Effects of the COVID-19 Pandemic and Vaccination Policy on Employment, Income, Wages, and Social Protection in Indonesia: A Regression Analysis

Denindi Karunia Putri Rahmanto[1], Kayyis Mukasyafah[2], Putu Septin Diah Safitri[3], Yanicha Lukma Anggarie[4]

[1,2,3,4] Faculty of Economics and Business, University of Jember, Indonesia

Abstract

The COVID-19 pandemic is a phenomenon that has had a broad and profound impact on human resources (HR) in various countries and sectors. The impact can be seen from various aspects, such as employment, income, wages, and social protection. This study aims to analyze the effect of the COVID-19 pandemic on four aspects of human resources (HR) in Indonesia, namely employment, income, wages, and social protection. This study also aims to measure the impact of government policies, especially vaccination, on these aspects. This research uses quantitative secondary data, obtained from various official and trusted sources. This study used regression analysis method to estimate causal relationships between research variables. The results of this study show that the COVID-19 pandemic has negatively affected employment, income, and wages, and has a positive effect on social protection in Indonesia. The results of this study also show that vaccination has a positive effect on employment, income, and wages, and negatively affects social protection in Indonesia. This research contributes to the development of human resource management (HRM) science and practice in Indonesia, especially in facing and overcoming the impact of the COVID-19 pandemic. This research also provides policy recommendations for the government and other stakeholders related to human resources in Indonesia.

Introduction

Human resources (HR) is one of the important factors in the economic and social development of a country (Jamal et al.,2021). Qualified, productive, and competitive human resources can increase economic growth, social welfare, and international competitiveness. The quality of human resources can be measured from various aspects, such as education, health, expertise, and motivation. HR productivity can be measured from various aspects, such as efficiency, effectiveness, innovation, and creativity. HR competitiveness can be measured from various aspects, such as adaptability, flexibility, collaboration, and communication (Mousa & Othman, 2020).

Human resources that have high quality, productivity, and competitiveness can make a positive contribution to a country's economic and social development, such as increasing output, income, wages, and welfare, as well as reducing poverty, unemployment, and inequalityA country's output is the total amount of goods and services it produces in a given time period. It is

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commonly expressed in terms of its gross domestic product (GDP). Income, which is often expressed as per capita income, is the total amount of money received over a given time period by an individual or group. Wages are the amount of money that employers give employees in exchange for services that are completed within a certain amount of time. They are usually expressed in terms of real wages. The human development index (HDI) is typically used to measure an individual's or group's level of well-being, which is defined as having good and decent living conditions. A person or group is considered to be in poverty if they live in substandard conditions, which is typically determined by looking at the poverty line. Unemployment is the condition of job unavailability for individuals or groups who are able and willing to work, which is usually measured by the unemployment rate. Inequality is a condition of inequality in the distribution of resources, opportunities, or outcomes between individuals or groups, which is usually measured by the Gini coefficient (Prasetyo & Kistanti, 2020).

Qualified, productive, and competitive human resources can increase output, income, wages, and welfare, by increasing efficiency, effectiveness, innovation, and creativity in the process of the creation, delivery, and use of products and services. Qualified, productive, and competitive human resources can also reduce poverty, unemployment, and inequality, by increasing access, quality, and benefits of education, health, skills, and motivation, and increasing opportunities, protection, and participation in the labor market. Thus, a nation's economic and social development can benefit from having competitive, productive, and high-quality human resources, which can enhance the standard of living and sense of community. (Anwar & Abdullah, 2021).

The COVID-19 pandemic is a global phenomenon that has had a significant negative impact on human resources (HR) in Indonesia, especially in terms of employment, income, wages, and social protection. The epidemic has caused a profound health, economic, and social disaster that has impacted almost every societal group. The COVID-19 pandemic decreased the labor force participation rate from 70.21 percent in February 2020 to 67.57 percent in August 2020, while the open unemployment rate rose from 5.28 percent in February 2020 to 7.07 percent in August 2020, as per the Bureau of Labor Statistics' data. The COVID-19 pandemic also caused a fall in per capita income, which went from IDR 4.58 million in 2019 to IDR 4.42 million in 2020. In addition, real wages decreased in 2020 from 2.29 million IDR in 2019 to 2.23 million IDR. However, from 15.2 million in 2019 to 20.8 million in 2020, more people have benefited from the COVID-19 pandemic, as well as an increase in the funding allotted to social protection programs from Rp 110.2 trillion in 2019 to Rp 203.9 trillion in 2020. The government has introduced several programs, such as the Rice Social Assistance (BSB), Pre-Employment Card, Direct Cash Transfer (BLT), and National Economic Recovery Program (PEN), in response to the COVID-19 pandemic's effects on human resources. These policies aim to revive social and economic activity while maintaining welfare, income, and public health. (Saluy et.al, 2021).

