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Patterns of Economic Structure Transformation and Labor Structure Chenery Model in West Nusa Tenggara

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ABSTRACT: This study aims to explain the pattern of transformation in the economic structure and labor structure using the Chenery model in West Nusa Tenggara from 2014 to 2024. The data used is the Gross Regional Domestic Product (GRDP) and the population aged 15 and above in the Main Industry. The research results indicate that there has been a transformation in the economic structure and labor structure in West Nusa Tenggara during the observation period. The contribution of the primary and tertiary sectors to the GRDP is increasing, while the secondary sector is declining. The role of the primary and secondary sectors in absorbing the workforce is decreasing, while the tertiary sector is increasing. The pattern of economic structure transformation is the pattern of “Primary - Secondary - Tertiary” according to the Chenery model. Whereas the transformation of the labor structure follows a “Primary - Tertiary - Secondary” pattern, unlike Chenery's model.

KEYWORDS: Economic Sector, Gross Regional Domestic Product.

I. INTRODUCTION

Structural transformation is a prerequisite for the improvement and sustainability of growth and poverty reduction, while also being a support for the sustainability of development itself. Another important aspect of structural change is the labor side, that economic growth through two transformation processes can be achieved by increasing labor productivity in each sector and the transfer of labor from sectors with low labor productivity to sectors with higher labor productivity.

The process of economic development is usually followed by changes in the structure of the economy, which includes the economic structure and the labor force structure. Structural changes occur due to the interaction between the accumulation process and changes in community consumption patterns resulting from an increase in per capita income. Changes in public demand patterns for consumer goods then change the composition of goods and services that are produced and traded. And it changes the labor orientation regarding the choice of their main employment (Industry).

Structural transformation is a prerequisite for improving and sustaining growth and poverty alleviation, as well as a supporter of the sustainability of the development itself. In general, economic development aims to improve living standards and enhance the quality of life, which can be interpreted as the degree to which basic needs are met. Tambunan (2001), Economic growth without being accompanied by an increase in job opportunities will result in inequality in the distribution of the additional income (ceteris paribus). The disparity that occurs can create economic growth accompanied by an increase in poverty.

World Development explains the relationship between economic structure, growth, and productivity (Norris et al., 2014). They highlighted how changes in the sector could affect growth dynamics. Meanwhile, Research Policy emphasizes the role of innovation and investment in shaping economic structure and its impact on economic policy and business planning (Jaravel, 2015). The Journal of Development Economics also provides an in-depth review of the impact of structural economic development changes, highlighting how shifts in economic sectors affect GDP and regional development strategies (McMillan et al., 2014). By understanding these changes, we can design policies and strategies that support inclusive and sustainable economic growth.

The economic structure and labor structure will undergo changes in the process of development (Sukirno, 1985). Changes in the production structure that occur when the economy grows are usually indicated by the decreasing role of the agricultural sector in the Gross Domestic Product (GDP). and the role of the agricultural business sector in absorbing labor can be seen from the distribution of GDP percentage and the population classified as the labor force employed. Historical experience shows that the economic structures of countries in the world have undergone changes in the process of economic growth and development.

These structural changes in the economy and labor are mainly reflected in the role of economic sectors/Industry. (Kamaludin,1998).

The economic structure formed within a country's/region's territory is determined by the role of each economic sector in creating sectoral added value. Meanwhile, the workforce structure that is formed is determined by the role of each sector/main occupation in absorbing labor. This means that the economic structure and labor structure can be used as a reflection showing a region's dependence on the production capacity of each economic sector and the ability to absorb labor for each main occupation.

The pattern of shifts or transformations in the economic structure and labor structure is an important indicator in evaluating the development of a region (country/area). Although there are various opinions that say development should not always be oriented solely towards growth, but more importantly, there is the need to improve human quality. In reality, economic development has a much broader scope than just economic growth (Grabowski, et al., 2007). Therefore, The orientation of economic development is no longer just about pursuing growth, However, it should also be oriented towards shifts in economic structures and labor structures, equity and justice, as well as the empowerment of the people's economy (Mubyarto, 2001).

