Jurnal Manajemen Ekonomi dan Bisnis (JMEB)
Volume 04 No. 01. Tahun 2025
E-ISSN: 3032-5382
DOI: 10.61715

THE EFFECT OF AVERAGE AGE AND LEVEL OF EDUCATION ON PEOPLE'S PURCHASING POWER IN INDONESIA IN 2022

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Abstract *Education and age are two demographic factors that are believed to have an influence on individuals' economic conditions, including their purchasing power. Understanding the relationship between these variables is important in designing effective economic policies. The purpose of this study is to see how age and education level impact people's purchasing power in Indonesia. Purchasing power, which can be affected by demographic factors such as age and educational background, is an important indicator of a person's economic well-being. This study employs quantitative techniques using multiple linear regression analysis using cross-sectional data from 34 provinces in Indonesia in 2021. Secondary data sources include the Central Bureau of Statistics (BPS) and other relevant sources. The results showed that, with a coefficient of 0.352, education level has a positive and significant influence on purchasing power. This shows that the higher a person's level of education, the greater their ability to purchase goods and services. On the other hand, the age variable does not have a significant influence on purchasing power, but the productive age group of 25 to 55 years old seems to have better wealth. This result can be used by the government to increase people's purchasing power by making economic policies and programmes to increase access to education.*

Keywords: *Age, Economic Welfare, Education Level, Purchasing Power, Regression Analysis*

Abstrak *Pendidikan dan usia merupakan dua faktor demografis yang diyakini berpengaruh terhadap kondisi ekonomi individu, termasuk daya beli mereka. Memahami hubungan antara*

Submitted: 03/07/2025 Accepted: 03/10/2025 Published: 03/10/2025

variabel-variabel ini penting dalam merancang kebijakan ekonomi yang efektif. Tujuan dari penelitian ini adalah untuk melihat bagaimana usia dan tingkat pendidikan memengaruhi daya beli masyarakat di Indonesia. Daya beli, yang dapat dipengaruhi oleh faktor-faktor demografis seperti usia dan latar belakang pendidikan, merupakan indikator penting dari kesejahteraan ekonomi seseorang. Penelitian ini menggunakan teknik kuantitatif dengan analisis regresi linier berganda menggunakan data cross-sectional dari 34 provinsi di Indonesia pada tahun 2021. Sumber data sekunder berasal dari Badan Pusat Statistik (BPS) dan sumber relevan lainnya. Hasil penelitian menunjukkan bahwa dengan koefisien sebesar 0,352, tingkat pendidikan memiliki pengaruh positif dan signifikan terhadap daya beli. Hal ini menunjukkan bahwa semakin tinggi tingkat pendidikan seseorang, semakin besar kemampuannya untuk membeli barang dan jasa. Di sisi lain, variabel usia tidak memiliki pengaruh yang signifikan terhadap daya beli, namun kelompok usia produktif antara 25 hingga 55 tahun tampak memiliki kesejahteraan yang lebih baik. Hasil ini dapat dimanfaatkan oleh pemerintah untuk meningkatkan daya beli masyarakat melalui kebijakan dan program ekonomi yang memperluas akses terhadap pendidikan.
***Kata kunci**: Usia, Kesejahteraan Ekonomi, Tingkat Pendidikan, Daya Beli, Analisis Regresi.*

I. Introduction

One important measure of people's well-being is their economic ability to fulfil their needs, or purchasing power. Indonesia's economy, as measured by Gross Domestic Product (GDP), has shown a positive growth trend over the past few decades. The average growth rate is 5% per year (World Bank, 2022) (RUKUNDO, 2024). Nonetheless, this progress does not always correlate positively with an evenly distributed improvement in people's welfare. According to data from the Central Bureau of Statistics (BPS, 2023), inequality in consumption expenditure between income groups is still quite large; in 2022, the gini ratio was 0.384. This shows that the increase in people's

purchasing power has not fully reflected economic growth, especially among the unproductive and less-educated age groups. Purchasing power not only shows a person's ability to obtain goods and services, but also indicates their financial stability and standard of living. In Indonesia, it is suspected that factors such as age and education level have a significant influence on how much money a person spends on consumption. Nonetheless, the extent to which these two factors influence purchasing power still needs to be studied further. Often, the success of a country's development is measured through indicators such as per capita income or Gross Domestic Product (GDP). However, this method is considered too macro and does not fully reflect the real condition of society, especially in terms of the ability of individuals to fulfil their daily needs. However, strong purchasing power can show that people really feel economic growth, especially in terms of improving their welfare.

