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Unemployment Crisis Management in Cambodia*

- Employment Promotion in the Service Sectors -

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Abstract

This paper explores the potential effective policy inputs to promote formal employment in the Cambodian service sector labor market. It is argued that the current literature places much emphasis on the support policies to stimulate job creation. Since employment is determined by the labor transaction of demand and supply, this paper brings the wage and productivity factors into consideration and demonstrates a combined effect from all the factors in determining the employment rate. Five models of multiple regressions are run by subsequently inserting variables of various factors drawn from literature into a regression equation. Using data in Cambodia Enterprise Survey 2007, it is found that employment is positively and significantly determined by the growth in labor cost(including wage, bonuses, and social payments). As a recommendation, this paper brings more attention to the benefits of a minimum wage policy in promoting formal employment in the Cambodian service sector.

Key words: service employment, labor supply and demand, minimum wage, cambodia

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I. Introduction

The Cambodian economy has been growing by about 7 percent annually. The growth has brought about rising levels of private consumption in terms of food, appliances, care, and entertainment, which in turn have spurred business establishment and job creation. However, the created jobs do not seem to be meeting the demand of the labor force. According to the Labor Force Survey(ILO, 2013), it is estimated that three hundred thousand Cambodians enter the labor market every year. This influx of workforce has saturated the economy, which is projected to generate only 70 thousand jobs per year.

Despite this imbalance in the labor supply and demand, unemployment is not an issue since in Cambodia most people get employed in the informal economy, which entitles them to little benefits and few opportunities for development. While informal employment is not always negative, its prolonged and widespread existence can stall the economy, and can eventually generate discontent among the working class. Recently, the issues of informal employment and the lack of formal employment have erupted into the socio-political sphere; they now require immediate intervention to appease the anger from the people who have been taking to the streets. We believe that 'the transformation of the structure of employment'(Muqtada, 2012) is the most important economic policy to help Cambodian labor forces to escape poverty and to find a path towards prosperity.

Formal employment is a means of distributing economic growth, although contextually, some jobs are more significantly contributive to development than others(World Bank, 2012a). Given Cambodia's economic status, formal employment exists mainly in the urban industrial sector. The manufacturing industry is dominated by the garment and footwear industry, which employs about 1 million workers and accounts for almost 80 percent of the country's industrial exports. On the other hand, the service industry is driven by tourism, construction, and the emerging financial sector. The rising number of international visitors to Cambodia, along with the country's rapid urbanization, have accelerated investment and the demand for loans. Together, these sectors absorb about 800 thousand laborers(ILO, 2013) and are progressively growing in proportion in the Cambodian GDP.

Relatively speaking, there are three key reasons the service industry is particularly promising for Cambodia's development. First, at a time when more and more labor migrants are seeking employment in non-agricultural economic areas, Cambodia substantially lacks the convenient infrastructure and reliable public utilities(electricity) to accommodate the diverse manufacturing industry. Worse, the leading manufacturers(in the garment industry) have become increasingly

notorious for bad labor relations. Second, the Asian Development Bank found that service sector growth had emerged as an engine for inclusive growth in Asia(Park, 2013). The Bank recommends support policies to develop this sector, as its growth is positively correlated with employment, the income per capita, education attainment, and gender beneficiaries. Finally, many unfulfilled job vacancies in the Cambodian labor market are in the service sector. According to the National Employment Agency, there were 35,976 jobs between 2010 and 2012, but only 19 percent were applied for(CDRI & RUPP, 2013). Filling those positions will not only increase the formal employment rate, but it could also benefit the economy.

Considering the significance of development job(World Bank, 2012a), the necessity to transform the employment structure(Muqtada, 2012), and the importance of service sector growth(Park, 2013), this paper attempts to explore the potential effective policy inputs to promote formal service sector employment in the Cambodian labor market. Using data drawn from the Cambodia Enterprise Survey 2007(World Bank, 2007), this paper utilizes a multiple regression analysis to identify the major determinants for service employment. Based on the results, recommendations are made for an employment policy input.