Some important components of this structural change include the gradual shift from agricultural activities to non-agricultural activities, And even more recent is the shift from industrial activities to activities in the service sector, a significant change in the scale or average size of production units, namely the transformation of a family-owned or privately-owned company into a large organization (not managed by a single person/family) that is national in scope and a multinational corporation, and lastly, the transfer of appropriate areas/locations and the employment status of rural workers in the agricultural and non-agricultural sectors that are still relevant, becoming a member of society who is oriented towards industry and services in urban areas (Todaro,1983).

Clark (1949) who collected statistical data on the percentage of the workforce employed in the primary, secondary, and tertiary sectors in several countries. The data collected shows that the higher a country's per capita income, The role of the agricultural sector in providing job opportunities is becoming smaller. However, on the other hand, the industrial sector is becoming more important in absorbing labor. What is meant by the primary sector in that research is economic activities in the industy of agriculture, forestry, fisheries, and mining. The secondary sector consists of manufacturing industries, water and electricity, and construction. The tertiary sector includes activities in transportation and communications, government, trade, and personal services.

A well-known structural change model is the one developed by Hollis B. Chenery. According to Chenery, the important factors are the smooth transition from an agrarian economy to an industrial economy, continuity of physical and human capital accumulation, changes in types of consumer demand, the development of urban areas is thanks to the migration of job seekers and agricultural areas in rural villages and small towns. According to Chenery, the structural transformation process brings both positive and negative impacts. One negative aspect is the increasing flow of urbanization that goes hand in hand with the degree of industrialization being carried out. Industrialization and urbanization in some aspects can actually hinder the process of equitable development. Structural transformation will only work well if it is accompanied by equal learning opportunities and a reduction in population growth rate, and lowers the degree of economic dualism between urban and rural areas (Pambudi, 2011)

Throughout the process of economic development, the agricultural sector undergoes shifts/transformations. Viewed from the entire economy as a whole, a shift/transformation is occurring in the form of a decline in the contribution of the agricultural sector to GDP (Gross Domestic Product) and the employment it creates. This can happen due to the generally rising standard of living of the community, the consumption needs for non-food goods and services have increased, thus increasing the proportion of resources allocated to the production process in the non-agricultural sector (Hakim,2004). Structural changes or economic transformation from traditional to modern can generally be defined as changes in the economy related to the composition of labor absorption, production, trade, and other factors that are continuously required to increase income and social welfare through the increase of per capita income (Gultom,2011).

Structural transformation is a prerequisite for increasing and sustaining growth and poverty alleviation, as well as supporting the continuity of development. In reality, economic growth in Indonesia has not been accompanied by a balanced change in the labor force structure,it means that the turning point for economic activity is reached earlier than the turning point for labor usage. This leads to problems that are often debated, including whether the share of GDP is proportional to the decline in sectoral employment absorption and which industry is developing faster, agro-industry or manufacturing industry. If the transformation is unbalanced, there is a concern that poverty and exploitation of human resources in the primary sector will occur. The process of transforming Indonesia's economic structure is marked by 1) a declining share of the primary sector (agriculture) 2) an increasing share of the secondary sector (industry) 3) the tertiary sector's share remaining roughly constant, but its contribution will increase in line with economic growth. (Tambunan,2001).

Tambunan (2001), Analyzing the economic structure, there are two main theories, namely Arthur Lewis's theory (migration theory) and Hollins Chenery's theory (structural transformation theory). Lewis assumed that a country's economy is essentially divided into two: the traditional rural economy dominated by the agricultural sector and the modern urban economy with industry as the main sector. In rural areas, population growth is high, resulting in an oversupply of labor. As a result of this labor oversupply, wage levels have become very low. Conversely, in urban areas, the industrial sector is experiencing a labor shortage. This attracts many workers to move from the primary sector to the secondary sector, resulting in a process of migration and urbanization. Moreover, the income level in the respective country has increased, so people tend to consume various industrial and service products. This has become the main driving force behind output growth in the non-agricultural sectors.

