

# Rethinking Post-Pandemic Labor Policies: Insights from Precarious Workers in Indonesia

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**| RESEARCH ARTICLE**

**Rethinking Post-Pandemic Labor Policies: Insights from Precarious Workers in Indonesia**

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**| ABSTRACT**

The current study aims at finding evidence of the impacts of economic shocks on the labor markets in Indonesia. Based on the findings, the study would like to revisit the feasibility of the current labor markets policy in the country that is currently moving towards labor market flexibility. To study the topic, this study used a dataset from the 2021 Inter-Regional Input-Output Table for East Java Province, Indonesia. In the analysis, econometric techniques were employed to: (i) identify vulnerable economic sectors to the economic shocks of the COVID-19 pandemic, (ii) determine the economic losses resulting from the reduction of outputs, and (iii) determine the impacts on the labor markets that resulted from the reduction in the final demand of the economic sectors. The findings of this study reveal that the sectors that had been most affected by the economic shocks are those that make a significant contribution to the gross domestic product and are heavily dependent on labor. Upon simulating the impacts of economic shocks on the labor markets, the labor-intensive service sectors are the most impacted and succeeded by labor-intensive manufacturing sectors and capital-intensive sectors. Hence, in opposition to the current labor markets policy, the findings suggest policymakers to adopt appropriate labor market policies that promote decent work while sustaining economic growth.

**| KEYWORDS**

COVID-19 pandemic, economic shocks, input-output analysis, precarious works, labor market policies.

JEL Classifications: D57, E20

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**1. Introduction**

Greater flexibility in the labor market regarding hiring and firing, employment contracts, employee turnover, wage determination, minimum wages, working time, and social insurance currently appears to be a prescribed policy in most developed and developing countries. The policy is believed to be a good way to reduce unemployment and attract investors to sustain economic growth also create job opportunities. Rigid employment regulation, on the other hand, has been regarded as damaging labor market performance.

Nevertheless, it is evident in many countries that economic liberalization, such as business cycle swings, technological job displacement, and foreign competition, has eroded workers' social protections. This is why labor unions would not consider a flexible labor market as an option.

Indonesia has the distinction of being the first country in Asia to ratify all core ILO Conventions, including the Convention on job protection schemes. Hence the objective of labor market policies in the country should be to realize the rights of every citizen to

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work or to re-integrate into the labor market, the right to a free choice of employment, as well as the right to decent conditions of work, and protection against unemployment and underemployment.

Nonetheless, amid strong protests from labor unions, Indonesia's House of Representatives recently approved Law Number 6 of 2023 on the Stipulation of Government Regulation Number 2 of 2022 in lieu of Law Number 11 of 2020 on Job Creation. With this change, the country's previous Manpower Act (Law Number 13 of 2003) is amended by Law No. 6 of 2023. This amendment is considered a major shift toward labor market flexibility.

With the amendment, the government eliminated the health and housing allowance component from the compensation pay for the termination of permanent employees, which was 15% of the total severance pay and service pay under the previous Manpower Act. The current act also reduced the termination entitlements calculation of severance pay and service pay for permanent employees.

Indonesia has now adopted the procedure of termination notice, which is common in many jurisdictions. Previously, all terminations were subject to the approval of the labor court unless agreed by the employee. In the new act, employers must give 14 working days' notice of termination, and such termination is effective unless the employee objects in writing within 7 working days after receipt of the notice.

Moreover, under the current law, a company may hire other parties outside the company to perform services or create goods through outsourcing agreements. This outsourcing system is usually undertaken by companies as a cost-cutting measure and to reduce employment issues. On the minimum wage the formula for calculating the minimum wage considers the variables of economic growth, inflation, and certain indexes. The government, in certain circumstances, may stipulate a different formula for calculating the minimum wage.

Aside from initiating the amendment, the government claimed to have improved the social security of the workers by introducing the job loss security program. It is a new social security program with the benefits of (a) a monthly cash benefit for six months, (b) access to job market information and career counseling, and (c) online or offline job training.

Given those major changes, which are largely employer-friendly, the implementation of Law Number 6 of 2023 has significantly impacted employer-employee relations in the country. Since the year 2006, the government of Indonesia has arranged tripartite negotiations with representative labor unions and the business community to deliberate on the proposed amendments to the Manpower Act (Law Number 13 of 2003).

The purpose of the negotiations was to mitigate the spread of nationwide workers' protests, which stemmed from their reservations about the adoption of a more flexible labor market policy. While the government proposes the amendment as a means of reducing youth unemployment, skeptics hold the view that labor market flexibility means "easy hire and easy fire", exacerbating unemployment and poverty.

The opposition of labor unions towards labor market flexibility stems from its potential to disrupt the sustainability of work relationships. Specifically, such flexibility poses a threat to employees' commitment to contribute to the company due to job insecurity, disturbance in career development and training, inferior social protection, and weakened industrial relations.

Meanwhile, at the micro level, workers usually seek job protection, and employers do not appear to oppose it as vigorously as some economists do. There is no convincing evidence that companies themselves would take the option for high degrees of flexibility and labor turnover. Instead, they may prefer a stable employment relationship and appreciate work experience as a transaction cost, which reduces screening and training costs. Efficiency wages are counted over the longer term of employment.

ILO studies suggest that there is a positive relationship between labor market regulation and employment tenure. The studies have shown that labor markets in Europe and Japan are quite stable, as indicated by the surprising resilience of long-term jobs, reflected in long average tenures and contributing to more productivity (Muhamad, 2006).

Reflecting on this background situation, more studies are needed to find common grounds for labor market policy that supports decent work while promoting sustained economic growth. The current study aims at finding evidence of the impacts of economic shocks on the labor markets in Indonesia. Based on the findings, the study would like to revisit the feasibility of the current labor market policy in the country that is currently moving towards labor market flexibility.

