



**Article Type:** Research Paper

# Covid-19 Pandemic and School Dropout Rates: Empirical Evidence from Indonesia

Ibnu Shukron Halid



**AFFILIATION:**

Department of Economics, Faculty of Economics and Business, Universitas Muhammadiyah Yogyakarta, Special Region of Yogyakarta, Indonesia

**\*CORRESPONDENCE:**

[ibnu.syukron.feb18@mail.umy.ac.id](mailto:ibnu.syukron.feb18@mail.umy.ac.id)

**THIS ARTICLE IS AVAILABLE IN:**

<http://journal.umy.ac.id/index.php/jerss>

**DOI:** [10.18196/jerss.v6i2.15316](https://doi.org/10.18196/jerss.v6i2.15316)

**CITATION:**

Halid, I. S. (2022). Covid-19 Pandemic and School Dropout Rates: Empirical Evidence from Indonesia. *Journal of Economics Research and Social Sciences*, 6(2), 149-155.



This work is licensed under a Creative Commons Attribution-ShareAlike 4.0 International (CC BY-SA 4.0)

**Abstract:** The Covid-19 pandemic has disrupted all aspects of life, including the education aspect. The government then tackled the virus's transmission rate by issuing a policy to stop face-to-face learning activities and replace them with online learning activities. However, the inequality of information technology facilities has made it difficult for several regions in Indonesia to teach online. It more or less impacts the dropout rate, especially at the elementary school level. This study then aims to determine how much the Covid-19 pandemic affects the dropout rate in Indonesia at the elementary school level by considering other factors such as school facilities and infrastructure, children's academic abilities, and economic control variables. So far, no similar study discusses the pandemic's impact on the dropout rate measured quantitatively, especially in Indonesia. This study uses panel data analysis from 34 provinces in Indonesia from 2017 to 2021. The results indicate that the Covid-19 pandemic is associated with the dropout rate increasing at the primary school level by 36.4%.

**Keywords:** Covid-19; Education; Dropout rate; Indonesia

**JEL Classification:** I21; I24; O15

## Introduction

Education is the most critical factor in building the quality of human capital starting from the Elementary School (SD) level. Therefore, special attention is needed to reduce the dropout rate at the most basic level. The qualitative study of Rubifar et al. (2019) mentions several negative impacts of dropping out of school, namely limited insight or knowledge of children, juvenile delinquency, and the number of children who become street beggars. It impacts the decline in interest in working in the future due to a lack of confidence due to low educational status (Rubifar et al., 2019). In Indonesia alone, the dropout rate at the elementary school level reached 370,116 children in 2017, and the number continued to fluctuate until it reached 278,304 children during the Covid-19 pandemic in 2020.

Several factors can increase the dropout rate. Economic factors allegedly have a positive effect on the dropout rate due to the inability of parents to pay for their children to go to school, so they send their children to work in the fields amid their lack of awareness of the importance of education (Lestari et al., 2020). In addition to economic factors, the dropout rate can also be caused by the inability of children to follow lessons, so it is not very easy for them to continue their education (Rubifar et al., 2019).

Haqiqi (2018) states in his research that the low cognitive ability of children causes them to tend to repeat classes, which allegedly affects the dropout rate. School facilities and infrastructure are also suspected of affecting the dropout rate. Nengsi and Muzakkir (2018) found that school facilities and infrastructure affect student achievement. It also cannot be separated from the role of the teacher in motivating student learning (Mardiyana, 2017).

In addition to the three factors previously mentioned, there are two factors that humans cannot directly control: natural disasters and pandemics (Utami & Rosyid, 2020). The Covid-19 pandemic was confirmed to have entered Indonesia on 3 March 2020, which later became the biggest epidemic disaster because it claimed hundreds of thousands of lives in Indonesia. All aspects of life have been disrupted by this epidemic, including the education aspect. The government then tackled the virus's transmission rate by issuing a policy to stop face-to-face learning activities and replace them with online learning activities. However, the inequality of information technology facilities has made it difficult for several regions in Indonesia to teach online, especially in areas where the signal is difficult (Rahmat & Ajda, 2021).

