JOURNAL OF SOCIAL SCIENCE AND MULTIDISCIPLINARY ANALYSIS
Vol. 1 No. 3, July 2024
https://jossama.com

ANALYSIS OF THE IMPACT OF THE PANDEMIC ON THE ECONOMY (Case Study of Gross Domestic Product, Poverty, and Unemployment in Indonesia)

Muhammad Dzul Fadlli[1], Muhammad Indra Gunawan[2], Robby Anggriawawn[3], Fitra Ria Silvida[4]

[1] Universitas Matarm, Matarm, Nusa Tenggara Barat, Indonesia
[2] Perumda Galuh Perdana, Ciamis, Jawa Barat, Indonesia
[3] Politeknik Negeri Malang, Malang, Jawa Timur, Indonesia
[4] Universitas Bina Sehat PPNI, Mojokerto, Jawa Timur, Indonesia

ABSTRACT

This study examines the impact of the Covid-19 pandemic on Indonesia's economic conditions using a quantitative method, the Difference T-Test. The data is secondary from the Central Statistics Agency, focusing on GDP, unemployment, and poverty in 34 provinces in Indonesia. The study uses a different t-test, to test the hypothesis that there is a significant difference between before and after the pandemic covid-19. The result that indicating no significant difference in GDP before and after the pandemic, the unemployment rates before and after the pandemic are significantly different, and no statistically significant difference between poverty before and after the pandemic.

Keywords: Pandemic, Indonesian Economy, Gross Domestic Product, Poverty, Unemployment

CORRESPONDING:
Name :
Muhammad Dzul Fadlli
E-mail: fadlli@unram.ac.id

ARTICLE HISTORY:
Published Online:
30-07-2024

E-ISSN:
3046-7225
DOI :

PUBLISHER:
Noble Cendekia Indonesia

1. INTRODUCTION

The COVID-19 pandemic has significantly impacted Indonesia, the fourth most populous country globally (Kirana et al., 2021; Tanra & Tusholehah, 2022). As of June 2020, Indonesia reported 28,233 confirmed cases, with a prevalence of 0.11‰ (Karyono & Wicaksana, 2020). The pandemic has affected various sectors, including transportation, tourism, trade, and health, with the household sector being the most impacted (Susilawati et al., 2020). The age group 31-45 years accounted for 29.3% of infections, while the highest mortality rate occurred among the elderly. Common symptoms included cough, fever, and hypertension, diabetes, and cardiovascular diseases were prevalent comorbidities (Karyono & Wicaksana, 2020). The government's response faced challenges due to the lack of a uniform disaster preparedness system (Tanra & Tusholehah, 2022). Economic measures, such as adjusting interest rates, were implemented to control inflation and maintain stability (Susilawati et al., 2020).

The COVID-19 pandemic has significantly impacted Indonesia's economy, causing disruptions in various sectors. Before the pandemic, Indonesia's economic growth was 5.03% in 2019 (Priana & Sawitri, 2021). However, the implementation of large-scale social restrictions (PSBB) led to sluggish production activities and capital outflows, weakening the rupiah exchange rate (Ridha, 2021). The pandemic affected multiple sectors, including transportation, tourism, trade, and health, with the household sector being the most impacted (Susilawati et al., 2020). In 2020, Indonesia's economic growth contracted to -2.20% (Priana & Sawitri, 2021). To mitigate the economic impact, Indonesia optimized domestic potential, adjusted interest rates, and monitored global and domestic economic developments (Susilawati et al., 2020). Despite these challenges, by the second quarter of 2021, economic growth rebounded to 7.07% (Priana & Sawitri, 2021). However, a study comparing 2019 and 2020 data found no significant difference in GDP before and after the pandemic (Hikmah & Sugiharti, 2022).

This research addressing to enhance our understanding of the pandemic's comprehensive impact on the Indonesian economy and guide effective policy responses for future challenges. This research sets the stage for investigating the impact of the pandemic covid-19 on the Indonesian economy by providing a contextual background and highlighting specific areas needing further exploration in the case of gross domestic product, poverty,

and unemployment.

