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Linking economic and digital indicators to human development: Evidence from eastern Indonesia

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Abstract

This study aims to analyze the effect of the Provincial Minimum Wage (UMP), Gross Regional Domestic Product (GRDP), and the Information and Communication Technology Development Index (ICT-Dev Index) on the Human Development Index (HDI) in Eastern Indonesia. This research employs a quantitative approach with panel data regression analysis. The study uses secondary panel data from 13 provinces in Eastern Indonesia for the period 2019–2023, obtained from Statistics Indonesia (BPS) and the Ministry of Manpower of the Republic of Indonesia. The results show that the UMP has a positive and significant effect on HDI, GRDP has a negative and insignificant effect on HDI, while the ICT-Dev Index has a positive and significant impact on HDI. Simultaneously, UMP, GRDP, and the ICT-Dev Index have a positive and significant effect on HDI. The coefficient of determination indicates that 99.01% of the variation in HDI can be explained by UMP, GRDP, and the ICT-Dev Index, while the remaining 0.99% is influenced by other factors not examined in this study.

Keywords: Provincial Minimum Wage, GRDP, ICT Development Index, HDI

Abstrak

Penelitian ini bertujuan untuk menganalisis pengaruh Upah Minimum Provinsi (UMP), Produk Domestik Regional Bruto (PDRB), dan Indeks Pembangunan Teknologi Informasi dan Komunikasi (IP-TIK) terhadap Indeks Pembangunan Manusia (IPM) di Kawasan Timur Indonesia. Penelitian ini menggunakan metode kuantitatif dengan teknik analisis regresi data panel. Data yang digunakan merupakan data sekunder berbentuk data panel dari 13 provinsi di Kawasan Timur Indonesia selama periode 2019–2023, yang diperoleh dari Badan Pusat Statistik (BPS) dan Kementerian Ketenagakerjaan Republik Indonesia. Hasil penelitian menunjukkan bahwa UMP berpengaruh positif dan signifikan terhadap IPM, PDRB berpengaruh negatif dan tidak signifikan terhadap IPM, sedangkan IP-TIK berpengaruh positif dan signifikan terhadap IPM. Secara simultan, UMP, PDRB, dan IP-TIK berpengaruh positif dan signifikan terhadap IPM. Koefisien determinasi (Adjusted R^2) menunjukkan bahwa 99,01% variasi IPM dapat dijelaskan oleh UMP, PDRB, dan IP-TIK, sedangkan 0,99% sisanya dipengaruhi oleh faktor lain yang tidak dianalisis dalam penelitian ini.

Kata kunci: Upah Minimum Provinsi, Produk Domestik Regional Bruto, Indeks Pembangunan Teknologi Informasi dan Komunikasi, IPM

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1. Introduction

Development is one of the nation's efforts to make changes for the better. Development is crucial for every country, including Indonesia. The success of a nation's development is not only measured by its economic growth but also by its human development (Izzah & Hendarti, 2021). Human resources are a fundamental aspect of a nation's development (Nailufar et al., 2024). The quality of a country's human development can be measured by its Human Development Index (HDI). The HDI is measured based on the basic components of quality of life: education, health, and expenditure (BPS, 2020).

According to Nailufar et al. (2024), the HDI reflects the influence of economic policies, politics, and the education system on a country's quality of life. This applies to both developing and developed countries. According to the Human Development Report (HRD) produced by the United Nations Development Programme (UNDP), the challenges that countries must address in the 21st century are not only economic growth and stability, but also the quality of human development, a major issue for both developing and developed countries (Saputra et al., 2021).

The realization of development in Indonesia faces various obstacles, such as uneven distribution of development across regions, with some regions excelling while others lag behind (Dewanto & Rahmawati, 2021). Indonesia consists of 38 provinces, divided into the Western Indonesia Region (KBI) and the Eastern Indonesia Region (KTI). In general, these two regions experience disparities (Tubaka, 2019). Therefore, increasing the advancement of information and communication technology within a country is crucial, as it can have a significant impact on the economy, health, education, agriculture, and even social aspects (Iman et al., 2024). This progress is not limited to one specific region or area, but rather encompasses all of Indonesia.