Chenery's theory focuses on structural changes in the stages of economic transformation in a region transitioning from traditional agriculture to the industrial sector as the main engine of economic growth. In addition, demographic changes play a major role in influencing the economic structure. Population aging often leads to a shift in demand towards healthcare and other services, which in turn drives the growth of the service sector (Bloom et al., 2010). Urbanization also accelerates the structural transformation from agriculture to the industrial and service sectors (Henderson, 2002).

The province of West Nusa Tenggara (NTB) is experiencing a fairly significant shift in economic structure. Over several years of observation, NTB has undergone a transition from an agriculture-dominated economy to other sectors such as tourism, manufacturing, and services. BPS NTB data shows a decrease in the contribution of the agricultural sector to the GRDP, Meanwhile, the tourism and manufacturing sectors are showing significant growth. This aligns with the national trend where regions dependent on the primary sector are beginning to shift to more productive sectors.

This change also affects the labor market in West Nusa Tenggara (NTB), the shift from the agricultural sector to tourism and services creates new job opportunities, but also poses challenges in terms of skills and local workforce capacity. If not managed properly, This shift could worsen income inequality at the regional level, especially between rural and urban areas. Exploring changes in the economic structure and their impacts is key to formulating effective and sustainable development strategies.

The question is, how are the conditions of the economic structure and the labor structure after that period of economic crisis. In reality, economic growth in Indonesia has not been accompanied by balanced changes in the labor structure. It means that the rate of sectoral economic shifts is relatively fast compared to the rate of labor shifts, so that the turning point for economic activity is reached earlier than the turning point for labor usage (Gultom,2011). These structural changes are mainly reflected in the role of economic sectors in the formation of national production as well as the percentage of labor in each economic sector/industry (Kamaludin,1998). Therefore, this article portrays the objective conditions of the economic structure and labor structure in West Nusa Tenggara for the period 2014-2024. The aim of this study is to capture and examine the patterns of economic structure transformation by analyzing the contribution of each major economic sector to the Gross Regional Domestic Product. The ideal transformation pattern refers to the structural shift pattern proposed by experts such as Chenery and Syrquin (1974) and the pattern of economic structure and labor structure transformation proposed by Kuznets, namely the "Primary-Secondary-Tertiary" pattern.

II. LITERATURE REVIEW

2.1. Theoretical Study

Structural transformation is defined as the change in the economic structure from traditional low-productivity sectors to higher-productivity economic sectors (UNIDO, 2012). According to Chenery (1960), structural transformation itself is a process of transition from a traditional economic system to a modern economic system, in which each economic sector undergoes different transformations. Todaro and Smith (2012) stated that the structural change model focuses its attention on the mechanisms that allow developing countries to transform the structure of their economies from traditional subsistence agricultural patterns. (dengan produktivitas rendah) ke perekonomian yang lebih modern (with high productivity). Economic growth is also believed to have an impact on the shift in economic structure (Alfarabi dkk., 2014; Mecik & Afzar, 2014). Chenery (1960), In the model of economic structural change, economic growth is an aspect of structural change due to shifts in demand and resource allocation that drive technological change (Amir, 2007).

The role of the agricultural sector in many developing countries is still significant, although there are signs of a transformation from the agricultural sector to the industrial sector, good in terms of share relative to Gross Domestic Product, labor absorption, as well as its contribution to exports (Hakim,2004). In general, the transformation that occurs in developing countries is the shift from the agricultural sector to the industrial sector (Chenery, 1960). Changes in structure or economic transformation from traditional to modern can generally be defined as a change in structural transformation, which is the process of shifting growth in the production sector from initially relying on the primary sector to the secondary sector. The shift in growth of the production sector will directly also affect changes in the composition of the workforce, from being primarily engaged in the agricultural sector, shifted to the industrial, trade, and service sectors. (Sukirno,2012).

Another important aspect of structural change is the labor side, that economic growth through two transformation processes can be achieved through increasing labor productivity in each sector and transferring labor from sectors with low labor productivity to sectors with higher labor productivity (Clark,1964; Suryana 2000). Another important aspect of structural transformation is from the perspective of employment. Various studies have also been conducted regarding this labor-side transformation, including by Hur et al. (2002), Gropello & Sakellariou (2010), Lee & Wie (2013), Graetz & Michaels (2015), Acemoglu & Restrepo (2020), Lim & Han (2018). There are two transformation processes that can be achieved: through increasing labor productivity in each sector and transferring labor from sectors with low labor productivity to sectors with higher labor productivity.

