JURNAL ECONOMINA e-ISSN: 2963-1181
Volume 5, Number 10, October 2026
Homepage: ejournal.45mataram.ac.id/index.php/economina

The Effect of The Number of Students, Net Participation Rate, Minimum Wage and Level of Internet Access on The Absorption of Elementary School Teacher in South Sumatera Province

Nur Rahma Al Zaryah[1*], Yunisvita[2], Siti Rohima[3]
[1*23]Economics Study Program, Faculty of Economics, Sriwijaya University

**Corresponding Author: nurrahmaalzaryah @email.com*

Article History

Received: 04-10-2026
Revised: 09-10-2026
Published: 30-10-2026

Keywords: Student Enrollment, Net Enrollment Rate, Minimum Wages, Internet Access, Elementary School Teacher Employment.

ABSTRACT

This study aims to analyze the effect of the number of students, Net Enrollment Rate (NER), minimum wage, and internet access level on the absorption of elementary school teachers (SD) in South Sumatra Province. This study uses secondary data sourced from the Central Statistics Agency (BPS) for the period 2016–2024, with a coverage of 17 districts/cities and 153 observations. The analysis method used is panel data regression with the *Fixed Effect Model* (FEM) approach. The results show that the number of students and NER have a positive and significant effect on the absorption of elementary school teachers. The minimum wage has a positive and significant effect, while the level of internet access has a negative and significant effect on the absorption of elementary school teachers. Simultaneously, the four independent variables have a significant effect on the absorption of elementary school teachers. The *R-squared value* of 0.872401 indicates that the model explains 87.24% of the variation in the absorption of elementary school teachers. These findings are expected to be taken into consideration in the planning and distribution of teaching staff to support the improvement of the quality of basic education in South Sumatra.

INTRODUCTIONS

Education is one of the main foundations in human resource development because through the educational process, people acquire the knowledge, skills and abilities needed to improve the quality of life. (Cowan et al., 2016) . Improving the quality and equity of education is also an important part of the sustainable development agenda, especially the fourth *Sustainable Development Goal* (SDGs), which emphasizes the provision of inclusive, equitable, and quality education. (Pangestu et al., 2021) . In this context, the availability of teaching staff is a crucial component because teachers are professionals who directly provide learning services to students. (Ishartono & Raharjo, 2016) . Therefore, fulfilling the needs and equal distribution

of teachers at the elementary school level is an important part of supporting the sustainability of educational services.

The problem of teacher supply is not only related to the aggregate number of educators, but also to the match between the need for educational services and the availability of teachers in each region. The concept of *derived demand for teachers* explains that the demand for teachers is derived from the need for educational services. Therefore, changes in the number of students can affect a school's need for educators. The greater the number of students to be served, the greater the need for teachers, although this relationship is not always proportional due to the influence of the teacher-student ratio, the number of study groups, school characteristics, and government policies (Donitsa-Schmidt & Zuzovsky, 2014; Dolton, 2020).

South Sumatra Province is a relevant object for study due to differences in educational conditions and teacher absorption between districts/cities. Research data shows that the average number of elementary school teachers across regions during the 2016–2024 period varies significantly. Musi Banyuasin Regency has an average of around 4,895 teachers, while Prabumulih City has around 1,289. Differences are also evident in the number of students, with an average of around 85,031 students in Musi Banyuasin and 30,204 students in Prabumulih. This variation indicates that each region has different educational characteristics, resulting in varying educational needs.

During the 2020–2024 period, the number of elementary school teachers in South Sumatra Province also experienced changes. The number of teachers, including both public and private schools, was recorded at 59,108 in 2020, then decreased to 54,276 in 2021, increasing to 55,347 in 2022, 56,954 in 2023, and 57,371 in 2024. Among regencies/cities, Palembang City had a relatively high number of teachers, while several regions such as North Musi Rawas, PALI, Empat Lawang, and Pagar Alam had lower numbers. This difference indicates that the issue of teacher supply is not only related to the total number, but also to the distribution of teaching staff across regions. (Lindqvist & Gidlund, 2024) . .

