THE IMPACT OF REGIONAL ECONOMIC DEVELOPMENT ON LABOR ABSORPTIVE CAPACITY AND THE PATTERN OF ECONOMIC STRUCTURE TRANSFORMATION OF BALI PROVINCE 1985-2010

(AN APPROACH TO CHENERY’S MODEL)

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ABSTRACT

This research attempts to analyze the following aspects: 1) the impact of regional economic growth on labor absorption in each economic sector, and 2) the pattern of economic structure transformation of Bali Province.

The data used in this research is a panel data consisting of data from 9 regencies in Bali Province within 1985 - 2010, analyzed using the panel data regression model.

This research results are in the following findings: 1) The regional economic growth of Bali Province has a negative impact on the absorption of labor in the sectors of agriculture, mining and excavation, LGA (electricity, gas and water supply), transportation and communication; as well as positive impact on the absorption of labor in the sectors of industry, construction, commerce, hotel and restaurant, financial services and rentals, and other service; 2) The transformation pattern of the economic structure of Bali Province can be observed from its contribution to GDP: P – T without going through S, meaning that it goes through from the primary sector to the tertiary sector without going through the secondary sector. Six regencies (Bangli, Buleleng, Jembrana, Karangasem, Klungkung, and Tabanan) have the same pattern with Bali Province, i.e. P – T. On the other hand, three municipalities (Badung, Gianyar, and Denpasar) follow T – T pattern, due to the establishment of those municipalities as a center of tourism development in Bali with icons such as Kuta, Jimbaran, Sanur, Nusa Dua, Legian, and Ubud. Meanwhile, from the viewpoint on the absorption of labor of each economic sector, the transformation of the economic structure of Bali Province follow P-T and six regencies (Bangli, Buleleng, Jembrana, Karangasem, Klungkung, and Tabanan) follow P – P pattern, while that of Badung Regency and Denpasar Municipality follow T – T pattern, and that of Gianyar Regency follow P – S pattern.

Keywords: economy growth and transformation of economic structure.

1. INTRODUCTION

1.1. Background

One of social welfare indicators can be measured from the level of per capita income. Therefore the increase in per capita income has always been a top priority in any state policy. To achieve high per capita income, the economy has to keep growing. The impact of the growth reflected in per capita income rise is the transformation of the economic structure, as manifested in the increasingly important role of secondary and
tertiary sectors and the lesser important role of the primary sectors; either in national production, employment or foreign trade. Chenery (1960), Hagen (1975), Kuznets and Balwin (1986), found that when the per capita income has increased, which reflects the economic growth, the primary sector will play a less important role in providing employment, whereas the secondary and tertiary sectors play an increasingly important one.

On the other hand Chenery and Taylor (1968), Chenery and Syrquin (1975), noted that when the income is low, the agriculture (primary) sector becomes the only sector that plays important role; both as the greatest contributor to GDP and as the provider of the largest employment. However, with the increasing per capita income, the role of the primary sector will steadily decline and replaced by that of the secondary sector, particularly the manufacturing sector. When the per capita income in a developed country is high, the tertiary sector will play an important role in its economy, especially the one basing on trading and financial sectors and telecommunication service.

The economy of Bali province has different characteristics from those of countries observed in the study conducted by Chenery et al. The difference is reflected from the role of culture-based tourism which represents the mechanism of economic growth for the region.

1.2. Problem Formulation

(1). What impact the economic growth has on labor absorption in each economic sector in the economy of Bali province?
(2). How do patterns of structural transformation take forms in Bali’s economy?

1.3. Research Objectives

(1) To analyze the effect of regional economic growth on labor absorption capacity of each economic sector in the economy of Bali province.
(2) To analyze and study the patterns of structural transformation of Bali’s economy.

2. LITERATURE REVIEW

2.1. The Concepts of Economic Development and Growth

In the early economic development of a country, its economic development planning strategy is by and large more oriented to issues of growth. This is because the major problem facing developing countries is the lack of capital, which is caused by their low per capita income. Therefore, development efforts of developing countries put more emphasis on increasing per capita income. This is due to the fact that if the per capita income is low, the domestic saving will be low as well, and this will, in turn, impede investment, which is an important factor in the efforts to increase revenue and to develop a country. On the other hand, developing countries were also faced the relatively high population growth. This has forced them to spur their economic growth rate above that of population growth in order to increase their per capita income.

