

Economic Structure and the Linkages Between Production Sector of Cluster Provincial of Northeastern in Thailand

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Abstract: The purpose of this study was to study the structure of the economy and the linkage of the field of production, especially the agricultural fields in the Northeastern provinces. This study shows the impact of economic activity on the basis of output in each province in all 5 groups of the Northeastern provinces in order to know the forward and backward links as well as impact on economic of the provinces, ability to add value and the income distribution in each field of production in the Northeastern provinces. From the study, it is found that production in the region still cannot meet the needs of people within the region; therefore, production is needed to be imported from outside the Northeastern region. The potential event in the Northeast is the field of electrical appliances and electrical equipment as well as Iron and Steel Industry. Most of the production fields and field of agriculture are in backward linkage. It means that the ability to add value and income distribution of production and agricultural field are not good enough and the development and improvement are needed to be focused, especially in the agricultural field. In addition, it is found that the economic in the group of the five cluster provinces are similar.

Key words: Economic structure, linkages, input output analysis, distribution, economic

INTRODUCTION

Thailand is a country that can produce food and agricultural products in the top ranking of the world. Moreover, products produced in Thailand are the need of neighboring countries as its qualification is acceptable. Therefore, the needs of product and service as well as demand for labors are increased. The production base in the industrial sector in the Northeastern region is increased as well because the lower Northeastern region can import products to the deep-water port in the East and then comfortably deliver to neighboring countries. This is the reason that the industry development and labors in Northeastern region need to be focused. In this region, it is an advantage location as the center of the GMS and the numbers of workers in the sector are many as this region has 23.7 millions for population which is counted as 34.6% of overall population for the whole country. The working age population is 13.6 million people or it is counted as 34.5% of the labor force in the country Office of the National Economic and Social Development Board which is the highest when comparing to other regions and it the capacity of the Northeastern region compared to its neighbors, the neighboring countries have lower standard

of production and low production value. In addition, the Northeastern region has high potential in agricultural production which is counted as 70% of the agricultural areas. In this case, 45% of the area is for rice farming followed by sugarcane, cassava, corn and rubber Office of Agricultural Economics field of agricultural sector which is considered the largest field and it is important for Thailand's economy.

Although, the agricultural sector is an important sector of the country, the farmers still have problems with poverty and economic inequality in the population, especially in the Northeastern region and it is accounted for 13.4% of the poor than any other region in the country (Office of the National Economic and Social Development Board and one of the occupational groups with the highest proportion of poor is the group of farmers. In addition, >85% of the farmers are unable to make a living in agriculture alone for a living. It is found that more than half of incomes are not from farming (Maxwell, 1986). From this situation, the majority of farmers need to evacuate from their villages to the city to search for works. Hence, there is integration of economic group in the regional level Northeastern region to manage and develop potential of the area by divided into proficiency zones for each

provincial cluster according to the segmented groups and it can be divided into 5 groups which are upper Northeast 1, upper Northeast 2, lower Northeast 1, lower Northeast 2 and center Northeast. The integration this time has the main purpose to develop potential of the resource usage in each field in order to make the most benefits for farmers to reduce the numbers of people who will evacuate from the area to find jobs.

The problem of farmers who evacuate to find new jobs reflecting that the incomes from agriculture is not enough to sustain their livings and the management on the income distribution is not efficient. Therefore, the study on the linkage on the production field in such areas is necessary in order to reflect the income distribution in each field of production in Provincial Cluster of Northeastern region by using IO theory is necessary. In the past study, it is found that IO can examine the linkage of production fields and capability to add more value in each field (Leontief, 1936; Lenzen, 2003). Mostly, the study will take place only between the industries (San Cristobal and Biezma, 2006; Kwak *et al.*, 2005; Raa and Rueda-Cantuche, 2007; Xing *et al.*, 2011) but there is not study to compare the economic integration group in regional sector. Therefore, this study is to study on the occurred linkage in each field of provincial cluster and to know the income distribution as well as the value added of production fields in the provincial cluster.

MATERIALS AND METHODS

In this analysis, the researchers applied analysis techniques using the input and output model. The advisory board brought the input output factor's table and outputs from 58 production fields from Bureau of National Accounts, Economic Development Board and the National Society 2014 and then adjusted as well as managed the production fields in order to match it with the gross domestic product's production within the provincial clusters. In this case, there are 47 fields of products from provincial clusters as well as input output factor's table. Then, the forward and backward linkages will be analyzed for each production field. After that the impact on the economic in income fields and employment will be analyzed by using the input output factor's table and outputs from 16 production fields from Bureau of National Accounts, Economic Development Board and the National Society in order to match with the data base for employment from the Provincial Bureau of Statistics and database investments from the Board of Investment.