In addition to the number of students, the level of educational participation can also be related to the need for teachers. The Net Enrollment Rate (NER) indicates the proportion of the school-age population attending education at a level appropriate to their age (Maria & Amalia, 2025) . The higher the participation of the school-age population at a particular level of education, the greater the need for educational services at that level. In this study, the development of the NER of elementary schools in South Sumatra showed a fluctuating pattern. The average NER increased from 28.4 percent in 2016 to 35.8 percent in 2024, although changes across regions were not uniform. During this period, Musi Banyuasin Regency had the highest average NER, while North Musi Rawas had the lowest.

Economic factors are also an important aspect to consider when assessing teacher recruitment. The minimum wage can reflect the general economic conditions and incentives of a region. (Fadillah et al., 2026) . From a labor supply perspective, wage levels are one of the economic considerations related to an individual's decision to work. However, in the context of

teachers, the minimum wage cannot be viewed as a direct measure of teacher income because teachers have diverse employment statuses and wage mechanisms. Therefore, in this study, the minimum wage is used as an indicator of the economic conditions and general regional incentives related to teacher recruitment.

The development of digital technology has also brought changes to the educational environment. Increased internet access can expand opportunities for people to access information and learning resources and support the use of technology in the learning process. (Farika et al., 2026) . In this study, the level of internet access was measured based on the percentage of the population aged five years and above who accessed the internet. Data show that internet access has increased in various districts/cities, but disparities between regions remain apparent. This condition makes digital access a relevant factor to analyze alongside educational and economic factors in relation to teacher absorption. (Donitsa & Zuzovsky, 2014)

Previous research has extensively discussed the relationship between teaching staff, educational participation, wages, digital technology, and educational quality. Studies on teacher supply and demand demonstrate the importance of changes in student numbers in determining the need for teaching staff. Other research indicates that digital competency, technology access, teacher wages, and educational funding are linked to educational effectiveness and the conditions of teaching staff (Durrani et al., 2023; Tzafilkou et al., 2023; Harmadi et al., 2025). The literature on basic education in Indonesia also demonstrates the importance of considering the teacher-student ratio and the distribution of teaching staff across regions.

However, most of the literature used in previous research has focused more on teachers as part of discussions about education quality, digital competency, or learning outcomes. Studies that simultaneously examine student numbers, NER (network-based enrollment), minimum wage conditions, and internet access as factors related to elementary school teacher absorption at the district/city level in South Sumatra are still limited. This research fills this gap by combining the perspectives of teacher demand and labor supply into a single empirical model. The number of students and NER are used to represent the need for educational services, while minimum wage and internet access represent the economic conditions and technological environment related to the educational workforce. This framework allows the study to examine teacher absorption not only in terms of student numbers, but also in terms of socio-economic conditions and regional technological developments.

The contribution of this study lies in the use of panel data from all 17 districts/cities in South Sumatra Province during the 2016–2024 period with 153 observations, allowing for simultaneous analysis of interregional and intertemporal variations. The use of *a Fixed Effect Model* also allows for the relatively fixed characteristics of each district/city to be controlled in the estimation. With this approach, this study aims to analyze the relationship between the number of students, NER, minimum wage, and internet access levels with the absorption of elementary school teachers in South Sumatra Province and provide an empirical overview that can be used to understand the need for the provision and equitable distribution of teaching staff.

RESEARCH METHODS

This study uses a quantitative approach with secondary data. The research analysis unit consists of 17 districts/cities in South Sumatra Province during the 2016–2024 period, resulting in 153 observations. The data are compiled in panel data format, combining a *cross-section dimension* (regency/city) and a *time series dimension* (year of observation). The use of panel data allows the study to identify differences in teacher absorption characteristics between regions while simultaneously observing changes in research variables throughout the observation period.

The dependent variable of the study is the absorption of elementary school teachers, measured by the number of public and private elementary school teachers in person. The independent variables are the number of elementary school students in person, the Net Enrollment Rate in percent, the minimum wage in rupiah, and the level of internet access in percent of the population aged five years and above who access the internet. The primary data were obtained from the Central Statistics Agency of South Sumatra Province and related sources for minimum wage data. The study used a *total sampling technique* because all 17 districts/cities in South Sumatra Province were used as the unit of analysis.