The lack of familiarity with online schools also affects the productivity of parents who initially worked outside the home to help their children study at home. It more or less impacts the dropout rate, especially at the elementary level. Distance learning increases the dropout rate and the number of child laborers, and child marriage rates (Andina, 2021; Triwiyanto, 2020). What's more, the elementary or equivalent dropout rate is still higher than middle and high school levels during the Covid-19 pandemic. The dropout rate during the Covid-19 pandemic in the 2019/2020 school year was 157,166 people, of which 59,443 came from the elementary level and 38,464 from the junior high school, 26,864 from the high school level, and 32,395 from the vocational level.<sup>1</sup> It needs to be a concern in the future, considering that the structure of the workforce in Indonesia is still dominated by elementary school graduates, where elementary school graduates account for 26.2% of the total workforce and are in second place after high school graduates.<sup>2</sup>

On this basis, this study aims to find out how much the Covid-19 pandemic has affected the dropout rate in Indonesia by taking into account other factors in the form of school facilities and infrastructure (number of teachers and number of damaged classes), children's academic ability (the number of students did not increase). Class), and economic factors as measured by economic growth as control variables. This research is interesting considering that to the best of the author's knowledge, there have been no similar studies discussing the impact of the pandemic on the quantitatively measured dropout rate, especially in Indonesia.

Several previous studies discuss the factors related to the dropout rate. Most of these studies use micro units of analysis from individuals or households. Saepuloh & Suherman (2018) state that the weak economy of the community causes the dropout rate, lack of effort from parents, and uneven data collection from the local government in responding

---

<sup>1</sup>Ministry of Education and Technology, 2021.

<sup>2</sup>Central Bureau of Statistics, 2021.

to education programs so that many underprivileged people do not benefit from the program. Other research shows that the dropout rate is related to the education level of the household head, ownership of Indonesian smart card, number of household members, working children, poverty, and area of residence (Hakim, 2020).

Utami and Rosyid (2020) found that the dropout rate was caused by external factors such as family problems, lack of parental attention, and the inability of parents to meet the needs of their children, then internal factors in the form of children's laziness and the failure of students in following lessons using descriptive qualitative methods. Furthermore, Damayanti (2020) added that the dropout rate was caused by a lack of interest in learning, children's social environment, and parents' economic factors. The same research results were obtained by Warti et al. (2019), where dropping out of school is caused by the laziness of children who feel the lessons seem difficult to understand, so they repeat or stay in class.

Mujiati et al. (2018) found that the main factors for children dropping out of school were the low educational background of their parents and the weak family economy. It is also stated by Yuniar (2021) that the minimal role of the family as a role model for children and community traditions in the form of early marriage also contributes to children dropping out of school. Lestari et al. (2020) added other factors related to the dropout rate, such as the desire of children to work and help their parents and access schools that are far away. In addition, children's academic abilities also affect dropping out of school (Herawati, 2015).

## Research Method

The objects in this study are 34 provinces in Indonesia with an observation year from 2017 to 2021 for all research variables. The data in this study were taken by retrieving data from trusted sources for all research variables, namely through the official website of the Ministry of Education and Culture Statistics and the Statistics Indonesia. The data analysis method used in this research is panel data. Panel data is a combination of time series and cross-section data. Panel data can account for individual heterogeneity explicitly by allowing for individual-specific variables. This ability to control heterogeneity further enables panel data analysis to be used to test and build more complex behavioral models. Panel data can be used as a dynamic adjustment study because it is based on repeated cross-sectional observations. In addition, panel data has a relatively large number of observations so that the processed data is more informative and varied with reduced data collinearity and higher degrees of freedom so that the estimation results become more efficient. The panel data can then be used to study complex behavioral models and can reduce the bias created by the aggregation of individual data. The panel regression model in this study is as follows:

$$\log Y_{it} = \alpha + \beta_1 D_{it} + \beta_2 \log X_{1it} + \beta_3 \log X_{2it} + \beta_4 \log X_{3it} + \beta_5 \log X_{4it} + e_{it} \quad (1)$$

**Information:**

$Y$  = Dropout Rate;  $\alpha$  = intercept;  $\beta$  = Coefficient of estimation;  $D$  = Dummy Covid-19 (<2020 = 0, 2020 =1);  $X_1$  = Number of Teachers;  $X_2$  = Number of Broken Classes;  $X_3$  = Number of Repeating Students;  $X_4$  = GDRP per Capita;  $e$  = *Error term*;  $t$  = Time;  $I$  = Province

This study consists of the dependent variable in the form of the dropout rate, while the independent variables include the Covid-19 dummy, the number of teachers, the number of damaged classes, the number of repeat students and GDRP per capita in all provinces in Indonesia. Meanwhile, the explanation of each variable is as follows. Variable Dropout rate is the dependent variable in this study. The dropout rate measures the number of students who drop out of school at the elementary school level. The COVID-19 pandemic in this study is a dummy variable, which has a value of 0 for the period before 2020 and a value of 1 for 2020 and after. The number of teachers in this study is the number of teachers who teach, both honorary and civil servants from all provinces in Indonesia. The variable number of teachers focuses on teachers who teach at the elementary school level. The variable number of damaged classes in this study focuses on the number of mild, moderate, and total damaged classes at the elementary level. The number of repeat students shows the number of students who stay in class or repeat classes at the Elementary School (SD) level. The variable GRDP per capita in this study is a proxy for the average individual income in each province as measured by gross regional domestic product (GDRP) per capita at constant prices in 2010.