Kuznets (1969) collecting and analyzing data from 13 countries that are now considered developed countries, observing the contributions of various economic sectors to their respective national production during the process of economic development. The conclusion that can be drawn from the results of the study isa) The contribution of the agricultural sector to their national production has declined in 12 countries out of the thirteen countries studied. b) The role of the industrial sector in generating national production has increased. c). The contribution of the service sector to national production has not experienced significant changes, and the changes that occur are inconsistent in nature.

Along with the development of technology and globalization, a country's economic structure can change drastically. Countries that initially relied on the agricultural sector often undergo a transformation towards more advanced industrial and service sectors. This change not only affects production and consumption patterns but also employment and social welfare (Baldwin, 2017). Therefore, a deep understanding of how changes in economic structure affect growth and the distribution of resources is essential for formulating effective policies in response to changes in demand and technological advancements. Understanding these structural changes is very important for formulating effective economic policies and planning strategies (Wade, 2022). Economic Policy also emphasizes that changes in the economic structure can have a significant impact on output and labor markets, both in developed and developing countries (Milesi Ferretti & Lane, 2007; Akbar, 2019).

Technological advancement plays a significant role in driving structural change. Technology not only increases productivity but also creates new industries (Acemoglu, 2002). Technological innovation is the main driver of structural change by shifting labor and capital to more productive sectors (Andergassen et al., 2017; Inyong Shin & Hyunho Kim, 2014). Globalization and trade liberalization also play an important role by opening new markets and increasing competition, which can lead to a decline in the traditional industrial sector and the emergence of new sectors (Rodrik, 2021).

In relation to the transformation of labor structure in various major industry sectors due to the process of economic development, Kuznets concluded: a). The role of the agricultural sector in absorbing labor has decreased in every country studied. b). The role of the industrial sector in providing job opportunities has become increasingly important, but the increase is generally relatively small, except in certain countries. c). The role of the services sector in providing employment opportunities has not changed much in certain countries. However, in some other countries, the change (increase) in employment absorption is very significant (Sukirno,2012). It is further explained that, when comparing the changes in the roles of each sector in national production with the changes in the roles of each economic/industry sector in absorbing labor: a) In the agricultural sector, relatively, changes in the sector's contribution to national production are almost the same as the changes (the decline of) its role in providing employment. b) In the industrial sector, changes (a relatively permanent increase in contribution to national production) are greater than the relative changes in its role in absorbing labor. c) In the services sector, the relative change in its role in national production formation is smaller than the relative change in its role in absorbing labor.

In general, it can be concluded that the contribution of the primary sector (agriculture and mining) to the formation of Gross Regional Domestic Product will tend to decrease, while the role of the secondary sector (manufacturing, construction) and the tertiary sector (services) will increase as the country's economy advances. In addition, the higher the per capita income of a country's population, the smaller the role of the agricultural sector in providing and absorbing labor, and conversely, the industrial sector will become increasingly important and its role in accommodating labor will grow (Kamaluddin, 1999).

2.2. Empirical Study (Results of Previous Research)

Gultom (2011) in his research concluded: 1. Viewed from the results of the shift-share analysis for labor absorption in West Sumatra Province for the analysis period from 1980 to 2009. In the first analysis period from 1980 to 1989, the numerical component of the shift-share analysis showed that the agricultural sector, which experienced the highest growth in employment absorption, was followed by the services sector at 24.48% and the trade sector at 20.19%, while the industrial sector was the lowest among the three sectors at only 7.24%, namely 2.67%. Next, in the second analysis year, which was 1990-1999, it showed that all the sectors analyzed had experienced growth or an increase in their contribution to the Gross Regional Domestic Product.

Pambudi (2011), In his writing, he concludes: Based on the results of the LQ analysis for labor absorption in Central Java Province from 2004-2008. Sectors with an LQ value >1 and consistent LQ value >1 from 2004-2008 are the industrial sector, the construction sector, and the trade sector. The industrial sector is the sector with an LQ value that grew from 1.328 in 2004 to 1.429 in 2008.

