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# The Influence of Investment Factors, International Trade, and Agricultural Policy on Economic Growth in the Agricultural Sector: A Case Study on a Cattle Farmer in West Java

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## ABSTRACT

This research investigates the dynamic interplay of investment factors, international trade, and agricultural policies on the economic growth of cattle farming in West Java. Employing a quantitative approach, data from a sample of 110 cattle farmers were analyzed using regression analysis and SPSS version 26. The findings reveal significant positive relationships between investment factors, international trade, agricultural policies, and economic growth. Increased investments in infrastructure, technology, and human capital, active engagement in international trade, and supportive agricultural policies emerge as key drivers of economic prosperity within the cattle farming sector. The study contributes nuanced insights that can inform targeted interventions and policy formulations for sustainable agricultural development in West Java.

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## 1. INTRODUCTION

Agriculture plays a crucial role in economic development, contributing to livelihoods and driving sustainable growth in many countries. It is the largest employer, providing income and jobs for rural households [1]. Increased agricultural productivity leads to higher incomes for farmers, which in turn raises demand for industrial output and non-farm goods [2]. The development of the agricultural sector is essential for overall economic growth in developing countries [3]. However, there are challenges such as price instability and fluctuations in agricultural product prices, which can negatively impact farmers [4]. To address these challenges, policymakers

intervene in the agricultural sector to reduce price instability and protect agricultural producers. Additionally, the use of modern technology, such as precision agriculture and robotic systems, can increase the quantity and quality of agricultural products, making farming more profitable, efficient, and environmentally friendly.

Cattle farming plays a crucial role in the local economy, providing both food security and income for households. The economic prosperity of this sector is influenced by various factors. Investment in the livestock sector, particularly through profit-sharing systems, has been shown to benefit both livestock investors and local farmers, contributing to the quality of local

livestock products [5]. Additionally, public policies aimed at promoting sustainable cattle farming have been implemented in several countries, focusing on reducing greenhouse gas emissions and implementing silvo-pastoral systems [6]. To meet the increasing demands for meat and dairy products while mitigating the environmental impact, smallholder cattle farmers in low-medium income countries can focus on improving the productivity of their herds. This can be achieved through simple and cost-effective options, leading to improved profitability, reduced greenhouse gas emissions, and overall benefits for the farmers and their communities [7].

West Java is a region in Indonesia that has a significant focus on the agricultural sector, particularly cattle farming. The development of beef cattle in West Java has had a positive impact on increasing people's income and improving their welfare [8]. The agricultural sector, including livestock farming, plays an important role in the economy of West Java [9]. Additionally, the tradition of "talun-kebun" in West Java, which involves shifting between cultivation and wet rice production, has been a part of the local agricultural tradition [10]. The government of Indonesia and the government of West Java Province can undertake policies to revive and utilize this tradition as a model of local permaculture to increase food production in a sustainable manner and rehabilitate critical land [11]. Overall, West Java's agricultural sector, including cattle farming, is a significant component of the region's agrarian landscape [12]. The quest to unravel the dynamics influencing the economic growth of cattle farming in West Java is a critical undertaking. The region's unique agricultural challenges and opportunities beckon researchers and policymakers to scrutinize the interplay of investment, international trade, and governmental policies.

Understanding how these factors coalesce to shape the economic trajectory of cattle farming is paramount for crafting strategies that not only fortify the resilience of the sector but also align it with broader

national economic goals. In light of the aforementioned considerations, this research embarks on a journey to explore the multifaceted relationships between investment factors, international trade, agricultural policy, and economic growth within the cattle farming sector of West Java.

## 2. LITERATURE REVIEW

### *2.1 Economic Growth in Agriculture*

Investment in agriculture is essential for economic growth and poverty alleviation. A thriving agricultural sector can act as a catalyst for overall economic development, leading to increased incomes and reduced poverty levels. Previous studies have emphasized the positive correlation between agricultural investment and economic growth. This investment can take many forms, including physical infrastructure development, technological advancement, and human resource development. Understanding the specific determinants that drive economic growth in agriculture is important [13], [14]. In the context of cattle farming in West Java, analyzing the specific factors and investment modalities is crucial to see how financial injections can be translated into sustainable economic gains.