The rest of this paper is organized into 5 sections as follows: section 2 reviews the literature pertaining to job creation. Employment theories are considered in section 3. Section 4 covers the modeling, data source, and analytical approach. Section 5 presents and discusses the results of the multiple regression. Finally, section 6 provides a conclusion and offers some recommendations based on the findings.

Ⅱ. Literature

With regard to employment, the current literature places much emphasis on the role of entrepreneurship and the necessity to enable business environments that support business startup and growth.

Gibcus, *et. al.*(2006) utilized an empirical method to examine the growth of startup firms in the Netherlands. They reviewed the literature on strategic management and entrepreneurship, and listed several types of resources having an impact on the growth of SMEs, including human capital, entrepreneurs' social capital, financial capital, the structure of the company, and market conditions. From that listing, the authors developed a multi-dimensional model to assess the growth(in terms of the number of workers). That model included variables from a market/industry

dimension, entrepreneurial/managerial dimension, and firm-specific dimension. The results from this study showed that growth can be explained by determinants including unfulfilled needs, previous management and sector experience, a partner with a share, growth objectives, and networking.

Brown, *et. al.*(2004) studied how policies affected the growth(in the number of employees) of small firms in Romania. They used a survey to collect managers' opinions on growth constraints, and classified those constraints according to four factors, namely, human capital, technical assistance, finance, and business environment. Following that, they verified the objectiveness of the responses by testing them in an empirical model. They used a multivariate panel framework to investigate the effects of those constraints on firm growth, and the results provided strong evidence that loans were an important factor in stimulating the growth of small startup firms in Romania.

In its World Development Report, the World Bank(2012a) suggested a 3-step approach to designing government policies facilitating private sector job creation. The first step is called fundamental. This covers a broad policy environment including macroeconomic stability, an enabling business environment, human capital accumulation, and a rule of law that restores confidence and encourages investment. At the second stage, the government formulates good labor policies to enhance the development payoffs from jobs. The policy empowers workers with rights, without clogging job creation in functional cities and global value chains. Finally, this approach also motivates the government to identify specific problems hindering the growth of particular development jobs and to implement strategic policies to contain, offset, or engage the hindrance.

Overall, the existing literature emphasizes the role of the government in creating an institutional and political environment facilitating private sector job creation. As it creates a demand for labor, an enabling institutional and political environment is also necessary to stimulate employment in Cambodia. However, even though current efforts are very useful, we believe that paying attention mainly to the demand side provides an incomplete perspective.

III. Theory

In labor economics, employment is determined by the labor transaction between the supply and demand sides of the labor market. In order to recommend an effective policy, it is necessary to incorporate the supply side perspective.

The reservation wage theory(Wikipedia, 2013) explains the lowest wage demanded by a worker in exchange for labor supply for a particular type of job. If it involved the same type of work and working conditions as a higher-paying job in the field, a reservation wage worker would likely turn down a job if that job were paid a lower wage rate.

According to an IMF working paper, the concept of reservation wage is mainly used to model the job search theory and labor supply decisions which explain one's transition from non-employment to employment(Prasad, 2003). In India, a minimum wage was introduced by the government in the formal economy in order to raise wage expectation(the reservation wage) in the informal economy. The aim was to make all jobs with the appropriate wage rate attractive(Kazandziska, 2011).

Explaining wage and employment from the labor demand side, the profit-maximizing theory posits an employment model in which the wage corresponds to the marginal productivity of labor(Speckesser, 2011). A firm's profit is measured by the sum generated from the sale of its goods minus the costs of its production factors(capital and labor). In the production function, the profit-maximizing firm determines the optimal level of production at which a marginal worker's contribution to profit is equal to that worker's wage.