Data analysis was conducted using panel data regression with the help of EViews 12 software. The initial model considered three approaches: *the Common Effect Model* (CEM), *the Fixed Effect Model* (FEM), and *the Random Effect Model* (REM). Because the research variables have different units and scales, the model uses natural logarithmic transformations for the number of students and minimum wages, while the APM and internet access levels are used in percentage form. The empirical equation used is:

$$\mathbf{JGSD_{it} = \beta_1 ln(JSSD)_{it} + \beta_2 APM_{it} + \beta_3 ln(UM)_{it} + \beta_4 IT_{it} + e_{it}}$$

Model selection was conducted through the Chow Test, Hausman Test, and Lagrange Multiplier Test with a significance level of five percent. The Chow Test was used to compare CEM and FEM, while the Hausman Test was used to determine the choice between FEM and REM. The results of the Chow Test produced a *Cross-section F probability* and *Cross-section Chi-square* of 0.0000. Because both values are smaller than 0.05, FEM is more appropriate than CEM. Furthermore, the Hausman Test produced a *random Cross-section probability* of 0.0005 so that FEM is also more appropriate than REM. Thus, FEM was used as the main model in the analysis.

Prior to hypothesis testing, the model also underwent diagnostic testing. The FEM residual had a Jarque-Bera value of 1.774053 with a probability of 0.411879, indicating a normal distribution. The *Centered VIF values* for the number of students, NER, minimum wage, and internet access were 1.561381; 1.423020; 1.188555; and 1.241037, respectively, indicating no serious multicollinearity issues were found. The Harvey test also showed no symptoms of heteroscedasticity because the probability of the test statistic was above 0.05.

RESULTS AND DISCUSSION

This section describes and discusses the findings of the study, drawing similarities and differences between previous studies in terms of methods, data, and results. It also explains whether the problem has been successfully investigated according to its objectives using the proposed method. This should include a description of the analysis performed, the reasons and benchmarks for success/failure, and a section on the steps to be taken as a follow-up process.

This section also outlines the results of the qualitative and/or quantitative analysis, with an emphasis on answering the research questions. This section covers everything related to the activities carried out in the paper, including the concept, design, hypothesis (if any), experiments, observational data, and the results of the observations.

The content is supported by figures, tables, and equations referred to in the manuscript.

Characteristics of Research Data

This study used panel data from 17 districts/cities in South Sumatra Province during the 2016–2024 period, resulting in 153 observations. The variables analyzed included the number of elementary school teachers as the dependent variable, while the number of students, Net Enrollment Rate (APM), minimum wage, and internet access level as the independent variables.

Based on descriptive statistics, the average number of elementary school teachers is 2,767,124, with a minimum of 1,131 and a maximum of 5,421. Meanwhile, the average number of students is 53,098,69, with a minimum of 21,811 and a maximum of 98,289. These differences indicate that the characteristics of the need for teaching staff vary considerably across districts/cities. When compared based on the average value, there are approximately 19.2 students for every one teacher.

The average APM value is 31.675 percent, with a minimum value of 11.31 percent and a maximum of 59.2628 percent. The average minimum wage is Rp2,899,149, with a minimum value of Rp2,388,000 and a maximum of Rp3,456,874. The average internet access rate is 47.85126 percent, with a minimum value of 12.17 percent and a maximum of 76.79 percent. These variations indicate differences in educational, economic, and digitalization conditions between regions during the study period.



Figure 1. Conceptual framework of the research

The figure shows that the study examined the relationship between student numbers, NER, minimum wage, and internet access levels on elementary school teacher absorption. The framework was developed based on the consideration that teacher demand is related to the need for educational services, school participation conditions, regional economic conditions, and developments in educational technology.

