URBANIZATION AND UNEMPLOYMENT ON THE PERIPHERY OF CẦN THƠ CITY

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I. INTRODUCTION

So as to keep up with developed countries, Vietnam has expedited the industrialization, modernization and urbanization as well. The number of urbanites has gradually risen from just under 18.5% for 1989 to around 23.6% for 1999, 28% for 2008 and 29.6% for 2009; and this upward trend shows no sign of ceasing in the time to come. The Ministry of Construction predicts this figure would reach 45% by 2020 (1). This fact is to suppose that the urbanization has a profound impact on all aspects of economy and society.

Like many countries in the world, Vietnam's urbanization is shaped up extensively and intensively (2). However, the extensive urbanization is the most popular in the peripheral zones or suburbs. Thanks to urbanization, the standard of living will be enhanced; and accordingly so do the social welfares. But, should it not be planned or manipulated thoroughly, negative impacts on life are inevitable, especially job opportunity and personal income. As we have known so far, most of laborers in the suburbs (hereunder referred to as suburbanites) have depended upon agriculture. The urbanization has narrowed down the agricultural area, forcing them to choose another job. Nonetheless, it is very hard for them to seek a suitable non-farming job owing to their lack of vocational education and industrial lifestyle. In addition, vocational education and job-seeking consultancy are not done devotedly. Consequently, the rate of unemployment may soar up extraordinarily and so do social evils.

High unemployment on the periphery of cities may impinge badly on the civilian life and the economic development. Hence, it is very urgent to find out a solution to this problem. By this paper, we would like to estimate its impacts on the unemployment of the peripheral areas via firsthand facts and figures collected from 310 households on the periphery of Cần Thơ City (hereunder referred to as "suburbs"), the heart city of the Mekong Delta (MD).

II. RESEARCH

1. Description of samples

As mentioned above, the firsthand facts and figures used for this paper are gathered from 310 households on the periphery of Cần Thơ, especially the Districts of Bình Thủy and Cái Răng. On average, each household has five members and the average age of each household is 49.7. The number of male heads of household accounts for 80.3%; 71.9% of them failed to complete secondary education and 32.6% of them live on agriculture. The average farming area is approximately 3.003 m^2 per household and 612 m^2 per person. In addition to farming, several of them also participate in some other fields of business such as 25.5% as small traders, 21.3% as freelancers and 15.8% as seasonal workers, with a view to increasing their incomes. It is worth noting that only 4.8% of sur-

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veyed households whose members are employees or civil servants with a stable source of income. Thus, the average monthly income of each laborer is just some VND1.5 million equaling 33.2% of the average personal income in Cần Thơ (VND4,513,000 per month in 2008) (3).

Table 1: Description of samples

Description	*Average*	*Min.*	*Max.*	*Standard deviation*
Rate of the unemployed per household (%)	24.41	0.00	67.00	15.52
Rate of dependents (%)	21.18	0.00	66.67	16.04
Distance from dwelling house to downtown areas (km)	7.60	5.05	9.94	1.55
Distance from dwelling house to commercial centers, supermarkets, etc. (km)	1.90	1.35	4.70	1.26
Distance from dwelling house to schools (km)	1.69	0.14	5.00	1.15
Local zoning projects 1 = projects in the pipeline 0 = projects zoned	0.60	0.00	1.00	0.49

Source: Data gathered by authors in 2008

If we look at the Table 1, we can see that the rate of unemployment of surveyed households, i.e. 24.41% with the standard deviation of 15.52%, is very high in comparison with the national average of 4.65% in 2008, and the 4.12% of the MD (4). The rate of dependents per household reaches some 21.18% with the standard deviation of 16.04%. However, this percentage may reach 66.67% in some households. This is to say, other laborers of a household must work harder to support dependents.