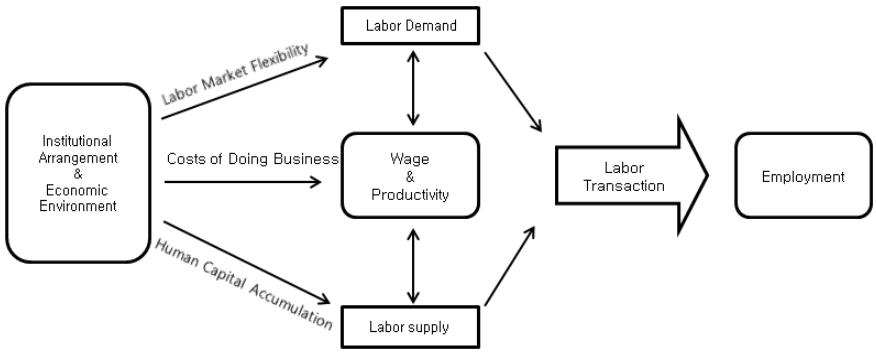
Taking into account both the supply and demand side perspectives, the efficiency wage theory argues that the wage is not always aligned with the marginal productivity of the worker(Speckesser, 2011). In a competitive market, the employer pays higher-than-market wages to motivate workers to avoid 'shirking' and to also extract the most from its workers(productivity).

Regardless of whether the wage is set to maximize profit through marginal productivity or to motivate workers and avoid 'shirking', 90 percent of countries(Herr, *et. al,* 2009) have a statutory minimum wage to ensure 'decent' living for wage earners, as recommended by the ILO convention 131(Kazandziska, 2011).

The minimum wage is a controversial policy that has been proven to have contradictory effects by various studies. While neoclassical theorists strongly oppose this policy tool by relating it to a negative employment effect(Kazandziska, 2011), institutional(Kaufman, 2010) and Keynesian economists(Herr, *et. al.,* 2009) have underlined its significance in protecting workers and stimulating an aggregate demand for goods and services in the market.

In Cambodia, the productivity and wage deserve as much attention in the political agenda as the institutional and macroeconomic environment, given that the country is plagued with a skill shortage(World Bank, 2012b) as well as uncompetitive(unattractive) labor compensation(Bruni, *et.*

al., 2013). In short, we believe that in promoting service employment in Cambodia, policy makers have to take into consideration the institutional and macroeconomic factors as well as the productivity and wage of the workers.



<Figure 1> Conceptual Framework

In this paper, we examine 3 factors in the Cambodian institutional and economic environment – namely, the labor market flexibility, the costs of doing business, and the human capital accumulation. These are areas of concern identified by employer associations(CAMFEBA, 2014), development partners, and academia(CDRI & RUPP, 2013).

IV. Modelling, Data Source, and Analytical Approach

Based on the conceptual framework above, this research assumes that 12 variables have an impact on service employment in Cambodia. 5 multiple regression models are run using the variables in table 1, and the analysis is approached by subsequently inserting the various determinant factors into the constant effect of the control variables on employment.

$$y = b_0 x_0 + b_1 x_1 + \ldots + b_i x_i + e$$

Model 1: to estimate the effects of service firms' characteristics on service employment

Dependent variable = y = service employment

Control variables = x1= firm type

= x2= firm size

= x3= firm location

Model 2: to observe the labor cost(including wage, bonuses, and social payments) and productivity effects on service employment

Independent variables = x4= labor cost
= x5= productivity

Model 3: to examine the effects of human capital accumulation on service employment

Independent variables = x6= university education
= x7= skill shortage

Model 4: to assess the effects of labor market flexibility on service employment

Independent variables = x8= fixed duration contract
= x9= employment flexibility

Model 5: to estimate the effects of the Cambodian cost of doing business on service employment

Independent variables = x10= firm-offered training
= x11= business permit obstacle
= x12= corruption obstacle

By subsequently inserting the variables of the various factors into the regression model, it is hoped that the effect of each factor on service employment can be observed separately as an individual factor, and relatively as a combined determinant. The change in the coefficient of the variables and significance of the models as well as the variables could imply a result that is interpretive to this paper.

The multiple regression in this study is run using data from the Cambodia Enterprise Survey of 2007. The surveyed data contains information about the manufacturing industry as well as the service industry. In order to be consistent with the research framework, our analysis has to omit the data from the manufacturing industry and other unspecified firm types(coded 404 in the questionnaire). This exclusion reduces the total sample from more than 500 enterprises to 289 service enterprises. The service industries in this paper are identified as 1) wholesale(including export services), 2) retail, 3) hotel and restaurant, 4) other services(travel agencies, tour operators, etc.), 5) construction, 6) transport, and 7) IT.