## 2. Literature Review

Labor market flexibility refers to a competitive labor market where workers are free to allocate their services in response to shifting relative wage opportunities. Meanwhile, firms are free to adjust their workforce in response to changing relative profit opportunities. Within this framework, collective bargaining driven by labor unions, strongly enforced hiring and firing rules, unemployment benefits, and minimum wages are perceived as price distortions, as they constrain the free choice of workers and firms (Rodger, 2007).

Labor market flexibilization has gained increasing attention among policymakers, corporations, and labor unions. It occurs alongside changes in the global production networks, trade liberalization, and economic restructuring in most countries. Flexible labor regulations are favored by large corporations since they enhance competitiveness in the business environment with rapidly changing markets and technologies and may help them adjust to economic crises (Wibowo, 2020). Corporations often seek flexible employment relations that permit the diminishing, reassignment, and redeployment of workforces with ease. Consequently, the pay structure and benefit systems provide less appreciation for job tenure (Stone, 2006; Eyck, 2003).

The proponents of flexible labor market policy posit that a flexible labor market can generate a positive impact on the overall economy and help stabilize the economy during a period of crisis. On the contrary, arguments against this position assert that while many individuals lost their jobs during the financial crisis, open unemployment did not increase during the crisis because most of the workers who lost their jobs returned to their villages to work in informal sectors.

The global debate on labor market flexibility is not new, despite the term itself becoming popular only in the 1980s. The perspectives of labor unions, employers, and governments on this issue have differed significantly. Employers tend to prefer flexibility over workers, while the approach of governments varies greatly depending on their political views.

In the early 1990s, policymakers came to the consensus that full employment and a strong social protection system were no longer tenable. As a result, structural adjustment packages that introduced work flexibility and reduced social protection have been implemented in many developed countries as part of a broader change in labor market policies.

A case in point is the country of Japan. Lifetime employment in Japan is a practice that originated in the pre-war and wartime periods. It fueled the growth of Japanese companies during the period of rapid economic growth from the mid-50s to the mid-70s. It is not required by law, but the practice is based on permanent employment contracts, which regular employees sign with their employers.

In Japan, labor laws strictly limit layoffs. Hence, regular employees are guaranteed employment until they reach retirement age unless the company goes bankrupt. The retirement age is, in general, determined at 60 years old but can be extended to 65 years old depending on the policy of the company. Thus, employees can work with peace of mind, both mentally and financially, once they are hired as regular employees.

In the 1990s, the bursting of the Japanese bubble economy caused a downturn in the performance of companies, and large-scale employment adjustments were made. Since then, the number of non-regular or temporary workers has increased rapidly, especially in the manufacturing and construction sectors.

In the subsequent employment adjustment following the Lehman shock in 2008, the decline in the number of regular workers was smaller than in the previous employment adjustment following the collapse of the bubble economy. On the other hand, there was a significant decline in the number of non-regular workers, which was characterized by an asymmetric employment adjustment in the form of an extreme shift to non-regular workers. (Tsuru, 2010). After the Lehman shock of 2008, a number of 256,000 non-regular workers were targeted for downsizing. In contrast, the number of non-regular workers reduction during the COVID-19 pandemic was about 60,200 workers (Japan Ministry of Health, April 2022). The pandemic seemed to have had a smaller impact on the employment of non-regular workers than in the case of the Lehman shock.

However, labor problems arose for one type of non-regular worker, that is, the shift workers. Many companies, especially in the restaurant industry, reduced or eliminated shifts for shift workers. According to Article 26 of Japan's Labor Standards Law, when a worker is absent from work for company reasons, the company is supposed to compensate the worker for the absence. However, many companies actually did not compensate workers for the absences due to the reductions in the shift work. As a result, many shift workers had no income. This absence from work without compensation was a problem faced by shift workers in Japan during the COVID-19 pandemic (Kawaguchi, July 2022).

Hence, governments are compelled to adapt their national labor laws to diminish the excessive job protections that are left by preceding regimes. Despite this, a significant issue of high unemployment persisted globally, particularly in developing countries, wherein there is considerable employment within the informal sectors.

However, there is no solid ground yet for the labor market flexibility regime. It was discovered that in countries with relatively high economic growth, employment remained stagnant. This is highlighted in the study of Nesporova in 1999 (Nesporova, 1999). Moreover, the implementation of labor market flexibility policies in Argentina and Chile yielded contrasting outcomes. In Argentina, the imposition of flexibility policies during the 1990s led to a decrease in employment. Meanwhile, a gradual reformation of the labor market policies in Chile facilitated sustainable employment.

In developed economies, the Organization for Economic Cooperation and Development (OECD) proposed labor market flexibility as part of their job creation strategy in 1994. This view has been supported by the World Bank and International Monetary Fund, who consider it a key factor for job creation. However, some experts have opposed this notion, arguing that it oversimplifies the issue.

In contrast to the situation of developed economies, in most developing economies, the labor markets are relatively flexible due to the presence of large informal sectors. Although the flexible labor markets policy may lead to job growth, it does not guarantee job formalization. It may even expand the number of precarious workers, both in the formal and informal sectors.

Precarious work is employment that offers compensation, hours, or security inferior to a regular job. Precarious work comes in many forms, such as agency work, temporary work, contracting out, casual or on-call work, part-time work, and seasonal work. All these forms of precarious work have to bear the risk of any decline in the employer's business. Many of these works fail to pay normal employment benefits like health insurance, life insurance, sick pay, or pensions.

Precarious work exposes workers to vulnerability in terms of social protection, which the International Labor Organization (ILO) refers to as non-standard employment. Globally, flexible labor market policy contributes to the rise of precarious works. Even drawing upon the case of Japan, under the current policy of labor market flexibility, inequality concerning job security exists not only between standard and nonstandard employment but also within standard employment arrangements (Asahina, 2019).

A clearer explanation is highlighted in the study by the Asian Development Bank, which indicated that although labor reform was imperative, labor policies should not be viewed as the primary cause of escalating unemployment and underemployment in Asia (ADB, 2006). Other problems, such as high bureaucracy, inefficiency, and legal uncertainty, also contributed to these issues. Therefore, the question is how far a country should pursue labor market flexibility.