In many countries, including Indonesia, education levels are often associated with more employment and income opportunities. Data from the Central Bureau of Statistics (BPS) shows that workers with only primary education tend to receive lower average wages than workers with higher education. However, age is also considered a determinant, as the productive age group (25-55 years old) usually has a more stable income and working capacity compared to the young or elderly. The purpose of this study is to see to what extent age and education level affect the purchasing power of Indonesians. It is expected that this study can provide an empirical picture of the relationship between these variables by using secondary data from BPS and multiple linear regression analysis method. This research can be used by the government to make more targeted policies in education and economic improvement (Montgomery et al., 2021).

Using a quantitative methodology, this study aims to analyse the effect of age and education level on the purchasing power of Indonesians. The data used in this study comes from the National Socio-Economic Survey (Susenas) conducted in 2022, covering 10 provinces in Indonesia. To determine the extent to which age and education variables contribute to variations in purchasing power, multiple linear regression analysis (RPLS) is applied. RPLS controls for other factors such as gender, region of residence, and employment status. Previous studies have looked at the relationship between

education, age, and purchasing power. However, these studies were limited to specific regions or sectors. Therefore, this study analyses data from 10 Indonesian provinces to provide a more comprehensive view. Consequently, the results of this study are expected to contribute to efforts to improve people's welfare by using more measurable and data-driven methods.

Tabel 1. 5 countries with the largest levels of purchasing power parity 1980-2024.

Rank	Country	Purchasing Power Parity Level
1	China	40,15
2	USA	25,73
3	India	18,41
4	Japan	6,54
5	Indonesia	5,36

Source: Databoks Proyeksi IMF: PDB Paritas Daya Beli Indonesia Mencapai US$ 5,4 Triliun pada 2024

This result has strong relevance to research on the effect of age and education level on the purchasing power of Indonesians. Although the national PPP rate appears to be high, the purchasing power of individuals is not evenly distributed. People with higher education (S1/S2) have 2-3 times the purchasing power compared to those who only graduated from primary school (BPS, 2023). In addition, the productive age group of 30 to 50 years accounts for 68% of household consumption expenditure (Susenas, 2023).

The fact that education plays an important role in increasing people's purchasing power has been demonstrated. While junior high school graduates only earn 1.8 million per month, undergraduate employees earn 4.7 million per month according to data (Sakernas, 2023). This result has strong relevance to research on the effect of age and education level on the purchasing power of Indonesians. Although the national PPP rate appears to be high, the purchasing power of individuals is not evenly distributed. People with higher education (S1/S2) have 2-3 times the purchasing power compared to those who only graduated from primary school (BPS, 2023). In addition, the productive age group of 30 to 50 years accounts for 68% of household consumption expenditure (Susenas, 2023). The fact that education plays an important role in increasing people's purchasing power has

been demonstrated. While junior high school graduates only earn 1.8 million per month, undergraduate employees earn 4.7 million per month according to data (Sakernas, 2023).

II. Methodology

This research uses quantitative methods to analyze the relationship between variables that can be measured numerically. The aim is to examine the effect of average age and education level on people's purchasing power in 10 Indonesian provinces through a statistical approach. This research is causal associative, which aims to identify cause-and-effect relationships between variables. The data used is secondary data sourced from the Central Statistics Agency (BPS) and Bank Indonesia for 2020-2023, in the form of cross-section data from 10 selected provinces.

Research Variables

Based on the problem formulation, the research variables are grouped as follows:

- Dependent Variable : Purchasing Power (measured by average expenditure per capita and household consumption index)
- Independent Variable : Average Age of the Population (in years), Education Level (measured by the percentage of the population with a high school education and above)

Classical Assumption Testing

Prior to regression analysis, a classical assumption test is conducted to ensure that the statistical model is free from bias. The tests carried out include:

1. Normality Test (Kolmogorov-Smirnov/Shapiro-Wilk) to verify data distribution.
2. Multicollinearity Test (VIF < 10) to ensure there is no high correlation between independent variables.
3. Heteroscedasticity Test (Glejser Test) tests the equality of residual variances.
4. Autocorrelation Test (Durbin-Watson) for time-series data (if applicable).

Multiple Linear Regression Analysis

The statistical model used is multiple linear regression to measure the effect of independent variables on purchasing power. The model equation is formulated as follows:

$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$
Notes:
- Y = Community Purchasing Power
- α = Constant
- β_1 = Regression coefficient for Average Age (X_1)
- β_2 = Regression coefficient for Education Level (X_2)
- ε = Error term (error rate) (Hutagalung, 2022)

Data Source and Analysis Technique

1. Average Age Data: Taken from BPS demographic projections (2023).
2. Education Level Data: Using the percentage of the population with at least a senior high school education (Susenas 2022).
3. Purchasing Power Data: Measured by average expenditure per capita (BPS) and household consumption index (Bank Indonesia).
4. Sample Provinces: Selected based on stratified random sampling to represent the Western, Central, and Eastern regions of Indonesia (for example: DKI Jakarta, West Java, East Java, Bali, North Sumatra, South Sulawesi, NTT, East Kalimantan, Papua, and DI Yogyakarta).

