

Labor Productivity analysis in Lao PDR Case study: Garment, Furniture and food- beverage industry

**Khampheng KINGKHAMBANG, Bounmy INTHAKESONE, Neevanh SAYNAVONG,
Phoxay PHANHONKEO, Phonexay CHANTHATHAB & Khaysy SRITHILAT**

Abstract

Growth in labor productivity is crucial to economic growth and has an important role to increase worker incomes. As a result, this study has analyzed the level of labor productivity in three industries, such as furniture, food-beverage, and clothing industry, and studies of factors affecting labor productivity. The study found that only large textile industries with higher productivity and positive value were positive. Generally, manufacturing output is lower than that of manufacturing, with only large garment industry with higher labor productivity than zero, both in manufacturing, manufacturing and outside manufacturing. In addition, all three industries have a higher remuneration than average labor per capita per month, whether for production, manufacturing or outside production. But the small-scale food-beverage industry is characterized by lower labor productivity than labor-intensive remuneration, and the medium-sized garment industry is lower than the third-generation labor productivity of less than three times a month. Thus, the wage determination of these groups should be delineated so that it can provide an incentive to the labor force and increase the level of labor productivity. In addition, the government should focus on building a vocational training promotion and training program for Lao workers, as well as building labor productivity awareness among entrepreneurs, especially Lao entrepreneurs, in order to stimulate labor productivity.

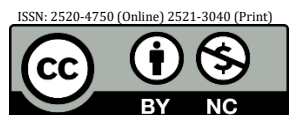


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About Author (s)

Khampheng KINGKHAMBANG (corresponding author), Faculty of Economics and Business Management, National University of Laos, Laos.

Bounmy INTHAKESONE, Faculty of Economics and Business Management, National University of Laos, Laos.

Neevanh SAYNAVONG, Faculty of Economics and Business Management, National University of Laos, Laos.

Phoxay PHANHONKEO, Faculty of Economics and Business Management, National University of Laos, Laos.

Phonexay CHANTHATHAB, Faculty of Economics and Business Management, National University of Laos, Laos.

Khaysy SRITHILAT, Faculty of Economics and Business Management, National University of Laos, Laos.

I. Introduction.

Labor productivity is an important tool in economic development, especially in human capital development. Promotion of labor productivity may be able to stimulate economic growth and reduce poverty. Thus, developing countries, including Lao PDR, have developed a number of policies to stimulate labor productivity, of which expenditures on education are not limited to education in the system, but also oriented on polytechnic system, training and so on, including research and development (R & D), which may stimulate growth in labor productivity in some levels. As the growth of labor productivity is another important factor in maintaining economic growth (Bervidova, 2002), the Government of Lao PDR, especially the Ministry of Education and Sports, has reformed education by encouraging and supporting the establishment of vocational schools in all provinces throughout the country. There are currently 64 vocational schools across the country (Ministry of Education and Sport, 2014). In addition to the policy of promoting vocational schools, the government has also introduced minimum wage laws and increased the rate from 26,000 kip (approximately US \$ 36) in 1991 to 900,000 kip (about US \$ 111) in 2015 (Ministry of Education and Sports, 2015). However, at the macro level, the productivity of Lao workers is still lower among the countries in ASEAN. APO (2015) shows that Lao labor productivity per working hour is about 8.4 in 2013 (using GDP at low prices for working hours or PPP in 2011, using 2013 as reference years), which is higher than the two countries, Myanmar and Cambodia. But in view of the rising rate of labor productivity in Myanmar, it is estimated that higher labor productivity in Lao PDR is about 381 percent from 1990 to 2013, while in Laos, only 163 percent increase over the same period (APO, 2013). From this issue, the Lao PDR may consider the low competitiveness of the economic system as well. Labor productivity research in Laos is limited, however there is work being done in the garment sector (UNIDO, 2003, Soukavong, 2004, Sakurai and Ogawa, 2005; Oraboune, 2005, Wongpit, 2006, Boupha, 2006). According to UNIDO (2003), even though the Lao garment industry has relatively low labor costs, it is not an advantageous factor or an interesting sector for foreign investors because the labor force in this industry is low-skilled labor and incompetent to work in a complex labor-intensive task. It doesn't matter if it's labor productivity or capital production. Furthermore, UNIDO shows the negative consequences of Lao garment exports following the termination of the Multi-Fiber Agreement (MFA) in 2005. Soukavong and the panel (2004), on the other hand, used the RCA model from such research to investigate the comparative advantage of the Lao textile sector sold to all ten ASEAN nations. Because Lao labor is low in skill and productivity, the garment sector in Lao PDR has a comparative advantage due to cheap labor costs, which is a primary reason for greater garment and textile exports and international investor interest. Sakurai, Ogawa and panel (2005) conducted a study of 21 garment manufacturers in the capital Vientiane, which represented for approximately 21.4 percent of total Lao industrial sewing. The survey results revealed that Lao labor was poor in productivity and skill. The report also recommends three reasons as the cause of labor productivity under skilled labor shortages, excessive absenteeism, and low worker retention. Although, there were some studies on productivities related to the productivities. But most of them were focusing on the garment industrial with a simple analysis technique, this study will employ primary models and quantitative models based on a geometric model to identify the factors influencing labor productivity in the Lao PDR, utilizing data from three industrial sectors: the garment industry, the food and beverage industry, and the wood processing industry.