However, the assumption of an emphasis on the issue of economic development turned out to generate insignificant impact on the economic development in developing countries. This statement is based on experience of many Third World countries in 1950s and 1960s, during which their economic growth rates are high, but were unable to improve the lives of their majority population.

Economic development is inseparable from economic growth. The former promotes the latter, and the latter paves the way for the former. However, the term growth is different from development. Economic growth can be interpreted as an increase in output, while economic development expressed not only increase in output, but also increase in types of output produced in addition to changes in production technology and institution as well as distribution. Economic growth includes not only enlarging input factors that will lead to an increase in output, but the increased input factors are also followed by a greater production efficiency or increased productivity (Kindleberger, 1977).
Economic development is not merely economic matter; other factors such as politics, culture, technology advancement, education and so forth give meaning to what it is, and therefore it has a multidimensional meaning. For that reason, economists have begun to create a new paradigm in economic development. Todaro (2006) defined economic development as multidimensional processes that include a variety of fundamental changes in social structure, social attitudes, and national institutions, in addition to pursuing economic growth acceleration, overcoming inequality, and alleviating poverty. In essence, therefore, the development should reflect the total change in a society or social adjustment without ignoring the overall diversity of the basic needs and desires of individuals and social groups in it to move forward to a better living condition, both materially and spiritually.

Based on the meaning of development as noted above, there are three important elements in economic development: first, economic development describes a process of continuous change; second, it indicates a successful effort to increase per capita income; and third, the increase in per capita income continues for an extended period of time.

The term economic growth is used to illustrate or measure the achievement of economic development of a country. Economic growth reflects the existence of the physical production of goods and services taking place in a country, such as an increasing number of industrial productions of goods, infrastructures, schools, service sectors, and capital goods production. Economic growth represents a long-term increase in the ability of a country to provide an increasing number of goods to its population; this ability is increasing along with the advances in technology and the necessary institutional and ideological adjustments (Sirojusilam, 2003).

Todaro (2006) maintained that there are three components of economic growth:

(a) Capital accumulation would be obtained if a current portion of earned income is saved and reinvested in order to increase future output and income. The factories, machinery, equipment, and new raw materials will increase the physical capital stock of a country (i.e., the total real net worth of all physical productive capital goods) and allows an increase in the level of output to achieve. Such a direct productive investment was driven by investment in what is known as the social and economic infrastructures such as roads, bridges, airports, ports, electricity, communications, sanitation and so on, which facilitate and integrate economic activities. Similarly, investment in human resources (HR) can improve the quality of workers and, accordingly, have the same or even stronger effect on the production along with the increasing number of people. All of those phenomena and many others are forms of investment intended to accumulate capital. Capital accumulation can also increase new resources (such as by clearing uncultivated land) or improve the quality of existing resources (e.g., irrigation); but the important feature is that the investment involves less trade-off between present and future consumption, which means sacrificing the current consumption to gain more in the future.

(b) Population and Labor Force Growth. Population growth, in turn associated with the increase in the labor force, is traditionally regarded as a positive factor in stimulating economic growth. If the labor force is available in a greater number, it means more productive workers are available as well, and large populations will increase the potential size of the domestic market.

(c) Technological Progresses. There are three basic categories of technological progress: neutral technological progress, labor-saving technological progress, and capital-saving technological progress. Neutral technological progress occurred when higher output is achieved with equal quantity and combination of input factors. Labor-saving technological progress, as the term suggests, is made by the use of labor in lesser numbers. The examples are computers, Internet, and tractors. Capital-saving technological progress is a relatively rare phenomenon. This is mainly due to the fact that almost all technological researches and science are intended to save manual tasks, especially those applied in technologically advanced countries. Meanwhile, the developing countries that have to deal with a large
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number of unemployment tend to adopt labor-intensive (capital-saving) development policies because of relatively lower wages.

2.2. Economic Growth and Economic Structural Change

In the process of economic development, increased production represents one of its main features. In addition, development process include changes in the composition of production; in allocation of production resources among sectors of economic activity; in distribution of wealth and income among the various classes of economic actors; and in the institutional framework of social life as a whole. Thus, economic development is a process of transformation that, during its course, is marked by changes in the economic structure: the change in the basis of economic activity and in the economic structure of the peoples concerned (Djoyohadikusumo, 1994).

