

Analysis of Added Value, Efficiency and Labor Productivity for Micro and Small Industries During the Covid-19 Pandemic in Indonesia

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Abstract. Another kind of Covid was subsequently named Extreme Intense Respiratory Disorder Covid 2 (SARS-COV2), and caused Covid Sickness 2019 (Coronavirus). Industry is an activity of changing basic goods mechanically, chemically, by hand into finished/semi-finished goods, which have a higher value. From the aspect of the number of workers, the industry is grouped into micro (1-4), small (5-19). This research aims to analyze and describe the added value, efficiency and labor productivity of the micro and small industrial during the Covid-19 pandemic. The conclusions from this research that the added value of the micro industry during the Covid-19 pandemic was relatively stable, while the small industry was fluctuating and dynamic. Then the efficiency of micro industry during the Covid-19 pandemic fluctuated and was dynamic, while small industry was relatively stable. Finally, the productivity of the workforce for micro and small industries during the Covid-19 pandemic has been fluctuating and dynamic.

Keywords: Micro-Small Industry, Added Value, Efficiency, Productivity, Covid-19 Pandemic

1. Introduction

The spread of Coronavirus Disease 2019 (Covid-19) originating from Wuhan City of China was known to start in December 2019. The Indonesian government announced the case of Covid-19 in early March 2020. The world's population has confirmed positive for Covid-19 reaching 763 million and 6.9 million died world until April 2023. Indonesia's population confirmed positive for Covid-19 reached 6.7 million and 161 thousand died.

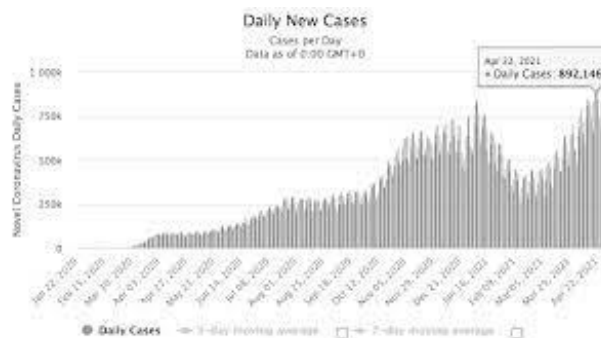


Figure 1. Development of the Covid-19 Case in Indonesia

The development of Covid-19 cases in Indonesia has shown an increase throughout 2020. The peak of the first wave of Covid-19 cases occurred in January - February 2021 which occurred after the 2021 New Year holiday period. The peak of the first wave of Covid-19 cases occurred in June - July 2021 which occurred during the Eid holiday in 2021. The peak of the second wave of Covid-19 cases occurred again in January - Feb 2022 which occurred after the 2022 New Year holidays.

In response to the Covid-19 emergency, the Government of Indonesia issued a policy of proportionally implementing Community Activity Restrictions (PPKM) in all regions of Indonesia taking into account daily cases and the readiness of medical services in the regions. This PPKM aims to suppress the spread of Covid-19 through limiting mobility and community interaction while still considering the continuity of economic activity.

The impact of the Covid-19 pandemic caused Indonesia's economic growth to contract by 2.07 percent in 2020. The manufacturing sector, which is the sector with the largest contribution to the Indonesian economy, experienced a significant impact. Growth in the manufacturing sector experienced a contraction of 2.93 percent. Absorption of labor in the manufacturing industry sector decreased by 1.3 percent. This reduction in employment will certainly have an impact on increasing unemployment.