Panel Data Regression Model Selection

Before interpreting the regression results, a model selection was conducted to determine the most appropriate panel data regression model. The selection was conducted using the Chow Test and the Hausman Test. The Chow Test results produced a *Cross-section F probability* of 0.0000 and *a Cross-section Chi-square* of 0.0000. Both values were less than 0.05, so *the Common Effect Model* (CEM) was rejected and *the Fixed Effect Model* (FEM) was selected. These results indicate that there are significant differences in characteristics between districts/cities, so the use of fixed effects is necessary in the model. Furthermore, the Hausman Test produced a *random cross-section probability value* of 0.0005. This value is less than 0.05, so *the Random Effect Model* (REM) was rejected and the FEM was selected. Thus, the final model used to interpret the influence of each variable is *the Fixed Effect Model* .

Assumption Testing or Model Diagnostics

Normality testing was performed on the FEM model residuals. The test results showed a Jarque-Bera value of 1.774053 with a probability of 0.411879. A probability value greater than 0.05 indicates that the model residuals are normally distributed.

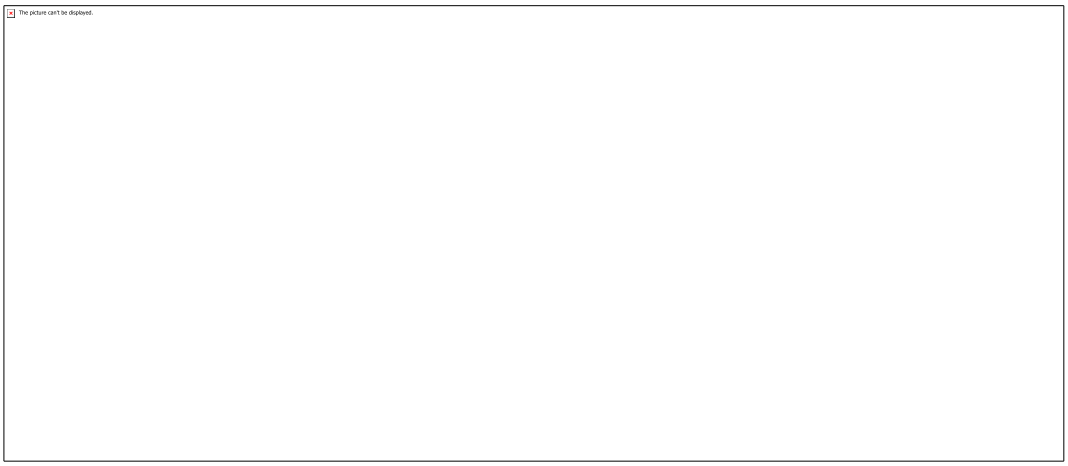


Figure 2. Results of the FEM residual normality test

The figure shows the residual distribution of the FEM model. The Jarque-Bera result of 1.774053 with a probability of 0.411879 indicates that the residuals do not experience normality problems. Furthermore, multicollinearity testing shows that all *Centered VIF values* are below

10. The VIF value for the number of students is 1.561381, the APM is 1.423020, the minimum wage is 1.188555, and the level of internet access is 1.241037. Thus, there are no serious multicollinearity problems between the independent variables. Heteroscedasticity testing using the Harvey Test also shows that the model does not experience symptoms of heteroscedasticity. The probability value of *the F-statistic* is 0.4846, *Obs* R-squared is 0.4767, and *Scaled explained SS* is 0.4010, all greater than 0.05.

Fixed Effect Model Estimation Results

The FEM estimation results are used to determine the relationship between each independent variable and the absorption of elementary school teachers in South Sumatra Province.