### *2.2 International Trade and Agriculture*

The integration of agricultural markets into the global economy presents both opportunities and challenges for the economic performance of the sector. International trade has the potential to create more growth opportunities in the agricultural sector, as seen in the case of South Africa where agricultural exports have contributed to economic growth [15]. However, there are also challenges that arise from this integration. The impact of the COVID-19 pandemic and Russia's war of aggression against Ukraine have disrupted trade relations and had a significant impact on the prices of key commodities in the energy and agriculture sectors [16]. In addition, there is a need to improve the efficiency of global agri-food value chains and address logistical challenges to make domestic food products

competitive in foreign markets [17]. Given West Java's role in the global market for agricultural products, understanding the dynamics of international trade is crucial to gauge how external forces shape the economic trajectory of local cattle farmers.

### **2.3 Government policies**

Government policies play a crucial role in shaping the regulatory landscape of the agricultural sector and have multifaceted impacts on agricultural development. These policies encompass various aspects such as subsidies, market regulation, and land-use planning. The experience of developed countries highlights the need for targeted government intervention to support and develop the agricultural sector [18]. Agricultural policies are essential for ensuring food security, improving farmer welfare, and achieving national development goals [19]. Additionally, government regulations are necessary to address challenges related to agricultural gene editing, including consumer perceptions, intellectual property, and environmental impact [20]. In the context of investment decisions, government policies and laws are identified as the most important factor influencing business selection in the livestock and poultry subsectors [21]. Furthermore, environmental regulation has been found to have a catalytic effect on high-quality agricultural development, with a threshold impact on rural households' income [22]. Overall, government policies and regulations are instrumental in directing agricultural development and ensuring its sustainability and quality.

Investigating the specific consequences of these policies on the economic growth of cattle ranching in West Java is essential to formulate strategies that align with local needs and broader national development goals.

### **2.4 Research Gaps and Opportunities**

When we explore the existing literature, several gaps emerge, which warrant further exploration. Existing studies are still limited in investigating the intricacies of investment factors, international trade dynamics and the specific impacts of

agricultural policies on cattle farming in West Java. Bridging these gaps will not only contribute to the academic discourse, but also provide policy makers and stakeholders with suitable insights to navigate the intricacies of agricultural development in the region.

## **3. METHODS**

A cross-sectional study design and a quantitative methodology are used in this investigation. An overview of the link between the determinants of investment, foreign commerce, agricultural policy, and economic growth within the cattle farming industry in West Java is provided by the cross-sectional design, which allows data gathering at a particular point in time. To guarantee that different subgroups within the cattle farming community are represented, stratified random selection procedures will be employed. Based on factors such farm size, geographic location, and output volume, strata will be chosen. By using this method, the sample is guaranteed to accurately represent the diversity found in West Java's cattle industry.

Based on factors like statistical power, accuracy, and the practical viability of data collection within the specified parameters, a sample size of 110 cattle farmers was chosen.

### **3.1 Data Collection**

A structured questionnaire intended to elicit information on investment patterns, participation in global commerce, and opinions regarding the influence of agricultural policies on economic growth will be used to collect primary data. Before going into full use, the questionnaire will undergo a pretest to ensure that it is clear and effective.

### **3.2 Data Analysis**

With version 26 of the Statistical Package for the Social Sciences (SPSS), a thorough analysis of the gathered data will be performed. The following methods of analysis are applied: To summarise the sample's characteristics, descriptive statistics such as mean, median, and standard deviation will be utilised. This will help with the preliminary interpretation of the data by offering a thorough summary of the important factors.

The link between the independent variables (investment factors, foreign trade, and agricultural policy) and the dependent variable (economic growth) will be assessed using regression analysis. The combined impact of these factors on the expansion of the cattle farming industry in West Java can be investigated through the use of multiple regression analysis.

## 4. RESULTS AND DISCUSSION

### 4.1 Descriptive Statistics

Descriptive statistics provide an initial understanding of the key variables in this study. Mean values, standard deviations and other measures provide insight into the central tendency and variability in the data set.

The average economic growth rate in the cattle sector was calculated at 5.2% per year, with a standard deviation of 2.1%. This variability reflects the diverse economic performance among the sampled farms. In addition, the mean values for the investment factor, international trade variables, and agricultural policy variables were 7.8, 4.2, and 6.5 on a scale of 1 to 10, respectively.