Turning on health pandemic as a case of economic shocks. There is a considerable body of literature indicating that population health has a positive correlation with economic growth and wealth (WHO Commission on Macroeconomics and Health, 2001; Haacker, 2004; McKibbin & Fernando, 2020). Drawing on past experiences, the spread of the HIV/AIDS virus had delivered negative effects on household, business, and government sectors. These effects include changes in labor supply decisions, reduced labor efficiency and household income, increased business costs and investments, and heightened public spending on healthcare and support for individuals with disabilities and AIDS orphans (Haacker, 2004).

Meanwhile, a study of the macroeconomic impact of the SARS epidemic in 2003 found that it had a significant effect on the economy, leading to a large reduction in consumption of a wide range of goods and services, an increase in business operating costs, and a re-evaluation of country risks as expressed in the increase of risk premium (Lee & McKibbin, 2004; McKibbin & Fernando, 2020).

In this regard, several studies have demonstrated that the implementation of government policies aimed at controlling or restricting community activities during a pandemic lead to labor market disruptions (Bradley, Ruggieri, & Spencer, 2021; Gong, Hassink, Tan, & Huang, 2020; Lee & McKibbin, 2004). For instance, a study by Santos in the year 2020 demonstrates that the pandemic had resulted in the unavailability of job opportunities and absenteeism of workers due to contracting diseases or having to care for sick family members until they die (Santos, 2020).

The 2020 ILO Monitor 2<sup>nd</sup> edition reported that regional quarantine policies in various countries had affected 2.7 billion workers, which accounts for about 81 percent of the total global workforce. The economic shocks in the second quarter of the year 2020 directly affected employment reduction at approximately 6.7 percent, or an equivalent of 195 million permanent workers. Sectors that accounted most for the job losses or decreased working hours include retail, hotel, restaurant, cafe, and manufacturing (International Labour Organization, 2020).

Likewise, the COVID-19 pandemic had brought a severe impact on the Indonesian economy, especially in the East Java province. The pandemic brought negative impacts on both the supply and demand sides of the economy. In the year 2020, the year-on-year regional gross domestic product of the province had contracted by 2.39 percent, affecting almost all components of demand, as reported by the central statistics agency (Badan Pusat Statistik, 2021a).

The most significant decline was observed in gross fixed capital formation (-4.31 percent), followed by government consumption expenditure (-3.18 percent) and household consumption expenditure (-0.83 percent). On the supply side, only a few sectors, such as information and communication, health and social services, water supply, waste management, waste, and recycling, were experiencing positive growth.

However, other fields of services business experienced the most significant contraction (-13.80 percent), followed by transportation and warehousing (-11.16 percent), and hotel, restaurant, and cafe (-8.87 percent). In another report, the central statistics agency stated there were around three million people of working age had been impacted by COVID-19, including 260.23 thousand unemployed, 235.34 thousand temporarily not working, and 2.40 million people experiencing reduced working hours (Badan Pusat Statistik, 2021b).

Despite these challenges, East Java province remained important for the whole economy, as it was the third-largest GDP contributor to the Indonesian economy, accounting for approximately 14.57 percent of the total GDP (Badan Pusat Statistik, 2021c). Notably, the pattern of the province's economic growth has been resembling that of the entire economy.

The top six sectors in the East Java province, namely manufacturing, wholesale and retail trade, agriculture, forestry and fisheries, construction, hotel, restaurant and cafe, and transportation and warehousing, still dominated the economy, accounting for roughly 80 percent of the economy. The agriculture, agroindustry, food and beverage supply, and construction sectors do not only provide large multiplier effects on the total output of East Java province but also on the job opportunities (Kristyanto & Santoso, 2016).

### 3. Research Method

The Input-Output (IO) table, an analytical approach developed by Wassily Leontief in 1951, rests on the fundamental assumption that every sector in the economy is interconnected through input and output connections. In simpler terms, the output created by one economic sector can be employed as input for other sectors. This framework enables the construction of a mathematical model that depicts how a shock in one economic sector can lead to the growth or dwindling of other sectors in the region.

The IO table is also valuable in determining the value-added contribution of each sector to the whole economy. It can help identify sectors with the most significant impact on the economy. By analyzing the IO table, policymakers can make better decisions about economic development strategies, including which sectors require more investment and which ones need to be divested. Additionally, the IO table can be used to forecast the impact of potential changes in the economic policies or other external factors of the economy.

For instance, the input coefficient for  $\alpha_{ij}$  can be obtained by dividing the number of sector  $i$ 's outputs used as inputs for sector  $j$  by the total inputs of sector  $j$ . This input coefficient is formed as a matrix known as the technology coefficient matrix (matrix A). Economists use this matrix to assess the interdependence between various sectors of the economy and how they impact each other.

In this study, to identify the sectors that are most likely to experience economic losses and labor shocks, the multiplier effect in each sector was analyzed. Input coefficients were used to observe changes in the overall sectors when there was a change in one sector. The input coefficient between sectors can be calculated by dividing the input used by the sector by the total number of inputs. The following IO table formulation was employed in this study.

$$\alpha_{ij} = \frac{x_{ij}}{x_j} \dots\dots\dots (i)$$

By determining the coefficient matrix of input, it becomes feasible to infer a matrix of multiplier effect or a multiplier number that can be utilized to estimate the degree of alteration in the entire sector in the occurrence of a modification in one sector. The matrix of the multiplier is the inverse of the identity matrix minus the coefficient matrix of input, where  $(I - A)^{-1}$  is the Leontief inverse matrix.

Furthermore, Leontief created the impact of variations in ultimate demand marked as F, which comprises household consumption, government expenditure, investment, and net exports in sector  $i$  on economic output marked as X. The relationship is illustrated

in the subsequent model:  $X = (I - A)^{-1}F$ . This model is widely known as the Leontief input-output model, which is used to assess the inter-industry relationships in an economy.