With the exceptions of service employment, the labor cost(including wage, bonuses, and social payments), productivity, and the three control variables, all other variables are taken just as they

are given in the original survey(World Bank, 2007). First of all, the productivity variable needs to be calculated as there is no report of the workers' productivity in the original data set. In this research, the productivity is simply measured by dividing the labor cost by the number of workers.

<Table 1> Variable Definition

Variable	Measurement and Data Type
Service Employment	ln(q122a_10)_(interval)
Labor Cost	ln(q120_7)_(interval)
Productivity	ln(q120_5/q122a_10)_(interval)
Skill Shortage	How problematic is "skill and education" of available workers?(ordinal)
University Education	What % of the workforce have "up to universities & institutions?"(ratio)
Firm-offered Training	Do you offer formal(beyond the job) training to your permanent employee?(yes/no_nominal)
Business Permit Obstacle	How problematic is "business licensing and operation and growth of firm?(ordinal)
Corruption Obstacle	How problematic is "corruption" for operation and growth of firm?(ordinal)
Fixed Duration Contract	What proportion of your workforce is on "fixed duration contact"?(ratio)
Employment Flexibility	If you could change the number of regular full-time workers you currently employ without any restrictions, what would be your optimal level of employment as a % of your existing workforce?(e.g..90% = reduce workforce by 10%, 110% = expand by 10%)
Firm Size	How many regular employees did this firm have in 2006?(ordinal)
Firm Location	Where is your firm's operation?(nominal)
Firm Type	What type of service represents this firm's greatest share of sale?(nominal)

In addition, two variables – namely, the firm location and the firm type – need to be changed into dummy variables. The coding of these two variables is regarded in this research as nominal data, as the different response choices are weighted equally. In order to avoid a dummy variable trap, therefore, the firm location is converted into 5 dummies: Battambang, Siem Reap, Phnom Penh, Kampong Cham, and others. In the regression analysis, the fifth dummy(others) is dropped for the comparison. Similarly, the firm type is turned into 4 dummies: trading firm(whole and retail), tourism-related firm(hotel & restaurant and tourism service), production firm(construction), and distribution firm(IT and transportation). In the regression analysis, the trading firm is dropped for the comparison.

Finally, it is necessary to convert the three exceptional variables, i.e. service employment, labor cost, and productivity, into natural logarithms as they are reported in terms of number of workers and amount of money. In other words, they are represented as interval data whose figures, in this data set, are composed of 7 digits. Compared with the other variables, which are represented as nominal and ordinal data, the three exceptional variables are incompatible with a comprehensive

statistical analysis. For this reason, they are turned into natural logarithms.

Ⅴ. Findings and Discussion

1. Pearson Correlation

To begin with our correlation analysis, a Pearson Correlation is conducted in an attempt to investigate the interrelationships among the observed variables. Their coefficients are reported in a correlation matrix, along with the statistical significance level. Among the 13 variables, service employment is a dependent variable, while the firm size, firm type, and firm location are control variables. The rest are independent variables. The variables which have a significant correlation are denoted with (a) star(s).

According to the table, service sector employment in Cambodia is correlated with labor cost and productivity, fixed duration contracts, and three other control variables. In addition, there is a positive correlation between the labor cost and productivity, suggesting that productivity growth drives wage growth.

University education does not have a significant correlation with service employment, but it has positive associations with labor cost, productivity, and skill shortage. This suggests that a growth in the percentage of workers with university degrees could contribute to a growth in the labor cost and production. Regarding skill shortage, the positive correlation supports the literature complaining about the lack of quality and inconsistency of university programs with market skills.

Firm-offered training is included as a variable to examine whether or not employers reduce their number of workers if they spend part of their income on training programs. The result does not prove this assumption, although it illustrates negative correlations with the labor cost and university education. It could be deduced that when employers provide training to workers, they tend to reduce the benefits offered to the trainees, and they might not need to hire workers with a university education.