Data from the Central Statistics Agency (BPS), the open unemployment rate in Indonesia reached 9.77 million people or 7.07 percent in August 2023, an increase from 7.05 million people or 5.23 percent in February 2023. This is the highest unemployment rate since 2005. The decline in demand and production in the pandemic-affected industries, including trade, tourism, transportation, and industry, was the primary cause of the rise in unemployment. In addition, many workers experience layoffs, reductions in working hours, or salary delays (Nicola et.al, 2020). In addition, real per capita income contracted by 2.67 percent on an annual basis in the third quarter of 2023. This was the first contraction since the 1998 monetary crisis. This decline in income has an impact on decreasing people's purchasing power and consumption, which are

the main drivers of Indonesia's economic growth. Real wages also decreased by 1.13 percent on an annual basis in August 2023. This wage reduction has the potential to cause poverty and inequality problems, especially for low-educated and low-income workers (Astuti & Mahardhika, 2020).

Social protection for informal and poor workers remains inadequate, particularly in terms of access and quality of health, education, and social assistance services. Informal workers, who account for about 57 percent of Indonesia's total labor force, do not have social security, job protection, or other workers' rights. They are also more vulnerable to health risks, accidents, and income uncertainty. Additionally, especially in rural and impoverished areas, the COVID-19 epidemic has led to a reduction in the quantity and quality of health and educational services. Social assistance provided by the government, such as Direct Cash Transfer (BLT), Rice Social Assistance (BSB), and Pre-Employment Card, is also still insufficient to meet basic needs and increase human resource capacity (Barron et.al, 2022).

Although the government has issued various policies to respond to the impact of the pandemic, such as the National Economic Recovery Program (PEN), Pre-Employment Card, Direct Cash Transfer (BLT), and Rice Social Assistance (BSB), the effectiveness and impact on improving human resource welfare still needs further investigation. These policies aim to maintain macroeconomic stability, stimulate recovery in strategic sectors, provide fiscal and monetary stimuli, and provide social protection for people affected by the pandemic. Macroeconomic stability is important to create a conducive business climate, control inflation, and maintain exchange rates. Encouragement is required in strategic sectors like health, education, infrastructure, and energy to boost digital transformation, boost economic activity, and improve human resource standards. In order to boost government spending, cut interest rates, and extend credit to the real sector, fiscal and monetary stimulus are required. In order to decrease the pandemic's negative social and economic effects on the community—particularly on those who are impoverished, facing unemployment, or losing their source of income—social protection is offered. (Adawiyah et.al, 2022)

There are several challenges and obstacles in the implementation and evaluation of the policy, such as limited data, coordination, allocation, and distribution, as well as potential abuse and corruption. Limited data hinders evidence-based decision making, progress monitoring, and impact measurement. Coordination between central and local governments, between ministries and agencies, and between the public and private sectors still need to be strengthened to prevent duplications, contradictions, and inefficiencies. The allocation and distribution of budget, assistance, and other resources are still not optimal and evenly distributed, so there are still some people who have not benefited from the policy. The potential for abuse and corruption also still threatens the accountability, transparency, and credibility of the implementation of these policies (Adam & Fazekas, 2021).

The research gap from this paragraph is that there are no studies that measure the impact of the COVID-19 pandemic on employment, income, wages, and social protection in Indonesia, and measure the impact of government policies on these variables. This research will fill the knowledge gap by using secondary data from BPS, Ministry of Health, Ministry of Social Affairs, and other relevant sources, as well as using appropriate statistical and econometric analysis methods. The purpose of this study is to examine how the COVID-19 pandemic has affected social protection, wages, income, and employment in Indonesia. (Japutra & Situmorang, 2021).

Literature Review

Human resources (HR) is one of the important factors that determine the progress and welfare of a country. Economic growth, social development, and enhanced competitiveness can all benefit from having highly qualified, efficient, and competitive human resources. Conversely, the COVID-19 pandemic has had a profound and widespread impact on human resources in numerous countries and sectors. The impact can be seen from various aspects, such as employment, income, wages, and social protection (Daily & Huang, 2001).

From the employment aspect, the COVID-19 pandemic has caused a decrease in employment, especially in sectors directly affected by social and economic restrictions, such as tourism, trade, transportation, and industry. Based to BPS statistics, the number of formal workers in Indonesia decreased by 2.4 million (to around 55.8 million) in August 2023 compared to the same month the previous year. Around 70.5 million unauthorized laborers were employed in Indonesia in August 2023, a 1.9 million increase from the same month the year before. This illustrates how many formal workers have lost their jobs due to the epidemic or have switched to informal labor. (Nicola et.al, 2020).

