

# Projection of Banking Labor Absorption Related to Technology Development in Banten Province

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**Abstract.** The role of information technology in the banking sector is very important and even impossible to separate because almost all mechanisms in the implementation and processing of data are already in the form of information where only the information technology can be completed. As an example of ATM, is a technology that applies the concept of digital-based data processing, where the component of this tool is divided into two, namely hardware and software. The hardware is the PC and the ATM device interface itself and the software that runs and manages all transaction records. The purpose of this study was to determine the effect of technological progress on community welfare, employment and economic growth in Banten Province. The research data used in this study are secondary data, namely banking data and data taken from the Central Statistics Agency for the period of 2016-2018. The results show that technological advancements result in reduced employment but community welfare and economic growth are increasing.

## 1. Introduction

Technological developments will make some people lose their jobs, according to International Labor Organization (ILO) predictions, that the workforce will decrease by 56%. This condition will take place gradually, Some sectors that will not fully need human labor because of technological developments are banking, retail, and logistics. Sectors that use technology a lot, of course, become sectors that will be affected by changes in the IT sector (information technology) earlier. For example banking, retail, and logistics. (Detik Finance, Monday 19 Nov 2018, 16.51 WIB). The change of human position to this technology will not occur massively but slowly. It will definitely happen gradually, because entrepreneurs will also certainly see the dynamics in the global first.

It is anticipated that banking industry players will carry out business transformation in the era of technological disruption, in line with the declining trend in the number of bank employees in the last 3 years. This is in line with data reported by nine large and medium scale banks in the last 5 years. During that period, the number of employees of most banks has been on a downward trend since 2016. The Director of Bank Negara (BNI) said that the needs of employees will continue to change along with the development of digital technology, the direction is to keep optimizing existing employees with the transfer function system, for example the teller , now a sales. the composition of the assignment functions reached 60 percent of the total employees. This amount is routine work and has now been replaced by technology. Data on the number of employees of 9 major banks in Indonesia 2014: 241,507,



2015: 242,689, 2016: 242,282, 2017: 230,397, 2018: 224,047. (Bisnis.com, March 20 2019 | 12:38 WIB).

Bank Indonesia (BI) encourages more use of non-cash transactions in Indonesia. The reason, non-cash transactions tend to be more cost-effective when compared to the use of cash transactions with currency, aka banknotes and coins. Non-cash transactions will certainly reduce the use of cash transactions. However, many costs are suppressed if people use non-cash transactions. These costs are printing costs and money distribution costs. Other costs are cash handling costs. These cash-handling fees are many, such as arithmetic costs, security costs, and especially if there are lost costs. In the end, the more efficient the economy, the higher economic growth can be. Based on central bank data, currency circulating in Indonesia as of October 2016 reached Rp 559 trillion. Of this figure, Rp.487.5 trillion was circulated in the public and Rp.191.5 trillion was circulated in the banking sector. In terms of non-cash transactions, the central bank recorded credit card transactions as of October 2016 reaching Rp 22.69 trillion. Meanwhile, debit card transactions in the same period reached Rp 487.18 trillion. The transaction value processed by the BI National Clearing System (SKN) as of October 2016 reached Rp 306.7 trillion. Meanwhile, RTGS transactions by customers reached Rp 1,768.8 trillion and RTGS transactions by banks reached Rp 3,908 trillion. (Kompas.com - 12/04/2016, 06:18 WIB)

Technology implementation is believed to benefit the financial condition of the banking system. PT Standard Chartered Bank Indonesia, for example, saved operating expenses from personnel expenditure last year. The burden of labor salaries fell 18.7% on an annual basis to Rp875 billion. This efficiency is the impact of the reduced number of employees by 4.7% on an annual basis to 1,510 people. Reducing employees does not directly make the workload reduced. The number of BNI employees fell 2.1% last year, but the workload increased 9.7%. (Bisnis.com, March 20 2019 | 12:38 WIB).