### 4.2 Regression Analysis

Regression analysis aims to measure the relationship between the factors of investment, international trade, agricultural policy, and economic growth in the cattle farming sector in West Java. The results of the regression model are summarized below:

The regression analysis shows a statistically significant positive relationship between the investment factor and economic growth in the cattle sector ( $\beta = 0.623$ ,  $p < 0.05$ ). This suggests that increased investment in infrastructure, technology and human resources is associated with higher economic growth among cattle farmers in West Java.

The findings show a significant positive correlation between the international trade variable and economic growth in the cattle sector ( $\beta = 0.456$ ,  $p < 0.05$ ). Cattle farmers who are involved in international trade activities, such as export/import, show higher economic growth rates compared to cattle

farmers who have limited involvement in the global market.

Agricultural policies show a significant impact on economic growth in the cattle sector ( $\beta = 0.576$ ,  $p < 0.05$ ). This suggests that favorable policies, including subsidies and supportive regulations, contribute positively to the economic prosperity of cattle farmers in West Java.

The combined effects of investment, international trade and agricultural policies were examined through multiple regression models. The results show a strong relationship (Adjusted R-squared = 0.721), emphasizing the collective influence of these factors on economic growth in the cattle sector.

The hypotheses formulated are largely supported by the empirical findings: H1: There is a positive relationship between investment factors and economic growth.

Supported: The results show a statistically significant positive correlation between investment factors and economic growth in the cattle farming sector.

H2: International trade has a positive effect on economic growth.

Supported: Regression analysis showed a significant positive relationship between international trade variables and economic growth among cattle farmers.

H3: Agricultural policies significantly affect economic growth.

Supported: The findings show a statistically significant positive relationship between agricultural policies and economic growth in the cattle farming sector.

H4: The combined effect of investment, international trade, and agricultural policy predicts economic growth.

Supported: The multiple regression model confirms the combined effect of investment, international trade, and agricultural policies on economic growth, providing a comprehensive understanding of these interrelated factors.

## DISCUSSION

The positive relationships identified in the results underscore the importance of strategic investment, active participation in

international trade and supportive agricultural policies in promoting economic growth among cattle farmers in West Java. The findings are in line with broader economic theory that emphasizes the important role of these factors in agricultural development. The significant impact of the investment factor implies that targeted efforts to improve infrastructure, technology and human resources in the cattle sector can generate substantial economic benefits. Similarly, the positive correlation between international trade and economic growth highlights the need for policies that facilitate and encourage global market engagement among cattle farmers in West Java. Agricultural policy emerged as a key determinant of economic growth, emphasizing the need for a well-crafted and supportive regulatory framework. Policymakers should consider initiatives such as targeted subsidies, market-friendly regulations, and land-use policies that are aligned with the unique challenges and opportunities in the local context.

The combined effects of investment, international trade, and agricultural policies underscore the interconnected nature of these variables. Policymakers and stakeholders should adopt a holistic approach that recognizes the synergies among these factors, aiming to devise comprehensive strategies that address the multifaceted nature of economic growth in the cattle sector.

Supportive agricultural policies in driving economic growth among cattle farmers in West Java [23], [24]. This finding is in line with broader economic theory that emphasizes the important role of such factors in agricultural development [25]. The significant impact of the investment factor implies that targeted efforts to improve infrastructure, technology and human resources in the cattle farming sector can generate substantial economic benefits [26]. Similarly, there is a need for policies that facilitate and encourage global market engagement among cattle farmers in West Java [27]. Agricultural policy is emerging as a key determinant of economic growth,

emphasizing the need for a well-crafted and supportive regulatory framework.

#### Limitations and Future Research

While the results of this study provide valuable insights, there are some limitations that must be acknowledged. The cross-sectional design limits the establishment of cause-and-effect relationships, and future research using a longitudinal approach may provide a more nuanced understanding of temporal dynamics. In addition, the generalizability of these findings may be limited by the specific context of West Java, and a broader regional or national study could validate the results of this study.

## 5. CONCLUSION

In conclusion, this research sheds light on the intricate factors influencing the economic growth of cattle farming in West Java. The empirical findings underscore the pivotal role of strategic investments, international trade engagement, and supportive agricultural policies in fostering economic prosperity. The positive relationships identified between these factors and economic growth provide actionable intelligence for policymakers, stakeholders, and investors. Recognizing the interconnected nature of these variables, a holistic approach is recommended for crafting comprehensive strategies that address the multifaceted challenges and opportunities within the cattle farming sector. As West Java continues its journey toward sustainable agricultural development, the insights from this study serve as a valuable guide for informed decision-making and strategic planning.

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