The distance from a surveyed home to the downtown areas is around 7.6km far, with the standard deviation of 1.55km and to commercial centers around 1.9km, with the standard deviation of 1.26km. Thus, it is possible for laborers to commute to the inner city to work everyday. The birth of new residential areas entails the emergence of commercial centers. However, the scope of these centers is so humble that they cannot provide sufficiently employment to suburbanites. With the distance of 1.69km from a surveyed home to schools and the standard deviation of 1.15km, the education here is quite convenient; but the network of traffic has not supported or facilitated it, especially for pupils in primary schools. The Table 1 figures that many projects are still in the pipeline, accounting for some 60% of the total samples. This is to say, the local zoning activities are not effective enough. It results in an inconvenience for residents when they like to repair or construct their dwelling house, or run a business on their land; the rate of unemployment does go up accordingly.

2. Research model

Détang-Dessendre & Gaigné, (2009); Sorek, (2009); Haapanen & Tervom, (2009); Hundley, (2008) and, etc. have pointed out many factors affecting the unemployment in the Suburbs. The first ones that should be referred to, include the area of land, the economic features, the type of family and the ratio of dependents to household members, which are signed as DIENTICH, DANGKT, LOAIGIADINH, PHUTHUOC respectively. These independent variables are expressed in the following model.

$$THATNGHIEP = \alpha_0 + \alpha_1 DIENTICH + \alpha_2 DANGKT + \alpha_3 LOAIGIADINH + \alpha_4 PHUTHUOC + \alpha_5 KCTPHO + \alpha_6 KCTHMAI + \alpha_7 KCDCHINH + \alpha_8 KCTRHOC + \alpha_9 MATTIEN + \alpha_{10} QHTREO + \alpha_{11} LOGTHUNHAP + \alpha_{12} LOGTHUNHAPxD1 + \alpha_{13} DVKDOANH \quad (1)$$

In the Model 1, the dependent variable THATNGHIEP denotes the ratio of the unemployed to total laborers of a surveyed household. This variable is used to measure the unemployment in the Suburbs; and the impact of each independent variable can be easily explained. For example, suburbanites depend mainly on the agriculture and the DIENTICH denotes the area of farmland ($1,000m^2$). Once this area goes up, it will facilitate the expansion of production and more laborers may be employed. Accordingly, the coefficient α_1 of this variable is expected to bear a negative value. Similarly, the DANGKT will bear the value 0 if the total laborers of a household are agriculture-dependent and 1 if there exists a member

who does non-farming job; its coefficient α_2 can bear the negative value owing to the fact that the stock of land in the Suburbs is quite humble and suburbanites here may be unemployed when there is a natural disaster or plague; or the crop is over.

Change in the structure of industry from agricultural-intensive one to the new one with bigger shares for manufacturing and service sectors in Vietnam recently has entailed changes in the social structure, i.e. traditional extended families are gradually superseded by nuclear families. In regard to the traditional extended families, should a member be out of work, other members will support his/her daily life, making him/her more rely on the others and have a tendency to decline less attractive jobs. As for nuclear families, responsibility of each member is always emphasized, forcing them to try their best to seek a job. This fact can be proven via the Model 1. The variable LOAIGIADINH bears the value 1 for traditional families and 0 for nuclear families. The coefficient α_3 is expected to bear the positive value and the coefficient α_4 of the PHUTHUOC is a negative value because the more dependents there are, the heavier the burden of living costs is. It forces other laborers of a household to seek a job and they even have to accept the less attractive job. As a result, the rate of unemployment shall go down.

The results of the research will be considered inaccurate if the following exogenous variables are not taken into consideration. For the variable KCTPHO, which denotes the distance from the household to the downtown area (km) with the coefficient $\alpha_5 > 0$, it has a significant impact on the job opportunity because the nearer to downtown areas they are, the easier it is to seek a job, the less the unemployment is. Similarly, the KCTHMAI, the KCTRHOC and the KCDCHINH, which denote the distance from a surveyed home to commercial centers, schools and main roads respectively, also reflect the job opportunity of suburbanites, i.e. if they reside in busy areas, they can sell services or be employed by a nearby enterprise. Thus, the coefficients α_6 to α_8 are expected to bear the positive values.