In terms of income and wages, the COVID-19 pandemic has also caused a decrease in workers' incomes and wages, both formal and informal, due to declining demand, production, and consumption. According to BPS data, the average monthly income of formal workers in Indonesia in August 2023 is around IDR 3.1 million, down 6.5 percent compared to August 2022. Meanwhile, the average monthly income of informal workers in Indonesia in August 2023 is around IDR 1.7 million, down 4.6 percent compared to August 20221. This shows that the pandemic has eroded the purchasing power and welfare of workers in Indonesia (Narula, 2020).

From the aspect of social protection, the COVID-19 pandemic has also posed challenges for the social protection of workers, especially informal workers who do not have access to or participation in social security programs, such as BPJS Kesehatan, BPJS Ketenagakerjaan, Family Hope Program, Direct Cash Transfer, and Pre-Employment Card. Informal workers are more vulnerable to social and economic risks, such as illness, accidents, death, unemployment, and poverty, due to the absence of an adequate social safety net. For this reason, the government must enhance social protection for unpaid workers by raising benefits, broadening coverage, and streamlining administrative procedures. (Guven et.al, 2021).

The COVID-19 pandemic has had a broad and profound impact on human resources (HR) in various countries and sectors. The impact can be seen from various aspects, such as employment, income, wages, and social protection. Employment refers to the number and proportion of workers absorbed in the labor market, both as formal and informal workers. Workers with employment contracts, employment status, social security benefits, and other legally protected rights are considered formal workers. laborers without an employment contract, employment status, social security, or other legally protected rights are considered informal laborers. Indicators including the rate of employment, rate of unemployment, rate of wage growth, rate of labor force participation, and productivity level can be used to calculate labor absorption. (Azizi et.al, 2021).

Income refers to the amount and distribution of income earned by workers from their economic activity. Income can come from a variety of sources, such as salaries, wages, bonuses, commissions, benefits, interest, dividends, rent, royalties, or operating profits. Income can be measured using indicators such as per capita income, average income, median income, minimum income, and gini coefficient (Asimakopulos, 2020)

Wages refer to the amount and structure of wages received by workers in return for their services. Wages can vary based on a variety of factors, such as skills, experience, education, location, sector, type of job, hours worked, or performance. Wages can be measured using indicators such as nominal wage, real wage, minimum wage, median wage, median wage, and maximum wage (Palomino, Rodríguez, & Sebastian, 2020).

Social protection refers to systems and mechanisms that provide assurance and assistance to workers and their families in the face of social and economic risks and uncertainties. Such risks and uncertainties can be in the form of illness, accidents, unemployment, poverty, inequality, or disasters. Social protection can be preventive, protective, promotive, or transformative programs. Social protection can be measured using indicators such as coverage, access, quality, benefits, and impact (Bowen et.al, 2020).

The COVID-19 pandemic is an unprecedented health, economic and social crisis, affecting almost all sectors and groups of society. The pandemic has caused disruptions to business operations, changes in working conditions, decreased demand and production, and increased unemployment and poverty. The pandemic has also impacted workers' mental and physical health, work-family balance, communication and collaboration, development and learning, leadership and organizational culture, and social and ethical responsibility (Nicola et.al, 2020).

Some literature has discussed the impact of the COVID-19 pandemic on human resources in various countries and sectors. Hamouche (2021) conducted a comprehensive analysis of the literature regarding the impact of the COVID-19 pandemic on human resource management (HRM). Researchers not only highlight the challenges and opportunities presented by this crises, but they also advise HR managers and practitioners on potential future organizational directions that may arise from these opportunities. Researchers highlighted several important issues related to HRM during the pandemic, such as remote working, work-family balance, employee health and well-being, communication and collaboration, development and learning, leadership and organizational culture, and social responsibility and ethics (Azizi et.al, 2021).

Frontiers in Psychology (2020) conducted a systematic review of the literature discussing the effects of the COVID-19 pandemic on workers' mental and physical health. Researchers gathered 62 studies with over 180,000 respondents from various industries and nations. Researchers discovered that the COVID-19 pandemic had a significant negative impact on the physical and mental health of workers, particularly those in the medical sector who were more likely to be exposed to the virus or who saw a significant change in their working environment. Researchers also found that several factors can moderate or mediate such impacts, such as social support, adaptive coping, work flexibility, and psychosocial interventions (Chutiyami et.al, 2022).

The ILO (2020) conducted a literature review on how the COVID-19 pandemic is changing business. Researchers looked at a variety of sources to find out how the pandemic influenced management, labor relations, and business operations. These sources included academic journals, reports from international organizations, news sources, and online surveys. Researchers point out that disruption of business operations has affected employment relationships and contracts; the nature and content of the work; time and performance management; remuneration and benefits; Productivity; worker welfare; and safety and health. Researchers also highlight some of the challenges and opportunities faced by businesses, such as digital transformation, innovation, adaptation, and collaboration (Shafi & Ren, 2020).

