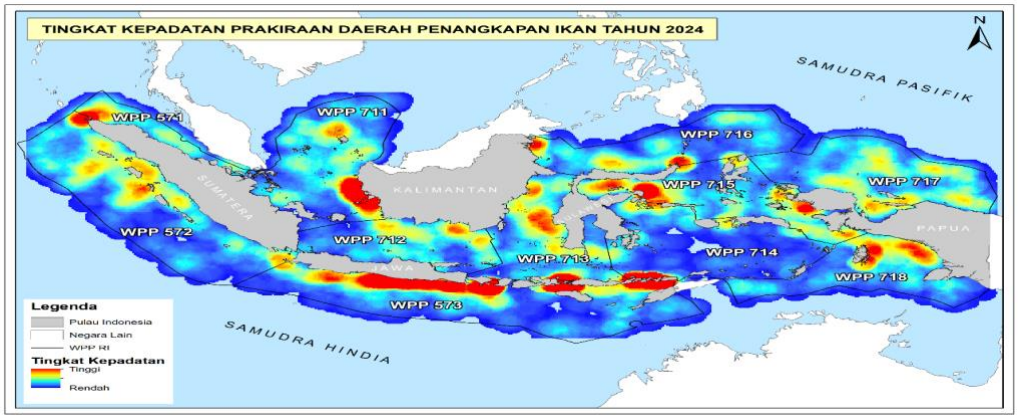
## Introduction

Indonesia's fisheries sector has enormous potential as one of the main pillars of the country's economy. Indonesia, known as an archipelago with more than 17,000 islands, has a vast marine area of approximately 5.8 million km², making it one of the countries with the largest potential fisheries resources in the world (Alifa & Zahidi, 2024). Indonesia's fishery, crustacean and mollusc products, such as tuna, shrimp and various other processed marine products, are in high demand in the international market. In 2024, Indonesia's fishery product exports were recorded at more than 406 million USD, with a total export weight of 90.2 million kilograms, indicating that this sector contributes significantly to the Indonesian economy, both in terms of domestic food supply and in terms of foreign exchange earnings (BPS, 2024).

Although the fisheries sector has enormous potential, there are still various challenges that hinder the optimization of its contribution to Indonesia's economic

growth. One of the main challenges is the low productivity and competitiveness of the fisheries sector in the global market. According to a report from FAO (2020), Indonesia faces a number of structural problems, such as resource management that is not fully sustainable, limited technology, and low quality of exported products (FAO, 2020). This results in limited export volumes and the ability of the fisheries sector to have a greater impact on the Indonesian economy.

**Figure 1. Map of the Density Level of Fishing Areas in Indonesia in 2024**




*Source: Ministry of Marine Affairs and Fisheries, 2024*

Looking at the growing fisheries sector in Indonesia, one of the islands that contributes greatly to the productivity of this sector is Java. Based on Figure 1, the density of fisheries in the Java Sea is very large and potential. According to data from the 2024 marine and fisheries statistics report published by the Ministry of Maritime Affairs and Fisheries (2024), where the gross regional domestic product (GRDP) of Java Island in 2022 alone became one of the largest in Indonesia, which amounted to 111, 935 thousand billion rupiah, This figure is quite large when compared to other islands in Indonesia, with East Java Province as the province with the highest GRDP in Java, which is worth 64, 355 thousand billion rupiah, followed by West Java at 24,517 thousand billion rupiah, and the smallest GRDP is the Special Region of Yogyakarta Province, which is only 679 billion rupiah (Kementerian Kelautan dan Perikanan, 2024).

One factor that can strengthen the competitiveness of the fisheries sector in Java is investment. Investment has the potential to bring new technology, improve infrastructure, and expand production and processing capacity in the fisheries sector. Based on data from the World Bank (2021), domestic and foreign investment can play an important role in supporting the transformation of the fisheries sector by introducing new technologies that are more efficient and environmentally friendly (Li & Liu, 2022). However, although investment has started to arrive in the sector, its distribution is still limited to a few specific subsectors, such as capture fisheries and processing, while the fish farming subsector still has difficulties in attracting investors (FAO, 2020).