The development process, seen as a structural change, is characterized by multidimensional changes: changes in an economic constellation from a stagnant condition to a balanced one with a dynamic force in its development. Multidimensional changes include changes in balanced conditions at an early stage (stagnant) inherent in the foundation of economic activity and the economic arrangements of the concerned society. Structural changes are related to changes in the structure and composition of the national products; in productive employment; in the imbalance between sectors, between regions, between social groups; and in the poverty and the gap between low- and high-income groups.

Changes in fundamental characteristics of an economic structure are related to the increased income. Kuznets (1966), through his empirical study, proof that increased income will lead to the shifts in national product composition (shift among sectoral contributions); in productive employment (from primary sector to secondary and tertiary ones); and in trading pattern (from primary commodity to secondary and tertiary ones). Chenery (1960) showed the quantitative relationship of income per capita, the contribution percentage of various economic sectors, industries in the manufacturing sub-sector and the national production. He stressed, in his analysis of developments in the manufacturing sub-sector to changes, on the economic structure in the development process. According to Chenery, the economic growth rate and the role a sector plays in generating national production depends on the income level and the number of population of a country.

Other sides that Chenery has analyzed are factors that make the roles of various industries in the economy different from their normal roles in a certain level of economic development. Generally speaking, each state plays a different role in the industry of manufacturing sub-sector, which is higher or lower than their normal pattern. Such situation was caused by the following factors: (a) the extent of the market, (b) distribution of income, (c) natural resources, and (d) other factors differences in various countries such as in climate, government policy, and socio-cultures.

Economic growth is usually accompanied by demand shift from primary to secondary, and, finally, to tertiary sector. In such a relationship, the economic growths that can be measured through increase in per capita income followed by three universal processes are (1) shift in demand of goods and services, (2) increased work specialization, either between sectors or between business units, and (3) changes in comparative revenues to produce goods and services.

One of the fundamental changes can be found in production structure or GDP composition by sector or sub-sector of production. Chenery and Syrquin (1975), in their study on changes in the economic structure, explained that there is a declining trend in agricultural production in national output. At lower income level, industrial and service sectors’ contribution has increased in proportion to the relative decline of the agricultural sector contribution. At the middle and high income levels, the contribution of the service sector is relatively close to constant. This is due to the inelasticity of demand for agricultural products.
Interesting fact from the research by Chenery and Syrquin (1975) is that the impact of an increased per capita income from US$ 100 to US$ 1000 has led to the following allocation processes:

1. Structure of domestic demand change takes the form of decreased household consumption from 72 to 61.7 percent and decreased food consumption contribution from 39.2 to 17.5 percent of GDP.

2. The structure of production has shifted, in which the contribution of the agricultural sector decreased from 45.2 to 13.8 percent of GDP, while the industrial sector’s contribution increased from 14.9 to 34.7 percent of GDP, and the contribution of the service sector increased from 33.8 to 41.3 percent of GDP.

3. Trade structure changes take the form of increased exports of industrial goods and services from 1.9 to 9.7 percent and from 3.1 to 5.7 percent, respectively. Raw material exports declined from 13.2 to 9.6 percent. The increase in total exports provides opportunities for increased imports from 21.8 to 26.7 percent.

2.2.1. Structural Change Models

Changes in economic structure can be seen relatively from the percentage of value added (% of GDP) for the primary, secondary and tertiary sectors. Sectors’ contribution to GDP is an indicator to assess changes in the economic structure. In addition, the indicators of sector contribution are also used to determine the stage of industrialization of a country/region. Changes in such economic structure are shown by comparing the contribution of the agricultural sector (primary) with those of industry and services sectors. The contribution can be calculated as follows:

\[
SC = \frac{SVA (Rp)}{RGDP (Rp)} \times 100\%
\]

where \(SC\) = sector contribution; \(SVA\) = value-added of I sector at current price or constant price. Estimates at current prices and constant prices are intended to differentiate the value of goods and services that are still affected by the rising prices and the actual value following the impact of inflation (price increase). Changes in economic structure based on constant prices are in fact show that during economic growth, there is a difference in the growth rate of real production of each sector.