This model is then estimated using a random effect in which the disturbance variables correlate over time and between individuals. In the random effect model, the difference in intercepts is accommodated by the error terms of each province. Basuki (2021) said that using the random effect model can eliminate heteroscedasticity because it is estimated using the Generalized Least Square (GLS) method.

## Result and Discussion

Table 1 shows the results of panel data estimation using random effects to see the relationship of each variable with the dropout rate. The Covid-19 pandemic has a positive and significant relationship with the dropout rate at the 1% level, where the average dropout rate is higher after the COVID-19 pandemic by 36.4%. It is following the results of the study by Haryadi and Selvianti (2021) that when school activities are carried out online, a new problem arises, namely that some students do not have telecommunication equipment facilities to attend classes, in addition to the poor quality of the network in several areas in Indonesia. It can further reduce student interest in learning so that students no longer want to continue their education and choose to take school leaving. They then replaced their learning activities with work, which increased the dropout rate in Indonesia during the Covid-19 period.

**Table 1** Results of Random Effect Panel Data Estimation Model

Dependent Variable: log(APS)	Random Effect
Covid (Dummy)	0.364*** (0.977)
log(student repeats)	0.428*** (0.128)
log(number of broken classes)	0.763*** (0.175)
log(number of teachers)	-0.261** (0.117)
log(GDP per capita)	0.231* (0.128)
Constant	-4,895** (1,684)
Observation	136
R-squared	0.760
Number of provinces	34

Note: \*\*\* p<0.01, \*\*p<0.05, \*p<0.1

Another variable contributing to the dropout rate increase is the number of repeat students and the number of broken classes. Every 1% increase in the number of students repeating is associated with an increase in the dropout rate of 0.42%. It is related to the psychological impact of students who choose to drop out of school rather than have to repeat classes. This finding is supported by Siswantari et al (2020) that in general when there are students who repeat classes, their motivation to study or continue school will decrease. This can happen due to several things, such as being embarrassed by his friends at school, which can then add to the economic and psychological burden on the family. Therefore, parents ask their children to drop out of school and decide for their children to work or help their parents work.

Likewise, for every 1% increase in the number of damaged classes, there is an increase in the dropout rate of 0.76%. It indicates that facilities in a conducive classroom are essential to maintain student interest in learning in class. This finding is supported by Nengsi and Muzakkir (2018) where infrastructure plays an important role in reducing the dropout rate considering that adequate facilities can increase student interest in learning. Statistically, this reduction in the dropout rate can also be suppressed by increasing the number of teachers. The estimation results show that every 1% increase in the teachers number is associated with a decrease in the dropout rate of 0.26%. This finding is supported by research by Pellondou et al. (2021) in which the role of the teacher apart from being a teacher also plays a role in educating parents and students about the importance of education so as to reduce the number of dropouts in Indonesia.

Meanwhile, GDRP per capita is positively related to the dropout rate. It indicates that relatively rich regions tend to have high dropout rates. It may be due to the increased inequality in the area. This is contrary to Asmara and Sukadana (2016) who states that family income has a negative and significant effect on students' decisions to drop out of school. This difference is caused by the database used in this study, namely the macroeconomic database, not the microeconomic database as in previous studies.

## Conclusion

The COVID-19 pandemic has had many impacts on all aspects of life, including education, in this case, primary education. Statistically, the COVID-19 pandemic has increased the dropout rate for primary schools by 36%. It cannot be separated from the necessity to participate in online learning activities, regardless of the economic capacity of parents and limited signal in areas far from the city. In addition, the primary school dropout rate is higher in provinces with higher GRDP per capita, indicating economic and educational inequality in the area. The dropout rate will be higher if more students repeat a class. This study also shows that the dropout rate for elementary school can be reduced if there are improvements in facilities and infrastructure.

The researcher realizes that there are still some things that become limitations in conducting this research. This study only focuses on the dropout rate for elementary school levels and cannot be generalized to high school or other levels. In addition, this study only examines the phenomenon of dropping out of school from a macro point of view. The next research needs to analyze the factors that influence the dropout rate during the pandemic from a micro perspective. This can be through a more in-depth qualitative point of view.