The matrix of coefficients of input is derived from the input-output table, which is a complete record of the transactions occurring between different sectors of the economy. The Leontief inverse matrix is a potent instrument that can be employed to scrutinize the repercussions of changes in demand on the economy and to identify the principal sectors that are most influenced by such changes.

$$X = (I - A)^{-1} F \dots\dots\dots (ii)$$

The COVID-19 pandemic has resulted in a significant economic impact, leading to a decline in consumer purchases in the industrial sector. This decrease in demand has caused a reduction in supply not only for the industrial sector but also for the sector of raw material supply, for instance, in the primary sector of agriculture. As a result, sectors that rely on industrial output, such as the trade sector, food processing, transportation, and warehousing, had also been affected.

The analysis is based on a sector estimation model that provides a substantial multiplier effect for the economy, enabling us to estimate the magnitude of the impact of changes in sector output when there is a change in the final demand of the economy. Based on this modeling, we can calculate three types of multiplier effects: (1) the output multiplier, (2) the income multiplier, and (3) the labor multiplier.

Sahara (2017) elucidates that each multiplier number has an effect calculation, including the initial effect, the first-round effect, the industrial support effect, and the consumptive induction effect. To estimate the magnitude of economic losses and shocks in the labor market, we conducted a Type 1 multiplier analysis by computing the initial effect, the first-round effect, and the effect of industrial support on the initial effect.

The Type 1 output multiplier is formulated as follows: the initial effect is the change in final demand in the economy, which results in a change in the output of the sector under consideration. The first-round effect is the change in the output of the sector due to the change in final demand, whereas the industrial support effect is the change in the output of other sectors that support the sector under analysis.

Finally, the consumptive induction effect is the change in demand for products and services in other sectors due to the change in output of the sector under scrutiny. By considering all of these effects, we can estimate the magnitude of economic losses and shocks in the labor market.

$$O_j = \sum_{i=1}^n \alpha_{i,j} \dots\dots\dots (iii)$$

The multiplier of household income is formulated in equation iv, where  $\alpha_{n+1,j}$  is the ratio of labor compensation and business surplus of sector  $j$  to the total input of sector  $j$ .

$$I_j = \sum_{i=1}^n \alpha_{n+1,j} \alpha_{i,j} \dots\dots\dots (iv)$$

Meanwhile,  $W_{n+1,j}$  is the ratio of labor compensation in sector  $j$  to the total input in sector  $j$ . The coefficient of the labor multiplier is formulated as follows:

$$L_j = \sum_{i=1}^n W_{n+1,j} \alpha_{i,j} \dots\dots\dots (v)$$

Santos (2020) utilized the ratio of labor compensation to total inputs as a means of demonstrating the extent of labor dependency within various sectors. Those sectors that exhibit greater ratio values are more susceptible to economic shocks, while those with smaller ratios tend to be less reliant upon labor availability and presence.

Once labor-dependent sectors have been identified, the subsequent step involves conducting simulations to analyze the impact of reducing final demand on both the sector's economic output and labor market. To determine this impact, a simulation will be run, which involves a change in the percentage of final demand (F), comprising household consumption expenditure, government consumption expenditure, fixed capital formation, changes in stock, exports, and imports, as shown in equation (ii).

Equation (ii) displays a functional relationship between output and final demand, with  $(I - A)^{-1}$  serving as the direction coefficient. An increase in additional final demand (F) in sector  $i$  will lead to a corresponding increase in output, household income, and the absorption of labor in the economy for every IDR 1 or 1% increase.

Similarly, during a pandemic, any decrease in final demand within a sector can result in a reduction in economic output, income, and employment opportunities. The ratio of labor compensation to total inputs proves to be a critical indicator of labor dependency. The larger the ratio value, the higher the sector's vulnerability to economic shocks. In contrast, sectors with smaller ratio values tend to exhibit a lesser dependency on labor availability and presence.

Our estimations in this study employed data from the Indonesian Inter-Regional Input-Output Table for East Java province in the year 2020, which totally consists of 52 sectors, commonly referred to as the Input-Output Table. However, due to the absence of the coal and lignite mining sector (I-09) in the province, the sector was removed from the table. Appendix 1 lists the 51 economic sectors included in the table.

Following the estimation techniques in Santos (2020), economic losses and labor market shocks in each economic sector were estimated. Each sector's dependency on labor was estimated by using the ratio of wage to the total input. A ratio value of 0.1, for example, signifies that 10% of wage is derived from production inputs. The higher the value, the greater the sector's dependence on labor.

#### 4. Results and Discussion

In the year 2020, the imposition of restrictions on mobility and activities during the COVID-19 pandemic in East Java province resulted in a slowdown of growth in all primary sectors, as depicted in Figure 1. Only the agriculture, forestry, and fisheries sectors exhibited relatively stable growth, which may be attributed to the inelastic demand for food products despite the pandemic.

Meanwhile, other sectors, including the information and communication and health services sectors, demonstrated substantial growth during the pandemic. Also, the demand for health products and services among the public is on the rise, followed by the need for products and services that support remote work and entertainment, such as the internet, communication, gaming, and other IT-based creative services (Asian Development Bank, 2020a).

