

Internet, Consumption and Work Participation in Indonesia

Amaury Capdeville Chapuzet
Lycée Polyvalent Jean Monnet, France

Abstract : This study aims to examine the relationship between consumption and internet literacy with work participation. Where internet literacy is indicated by internet users, consumption is the level of public consumption, work participation is labor absorption which has an impact on reducing unemployment. To achieve this goal, data on consumption, internet users, and work participation were observed. This study uses the Quantitative Threshold Autoregressive method which is used to predict the behavior of the data so that the behavior of the relationship between the data can be seen. All data are secondary data from world banks with an annual period of 2000 - 2019. We found that consumption can provide a demand signal impetus that encourages the real sector to increase production which is driven by an increase in internet use which is a demand-side boost with the existence of e-commerce and an increase in the absorption of new workers with the creation of new types of jobs as a result of internet technology.

Keywords: Consumption, Internet, Work Participation

JEL Classification : C01,E24,O14

1 INTRODUCTION

Unemployment in Indonesia in 2020 experienced a significant increase. One of the reasons, of course, is the Covid-19 pandemic. The year 2020 has been one of the toughest years for the world community, including Indonesia. How not, the pandemic due to the Covid-19 virus has a negative impact on the economy and various other fields, such as health to employment. Not only causing many casualties, the pandemic has also caused Indonesia to enter the brink of recession. This of course also affects the unemployment rate in Indonesia. The reason is, there are so many companies that go bankrupt and eventually do mass layoffs (Pritadrajati et al,2021).

The Indonesian Central Statistics Agency recorded that in August 2020 the number of the workforce in Indonesia was 138.22 million people. This number has increased by

2.36 million people when compared to the number recorded in August 2019. The increasing number of unemployed in Indonesia during 2020 was caused by the Covid-19 pandemic. One important fact is that 35.56% of companies surveyed by BPS have reduced the number of employees working in 2020. The economic problems caused by the pandemic have made it difficult for many companies to survive. Finally, reducing employees must be done so that the company can survive longer. (Indonesian Central Statistics Agency, 2021).

One way to reduce unemployment is to increase work participation. To increase community work participation (Shapiro,2018), it is necessary to increase production which can be encouraged by increasing public consumption. The condition of supply and demand for the industrial world in the country which has not yet shown optimism is an obstacle that causes the re-absorption of workers affected by the pandemic to take place slowly. The increase in public consumption can be encouraged through social assistance so that people have money to spend and create new demand so that there is a growth in consumption and government spending is important in providing a stimulus to encourage production (Harmenberg & Öberg,2020).

The internet is one of the media that can be used to encourage public consumption through online commerce or e-commerce as well as increasing business participation from the community through online marketplaces. In Indonesia, during the COVID-19 pandemic, Indonesian people's consumption is quite supported by public purchases through e-commerce. Where people always see discounts given by e-commerce players. Promos or discounts can spur consumption. Although it is not big, the government is considered unable to prohibit a company from giving discounts and indeed the discount policy will not be continuous. E-commerce also spurs the growth of new entrepreneurs in Indonesia. The growth of new entrepreneurs in Indonesia triggers production that has the potential to absorb labor (Gandasari & Dwidienawati,2020). The concept of buying and selling in society continues to change. Our early civilization recognized a simple form of selling, by opening a stall in a crowded public space, giving a sign that we were selling something. Another approach is also carried out with the person selling approach, direct sales are carried out face to face, where the seller and buyer see each other's responses. This sales approach has changed over time. As in today's era where the concept of sales and promotion has undergone significant changes, especially after our entry into the new media era. The new media era brings us new forms of commercial transactions,

promotions, and consumption styles. The new media era is characterized by the emergence of the internet, smartphones, and consoles, bringing our world faster, more practical, and global. It was started by internet technology which brought the world community closer together by means of communication that were more practical and cheaper. This is also utilized by the business world in the end. At the beginning of the development of the internet in civil society, the business world has begun to adjust to this technology.