When viewed nationally, the GRDP of the fisheries sector on the island of Java also shows significant growth, although it is not as high as other sectors in the

economy. Meanwhile, reflecting on national data, according to data from the Ministry of Maritime Affairs and Fisheries (KKP) 2020 in (Christiana et al., 2024), The GDP of Indonesia's fisheries sector in 2020 was recorded at around 2.8% of the total national GDP. The GDP of this sector is mostly contributed by the capture fisheries and fish farming subsectors. Meanwhile, when looking at the 2 provinces in Java with the largest fisheries sector GDP, namely West Java and East Java, the contribution of the fisheries sector has not yet become a leading sector in the distribution of GDP according to agriculture, forestry and fisheries business fields, in 2024 the fisheries sector in West Java only contributed 10.56% and East Java 20.07% (Badan Pusat Statistik, 2025a). This is less than the agriculture and livestock sector, which contributes around 75% - 88% (Badan Pusat Statistik, 2025).

However, the contribution of the fisheries sector to the national GDP is still low when compared to its potential. This shows that Indonesia's fisheries sector has not been able to optimize existing resources to increase national economic growth.

In this regard, the role of investment in the fisheries sector needs to be explored further. Although many studies have discussed the impact of investment on other sectors in the economy, research that examines the role of investment in the fisheries sector in Java Island. Previously, a study conducted by Kadek, Dwi, and Gede (2021) showed that foreign investment did not have a significant impact on economic growth and the fisheries sector (Putri et al., 2021). Based on this, the research to be studied will later seek the truth of the results with a case study in Indonesia, through the role of foreign investment as a moderating variable in the relationship between the blue economy and economic growth. In addition, there is research from Chess and Rifki (2023), where the results of their research found that the value of fisheries production has a positive effect on Indonesia's GDP (Desta Sari & Khoirudin, 2023).

This study aims to fill the existing research gap by examining the role of production value, fishery households - fishery companies (RTP-PP), and investment realization on gross regional domestic product (GRDP) in 6 provinces in Java (Banten, DKI Jakarta, West Java, Central Java, DI Yogyakarta, East Java). The main theory used in this study is the economic growth theory that incorporates factors of production, such as investment, exports, and sector productivity, which affect the rate of economic growth.The growth model adapted from Solow (1956) and Romer (1990) shows that investment in technology and increased production capacity can accelerate economic growth by increasing the efficiency and competitiveness of the sector (Romer, 1990; Solow, 1956). In this context, investment can serve as a factor that accelerates this process.

The urgency of this research is very large, considering that the Indonesian fisheries sector, especially the Java Sea has enormous potential to encourage economic growth, improve food security, and strengthen the contribution of the fisheries sector to exports on the island of Java. By digging deeper into the role of investment in the fisheries sector in moderating the influence of production value, exports, and the number of RTP-PP on the GRDP of the Fisheries Sector in Java Island, the results of this study can make an important contribution in formulating more effective policies

to increase the contribution of the fisheries sector to the economy in Java Island, more broadly in Indonesia.In addition, the results of this study are expected to provide policy recommendations for the government and related parties to create a more conducive investment climate in the fisheries sector.

## Research Method

The research method used is quantitative analysis with multiple linear regression models. By using panel data (cross section and time series), then testing the model selection. According to Basuki (2016), there are 3 model approaches, namely the common effect model (CEM), fixed effect model (FEM), and random effect model (REM) (Basuki, 2016). This method was chosen because it has the ability to test the relationship between the independent variable and the dependent variable (Ngatno, 2015). The panel data used in this study, namely 6 provinces in Java (Banten, DKI Jakarta, West Java, Central Java, Yogyakarta, and East Java) and the time range starts from 2018 - 2022. The data used is sourced from the Central Bureau of Statistics (BPS) and the Ministry of Maritime Affairs and Fisheries (KKP).