II. Literature review.

The productivity of labor is reflected in the growth of the economy, through a variety of research found that the growth of productivity of labor is very important to develop economic (Steindel and Striroh, 2001) causes so because the rate of growth of productivity of labor

impacts significantly on production real gross product matches domestic which is to raise the standard of living of the people as such productivity labor therefore used as an indicator rate of growth of productivity in the country. Labor productivity is a matter that researchers have long been interested in, but the labor productivity was not measured by the strength of labor, but Zakharov, Sidorov and Smirnov (1977) said that the productivity of the labor force was not based on the strength of labor but it was dependent on a number of factors such as skills, capacity, experience and so on. In addition, the use of technology is another factor affecting labor productivity, with the exception of the three mentioned above, there are also many studies on labor productivity using the National Accounts Growth and Rendering Process to Control the Quality of Raw Materials (Jorgenson, Gollop, and Fraumeni, 1987, Jorgenson and Griliches, 1995). The main assumption behind this model is that examine the relationship between labor productivity and material or equipment intolerance, labor quality and other performance variables. In addition to the above-mentioned studies, some studies have found that labor productivity depends on quantity and quality of raw materials, efforts to develop corporate personnel and the use of technology, as well as factors affecting domestic and external markets (Covers, 1996, Mei Hsu and Been-Lon Chen, 2000). This is a two-factor process in manufacturing. The size of the plants, especially plants larger fisheries is expected to increase the productivity of labor, quality of labor better plants small, some research has suggested that the growth of productivity of labor largely depend on the characteristics of plants or organizations such as the type of owner plant, type of gender plant, the size of the plant, steam The composition and level of training of staff or investment in research and development (R & D), in addition also to pay rates and other factors that cannot be determined (Stigler, 1958; Evans, 1987; Aw and Hwang, 1995). In addition to the factors that have been mentioned, the fact that foreign-owned factories or foreign companies are an important factor as Aw and Hwang (1995) have said that the performance of a firm or exporting factory is better than a non-exported company, and there are also many studies that confirm that the company has the best operating results. However, the impact of foreign-born companies and foreign relations has many aspects, such as in the United States, exports do not have a positive effect on the company's performance (Bernard and Jensen, 1999). Kimura and Kiyota (2003) have discovered that export and foreign direct investment (FDI) is a catalyst for Japan's performance. Some research has explored the role of foreign companies affecting development in a number of countries, such as Globerman, Ries and Vertinsky (1994), used data from 1986 factories to study the relationship between labor productivity with foreign ownership and found that firms representing foreigners had higher labor productivity than domestic firms. In addition, studies of Aw and Hwang (1995) for Taiwan; Robert et al. 1995; For the United States; Robert and Tybout (1997) for Colombia. But some of the benefits of education have a different effect on the performance of local firms than foreign companies. Doms and Jensen (1998) used factory-level data to distinguish the characteristics of the factory, such as the overall productivity of the plant and the labor productivity of the labor market, compared to between home-owned factories and foreign-owned factories. The study found that foreign companies or factories had higher yields, higher concentrations and hiring higher rates. By used the size of the plant, the location of the plant and Change Control addition, they studied the differences between the characteristics of special factory foreign plants with the American plants, study found that plants with a joint venture to produce better, a bigger, stronger investment and more jobs at a rate higher than the results of such research they can conclude that the major problem is not dependent on a foreign company and depends on the characteristics of common stock. Ramstette (2003) have suggested that the relationship between company owners are foreign to the productivity of labor is relatively low in the case of Thailand, but nonetheless Hallward-Diremeir, Iarossi and Sokoloff (2000) confirmed that the company owners are foreign in the countries of East Asia is the action that the company does not have a foreigner