Business development using the internet is no longer what it used to be. The increasingly sophisticated internet technology makes selling with the internet more attractive. Businesses using the internet are often referred to as e-commerce. Internet-based business in Indonesia is currently dominated by online buying and selling which encourages public consumption. Without us realizing it or not, the economic system has moved in a new direction, consumers have become the central point of production, the use of technology in all fields of easy access to information is increasingly transparent. The increasing number of internet usage from year to year has finally caught the eye of many businesses in the digital world to distribute or introduce their products through e-commerce. The development of online business in Indonesia has grown very rapidly, this indicates that the era of the use of information technology has begun to be recognized. Online business or commonly referred to as e-Commerce is increasingly in Indonesia. The emergence of e-commerce among the public, especially students, will have an impact on their economy and social life. All the facilities provided to pamper students have more or less changed the mindset and behavior in the economy and will eventually form a new culture. This study looks at the response relationship of each impulse given from public consumption, internet use, and community work participation.

2 LITERATURE REVIEW

Unemployment is a term for people who do not work at all, are looking for work, work less than two days a week, or someone who is trying to get a decent job. Generally, unemployment is caused because the number of the labor force or job seekers is not proportional to the number of available jobs and is able to absorb them. Unemployment is often a problem in the economy. The reason is, with unemployment, people's productivity and income will decrease so that it can lead to poverty and other social problems. The current surge in the number of unemployed stems from two things, namely the impact of the Covid-19 pandemic and the increase in the new

workforce. And the sectors that lost the most jobs were trade, manufacturing, construction, services, and accommodation (O'Donnell,2019).

Does technology also play a role in increasing unemployment? This can be traced through the history of the industrial revolution. The first industrial revolution was marked by the advent of the steam engine in the early 19th century. At that time in England, many textile industries were made using human power. When the company switched to using a steam engine for its weaving machines, productivity immediately increased and the price of cloth fell drastically. As a result, many textile companies that still use human labor have closed and cannot compete anymore. Unemployment in England increased rapidly at that time. There had been damage to textile factories that used machines because they thought textile factories that used steam engines were the cause of the families of the needy experiencing economic difficulties (Stearns,2018).

The second industrial revolution also had a similar impact, although in terms of the field it was not as big as the first industrial revolution. The second industrial revolution was marked by the invention of the electric motor. The Ford car company, which at that time was still headed by Henry Ford, had a goal of how to make its cars sold to farmers and the people. Henry Ford also uses a time-motion study that was recently initiated by Taylor. Inspired by the study, Ford changed the process of making its cars by using conveyor belts. Ford cars released the Model Y which was very well known as "You can buy any color but black". At the time the Car was around \$2,500, but Ford was able to sell the car for \$850. The longer the price of Ford cars fell so the more Ford finally controlled the car market in America at that time (Olson,2015).

The third industrial revolution with the advent of computers, and changing the industry towards automation. The number of employees in the company is reduced and production costs are drastically reduced with the presence of microprocessors used in the industry. And now we are entering the era of the fourth revolution which is often referred to as industry 4.0. This era is marked by industrial processes that use the internet of things (IoT) when sensors are installed in machines so that machines work independently without human intervention. The process using IoT will save considerable costs so that production costs will drop dramatically (Rifkin,2014). If traced since the first industrial revolution, the emergence of technology will increase the number of unemployed, because technology can do a job with few

people and high productivity. However, the rapid growth of IT now also creates new job opportunities, such as content writer, multimedia developer, SEO expert, Social Media Specialist, and many other jobs that did not exist five years ago. If a company does not adopt technology, then what happens is that the company cannot compete with companies that have adopted the technology. Companies that adopt the technology should result in a decrease in production costs and an increase in the amount of production. The Internet creates new jobs and creates new opportunities in the development of digital technology. This is an opportunity for everyone to survive the COVID-19 pandemic and hope to rise and recover the economy.