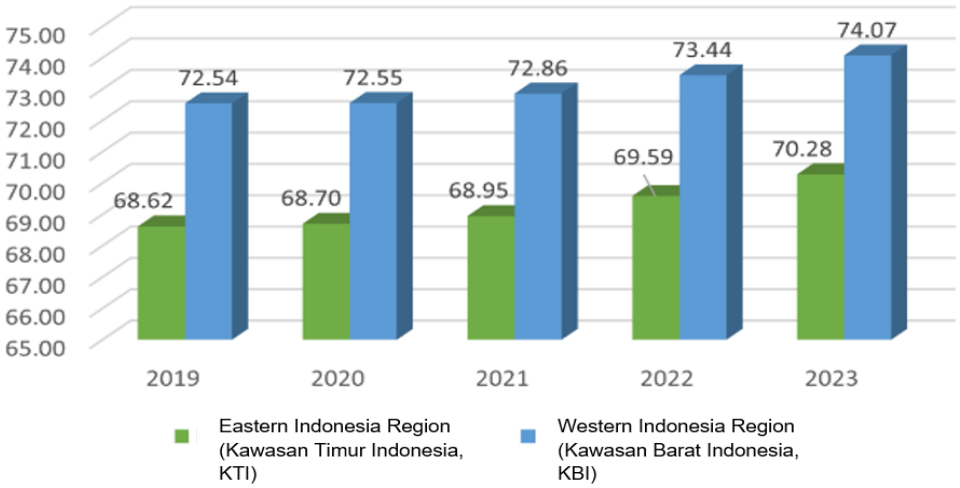

Figure 1. HDI on Western Indonesia Region and the Eastern Indonesia Region (2019-2023)
Source: BPS, data processed

Based on the data Figure 1, the Human Development Index (HDI) in Eastern Indonesia (KTI) and Western Indonesia (KBI) has shown continuous improvement from

year to year. However, the HDI in KTI still lags behind. This indicates that the low HDI in Eastern Indonesia is a critical issue that needs to be addressed. KTI has significant potential to become an economic hub due to its abundant natural resources, which can be utilized for development (Rachmaningsih & Priyarsono, 2012). Therefore, improving human resources in KTI is crucial to maximize existing potential and contribute to national development.

One government effort to increase the HDI is through the policy of setting a Provincial Minimum Wage (UMP) (Nailufar et al., 2024). This aligns with research conducted by Hidayat & Perwithosuci (2024), which states that the HDI level of a region or country is influenced by various factors, one of which is the wages received by its residents. Continuous increases in the minimum wage demonstrate the government's efforts to ensure that people receive a decent income. Along with wage increases, the HDI is also expected to rise.

Besides wages, another factor influencing the Human Development Index (HDI) is Gross Regional Domestic Product (GRDP) (Agus & Yoga, 2024). GRDP reflects the total value of goods and services produced within a specific period. Nailufar et al. (2024) stated that increased purchasing power can support the achievement of a decent standard of living, which increases along with their income (Nailufar et al., 2024). The study focused on 11 provinces with a lower-medium HDI: Lampung, West Nusa Tenggara, East Nusa Tenggara, West Kalimantan, Central Sulawesi, Gorontalo, West Sulawesi, Maluku, North Maluku, West Papua, and Papua.

Dewanto and Rahmawati (2021) stated that the presence of globalization, accompanied by technological advances and scientific developments, has had a significant impact on changes in all aspects of human life in Indonesia. According to research by Iman et al. (2024), technology and information are crucial factors in increasing a region's HDI. Technology plays a vital role in human life. Lack of public awareness and adaptation to technology and information can lead to low human development in a region (Octaviani, 2022). Information technology transcends spatial and geographic boundaries and can be a solution to bridge the human resource gap (Saputra et al., 2021).