From these conditions the Asian Development Bank (ADB) actually believes that there will be many new job opportunities impacted by technological developments. ADB research shows that in the midst of technological developments such as robotics and artificial intelligence, there are still many reasons to be optimistic about the prospects for employment in the Asian region. Because new technology generally only automates a part of the job at a job, not the whole job.

ADB also estimates that jobs that will grow are jobs that are in the category of non-routine cognitive, such as digital artists and web designers. Based on 2018 Asian Development Outlook (ADO) data, the category of non-routine cognitive work in India has a distribution of 63%, Malaysia growing 82%, and the Philippines growing 60%. On the other hand, the type of work that has the least distribution is routine cognitive categories, such as telemarketers and information systems clerk. Based on ADO data, the distribution of this category in India is only 2%, while Malaysia is 11%, and the Philippines is 2%.

Based on the results of ADB's analysis of changes in employment in 12 developing countries in Asia during 2005-2015, an increase in domestic demand is more than enough to compensate for job losses due to technological advances. In addition, extensive data analysis shows the emergence of many new work positions in the field of information and communication technology (ICT), and various types of new jobs in the fields of health care, education, finance, insurance, and real estate.

From this issue, the next question is whether with the advancement of technology this will increasingly cause the community to be in a state of crisis, also related to the lower need for workers involved in the development of the economy.

The purpose of this paper is specifically to:

- Analyzing the relationship between the development of information technology and the absorption of the banking workforce;
- Presenting an analysis of the relationship between investment and absorption of banking personnel
- Presenting an analysis of the relationship between banking workforce absorption and economic growth
- Present the relationship between the absorption of the banking workforce with the development of the Gini ratio.

## 2. Literature Study and Hypothesis Development

Labor according to Law Number 13 Year 2003 Chapter I Article 1 paragraph 2 reveals that labor is anyone who can work to produce goods or services, both for subsistence and for the community.

According to Dr. Payaman cited A. Hamzah (1990) states that labor is (man power) that is a product that is or is currently working. Or are looking for work, as well as those who are carrying out other work. Like going to school, housewife. In practical terms, the workforce consists of two things, namely the labor force and not the labor force: a) the labor force consisting of the working class and the unemployed or looking for work; b) groups that are not in the labor force consist of classes that attend school, groups that take care of the household, and other groups or receive income from other parties, such as retirees etc.

While understanding the development of technology means a process of activities in the context of developing technology or knowledge about skills. The word technology comes from Greek which is a combination of two root words namely *Techne* or *Techton* and *Logos*.

Information Technology (IT), or in English known as Information technology (IT) is a general term for any technology that helps humans in making, changing, storing, communicating and / or disseminating information. IT brings together high-speed computing and communication for data, voice and video. Examples of Information Technology include not only personal computers, but also telephones, TVs, electronic household appliances, and modern handheld devices (such as cellphones). [1]

Job opportunities are the number of people who can be accommodated to work in a business unit or employment (BPS, 2003). This employment opportunity will accommodate all workers if the business units or jobs available are sufficient or balanced with the number of available workers. The field of employment is the field of business activity or an institution where someone works or has worked.

Theory of Labor Demand Theory of labor demand is a theory that explains how much a business field will employ laborers with various wage levels in a given period. Employers' demand for labor differs from people's demand for goods and services. The community buys goods because they provide benefits to consumers. However, employers employ someone who aims to help produce goods and services for sale to the public. In other words, the increase in employers' demand for labor depends on the increase in public demand for the goods they produce. Therefore, demand for labor is derived demand. The labor demand function is usually based on neoclassical economic theory, in which in a market economy it is assumed that employers cannot influence market prices (price takers). In terms of maximizing profits, employers can only regulate how many workers can be employed. The labor demand function is based on: (1) additional marginal results, i.e. additional outputs obtained by the addition of a worker or other term called Marginal Physical Product of labor (MPPL), (2) marginal revenue, namely the amount of money the entrepreneur will get the additional marginal results or another term called Marginal Revenue (MR). Marginal revenue here is the additional amount of marginal yield multiplied by the price per unit, so  $MR = VMPPL = MPPL \cdot P$ , and (3) marginal costs, i.e. the amount of costs incurred by the employer by hiring an additional worker, in other words the employee's wages. If the additional marginal revenue is greater than the marginal cost, then hiring that person will add to the employer's profit, so he will continue to increase the number of workers as long as the MR is greater than the wage level.