Lewis (1954) proposed a model of structural change in two-sector economy. This model implicitly requires that the demand for labor from the agricultural sector from the rural areas with low level of productivity levels for the modern industrial sector in urban areas with high levels of productivity (Todaro, 2006). Assumptions of the Lewis model are: (a) the level of the labor turnover and the creation of job opportunities in the urban sector are proportional to the urban capital accumulation rate. The faster the capital accumulation rate, the higher the growth rate in the modern sector and the faster the rate of new job creation, (b) labor surplus exists in the rural sector, while the jobs are available in urban sector, and (c) the growth of the modern sector and the expansion of employment opportunities will continue with a constant real wage in rural areas until the rural surplus of labor is absorbed by the urban industrial sector.

According to the development model proposed by Lewis, underdeveloped economy consists of two sectors: (1) the traditional sector, namely the over-populated rural subsistence sector marked with marginal labor productivity that equals zero, and this is a situation that allows Lewis to define the conditions of labor surplus as a fact that if most of the workforce is drawn from the agricultural sector, it will not deprive the sector of output, and (2) the modern urban industrial sector with high level of productivity that become the destination of labors transferred gradually from the subsistence sector. The model is primarily concerned with the process of labor transfer, output growth as well as increased employment in the modern sector. Labor transfer and employment growth made possible by the expansion of output in the modern sector. The expansion rate is determined by the level of investment in industry and overall capital accumulation in the modern sector.
Increased investment itself made possible by the excess profits of the modern sector from the difference between wages, assuming that capitalists engaged in the modern sector are willing to reinvest their profits. Lastly, the wage rate in the urban industrial sector is assumed to be constant. Based on a specific premise, the amount of wage is specified as above the average level of wages in the subsistent traditional agricultural sector. (Lewis assumes that wage level in urban areas should be minimally 30 percent higher than that of rural areas to encourage labor workers to move from rural areas to urban areas.) With a constant wage level in urban areas, the rural labor supply curve is considered perfectly elastic.

Kuznet's (1966) model on economic structure in the development process described not only the changes in the percentage of population working in various sectors in economic development, but also the changes in the composition of the various sectors of the national product in such processes. Changes in economic structure, according to Kuznets, means that: (1) the production in agricultural sector has grown slower than that of national production, whilst (2) the growth rate of the industrial sector is faster than that of national production, and (3) no change in the roles of the service sectors in the national production means that the level of development of the service sector is equal to the growth rate of national production.

Kuznets noted that the changes in the economic structure, as described above, were caused by: (1) human nature in consumption activities that follow the law of Engel, that the income from agricultural products is inelastic in nature, while the income from industrial goods is elastic in nature, (2) rapid changes in technology, (3) the comparative advantage of the industrial goods has made the industrial sector played an increasingly important role in national production.

**Table 2.1** Kuznets Research on Economic Structural Changes in Thirteen Countries (1801-1963).

<table>
<thead>
<tr>
<th>Development Phase</th>
<th>Agriculture Industry Percentage of GNP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial</td>
<td>50 – 60</td>
</tr>
<tr>
<td></td>
<td>20 – 30</td>
</tr>
<tr>
<td></td>
<td>20</td>
</tr>
<tr>
<td>Final</td>
<td>10 – 20</td>
</tr>
<tr>
<td></td>
<td>40 – 50</td>
</tr>
<tr>
<td></td>
<td>40</td>
</tr>
</tbody>
</table>


### 1.3. *Tri Hita Karana* as Balinese Cultural Concept

Balinese culture upholds the values of balance and harmony in the relationship between man and God (*parhyangan*), in human relation (*pawongan*), human relationship with the surrounding natural environment (*palemahan*) as reflected in the ideology of *Tri Hita Karana* (THK). Lexically *Tri Hita Karana* means three causes of prosperity and happiness. *Tri* means three; *Hita* means life, prosperous, happy, and sustainable. *Karana* means the cause. Thus, *Tri Hita Karana* denotes three causes of well-being and happiness derived from the harmonious relationship between (1) humans and God, (2) humans and their fellow being, and (3) humans and their surrounding neighborhood. Harmonious means that there is unison in doing good things and in clear thinking, as refectioned in the words spoken and the actions taken.

The harmony is a virtue that should exist in every individual and manifested in the form of appreciation of or tolerance for others. Harmony between humans and the natural environment is as valuable as the other two harmonies. Happiness and peace will soon disappear as humans’ natural environment disturbed.