2. LITERATURE REVIEW

A. Gross Domestic Product (GDP)

Gross domestic product (GDP) is the total value of goods and services produced within a country and is used to measure economic growth and compare countries (Powell, 2013). A nation's output is measured by its gross domestic product (GDP), which is the total value of all finished products and services produced inside its borders by its resources each year for the market (Mcauliffe, 2014). A nation's gross domestic product, or GDP, is the most significant indicator of its economic activity. It stands for the entire amount of goods and services produced in a specific nation during a specific time frame. Three approaches—the production approach, the income approach, and the expenditure approach—can be used to calculate GDP. We will be concentrating on the Expenditure Method in this paper. The total value of all finished goods and services acquired by the four categories of spending agents—households, businesses, the government, and foreign buyers—is added up in the expenditure method of calculating GDP.(Bătuşaru et al., 2023).

B. Unemployment

Unemployed are people or people who have not found a job, are looking for a job, and have lost their jobs or not working at all (Leonard et al., 2022). Unemployment is a critical socio-economic issue that affects both individuals and economies. It is generally defined as the condition in which individuals who are capable and willing to work cannot find employment (Upadhya & Unnikrishnan, 2017). When unemployment keeps people out of labor, it may have an impact on their physical and familial well-being. Low unemployment will make the human cost—a crucial public policy priority—justifiable on its own. However, there are financial costs associated with unemployment for society as a whole. When a large number of people are unemployed while having the skills and desire to work but are unable to obtain employment, an economic resource is wasted.

A portion of the economically active population is unemployed, which is a socioeconomic phenomena caused by their inability to use their labor. According to this perspective, unemployment is the excess labor force in the labor market. However, their structures might not align even in the case where the supply and demand of labor are equal. When a worker's skills or specialization are undervalued or do not fit the demands of the labor market, structural unemployment results. Changes in industrial technology cause certain professions to become underutilized in the labor market, which leads to job loss and the owners of such professions searching for new areas of expertise (Nabiyeva, 2020).

C. Poverty

Poverty is a multidimensional issue, involving multiple forms of deprivation, and reducing it requires understanding these dimensions and involving poor people in the development process (Akindola, 2009). Poverty leads to physical degeneration, moral neglect, and embitterment of the soul, and its solution requires a comprehensive approach involving economics, equity, and social justice (Munsterberg, 1904).

Poverty remains one of the most significant problems facing the globe today, while little is understood about the causes and consequences of poverty. Here, certain psychological repercussions of poverty may lead to financial habits that exacerbate the challenges of escaping poverty. (Haushofer & Fehr, 2014). The poor exhibit the same basic weaknesses and biases as other people, but in poverty, these behaviors are more pronounced and can lead to worse outcomes (Bertrand et al., 2004).

3. RESEARCH METHOD

In this study, a quantitative method is used. In the study, we want to conduct a test that is different from the t-test to find out the difference in Indonesia's economic conditions (a case study of gross domestic product, unemployment, and poverty in Indonesia before and after the COVID-19 pandemic).

The data used in this study is in the form of secondary data obtained from the Central Statistics Agency. The data processed is in the form of Gross Domestic Product data on the basis of constant prices in 2017-2022, the open unemployment rate in 2017-2022, and the number of poor people in 2017-2022. The data on the Indonesian economy (GDP, unemployment, and poverty) in this research is data from 34 provinces in Indonesia. The data for 2017-2019 is categorized as a condition before the COVID-19 pandemic, and the data for 2020-2022 is categorized as a condition after covid-19.

The data analysis technique in this study uses a different t-test. The purpose of the Difference T-test, also called the Independent Samples T-Test or Two-Sample T-Test, is to assess if the means of two independent groups differ statistically significantly. This test is frequently used in research to assess how several groups, conditions, or treatments affect a certain outcome. (Field, 2018). The Difference T-Test is employed when researchers want to test the hypothesis that the means of two independent groups are different from each other. For example, a researcher might want to compare the average test scores of students who received different types of instruction to see if one method is more effective than another (Montgomery & Runger, 2018). A significant result indicates that there is evidence to suggest that the means of the two groups are different. This result can then be used to draw conclusions about the effect of different treatments or conditions (Montgomery & Runger, 2018).

4. RESULT AND DISCUSSION

The results of this study will be reviewed in three parts of the discussion, namely gross domestic product, unemployment, and poverty.