Kariyasa (2004) in his writing, concluded: The burden of labor accumulation currently occurring in the agricultural sector is not evenly distributed across each subsector, with almost all of it borne by the food crop subsector, so it is not surprising that the condition of food crop farmers' families is increasingly worrying. In general, there has been an improvement in the quality of human resources in Indonesia, as evidenced by the increasing proportion of the population with education equivalent to secondary education or higher, while the proportion of the population with primary education or lower has decreased. However, the problem is that improving the quality of human resources has not been accompanied by the Indonesian government's ability to create job opportunities that match the qualifications resulting from that improvement in human resources. This phenomenon can be seen from the high number of unemployed individuals with secondary education and even with university degrees.

III. RESEARCH METHODS

This type of research is descriptive quantitative research, aimed at describing things that are currently in effect. It contains efforts to describe, record, analyze, and interpret conditions that are currently happening or not happening (Sugiyono, 2010). This research uses secondary data in the form of Gross Regional Domestic Product data for West Nusa Tenggara at current prices and population data aged 15 and above by main occupation/sector for the period 2014-2024 sourced from the West Nusa Tenggara Central Statistics Agency (BPS NTB). Data collection techniques using documentation and literature study methods. Data is processed using the main economic sector/industry contribution formula (Widodo,1990) :

Sector contribution: $Ks = VAs/\Sigma VAs \times 100\%$

Contribution of the Primary Sector: $KsP = VAsP/\Sigma VAs \times 100\%$

Contribution of the Secondary Sector: $KsS = VAsS/\Sigma VAs \times 100\%$

Contribution of the Tertiary Sector: $KsT = VAsT/\Sigma VAs \times 100\%$

Labor Force Percentage Distribution: $DTk = LU/\Sigma LPU \times 100\%$

Percentage distribution of labor in the Primary sector: $DTkP = LUsP/\Sigma LPU \times 100\%$

Percentage Distribution of Labor in the Secondary Sector: $DTkS = LUsS/\Sigma LPU \times 100\%$

Percentage Distribution of Labor in the Tertiary Sector: $DTkT = LUsT/\Sigma LPU \times 100\%$

Information:

Ks is the contribution of the sector,

VAs is the added value of the sector,

DTk is the distribution of labor percentages by economic sector;

LU is industry: Total Main industry (economic sector)

The economy sector is generally divided into three main economic groups, namely the Primary, Secondary, and Tertiary Sectors. These sectors classify economic activities based on the level of processing and dependence on natural resources. The primary sector, which focuses on the direct extraction of natural resources, includes activities such as agriculture, fishing, forestry, livestock, and mining. The secondary sector is part of the economy related to the process of processing raw materials into finished goods, as well as the sector whose inputs mostly come from the primary sector. The tertiary sector is the sector that provides services, including the trade, hotel and restaurant sector, the transportation and communication sector, the construction sector, the financial sector, rental services, business services, and other services. The ideal structural transformation pattern according to Chenery is the transformation from the primary sector to the secondary sector, and finally to the tertiary sector in a 'P-S-T' pattern.

IV. RESULTS AND DISCUSSION

4.1. Development of Value-Added in the Sector on Gross Regional Domestic Product

The share of all industry category in producing goods and service mostly determines economic structure in a certain region. Economic structure created from value added of each industrial category describes how much the region’s dependency on-production capability of each industrial category. Over the past five years (2019-2023) NTB’s economic structure has been donated by four industrial categories, namely: Agriculture, Forestry, and Fishing; Mining and Quarryng; Repair of Motor Vehicles ang Motorcycles; and Construction.