they use query level management from 1996 to 1998 in 5 countries in East Asia such as Indonesia, South Korea, Malaysia, Philippines and Thailand from The survey found that about 2,700 of the participants, then using the size of the plant, exporting to a change in control of the sector, the study found that factory owners are foreign products higher if compared to the factory owner is local within 4 all countries except South Korea. Studies in recent years indicate that factory owners are foreign not only features special better and grow faster as the productivity of production and profits, moreover with profit than not determines the characteristics and special ownership of the potential growth in the future (Kimura and Kiyota, 2004) Based on this study they remark that investors foreigners choose to invest in companies with no profits immediately but chose to invest in companies with the potential to grow and affect operations in the future. Foreign companies do not look for short-term companies, but they have studied long-term effects and stability. According to the review theory and research previously found that the size of the plants are the advantages and disadvantages of different; research previously tried to find parameters that plants larger or small to be less effective than based on theoretical economics micro particular theory economies of scale, this theory was presented that the plants should increase up to the average cost minimum under proper up place Acs and Audtresch (1990), Aiginger and Tichy (1991) stated that during the 1950s until 1970 theory that is accepted by economists and politicians until Burns & Dewhurst (1996) found that the small company and medium plays a very important role in developing the economy of the country, especially the least developed specifically as creating jobs the workers. So the government should promote the country's economy by focusing on small businesses (Harper & Soon, 1979). Many previous studies show that growth in production units is declining over time (Sutton, 1997), and Brron, along with the 1994 panel, show that the relationship between growth and growth rates is independent of each other, based on examples from the solitary industry and the hybrid industry. Many researchers found that the potential growth of unit production is very important in the beginning stages of assembly (Storey & Tether 1998; Delmar along with panel 2003), but however Reynold (1987) was the difference, which he said the old structure of the business is a small one of several factors that affect the capacity of the unit production and is part of creating jobs Furthermore, the new shows that business units are growing rate of growth than the business units doing business longer. The age of entrepreneurship is related to the business decision making process and the business performance. Development of human resources and training is a factor affecting the productivity of production units and is widely recognized in the development of the country's economy. Several previous studies have demonstrated the role and importance of human resource development and training factors (Mason and Finegold, 1997). At the enterprise level, the collection of information on productivity and human resource development is limited, especially on training information. However, studied by Black and Lynch (1996), which uses Cobb-Douglas's production policy to analyze human resource development in each of production units, they conducted a survey of about 3,000 business units in United States in 1993 and the results of the research show that plants with education average wage higher productivity higher, in terms of training study suggests that some plants trained to interact in a positive productivity but some plants are no results depending on the nature of the training, such as training in the workplace, Training outside the workplace. For non-industrial business units, the results of the study indicate that the training of using computer is affecting the overall production of the plant. In addition to investing in human resources development, investment in research and development has an impact on labor productivity, especially at the factory level. According to a number of previous studies, investments in research and development have a positive and statistically significant on labor productivity, with personal income rising by about 20 to 30 percent (Griliches, 1986, Cohen, 1995, Nadiri, 1993, and Mohnen, 1992). For Laos, the study of labor productivity is limited, but there is a study of labor productivity in the