Gross Domestic Product

The condition of Indonesia's gross domestic product from 2017 to 2022 can be seen from the following graph:

Figure 1 GDP of Indonesia



Source: BPS

The Gross Domestic Product (GDP) of Indonesia, measured in billion rupiah, shows a generally positive trend from 2017 to 2022. In 2017, Indonesia's GDP was approximately 9,912.93 trillion rupiah. The following year, 2018, saw an increase to around 10,425.85 trillion rupiah, indicating a growth of about 5.2%.

The growth continued into 2019, with GDP reaching approximately 10,949.16 trillion rupiah, a rise of about 5.0% from the previous year. However, in 2020, GDP slightly decreased to about 10,722.99 trillion rupiah, largely due to the economic impact of the COVID-19 pandemic.

The economy rebounded in 2021, with GDP increasing to approximately 11,120.06 trillion rupiah, reflecting a recovery and growth of about 3.7% from 2020. This positive trend persisted into 2022, as GDP grew to around 11,710.25 trillion rupiah, a significant increase of about 5.3% from the previous year.

The data highlights Indonesia's robust economic performance over the six years, demonstrating resilience and recovery from pandemic-related disruptions, with consistent GDP growth.

Based on the statistical test the t-test can be shown as follows:

Test for Equality of Medians of PDRB
Categorized by values of KODE
Date: 08/06/24 Time: 22:55
Sample: 2017 2022
Included observations: 204

Method	df	Value	Probability
Wilcoxon/Mann-Whitney		0.793432	0.4275
Wilcoxon/Mann-Whitney (tie-adj.)		0.793432	0.4275
Med. Chi-square	1	0.705882	0.4008
Adj. Med. Chi-square	1	0.490196	0.4838
Kruskal-Wallis	1	0.631418	0.4268
Kruskal-Wallis (tie-adj.)	1	0.631418	0.4268
van der Waerden	1	1.123942	0.2891

Category Statistics

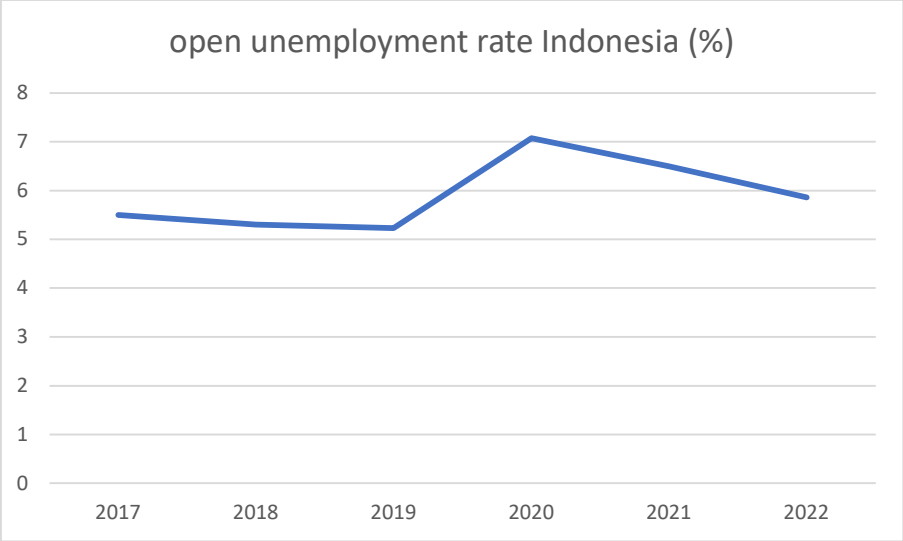
KODE	Count	Median	> Overall Median	Mean Rank	Mean Score
0	102	131333.0	48	99.21569	-0.072745
1	102	141776.6	54	105.7843	0.072745
All	204	135963.2	102	102.5000	-2.61E-17

The Wilcoxon/Mann-Whitney test, which you used to assess the difference in medians between two groups, is a non-parametric alternative to the t-test when comparing two independent samples. The Wilcoxon/Mann-Whitney Value (U statistic) has a value of 0.793432. This value typically represents the test statistic of the Wilcoxon/Mann-Whitney U test. The Probability (p-value) is 0.4275. The p-value represents the probability of obtaining a test statistic as extreme as the one observed (or more extreme), under the null hypothesis that the two groups have equal medians. Null Hypothesis (H_o): The medians of the GDP between the two groups are equal. Alternative Hypothesis (H_1): The medians of the GDP between the two groups are not equal. The P-value of 0.4275 Fails to Reject the Null Hypothesis. Since the p-value (0.4275) is greater than typical significance levels (e.g., 0.05 or 0.01), that does not have sufficient evidence to reject the null hypothesis. This means that there is no statistically significant difference in the medians of GDP between the two groups. Therefore, based on this test, conclude that there is no significant evidence the GDP before and after the pandemic covid-19 differs.