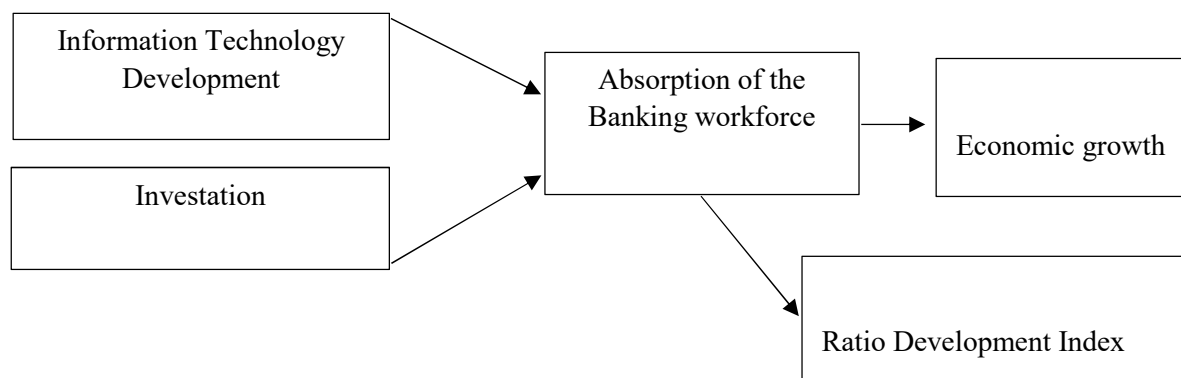
Increased demand for labor depends on the increase in public demand for the goods they consume. The higher the public demand for certain goods, the amount of labor demanded by a business will increase with the assumption of a fixed wage level. Increasing the number of workers in a business field is not done for the short term, even though public demand for products produced is high. In the short term, employers will optimize the number of workers available by increasing work hours or the use of mechanization, while in the long run the increase in the number of community requests will be responded to by increasing the number of workers employed. This means an increase in the absorption of new workers.

Economic growth is defined as an increase in the long-term capacity of the country concerned to provide economic goods and services to its people. Economic growth and sustainable processes are the

main condition objectives for the continuity of economic development. As the population and economic needs increase, additional income is needed each year. (Todaro, 2000: 144) This can only be obtained through an increase in aggregate output (goods and services) or Gross Domestic Product (GDP) each year. So in a macroeconomic sense, economic growth is an increase in GDP which also means an increase in national income (Tambunan, 2001). In general, economic growth refers more to changes in a quantitative nature (quantitative change) and is usually measured using data on gross domestic product (GDP), or per capita income or output (Nanga, 2001: 279), while in the province of Regional Domestic Product (GRDP) Gross).

The development of infrastructure with economic development has a close relationship and interdependence with one another. Improvement and improvement of infrastructure in general will be able to increase population mobility, create a reduction in the cost of shipping goods, the presence of transportation of goods at a higher speed, and improving the quality of these transportation services. In the short term, infrastructure development will create employment in the construction sector, in the medium and long term it will support increased efficiency and productivity of the economic sectors involved. So that infrastructure development can be considered as a strategy to encourage economic growth, alleviate poverty, improve quality of life, increase mobility of goods and services, and can reduce the cost of domestic and foreign investors.