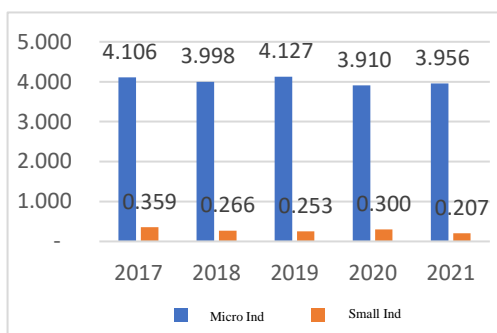


Figure 2. Number of IMK Units (million) in 2017 - 2021

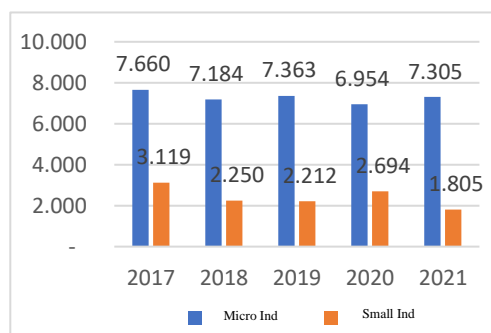


Figure 3. Number of IMK Workers (million person) in 2017 - 2021

The number of micro industries in 2020 has decreased quite significantly, reaching 217 thousand units, while the small industries have experienced a slight increase reaching 47 thousand units. In 2021 the micro industry will experience a slight increase reaching 46 thousand units, while the small industry will experience a decrease reaching 73 thousand units.

The number of micro industry workers in 2020 has decreased quite significantly, reaching 409 thousand people, while the small industry has experienced a slight increase reaching 482 thousand people. In 2021, the micro industry workforce will increase slightly to 351 thousand units, while the small industry will experience a decrease of 789 thousand units.

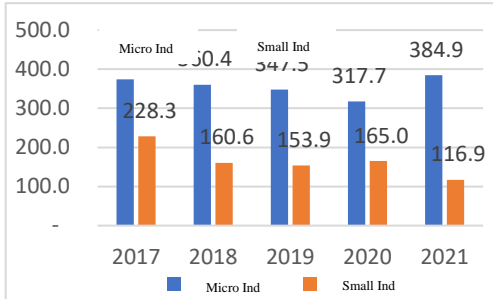


Figure 4. Income of IMK (trillion rupiah) in 2017 - 2021

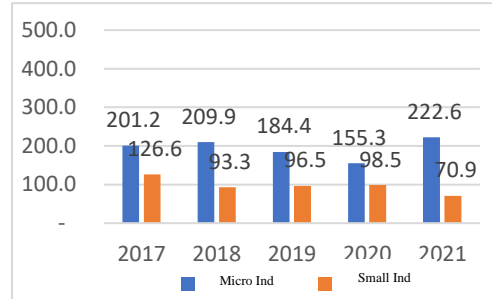


Figure 5. Expenditure of IMK (trillion rupiah) in 2017 - 2021

Micro industry revenue during the period 2017 – 2021 is the highest in 2021 amounting to 384.9 trillion rupiah. In 2020, as a result of the Covid-19 pandemic, the income of the micro industry has decreased, reaching IDR 29.8 trillion. Meanwhile, small industries in 2020 experienced an increase in revenue of up to 165 trillion rupiahs and in 2021 it decreased to 39.1 trillion rupiahs.

In the aspect of production expenditure, the micro industry during the 2017-2021 period is the highest in 2021 amounting to 222.6 trillion rupiah. In 2020 it has decreased to 29.1 trillion. For small industries, in 2020 it will experience a slight increase reaching IDR 98.5 trillion rupiah and in 2021 it will experience a sharp decline reaching IDR 27.6 trillion rupiah.

2. Literatur Review

a. Covid-19 Pandemic

Covids are a huge group of infections that cause illness in people and creatures. In people, it for the most part causes respiratory lot contaminations, going from the normal cold to serious illnesses like Center East Respiratory Condition (MERS) and Extreme Intense Respiratory Disorder (SARS). Another sort of Covid that was found in people since an exceptional episode showed up in Wuhan China, in December 2019, was subsequently named Serious Intense Respiratory Disorder Covid 2 (SARS-COV2), and caused Covid Sickness 2019 (Coronavirus).

The Enormous Indonesian Word reference (KBBI) characterizes a pandemic as an episode that spreads all the while wherever covering a wide geological region. Sickness episodes that fall into the classification of pandemics are irresistible illnesses and have a ceaseless line of contamination. Thus, in the event that there are cases happening in a few nations other than the nation of beginning, they will in any case be delegated a pandemic.

b. Micro and Small Industries (IMK)

Industry is an assortment of organizations that produce homogeneous merchandise or products that have extremely close compatibility (Hasibuan, 2014). Industry is all organizations or organizations that do exercises of changing over fundamental materials or products of less worth to merchandise of higher worth. Remembered for this area are organizations that do modern help exercises and get together of an industry (BPS, 2020).