garment industry (UNIDO, 2003, Soukavong, 2004, Sakurai and Ogawa, 2005; Oraboune, 2005, Wongpit, 2006, Boupha, 2006). For UNIDO (2003), although the Lao garment industry has relatively low labor costs, it does not mean that it is an advantageous factor and an interesting sector of foreign investors, because the labor force in this industry is low-skilled labor and incompetent to work in a complex labor-intensive task. Whether it is a labor productivity or capital production. In addition, UNIDO also demonstrates the adverse effects of Lao garment exports after the revocation of the Multi-Fiber Agreement (MFA) in 2005. However, Soukavong and the panel (2004) have explored the comparative advantage of the Lao garment industry exported to all 10 ASEAN countries using the RCA model from such studies to achieve the opposite direction. Because Lao labor is low on skill and low productivity, the garment industry in Lao PDR has a comparative advantage resulting from low labor costs and this is a major cause of the export more of garment, textile and it is interested of foreigner investors. Sakurai, Ogawa with panel (2005), the survey of 21 garment factories in the capital Vientiane, which accounted for about 21.4 percent of industrial sewing all Lao result of the survey showed that Lao labor was productivity and low skill, in addition The survey also suggests 3 factors as the cause productivity labor under the labor shortage of skilled, the rate of absenteeism is high and the rate of keep the labor is low.

III. Data and Methodology

3.1. Data.

This study uses the micro level information using questionnaires collected from three industries, garment, furniture and food-beverage industries in three provinces: Vientiane capital, Savannakhet and Champassak. By collecting, we can collect industry samples from 93 industries, which consist of 35 garment industries, 25 furniture industries and 33 food industries.

3.2 Model Specification

In the analysis of the value of labor-intensive microeconomics, the use of quantitative methods is used, especially in the analysis of factors affecting labor productivity using multiple regressions. Therefore, this study will start with the estimation of labor productivity from data from surveys in three industries and from three provinces in Lao PDR.

Average labor productivity can be estimated as follows:

$$APL = LVA/TMH_i \quad (1)$$

$$APLP = (LVA - PCOM)/TMH_i \quad (2)$$

$$APLNP = (LVA - NPCOM)/TMH_i \quad (3)$$

Where:

APL : Average labor productivity of all workers

LVA : The total value of labor (Kip / hour / person) equivalent to TR-TC (excluding costs)

APLP : Average labor productivity of labor in the manufacturing sector

APLNP : Average labor productivity of workers not in the manufacturing sector

Total revenue can be calculated as follows:

$$TR = TSAE + TSAM + TARM + REV + OTHR \quad (4)$$

Where :

TR : Total revenue of the industry

TSAE : Total sales of industrial output

TSAM : Total sales of output by other industries with contract production

TARM : Total sales of finished goods purchased and sold in preliminary condition
REV : Income from manufacturing products to other industries
OTHR : Other income related to industrial production

Costs can be calculated as follows:

$$TC = CRM + PCOM + CLE + CLN + PIPJ + PIPD + SADC + OTHC + SADC + NPCOM \quad (5)$$

Which:

TC : Total cost of production (excluding labor cost)
CRM : Cost of raw materials and other materials
PCOM : Total cost of salary, wages, overtime, welfare and expenses paid in the manufacturing sector (excluding foreign workers)
CLE : Labor costs paid to the contracted industry and others
CLN : Cost or cost of production
PIPJ : Productivity value at the beginning of the period is on 1 January in the year of study
 (if any)
PIPD : Productivity value at the end of the period is on 31 December in the year of study
 (if any)
OTHC : Other production costs, other than those mentioned above
SADC : Cost of sales and management
NPCOM : Total cost of salary, wages, overtime, welfare and expenses paid to non-manufacturing workers (excluding foreign workers)

Working hours can be calculated as follows:

$$TMH_i = N_i (RWH_i + OTIM_i - ABS_i - CHD_i) \quad (6)$$

By:

TMH_i : Working hours included
N : All workers are hired
RWH : The number of hours worked per calendar year
OTIM : The number of hours worked during business days and holidays
ABS : Number of days of absence of workers or employees other than legal holidays
CHD : The number of legal holidays per year generally at least 13 days a year
i : Are workers in the manufacturing and non-manufacturing sectors?

After we calculate the productivity of labor, we can analyze the factors affecting labor productivity:

$$PAL = FIXAS^\alpha VARAS^\beta e^{X_i} \quad (7)$$

By X_i Factors affecting labor productivity, logarithm into two parts, and can write new models:

$$\ln(APL) = \beta_0 + \beta_1 \ln(FIXAS) + \beta_2 \ln(VARAS) + \beta_3 OPER + \beta_4 PROED1/L + \beta_5 PROED2/L + \beta_6 MANED1/L + \beta_7 MANED2/L + \beta_8 TYPE + \beta_9 INDUSTRY \quad (4)$$

By:

APL : Labor productivity of the sample industry, derived from the average wage of labor (kip / hour / person)\
COM : Workers' Compensation (kip / hour / person)
FIXAS : Fixed assets (including land values and industry value)

VARAS : Revolving assets (include the value of machinery and equipment used in the manufacturing process, in research and development, and in the office, and in the value of vehicles and other assets in the business)

OPER : Number of years in operation

PROED1/L : The proportion of workers or staff in the manufacturing sector with the primary and secondary education levels for all workers

PROED2/L : The proportion of workers or staff in the manufacturing sector with the level of education in the polytechnic, bachelor and higher levels of education for all workers

MANED1/L : The proportion of workers or employees not in the manufacturing sector with the primary and secondary education levels for all workers

MANED2/L : The proportion of workers or employees not in the manufacturing sector with the education in the polytechnic, bachelor and higher levels of education for all workers

TYPE : The nature of the operator is equal to 1 if the investor is 100% Lao investor and has the same amount of 0

INDUSTRY : Type industry equals 1 if the garment industry and other value 0

$\beta_1 \dots \beta_9$: Coefficient to be estimated

IV. Results and Discussion

4.1 Sample Selection

From the survey, industry samples were mostly from business units operating in Vientiane capital, covering more than 50 percent of the total sample, especially the garment industry, accounting for more than 35 percent of the total industry (Table 1). Of the 31 garment factories operating in Vientiane capital, the sample industry from Champasak province was collected less than the sample from other provinces. As a result, Vientiane Capital is a country's economic hub, with a lower production factor than other provinces, with convenient infrastructure and convenient access to markets in other provinces. Thus, industrial units, especially the garment industry, operate in Vientiane capital over other provinces in the country.

Table 1: Sample industry

Province	Furniture		Food		Garment		Fotal	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
Champasak	6	24	6	18.2	2	5.7	14	15.1
Savanhnakheth	11	44	14	42.4	2	5.7	27	29.0
Veintiane capital	8	32	13	39.4	31	88.6	52	55.9
Total	25 (26.9)	100	33 (35.5)	100	35 (37.6)	100	93 (100)	100

4.2. The size of the sample by industry

In analysis example industry, most furniture and food industries are small, with between 1 and 19 workers (Table 2). But in contrast to the garment industry, the bulk of the labor force is over 100 workers, accounting for more than 80 percent of the total cut-off industry. Because the example garment industry is primarily a manufacturing industry for export and possibly an industry that operates in the form of a single limited company, it is largely due to the large financial capacity to expand its operations to meet international demand. But if we look at the overall figure, this sample industry is mostly small, accounting for about 44 percent of the sample. Because the furniture and food industry in Lao PDR is still a family-based industry, most of them are small.