Dedy Permadi, Special Staff to the Minister of Communication and Informatics for Human Resource Development, stated that in the era of the Industrial Revolution 4.0, one of the government's spending priorities is investment in the ICT sector. In 2022, the Indonesian government allocated IDR 27.4 trillion for the development and equitable distribution of information and communication technology (ICT) throughout the country (Herman, 2021). ICT progress in a region can be measured using the Information and Communication Technology Development Index (IP-ICT).

This is supported by research by Wahyuni et al. (2022), which states that technology has a positive impact on human development in Indonesia because it serves as a crucial medium that bridges all public activities. The researchers included the IP-ICT variable using the most recent data from 2019 to 2023. The focus of this study was Eastern Indonesia, which generally lags behind Western Indonesia and requires

special attention from both the government and the public. Based on the background described, the purpose of this study is to analyze the influence of Provincial Minimum Wages, Gross Regional Domestic Product, and the ICT Development Index on the Human Development Index.

2. Literature Review

Endogenous Growth Theory

The New Growth Theory, also known as Endogenous Growth Theory, emerged as a response to the dissatisfaction of growth theorists such as Romer (1986) and Lucas (1998) with the neoclassical model, which was deemed insufficient to explain long-run economic growth. This theory emphasizes that economic growth is driven by internal factors, such as investment in human capital and physical capital (Al Fian & Bintoro, 2024). Specifically, the model highlights the critical role of human capital and research and development (R&D) as the primary drivers of growth (Madsen et al., 2010).

Human Development Theory

Sen (1999) argued that development in a country should be viewed from the perspective of enhancing human capabilities to lead the kind of life they value, in order to achieve well-being. This perspective is known as the capability approach, which focuses on expanding human freedom to access opportunities and resources that improve their quality of life. Development is not merely about increasing per capita income, but also about improving the quality of life through better access to education, healthcare, and social rights (Sen, 1999). This approach aligns with the ideas of Nussbaum (2011) who further developed the capability concept by emphasizing the importance of aspects such as self-respect, social relationships, and individual autonomy in human development.

Human Development Index (HDI)

The HDI is a measurement tool based on quality-of-life components used to evaluate development achievements. According to Law No. 33 of 2004, HDI is a variable that reflects the level of population welfare based on services in education and health. HDI serves as a benchmark for assessing a country's development success, where a higher HDI indicates greater societal welfare (Sanitra, 2020). The HDI comprises three dimensions: a long and healthy life, knowledge, and a decent standard of living. These dimensions are represented by four indicators: life expectancy at birth, expected years of schooling, mean years of schooling, and Gross Domestic Product (GDP) per capita, which are used in the calculation of HDI (BPS, 2020).

Provincial Minimum Wage

Wages are compensation in the form of money or services provided by an institution or company to its employees. Wage provision aims to maintain employee motivation, ensure their retention, and support the sustainability of the company, which in turn benefits society (Imelda et al., 2021). According to Law Number 13 of 2003 concerning Manpower, wages are defined as the right of workers/laborers that is received by them and their families as compensation for work or services that have been or will be performed, paid by the employer or company.

Gross Regional Domestic Product (GRDP)

Gross Regional Domestic Product (GRDP) is used to assess the economic performance of a region or area within a country over a specific period (Izzah & Hendarti, 2021). GRDP is important for measuring the dynamics of regional economic growth (Al Fian & Bintoro, 2024). It represents the total final value of goods and services produced by all economic units within a region. GRDP consists of two measures: GRDP at current prices and GRDP at constant prices (Imelda et al., 2021).

Information and Communication Technology Development Index (ICTDI)

Since 2008, the International Telecommunication Union (ITU) has published a report titled *Measuring the Information Society 2009*, which discusses the ICT Development Index (IDI). This initiative was introduced to address the need for standardized measurements of information and communication technology (ICT) across countries. The index is based on three sub-indices: access and infrastructure, usage, and skills (Wajdi & Almizan, 2020). It serves as a benchmark for assessing regional and global competitiveness, thereby influencing the advancement of ICT development at the national level (BPS, 2020).