*Tri Hita Karana* put the teachings of harmony between two things: *Bhuwana agung* (the macrocosm) and *Bhuwana alit* (microcosm). From the perspective of *bhuwana agung*, human is *bhuwana alit*, part of the former with similar constituent elements (Dwijendra, 2003; Waskita, 2005). *Tri Hita Karana* philosophy taught that life comes from three main elements: soul/spirit (*atma*), physic (*angga*), and energy (*prana*). Those three life elements constitute what we call *Tri Hita Karana*. Happiness and harmony (*hita*) manifest when the three causes (*tri karana*) existed: soul/spirit, physic, and energy. The loss of one of them will eliminate the happiness,
and the body without the soul is nothing but unhappy living-dead. The soul without a body is a shadow that can do nothing.

Traditionally, Bali indigenous village is a place for a whole, intact social life that is based on the ideology of THK that consists of three elements: kahyangan tiga (village temples); krama desa (villagers); and karang desa (village territory). From the Balinese perspective, the concept of territory has the sense of a regional unity in which community members jointly perform ceremonies and social activities organized in accordance with the village tradition and culture. Village as an integral administrative territory is loosely referred to as ‘dinas / kelurahan / perbekelan’. There are two forms of organizations in a village territory: dinas and desa adat. The village social structure is a system that binds the members of community together as regulated by village awig-awig (written regulations), customs and beliefs (Dwijendra, 2003). The way Balinese keep their balanced relationship with God, with others and with the surrounding natural environment is reflected in the various ritual ceremonies.

3. RESEARCH CONCEPTUAL FRAMEWORK

When the economy is growing, there will be a shift in the role of each economic sector; the roles of agricultural sector will decrease, whereas those of industry and services sectors will increase. Meanwhile, the economic structure transformation is influenced by the level of per capita income (Y), population (N).

Therefore, on that basis, the research conceptual framework can be formulated as follows:

**Hypotheses**

1. Regional economic growth of Bali province has a positive and significant impact on increasing absorptive capacity of secondary and tertiary sectors, and negative impact on labour absorptive capacity of the primary sector.

2. The pattern of economic structural transformation of Bali Province took place from the primary sector (P) directly to the tertiary sector (T).

\[
\begin{align*}
T_p & = \text{Primary sector contribution to GRDP} \\
T_s & = \text{Secondary sector contribution to GRDP} \\
T_t & = \text{Tertiary sector contribution to GRDP} \\
D & = \text{Labor absorptive capacity of the primary sector} \\
D_s & = \text{Labor absorptive capacity of the secondary sector} \\
D_t & = \text{Labor absorptive capacity of the tertiary sector} \\
G & = \text{Economic growth}
\end{align*}
\]
4. RESEARCH METHOD

This study focuses on the impact of regional economic growth on the labor absorptive capacity of each economic sector and the pattern of structural transformation of the economy of Bali Province over the period 1985 to 2010. The province was chosen as the object of study because its characteristics are different from those of other regions in Indonesia, as it is a centre of culture-based tourism development.

The current research employed a quantitative approach to analyze the impact of the transformation of the economic structure on the labor absorptive capacity of each economic sector and the pattern of structural transformation of the economy of Bali province during the 1985-2010 period.

The data in this study is entirely of the secondary ones; gross regional domestic product (GRDP) over the period of 1985 to 2010, at constant prices in 2000 obtained from the Central Bureau of Statistic (CBS) of Bali Province. There are several benefits of using panel data. First, it is a combination of two time series and cross-section data thereby provides more data that will generate higher degree of freedom. Second, incorporating information from the time series and cross-section data make it possible to address the problem when the omitted variable arises.

In general, the use of panel data will generate different intercept and slope coefficients in each regency/city and each time period. Therefore, estimation of panel data regression will heavily depend on the assumptions we make about the intercept, slope coefficients and disturbance. There are several possibilities for this: (1) it is assumed that the intercept and slope are fixed over time and individuals (regency/city) and that the difference between intercept and slope is explained by the disturbance variable, (2) it is assumed that the slope is fixed while the intercepts are different between individuals; (3) it is assumed that the slope is fixed while the intercepts are different both over time and between individuals, (4) the intercept and the slope is assumed to vary between individuals, and (5) the intercept and the slope is assumed to vary over time and between individuals.

There are several methods commonly used for the estimation of Panel Data Regression model. The two most commonly used are Random Effects and Fixed Effect models.