Industry classification based on workforce can be divided into:

1. Home / micro industries, namely industries with fewer than 4 (four) workers. Micro industry has very limited capital, labor comes from family members. The owner or manager of the industry is usually the head of the household himself or a member of his family or is still related.
2. Small industry, in particular industry with a labor force of 5 - 19 individuals. The trait of little ventures is that they have moderately little capital, the labor force comes from the general climate.
3. Medium industry, namely industry that uses a workforce of around 20 to 99 people. The characteristic of a medium industry is that it has sufficient capital, the workforce has certain skills, and the company's leaders have certain managerial abilities.
4. Large industry, namely industry with a workforce of more than 100 people. The characteristics of large industries are having large collective capital in the form of shares, the workforce has special skills, and leaders are selected through a fit and proper test.

c. Value Added

Esteem added is the additional worth of a ware because of handling, transportation or capacity in a creation cycle. The additional worth got from handling is the distinction between the worth of the item that is treated at a specific stage and the worth of the penance utilized during the creation cycle.

How much added esteem because of the handling system is gotten from lessening the expense of unrefined components and different contributions to the worth of the item delivered, barring work. As such, added esteem depicts the prizes for work, models and the executives which can be communicated numerically as follows:

Esteem added = f (K, B, T, U, H, h, L)

Where :

K = Creation limit ;

B = Unrefined components utilized

T = Work utilized ;

U = Work compensation

H = Result Cost ;

h = Unrefined substance costs

L = Other information values.

d. Efficiency

Efficiency is the level of savings in using existing resources in order to use existing resources in order to achieve the desired goals (Muchdoro, 1997). Efficiency is the prediction of expenditure or the ratio between the quantity of sources used and the output sent (Miranda, 2003). Efficiency is an understanding of the optimal relationship between income and expenditure, working hard and the results, capital and profits, costs and enjoyment, which is sometimes also equated with accuracy or can also be formulated as the best ratio between expenses and income, between an work effort with the results (Gie, 1997).

An expansion in effectiveness happens while the current result or level of result is created at a lower cost. Dissimilar to designing or mechanical effectiveness, monetary proficiency permits examination of various creation processes. According to modern association, the term proficiency alludes to the most useful method for utilizing scant assets. For this situation, there are by and large two sorts of effectiveness, specifically specialized productivity and financial proficiency. Specialized proficiency concerns the most extreme measure of result that can be created with the utilization of specific sources of info, and with specific advances. One firm might be innovatively more effective than another assuming it creates similar degree of result

with one or less actual sources of info. Because of the different creation processes, not all organizations are mechanically proficient. Financial effectiveness emerges when data sources are used so that one degree of result is delivered at a lower cost than another.

e. Labor Productivity

Efficiency is characterized as the proportion between yield (labor and products) and information (work, materials and cash). Low efficiency is an impression of an association/organization that squanders its assets. Productivity is a comparison between output and input and prioritizing good utilization of resources in producing goods or services.

Labor productivity can be described by the following formula:

$$\text{Productivity} = \frac{\text{Output (Income)}}{\text{Input (Workers)}}$$

Where :

Output = Output / Income

Input = Number of workers

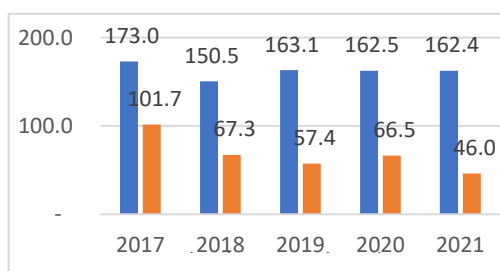
A worker is considered productive if he produces greater output than other workers for the same unit of time. And it can also be said that workers show a specified level of productivity in a shorter time unit.