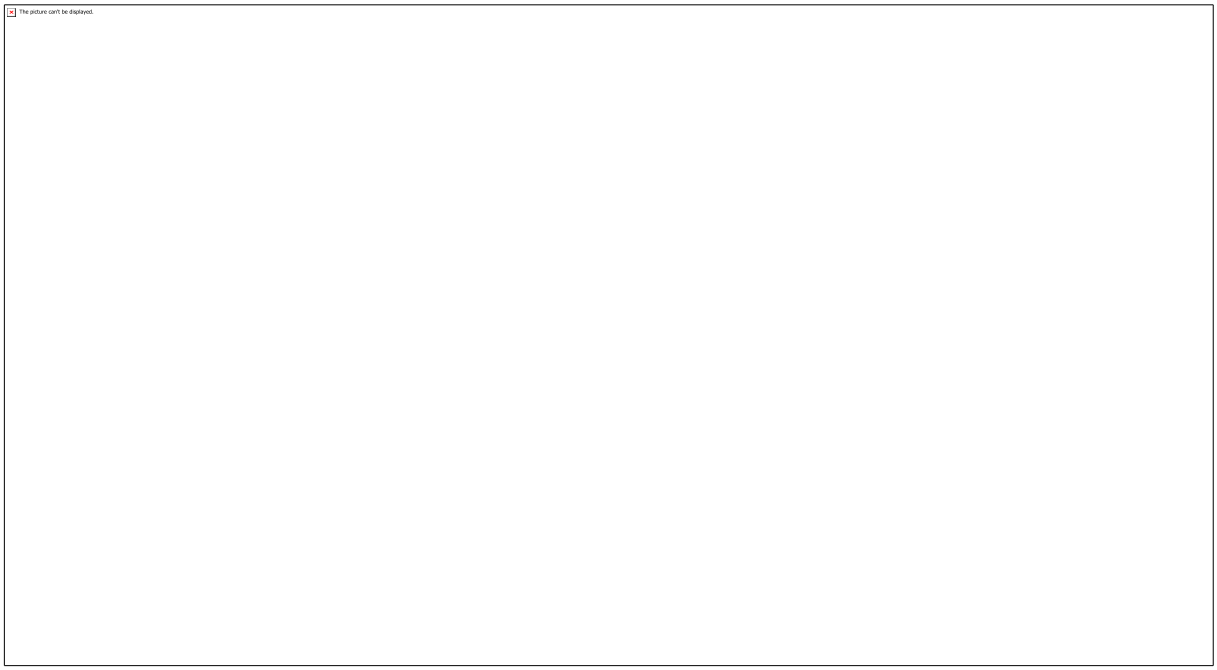


Figure 3. *Fixed Effect Model* Estimation Results

Based on Table 1, all independent variables have probabilities less than 0.05. The number of students, NER, and minimum wage have a positive and significant relationship to elementary school teacher absorption, while the level of internet access has a negative and significant relationship.

The Influence of the Number of Students on the Absorption of Elementary School Teachers

The estimation results show that the number of students has a coefficient of 0.016429 with a probability of 0.0000. This means that the number of students has a positive and significant relationship with the absorption of elementary school teachers. Every additional 1,000 students is associated with an increase in the absorption of approximately 16.4 teachers, assuming other variables remain constant and the fixed characteristics of each district/city have been controlled.

These results are in line with the concept of *derived demand for teachers* , namely that the need for teachers is a derived demand from the need for educational services. (Dolton, 2020) . As the number of students to be served increases, the need for teaching staff also tends to increase. This finding is consistent with previous research that places student population as one of the bases for planning teacher needs. (Hariyani & Mulyono, 2025) .

However, the increase in the number of teachers in this study was not entirely proportional to the increase in the number of students. The coefficient of 0.016429 indicates that one additional teacher is associated with approximately 61 additional students, while the ratio based on the sample average is approximately 19.2 students per teacher. This difference indicates that changes in the number of students are only accompanied by changes in the number of teachers to a relatively smaller extent. (Ahmadi et al., 2025) . This condition may be related to the teacher-student ratio, the number of study groups, recruitment policies, and the demographic conditions of each region. (Dimmera & Purnasari, 2018) . Thus, the results of the study indicate that the number of students is one of the factors related to teacher absorption, but changes in the number of teachers do not automatically follow changes in the number of students in the same proportion.

The Influence of Net Enrollment Rate on Elementary School Teacher Absorption

The APM coefficient is 33.72705 with a probability of 0.0000. These results indicate a positive and significant correlation between the APM and the absorption of primary school teachers. A one percentage point increase in the APM is associated with an increase in the absorption of approximately 33.7 teachers. This relationship can be explained because the APM reflects the level of participation of the school-age population at the appropriate level of education. The higher the educational participation, the more people will receive educational services, thus increasing the need for educators. This finding aligns with the discussion regarding expanding access to and participation in primary education, which requires the support of educators. (Fatunnisa & Marcos, 2024) .

