

Communication and Information Technology in Encouraging Economic Growth

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Abstract : The purpose of this research is to understand the role of communication and information technology in economic growth using the Threshold Autoregression model in the study period 1990 to 2019. We found that the development of information and communication technology reflected in the inclusion of internet technology has a positive relationship with economic growth so that it can be said that communication and information technology can encourage economic growth.

Keywords: VECM, Microfinance, Education, Poverty

JEL Classification : A2,M12,M2

1 INTRODUCTION

The digital era that is felt in the 21st century is an era that may not have been imagined in the previous century. However, the development of digital technology began in 1990. Where the internet was first discovered and developed (Petrick, 2015).

The increasing number of internet users shows the inclusion of a more established technology. The development of the internet has become a technological innovation in the field of information and communication, which has become a very fast technological innovation in terms of its development. Technological innovation and employment are a complex collection of interdependent economic elements that have become central questions in economic theoretical debates (Vicini, 2016). It is feared that technological innovation will cause mass unemployment. Technological innovation is needed for the efficiency of production costs without reducing the quality of goods and services produced because technology increases labour productivity so that technological innovation is driven by economic efficiency

motives (Colombo, et al, 2011). This economic efficiency motive causes the need for labour to decrease due to technological factors. This is what then becomes a separate concern among the community. However, it turns out that this technology is not merely an obstacle for workers to access employment opportunities but technological innovation creates jobs and new types of work to compensate for the reduced need for labour affected by technological innovation (Gordon, 2013).

Economic growth is an economic element that is clearly driven by the development of internet-based information technology. The increasingly massive development of information technology strengthens the influence of communication and coordination so that new opportunities emerge such as internet-based companies (Li, et al., 2019).

Information and communication technology cannot be separated from the transfer of information which is the fundamental thing of publication (Jarvis & Watts, 2012). Publications here are not only about books and media or magazines but the delivery of marketing information that increases sales as well as information and work coordination that is not limited by roar and time and online meetings are information transfer and communication and coordination.

2 LITERATURE REVIEW

Economic growth is a reflection of the productivity of a society in a country because it is a collection of production produced by a country or region. Production is a human effort in generating economic benefits to achieving prosperity. In producing production, it will be more efficient to work together for that the role of communication and information technology is important in encouraging production which in turn drives economic growth (Kanth, 2016).

The purpose of production is to obtain general economic benefits in order to achieve prosperity (Barnes, 2012). That is why humans work to make a profit because of the welfare motive. Achieving prosperity is the main goal of each individual in carrying out economic motives. However, it seems that economic motives are not the only ones that have an important role in the welfare of an individual. Such as political disturbances that cause economic conditions to become sluggish, for example, the Trade War between the US and China which originated from political appetite has an impact on the economies of countries in the world.

Public distrust of the government apparently plays a role in the process of strengthening or weakening the economy (Cooper, 2018). This proves that communication and information transfer affect the level of productivity of

society. Public distrust of the government is shown by the massive demonstration and destruction of public facilities and infrastructure, making investors who will enter will think again about investing because these conditions are considered conditions that are not conducive to their business. Things like that happen because of the communication and coordination factors. Talking about the process of achieving community welfare, where the process also creates social conflict. For example, land disputes, illegal business, corruption and so on. So that the motive for achieving prosperity actually has a complex dimension. Here the need for communication and coordination factors to reach agreement and general economic benefits that can be shared.

One of the steps to achieve social welfare is by working (Aspalter, 2014). Working more is defined by doing something productive that can produce value-added for both himself and the environment in which he works. Working in a social context is more defined as an act to earn profits or wages that can be used to meet their primary, secondary and tertiary needs. When many people need land to work, that is where they have to prepare whatever is needed to work and get wages.

The role of technology is to facilitate human work, which means that humans will be more productive with technology (Hendry, 2015). The absorption of technology in society will have an impact on the growth and development of productivity, which in turn will stimulate general economic growth.