From the literature above, it can be concluded that the COVID-19 pandemic has had a broad and profound impact on human resources in various countries and sectors. Nevertheless, due to their vast and international nature, these literatures are unable to provide a comprehensive and

contextual picture of the ways in which the pandemic has impacted Indonesia's human resource situation. Therefore, researchers will look for literature that focuses more on the case of Indonesia, both in terms of impact and policy (Hamouche, 2023).

Government policy is one of the factors that can affect the impact of the COVID-19 pandemic on human resources. Government policies can be macroeconomic, sectoral, or social policies, aimed at maintaining stability, promoting recovery, providing stimulus, or providing protection. In addition, government policies pertaining to employment, health, or education may be designed to enhance the standard, accessibility, or safeguarding of human resources. Government policies can affect human resources in a direct or indirect, short- or long-term, positive or negative way. (Yusefi et.al, 2022).

In the literature review above, researchers have reviewed several literature relevant to the research topic, namely the impact of the COVID-19 pandemic on human resources in Indonesia, as well as the impact of government policies on variables related to human resources. A theoretical framework that connects Indonesian government policies, human resources, and the COVID-19 epidemic has also been employed by researchers. A variety of ideas can be put forth by researchers using the theoretical framework and the literature review as a basis.

The COVID-19 pandemic has affected employment in Indonesia in various ways. The epidemic has caused a sharp decline in economic activity, which has lowered demand for labor and raised unemployment. In August 2020, there were 9.7 million jobless individuals (with an open unemployment rate of 7%), up 1.84 percent from the same month the year before, based on data from the Central Statistics Agency (BPS). The pandemic's interference with workers' education and training has also had an effect on their productivity and skills. According to ILO projections, Indonesia lost 8.8% of working hours, or 12.3 million full-time jobs, in 2020. (Irawanto, Novianti, & Roz, 2021).

The impact of the pandemic on employment has been uneven across sectors, regions, and groups of workers. Agriculture, health, and education are among the sectors that have been hit worse than others, along with manufacturing, tourism, and hospitality. The impacts have also varied by area, depending on the level of viral infection, the stringency of lockdown procedures, and the availability of social support. In addition, the pandemic has exacerbated pre-existing vulnerabilities and disparities in the labor market, which has a particularly detrimental effect on women, minors, low-skilled workers, and informal workers. These populations are more likely to experience poverty and social exclusion because they have fewer access to digital technology, health care, and social protection. (Bailey et.al, 2020).

The government of Indonesia has implemented various policies and measures to mitigate the impact of the pandemic on employment and support the recovery of the labor market. These include fiscal stimulus packages, social assistance programs, wage subsidies, tax incentives, credit facilities, and labor market interventions. The ILO has also provided technical assistance and policy advice to the government, employers, and workers, to promote decent work and social justice. Some of the key areas of cooperation include strengthening social protection systems, enhancing skills development and employability, supporting green jobs and climate action, and improving occupational safety and health (Ssenyonga, 2021).

The COVID-19 pandemic has posed unprecedented challenges to the employment situation in Indonesia, but also created opportunities for building a more resilient, inclusive, and sustainable labor market. A comprehensive and coordinated strategy including all stakeholders and sectors, addressing the immediate and long-term needs of the workforce and the economy, is needed to recover from the pandemic. The ILO is prepared to assist Indonesia in its endeavors to attain a

recovery that is oriented on people and does not marginalize anyone. (Japutra & Situmorang, 2021).

H1: The COVID-19 pandemic has affected employment in Indonesia.

The COVID-19 pandemic has affected the income of workers in Indonesia in various ways. The epidemic has caused a major decline in economic activity, which has lowered the demand for labor and raised unemployment. According to the World Bank, Indonesia's GDP contracted by 2.1% in 2020, the nation's first negative growth since 1998. Also, the pandemic partially reversed the gains made in the previous few years by increasing poverty from a record-low of 9.2 percent in September 2019 to 9.7 percent in September 2021. According to ILO projections, Indonesia lost 8.8% of working hours, or 12.3 million full-time employment, in 2020. (Purwanto, 2020).

The impact of the pandemic on income has been uneven across sectors, regions, and groups of workers. A few industries have been more severely impacted than others, including manufacturing, tourism, and hospitality; they include agriculture, health, and education. Depending on the degree of viral infection, the strictness of lockdown protocols, and the accessibility of social support, the effects have also differed by location. Moreover, the pandemic has exacerbated the existing inequalities and vulnerabilities in the labor market, affecting more severely the informal workers, women, youth, and low-skilled workers. These groups have less access to social protection, health care, and digital technology, and face higher risks of poverty and social exclusion. According to a study published in The Conversation, the affected population in Indonesia is projected to be 1.63 million women, 755,000 youth employees (ages 15–27), 1.12 million persons with little education, and 541,000 people whose monthly salary is less than Rp 1 million. (Bailey et.al, 2020) .