Unemployment

This section explains that the rate of open unemployment in Indonesia can be shown by the following data:

Figure 2 Unemployment in Indonesia



Source: BPS

The open unemployment rate in Indonesia, expressed as a percentage, illustrates the variations in the job market over the period from 2017 to 2022. In 2017, the open unemployment rate stood at 5.5%, indicating a moderate level of unemployment. This rate saw a slight improvement in 2018, decreasing to 5.3%, reflecting a small reduction in unemployment.

The downward trend continued into 2019, with the rate declining further to 5.23%. This suggests a generally favorable labor market environment prior to the disruptions caused by the COVID-19 pandemic. In 2020, however, the unemployment rate experienced a sharp rise to 7.07%, largely due to the pandemic's severe impact on employment and economic activity.

As the economy began to recover, the unemployment rate decreased to 6.49% in 2021. This decline indicates some recovery from the pandemic's effects, although unemployment remained relatively high. The trend toward improvement continued into 2022, with the unemployment rate dropping to 5.86%, showing a gradual stabilization and recovery in the job market. The data reveals a period of significant disruption due to the

pandemic, followed by a trend of recovery and gradual improvement in the unemployment rate in the subsequent years.

Based on t-test can be shown as follows:

Test for Equality of Medians of PENGANGGURAN
Categorized by values of KODE
Date: 08/06/24 Time: 22:57
Sample: 2017 2022
Included observations: 204

Method	df	Value	Probability
Wilcoxon/Mann-Whitney		2.580729	0.0099
Wilcoxon/Mann-Whitney (tie-adj.)		2.580769	0.0099
Med. Chi-square	1	4.412189	0.0357
Adj. Med. Chi-square	1	3.843507	0.0499
Kruskal-Wallis	1	6.666285	0.0098
Kruskal-Wallis (tie-adj.)	1	6.666493	0.0098
van der Waerden	1	6.750139	0.0094

Category Statistics

KODE	Count	Median	> Overall Median	Mean Rank	Mean Score
0	102	4.375000	43	91.82843	-0.178250
1	102	5.100000	58	113.1716	0.178276
All	204	4.740000	101	102.5000	1.26E-05

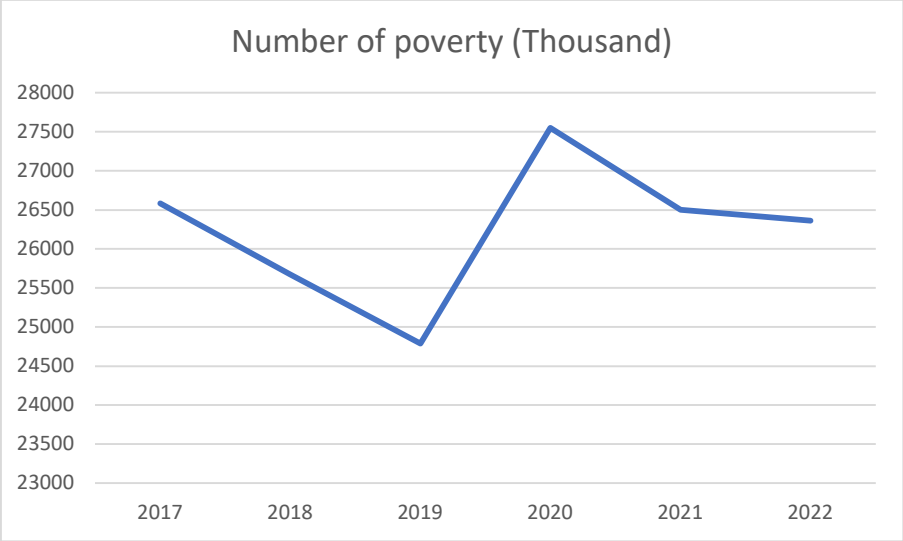
The Wilcoxon/Mann-Whitney test is used to determine if there is a statistically significant difference between the medians of unemployment rates before and after the pandemic covid-19. The Wilcoxon/Mann-Whitney Value (U statistic): has a value of 2.580729. The probability (p-value) is 0.0099. Null Hypothesis (H_o): The medians of unemployment before and after the pandemic covid-19 are equal. Alternative Hypothesis (H_1): The medians of unemployment between before and after the pandemic covid-19 are not equal. The P-value of 0.0099 is the Reject Null Hypothesis. Since the p-value (0.0099) is less than common significance levels (e.g., 0.05 or 0.01), reject the null hypothesis. This indicates that there is a statistically significant difference between the medians of unemployment rates before and after the pandemic covid-19. Implying that the unemployment of before and after the pandemic covid-19 are significantly different from each other.