3. Research Methodology

This study uses a quantitative approach. The data collected in this study is secondary data obtained through publications from the Central Bureau of Statistics and the Ministry of Manpower of the Republic of Indonesia. All variables are available in Table 1.

Table 1. Data Variables

Variables	Unit	Indicator	Source
UMP	IDR	Provincial Minimum Wage	Data obtained from the Ministry of Manpower
GDRP	IDR	Constant Price GRDP	Data obtained from BPS
ICTDI	scale 0–10	ICT Development Index	Data obtained from BPS
HDI	scale 0–100	HDI Score	Data obtained from BPS

The analysis method used in this study is panel data regression. The multiple regression model used in this research is as follows:

$$\mathrm{HDI}_{it} = \alpha + \beta_1 LnUMP_{it} + \beta_2 LnGDRP_{it} + \beta_3 ICTDI_{it} + e_{it}$$

HDI = Human Development Index
LnUMP = Ln of Provincial Minimum Wage (UMP)
LnGRDP = Ln of Gross Regional Domestic Product (GRDP)
ICTDI = Information and Communication Technology Development Index
e = Error Term

Linear regression in this study must meet assumptions such as normality, multicollinearity, heteroscedasticity, and autocorrelation. The classical assumption tests used include partial t-test, simultaneous F-test, and coefficient of determination (R^2).

4. Results and Discussion

4.1. Results

Descriptive Statistics

This study uses panel data regression analysis, covering 13 provinces in Eastern Indonesia (KTI) over a five-year period, from 2019 to 2023. The analysis includes a total of 65 observations. The data used in this study are secondary data in the form of panel data, a combination of cross-sectional and time series data.

Table 2. Descriptive Statistics of Research Variables

	N	Min	Max	Mean	Std. Deviation
UMP	65	14.40	15.16	14.80	0.17
GRDP	65	17.09	19.75	18.20	0.74
ICTDI	65	3.22	6.64	5.30	0.76
HDI	65	60.84	78.01	70.14	3.82

During the period of 2019–2023, the Provincial Minimum Wage (UMP) in Eastern Indonesia ranged from a minimum value of 14.40, recorded in East Nusa Tenggara in 2019, to a maximum value of 15.16, recorded in Papua in 2023. The average UMP in the region was 14.80, with a standard deviation of 0.17. The Gross Regional Domestic Product (GRDP) in Eastern Indonesia ranged from a minimum value of 17.09, recorded in North Maluku in 2019, to a maximum value of 19.75, recorded in South Sulawesi in 2023. The average GRDP in the region was 18.20, with a standard deviation of 0.74. The Information and Communication Technology Development Index (ICT Development Index) in Eastern Indonesia ranged from a minimum value of 3.22, recorded in Papua in 2022, to a maximum value of 6.64, recorded in Bali in 2022. The average ICT Development Index in the region was 5.30, with a standard deviation of 0.76. The HDI in Eastern Indonesia ranged from a minimum value of 60.84, recorded in Papua in 2019, to a maximum value of 78.01, recorded in Bali in 2023. The average HDI in the region was 70.14, with a standard deviation of 3.82.