Table 4.1 Gross Regional Domestic Product (GRDP) Of Nusa Tenggara Barat Province By Industry 2014-2023 (billion rupiah)

GRDP According to Three Main Economic Sectors				
Year	Primer	Seconds	Tertiary	Total/GRDP
2014	12.942,07	3.658,66	56.773,23	73.372,96
2015	42.139,61	3.772,63	43.425,75	89.337,99
2016	44.065,66	3.976,97	46.481,66	94.524,29
2017	40.478,37	4.213,75	48.916,09	94.608,21
2018	34.245,83	4.284,34	51.818,96	90.349,13
2019	51.563,68	4.458,91	37.849,85	93.872,44
2020	52.072,24	4.351,56	36.865,07	93.288,87
2021	56.216,00	4.442,86	34.779,00	95.437,86
2022	65.533,15	4.530,84	32.009,67	102.073,66
2023	66.825,56	4.644,52	32.435,84	103.905,92

Source: BPS NTB

Table 4.1 shows that the role of the primary sector in the production of West Nusa Tenggara is still dominant. The secondary sector, although its role is not yet dominant, continues to experience growth. The tertiary sector experienced fluctuations in its role, but the trend has been declining over the observation period. Because the data for 2024 is still provisional (BPS NTB 2024), the analysis uses the latest data from 2023.

4.2. Economic Structure and Labor Structure

Economic growth has led to changes in the economic structure. Structural transformation itself is the process of changing the economic structure from the agricultural sector to the industrial sector, trade and services, where each economy will undergo different transformations. Chenery (1960): In general, the transformation that occurs in developing countries is a transformation from the agricultural sector to the industrial sector.

To explain the economic structure and labor structure, one can look at the contribution of each economic sector to Gross Domestic Product and the contribution of each economic sector in absorbing labor within each economic sector to the total economic sectors or Gross Regional Domestic Product. In other words, the indicator of economic structure and labor structure is the contribution of each economic sector to the Gross Regional Domestic Product. The condition of the economic structure of West Nusa Tenggara based on data analysis for the period 2014-2023 can be seen in Table 4.2.

Table 4.2 Percentage Distribution of Main Economic Sector Contributions to GRDP at Current Prices in NTB for the 2014-2023 Period

Year	(%) Sector PRIMARY (P)	(%) Sector SECONDS (S)	(%) Sector TERTIARY (T)	Structural Transformation Patterns
2014	17,64	4,97	77,39	P -T - S
2015	47,17	4,22	48,61	P -T - S
2016	46,62	4,21	49,17	P -T - S
2017	42,79	4,45	52,76	P -T - S
2018	37,90	4,74	57,36	P -T - S
2019	54,93	4,75	40,32	P -T - S
2020	55,82	4,67	39,51	P -T - S
2021	58,90	4,66	36,44	P -T - S
2022	64,20	4,44	31,36	P -T - S
2023	64,31	4,47	31,22	P -T - S

Source: BPS NTB *(processed secondary data)*

The existence of economic or production growth that is uneven on one side, and on the other hand, it is not followed by its ability to absorb labor will lead to consequences resulting in structural changes of both aspects, which will increasingly diverge both between sectors and between subsectors within each sector. During the period 2014-2023, it appears that the contribution of the Primary sector increased, the Secondary sector gradually declined, and the Tertiary sector experienced a decrease in contribution from the beginning of the period (2014) to the end of the period (2023). Referring to the Chenery-Sirquin and Kuznets theory, it is stated that an economic structural transformation occurs if the contribution of the primary sector to national production decreases, Meanwhile, the contribution of the secondary sector experienced an increase, with an ideal transformation pattern as seen in developed countries, which follows the transformation pattern from the primary sector to the secondary sector, and finally to the tertiary sector (P-S-T). The data analysis results from West Nusa Tenggara for the period 2014-2023 show a transformation pattern that is not ideal, as suggested by Chenery.

The transformation of the economic structure with such characteristics is caused by many factors, among which is human nature in consumption, that is, if income does not increase, the sensitivity of demand caused by changes in income is low for food consumption, Meanwhile, the demand for non-food items is increasing. This is in accordance with Engel's theory (Kamaluddin, 1999), which states that the higher the community's income, the smaller the proportion of income spent on purchasing agricultural/food products (primary), and conversely, the proportion of income spent on purchasing industrial goods (secondary) increases. Such transformations in the economic structure are also caused by technological changes that occur during the development process, which will lead to changes in the production structure that are *compulsory* (not or not yet needed by traditional society) as well as *inductive* (the creation of new goods that increase the variety of goods available for consumption by society).