As for the research framework of the multiple linear regression model, it is described as follows:

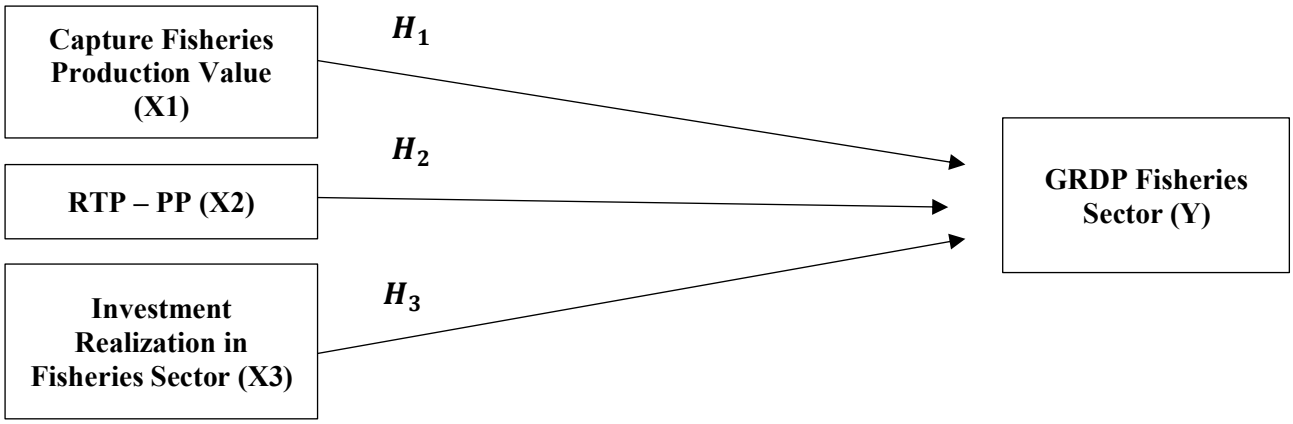



**Figure 2. Research Framework**

## Results

**Table 1. Chow Test**

| Effects Test | Statistic | d.f. | Prob. |
|---|---|---|---|
| Cross-section F | 0.913817 | (5,21) | 0.4911 |
| Cross-section Chi-square | 5.905845 | 5 | 0.3155 |

*Source: Data processed through Eviews 13, 2025*

Based on the Chow test results, it can be seen that the probability result is 0.351> 0.05. This shows that the test that matches this research is the Common Effect Model (CEM).

**Table 2. *Legrange Multiplier Test***

Lagrange Multiplier Tests for Random Effects
Null hypotheses: No effects
Alternative hypotheses: Two-sided (Breusch-Pagan) and one-sided (all others) alternatives

| | Test Hypothesis | | |
|---|---|---|---|
| | Cross-section | Time | Both |
| Breusch-Pagan | 0.062507<br>(0.8026) | 2.179367<br>(0.1399) | 2.241873<br>(0.1343) |
| Honda | -0.250013<br>(0.5987) | -1.476268<br>(0.9301) | -1.220665<br>(0.8889) |
| King-Wu | -0.250013<br>(0.5987) | -1.476268<br>(0.9301) | -1.267021<br>(0.8974) |
| Standardized Honda | 0.004689<br>(0.4981) | -1.328299<br>(0.9080) | -4.113390<br>(1.0000) |
| Standardized King-Wu | 0.004689<br>(0.4981) | -1.328299<br>(0.9080) | -4.143227<br>(1.0000) |
| Gourieroux, et al. | -- | -- | 0.000000<br>(1.0000) |

*Source: Data processed through Eviews 13, 2025*

After previously selecting the Common Effect model test, the next step is to choose between the two models, namely the Common Effect Model (CEM) or the Random Effect Model (REM). And based on the results of the Legrange Multiplier test, the value obtained is 0.417 > 0.05. So it is certain that the best model in this study is the Common Effect Model (CEM).

## Classical Assumption Test Results

Based on the selection of the Common Effect Model (CEM) as the model used, it is necessary to test the classical assumptions, according to Basuki and Yuliadi (2014) and Napitupulu, et al (2021), when the CEM is selected, the classical assumption test used is only multicollinearity and heteroscedasticity (Basuki, 2014; Napitupulu et al., 2021).