Classical Assumption Tests

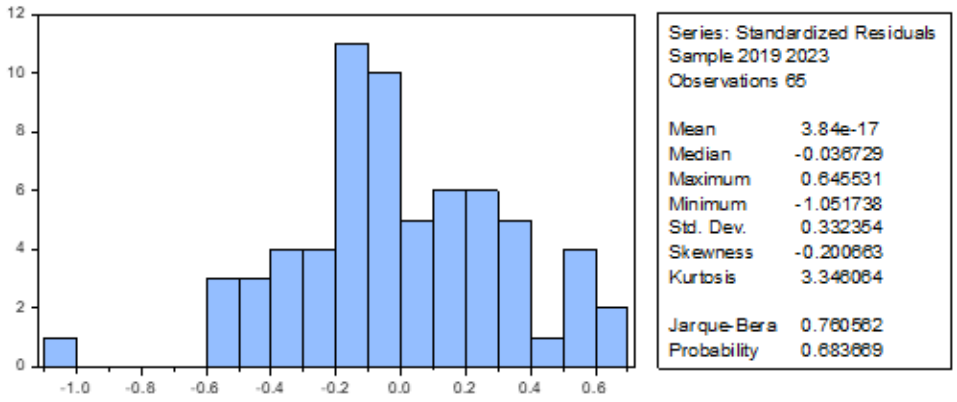

Figure 2. Normality Test Results

Based on the results of the normality test, the variables in this study are normally distributed. The comparison is made between the Jarque-Bera probability value and the significance level (alpha) of 0.05 (5%). The Jarque-Bera probability value in this

study is 0.683669, which is greater than 0.05, indicating that the residuals are normally distributed.

Table 3. Multicollinearity Test Results

	UMP	GRDP	ICTDI
UMP	1.000	0.178	-0.088
GRDP	0.178	1.000	0.083
ICTDI	-0.088	0.083	1.000

Based on the Table 3, it is evident that the correlation among the independent variables is less than 0.85. Therefore, there is no indication of multicollinearity in this study, and the assumption of no multicollinearity in the model is satisfied.

Table 4. Heteroskedasticity Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.547798	11.28532	0.402984	0.6887
UMP	-0.385321	0.818816	-0.470584	0.6400
GRDP	0.137869	0.341834	0.403322	0.6885
ICTDI	-0.205323	0.141413	-1.451938	01529

Based on the test results, the probability values for the independent variables are greater than 0.05, indicating that there is no heteroskedasticity present in this study.

Based on the regression results, the Durbin-Watson statistic is 1.910953. After identifying the Durbin-Watson (DW) value, the next step is to consult the DW table to determine the lower (dL) and upper (dU) bounds. The results of the autocorrelation test are presented in the following Table 5.

Table 5. Autocorrelation Test Results

dL	dU	DW	4-dU	4-dL	Conclusion
0.7147	1.8159	1.910953	2.1841	3.2853	There is no autocorrelation

Based on Table 5, the Durbin-Watson statistic is 1.910953. In this study, with n = 65 and k = 4, the lower bound (dL) is 0.7147 and the upper bound (dU) is 1.8159. Since the DW value is greater than dU, it can be concluded that there is no autocorrelation issue in this study.

Regression Results

Table 6. Regression Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-87.30112	22.53815	-3.873482	0.0003
UMP	11.06482	1.635275	6.766337	0.0000
GRDP	-0.716057	0.68684	-1 048884	0.2994
ICTDI	1.257313	0.282419	4.451945	0.0000
R-squared	0.992450			
Adj. R-squared	0.990139			
F-statistic	429.4219			
Prob	0.000000			

Based on the t-test results, the interpretation is as follows:

1. The Provincial Minimum Wage (UMP) variable has a probability value of 0.0000, which is smaller than the 5% significance level (0.0000 < 0.05). This means that the Provincial Minimum Wage (UMP) variable has an effect on the Human Development Index.
2. The Gross Regional Domestic Product (GRDP) variable has a probability value of 0.2994, which is greater than the 5% significance level (0.2994 > 0.05). This means that the Gross Regional Domestic Product variable has no effect on the Human Development Index.
3. The Information and Communication Technology Development Index (ICTDI) variable has a probability value of 0.0000, which is smaller than the 5% significance level (0.0000 < 0.05). This means that the Information and Communication Technology Development Index has no effect on the Human Development Index.

Based on the F-test results, the F-statistic value is 429.4219 with a probability of 0.000000. This probability value is smaller than the 5% significance level (0.000000 < 0.05). The results indicate that the Provincial Minimum Wage, GRDP, and ICTDI simultaneously influence the Human Development Index in Eastern Indonesia during the period 2019 - 2023.