Another important aspect of structural change is the labor side, namely that economic growth through two transformation processes can be achieved by increasing labor productivity in each sector and transferring labor from sectors with low labor productivity to sectors with higher labor productivity (Gultom,2011).

According to the Pattern of Development theory proposed by Chenery, it explains structural changes in the stages of economic transformation in developing countries that experience a shift from traditional agriculture to the industrial sector as the main engine of economic growth. The increasing contribution of the industrial sector to the economy is in line with the rise in per capita income, which is closely related to capital accumulation and the improvement of human resources (Akpan et al., 2024).

Table 4.3. Percentage Distribution of Labor in The Primary, Secondary, and Tertiary Sectors in West Nusa Tenggara 2014-2024

Tahun	(%) Sectors Primary (P)	(%) Sectors Secondary (S)	(%) Sectors Tertiary (T)	Labor Structure Transformation Patterns
2014	43,13	29,09	27,78	P - S - T
2015	39,01	30,96	30,03	P - S - T
2016	38,90	28,26	32,84	P - T - S
2017	35,81	34,00	30,19	P - S - T
2018	33,48	14,01	52,51	P - T - S
2019	30,47	14,83	54,70	P - T - S
2020	34,68	11,49	53,83	P - T - S
2021	32,61	33,32	34,07	P - T - S
2022	34,57	16,30	49,13	P - T - S
2023	36,69	18,66	44,65	P - T - S
2024	36,16	16,41	47,43	P - T - S

Source: BPS NTB *(processed secondary data)*

The results of the workforce structure data analysis are shown in Table 4.2, indicating that from 2014 to 2024 the primary sector remains dominant as the sector absorbing labor, but from year to year, during the research period, it shows a decrease in contribution to the total major economic sectors, This indicates a transformation in the labor force structure, although the pattern goes from the primary sector to the tertiary sector, and then to the secondary sector (not ideal: from the primary to the secondary, then to the tertiary sector as proposed by Kuznets or Chenery and Sirquin, 1960). This is due to the large number of workers absorbed in the traditional tertiary sector (*Lewis's two-sector model*), such as the informal sector which acts as a safety valve for unemployment.

Referring to the two-sector model according to Lewis, productivity in the traditional sector is much lower compared to labor productivity in the modern sector. The marginal product of labor in the traditional sector tends to be at a level below the average product, and it is not uncommon for that marginal product to approach zero. In such a situation, the phenomenon of hidden unemployment arises. The urban modern sector meets its labor needs by attracting workers from the traditional rural sector. As the population increases, the supply of labor seems to be limitless.

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In Table 4.3, it can be seen that the contribution of the primary sector in absorbing the labor is declining, Meanwhile, the secondary sector experienced a constant increase from the beginning of the observation until the last year of the observation. The tertiary sector also experienced an increase in absorbing labor during the period 2014-2024. This condition indicates that a transformation of the labor structure has occurred, only the pattern is from Primary-Tertiary-Secondary ("P-T-S"), not from "Primary-Secondary- Tertiary" as in Chenery's model.

Economic growth is associated with an increase in the proportion of labor in the tertiary sector and a decrease in the proportion of labor in the primary sector. Meanwhile, the proportion of the workforce in the secondary sector tends to increase at low levels of development, but decreases at high levels of development. In the long term, the contribution of the primary sector to the overall economy will decline, while the contribution of the secondary sector will increase in the early stages of development and then become constant. On the other hand, the contribution of the tertiary sector will continue to increase alongside economic development. The tertiary sector, which develops in the later stages of economic development, plays an important role in driving economic growth. In line with what Kusuma and Yuniasi (2021) stated, that an increase in the proportion of the workforce in the tertiary sector can boost overall economic growth.