The number of students and the NER have a correlation of 0.503589. Although there is a relationship between the two, this value is still below the limit indicating multicollinearity. This is confirmed by the *Centered VIF value* of 1.423020 for NER. However, the relationship between NER and the number of teachers cannot be understood solely in one direction. Increasing school enrollment can increase the need for teachers, but teacher availability can also support increased school enrollment. (Cahya et al., 2025) . Therefore, the results of this study show a statistical relationship and cannot be used to state the existence of a one-way causal relationship.

The Impact of Minimum Wages on the Absorption of Elementary School Teachers

The minimum wage has a coefficient of 0.000440 with a probability of 0.0041. These results indicate that the minimum wage is positively and significantly related to the absorption of elementary school teachers. A minimum wage increase of Rp100,000 is associated with an increase in teacher absorption of approximately 44 people. This positive relationship aligns with

the labor supply perspective, which positions wage levels as one of the factors that can influence individual incentives to enter or remain in employment. Previous research also indicates a relationship between compensation levels and the attractiveness and sustainability of the teaching profession. (Hartini & Ratnawaty, 2017) . .

However, these results should be interpreted with caution, as the minimum wage is not a direct measure of teacher income. Furthermore, variation in minimum wages across districts/cities over time is relatively limited. Therefore, these results are more appropriately interpreted as a relationship between regional minimum wages and teacher absorption, rather than as evidence that minimum wage increases directly lead to an increase in the number of teachers. (Salim et al., 2023) .

The Influence of Internet Access Level on Elementary School Teacher Absorption

The internet access level has a coefficient of -10.92935 with a probability of 0.0001. These results indicate a negative and significant relationship between internet access and elementary school teacher recruitment. A one percentage point increase in internet access is associated with a decrease in teacher recruitment of approximately 10.9 people. This result differs from the initial research framework, which positioned technology as a learning support system, not a substitute for teachers. The negative relationship may be related to other concurrent changes. In the research data, internet access increased in 12 of the 17 regions, while the number of teachers decreased in 11 regions. This condition indicates that the two variables had opposite trends of change during the study period.

In addition, the measure of internet access used is a measure of internet access at the regional level, not a measure of teachers' digital competence or the availability of digital infrastructure in schools. (Tambunan, 2012) . Therefore, this variable does not fully describe the mechanism of technology use in the learning process. Previous literature also focuses more on teachers' digital competence, digital literacy, and *TPACK* than on the direct relationship between internet access and the number of teachers.

Thus, the negative coefficient cannot be interpreted as meaning that increased internet access directly reduces the need for teachers. These results indicate a statistical relationship in the FEM model across the 17 districts/cities studied. Future research should use more specific indicators, such as teacher digital competence, school digital infrastructure, or the intensity of technology use in learning.

Simultaneous Influence of Variables

The F-test results show that the number of students, APM, minimum wage, and internet access level are significantly related to the absorption of elementary school teachers. The *F-statistic value* of 45.12461 with a probability of 0.000000 indicates that the overall model is significant. The *R-squared value* of 0.872401 indicates that approximately 87.24 percent of the variation in elementary school teacher absorption can be explained by the variables of the number of students, APM, minimum wage, internet access level, and the fixed effects of each

district/city. Meanwhile, approximately 12.76 percent of the variation in teacher absorption is explained by other factors outside the model. The *Adjusted R-squared value* of 0.853068 indicates that the model's explanatory power remains high after taking into account the number of parameters used.

R-squared value of 0.872401 is also higher than the CEM of 0.795841. This means that including district/city fixed effects increases the model's ability to explain variations in teacher absorption by approximately 7.66 percentage points. These results reinforce the findings of the Chow and Hausman tests that differences in characteristics between districts/cities are important in explaining variations in elementary school teacher absorption. Overall, the study successfully answered the research objectives through panel data regression with FEM. The results show that the number of students and the APM have a positive relationship with elementary school teacher absorption, the minimum wage also has a positive relationship, while internet access has a negative relationship. However, all these results are statistical relationships based on data from 17 districts/cities during 2016–2024 and cannot be directly interpreted as causal relationships.