The coefficient of determination (Adjusted R-Squared) is 0.990139. This means that the independent variables explain 99.01% of the variation in the dependent variable, namely the HDI, in Eastern Indonesia. The remaining 0.99% is explained by other factors not included in this study.

4.2. Discussions

Provincial Minimum Wage and Human Development Index

Based on the regression results, UMP has a coefficient value of 11.064821 with a probability of 0.0000. This indicates that the Provincial Minimum Wage has a positive and statistically significant effect on HDI in Eastern Indonesia. Nailufar et al. (2024) states that the Provincial Minimum Wage has a positive impact on the Human Development Index. This is because if wages increase, worker welfare will also improve through a decent income. This decent income can meet a decent standard of living, which is one of the indicators of the Human Development Index (HDI).

Research conducted by Imelda et al. (2021) also stated that increasing the minimum wage, ensuring that a person's basic needs are met, will improve the Human Development Index. The minimum wage can impact the quality of life of the community, leading to an increase in the Human Development Index (HDI) in a given region or area (Faizin, 2021). Receiving a higher minimum wage can increase people's purchasing power, which is in line with the theory of endogenous economic growth developed by Romer (1986) dan Lucas (1998). On the other hand, according to Human Development Theory, decent workers' incomes enable investments in human capital, such as education and health, which ultimately contribute to long-term economic growth (Sen, 1999).

Gross Regional Domestic Product and Human Development Index

Based on the regression, GRDP has a coefficient of -0.716057 with a probability value of 0.2994. This indicates that although GRDP has a negative effect on HDI. This is not in line with research conducted by Izzah and Hendarti (2021), which states that GRDP has a significant and positive effect on the HDI. The difference in results may be due to differences in regions and the data periods used. The study was conducted in Central Java province from 2010 to 2019, the years before the COVID-19 pandemic.

This is in line with research conducted by Al Fian and Bintoro (2024) which states that an increase in GRDP has no impact on the Human Development Index. GRDP does not significantly influence the HDI due to limited and varying consumption patterns across Indonesia's provinces. Furthermore, the study found that each province faces limitations in meeting basic needs such as food and beverages, making GRDP insignificant in terms of increasing the HDI. In endogenous economic growth theory Romer (1986) dan Lucas (1998) emphasizes that sustainable economic growth stems from investment in human capital, innovation, and knowledge accumulation. It can be concluded that changes in the amount of public spending are not accompanied by improvements in public welfare, which is one aspect of the HDI.

ICT Development Index and Human Development Index

The regression shows that ICTDI has a coefficient of 1.257313 with a probability of 0.0000, indicating a positive and significant effect on HDI in Eastern Indonesia. This is in line with research conducted by Iman et al. (2024) which states that technology can influence the human development index through skills and efficiency in the use of technology in society so that it can facilitate productivity activities and other activities. According to Ranis et al. (2000), Economic growth that is not accompanied by investment in social sectors such as education and health tends to result in growth "without development" so that the human development index remains low even though regional income increases.

In addition, research by Anand & Ravallion (1993) also found that in developing countries, economic growth without equitable distribution of benefits tends to fail to significantly improve human development indicators. A region's technology can be measured by the Information and Communication Technology Development Index (IP-ICT). In endogenous economic growth theory, Romer (1986) and Lucas (1998) emphasizes that technological progress contributes to increased productivity and economic efficiency, which has a direct impact on societal welfare. Based on research Octaviani (2022), IP-ICT has an important role because it has an impact on human development.

5. Conclusion

This study concludes that socioeconomic and technological factors play a crucial role in shaping human development outcomes in Eastern Indonesia during the 2019–2023 period. The Provincial Minimum Wage is found to have a positive and significant effect on the Human Development Index (HDI), indicating that higher wage policies are associated with improvements in human development. Similarly, the ICT Development

Index exerts a positive and significant influence on HDI, which highlights the importance of digital infrastructure and access to information and communication technology in enhancing education, health, and overall quality of life.