**Table 3. Multicollinearity Test (*Pair Wise Correlation*)**

| | X1 | X2 | X3 |
|---|---|---|---|
| X1 | 1.000000 | 0.566925 | 0.473651 |
| X2 | 0.566925 | 1.000000 | 0.447367 |
| X3 | 0.473651 | 0.447367 | 1.000000 |

*Source: Data processed through Eviews 13, 2025*

Looking at the multicollinearity test results, the correlation coefficient between X1 and X2 is 0.56 < 0.85, X1 and X3 are 0.47 < 0.85, and X2 and X3 are 0.44 < 0.85. So it can be concluded that this research data is free from multicollinearity.

**Table 4. Heteroscedasticity Test (*Glejser*)**

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | 5215.723 | 1420.779 | 3.671031 | 0.0011 |
| X1 | 5.47E-05 | 0.000282 | 0.194049 | 0.8476 |
| X2 | 0.052791 | 0.032231 | 1.637881 | 0.1135 |
| X3 | 2.47E-06 | 0.001644 | 0.001502 | 0.9988 |

*Source: Data processed through Eviews 13, 2025*

The Glejser test results show that the probability value of X1 (0.84) > 0.05, X2 (0.11) > 0.05, and X3 (0.99) > 0.05. In that sense, the independent variables in this study do not occur symptoms of heteroscedasticity.

## Regression Test Results

**Table 5. T Test Results**

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| C | -7786.429 | 2912.339 | -2.673600 | 0.0128 |
| X1 | 0.002211 | 0.000578 | 3.825160 | 0.0007 |
| X2 | 0.325268 | 0.066068 | 4.923196 | 0.0000 |
| X3 | 0.005689 | 0.003369 | 1.688670 | 0.1032 |

*Source: Data processed through Eviews 13, 2025*

## Partial Testing (T Test)

Based on the results of the above calculations, the multiple regression line equation is as follows:

$$\boldsymbol{Y = -7786 + 0,0022X_1 + \ 0,3252X_2 + 0,0056X_3 \ + \varepsilon_i}$$

Information:

$\boldsymbol{Y}$ : Gross Regional Domestic Product (GRDP) of Fisheries Sector

$\boldsymbol{X_1}$: Capture Fisheries Production Value

$\boldsymbol{X_2}$: Number of Fishery Households-Fishery Companies (RTP-PP)

$\boldsymbol{X_3}$: Investment Realization in Fisheries Sector

The result of multiple regression equation above gives the meaning that the value of fisheries production (X1), the number of households of fisheries-fisheries companies (RTP-PP) (X2), investment realization in fisheries sector (X3) affect the gross regional domestic product (GRDP) of fisheries sector (Y):

a) The constant value of -7786 can be interpreted that if all the independent variables of fisheries production value (X1), the number of fishery households-fishery companies (RTP-PP) (X2), realization of investment in the fisheries

sector (X3) are considered constant or unchanged, then the gross regional domestic product (GRDP) of the fisheries sector will decrease

b) The test results of the influence between the value of production on gross regional domestic product of fisheries sector in 6 provinces in Java, showed the value of *t-count* 3.825 > *t-table* 2.048 and *Probability (sig)* of 0.000 which is below alpha 5%. This means that the value of capture fisheries production has a positive and significant effect on the gross regional domestic product of the fisheries sector in 6 provinces in Java. If the production value increases by 1 billion, the economic growth increases by 0.002 billion.

c) The test results of the influence between the number of RTP-PP on gross regional domestic product of fisheries sector in 6 provinces in Java, showed the value of *t-count* 4.923 > *t-table* 2.048 and *Probability (sig)* of 0.000 which is below alpha 5%. This means that the number of capture fisheries RTP-PP has a positive and significant effect on gross regional domestic product of fisheries sector in 6 provinces in Java. If RTP-PP increases by 1 unit, the GDP of fisheries sector will increase by 0.32 billion

d) The test result of the influence between investment realization in fisheries sector on gross regional domestic product of fisheries sector in 6 provinces in Java, shows the value of *t-count* 1.688 < *t-table* 2.048 and *Probability* (sig) of 0.103 which is above alpha 5%. This means that investment realization is not significant to the gross regional domestic product of fisheries sector in 6 provinces in Java