## References

- Andina, E. (2021). *Meningkatnya angka perkawinan anak saat pandemi Covid-19*. Retrieved from <http://sdip.dpr.go.id/search/detail/category/Info%20Singkat/id/1162>
- Asmara, Y. R. I., & Sukadana, I. (2017). Mengapa Angka Putus Sekolah Masih Tinggi? (Studi Kasus Kabupaten Buleleng Bali). *E-Jurnal Ekonomi Pembangunan Universitas Udayana*, 5(12), 1347–1349. Retrieved from <https://ojs.unud.ac.id/index.php/eep/article/view/23557>
- Basuki, A. T. (2021). *Analisis Data Panel Dalam penelitian Ekonomi dan Bisnis (1st ed.)*. UMY Press.
- Haryadi, R., & Selviani, F. (2021). Problematika pembelajaran daring di masa pandemi covid-19. *Academy of Education Journal*, 12(2), 254-261. <https://doi.org/10.47200/aoej.v12i2.447>
- Lestari, A. B., Kurniawan, F., & Ardi, R. B. (2020). Penyebab Tingginya Angka Anak Putus Sekolah Jenjang Sekolah Dasar (SD). *Jurnal Ilmiah Sekolah Dasar*, 4(2), 299–308. <https://doi.org/10.23887/jisd.v4i2.24470>
- Mujiati, M., Nasir, N., & Ashari, A. (2018). Faktor-Faktor Penyebab Siswa Putus Sekolah. *Didaktis: Jurnal Pendidikan dan Ilmu Pengetahuan*, 18(3), 271-281. <http://dx.doi.org/10.30651/didaktis.v18i3.1870>
- Nengsi, N., & Muzakkir, M. (2018). Pengaruh Sarana prasarana dan Motivasi Belajar Terhadap Hasil Belajar Fiqih Siswa Kelas VII 9 MTS Negeri 1 Enrekang. *Jurnal Pendidikan Agama Islam LAIN Parepare*, 1(2), 51–55. Retrieved from <https://ejurnal.iainpare.ac.id/index.php/JurnalPAI/article/view/2007>
- Pellondou, Y., Ba'ik, S. S., & Thoomaszen, F. W. (2020). Bimbingan Konseling Sosial Bagi Anak Putus Sekolah di Desa Naileu Provinsi Nusa Tenggara Timur. *Solidarity: Journal of Social Studies*, 1(1), 25-38. Retrieved from <https://solidarity.iain-jember.ac.id/index.php/solid/article/view/3>

- Rahmat, & Ajda, A. N. (2021). Pengaruh Covid-19 Terhadap Anak Sekolah Di Desa Lemah Makmur. *Prosiding Konferensi Nasional Penelitian dan Pengabdian Universitas Buana Perjuangan Karawang*, 1(1), 39–45. Retrieved from <https://journal.ubpkarawang.ac.id/index.php/ProsidingKNPP/article/view/1547>
- Rubifar, Z., Zakso, A., & Supriadi, S. (2019). Faktor Penyebab Anak Putus Sekolah Dasar di Dusun Melati Desa Tebas Sungai Kabupaten Sambas. *Jurnal Pendidikan Dan Pembelajaran Universitas Tanjungpura Pontianak*, 8(5), 3–8. Retrieved from <https://jurnal.untan.ac.id/index.php/jpdpb/article/view/33118>
- Siswantari, S., Sumantri, D., & Suryawati, D. (2020). Solusi Kontekstual Untuk Mengurangi Mengulang Kelas dan Putus Sekolah di Sekolah Dasar. *Center for Policy Research, Research and Development Agency and Books, Ministry of Education and Culture*.
- Triwiyanto, T. (2020). Bukan Sekedar Subsidi Pulsa, Untuk Mengurangi Angka Putus Sekolah Dampak Pandemi Covid-19. *Seminar Nasional Arab Manajemen Sekolah Pada Masa Dan Pasca Pandemi Covid-19*. Retrieved from <http://conference.um.ac.id/index.php/apfip/article/view/433>
- Utami, W. N., & Rosyid, A. (2020). Identifikasi faktor penyebab siswa putus sekolah di tingkat sekolah dasar wilayah duri kepa. *Prosiding Seminar Dan Diskusi Pendidikan Dasar*. Retrieved from <http://journal.unj.ac.id/unj/index.php/psdpd/article/view/17777>