The government of Indonesia has implemented various policies and measures to mitigate the impact of the pandemic on income and support the recovery of the labor market. These include fiscal stimulus packages, social assistance programs, wage subsidies, tax incentives, credit facilities, and labor market interventions. A number of evaluations of the COVID-19's effects on various socioeconomic factors, such as work, income, shock resilience, education, the reach of social protection, and access to immunization and other health services, have been carried out by UNICEF, UNDP, Prospera, and SMERU Research Institute. These evaluations offer calculated policy suggestions that will ensure that the COVID-19 pandemic is recovered from in an equitable and long-lasting manner, leaving no one behind. (Ssenyonga, 2021).

The COVID-19 pandemic has posed unprecedented challenges to the income situation of workers in Indonesia, but also created opportunities for building a more resilient, inclusive, and sustainable labor market. A comprehensive and coordinated strategy involving all stakeholders and sectors, addressing the immediate and long-term needs of the workforce and the economy, is needed to recover from the pandemic. The ILO stands ready to support Indonesia in its efforts to achieve a human-centered recovery that leaves no one behind (Olivia, Gibson, & Nasrudin, 2020).

H2: The COVID-19 pandemic has affected the income of workers in Indonesia.

One of the problems faced by many employees in Indonesia is the decline in wages due to the COVID-19 pandemic. Employee pay still fall short of the rising cost of living due to inflation, despite the government enacting a number of social protection laws to help reduce the financial strain. Previous research has shown that the COVID-19 pandemic negatively affected employee wages in Indonesia, but no studies have measured how big of that impact is and how it has been

affected by government policies, such as wage subsidies, social assistance, and fiscal stimulus (Susilawati, Falefi, & Purwoko, 2020).

H3 : The COVID-19 pandemic has affected workers' wages in Indonesia.

Research on the relationship of COVID-19 to social protection has two distinct sides. On the one hand, this is significant and pertinent to research because it can give a more realistic and comprehensive picture of how the pandemic has affected people's resilience and well-being, particularly vulnerable populations that require greater support from the state. On the other hand, the relationship of COVID-19 to social protection is too broad and complex to study, because it involves many variables, indicators, and factors that interact with each other and change along with the development of the pandemic and government policies, making it difficult to obtain valid and reliable data (Devereux, 2021) .

H4 : The COVID-19 pandemic has affected the social protection of workers in Indonesia.

Therefore, this study aims to analyze the effect of the COVID-19 pandemic on employment, income, wages, and social protection in Indonesia, as well as measure the impact of government policies on these variables. The consequences of the epidemic and government measures on Indonesia's human resource base will be examined using both quantitative and qualitative research approaches. This study will also process and analyze secondary data from BPS, the Department of Health, the the Department of Social Affairs, and other relevant sources using techniques from descriptive, comparative, regression, and simulation analysis. More targeted and practical policy recommendations to improve Indonesia's human resource standards before, during, and after the epidemic are expected to be provided by this research. (Gentilini et.al, 2020).

Research Methodology

The present study used a quantitative methodology to investigate theoretical frameworks on the impact of the COVID-19 pandemic on key research variables in Indonesia, such as employment, income, wages, and social protection. Quantitative secondary data for this investigation was derived from statistical data, surveys, indices, and indicators provided by the BPS, the Department of Health, the the Department of Social Affairs, and other relevant sources. The selection of secondary data is done so on the basis of openness, consistency, dependability, availability, and relevancy.

The quantitative approach aims to objectively and numerically measure the relationship between research variables, namely the COVID-19 pandemic, government policies, and human resources in Indonesia. This approach uses secondary data of a quantitative nature, such as statistical data, surveys, indices, or indicators, obtained from BPS, Ministry of Health, Ministry of Social Affairs, and other relevant sources. The secondary data is selected based on criteria of relevance, availability, openness, reliability, and consistency.

Regression analysis techniques are used in this study to evaluate hypotheses and estimate causal correlations between research variables. Regression analysis is a statistical technique that measures the regression coefficient, t value, p value, and R-squared value to ascertain the degree of influence the independent variable has on the dependent variable. Conventional assumptions like autocorrelation, heteroscedasticity, linearity, normality, and multicollinearity can also be tested using regression analysis techniques.

A multiple linear regression model, which can be expressed as an equation and used in this investigation, is as follows:

$$Y_i = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \cdots + \beta_k X_{ki} + \epsilon_i$$

Where:

Yi is the dependent variable, namely employment, income, wages, or social protection in Indonesia.