Table 2: The size of the sample industry

	Furniture		Food		Garment	Total		
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
Small (1-19)	22	66.7	19	76	0	0	41	44.1
Medium (20-99)	8	24.2	4	16	6	17.1	18	19.4
Large (> = 100)	3	9.1	2	8	29	82.9	34	36.6
Total	33	100	25	100	35	100	93	100

4.3. The location of the sample industry

Example industry more than 70 percent are located in industrial shown in (Table 3), that could mean that the industry might not be comfortable doing business like industry located in industrial and may make the cost of production may be higher, which may affect the productivity of labor industries.

Table 3: The location of the sample industry

	Furniture		Food		Garment		Total	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
In industrial zone	8	24.2	6	24	11	31.4	25	26.9
Outside industrial zone	25	75.8	19	76	24	68.6	68	73.1
Total	33	100	25	100	35	100	93	100

4.4. Model of the sample industry

Most sample industries have a single model of operating alone, which accounts for up to 70 percent (Table 4). The furniture and food industry accounts for a very high percentage, so the two industries are as small as analyzed above. Noteworthy is that the garment industry has not small number of businesses with a limited liability company, accounting for about 37 percent of the total simple garment industry.

Table 4: Model of the sample industry

	Furniture		Food		Garment		Total	
	Frequency	Percent	Frequency	Percent	Frequency	Percent	Frequency	Percent
Owner alone	30	90.9	21	84.0	14	40.0	65	69.9
Joint venture	0	0	1	4.0	8	22.9	9	9.7
Company Limited	3	9.1	2	8.0	13	37.1	18	19.4
Other	0	0	1	4.0	0	0.0	1	1
Total	33	100	25	100	35	100	93	100

4.5. Descriptive Statistic

After checking the data to see the unusual information and use logarithm to facilitate the description of the factors that affect the labor productivity in the industry of Laos that the data can actually model total 85 factories and no unusual or as basis of statistics, and details of the independent variables and variables such as the average value, standard deviation values , minimum and maximum values are shown in (Table 5) below:

Table 5: Descriptive Statistic

variable	Number	Average	Standard deviation	Minimum	Maximum
Ln(APL)	85	3.521	0.852	0.693	4.477
Ln(FIXAS)	85	21.391	1.653	17.088	24.913
Ln(VARAS)	85	21.411	2.538	15.598	28.254
OPER	85	12.423	7.711	1	27
PROED1/L	85	0.962	0.341	0	0.985
PROED2/L	85	0.039	0.094	0	0.6
MAED1/L	85	0.074	0.103	0	0.588
MAED2/L	85	0.074	0.085	0	0.4
TYPE	85	0.635	0.484	0	1
INDUSTRY	85	0.376	0.487	0	1

In order to ensure that the results of the regression are not distorted or clear and that it is closer to reality, this study examines the relationship between independent variables. (Multicollinearity problem) And from the results of the audit (Correlation Matrix). Generally it is showed that the relationship of the variants is in principle or, in other words, there is no problem of the self-reliance of independent variables, due to each independent variable has no relation of 0.7. The results of analyzing data with the least number of methods are shown in the (table 29) from the results rather than the value (Adjusted R-squared) equal 0.359, Depending on the characteristics of the data; this result demonstrates that independent variables can explain well variables. (Woodridge, page 62), At the same time F-test value equal 6.23 and P-value equal 0.0000, This shows that the result of the estimated regression can be statistically applied in a 99 percent confidence level. In addition to the above statistics, it is to confirm the accuracy of the expected results and to confirm T-statistics value The researchers have found true statistical confidence, this study also examines the probability of change in error or problem (heteroskedasticity) Using the method of (Breusch-Pagan and Cook-weisberge test) can see the value Chi² (9) =13.521 and P-value value equal 0.144, That shows that we cannot deny the zero assumption (H₀) or In other words, there is no problem (heteroskedasticity).