In contrast, Gross Regional Domestic Product (GRDP) shows a negative but statistically insignificant effect on HDI. This suggests that economic growth alone, without equitable distribution or investment in human capital, does not automatically translate into better human development outcomes in Eastern Indonesia. When considered together, Provincial Minimum Wage, GRDP, and ICT Development Index jointly influence HDI in the region over the study period.

Future studies are advised to incorporate additional determinants of HDI, such as investment levels, government spending on education and health, and other social or institutional variables, to provide a more comprehensive understanding of the drivers of human development in Eastern Indonesia.

References

Agus, G., & Yoga, D. M. (2024). Determinan Kesejahteraan Berdasarkan Indeks Pembangunan Manusia (IPM) di Provinsi Bali. *EKUILNOMI: Jurnal Ekonomi Pembangunan*, *6*(2), 2614–7181. https://doi.org/10.36985/ekuilnomi.v6i2.1164

Al Fian, M. I. N., & Bintoro, N. S. (2024). The effect of government expenditure on education, health sector, and gross regional domestic product on human development index. *Contemporary Studies In Economic, Finance And Banking*, *3*. https://doi.org/10.21776/csefb.2024.03.2.09

Anand, S., & Ravallion, M. (1993). Human development in poor countries: on the role of private incomes and public services. *Journal of economic perspectives*, *7*(1), 133-150.

BPS. (2020). *Indeks Pembangunan Manusia 2020*. Badan Pusat Statistik.

Dewanto, F. W., & Rahmawati, F. (2021). Analisis Ketimpangan Pembangunan Ekonomi Antarwilayah (Studi di Kawasan Barat Indonesia dan Kawasan Timur Indonesia) Tahun 2014. *Jurnal Ilmiah Mahasiswa Ekonomi*, *4*(1), 46-60.

Faizin, M. (2021). Pengaruh Upah Minimum, Kemiskinan dan Pengangguran pada IPM di Kabupaten/Kota Provinsi Jawa Timur. *Jurnal Samudra Ekonomi Dan Bisnis*, *12*(2), 214–227. https://doi.org/10.33059/jseb.v12i2.3027

Herman. (2021). *Anggaran TIK Rp 27,4 T untuk Pemerataan Infrastruktur dan Transformasi Digital*. Beritasatu.Com. https://www.beritasatu.com/ekonomi/816783/anggaran-tik-rp-274-t-untuk-pemerataan-infrastruktur-dan-transformasi-digital

Hidayat, W. N. R., & Perwithosuci, W. (2024). Analisis Pengaruh PDRB Perkapita, Upah Minimum, Penyerapan Tenaga Kerja, Jumlah Penduduk Miskin Terhadap Indeks Pembangunan Manusia di Propinsi Jawa Barat Tahun 2017-2020. *Ekonomikawan: Jurnal Ilmu Ekonomi dan Studi Pembangunan*, *24*(1), 89-101. https://doi.org/10.30596/ekonomikawan.v24i1.18551

Iman, J. R., Huda, S., & Salam, A. (2024). Analisa Pengaruh Pendapatan, Teknologi Dan Informasi Terhadap Indeks Pembangunan Manusia (IPM) Di Provinsi Jawa

Timur. *Jurnal Ilmiah Wahana Pendidikan*, *2024*(19), 457–468. https://doi.org/10.5281/zenodo.14233104

Imelda, R., Balafif, M., & Wahyuni, S. T. (2021). Pengaruh Pendidikan, Produk Domestik Regional Bruto (PDRB), dan Upah Minimum terhadap Indeks Pembangunan Manusia (IPM) Kabupaten Sidoarjo Tahun 1998-2017. *Bharanomics*, *1*(2), 67–74. https://doi.org/10.46821/bharanomics.v1i2.155

Izzah, C. I., & Hendarti, I. M. (2021). Analisis Pengaruh Tenaga Kerja, Tingkat Upah, dan PDRB Terhadap Indeks Pembangunan Manusia (IPM) di Provinsi Jawa Tengah. *Oikos: Jurnal Kajian Pendidikan Ekonomi Dan Ilmu Ekonomi*, *V*, 2549–2284.