In the second stage, the manufacturing group from input output table and 180 activities of Thailand's production are needed to be set up as the input output

table. And the 16 activities of Thailand's production, the integration of production activities will be managed in order to make from 180 activities into 16 activities. We used IO model for analysis on this study.

RESULTS

By analyzing of forward linkage and backward between one production field, it is found after considering the linkage by backward linkage of one production field that it can tell the importance of that production field by using middle stage of production factor from other upstream productions whereas the forward linkage of one production field will tell the importance of such production fields which is the one who input the products in the middle stage factor. In this case, such linkage, no matter it is forward or backward will have higher influence on production fields where there is low linkage level between other fields. The analysis can be presented as follows (Table 1).

Most of the production fields and field of agriculture are in backward linkage. It means that the ability to add value and income distribution of production and agricultural field are not good enough and the development and improvement are needed to be focused.

By analyzing output multiplier type I in production field, it can be seen that the fields that affect the economics of each provincial groups the most in the lower 1 are production of appliances and electrical equipment followed by steel and stainless steel industry and metal products. For the lower provinces groups 2 production fields that affect the economic in the provincial group the most are production of appliances and electrical equipment followed by production of appliances and electrical equipment and metal products. Upper 1 production fields that affect the economic in the provincial group the most are field of production of appliances and electrical equipment followed by field of steel and stainless steel industry and metal product. For the upper 2, production fields that affect the economic in the provincial group the most are field of steel and stainless steel industry followed by metal products field and machinery industry. For the middle provinces, production fields that affect the economic in the provincial group the most are field of production of appliances and electrical equipment followed by steel and stainless steel industry and other productions.

Table 1: Forward linkage and backward linkage indexes of each field of production in Northeastern regions group

Linkage	Upper 1	Upper 2	Center	Lower 1	Lower 2
Backward	25	27	27	28	26
Forward	22	20	20	19	21

Agriculture of provincial group: When considering only the field of agricultural production, it is found that the rice farming and rubber farming are the forward linkage in all 5 provincial clusters. It means that 5 provincial clusters have field of rice farming, rubber farming which can add value on the fields and they can distribute income to other fields. Moreover, the fields that are needed to be focused and needed to find guideline to add more values are corn farming, Dilichos Biforus farming and livestock as these groups are only backward linkage without any added values, so the income distribution is very less. The less income distribution has impact on the growth of economic in the Northeastern region as well.

DISCUSSION

This study examined the economic structure and the linkages, e between the manufacturing field, especially in the field of agriculture in the North-eastern provinces to now the ability to create added value and the distribution of income for each production branch in the Northeastern provinces. The study found that production in the region still cannot meet the needs of people within the region, therefore, production is needed to be imported from outside the Northeastern region. This result according with Pasinetti (1962) that distribution of income depend on growth of economics. The potential event in the Northeast is the field of electrical appliances and electrical equipment as well as Iron and Steel Industry. Most of the production fields in the provincial group are the manufacturing that supports the upstream inputs such as the field of electrical appliances and electrical equipment, the field of metal products, industry, iron and steel and the field of printing, etc.

However, there is still production sectors that has the ability to link forward and has ability to add value to other fields as well as distributing incomes for community which are industry, iron and steel, chemicals and chemical products sector, the electricity and gas and finance and insurance sectors. Likewise, in the field of agriculture is linked to the five provinces that are similar in their ability to create added value for our province which are fields of rice farming and rubber farming as these fields can deploy products to other products such as rice into flour, candy, etc. and the rubber can be processed into plastic bags, tires, etc. In addition, the fields that more attention is needed are corn farming, Dilichos Biforus farming and livestock as these groups are just to pull the inputs from upstream production without adding value to the balance. As a result, the distributions of income in these fields are lesser and it affects to the economic growth in Northeastern area. In this case, these fields shall be developed and linked forward with other fields in order to

create added value and income distribution as well as reducing the income problem of farmer. The result is that the farmers will be able to generate more revenue from their own agricultural products and do not evacuate to other residents which will lead to other problems later on.

CONCLUSION

For agricultural products, the potential economic impact on the province in the Northeast will have different looks as the Northeastern regional group has different capacities and areas to do agricultural planting. In this case, the agricultural products can stimulate the economy well in the lower provinces 1 and those fields are livestock and corn farming and groups of lower provinces 2 which are livestock, farm and fruit farming. For the upper region 1 are forestry and farm and orchard. And for the upper region 2, they are corn farming and vegetable and fruit farm. For the middle regions, corn farming and vegetable and fruit farm are done. From the above information, it can be seen that most of abilities of the agricultural products in the Northeastern region affecting the economic the most are corn farming and vegetable and fruit farm and special focus shall be done to promote and develop to make it better as they are good quality agricultural fields in the Northeastern region group of Thailand.

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