3. Methodology, Result and Discussion

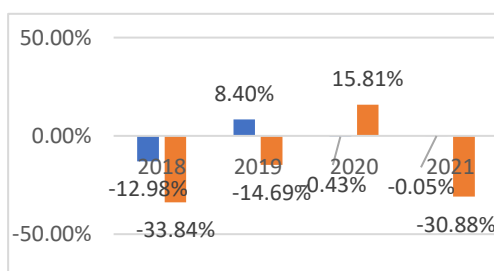
This research aims to analyze and describe the added value, efficiency and productivity of the micro and small industrial workforce during the Covid-19 pandemic era. The research data was taken from publications from the Central Bureau of Statistics (BPS) for the period 2020 – 2023. The sample data were analyzed over five years, from 2017 to 2021.

3.1 Added Value of Micro and Small Industries

The added value of micro and small industries is the difference between the value of the output (income) and the value of the input (expenditure) in trillions of rupiah. Output and input values are sourced from BPS reports for each industrial sector, both micro and small industries, in units of trillions of rupiah. The output and input values are a combination of all types of industries based on the Industrial Field Standard Classification (KBLI). Furthermore, the added value of micro and small industries is calculated for changes from year n compared to the value of n-1. The results of the calculation of added value for micro and small industries can be seen in Figures 6 and 7.



Figures 6. Added Value of IMK (trillion rupiah) in 2017 - 2021



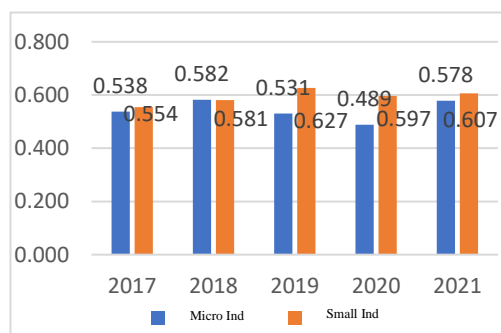
Figures 7. Added Value Change of IMK in 2017 - 2021

During the observation period between 2017 and 2021, the highest value added value for both micro and small industries occurred in 2017 of 173.0 and 101.7 trillion rupiah. During the Covid-19 pandemic, the added value of the micro industry decreased slightly to 162.5 in 2020 and 162.4 trillion rupiah in 2021. Meanwhile, the added value of small industry increased to 162.5 trillion rupiah in 2020 and experienced a decrease quite drastically to 46.0 trillion rupiah in 2021.

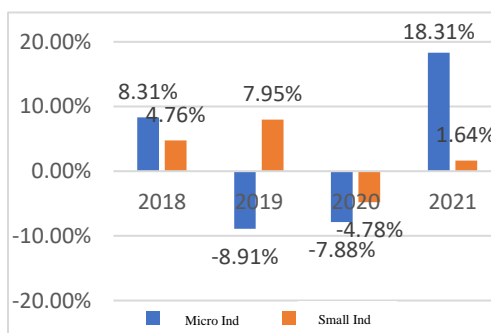
The decline in added value during the Covid-19 pandemic was inseparable from the policy of limiting people's mobility and limiting production activities during the Covid-19 pandemic. These restrictions resulted in reduced availability of raw materials, labor and marketing of IMK products. At the start of the pandemic, the added value of micro-industry was more vulnerable than small-scale industry, but in the long term, the added value of micro-industry is more sustainable than small-scale industry which is quite drastic. Government policies for the continuity of IMK production through Operational Permits and Industrial Activity Mobility (IOMKI) in response to the Covid-19 pandemic had quite an impact at the beginning of the 2020 pandemic, but the first and second waves were not sufficient to increase the added value of IMK, even for small industries there was a decline quite drastic added value in 2021 of -30.88 percent.

3.2 Efficiency of Micro and Small Industries

The efficiency of micro and small industries is a comparison of input values (expenses) and output values (income). Output and input values are sourced from BPS reports for each industrial sector, both micro and small industries, in units of trillions of rupiah. The output and input values are a combination of all types of industries based on the Industrial Field Standard Classification (KBLI). Furthermore, the efficiency of micro and small industries is calculated for changes from year n compared to the value of n-1. The results of calculating the efficiency of micro and small industries can be seen in Figures 8 and 9.