Poverty

One of the important parts that is researched about the condition of the Indonesia economy in this study is the case of poverty. In the form of describing the poverty condition descriptively and the results of the t-test to find out the impact of the Covid-19 pandemic whether it makes a difference in conditions before and after the pandemic.

The condition of poverty in Indonesia can be shown in the graph below:

Figure 3 Number of Poverty in Indonesia



Source: BPS

The number of people living in poverty in Indonesia, measured in thousands, exhibits notable fluctuations from 2017 to 2022. In 2017, the poverty rate was approximately 26,583 thousand people. This number decreased over the following years, reaching about 25,675 thousand people in 2018 and further declining to approximately 24,786 thousand people in 2019, indicating a positive trend in poverty reduction.

However, the poverty rate increased in 2020 to around 27,550 thousand people, largely due to the economic disruptions caused by the COVID-19 pandemic, which intensified economic hardships for many households. In 2021, the number of people living in poverty slightly decreased to about 26,504 thousand people, reflecting some recovery from the pandemic's impact.

In 2022, the poverty rate remained relatively stable at approximately 26,363 thousand people. This stability suggests that while the economic situation improved somewhat from the pandemic's peak, the overall poverty levels did not significantly change from the previous year.

The data shows a trend of initial improvement in poverty reduction followed by an increase due to the pandemic, with subsequent stability in the number of people living in poverty in recent years.

The result of the t-test for check the difference in poverty before and after pandemic covid-19 can be seen below:

Test for Equality of Medians of MISKIN
Categorized by values of KODE
Date: 08/06/24 Time: 22:58
Sample: 2017 2022
Included observations: 204

Method	df	Value	Probability
Wilcoxon/Mann-Whitney		0.356985	0.7211
Wilcoxon/Mann-Whitney (tie-adj.)		0.356985	0.7211
Med. Chi-square	1	0.078431	0.7794
Adj. Med. Chi-square	1	0.019608	0.8886
Kruskal-Wallis	1	0.128286	0.7202
Kruskal-Wallis (tie-adj.)	1	0.128286	0.7202
van der Waerden	1	0.223404	0.6365

Category Statistics

KODE	Count	Median	> Overall Median	Mean Rank	Mean Score
0	102	361.1450	52	101.0196	-0.032432
1	102	355.2550	50	103.9804	0.032432
All	204	358.2500	102	102.5000	2.18E-17

The Wilcoxon/Mann-Whitney Value (U statistic): has value of 0.356985 with probability (p-value) as 0.7211. The p-value indicates the probability of observing a test statistic as extreme as the one obtained, assuming the null hypothesis is true. Null Hypothesis (H_0): The medians of poverty between before and after covid-19 are equal. Alternative Hypothesis (H_1): The medians of poverty between before and after covid-19 are not equal. P-value of 0.7211 Fail to Reject Null Hypothesis. The p-value of 0.7211 is much higher than common significance levels (e.g., 0.05 or 0.01). This suggests that there is not enough evidence to reject the null hypothesis. The high p-value indicates that there is no statistically significant difference between the medians of poverty before and after covid-19. The observed data do not provide strong evidence against the null hypothesis, meaning the no difference in poverty levels between before and after covid-19.

5. CONCLUSION AND SUGGESTION

The data demonstrates Indonesia's resilient economic performance over the course of the last six years, recovering from disruptions caused by pandemics and maintaining steady GDP growth. Thus, we may conclude from this test that there is no meaningful evidence of a difference between the GDP before and after the COVID-19 epidemic.