Implications of Research Results

The research results show that planning for elementary school teacher needs requires consideration of changes in student numbers and educational participation in each district/city. Planning based solely on the aggregate number of teachers does not fully reflect the needs of each region, as the Chow and Hausman tests indicate significant differences in characteristics between regions.

Furthermore, the results regarding internet access indicate that technological developments need to be positioned as part of a learning support system. Increasing digital access needs to be accompanied by the development of teachers' digital competencies and school infrastructure so that technology can be used to improve the quality of learning without directly positioning it as a substitute for educators.

As a follow-up, future research could incorporate variables such as teacher-student ratio, teacher employment status, education budget, number of study groups, regional economic conditions, teacher income or allowances, and teacher digital competence. An approach that addresses the potential two-way relationship between student numbers, NER, and teacher numbers could also be used to further analyze the relationships found.

CONCLUSION AND SUGGESTIONS

This study analyzes the relationship between the number of students, Net Enrollment Rate (NER), minimum wage, and internet access level with the absorption of elementary school teachers in South Sumatra Province during the period 2016–2024 using panel data regression. Based on the results of *the Fixed Effect Model (FEM)* estimation , the number of students, NER, and minimum wage have a positive and significant relationship with the absorption of elementary school teachers, while the level of internet access has a negative and significant

relationship. Simultaneously, these four variables are significant in explaining variations in the absorption of elementary school teachers, with an *R-squared value* of 0.872401.

The research findings indicate that the need for educational services, as reflected in the number of students and the Net Enrollment APM (Network Amount) is a key explanation for variations in teacher absorption. An increase in the number of students is associated with an increased need for educators, while an increase in the Net Enrollment APM indicates a relationship with increased teacher absorption. The positive relationship between minimum wages and regional economic conditions also suggests a link between teacher absorption and regional economic conditions. Meanwhile, the negative relationship between internet access levels requires caution because the internet indicators used reflect general population access, not teachers' digital competence or schools' digital infrastructure. Therefore, these results cannot be interpreted as evidence that increased internet access directly leads to a decrease in the number of teachers.

Substantively, the research results indicate that planning for elementary school teacher needs requires considering the dynamic characteristics of each district/city, particularly changes in student numbers and educational participation rates. The presence of fixed effects in the model also indicates that region-specific characteristics are important in explaining variations in teacher absorption. Therefore, teacher supply and placement policies are more appropriately considered based on regional conditions and educational service needs, rather than solely on the aggregate number of teachers.

THANK-YOU NOTE

The author would like to thank Sriwijaya University, particularly the Faculty of Economics and the Master of Economics Study Program, as well as the supervisors who provided guidance, direction, and input during the preparation of this research. He also thanks all parties who supported the collection, processing, and completion of this research.

BIBLIOGRAPHY

Ahmadi, AM, Raihan, D., Alawiyah, H., Martines, & Kistian, A. (2025). Teacher Problems in Implementing Student Learning Evaluation in Grade IV of Elementary School. *Journal Binagogik* , *12* (1), 33–40.

Cahya, S. B., Subroto, W. T., & Sakti, N. C. (2025). The Role of Traditional Markets in Improving the Economy of the Community in Indonesia. *International Journal of Economics, Commerce, and Management*, *2*(1), 386–396. https://doi.org/https://doi.org/10.62951/ijecm.v1i4.432

Cowan, J., Goldhaber, D., Hayes, K., & Theobald, R. (2016). Missing Elements in the Discussion of Teacher Shortages. *Educational Researcher*, *45*(8), 460–462. https://doi.org/10.3102/0013189X16679145

Dimmera, BG, & Purnasari, PD (2018). Problems and Solutions of the Smart Indonesia Program in Realizing Educational Equity in Bengkayang Regency. *Sebatik* , *24* (2), 307–314. https://doi.org/https://doi.org/10.46984/sebatik.v24i2.1137