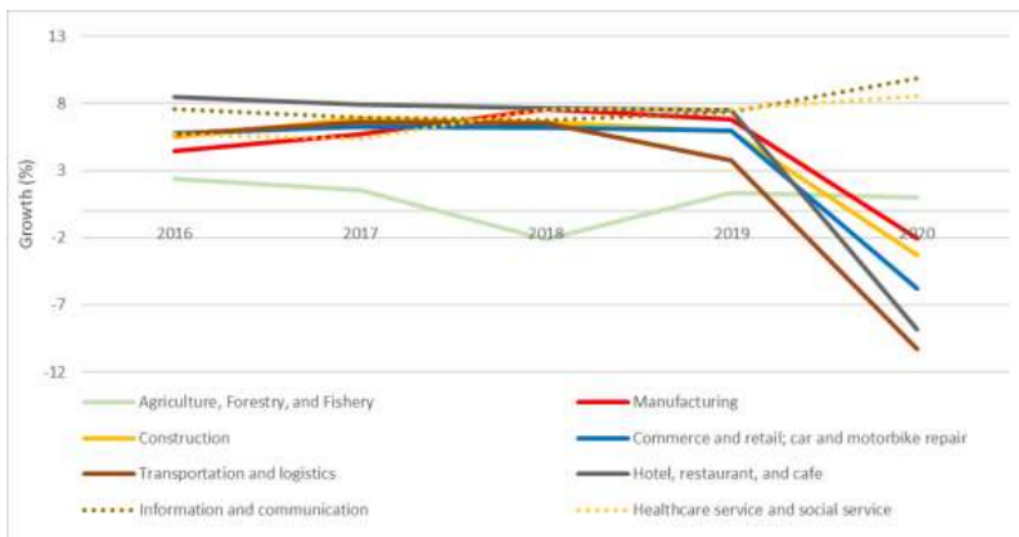


Figure 1. Growth trends by economic sectors in East Java province (source: Statistics Agency of East Java Province, 2021)

Upon investigating the economic sectors in East Java, it has come to light that there exist three distinct groups of sectors that are characterized based on their dependency on labor inputs. Our estimation in Figure 2 shows: (1) Group 1, sectors with a labor dependency ratio value below the average, or capital-intensive sectors, consisting of 31 sectors, (2) Group 2, sectors with a labor dependency ratio above the average, or labor-intensive manufacturing sectors, consisting of 13 sectors, and (3) Group 3, sectors with labor dependency above the average, or labor-intensive service sectors, consisting of 7 sectors.



Group 1, sectors with low dependency on labor or capital-intensive sectors. This is indicated by a labor compensation ratio of 2%-25% of the total inputs employed in production activities. These sectors comprise of electricity, real estate, manufacturing, construction, transportation (land, sea, and air modes), hotel, and services (company, health, and insurance). Most of the manufacturing sectors in East Java have a low labor dependency ratio of 6%-24%. This indicates that the sectors are gradually transitioning from manual to automated systems.

Group 2, which consists of labor-intensive manufacturing sectors, includes sectors that exhibit a labor dependency ratio value higher than the average and with a high linkage to production. The group encompasses most of the agricultural sector (I-06, I-01, I-03, I-04, I-07), wholesale and retail trade of non-cars and motorcycles (I-33), trade cars and motorcycles (I-32), restaurant and cafe (I-41), warehousing and postal and courier services (I-39), mining (I-08, I-11, I-10), and transportation equipment industry (I-25).

The high value of the dependency ratio in the sectors indicates a higher number of workers involved in economic activities. Unfortunately, a large proportion of workers in this sector are categorized as precarious workers with minimal skills and low wages/salaries. According to the International Labor Organization (2020), many workers in the production sector are precarious workers who are more vulnerable during the pandemic due to the lack of access to basic needs, the absence of health insurance and work accident insurance, and the absence of income if the worker gets sick or dies.

Group 3, known as the labor-intensive service sector, includes sectors that demonstrate a labor dependency ratio value higher than the average, though with low linkage to production. This group includes government administration (I-49), educational services (I-50), rail transportation (PT. KAI) (I-34), other financial services (I-45), other services (I-52), financial intermediary services other than the central bank (I-43), and information and communication services (I-42).

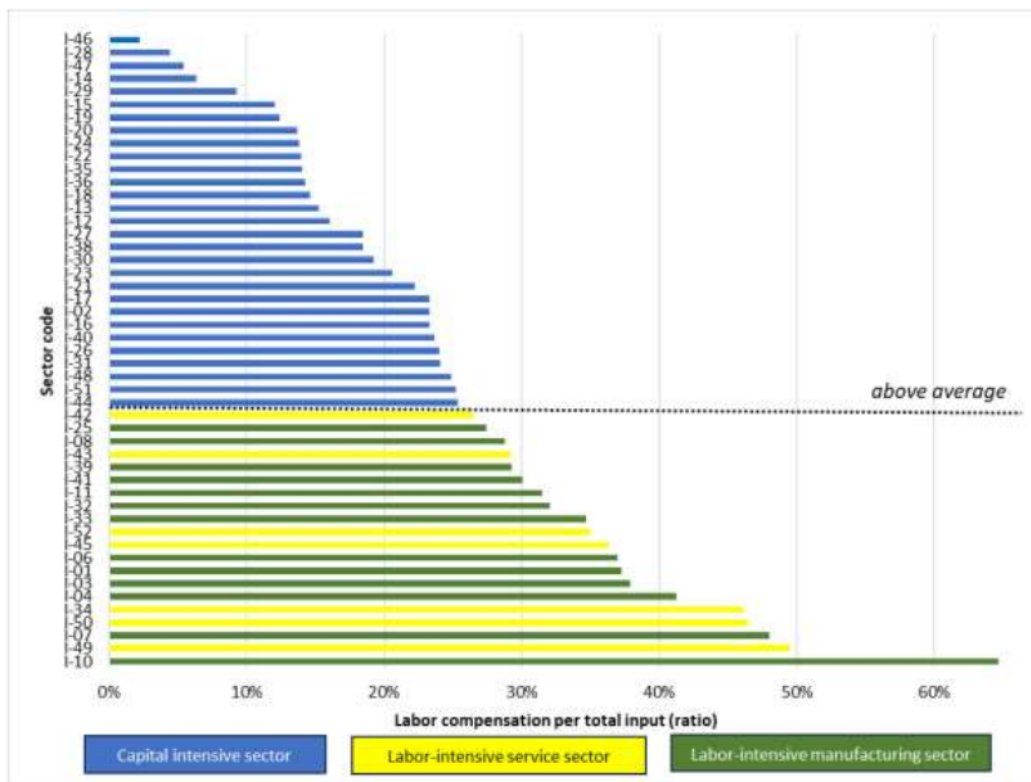


Figure 2. Labor dependency ratio in East Java province (source: own analysis, 202)

Next, this study aims to provide insights into the impacts of the mobility restriction policy on economic losses and the shocks in the labor market that happened in each sector. To serve this goal investigation of the final demand (F) in each industry on economic output was executed.