4.6. Results of OLS regression

In the regression model (Table 6) shows that factors that affect statistical labor productivity in 3 sectors industry in Laos, especially in Vientiane capital, Savannakhet and Champasak province is the revolving assets, the ratio of labor or employees in the division of the manufacturing sector that there are education level in polytechnic, Bachelor and higher levels of employment, characteristics of entrepreneur and type of industry; factors that do not have a statistically significant impact on labor productivity in Lao PDR are fixed assets, number of years in operation, percentage of labor or employees in the manufacturing sector there are education level with primary and secondary education levels for all labors,. According to (Table 4) shows that revolving asset factors are linked to labor productivity in the opposite direction and statistically significant with a 95% confidence level, which means that the asset is up 1%, labor productivity will fall 0.11%. The reason is that the increase in the revolving assets is the result of the increase in raw materials and, in general, the increase in raw materials to increase production, thereby labor productivity or remuneration for working hours increase. In the sample industry, however, labor productivity or remuneration for working hours does not increase or decrease, probably due to labor in the sample industry has low quality of work. The factors of proportion of labor or employees in the manufacturing sector that there are levels of education, polytechnic, bachelor and higher levels are linked to labor productivity and statistical significance with a 99 percent confidence level. This means that the proportion of labor or employees in the manufacturing sector that there are levels of education,

polytechnic, bachelor and higher levels of total labor increases, the proportion of labor productivity decrease 21.83 percent, From the results of this study are incorrect and not theoretical, but the industry is more labor-intensive, and mostly in these industries, the labor force is relatively low education and accounts for more than 95 percent of the total labor force. As a result, labor productivity is mainly attributable to a portion of the labor force. The causes of lower productivity may be that high-skilled labor do not fully exploit their skills, or may be due to a lack of knowledge of what is currently being done. Factor of entrepreneurial nature or, in other words, the business owner is having a positive or even positive relationship with labor productivity and statistical significance with a 95 percent confidence level, That compares labor productivity of business units that entrepreneurs is Lao will higher labor productivity of business units entrepreneurs who are foreigners or about 0.5 times, because mostly industries that the respondents consumed inside and owners of Lao have more than foreigners. In addition to the three factors above, industrial factors are also one of the factors contributing to the same direction in terms of labor productivity and statistical significance with a 99 percent confidence level. In terms of comparing the garment industry to the food processing industry and the furniture industry, it shows that the garment industry will have labor productivity more than two industrial. Compared to 1.13 times, this may be due to the fact that the garment industry is a highly industrialized and requires highly skilled labor. For factors that affect the statistics of labor production in Laos are fixed assets, number of years in operation, the ratio of labor or employees in the division of manufacturing sector there are level education in primary and secondary on the whole labors, the proportion of labor or employees that non in the manufacturing sector has level education in primary and secondary on total labors and rate of labor or employees that non in the manufacturing sector has level education, polytechnic, Bachelor and higher levels of employment, but if you look at the economy the mark and relationship is a theoretical and means in economics, causes no means the statistics may come from a sample of relatively small and the characteristics of each industry.

According to the results of the overall labor productivity in 3 industry sectors in Laos, especially in Vientiane capital, Savannakhet and Champasak province are relatively low, it showed that increase of revolving assets, in addition to the labor productivity is industry intensive better samples industry that reflect the level of education or quality of labor in Laos is relatively low and foreign-owned enterprises are not the main factors in promoting labor productivity in Lao PDR.