During the process of structural transformation, it does not mean that everything will go smoothly. An ongoing process will bring two consequences at once, namely positive and negative sides. One of the negative impacts of structural changes as mentioned is the increasing flow of urbanization. Structural transformation can proceed well if it is accompanied by equal access to learning opportunities, a decline in population growth rates, and a reduction in the urban-rural economic dualism. If this condition is met, the process of structural transformation will be followed by an increase in income and income distribution occurring simultaneously (Kuncoro 2010). Arsyad (2015) The process of economic change will continue to develop, and all of it depends on population growth, capital accumulation, and technological progress.

As stated by Todaro, there are four main principles of economic development, namely: (1) growth, (2) poverty alleviation, (3) economic change or transformation, and (4) the sustainability of development from an agrarian society to an industrial society (Todaro in Alfarabi, 2014). Therefore, one of the indicators of successful development is the realization of changes in the economic structure. Changes in the economic structure can be seen from the decline in the contribution of the primary sector, followed by an increase in the contribution of the secondary (industrial) and tertiary (service) sectors remaining more or less constant (Martahadi, 2014). Tora Indri, Josep B kalangi (2022): In general, structural change is a transformation of the economy in a certain region; the transformation referred to is the shift from a traditional economic sector to a modern economic sector.

V. CONCLUSION AND SUGGESTIONS

5.1 Conclusion

1. There has been a transformation in the economic structure (the contribution of economic sectors to GRDP) in West Nusa Tenggara during 2014-2023 with a pattern different from "the Primary-Secondary-Tertiary" model of Chenery.
   a. The contribution of the primary sector to the Gross Regional Domestic Product of West Nusa Tenggara during the 2014-2023 period increased from 17.64 percent at the beginning of the period to 64.31 percent at the end of the observation period.
   b. The contribution of the secondary sector to regional production in West Nusa Tenggara experienced fluctuations, ultimately decreasing from 4.9 percent to 4.47 percent by the end of the observation year.
   c. The tertiary sector's contribution to creating regional production in West Nusa Tenggara increased from 77.39 percent at the beginning to 31.22 percent at the end of the observation period.
2. There has been a transformation in the structure of labor usage across various economic sectors in West Nusa Tenggara, due to the process of economic development with a transformation pattern different from the structural shifts proposed by experts such as Chenery and Syrquin (1974) and the pattern of economic structure and labor structure transformations proposed by Kuznets, That is, the ideal pattern is the "Primary-Secondary-Tertiary" transformation pattern. What happens in Nusa Tenggara is the "Primary-Tertiary-Secondary" transformation pattern. The first two years of observation showed that the P-S-T transformation pattern alternates every year, and by the fourth year, the same pattern was observed. But from 2018 to 2024, the pattern changed to P-T-S. This is made possible by the large number of workers absorbed in the traditional tertiary sector or in the informal sector.
   a. The role of the primary sector in absorbing the workforce has declined, from 43.13 percent at the beginning of the observation (2014) to 36.16 percent at the end of the period (2024).
   b. The role of the secondary sector in providing employment opportunities is becoming increasingly important. It appears to have declined from 29.09 percent to 16.41 percent at the end of the period (2024).
   c. The role of the tertiary sector in absorbing labor has increased from 27.78 percent (2014) to 47.43 percent (2024).
3. The comparison between the changes in the roles of each economic sector in creating the gross regional domestic product of West Nusa Tenggara and the changes in the roles of the main economic sectors in absorbing labor can be concluded that:

a. In the primary sector, relatively, changes in this sector's contribution to Gross Regional Domestic Product of West Nusa Tenggara are greater than the relative changes in its role in absorbing labor.
b. In the secondary sector, the relative change in creating regional production in West Nusa Tenggara is smaller than the relative change in its role in absorbing labor.
c. In the tertiary sector, the relative change in its role in creating regional production in NTB is smaller than the relative change in absorbing labor.

5.2 Suggestions

1. As a precaution against the accumulation of labor in the primary sector, which is generally located in rural areas, the development of rural-based industries can be carried out, with the hope that on one hand it can absorb the surplus labor, and on the other hand it can bring added value to agricultural (primary) products. So that in the end, it can better improve the economic conditions in the agricultural sector.
2. The development of agricultural technology, especially in areas with an excess labor force, should be directed towards labor-intensive technological innovations, so that the problem of excess labor in those areas can be addressed.

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