Leontief's main equation, equation (ii), was utilized in the input-output analysis to estimate the correlation between a reduction in final demand and a decrease in output and labor. For instance, as the COVID-19 pandemic originated the limitations on economic and social activities, it caused a decrease in demand in various sectors, including tourism, hotel, restaurant, airline, manufacturing, trade, and other related sectors. This decrease in the final demand then triggered a decline in the economic output, followed by a reduction in business revenues and employment opportunities across all economic sectors.

The reduction in final demand due to the pandemic has been assumed to bring substantial economic losses and shocks to the workforce in both sectors. In this regard, there are four types of scenarios for changes in final demand based on the East Java Economic Report (Bank Indonesia, 2021) and validated using the Google Community Mobility Reports updated in July 2021.

The first scenario is a decrease in final demand by -20%. Based on the mobility change dataset for East Java, there was an average decrease in visits to shopping, recreation, office, and business centers by -20%. This condition is the worst scenario due to the Imposition of Restrictions on Community Activities (PPKM) in July 2021.

The second scenario is a condition where final demand decreases by around -10% during the implementation of the Large-Scale Social Restrictions (PSBB) policy in mid-2020. The third scenario is a condition of easing social restrictions (New Normal), assuming a decline in final demand for 51 sectors of -3%. Meanwhile, in the final scenario, if the economy reaches a rebound condition, an increase in final demand of 3% is achieved.

The four scenarios of changes in final demand are then simulated to see their impacts on changes in economic output and employment opportunities. Furthermore, the estimated impacts are given to four groups, namely: (i) the average of 51 sectors; (ii) the labor-intensive production sector; (iii) the labor-intensive service sector; and (iv) capital capital-intensive sector.

The magnitude of the change in economic output has the patterns as shown in Figure 3. The declines in the final demand of 51 sectors as a result of the COVID-19 pandemic created a change in the output of around -2.8 to -3.4%. Meanwhile, when there is an economic rebound in the post-pandemic, a change in the final demand of 51 sectors causes an increase in the output of 2.3%. More specifically, when the impacts of economic shocks on output are ranked among the three major groups of sectors in the economy, it is found that the worst impacts happen to capital-intensive sectors, then followed by labor-intensive service sectors and labor-intensive manufacturing sectors.

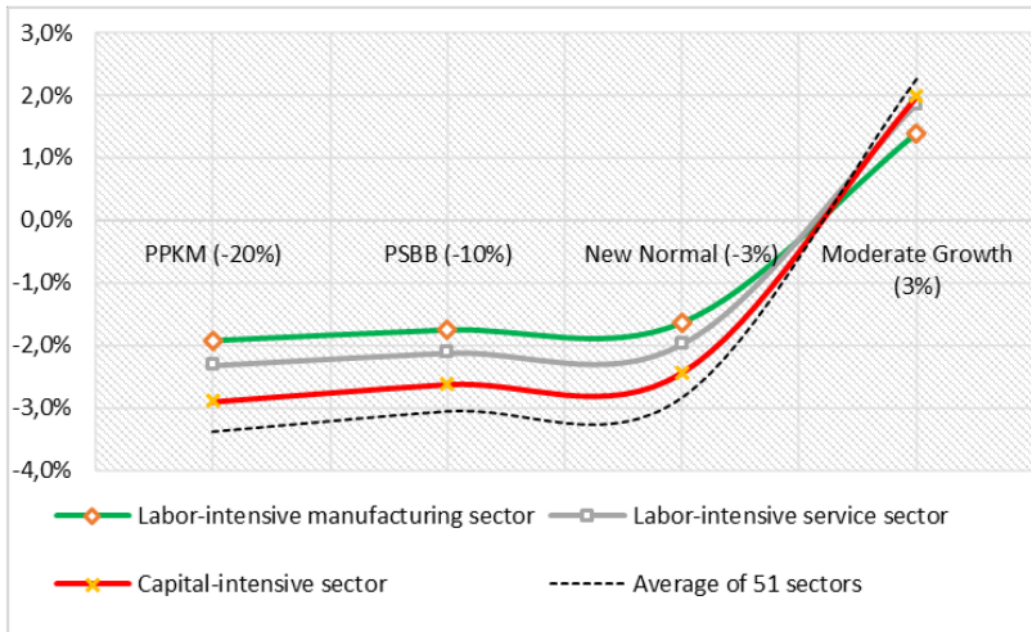


Figure 3. Estimate of economic losses on output (source: own analysis)

Turning on the impacts of economic shocks during the COVID-19 pandemic on changes in employment opportunities. It has almost similar patterns to changes in output, see Figure 4. The pandemic has resulted in a reduction in the workforce across 51 sectors in East Java, ranging from -3.3% to -4.0%. During an economic rebound, a change in final demand for the 51 sectors led to a 2.7% increase in output. More specifically, the labor-intensive service sectors are relatively more affected. Also, the effects of changes in labor markets as experienced by the capital-intensive and production-labor-intensive sectors are relatively worse than their respective changes in output.