Dolton, P. (2020). Teacher supplies. In S. Bradley & C. Green. *The Economics of Education* , *2nd* , 391–402. https://doi.org/10.1016/B978-0-12-815391-8.00028-8

Donitsa-schmidt, S., & Zuzovsky, R. (2014). Teacher Supply and Demand: The School Level Perspective. *American Journal of Educational Research* , *2* (6), 420–429. https://doi.org/10.12691/education-2-6-14

Fadillah, SA, Misdiyana, D., & Pramono, A. (2026). Technology-Based Education Transformation as an Implementation of SDGs 4 in the Era of the Industrial Revolution 4. 0 Development Goals (SDGs), especially the fourth goal, namely quality education (Quality. *Journal of Social Humanities Education* , *5* (April), 315–329.

Farika, Y., Annaba, MI, Millah, AI, Ekonomi, F., & Malang, UN (2026). The Role of Higher Education Through Economic Education in Realizing SDGS 4: Improving Access and Quality of Education. *In Proceedings of the National Seminar on Development Economics* , *3* (2), 68–74.

Fatunnisa, A., & Marcos, H. (2024). Prediksi Kelulusan Tepat Waktu Siswa SMK Teknik Komputer Menggunakan Algoritma Random Forest Prediction of On-Time Graduation for Computer Engineering Vocational School Students Using the Random Forest Algorithm. *Jurnal Manajemen Informatika*, *14*(1), 101–111. https://ojs.unikom.ac.id/index.php/jamika

Gorard, S., Ledger, M., See, H., Morris, R., Gorard, S., Ledger, M., See, H., Morris, R., & Gorard, S. (2025). Predictors of international teacher shortages? What are the key predictors of international teacher shortages? *Research Papers in Education, 40*(4), 515–542. https://doi.org/10.1080/02671522.2024.2414427

Hariyani, L., & Mulyono, R. (2025). Analysis of Factors Contributing to the Decline in Student Enrollment in Catholic Christian Schools in Magelang City. *Educational Management Media* , *7* (3), 1–9. https://jurnal.ustjogja.ac.id/index.php/mmp%0A

Hartini, S., & Ratnawaty, L. (2017). Protection of Workers in the Determination of the City Minimum Wage (UMK) in Bogor City. *Jurnal Yustisi* , *4* (1), 1–16. https://doi.org/https://doi.org/10.32832/yustisi.v4i1.1121

Ishartono, & Raharjo, ST (2016). SUSTAINABLE DEVELOPMENT GOALS (SDGs). *Social Work Journal* , *6* , 159–167.

Lindqvist, M. H., & Gidlund, U. (2024). Important Aspects of Teacher Shortage in Schools. A Literature Review. *Athens Journal of Education* , *11* , 1–18. https://doi.org/https://doi.org/10.30958/aje.XYZ

Pangestu, FP, Rahmadianti, NS, & Hardiyanti, NT (2021). Pancasila Economics as a Guideline for the 2030 Sustainable Development Goals (SDGs). *Proceedings of the National Seminar on Development Economics* , *1* (3), 210–219.

Salim, PW, Hezekiah, JM, & Rasji. (2023). The Influence of the Job Creation Law on Fulfillment of Minimum Wages for Workers. *Journal of Citizenship* , *7* (2), 1599–1606. https://doi.org/https://doi.org/10.31316/jk.v7i2.5383

See, B. H., Tan, Y., Gorard, S., Morris, R., Ledger, M., & Yang, F. (2025). Understanding teacher supply, challenges, trends and implications: A case study of China. *International Journal of Educational Studies,* *8*(3), 122–147. https://doi.org/10.53935/2641533x.v8i3.418

Sutcher, L., Darling-Hammond, L., & Carver-Thomas, D. (2019). Understanding teacher shortages: An analysis of teacher supply and demand in the United States. *Education Policy Analysis Archives, 27*(35), 1–40. https://doi.org/10.14507/epaa.27.3696

Tambunan, T. T. (2012). Peran usaha mikro dan kecil dalam pengentasan kemiskinan di daerah. *Jurnal Bina Praja*, *4*(2), 73–92. https://doi.org/https://doi.org/10.21787/jbp.04.2012.73-92