Based on the predetermined variables, the specifications of the model in this study are as follow:

1. \[ DS_{it} = a_0 + a_1 Gr_{it} + \mu_{it} \]

   where:
   - \( i \) = regency/city (1, 2, ..., 9)
   - \( t \) = year (1985, 1986, ..., 2010)
   - \( DS_{it} \) = labor absorptive capacity in each economic sector of regency/city
   - \( Gr_{it} \) = Regional economic growth in each regency/city in Bali province
   - \( \mu_{it} \) = Error term

2. \[ T^* = \beta_0 + \beta_1 \ln Y + \beta_2 \ln (Y)^2 + N \]

   where:
   - \( T^* \) = contribution of each economic sector
   - \( Y \) = Per capita income
   - \( N \) = Mid-year population
   - \( \beta_1 \) = Elasticity coefficient

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5. RESULTS

5.1. The Impact of Regional Economic Growth on Labor Absorptive Capacity of Each Economic Sector

The results of panel data regression calculation between regional economic growth and labor absorptive capacity of each economic sector are shown in Table 5.1.

Table 5.1 The Impact of Regional Economic Growth on Labor Absorptive Capacity of Each Economic Sector

<table>
<thead>
<tr>
<th>Variables</th>
<th>co-efficient</th>
<th>T-value</th>
<th>Prob</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural sector</td>
<td>-0.095</td>
<td>-7.307</td>
<td>0.000</td>
</tr>
<tr>
<td>Mining &amp; Quarrying sector</td>
<td>-0.169</td>
<td>-4.016</td>
<td>0.000</td>
</tr>
<tr>
<td>Industrial sector</td>
<td>0.040</td>
<td>4.389</td>
<td>0.000</td>
</tr>
<tr>
<td>LGA sector</td>
<td>-0.065</td>
<td>-1.703</td>
<td>0.089</td>
</tr>
<tr>
<td>Construction sector</td>
<td>-0.003</td>
<td>-0.135</td>
<td>0.847</td>
</tr>
<tr>
<td>Transport &amp; Communications sector</td>
<td>0.051</td>
<td>2.537</td>
<td>0.031</td>
</tr>
<tr>
<td>Financial Services &amp; Rental Sector</td>
<td>0.079</td>
<td>9.281</td>
<td>0.000</td>
</tr>
<tr>
<td>Other service sectors</td>
<td>0.053</td>
<td>3.684</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Source: Data processing results

1. Agricultural Sector

The regression coefficient of the agricultural sector is marked in negative (-0.095). This means that when the economy of Bali province is experiencing growth which led to the transformation of economic structure, it will be followed by a decline in the role of the sector as an employment provider. This finding is supported by similar findings in all regencies/cities in the province of Bali, as shown in Table 5.2 column (2).

The finding is in line with that of Kuznets' (1966) who analyzed the change in role of the economic sector in providing employment opportunities. Based on his research data, the percentage of labor force in different sectors in the process of economic development can be concluded as follows: the role of agricultural sector as an employment provider is declining in all observed countries. Such decline is huge in some countries. At the beginning of the observation period in some countries, the role of agriculture in providing employment exceeds two-thirds of the workforce, while at the end, in most countries, its role constitutes less than 20 percent. This means that the decrease in the percentage of labor force in agriculture sector ranges from 20 to 50 percentage point. Chenery & Syrquin (1975) suggested that in relation to changes in production factors, there has been a shift of labor from agriculture to industry and service sectors. Fisher (1930) and Hagen (1975) noted that if income increases, which led to the transformation of the economic structure, there would be a decline in the role of the agricultural sector (primary) as an employment provider, whereas the role of the secondary sector runs in the opposite direction. Meanwhile, the role of tertiary sector is also increased, but such an increase is not as large as that of the secondary one.

Kuznets and Balwin (1986) conducted their study in developing countries regarding the proportion of the workforce looking for jobs in different sectors in the economic development process. Their finding account for the shift of labor from agriculture to industry and service sectors occurred when the economy of a country is growing, due to rising incomes of the people. Clark (in Sadono Sukirno, 1985) noted that the higher the per capita income of a country, the smaller the role of agriculture in providing employment opportunities. On the other hand, the industrial sector plays an increasingly important role in accommodating labor workers.

Lewis (1954) and Ranis-Fei (1964) stated that, in addition to the excess supply of labor in rural areas, the difference in the level of wages between rural agricultural sector and that of urban industrial sector will lead to the displacement (migration) of labor from the former to the latter.