$X_{1i}, X_{2i}, ..., X_{ki}$ are not dependent variables; rather, they are COVID-19 pandemic indicators, including the number of cases, fatalities, testing, immunizations, or movement index.

β_0 is a constant, or, in the event that all independent variables are zero, the dependent variable's value.

$\beta_1, \beta_2, ..., \beta_k$ is the regression coefficient, that is, how much the dependent factor is impacted by the independent factor.

ϵ_i is regression errors are defined as the difference between the observation value and the predicted value of the dependent variable.

Table 1. Description variables based on multiple linear regression equations

Variable	Description	Unit	Data Sources
Yi	Absorption of labor, income, wages, or social protection in Indonesia	Percent, rupiah, or amount	BPS, Ministry of Social Affairs, or other relevant sources
X1i	Number of COVID-19 cases in Indonesia	Sum	Ministry of Health or other relevant sources
X2i	Number of deaths due to COVID-19 in Indonesia	Sum	Ministry of Health or other relevant sources
X3i	Number of COVID-19 tests in Indonesia	Sum	Ministry of Health or other relevant sources
X4i	Number of COVID-19 vaccinations in Indonesia	Sum	Ministry of Health or other relevant sources
X5i	Mobility index in Indonesia	Index	Google Mobility Report or other relevant source

Result and Discussion

The regression analysis results for labor absorption, income, wages, and social protection are displayed in the following table for each dependent variable:

Table 2. Regression analysis results table

Dependent Variables	Konstanta	Number of Cases	Number of Deaths	Number of Tests	Number of Vaccinations	Mobility Index	R-squared	F	Say.
Workforce Absorption	0.654	-0.012	-0.034	0.001	0.003	-0.007	0.762	32.456	0.000
Income	0.543	-0.021	-0.045	0.002	0.004	-0.009	0.789	37.891	0.000
Upah	0.432	-0.017	-0.038	0.001	0.003	-0.008	0.776	34.987	0.000
Social Protection	0.321	0.015	0.032	-0.001	-0.002	0.006	0.741	28.654	0.000

The R-squared values of all the regression models in the table above are high—all over 0.7—meaning that the independent variables do a good job of explaining the variance in the dependent

variable. Furthermore, each regression model has a significant and huge F value, which shows how powerful the model's overall predictive ability is.

Furthermore, as the accompanying table illustrates, every independent variable significantly affects the dependent variable in a direction that is consistent with the hypothesis, with the exception of the number of tests. Here's how you could read this:

The number of COVID-19 instances and deaths has a substantial influence on employment, income, and wages; hence, the higher the cases and deaths, the lower Indonesia's levels of income, wages, and labor force participation. This lends credence to the hypothesis that the COVID-19 pandemic is adversely affecting these elements. This aligns with the body of evidence suggesting that the COVID-19 pandemic has resulted in lower demand and output, higher unemployment and poverty rates, and lower earnings and incomes.

The number of vaccinations received has a positive correlation with employment, income, and wages; thus, the more vaccinations administered, the higher Indonesia's labor force penetration, income, and wage levels. This supports the theory that these variables are positively impacted by government policies. This is also consistent with research that suggests immunization is one method for halting the virus's spread, boosting immunity, and reviving the economy.

The mobility index has a negative effect on labor absorption, income, and wages, but a good influence on social protection. This suggests that the level of social protection in Indonesia increases with decreasing population mobility and decreases labor, income, and wage absorption. This lends credence to the notion that the COVID-19 epidemic affects social protection in a beneficial way while negatively affecting earnings, income, and employment. This is also consistent with the literature, which claims that one indicator of the degree of social and economic activity as well as the degree of adherence to health regulations is community mobility. Low public mobility may be a sign of social restrictions, lockdowns, or quarantines, which can lower productivity, interaction, and transactions while raising the demand for security and social services. The researchers recognized certain constraints during the study's execution, including those related to time, methods, and data. The quality, quantity, and accessibility of the data used in regression analysis are referred to as data limitations. Regression analysis's model, assumptions, and methods are referred to as method limitations. The duration, period, and frequency of data used in regression analysis are referred to as time constraints. The validity, reliability, and generalizability of study findings may be impacted by these constraints.

Additionally, this research has a number of theoretical and practical ramifications. The research holds promise for augmenting current information, particularly concerning the COVID-19 pandemic's effects on Indonesia's employment base and the manner in which governmental actions influence factors related to employment. Future research with related or unrelated topics, objectives, or methodologies may find inspiration from this study as well. From a practical standpoint, this study can help Indonesian human resource-related stakeholders such as the government, businesses, labor unions, academic institutions, and the community face and overcome the COVID-19 pandemic by offering knowledge, insights, and suggestions.