The employment contract is an important variable in this analysis. Based on the result of the Pearson correlation, a fixed duration contract is positively correlated with service sector employment, labor cost, and university education. It could be inferred that when employers sign a fixed duration contract with their workers, they generate employment and add labor costs to their firm. However, employers expect to hire workers with a university degree.

A positive correlation also appears with the firm type. The table displays four variables: service employment, labor cost, university education, and fixed duration contract, all associated with service firms. This positive result corroborates the ADB's finding about the service sector as an engine for growth.

The firm size is positively correlated with service sector employment, labor cost, productivity, and fixed duration contract. However, the coefficient between the firm size and labor cost is particularly high: 0.75. This brings suspicion of a multicollinearity problem. Thus, the two variables must be approached with caution when conducting a multi regression analysis.

<Table 2> Pearson Correlation

	Service Employment	Labor Cost	Productivity	Skill Shortage	University Education	Firm-offered Training	Business Permit Obstacle	Corruption Obstacle	Fixed Duration Contract	Employment Flexibility	Firm Type	Firm Size
Service Employment	1											
Labor Cost	.844**	1										
Productivity	.172**	.418**	1									
Skill Shortage	.071	.109	.073	1								
University Education	-.098	.136*	.309**	.170**	1							
Firm-offered Training	-.079	-.134*	-.051	-.095	-.173**	1						
Business Permit Obstacle	.111	.089	.073	.192**	.089	-.040	1					
Corruption Obstacle	.060	.077	.096	.265**	.094	-.085	.095	1				
Fixed Duration Contract	.282**	.306**	.078	-.067	.120*	.017	.047	.087	1			
Employment Flexibility	-.096	-.020	.086	-.080	.029	-.086	.087	-.116*	.046	1		
Firm Type	.163**	.190**	.002	.047	.205**	-.022	.007	.073	.119*	-.078	1	
Firm Size	.864**	.758**	.217**	.076	-.082	-.089	.086	.051	.243**	-.045	.083	1
Firm Location	-.200**	-.152*	-.047	.002	.025	-.107	-.027	-.097	-.119*	.030	-.031	-.159**

※ *: Correlation is significant at the 0.05 level(2-tailed), **: Correlation is significant at the 0.01 level(2-tailed)

However, we confirmed through collinearity statistics that even though the correlations between some independent variables were significantly strong, their associative influences did not violate

the statistical assumption, as the VIF figure peaked at 4.29. Therefore, we were reassured that this regression model is valid.

Finally, the firm location demonstrates a negative correlation with service sector employment, labor cost, fixed duration contract, and firm size. Since this study regards firm location as a nominal variable(categorical data which has an equal value), the significant coefficient in the correlation analysis is not interpretive at this stage.

2. Multiple Regression Analysis

A multiple regression analysis is used in this research to estimate the relationship between service employment and its determinants. Since the study aims to investigate the effects of various factors on service sector employment, the regression analysis is therefore run by progressively inserting the variables for the five factors into the regression equation.

The results obtained from the estimation are displayed in table 3 below. The table includes the coefficient for each variable in the 5 models, as well as the summary statistics for each model at the bottom.

First and foremost, it is necessary to examine the explanatory power of the model on the dependent variables. The model summary in Table 3 summarizes the important statistics verifying that all 5 models are significant(sig. = .000).

Regressing only the 3 control variables, model 1 explains about 77 percent of service sector employment(the Adjusted R Square of the model 1 is 0.762). When the independent variables(labor cost and productivity) are inserted into model 2, the Adjusted R Square grows substantially(from 76.2 to 86.5 percent), suggesting a great impact from the labor cost and productivity on the dependent variables. Together, the 3 control variables with the labor cost and productivity hold an 86.5 percent explanatory power.