## Simultaneous Testing (F Test)

**Table 6. F Test Results**

| | | | |
|---|---|---|---|
| R-squared | 0.821517 | Mean dependent var | 16530.90 |
| Adjusted R-squared | 0.800922 | S.D. dependent var | 20135.50 |
| S.E. of regression | 8984.083 | Akaike info criterion | 21.16786 |
| Sum squared resid | 2.10E+09 | Schwarz criterion | 21.35469 |
| Log likelihood | -313.5179 | Hannan-Quinn criter. | 21.22763 |
| F-statistic | 39.89059 | Durbin-Watson stat | 2.102726 |
| Prob(F-statistic) | 0.000000 | | |

*Source: Data processed through Eviews 13, 2025*

Based on table 6, the results of data processing using the Eviews 13 tool can be seen that the value of *F-statistic* > *F-table*, namely the value of both is 39.890 > 2.991, which when looking also at the Probability *F-statistic* value of 0.000 < 0.05. These results provide a conclusion that simultaneously, the variables of production value, household fisheries-fisheries companies (RTP-PP), and investment realization have a significant influence on the gross regional domestic product (GRDP) of the fisheries sector in 6 provinces (Banten, DKI Jakarta, West Java, Central Java, DI Yogyakarta, and East Java) on Java Island

### Testing the Coefficient of Determination (Adjusted R-square)

Looking at the test results in table 4.5. It can be seen that the *adjusted R-squared* value is *adjusted R-Square* of 0.800, which means that the value of production, RTP-PP, and investment realization on the GRDP of the fisheries sector in 6 provinces (Banten, DKI Jakarta, West Java, Central Java, DI Yogyakarta, and East Java) on the island of Java contributes an influence of 80%, while the remaining 20% is influenced by other variables outside this study.

## Discussion

### Effect of Production Value on GRDP of Fisheries Sector

The results of hypothesis testing show that the *probability* value is 0.0007 < 0.05, and the *t-statistic* is 3.825 > 2.048 t-table, where these results explain the variable value of fisheries production has a positive and significant influence on the gross regional domestic product (GRDP) of the fisheries sector in the gross regional domestic product (GRDP) of the fisheries sector of 6 provinces (Banten, DKI Jakarta, West Java, Central Java, DI Yogyakarta, and East Java) in Java Island in 2018-2022. This finding is certainly in line with previous research, namely Sari and Khoirudin (2023), the conclusion of their research states that fisheries production has a positive and significant effect on economic growth in Indonesia (Sari & Khoirudin, 2023).

According to Untoro (dalam Regina, 2022), it is also explained that increasing productivity will certainly increase total economic growth as a whole, economic growth is an increase in economic activity that encourages increased production of goods and services in society and increases the level of community welfare in a sustainable manner in the long term. So in this case, the higher the level and value of production produced by the fisheries sector, the higher the economic growth in the fisheries sector should be.

The results of this research show that productivity in the fisheries sector, especially in this study related to capture fisheries, needs to be continuously improved. Because the more fish catches made by fishermen in households of fisheries-fisheries companies (RTP-PP), the economic growth (PRDB) of the fisheries sector will also increase, in this case occurring in 6 provinces (Banten, DKI Jakarta, West Java, Central Java, DI Yogyakarta, and East Java) on the island of Java.

### Effect of RTP-PP on GRDP of Fisheries Sector

The results of hypothesis testing show that the *probability* value of 0.0000 < 0.05, and the *t-statistic* of, 4.923 > 2.048 where these results explain the variable household fisheries-fisheries companies (RTP-PP) has a positive and significant influence on the gross regional domestic product (GRDP) of the fisheries sector in the Provinces (Banten, DKI Jakarta, West Java, Central Java, DI Yogyakarta, and East Java) on Java

Island in 2018-2022. The findings of this study strengthen previous research, namely Mardyani and Yulianti (2020), in their research explained that the fisheries sector workforce has a significant effect on economic growth in the Bangka Belitung Islands Province (Mardyani & Yulianti, 2020). Another study from Ng'onga et al (2019), set in Zambia, the results of their research show that fishery households (RTP) contribute positively to the local economy and national fish yields, with a significant effect of fishery economic units (boats and fishermen) on annual fishery yields and local GDP. This potential contribution can be optimized through effective policies and regulations (Ng'onga et al., 2019).