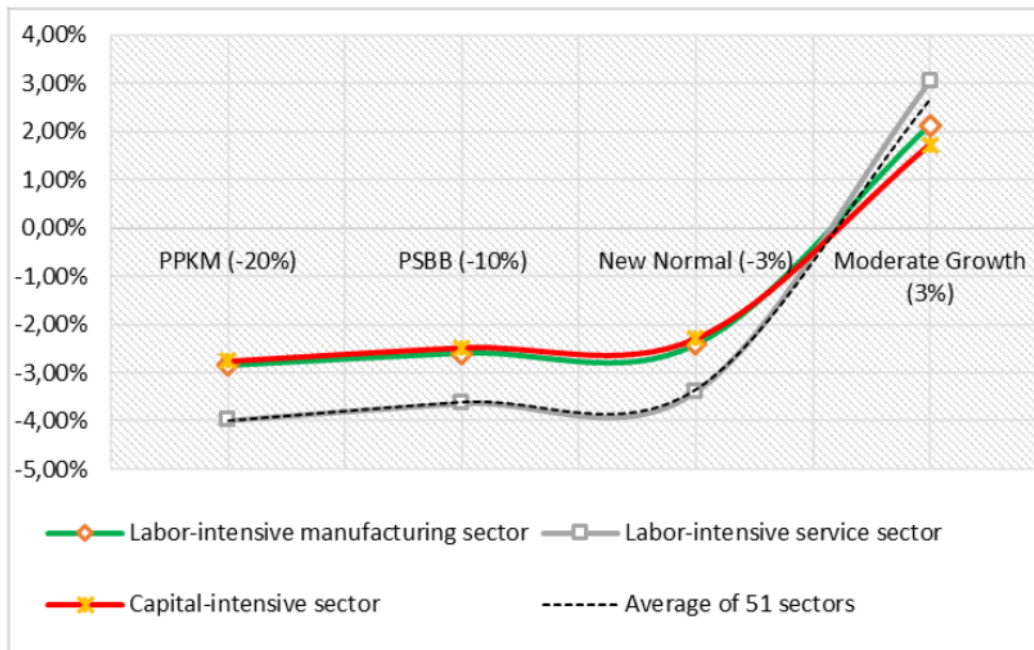


Figure 4. Estimate on labor market shocks (source: own analysis)

This study highlights the variations in the dependency of each sector on labor. The results further reveal that sectors that are most affected by the pandemic are those that have a substantial contribution to the GDP and rely heavily on labor. Overall, when the three major groups are ranked based on the impacts on the reduction of workforces, the labor-intensive service sectors are ranked first, followed by the labor-intensive manufacturing sectors and the capital-intensive sectors.

Notably, compared to the impacts on output, the impacts of economic shocks on the workforce had been relatively more severe. This particular situation suggests that many workers in the economy were involved in disguised employment and fell under the category of precarious work. Workers with these characteristics usually work to make a living and earn daily wages. Consequently, when a pandemic occurs, and mobility restrictions are imposed, workers with these characteristics are the most affected.

The labor-intensive service sectors and labor-intensive manufacturing sectors are both pivotal in the East Java economic sectors. Nevertheless, these sectors possess distinct attributes and vulnerabilities during economic shocks. The labor-intensive service sectors are more vulnerable to economic shocks due to the requirement of the workers' physical presence, whereas the vulnerability of the labor-intensive manufacturing sectors is due to the presence of a large number of precarious workers.

Next, the findings of this study imply several insights into the labor market policy in Indonesia. The inquiry as to whether a more flexible labor market policy, as perceived by the Indonesian government, would lead to a more decent life for workers has resurfaced following the controversial enactment of Law Number 6 of 2023.

The Indonesian constitution promotes decent work and livelihood for the sake of humanity. The government advocates that the law is part of its policies to promote friendly investment through a flexible job market to address unemployment caused by the global crisis. This implies that the government prioritizes job creation over the provision of decent work. The question is whether the constitution justifies the government's initiatives to tackle unemployment while neglecting workers' decent lives.

The Indonesian government's initiatives on enacting Law Number 6 of 2023 as an adjustment to mitigate the impact of the global crisis is not an appropriate policy. As each country has different experiences, the same policy will not be applicable, particularly in developing countries where job protection, job growth, and unemployment are loosely related. It is worth noting that the majority of labor markets in developing countries are already flexible due to the large presence of informal sectors.

In Indonesia, the production system is significantly influenced by the informal sectors. Numerous companies resort to their services in their production operations, commonly referred to as the putting-out system, where a company delegates a portion of work to subcontractors, who often work remotely (Silaban, 2023).

Hence, labor markets in the country has been flexible due to several reasons. Firstly, number of productive cohorts exceeds employment opportunities, compelling many individuals to accept any job offer they can get. Secondly, inadequate labor supervision has led to the emergence of contract and precarious workers, exemplified by the putting-out system practices. Thirdly, the existing regulations fail to provide adequate protection to the workers, resulting in millions of workers not being classified under standard employment. In such a situation, the implementation of a flexible labor market policy will perpetuate modern slavery, affecting an increasing number of precarious workers (Silaban, 2023).

## 5. Conclusion

Economic shocks to developing countries like Indonesia have brought significant socioeconomic consequences, as shown in the impacts of the COVID-19 pandemic on the economy. It creates a major decrease in the final demand of the economy, which, under the four scenarios taken in this study, reveals that there are significant changes in output and labor markets.

This research highlights the variations in the labor dependency of each sector. The findings disclose that sectors most impacted by the pandemic are those that make a significant contribution to the gross domestic product and are heavily reliant on labor. When the three main groups in the economy are ranked based on the impacts on the reduction of workforces, the labor-intensive service sectors are ranked first, then followed by labor-intensive manufacturing sectors and capital-intensive sectors.

Moreover, the impacts on the workforce are comparatively more severe than the impacts on output. This implies that many workers in the economy were involved in disguised employment and fell under the category of precarious work.

This study has certain limitations. It used Indonesia's Inter-Regional Input-Output Table for East Java Province 2016 to estimate the impact of the COVID-19 pandemic on the economy and workforce changes. However, the use of the 2016 base year is considered relevant. It assumes that the shocks of the COVID-19 pandemic to East Java will not quickly change the economic structure of the province.

The findings of the study hold significant implications for policymakers. It underlines the need for policymakers to carefully consider the economic consequences of their decisions and implement measures that alleviate the impacts of economic shocks. Additionally, policymakers must take into account the unique characteristics of Indonesia's economy and its labor markets when devising policies to address economic shocks. Certainly, the current flexible labor market policy is not a one-size-fits-all solution.