<Table 3> Coefficient and Model Summary

Variables		Model 1		Model 2		Model 3		Model 4		Model 5	
		B	Beta	B	Beta	B	Beta	B	Beta	B	Beta
Firm Size		1.332***	0.834	0.715***	0.448	0.687***	0.43	0.686***	0.43	0.683***	0.428
Firm Type	D2_Tourism	0.242***	0.116	0.160***	0.077	0.170***	0.082	0.157***	0.075	0.150**	0.072
	D3_Production	0.444**	0.075	0.282**	0.048	0.305**	0.052	0.309**	0.052	0.294**	0.05
	D4_Distribution	0.161	0.046	-0.174**	-0.05	-0.098	-0.028	-0.107	-0.031	-0.093	-0.027
Firm Location	D1_Battambang	-0.021	-0.003	0.2	0.025	0.186	0.024	0.203	0.026	0.191	0.024
	D2_SiemReap	0.375***	0.143	0.188*	0.072	0.207*	0.079	0.194*	0.074	0.199*	0.076
	D3_PhnomPenh	0.319**	0.138	0.154	0.067	0.201**	0.087	0.199*	0.086	0.198*	0.086
	D4_KampongCham	0.183	0.018	0.273	0.027	0.256	0.025	0.228	0.023	0.228	0.022
Labor Cost				0.390***	0.566	0.399***	0.578	0.396***	0.574	0.395***	0.573
Productivity				-0.111***	-0.14	-0.099***	-0.125	-0.096***	-0.121	-0.096***	-0.122
Skill Shortage						-0.005	-0.006	-0.007	-0.008	-0.013	-0.015
University Education						-0.002***	-0.076	-0.002***	-0.078	-0.003***	-0.082
Fixed Duration Contract								0.000	0.013	0.000	0.013
Employment Flexibility								-0.003**	-0.047	-0.003**	-0.051
Business Permit Obstacle										0.02	0.032
Corruption Obstacle										0.001	0.002
Firm-offered Training										-0.013	-0.006
R Square		0.769		0.870		0.875		0.887		0.878	
Adjusted R Square		0.762		0.865		0.869		0.870		0.870	
R Square Change		0.769		0.102		0.004		0.002		0.001	
Sig. of the Model		.000b		.000c		.000d		.000e		.000f	

※ * P<0.1, ** P<0.05, *** P<0.001

However, in models 3, 4, and 5, the growth is slight, bringing the total explanatory power of the variables to 86.9 and 87 percent, respectively. The small change in R Square in these models conveys a minimal impact from the three factors on service employment.

In short, it is confirmed that the coefficients obtained from the 5 models are both valid and reliable. Service sector employment is in large part determined by the characteristics of the

service firm, the labor cost, and productivity. Other factors such as human capital accumulation, labor market flexibility, and the cost of doing business have a slight impact.

Finally, this section ends with the coefficient result from table 3. The coefficient shows what the relationship is, and how strong, between the dependent and independent variables. Much emphasis is given to the influences from the independent variables and the extent of significant coefficients.

In model 1, the 3 control variables, which are composed of 7 dummies, are regressed with a dependent variable(service employment). Significant coefficients can be observed for all three variables: the firm size, firm type, and firm location. First, the firm size has a strong and positive impact on service employment, with a coefficient of Beta = 0.834. In terms of firm type, trading firms(wholesale and retail) are held for comparison, and the result indicates that production and tourism-related firms have more potential to generate employment. As regards firm location, service firms in Phnom Penh and Siem Reap demonstrate more capacity to generate employment than enterprises in other unspecified regions of Cambodia(D5_Others).

In model 2, the labor cost and productivity are inserted into model 1 as two independent variables. The regression indicates a strong and significant relationship to the effect that employment could increase by 39 percent(B = 0.39) if the labor cost increased by 1 logarithm. In contrast, the impact of productivity growth would bring a decrease in service sector employment of 11 percent(B = -0.111). The effect of the firm size on service employment, moreover, dips from Beta = 0.834 in model 1 to Beta = 0.448 in model 2, suggesting that the labor cost(Beta = 0.566) and productivity(Beta = -0.140) account for a significant amount of effect on service employment.

Models 3, 4, and 5 aim to examine the effects of human capital accumulation, labor market flexibility, and the cost of doing business on model 2. Even though the effect is minimal(due to a small R Square change), the variable for each factor shows a significant statistical result.