Lucas Jr, R. E. (1988). On the mechanics of economic development. *Journal of monetary economics*, *22*(1), 3-42.

Madsen, J., Saxena, S., & Ang, J. (2010). The Indian growth miracle and endogenous growth. *Journal of Development Economics*, *93*, 37–48.

Nailufar, F., Juliansyah, H., Murtala, M., & Risna, R. (2024). Pengaruh Upah Minimum Provinsi (Ump), Penanaman Modal Asing (Pma), Dan Produk Domestik Regional Bruto (Pdrb), Terhadap Indeks Pembangunan Manusia (Ipm) Di Iindonesia (Studi Kasus 11 Provinsi Ipm Lower Medium). *Jurnal Ekonomi Regional Unimal*, *7*(1), 11-21. https://doi.org/10.29103/jeru.v7i1.17760

Nussbaum, M. C. (2011). *Creating capabilities: The human development approach*. Harvard University Press.

Octaviani, L. (2022). *Pengaruh Jumlah Penduduk, Investasi, Upah Minimum dan Indeks Pembangunan Teknologi Informasi dan Komunikasi Terhadap Indeks Pembangunan Manusia (Studi Kasus: 10 Provinsi Di Pulau Sumatera Tahun 2015-2020)*. Bachelor's thesis, Fakultas Ekonomi dan Bisnis, Universitas Islam Negeri Syarif Hidayatullah Jakarta.

Rachmaningsih, T., & Priyarsono, D. S. (2012). Ketahanan Pangan di Kawasan Timur Indonesia. *Jurnal Ekonomi Dan Pembangunan Indonesia*, *13*(1), 1–18. https://doi.org/10.21002/jepi.v13i1.01

Ranis, G., Stewart, F., & Ramirez, A. (2000). Economic growth and human development. *World development*, *28*(2), 197-219.

Romer, P. M. (1986). Increasing returns and long-run growth. *Journal of political economy*, *94*(5), 1002-1037.

Sanitra, A. N. (2020). *Pengaruh Pertumbuhan Ekonomi dan Indeks Pembangunan Manusia Terhadap Pengangguran Di Indonesia* (UIN AR-RANIRY).

Saputra, R. E., Handra, H., & Primayesa, E. (2021). Analisis Pengaruh Infrastruktur Jalandan Teknologi Informasi Dan Komunikasi (Tik) Terhadap Pembangunan Manusia Di Wilayah Timur Indonesia. *Jurnal Menara Ekonomi: Penelitian Dan Kajian Ilmiah Bidang Ekonomi*, *7*(1). https://doi.org/10.31869/me.v7i1.2532

Sen, A. (1999). Development as Freedom. *New York: Alfred Knopf*.

Tubaka, S. (2019). Analisis kemiskinan di kawasan timur indonesia. *Jurnal Cita Ekonomika*, *13*(2), 113-130.

Wahyuni, N. A., Nikensari, I., & Mukhtar, S. (2022). The Effect of Population Dependency, Technology, And Education on Human Development in Indonesia

During the Pandemic Covid-19. *International Journal of Multidisciplinary Research and Literature IJOMRAL*, *1*(6), 620–740. https://doi.org/10.53067/ijomral.v1i6

Wajdi, S., & Almizan. (2020). Pengaruh Pembangunan Teknologi Informasi Komunikasi terhadap Pertumbuhan Ekonomi Melalui Penyerapan Tenaga Kerja Sektor TIK di Indonesia. *Al-Masraf (Jurnal Lembaga Keuangan Dan Perbankan*, *5*, 151–166.