Internet User and Income Consumption in an Effort to Empower MSMEs in Indonesia

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Abstract

This study examines behavior data among internet users, consumption, and total employment. This study aims to determine the impact of increasing internet users and consumption on total employment using the quantitative threshold autoregressive model.All data are secondary data from world banks with annually period 2000 to 2019. We found that internet users in Indonesia are indicated that the majority use the internet for economic non-productive activities. This has an impact on pressure on the productivity of the population economically as indicated in total employment, which indicates employment absorption or total labor participation in Indonesia. So that the increase in internet users in Indonesia does not guarantee a boost to economic growth in Indonesia during this research period, namely 2000 to 2019.

Keywords: Technology, Consumption, Gross Domestic Product Per Capita

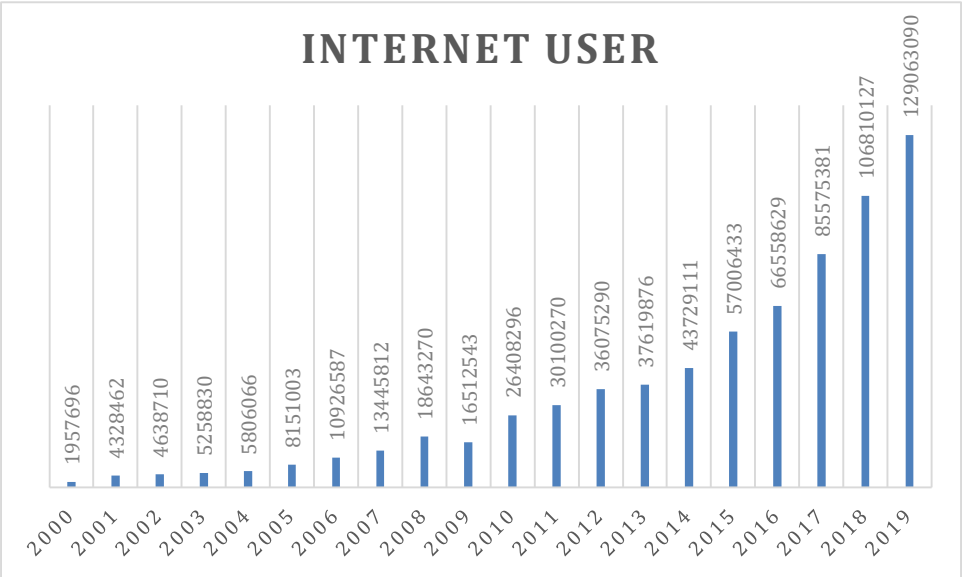
JEL Classification Code: C01,E44, E51

Introduction

Indonesia has the opportunity to take advantage of the demographic bonus to accelerate economic growth. Internet users in Indonesia are believed to have exceeded half of the population. This achievement itself is considered very good for future development. Therefore, its utilization must really be able to provide added value. The Covid-19 pandemic "forces" the growth of internet services or digital technology to accelerate from the previous year. This opportunity must be taken advantage of by people who use information technology in Indonesia to encourage creative and productive activities in the digital space (Jeremy & Suhartono,2021).

The increase in the number of transactions via e-commerce is inseparable from government policies in encouraging digital acceptance to the public, as well as continuing to accelerate the development of fintech and digital banking. The Ministry of Communication and Information also supports digital literacy activities, as well as continues to strengthen digital infrastructure to remote and outermost areas. Based on data from the world bank, internet users in Indonesia continue to grow, up five times in the last 10 years. From 25 million people in 2008, it increased to 143 million people. Following is the growth of internet users in Indonesia from 2000 to 2019.

Figure 1. Internet User In Indonesia 2000-2019



Source : World Bank Data Compiled

Based on graph 1. Internet users are growing massively and this can be seen in Figure 1. Internet users continue to grow every year in Indonesia. The growth of internet users in Indonesia has the potential to drive economic growth from both the demand and supply side. However, it is not a guarantor for economic growth in Indonesia.

Domestic consumption is a large source of Indonesia's continued strong GDP performance. With a large population, Indonesia has the potential to boost economic growth in terms of consumption. Increased consumption in Indonesia has the potential to provide a major boost to the Indonesian economy (Seda et al,2020). The internet, which is an information technology, has the potential to boost the consumption of the Indonesian people and at the same time has the potential to stimulate economic growth from the supply side. Increasing internet users in Indonesia can be both a challenge and an opportunity in Indonesia. The era of globalization and advances in communication and information technology make relations between countries, between organizations, and between individuals, seem like they are not distant. This progress has an impact on business and non-business organizations or agencies. Along with the rapid development of information technology, organizations are required to compete competitively. Information technology has a very significant development in this era. Technology has been designed to support human work towards efficient practical use. Technology, which initially supported the fulfillment of production needs, now information technology helps manage organizational data and makes it easier to input sales and purchase transaction data. This is what is able to have an impact on the productivity and performance of employees in an organization or agency (Fatimah et al,2020).