According to the data, there was a major pandemic-related disruption phase followed by a pattern of recovery and a slow improvement in the unemployment rate in the years that followed. This suggests that the median unemployment rates before and after the COVID-19 epidemic varied statistically significantly. implying that there were notable differences in unemployment between the pre-pandemic and post-COVID-19 periods.

The data demonstrates a pattern of initial progress in reducing poverty, which was followed by a rise brought on by the pandemic, and then a recent period of stability in the number of those living in poverty. There is no significant evidence to refute the null hypothesis based on the observed data, indicating that poverty levels were the same before and after COVID-19.

REFERENCE

Leonard, Lionel, E., Ong, T., Fernando, N., & Septama, V. (2022). Analisa Kebijakan Pemerintah Terkait Ancaman Pengangguran Pasca Kenaikan Inflasi pada DKI Jakarta.

Akindola, R. B. (2009). Towards a definition of poverty: Poor people's perspectives and implications for poverty reduction. Journal of Developing Societies, 25(2), 121–150. https://doi.org/10.1177/0169796X0902500201

Bătuşaru, C. M., Baboş, A., & Pîrvuţ, V. (2023). Tracking Economic Growth: A Correlation Analyse on the Determinants of Gross Domestic Product. International Conference KNOWLEDGE-BASED ORGANIZATION, 29(2), 24–29. https://doi.org/10.2478/kbo-2023-0031

Bertrand, M., Mullainathan, S., & Shafir, E. (2004). A behavioral-economics view of poverty. American Economic Review, 94(2), 419–423. https://doi.org/10.1257/0002828041302019

Haushofer, J., & Fehr, E. (2014). On the psychology of poverty. In Science (Vol. 344, Issue 6186, pp. 862–867). American Association for the Advancement of Science. https://doi.org/10.1126/science.1232491

Hikmah, C. C., & Sugiharti, R. (2022). Dinamika Perekonomian Indonesia Sisi Pengeluaran: Sebelum dan Setelah Adanya Covid-19. 6(1). http://ejournal.bsi.ac.id/ejurnal/index.php/ecodemica

Karyono, D. R., & Wicaksana, A. L. (2020). Current prevalence, characteristics, and comorbidities of patients with COVID-19 in Indonesia. Journal of Community Empowerment for Health, 3(2), 77. https://doi.org/10.22146/jcoemph.57325

Kirana, A. P., Bhawiyuga, A., & Id, P. A. (2021). Novel Coronavirus Pandemic in Indonesia: Cases Overview and Daily Data Time Series using Naïve Forecast Method. Indonesian Journal of Electronics, Electromedical, and Medical Informatics (IJEEEMI), 3(1), 1–8.

Mcauliffe, R. E. (2014). gross domestic product.

Powell, D. (2013). Gross domestic product. https://doi.org/https://doi.org/10.1002/9781118744369.ch2

Priana, W., & Sawitri, D. K. (2021, October 21). Indonesia's Economic Growth from 2019 - 2021: An Economic Overview Before and During COVID 19 Pandemic. https://doi.org/10.11594/nstp.2021.1304

Ridha, M. R. (2021). COVID-19 DI INDONESIA: APLIKASI MODEL ARIMA DAN ANALISIS KONDISI PEREKONOMIAN. In Jurnal Ilmu Ekonomi (Vol. 5, Issue 3). https://covid19.go.id

Nabiyeva, I. (2020). Unemployment, its types, causes and consequences for the country's economy.

Susilawati, S., Falefi, R., & Purwoko, A. (2020). Impact of COVID-19's Pandemic on the Economy of Indonesia. Budapest International Research and Critics Institute (BIRCI-Journal): Humanities and Social Sciences, 3(2), 1147–1156. https://doi.org/10.33258/birci.v3i2.954

Tanra, A., & Tusholehah, M. (2022). Lessons learned from COVID-19 pandemic: Indonesia's perspective. Taiwanese Journal of Psychiatry, 36(1), 5. https://doi.org/10.4103/tpsy.tpsy_10_22

Munsterberg, E. (1904). THE PROBLEM OF POVERTY. http://www.journals.uchicago.edu/t-and-c

Upadhya, A., & Unnikrishnan, S. (2017). Impact Factor: 5.2 IJAR. 3(4), 747–749. www.allresearchjournal.com