Table 6: Results from the model

Variable	Coefficient	Standard error	T-statistic value
CONS	1.755	1.337	1.313
Ln(FIXAS)	0.081	0.054	1.500
Ln(VARAS)	-0.115**	0.043	-2.674
OPER	0.003	0.011	0.273
PROED1/L	0.524	0.274	1.912
PROED2/L	-21.837***	6.761	-3.230
MAED1/L	0.077	0.645	0.119
MAED2/L	0.851	1.036	0.821
TYPE	0.475**	0.213	2.230
INDUSTRY	1.133***	0.228	4.969
Number of sample groups			85
F(9,75)			6.23
R-squared			0.427
Adj R-squared			0.359

Note: (**) is 95% confidence level, (***) is 99% confidence level.

V. Conclusion.

Labor productivity has been recognized as one of the most important and crucial indicators of economic development in the world, so labor productivity upgrades are needed in the country's development process to increase production productivity, which will pave the way for economic growth and sustainable income generation in the country. As a result, this study has analyzed labor productivity levels in three industries, such as furniture, food-beverage and garment, to measure the range of labor productivity and factors affecting labor productivity. The study found that the small furniture and food-beverage industries have higher labor productivity than the medium and large, the garment sector is the opposite, larger than the medium and higher value. Comparing labor productivity between the manufacturing and non-manufacturing labor force, manufacturing output is lower than that of manufacturing, at least three times the proportion of manufacturing labor productivity. Only the large textile industry has higher labor productivity than zero, both in manufacturing, manufacturing and outside manufacturing, and in manufacturing, manufacturing output is 17.9 times higher than manufacturing productivity. This may be due to the fact that the large garment industry mainly operates more than 50 percent of foreign and foreign companies, making foreign employment outside the manufacturing sector, mostly foreign workers, who are more experienced and more knowledgeable than Lao workers in the manufacturing sector. Additionally, when comparing labor productivity levels with labor remuneration, it shows that the three industries are more likely to have higher compensation labor than labor productivity average labor per person per month, whether it is manufacturing labor sector and outside manufacturing labor sector in three industrial sizes. However, there is a small food-beverage industry that there is labor productivity manufacturing labor sector lower than the average labor wage, and the medium-sized that there is labor productivity outside manufacturing labor sector lower than compensation labor of less than three times a month. This means that the manufacturing labor sector and outside manufacturing labor sector in the industry works more than the remuneration received in a month. The results of the study found that factors affecting the productivity of labor in 3 sectors industry in Laos, especially in Vientiane capital, Savannakhet and Champasak province is asset rotation, the ratio of labor or employees in the manufacturing sector there are level of education in polytechnic, Bachelor and higher levels, characterise of entrepreneurial and type industries, from sample industry overall labor productivity in Laos lower. It shows that the increase of the revolving assets, the level of education not affect positively enhancing the labor productivity. In addition, labor-intensive is better than other sample industries, this reflects the low level of education or quality of labor in Lao PDR, and foreign-owned enterprises are not the main factors in promoting labor productivity in Lao PDR.

This problem may cause labor not enthusiastic to work and may lead to lower labor productivity levels, so the wage setting of these groups should be considered to be more incentive for workers to cope with and increase the level of labor productivity. In addition, the government should focus on building a professional training and training program for Lao workers, as well as creating labor productivity awareness for entrepreneurs, especially Lao entrepreneurs, to actively stimulate labor productivity. From the results of study is showed that, education does not have a positive impact on the development of labor productivity, so building human resources in terms of the job, in other words, creating vocational chapters is something the government should pay special attention to. In addition, the study also shows that foreign entrepreneurs are not the main factors in promoting labor productivity in Lao PDR. Therefore, promotion of domestic production or the creation of a people-oriented enterprise is vital and will play a role in the future development of the Lao PDR industry.

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