Figures 8. Efficiency of IMK in 2017 - 2021



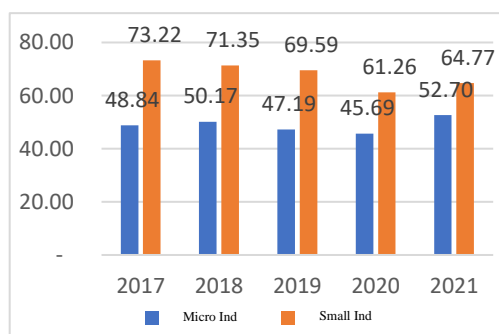
Figures 9. Efficiency Change of IMK in 2017 - 2021

During the period from 2017 to 2021, in general the efficiency of IMK was relatively stable but only in 2021 will there be a quite drastic jump reaching 0.578 for the micro industry. The increase in micro and small industry efficiency occurred during the Covid-19 pandemic with an increase from the previous year of 18.31 percent for micro industry and 1.64 percent for small industry.

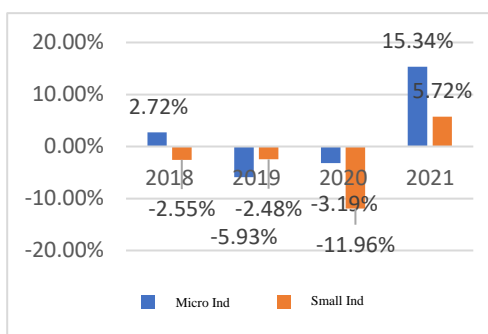
In 2020, during the early days of the Covid-19 pandemic, micro and small industries were not ready to respond to the pandemic so that efficiency reached -7.88 percent for micro industries and -4.78 percent for small industries. After two years of going through the pandemic, both micro and small industries have started to adapt to the pandemic so that their efficiency has increased quite drastically for micro industry 18.31 percent and small industry 1.64 percent. This increase in efficiency was also supported by the PPKM micro and IOMKI policies so that they could increase the mobility and accessibility of IMK production activities for regions with low PPKM levels and several types of priority industries during the Covid-19 pandemic.

3.3 Labor Productivity of Micro and Small Industries

Micro and small industry labor productivity is a ratio of the value of input (expenditure) and the number of workers in units of millions per person. Output values and the number of workers are sourced from BPS reports for each industrial sector, both micro and small industries. The output value is in trillions of rupiah, while the number of workers is in millions of people. The output value and number of workers are a combination of all types of industries based on the Industrial Field Standard Classification (KBLI). Furthermore, the labor productivity of micro and small industries is calculated for changes from year n compared to the value of n-1. The results of the calculation of labor productivity for micro and small industries can be seen in Figures 10 and 11.



Figures 10. Labor Productivity of IMK (million per person) in 2017 - 2021



Figures 11. Labor Productivity Change of IMK in 2017 - 2021

Labor productivity from 2017 to 2021 reached its highest value in 2021 of 52.70 million per person, while small industry reached 73.72 million per person in 2017. The highest increase in labor productivity for both micro and small industries occurred in the second year of the 2021 pandemic of 15.34 percent for micro industry and 5.72 percent for small industry.

At the start of the 2020 pandemic, many IMK laid off their workforce because of reduced production so that labor productivity decreased in 2020 by -3.19 percent for micro industry and -11.96 percent for small industry. In the second year of the 2021 pandemic, labor productivity gradually increased in line with the government's economic recovery policy through micro and IOMKI PPKM so that labor productivity experienced a significant increase of 15.34 and 5.72 percent, respectively for micro industry and small industry.

4. Conclusion

From the research results obtained several conclusions as follows:

1. The added value of the micro industry during the Covid-19 pandemic was relatively stable, while the small industry was fluctuating and dynamic.
2. The efficiency of micro industry during the Covid-19 pandemic fluctuated and was dynamic, while small industry was relatively stable.
3. The productivity of the workforce for micro and small industries during the Covid-19 pandemic has been fluctuating and dynamic.

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