The invention of the Internet in 1990, is the forerunner of the digital era in the 21st century. The Internet makes people connected and collaborates with each other and accelerates the transfer of information including new knowledge and technology. Internet technology changes many things in this world (Kettemann, 2020).

Internet technology has given birth to new types of businesses and new jobs such as online shops, company websites, social media and so on. The internet provides many new opportunities such as easy access to information and economic transactions (Paiola & Gebauer, 2020).

The internet encourages technological innovation which in turn creates new types of jobs from the results of these innovations. Bircan & Gençler's (2015) study of the world's 500 largest companies, found that the spread of innovation-based human resources will be accelerated by the emergence of new business fields, knowledge, skills, and expansion of high value-added production. Technological innovation has the potential to create new jobs based on technology with high added value. New jobs and can create new opportunities.

3 RESEARCH OBJECTIVE AND METHODOLOGY

The research method used in this research is descriptive statistical method using the Threshold Autoregression model which is an Auto regression model using regression thresholds so that it is possible to observe the behavior or behavior of the data movement between variables.

4 RESULTS AND DISCUSSION

The inclusion of technology in the world, especially internet technology, has changed the world economy from faster economic transactions. The development of the type and variety of work to work that is not limited by place and increased human productivity. Inclusion of technology has an impact on production output which is aggregately reflected in economic growth. The following are the estimation results of the Threshold Autoregression:

$$\begin{aligned} \text{PERTUMBUHAN_EKONOMI (Economic Growth)} &= 3.05681601185e+13 + \\ &+ 2.5069746797e+13 * @\text{LOGIT}(1.33600123857e- \\ &-12 * (\text{PERTUMBUHAN_EKONOMI}(-6) - \\ &3.29853016616e+13)) + 67.8172291305 * \text{INTERNET_USER} \end{aligned}$$

With forecasting results as follows:

Figure 1. Economic Growth Forecasting

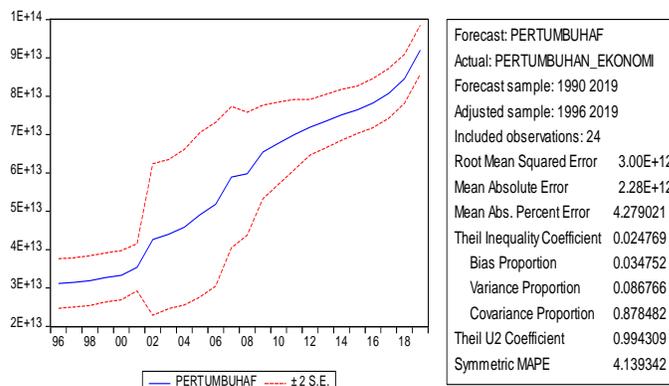
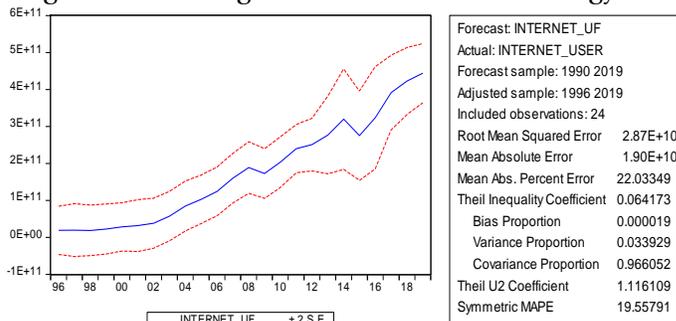


Figure 2. forecasting Inclusion of Internet technology



From the estimation results, it can be seen that the correlation between economic growth and internet users or technology inclusion is positive, which means that the

higher the level of technology inclusion, the higher the economic growth.

5 CONCLUSION

Technological inclusion is something that naturally continues to increase along with the absorption of technology and information around the world. With increased inclusion, technology encourages economic growth

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