In model 3, there is a slight change in the coefficient for productivity: a drop from Beta = -0.140 to Beta = -0.125. In addition, there is a significantly negative relationship between university education and service employment(Beta = -0.076), while skill shortage is insignificant. This could mean that in Cambodian service firms, skill shortage does not determine employment. However, if there is an increase in productivity, in this case through university education, service employment is negatively affected.

In model 4, the labor cost and productivity fall slightly in coefficient once the labor market flexibility variables are inserted. This insertion does not change the relationships between the variables in model 3; instead, it indicates a significant effect from employment flexibility(-0.047)

on service employment. Together with the fall in labor cost and productivity coefficients, the negative effect of employment flexibility seems to imply that employment flexibility holds down the labor cost(from Beta = 0.578 to Beta = 0.574) as well as raises the demand for productivity(from Beta = -0.125 to Beta = -0.121) in labor transactions.

There is no significant change in model 5. The three variables for the cost of doing business are insignificant, and the figure for the R Square change remains static. Together, these statistical results suggest that the cost of doing business, including business permit obstacles, corruption obstacles, and firm-offered training do not exert an effect on service sector employment in Cambodia.

Moreover, the coefficients in table 3 indicate that among various types of service firms, the contributions of construction(B = 0.294) and tourism-related services(B = 0.15)(travel agency, tour operator, hotel and restaurant) to service sector employment remain stronger than those of trading service firms(wholesale and retail), while the dummies for firm location do not hold a strongly significant implication(P-value change from 0.05 to 0.1).

3. Discussion

This paper considers how to promote service sector employment in Cambodia. In examining this question, it intends to identify the key employment determinants and to explain how service sector employment could be promoted in relation to its determinants.

Through our statistical results, labor cost and productivity appear as major determinants of service sector employment in Cambodia. The two factors are positively correlated with one another in a complementary effect on service employment. However, when both included in a regression analysis, only the growth in labor cost can contribute to an increase in employment. By contrast, productivity shows a fairly strong negative impact on employment.

Nevertheless, the extent of their impact on employment subsides when the variables for other factors are inserted. Human capital accumulation and labor market flexibility are the main factors reducing the effect of productivity on employment, while the characteristics(firm size, firm type, and firm location) of service enterprises maintain a moderately strong impact on employment.

Based on this result, it is logical to believe that a growth in labor costs is instrumental to promoting service sector employment. The skill shortage, which is identified as an area of concern in the literature, does not affect employment. The type of skill development which can be acquired through a university education may contribute to a growth in labor costs and productivity(as per

the results of the Pearson correlation), but it might lower the employment rate by 0.3 percent(coefficient for university education in model 5: B = -0.003, Beta = -0.082). This proves that structure of Cambodia economy does not need much productivity.

We can conclude therefore that in order to promote formal service sector employment, consideration must be given to both the labor supply and demand. On the supply side, the labor cost(including wage, bonuses, and social payments) is important as its growth increases employment. This increase in employment is theoretically attributed to the attractiveness of the available jobs to the labor force, as it was found by the ILO that the low wages could be the reason for the current difficulty in filling job vacancies(Bruni, *et. al.,* 2013). On the demand side, strong emphasis should be placed on the structure of the Cambodian economy. Since the economic activities are dominated by consumer services rather than intermediate services, a growth in productivity could have a negative impact on the current labor-intensive form of employment. According to the Cambodia Enterprise Survey 2007 data, skill shortage is not an issue, while university education does not yield positive returns.

Last but not least, the statistical results also point to the way the institutional and macroeconomic environments enable employment generation. Labor market flexibility policies allowing employers to change their number of workers without restrictions could slightly lower the number of permanent workers(coefficient for employment flexibility in model 5: B = -0.003, Beta = -0.051) in this survey sample. As a policy input, the labor market should be institutionalized as flexibly as it currently is. Any attempt to further relax the market should not be pursued unless evidence comes to disprove the negative relationship between employment flexibility and service employment. Moreover, the macroeconomic environment suggests that compared to trading services(wholesale and retail), the construction and tourism-related service industries have a greater capacity to generate employment. Therefore, it is particularly wise to pursue development through the tourism industry, as it can not only absorb more labor forces but in terms of compensation, workers can also make good earnings.