The weakening of job protections under the new Manpower Act can have a detrimental effect on the national objective of promoting people's prosperity. Definitely, a more feasible labor market policy is needed to ensure decent work for all and to prevent workers from being excluded from social protections.

Successful models from other countries, such as the Scandinavian labor market flexibility models, can serve as a reference. In Denmark, for instance, the relaxation of job protections in the country is adjusted with effective income protection and social security. This is known as active labor market policies. Similarly, the Swedish and Finnish governments allocate a significant portion of their spending on social services to help deficits in decent work (Silaban, 2023).

While each country has its own social institutions and policies, many goals are similar, such as access to employment, income, and job security, respect for the basic rights of workers, freedom from forces and discrimination, and the freedom to form labor unions and social dialogue to attain common objectives. Ultimately, to prevent increased vulnerability of workers, job protection must be extended to all forms of work, particularly for precarious workers and other workers in the informal sectors.

Policies that eliminate the minimum wage tripartite negotiation mechanism should be avoided. Instead, more support should be provided for training, job placement, and skills development. Policies in this area include the improvement of labor productivity through more efforts in education, upskilling and reskilling programs, internship programs, and worker certification (Wibowo, 2021). In essence, labor market policies are instrumental in creating sustainable economic development.

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## References

- [1] Asahina, Y. (2019). Precarious Regular Workers in Japan. *Japan Forum*.
- [2] Asian Development Bank. (2020a). *The Economic Impact of the COVID-19 Outbreak on Developing Asia*. ADB Brief.
- [3] Asian Development Bank. (2020b). *An Updated Assessment of the Economic Impact of Covid-19*. ADB Brief No. 133.
- [4] Badan Pusat Statistik. (2021a). *Ekonomi Jawa Timur Tahun 2020 Terkontraksi 2,39 Persen*. Surabaya: BPS Jawa Timur.
- [5] Badan Pusat Statistik. (2021b). *Februari 2021: Tingkat Pengangguran Terbuka (TPT) sebesar 5,17 persen*. Surabaya: BPS Jawa Timur.
- [6] Badan Pusat Statistik. (2021c). *Tabel Inter Regional Input-Output Indonesia Transaksi Domestik Atas Dasar Harga Produsen Provinsi Jawa Timur Tahun 2016*. Jakarta: Badan Pusat Statistik.
- [7] Bank Indonesia. (2021). *Laporan Perekonomian Provinsi Jawa Timur Mei 2021*. Jakarta: Bank Indonesia.
- [8] Bradley, J., Ruggieri, A., & Spencer, A. (2021). Twin Peaks: Covid-19 and the Labor Market. *European Economic Review*, 138.
- [9] Cano, A., & Srinivasan, D. (2021). Input-Output Economics and the Impact of Covid-19. *Insights of Emergent Alliance*.
- [10] Eyke, K. V. (2003). Flexibilizing Employment: An Overview. *SEED Working Paper No. 41*.
- [11] Gong, H., Hassink, R., Tan, J., & Huang, D. (2020). Regional Resilience in Times of a Pandemic Crisis: The Case of COVID-19 in China. *Tijdschrift voor economische en sociale geografie*, 111(3), 497-512.
- [12] Haacker, M. (2004). *The Macroeconomics of HIV/AIDS*. Washington DC.: International Monetary Fund.
- [13] Haddad, E., Perobelli, A., & Fernando, A. (2020). Structural Propagation of Pandemic Shocks: An Input-output Analysis of the Economic Costs of COVID-19. *Spatial Economic Analysis*.
- [14] International Labour Organization. (2020). *COVID-19 and the World of Work, 2nd edition updated estimates and analysis*. ILO Monitor.
- [15] Japan Ministry of Health, L. a. (April 2022). *Information on the Employment Impact of the New Corona Virus Infection*. Japan Ministry of Health, Labor, and Welfare.
- [16] Kawaguchi, T. (July 2022). *Problems of Non-regular Workers and Shift Workers Highlighted by the Corona Disaster*. Jyumin to Jichi.
- [17] Kristyanto, V. S., & Santoso, D. B. (2016). The Analysis Selection of Leading Sector Towards Inclusive Growth in East Java.

- [18] Lee, J. W., & McKibbin, W. (2004). Globalization and Disease: The Case of SARS. *Asian Economic Papers*, 3(1), 113-131.
- [19] McKibbin, W., & Fernando, R. (2020). *The Global Macroeconomic Impacts of COVID-19: Seven Scenarios*. Canberra.
- [20] Muhamad, T. (2006). *Is a Flexible Labor Market Stabilizing Unemployment or a Rigid Thing?*. Jakarta Post.
- [21] Nesporova, A. (1999). *Employment and Labour Market Policies in Transition Economies*. International Labor Organization.
- [22] Rodger, G. (2007). Labour Market Flexibility and Decent Work. *DESA Working Paper No. 47*.
- [23] Sahara. (2017). *Analisis Input Output*. Bogor: IPB Press.
- [24] Santos, J. (2020). Using Input-Output Analysis to Model the Impact of Pandemic Mitigation and Suppression Measures on the Workforce. *Sustainable Production and Consumption*, 23, 249-255.
- [25] Silaban, R. (2023, May 2). Sistem Kerja Fleksibel dan Illusi Kerja Layak. *Kompas News Paper*.
- [26] Stone, K. V. (2006). Flexibilization, Globalization, and Privatization: Three Challenges to Labour Rights in Our Time. *Osgoode Hall Law Journal*, 44(1).
- [27] Tsuru, K. (2010). The Increase of Fixed-term Employment from a Firm's Perspective. *Organization Science*.
- [28] WHO Commission on Macroeconomics and Health. (2001). *Macroeconomics and Health: Investing in Health for Economic Development*. World Health Organization.
- [29] Wibowo, W. (2020). Omnibus Bill: Not to Forsake Labor Productivity. *Kompasiana*.

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