Productivity is a measure of the extent to which an activity is able to achieve predetermined quantity and quality targets. Productivity is the relationship between the output or results of the organization with the required input. Productivity can be quantified by dividing output by input. Productivity will drive the company's cost efficiency. In this regard, companies need to make various efforts that will increase productivity in each of their activities (Gao et al,2021). This study examines behavior data among internet users, consumption, and total employment. This study aims to determine the impact of increasing internet users and consumption on total employment using the quantitative threshold autoregressive model.

Literature Review

The rapid development of technology in Indonesia has also changed the pattern of household consumption. The rapid development in the technology sector that has given rise to a number of e-commerce companies has also helped boost consumption in the retail sector. Sales of clothing and footwear items from e-commerce continue to show an upward trend. In conventional economics, needs and wants are inseparable things. Furthermore, what becomes a problem is if the desire develops and enters the red light area, namely the area of fulfilling needs in an exaggerated and redundant way. Especially with the advancement of Information Technology now that almost all people can or can use it regardless of age limit, making it easier for them to find something they want easily and quickly. For example, there is a shopping application that can make it easier for consumers or people to buy an item they want without having to spend energy (Rahayu & Day,2015).

Unlike the previous community, to meet their needs they had to visit the nearest shopping center, even though they had to travel many kilometers away, just to meet the needs they wanted. Before the existence of the internet, actors in economic activities carried out their activities in a traditional way. Starting from trading, shopping, and even auction activities are carried out face-to-face. For example, consumers who buy goods in shops or are seen physically so that there is a meeting between traders and buyers. The transaction process, bargaining, and the strategy of traders in attracting consumers are evident. However, thanks to the internet, online trading technology has been created that is integrated with a system commonly called an online shop. From adolescents to adults, they are familiar with the online shop, especially when it comes to supporting facilities such as gadgets or smartphones (Groissberger & Riedl,2017).

The advancement of Information Technology has indeed had a positive impact in the era of globalization. However, not for people who use it excessively or take advantage of it, so that it is misused to fulfill their desires. This consumptive behavior raises the limitations of means of satisfying needs. Technology has become a reference in the progress of a company. The more rapid the development of technology, the more practical and easy it is to do what each employee does. Thus, employee productivity will also be higher. Because there will be more and more activities that can be completed easily and quickly. The merger of computer technology with telecommunications has resulted in a revolution in the field of information systems, where technology plays a very important role in increasing company productivity. Information technology can be defined as the procedures or systems used by humans to convey messages or information. Performance is basically what employees do or don't do. Currently, the application of information and communication technology is absolutely essential in companies as a tool to win the competition and increase productivity. The development of company information technology is carried out in stages before a holistic or comprehensive system is completed. This must be adjusted to the strength of the resources owned by the company. In its application, the information technology strategic plan will always be aligned with the company plan. The need for time and cost efficiency will cause every company leader to feel the need to apply information technology in the work environment (Lei et al,2021).

Research Methods and Materials

This study aims to see the growth of internet users on people's consumption and productivity in Indonesia by using total employment as an indicator. To achieve this goal, data on internet user behavior, consumption, and total employment are observed. This study uses the Quantitative Threshold Autoregressive method which is used to predict the behavior of the data so that the relationship behavior

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:

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

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. This study focuses on secondary data sourced from world banks, including data on internet users, consumption and total employment in Indonesia. With the econometric equation as follows:

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

Where Y is a total employment, t is a time period, β is constant, C is consumption, IU is internet user and e is error term. All data are secondary data from world banks.

Results and Discussion

The following is the estimation result of the Autoregressive Estimate Threshold:

TOTAL_EMPLOYMENT = (0.00328026118343*CONSUMPTION - 32.8473570269*INTERNET_USER) + (0.0417383543088*CONSUMPTION - 225.097862675*INTERNET_USER)*@LOGIT(1.27410591011e-07*(TOTAL_EMPLOYMENT(-3)-160724507.394)) - 850037291.784

From the estimation results, it can be seen that the data behavior is from the direction of the relationship between the variables both in linear and non-linear terms so that the data behavior of each variable can be seen. The direction of the variable movement of the linear and non-linear parts of the estimation results can be seen in Table 1 below:

Table 1. Estimation Result

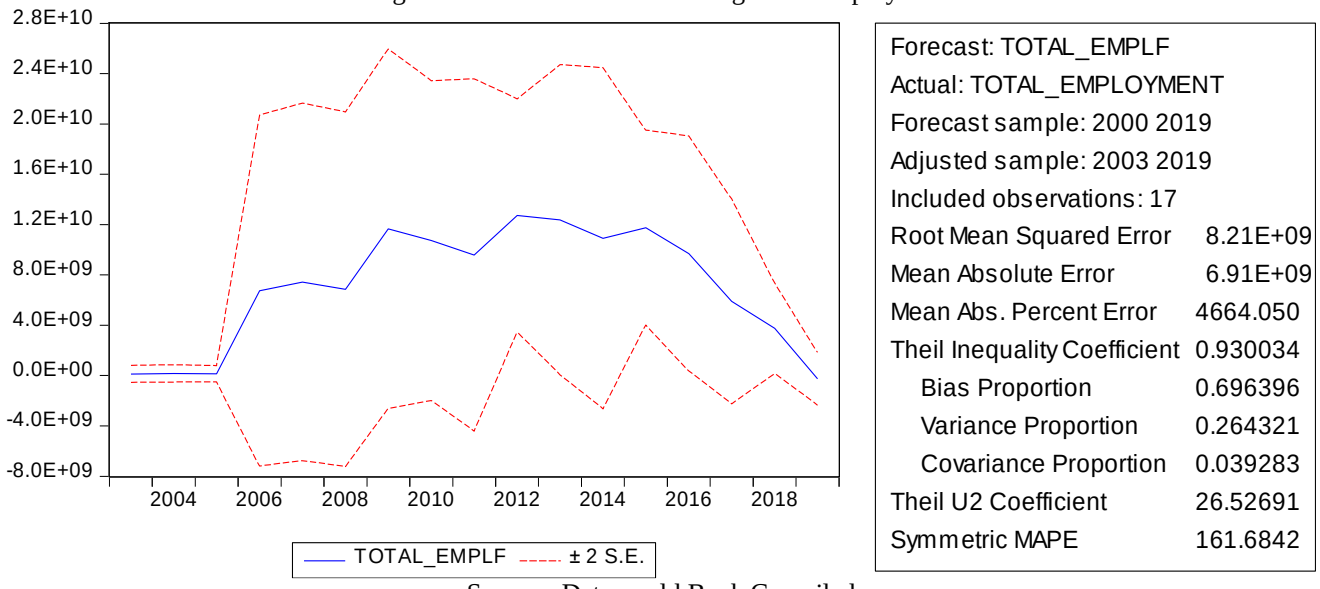
Variable	Coefficient	Std. Error	t-Statistic	Prob.
Threshold Variables (linear part)				
CONSUMPTION	0.00328	0.007778	0.421751	0.6821
INTERNET_USER	-32.84736	45.78073	-0.717493	0.4895
Threshold Variables (nonlinear part)				
CONSUMPTION	0.041738	0.201531	0.207106	0.8401
INTERNET_USER	-225.0979	1203.5	-0.187036	0.8554
Non-Threshold Variables				
C	-8.50E+08	2.64E+09	-0.321568	0.7544
Slopes				

SLOPE	1.27E-07	5.62E-08	2.26903	0.0466
Thresholds				
THRESHOLD	1.61E+08	42503868	3.781409	0.0036
R-squared	0.840629	Mean dependent var		2.23E+08
Adjusted R-squared	1.05E-01	S.D. dependent var		3.54E+08
S.E. of regression	3.35E+08	Akaike info criterion		42.39034
Sum squared resid	1.12E+18	Schwarz criterion		42.73342
Log likelihood	-353.3178	Hannan-Quinn criter.		42.42444
F-statistic	1.312873	Durbin-Watson stat		2.97826
Prob(F-statistic)	0.334909			

Source : Data world Bank Compiled

From the estimation results and the direction of the relationship in table 1. it can be seen that there is a positive relationship between consumption and total employment, which means that the increase in the economy in Indonesia comes from consumption and as a result of this consumption there is an increase in demand which is responded to by producers to increase production so that it occurs absorption. the workforce which has an impact on increasing total employment or increasing employment. However, in Indonesia, it is indicated that the Internet is being used as a means of public entertainment so that increased use of the internet does not encourage employment, instead leads to a negative relationship between workers and internet users. This means that an increase in internet users in Indonesia does not guarantee an increase in consumption and absorption of labor in Indonesia. The increasing use of the internet in Indonesia is actually an indication of non-productive activities for the working-age population, such as using the internet for entertainment purposes and spending a lot of time doing non-productive activities using the internet. This can be illustrated in the results of forecasting total employment which takes into account 3 variables, namely total employment, consumption, and the following internet users:

Figure 1. The results of forecasting Total Employment



Source : Data world Bank Compiled

From the forecasting results, it can be seen that there is an increase in internet users and an increase in consumption in 2006 to its peak in 2012. The very rapid increase in internet users in the year after 2012

actually suppressed the absorption of labor because internet users in Indonesia indicated that the majority of them used the internet instead of their activities. economically productive but non-productive activities such as spending a lot of time playing games, watching videos, chatting where these activities do not generate income for the majority of internet users who do non-productive things. However, this does not mean that all internet users are engaged in non-productive activities in Indonesia. The indication of the estimation results is the majority, so this makes the population of productive age in Indonesia spend their time doing non-productive things for entertainment or entertainment. This is indicated by the worrying decrease in the estimated graph if the use of internet users is not optimized for aggregate productive activities.

Conclusions

Internet users in Indonesia are indicated that the majority use the internet for economic non-productive activities. This has an impact on pressure on the productivity of the population economically as indicated in total employment, which indicates employment absorption or total labor participation in Indonesia. So that the increase in internet users in Indonesia does not guarantee a boost to economic growth in Indonesia during this research period, namely 2000 to 2019.

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