#### Framework:



In the hypothesis based on the description, the formulation of the hypothesis that will be stated is:

- The development of information technology affects the absorption of the banking workforce.
- Investment influences the absorption of banking personnel.
- Absorption of the banking workforce affects economic growth and the human development index

### 3. Research Methods

Types and Sources of Data used in this study are secondary data obtained from the records of the Central Statistics Agency (BPS), the Ministry of Labor, Data from the International Labor Organization (ILO), the results of previous studies, journals, other literature, and institutions. Related institutions making it easier to find data needed in research.

The data used is secondary data with panel data analysis sourced from the Central Statistics Agency (BPS), the Indonesian Ministry of Manpower, ILO data. The data in this study use annual data for a period of 2014-2018 or five years. Method of analysis with Panel Data, which is a combination of time series data and cross section data. Time series data includes one object or individual, arranged in chronological order of data daily, monthly, quarterly, or annually. Data cross section consists of several or many objects, with several types of data in a certain time period. The combination of the two types of data is seen from the dependent variable consisting of several regions (cross section) but in various time series (time series). (Widarjono, 2013: 229).

This research model uses panel data regression analysis, which is used to measure the effect of the combination of the two data used, namely time series data and cross section using Path Analysis.

#### 4. Research Result

This study aims to test and empirically prove the disclosure of the Human Development Index measured by life expectancy, road infrastructure, per capita expenditure, and length of schooling. To test hypotheses that have been used multiple regression analysis tools with Path analysis.

The analysis shows that there is a table like this:

**Table 1.** Estimate Regression Mode Results

| Variable                  |                                |                              | Parameter | Standart error | t-stat | p-value |
|---------------------------|--------------------------------|------------------------------|-----------|----------------|--------|---------|
| Information Technology of | Manpower Absorption of banking | Investment of banking labor  | -26,538   | 14,759         | -3,009 | 0,014   |
| absorption                | Absorption of the Banking      | Workforce of Economic growth | 10,916    | 8,782          | 0,973  | 0,402   |
| Absorption of labor       | Banking of the                 | Human Development Index      | 90,357    | 11,449         | 3,754  | 0,0017  |
|                           |                                |                              | 7,436     | 0,919          | 3,619  | 0,029   |

Increased use of information technology affects the absorption of the banking workforce, where if there is an increase in the use of information technology will be followed by a decrease in the absorption of the banking workforce if it is not followed by an increase in expertise in information technology. So that the development of information technology (IT) and its application in various industries of the world has opened up considerable job opportunities for professionals in various fields, in this case the banking sector.

Investment in this research has no effect on employment. This is not in line with Sukirno's research (2000) which states that investment is one of the important factors in determining the level of national income. Investment activities enable a community to continuously increase economic activities and employment opportunities, increase national income and the level of prosperity (Sukirno, 2000: 367).

Absorption of labor affects economic growth, this proves that employment is necessary to accelerate economic recovery through increasing income, so that economic growth increases. National and regional economic growth is closely related to the expansion of employment opportunities because labor production factors are an important factor for economic growth, in addition to being influenced by other factors such as capital, nature and technology.

Absorption of the banking workforce affects the human development index, this is in line with research conducted by Noviatamara (2019) which states that the high employment rate will increase the index of human development but not in line with Nursiah Chalid and Yusbar Yusuf (2014) on the influence of poverty levels and the unemployment rate, district / city minimum wages and the rate of economic growth on the human development index in Riau Province that the unemployment rate has a negative effect on the human development index in Riau Province and the rate of economic growth has a very large effect.

#### 5. Conclusion

Based on the research described above, it can be concluded that the use of information technology has an influence on employment, while investment has no effect on employment. Absorption of labor affects the economic growth and human development index in Banten Province in the period of 2014 to 2018. The presence of information technology provides many benefits for economic growth, such as being able to absorb the banking workforce and complex business activities and increase the human development index. In addition to producing benefits, the development of information technology can also have a number of negative impacts on economic growth, such as the closing of employment

opportunities, the emergence of resistance to change and the emergence of information technology crimes that can be detrimental to economic growth and the human development index.

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