The variable MATTIEN has the value 1 in case it is a terraced townhouse and 0 for non-terraced house. Its coefficient α_9 is also expected to have the negative value. With regard to a terraced house, they can run a family business employing their next of kin. As for the QHTREO, it has the value 1 if the zoning of the land is in the pipeline and vice versa, the value is set at 0. This variable reflects dramatically the effect of urbanization on the unemployment in the Suburbs. Projects in the pipeline have stagnated agricultural production and household business, causing the unemployment to go up. Thus, the coefficient α_{10} shall bear the positive value.

Besides, we take the common logarithm of the variable LOGTHUNHAP, which denotes the monthly income of a laborer of each household; and the variable LOGTHUNHAP x D1 is the product of LOGTHUNHAP and the artificial variable D1, which will give the value 0 if the average monthly income of a laborer is smaller than VND3.5 million and vice versa, the value is 1. These two variables are also used in the Model 1 with a view to estimating impacts of replacement effects and income effects (5) on the unemployment in the Suburbs. If the replacement effects exist, the coefficient α_{11} of the LOGTHUNHAP will bear the negative value because the high income will stimulate the laborer's eagerness, causing a plunge in the rate of unemployment. Also, in case the income effects exists, the α_{12} of the LOGTHUNHAP x D1 will have the positive value. It implies that should the monthly income exceed VND3.5 million per laborer (6), the unemployment per household will increase accordingly. It is merely because they have no desire to work any more. Thus, for those having the monthly income smaller than VND3.5 million, the rate of unemployment can be worked out as follows:

$$THATNGHIEP=\alpha_0 + \alpha_{11}LOGTHUNHAP \ (D1=0)$$

Similarly, we have the following calculus in regard to those bigger than VND3.5 million.

$$THATNGHIEP = \alpha_0 + \alpha_{11}LOGTHUNHAP + \alpha_{12}LOGTHUNHAP = \alpha_0 + (\alpha_{11}+\alpha_{12})LOGTHUNHAP \ (D1=1)$$

If the α_{12} is bigger than zero ($\alpha_{12} > 0$), the impacts of LOGTHUNHAP on THATNGHIEP will increase because the sum of α_{11} and α_{12} will be bigger than α_{11} [$(\alpha_{11} + \alpha_{12}) > \alpha_{11}$]. This is meant that there exist income effects, which can decrease the laborer's working eagerness. As a result, the rate of unemployment will go up.

Besides, the variable DVKDOANH, which represents the ratio of the number of enterprises to

that of local laborers (concern per 1,000 laborers). Normally, if these two numbers are enormous, the local laborers will have more job opportunity and the rate of unemployment will accordingly be down and the value of the coefficient will be negative. In fact, when there are more job opportunities, they will take much time to opt for a suitable one. Nonetheless, most of suburbanites are not well-educated enough to satisfy demands of enterprises, whereas the area of agricultural land is narrowed down. Thus, the value of α_{13} will be positive.

III. REGRESSION RESULTS

The figures of the Table 2 are drawn by the procedure of ordinary least square (OLS) (7). In the Model 1, we can see regression results employing endogenous variables. As expected, they all have effect on the THATNGHIEP with the significance level of 1% to 5%. Similarly, the Model 2 estimates the effects of the exogenous variables on the rate of unemployed laborers and shows that the coefficients have the significance level as anticipated, save from the KCTHMAI, the KCDCHINH and the KCTRHOC. Due to limitations on the area, these three variables cannot have a sufficiently great impact on the rate of unemployment. However, since the R^2 and the adjusted R^2 are too low, they must be juxtaposed with each other in order for the Model 1 & 2 to explain sufficiently impacts of relevant factors on unemployment in the Suburbs.