3 RESEARCH OBJECTIVE AND METHODOLOGY

This study aims to examine the relationship between consumption and internet literacy with work participation. Where internet literacy is indicated by internet users, consumption is the level of public consumption, work participation is labor absorption which has an impact on reducing unemployment. To achieve this goal, data on consumption, internet users, and work participation were observed. This study uses the Quantitative Threshold Autoregressive method which is used to predict the behavior of the data so that the behavior of the relationship between the data can be seen. The hope is that knowing past behavior data can be an indicator of decision-making that can be taken in the future. In this study we used the autoregressive equation as follows:

$$AR_{(p)} = Y_t = c + \Phi_1 Y_{t-1} + \Phi_2 Y_{t-2} + \dots + \Phi_p Y_{t-p} + e_t$$

Where AR is Y and Yt is Y from time to time in a time series which is influenced by Yt-1 or Y from time to time in the past in period 1 and Yt-1 itself is also influenced by Yt-2 which is Y in the past in period 2 onwards which is influenced by et which is the error term for the time in the study period. With the econometric equation as follows:

$$Y_t = \beta_0 + \beta_1 C_{t1} + \beta_2 Iu_{t2} + e_t$$

Where Y is work participation, t is a period of time, β is constant, C is Consumption, Iu is Internet User, and e is an error term.

With the autoregressive threshold model equation as follows :

$$PARTICIPATION = (C(1)*CONSUMPTION + C(2)*INTERNET_USER) + (C(3)*CONSUMPTION + C(4)*INTERNET_USER)*@LOGIT(C(6)*(PARTICIPATION(-3)-C(7))) + C(5)$$

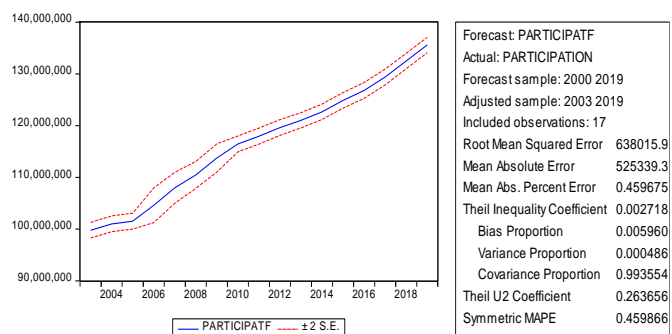
All data are secondary data from world banks with an annual period of 2000 - 2019.

4 RESULTS AND DISCUSSION

The following are the estimation results that we have done:

$$PARTICIPATION = (-1.03045238303e-05*CONSUMPTION + 0.511935717856*INTERNET_USER) + (5.31593722697e-05*CONSUMPTION - 0.439919968609*INTERNET_USER)*@LOGIT(5.13281022705e-07*(PARTICIPATION(-3)-99147215.3931)) + 93653045.0644.$$

In the first period, consumption has a negative direction, which means that consumers, when it occurs, have the opposite impact on work participation when people consume, people do not work at the same time as people consume. However, in the second period, the direction of consumption changed to positive, which means that after consumption there is a demand signal on the market or demand-side so that it responds to supply which has an impact on employment. This is reinforced by a positive direction on internet users because the greater internet literacy will create new jobs and encourage production so that there is an absorption of labor in the form of increased work participation. During the period of action at work, most of the Indonesian people did not work using the internet, so the direction in the second period reversed. However, this indicates that consumerism and internet literacy are mutually reinforcing in encouraging employment by increasing the trend of the work participation graph in forecasting work participation by calculating the impact and direction of influence of consumption, internet users, and work participation, forecasting results are presented in the following graph:



From the forecasting results, the work participation graph continues to increase. This shows that consumption can provide a demand signal impetus that encourages the real sector to increase production which is driven by an increase in internet use which is a demand-side boost with the existence of e-commerce and an increase in the absorption of new workers with the creation of new types of jobs as a result of internet technology.

5 CONCLUSION

Consumption can provide a demand signal impetus that encourages the real sector to increase production which is driven by an increase in internet use which is a demand-side boost with the existence of e-commerce and an increase in the absorption of new workers with the creation of new types of jobs as a result of internet technology.

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