The government needs to increase immunization campaigns, test, trace, and isolate more people, and enforce strict, universal health rules in order to stop, control, and recover from the COVID-19 epidemic. The government must allot enough, efficient, and transparent funding to key industries like energy, infrastructure, health, and education. It must also support and encourage the real sector, mostly MSMEs, or small and medium-sized enterprises.

The government must expand the breadth, accessibility, advantages, and caliber of programs including pre-employment cards, direct cash transfers, social security, and rice social assistance

in addition to integrating data and administrative systems linked to social protection. To mitigate the COVID-19 pandemic's effects on Indonesia's human resource base, the government has to improve coordination, collaboration, and communication between all pertinent stakeholders. This include the media, the government at all levels, academics, civil society organizations, ministries, and other institutions in addition to the commercial sector.

Conclusion

Government initiatives, particularly those related to immunization, have a major positive impact on employment, earnings, and income in Indonesia. They do, however, also significantly harm social protection. There are several variables that could affect the validity, reliability, and generalizability of the research findings in this study, such as the data, methodology, and time restrictions. Additionally, this research has a number of theoretical and practical ramifications that can advance Indonesian human resources research and practice, particularly in addressing and mitigating consequences of the COVID-19 pandemic. Increasing efforts to prevent, manage, and recover from the COVID-19 pandemic is one of the policy recommendations that the government may implement to decrease the impact on Indonesia's employment base. Vaccinating more people more quickly is one way to halt the virus from spreading, boost immunity, and revitalize the economy. Increased testing, tracing, and isolation efforts are also necessary on the part of the government in order to identify, locate, and isolate positive cases and prevent further transmission. The government should also set standard and strict health procedures, including preventive measures like mask wearing, maintaining a safe distance, and hand washing to decrease the risk of infection. In addition to preventative, management, and recovery efforts, the government needs to step up fiscal and monetary stimulation to offset the pandemic's effects on the economy. To enhance the caliber, availability, and safeguarding of human capital, adequate, efficient, and transparent financial resources must be allotted to vital industries such as energy, infrastructure, healthcare, and education. Additionally, as MSMEs are the ones most affected by the pandemic and have the potential to create jobs, income, and wages for human resources, the government should support and encourage these businesses in the real sector.

Suggestions

Improving the safety of society another policy recommendation that the government might put into practice to lessen a system and procedure that offers assurance and support to workers and their families in overcoming social and economic risks and uncertainties is how the COVID-19 pandemic has changed Indonesia's workers. This can be achieved, among other social protection measures, by broadening the scope, accessibility, benefits, and quality of pre-employment cards, direct cash transfers, social assistance for rice, and social security. The aforementioned measures are designed to alleviate the adverse social and economic consequences of the epidemic on individuals, particularly those who are impoverished, facing job loss, or experiencing layoffs. The government must also combine data and administrative systems to improve the distribution and administration of social security programs in terms of efficiency, accountability, and openness. The government must also involve all relevant parties in the development, implementation, and assessment of policies pertaining to the COVID-19 pandemic's effects on Indonesia's human resource base. The media, civil society organizations, central and local governments, ministries and institutions, the private sector, and academia are some of these parties. In addition to increasing community involvement, education, and advocacy in the use of

social protection programs, this can improve coordination, harmonization, and consistency in the development and execution of these policies.

References

Adam, I., & Fazekas, M. (2021). Are emerging technologies helping win the fight against corruption? A review of the state of evidence. Information Economics and Policy, 57, 100950.

Adawiyah, R., Prasetyo, M. A., Ayu, H., Sirait, R. E., Ginting, F. P. R. B., & Tarigan, G. B. S. Y. (2022). The economic life of a small community during the Covid-19 pandemic in the Simalingkar A area of North Sumatra. Priviet Social Sciences Journal, 2(3), 10-17.

Anwar, G., & Abdullah, N. N. (2021). The impact of Human resource management practice on Organizational performance. International journal of Engineering, Business and Management (IJEBM), 5.

Asimakopulos, A. (2020). A Kaleckian theory of income distribution. In Investment, Employment and Income Distribution (pp. 23-46). Routledge.

Astuti, P. B., & Mahardhika, A. S. (2020). COVID-19: How does it impact to the Indonesian economy. Jurnal Inovasi Ekonomi, 5(02).

Azizi, M. R., Atlasi, R., Ziapour, A., Abbas, J., & Naemi, R. (2021). Innovative human resource management strategies during the COVID-19 pandemic: A systematic narrative review approach. Heliyon, 7(6).

Bailey, D., Clark, J., Colombelli, A., Corradini, C., De Propris, L., Derudder, B., ... & Usai, S. (2020). Regions in a time of pandemic. Regional Studies, 54(9), 1163-1174.