Table 2: Regression results

Dependent variable: THATNGHIEP denoting the ratio of unemployed laborers to the total labor of each household (%)

Variables	*Model* 1	*Model* 2	*Model* 3	*Model* 4
Constant C	37.504***	13.095**	24.733***	4.175
	(12.611)	(2.599)	(4.217)	(0.357)
DIENTICH	–0.526**		–0.960***	–1.019***
	(–2.300)		(–4.381)	(–4.642)
DANGKT	–8.115***		–5.907**	–6.419***
	(–3.083)		(–2.410)	(–2.636)
LOAIGIADINH	4.782***		6.518***	7.039***
	(2.886)		(4.249)	(4.643)
PHUTHUOC	–0.315***		–0.234***	–0.272***
	(–6.156)		(–4.801)	(–5.454)
KCTPHO		1.822***	1.327**	1.437**
		(2.642)	(2.008)	(2.180)
KCTHMAI		–0.551	–0.339	–0.052
		(–0.563)	(–0.371)	(–0.057)
KCDCHINH		–3.155	–1.457	–1.993
		(–1.467)	(–0.728)	(–1.003)
KCTRHOC		–0.658	–0.447	–0.474
		(–0.767)	(–0.557)	(–0.599)
MATTIEN		–7.650***	–7.243***	–7.678***
		(–3.057)	(–3.104)	(–3.335)
QHTREO		8.619***	8.438***	9.172***
		(4.519)	(4.670)	(5.122)
LOGTHUNHAP				9.194
				(1.617)
LOGTHUNHAP x D1				16.414*
				(1.778)
DVKDOANH				0.118*
				(1.756)
Observed samples (N)	310	310	310	310
R^2	0.16	0.18	0.31	0.34
Adjusted R^2	0.15	0.16	0.29	0.31
Testing value F	0.000	0.000	0.000	0.000

NB: The (*), (**) & (***) represent the significance level of 10%; 5% & 1% respectively.

Source: Data from authors' survey in 2008

` So as to enhance the persuasion of the estimates, the Model 3 includes exogenous and endogenous variables. The regression results show that this model is better than the first two ones in that both the R2 and the adjusted R2 increase substantially; whereas, the testing value F has the high significance level. This is easily analyzed by means of the correlation coefficients. With the a1 of DIENTICH equaling to -0.960 and the significance of 1%, the bigger the area of farmland is, the lower the rate of unemployment is. Similarly, the DANGKT also bears the negative value α_2=-5.907, with the significance level of 5%. However,

with the α_3 of 6.518 and the significance level of 1%, the rate of unemployment of extended families will be higher than that of the nuclear families. As anticipated, the α_4 of PHUTHUOC will be negative α_4=-0.234 with the significance level of 1%.

The Table 2 also works out that with the α_5 of KCTPHO equaling to 1.327 at the significance level of 5%, the farther the laborers live from downtown areas, the more difficultly they can seek a suitable job. As for the KCTHMAI, the KCDCHINH and the KCTRHOC, their statistical significance is at 0%; i.e. they cannot be employed to interpret their impacts on the rate of unemployment. For those residing near the main streets, the MATTIEN is set at α_9=-7.423 and the significance level is 1%, proving that their job opportunity is higher than that of others. Besides, the QHTREO with α_{10}=8.438 denotes that the rate of unemployment in zoned areas is higher than that of other places. This reflects precisely the current situation on the periphery of Cần Thơ City and several of others.

As mentioned thereof, the income effects imply that once the laborer's income is high enough, their working productivity will decline and they need more time to rest and indulge themselves. Thus, the variable LOGTHUNHAP x D1 will be modified to the Model 4 with a view to testing the impacts of the income effect on the rate of unemployment. Besides, the DVKDOANH is also set in this model so as to measure the relationship among the number of enterprises and the rate of unemployment in Suburbs.