This research is also in line with the theory used, namely the theory of economic growth from Solow (1956), which explains that there is a human resource factor (HR) or can also be referred to as labor (labor), in the household fishery-fishery company (RTP-PP), which is the labor here is the fishermen who are members of the fishery company (Solow, 1956).

In addition, the results of this analysis provide a view that the greater the quantity or number of fishery households-fishery companies (RTP-PP) operating to capture or cultivate fisheries, the more productivity will increase, which in turn will encourage an increase in the gross regional domestic product (GRDP) of fisheries, in this study, namely in 6 provinces (Banten, DKI Jakarta, West Java, Central Java, DI Yogyakarta, and East Java) on the island of Java.

### Effect of Invesmenet in Fisheries Sector on GRDP of Fisheries Sector

The test results of the investment realization variable in the fisheries sector on the GRDP of the fisheries sector resulted in a *probability* value of 0.103> 0.05, and a *t-statistic* of 1.688 < 2.048 where these results explain that the investment realization variable has a positive influence, but is not significant to the gross regional domestic product (GRDP) of 6 provinces (Banten, DKI Jakarta, West Java, Central Java, DI Yogyakarta, and East Java) on the island of Java in 2018-2022. The findings of the results of this study support the results of previous research, namely research conducted by Nguyen and Trinh (2018), in the case of Vietnam, which shows that public investment in Vietnam has an inverted-U pattern of influence, where positive effects only occur in the short term, but in the long term it limits economic growth. In other words, public investment does not always have a sustainable positive impact on national economic growth (Nguyen & Trinh, 2018). And in research from Bo Xu (2024), the results of his research related to the Fisheries case study in Zhoushan explained that there was a significant positive mutual encouragement effect between fishing fisheries investment and marine fisheries economic growth; Marine fisheries technological progress and marine fisheries economic growth also have a significant positive mutual encouragement effect (Xu, 2024).

The results of this research with the theory are not fully aligned, because when viewed from Solow's theory (1956), one of the factors that support economic output growth is capital, where the capital is obtained one of them from incoming investment,

both domestic investment and foreign investment. The more investment that comes in, the more the output level will increase (Solow, 1956).

In addition, this research also provides an overview and view of the role of investment that does not necessarily fully drive the level of output growth significantly, because when talking about investment in the long term, the incoming investment cannot immediately have a positive impact on increasing output (Alsaleh & Yang, 2023). In addition, this research also provides an overview and view of the role of investment that does not necessarily fully drive the level of output growth significantly, because when talking about investment in the long term, the incoming investment cannot immediately have a positive impact on increasing output.

## Conclusion

Based on the results of the research conducted, it can be concluded that the blue economy through the variable value of fisheries production and the number of fisheries households-fisheries companies (RTP-PP) has a positive and significant influence on the Gross Regional Domestic Product (GRDP) of the fisheries sector in the six provinces of Java Island during the period 2018-2022. Both variables are statistically proven to be the main drivers in increasing the economic output of the regional fisheries sector. This finding shows that optimizing the potential of marine and fisheries is not only able to encourage local economic growth, but also has a chain effect on the welfare of coastal communities and fisheries businesses in the region. As for the variable investment realization in the fisheries sector, although the numbers show a positive influence, the value is not significant enough to affect the gross regional domestic product (GRDP) of 6 provinces (Banten, DKI Jakarta, West Java, Central Java, DI Yogyakarta, and East Java) in Java Island in 2018-2022. Simultaneously, production value, RTP-PP, and investment realization have a significant influence on GRDP, and in testing the coefficient of determination, the three variables contribute 80% of the influence on GRDP of the fisheries sector in 6 provinces in Java Island.

Thus, the results of this study emphasize the importance of encouraging production and increasing the number of human resources in the fisheries sector absorbed into household fisheries-fisheries companies (RTP-PP) to contribute to the increase in gross regional domestic product (GRDP) in Java Island. And for investment, perhaps the positive effect cannot be felt directly, it takes a long time, because the impact of increased investment will be in line with the growth of production output.

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