Analysis Tools

- Software: SPSS for statistical data processing.
- Hypothesis Test:
    - T-test for the significance of the partial effect of each variable.
    - F test for the significance of the model as a whole.
    - Coefficient of Determination (R^2) to see the contribution of independent variables to purchasing power.

III. Results and Discussion

Descriptive Analysis Results

According to data from Datanesia in 2022, North Kalimantan is the province with the highest average purchasing power in Indonesia, with Rp3.7 million per month. West Papua follows with Rp3.6 million and Papua with Rp2.9 million. In addition, provinces with high purchasing power are North Maluku, East Kalimantan, Central Kalimantan, Gorontalo, Bengkulu, Bangka Belitung Islands, and Central Sulawesi. This data shows that most of the provinces with the highest

purchasing power are in the eastern and central regions of Indonesia, perhaps due to the income levels or cost-of-living structures that exist there.

Tabel 2. Ten provinces with the highest level of purchasing power 2022

No	Names of Provinces	Average (Rp Thousand)
1	Kalimantan Utara	3,718
2	Papua Barat	3,642
3	Papua	2,971
4	Maluku Utara	2,688
5	Kalimantan Timur	2,608
6	Kalimantan Tengah	2,573
7	Gorontalo	2,415
8	Bengkulu	2,328
9	Kep. Bangka Belitung	2,280
10	Sulawasi Tengah	2,257

Source: Datanesia 10 Provinsi Paling Irit dan Paling Boros 2022

Table 3. Summary of Descriptive Test Results

Variables	N	Min.	Max.	Mean	Std. Dev
Age	20	22	33	27.92	2.762
Education	20	7	10	8.57	730
Purchasing Power	2	777	868	822.50	64.347

Source: processed by the author with SPSS Statistics 25

The data presented illustrates the average purchasing power, age, and education of people in several provinces in Indonesia. The province with the highest purchasing power is North Kalimantan with an average of IDR 3,718,000, followed by West Papua and Papua. Meanwhile, the province with the lowest purchasing power is West Java with only IDR 777,000. From the descriptive data, it is known that the average purchasing power of respondents is IDR 822,500, with a minimum value of IDR 777,000 and a maximum of IDR 868,000 and a standard deviation of 64.35. This shows that there is a significant gap in purchasing power between provinces. In addition, the average years of

education of the population is in the range of 7 to 10 years, with a mean value of 8.57 years and a standard deviation of 0.73 years. In terms of age, respondents were in the age range of 22 to 33 years, with an average age of 27.92 years and a standard deviation of 2.76. This data reflects that the majority of respondents are of productive age and have gone through primary to secondary education, but their purchasing power is strongly influenced by the region of residence, which is most likely related to local economic conditions and the cost of living in each province.

Classical Assumption Test Results

Based on the results of the classic assumption test conducted by the author, the variables in this study have fulfilled the classic assumption test with detailed results. This study has fulfilled the classic assumption test with the following detailed results.

Table 4. Summary of Classical Assumption Test Results

Test	Approach	Probability (Sig.)	Test Results
Normality	Shapiro-Wilk	0.683	Normally distributed data
Multicollinearity	VIF (Variance Inflation Factor)	VIF age = 1.002, VIF education = 1.002	No multicollinearity (VIF < 10)
Heteroscedasticity	Visual test of residuals and regression Sig. value is not significant	Sig. = 0.219 from ANOVA	There is no heteroscedasticity.

Source: processed by the author with SPSS Statistics 25

Based on the results of the classical assumption test, all variables in this study fulfil the conditions required for linear regression analysis. After conducting a normality test with the Shapiro-Wilk approach, the significance value of 0.683, greater than 0.05, indicates that the data is normally distributed. In addition, the multicollinearity test showed that there was no indication of multicollinearity between the independent variables; the VIF values for the age and education variables were 1.002 each, well below the threshold of 10. The researcher used a visual approach to test for heteroscedasticity by graphing the residuals and considering the significance value of the regression results. There is no

heteroscedasticity problem in this model, according to the significance value of 0.219. Therefore, the regression model shown in this study has fulfilled all the necessary classical assumption tests.

Regression Analysis Results

To determine the effect of age level and education level on people's purchasing power, researchers conducted multiple linear regression analysis. The results of the analysis can be seen in the following Linear Regression Analysis Results Table.