This model is proven to be better than the Model 3 in that both the R^2 and the adjusted R^2 increase substantially; whereas, the significance level of the testing value F still stay high. Owing to the fact that the statistical significance of the LOGTHUNHAP is set at 0%, it is impossible to sum up that the replacement effects have impacts on the rate of unemployment. Nonetheless, the α_{12} of LOGTHUNHAP X D1 set at 16.414 and the significance level at 10%, prove that the working eagerness will be plummeted when the laborer's monthly salary is some VND3.5 million. This is also deemed as a reason of the high rate of unemployment. At the same significance level, the α_{13} of DVKDOANH at 0.118 presents a contradiction that the more enterprises there are, the higher the rate of unemployment is. In addition, although the correlation coefficients of the remaining variables in the Model 4 is a little bit fluctuated compared with the Model 3, it is not substantial and these coefficients still have the statistical significance.

IV. CONCLUSION AND SOLUTIONS TO THE UNEMPLOYMENT IN THE SUBURBS

1. Conclusion

Urbanization is a significant requirement so as to stimulate the development of a nation or a territory; and this process is strongly executed on the periphery of Cần Thơ City. However, in addition to the benefits of urbanization, we cannot ignore its consequences, especially the high rate of unemployment. This paper aims at measuring the impacts of urbanization on the periphery of Cần Thơ City by processing primary facts and figures collected from 310 local households.

This research also employs research models presented so far, both exogenous and endogenous variables. The findings work out that most of variables, apart from the KCTMAI, the KCDCHINH and the KCTRHOC, have the statistical significance in interpreting the high rate of unemployment. In which, the QHTREO and the MATTIEN, the quite typical variables of urbanization, have rendered the clear-cut impacts. Besides, we also need to pay more attention to the income effects. The laborers have the tendency to indulge themselves and their working eagerness will be plummeted once their monthly salary is some VND3.5 million. Last but not least, even though the emergence of enterprises is expected to partly reduce the unemployment, the findings are absolutely contrary to expectations.

2. Solutions

The analyses have proven the urbanization to be the double-edged sword, having the direct impacts on the rate of unemployment; and projects in the pipeline themselves escalate the rate of unemployment substantially. Thus, in our humble opinions, we need to implement the following issues:

- The thought of "urbanization at any cost without counting long-term strategies" must be expunged. Zoning massively without any scientific and feasible measures will lead to many projects in the pipeline, which are the core reason of un-

employment.

- Zoning projects must be publicized and persons involved must be notified of any amendment as well as have the right to present their opinions, which has been neglected by authorities so far.

- Irresponsibility of authorities involved in zoning must be fully expunged. Besides, the vocational education must be executed seriously and responsibly.

- The financial market should be developed in suburbs so as for the local people to have more access to sources of capital to develop their business■

Notes

(1) www.metvuong.com; Thời Báo Kinh Tế Sài Gòn (Saigon Economic Times), Aug. 20, 2009, p.7

(2) The extensive urbanization is to expand the existing urban limit on the ground of new residential areas, districts and wards. The intensive urbanization is to modernize and enhance the existing urban

(3) Niên Giám Thống Kê Thành Phố Cần Thơ 2008 (Statistical Yearbook of Cần Thơ City in 2008).

(4) Tổng Cục Thống Kê (GSO)

(5) Income effects imply that once the laborer's income is high enough, their working productivity will decline and they need more time to rest and indulge themselves. This effect is somehow contrary to the replacement effect, which causes the laborers with low income to work more than usual when their salary is up. (Rizzo & Blumenthal, 1994; Liz & Zax, 2003; et al)

(6) In order to attain this figure, we have used many scattered plots of the LOGTHUNHAP in relation to the THATNGHIEP. These plots prove that with the LOGTHUNHAP bigger VND3.5 million, this relation will be presented in the broken line graph, i.e. the income effects do exist.

(7) Prior to the regression analysis, we checked the multicolinearity of independent variables; and summed up that the variance inflation factor (VIF) of all variables is less than 10 proving that independent variables used are not affected by this phenomenon.

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