VI. Conclusion and Recommendation

This paper set out to explore the potential effective policy inputs to promote formal employment in the Cambodian service sector labor market. It was argued that the current literature places much emphasis on the support policies for stimulating job creation. In other words, it focuses on

the demand side of the labor market, leaving behind the supply perspective.

Since employment is determined by the labor transaction of demand and supply, this paper brought the wage and productivity factors into consideration, demonstrating a combined effect from all the factors in determining employment.

By reviewing the contextual challenges of the Cambodian business environment, three institutional and macroeconomic factors, namely, the labor market flexibility, human capital accumulation, and cost of doing business, were identified and estimated in a multiple regression analysis.

Using data from the Cambodia Enterprise Survey 2007, 9 independent variables were chosen to represent the different factors. The wage was represented by the labor cost, while productivity was measured dividing the labor cost by the total number of workers. The firm size, firm location, and firm type were used as control variables.

The statistical analysis in this paper took the form of a multiple regression. 5 models were tested by progressively inserting the variables for the various factors into the equation. The regression began with the control variables and was then extended to the independent variables.

The result of the regression analysis showed a reverse relationship between the labor cost and productivity for employment. Only a growth in the labor cost can positively contribute to the increase in service sector employment. A growth in productivity, on the other hand, would lower the employment rate.

The extent of the firm size effect on service employment was very strong initially, but it substantially subsided once the independent variables were inserted. As regards institutional and macroeconomic factors, the variables for the cost of doing business were not significant. The variables for human capital accumulation and labor market flexibility exercised a small influence, while the labor cost and productivity variables maintained a moderately strong impact on service sector employment.

We can conclude that the promotion of formal service sector employment must be taken into account in a labor transaction that is determined by the labor supply and labor demand and is facilitated by the institutional and macroeconomic environment.

On the supply side, the labor cost(including wage, bonuses, and social payments) is instrumental as it would increase the labor supply, which has been diagnosed as a culprit in vacancy non-fulfillment. On the demand side, much consideration should be given to the structure of the Cambodian economy. A growth in productivity could negatively affect the currently labor-intensive market.

Skill shortage is not a major issue, in that it neither has a statistically significant relationship with employment, nor can skill development, particularly through university education in economically unwanted areas, bring positive returns.

In term of institutional and macroeconomic environments, flexibility in the labor market does not yield any growth in employment. Consideration should be given to the type of service enterprises that exhibit potentiality in creating more employment. Among the selected driving forces in Cambodian service businesses, tourism and construction firms show the most promise. An effort should therefore be made to encourage the development of these economic activities so that more labor forces could be absorbed.

In short, it is confirmed that skill development alone is not a panacea to solve the employment issues in Cambodia. Service sector employment could be promoted through the growth of the labor cost(including wage, bonuses, and social payments). In light of this, we recommend the following.

More attention should be paid to the role of the minimum wage in stimulating employment, given that many countries have successfully introduced it not only to safeguard workers' social and economic benefits, but also as an effective policy tool to attract labor supply.

In Cambodia, the minimum wage is only operational in the garment and footwear manufacturing industry. The expansion of its application should target the service industry in general, and in particular, the tourism and construction service industries.

Policy makers should also conduct a comprehensive study on the appropriate minimum wage level and the variation of that level based on a reliable cost and benefit analysis. The level of the minimum wage should not only protect the workers' minimum living expenses, but it should also ensure that the wage does not discourage businesses from hiring.

The institutional arrangement for setting the minimum wage should enable frequent adjustments based on economic performance and social conditions. It is necessary to have a clear written document clarifying the procedure and determination mechanism, as well as the involvement of a non-interested group in the setting of the minimum wage.

Finally, efforts should be made to ascertain the enforcement of the wage. This could involve the use of incentives for employers to operate their business formally and to pay the minimum wage. It also requires severe punishment to discourage non-compliance.

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