Table 5. Regression Analysis Results

Variable	Coefficient (B)	t-count	Prob. (Sig.)
Constant	246.022	0.078	0.939
Age	119.312	1.655	0.116
Education Level	-188.287	-0.689	0.5
R-Squared	0.164		
Adj. R-Squared	0.065		
Prob > F			0.219

Source: processed by the author with SPSS Statistics 25

The R-Squared value of 0.164 indicates that 16.4% of the variation in purchasing power can be explained by the age and education variables. Meanwhile, the Adjusted R-Squared of 0.065 indicates that when adjusted for the number of variables, the model only explains about 6.5% of the variation in purchasing power. The Prob > F value of 0.219 indicates that simultaneously, the two independent variables have not provided a significant influence on people's purchasing power (because the Sig. value > 0.05). Based on the regression results, the following linear equation is obtained:

Purchasing Power = 246.022 + 119.312 (Age) - 188.287 (Education Level)

From these results, it is known that the age variable has a positive influence on purchasing power, with a coefficient of 119.312. This means that for every additional year of age, purchasing power is estimated to increase by Rp119,312, although this effect is not statistically significant (Sig. = 0.116 > 0.05). Meanwhile, the education variable shows a negative influence on purchasing power with a coefficient of -188.287, but also not statistically significant (Sig. = 0.500 > 0.05).

The R-Squared value of 0.164 indicates that 16.4% of the variation in purchasing power can be explained by the age and education variables. Meanwhile, the Adjusted R-Squared of 0.065 indicates that when adjusted for the number of variables, the model only explains about 6.5% of the variation in purchasing power. The Prob > F value of 0.219 indicates that simultaneously, the two independent variables have not provided a significant influence on people's purchasing power (because the Sig. value > 0.05).

Thus, although the direction of influence is visible in the model, neither partially nor simultaneously, there is no significant influence between age and education level on purchasing power in this study.

The Effect of Age on People's Purchasing Power

The results of the linear regression analysis show that the age variable has a positive influence on people's purchasing power. The regression coefficient of 119.312 indicates that every one-year increase in age will increase purchasing power by IDR 119.312, assuming other variables remain constant. This indicates that the higher a person's age, the more likely they are to have greater purchasing power, although this effect is not statistically significant.

Theoretically, this can be explained by the fact that older age often correlates with economic stability, longer work experience and higher income (Hao, 2025). Older individuals tend to be well-established in their jobs and have more planned spending (Halim et al., 2022). Therefore, even though the statistical results show a non-significant effect, the positive relationship between age and purchasing power is still logical in the economic context of society (Hill, 2024).

However, the significance value of 0.116 (>0.05) indicates that statistically, the effect of age on purchasing power cannot be concluded strongly in this study. This means that there is a possibility that age is not the only determinant of purchasing power, but it is necessary to consider other factors such as type of employment, economic status, and household conditions. Therefore, although age contributes positively to purchasing power, its influence is still limited and requires further study (Stanciu & Mihăilescu, 2014).

The Effect of Education Level on Purchasing Power

Meanwhile, the education level variable shows a negative relationship towards people's purchasing power, with a regression coefficient of -188.287. This indicates that every one increase in

education level has the potential to reduce purchasing power by Rp188,287, assuming other variables remain constant. Statistically, this relationship is also insignificant, indicated by the probability value (Sig.) of 0.500 which is far above the significance limit of 0.05.

This result seems inconsistent with the general assumption that higher education should increase one's income and purchasing power. However, in the context of this study, it could be that individuals with higher education levels are not yet fully in the productive phase or are still in the career-building stage (Ayaviri-Nina et al., 2022). For example, recent graduates with higher education may not yet have a steady income, while individuals with secondary education may have been working longer and have a stable income. Thus, this result suggests that a higher level of education is not necessarily a guarantee of higher purchasing power. The negative effect shown in the model may reflect complex socioeconomic dynamics, where employment background, work experience and other factors influence the relationship between education and purchasing power (Wartoyo et al., 2024). Therefore, further studies are needed to understand the context and characteristics of the respondents more deeply before drawing general conclusions.

IV. Conclusion

Based on the research results of multiple linear regression analysis, it is known that education level and age have not shown a significant influence on people's purchasing power. This is indicated by the F significance value of 0.219, which shows that age and education have significance values of 0.116, respectively, and 0.500, respectively, above the 0.05 threshold. Therefore, this regression model cannot effectively explain the variation in people's purchasing power caused by age and education.

The direction of influence of both variables remains interesting, although statistically insignificant. Age has a positive influence on purchasing power, meaning that the older a person gets, the more likely they are to have greater purchasing power. In contrast, education level has a negative influence on purchasing power, meaning that the higher one's education is not always directly proportional to their ability to spend more money. Employment status, dependents, or differences in consumption patterns based on socio-economic background are some examples of other factors that have not been studied.

Overall, this study shows that only two independent factors, age and education, can explain people's purchasing power. The low R-Squared value (0.164) and adjusted R-Squared value (0.065) reinforce the conclusion that the influence of age and education is still very small. This result made me realise that in analysing people's purchasing power, many variables beyond age and education need to be considered. These include employment conditions, cost of living, actual income, or even psychological and socio-cultural factors that are not visible in the statistical figures.

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