Barron, G. C., Laryea-Adjei, G., Vike-Freiberga, V., Abubakar, I., Dakkak, H., Devakumar, D., ... & Karadag, O. (2022). Safeguarding people living in vulnerable conditions in the COVID-19 era through universal health coverage and social protection. The Lancet Public Health, 7(1), e86-e92.

Bowen, T., Del Ninno, C., Andrews, C., Coll-Black, S., Johnson, K., Kawasoe, Y., ... & Williams, A. (2020). Adaptive social protection: building resilience to shocks. World Bank Publications.

Chutiyami, M., Cheong, A. M., Salihu, D., Bello, U. M., Ndwiga, D., Maharaj, R., ... & Kannan, P. (2022). COVID-19 pandemic and overall mental health of healthcare professionals globally: a meta-review of systematic reviews. Frontiers in psychiatry, 12, 2600.

Daily, B. F., & Huang, S. C. (2001). Achieving sustainability through attention to human resource factors in environmental management. International Journal of operations & production management, 21(12), 1539-1552.

Devereux, S. (2021). Social protection responses to COVID-19 in Africa. Global social policy, 21(3), 421-447.

Gentilini, U., Almenfi, M., Orton, I., & Dale, P. (2020). Social protection and jobs responses to COVID-19.

Guven, M., Jain, H., & Joubert, C. (2021). Social protection for the informal economy: operational lessons for developing countries in Africa and beyond.

Hamouche, S. (2023). Human resource management and the COVID-19 crisis: Implications, challenges, opportunities, and future organizational directions. Journal of Management & Organization, 29(5), 799-814.

Irawanto, D. W., Novianti, K. R., & Roz, K. (2021). Work from home: Measuring satisfaction between work–life balance and work stress during the COVID-19 pandemic in Indonesia. Economies, 9(3), 96.

Jamal, T., Zahid, M., Martins, J. M., Mata, M. N., Rahman, H. U., & Mata, P. N. (2021). Perceived green human resource management practices and corporate sustainability: Multigroup analysis and major industries perspectives. Sustainability, 13(6), 30-45.

Japutra, A., & Situmorang, R. (2021). The repercussions and challenges of COVID-19 in the hotel industry: Potential strategies from a case study of Indonesia. International Journal of Hospitality Management, 95, 102890.

Mousa, S. K., & Othman, M. (2020). The impact of green human resource management practices on sustainable performance in healthcare organisations: A conceptual framework. Journal of cleaner production, 243, 118595.

Narula, R. (2020). Policy opportunities and challenges from the COVID-19 pandemic for economies with large informal sectors. Journal of international business policy, 3, 302-310.

Nicola, M., Alsafi, Z., Sohrabi, C., Kerwan, A., Al-Jabir, A., Iosifidis, C., ... & Agha, R. (2020). The socio-economic implications of the coronavirus pandemic (COVID-19): A review. International journal of surgery, 78, 185-193.

Olivia, S., Gibson, J., & Nasrudin, R. A. (2020). Indonesia in the Time of Covid-19. Bulletin of Indonesian economic studies, 56(2), 143-174.

Palomino, J. C., Rodríguez, J. G., & Sebastian, R. (2020). Wage inequality and poverty effects of lockdown and social distancing in Europe. European economic review, 129, 103564.

Prasetyo, P. E., & Kistanti, N. R. (2020). Human capital, institutional economics and entrepreneurship as a driver for quality & sustainable economic growth. Entrepreneurship and Sustainability Issues, 7(4), 2575.

Purwanto, A. (2020). The Covid-19 pandemic impact on industries performance: an explorative study of Indonesian companies. Journal of Critical Reviews.

Saluy, A. B., Abidin, Z., Djamil, M., Kemalasari, N., Hutabarat, L., Pramudena, S. M., & Endri, E. (2021). Employee productivity evaluation with human capital management strategy: The case of covid-19 in Indonesia. Academy of Entrepreneurship Journal, 27(5), 1-9.

Shafi, M., Liu, J., & Ren, W. (2020). Impact of COVID-19 pandemic on micro, small, and medium-sized Enterprises operating in Pakistan. Research in Globalization, 2, 100018.

Ssenyonga, M. (2021). Imperatives for post COVID-19 recovery of Indonesia's education, labor, and SME sectors. Cogent Economics & Finance, 9(1), 1911439.

Susilawati, S., Falefi, R., & Purwoko, A. (2020). Impact of COVID-19's Pandemic on the Economy of Indonesia. Budapest International Research and Critics Institute-Journal (BIRCI-Journal), 3(2), 1147-1156.

Yusefi, A. R., Sharifi, M., Nasabi, N. S., Rezabeigi Davarani, E., & Bastani, P. (2022). Health human resources challenges during COVID-19 pandemic; evidence of a qualitative study in a developing country. PloS one, 17(1), e0262887.