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A Statistical Study on How Migrant Workers Choose Migration Patterns ——A Case in Shandong Province of China

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ABSTRACT

Healthy migration of migrant workers is an important symbol of urbanization development. Compared with the individual migration, family migration is a healthy pattern of urban migrant workers' migration. Based on the survey data of migrant workers' family in Shandong province of China, the paper analyzes the influencing factors of the choices of urban migrant workers' migration patterns and finds that wage income is the determining factor for urban migrant workers to choose family migration and then live in the city, farmland is the most difficult rural asset for them to abandon during migration process, housing price is the biggest obstacle for their families to settle in the city. The statistical significance and importance of the influencing factors are different in two stages of urban migrant workers' migration.

Key words: Migrant Workers; Migration Pattern; Influencing Factors

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INTRODUCTION

Under the background of the rapid development of China's urbanization, migrant workers, as the main body of urban floating population, are displaying a trend of family migration in their choices of migration patterns[1-4]. In some large cities such as Beijing and Shanghai, family migration has accounted for over 40% out of the total of migrant workers in the early years[2]. But surveys indicate that among the 16.336 million migrant workers of the year 2012 in China, the number of family migrant workers was only 3.375 million, individual mobility is still the main form of migration, nearly 80% of the total. Migrant workers give rise to a series of social problems, such as left-behind children, marriage problems, the supporting of the elderly and urban crime, which have become one of the prominent contradictions in China's economic and social development. Achieving migrant workers' family migration and settlement in the city not only bears special significance in resolving the above problems, but also is an important initiative in promoting urbanization of migrant workers and improving the quality of urbanization. Individual migration or family migration? What factors affect the choice of migrant workers? The scholars in China mainly ascribe migrant workers' family migration to such 3 aspects as individual characteristics, family factors, policies and institutions [2, 4, 5]. Most of these studies, mostly employing only one model, explore this issue by generally dividing migration patterns into individual migration and family migration. Their analyses of the influencing factors are generally confined to those on directionality and significance, lacking in quantitative analysis on relative importance of each factor. This paper, under the assumption of maximizing the family welfare, the families of migrant workers taken as a unit, based on survey data of migrant families in Shandong province of China, drawing on previous research results, will subdivide family migration into two modes, and using comparative analysis of multiple models, study the influencing factors on the choices of migration patterns.

EXPERIMENTAL SECTION

DATA AND RESEARCH METHODOLOGY

Data. Data used herein come from household survey of migrant workers' families in Shandong Province, China organized by the author in 2013. In this survey, 1423 families are visited and data of 1163 households are obtained excluding pure rural families. The investigation involves migrant workers and their families in many aspects, including migrant workers' human capital characteristics, job status, family demographics, family status of rural assets, the moved-in place status and willingness to migrate and so on. As the personal characteristics of the head of a household to some extent determine whether family migration could happen [1], the data about human capital characteristics and job status are the head's information. Since the focus of this study is limited to the selection of migration patterns, 1060 households' data finally enter the analysis with samples conflicting each other and missing data eliminated. The relevant time point of statistics is by the end of 2012, and statistics range period is the full-year of 2012 (or month average).

Definition of migration patterns. This article will divide workers 'migration into two phases. In the first phase, the migration patterns are divided into two types based on migrated population: one is individual migration in which way migrant workers are away alone, the other is family migration in which way migrant workers have their families in tow[①]. In the second phase, family migration is subdivided into two types: one is the type that the whole family, with fixed residence in the countryside, live temporarily in the city but not settled, family members flowing between urban and rural areas and covering both farming and urban work, and this type is regarded as temporary family residence; the other type includes families with whose all members migrated into the city, having independent family residence, yet household registered in countryside, and this type is regarded as permanent family residence. The samples consist of 668 individual migrations, 392 family migration, among which 230 families with temporary family residence and 162 families with permanent family residence.

Selection of the explanatory variables. Based on survey data, this article focuses on the study of the influence of such five aspects as human capital characteristics, job status, family demographics, rural assets status and the moved-in place status on the choices of migration patterns. On the basis of principal component analysis(PCA) of involved variables' data, drawing in economic theoretical, this paper selected 17 variables out of 34[②]. Among them, the human capital characteristics include the variables of age, education, vocational skills, work life; job status contains the variables of job satisfaction, job stability, wage income[③]; family demographics are described by the variables of the number of family members, the number of laborers, the number of school-age children; rural assets status consist of the variables of homestead area, housing area, farmland area and net rural income; the moved-in place status includes the variables of the distance from the homeland to the move-in place, the housing price of the move-in place, and the types of the move-in place. Specific definitions of variables and related statistics are described in Table 1.

Methods of analysis. The selection of migration patterns studied in this article is divided into two phases: the first phase refers to the selection between individual migration and family migration; the second phase refers to the choice between temporary family residence and permanent family residence. Two options are available in both phases, therefore binary choice model suitable for this kind of analysis. Logit model and Probit model are two typical binary choice models and the cumulative distribution function with a logic distribution has analytical expression, which is not available in standard normal distribution, thus the calculation of Logit model is usually more convenient than Probit model. As a result, Logit model is chosen in this study. At the same time, this article employs ordered Logit model and multinomial Logit model to conduct a comparative analysis.

① Individual migration refers to the migration of an individual migrant worker; family migration refers to the migration of at least a couple.[6].

② Human capital characteristics include the following variables: age, marital status, health condition, education, vocational skills condition, formal skills training, the cumulative years of work, working years in the current city; variables included in job status are: working years in the current job, job changes in recent three years , working time in 1 year, the average monthly wage income, net balances, job type, the nature of the workplace, employment satisfaction evaluation, legal, political, economic and cultural environment assessment; family demographics include the following variables: the number of family members, the number of labourers, the number of elderly people, the number of school-age children; rural assets status includes the following variables: farmland area, the total value of fixed assets for production in homeland, total rural income, net rural income, homestead area, the housing area , the total value of homestead and housing; moved-in place includes the following variables: the distance from homeland to workplace, housing price in the place, city type, migration will and other variables such as whether they get community benefits for urban work, annual community benefits for urban work, whether they get rural community benefits, annual rural community benefits, the status of enjoying "three-insurance payments", the contracting status, whether the family want to settle in the field, whether the household registration system restricts migrant workers, whether they want to live in the city, the disposal will of the contracted farmland, homestead disposal will, rural property disposal will.

③ Wage income refers to the total income of all migrant workers in a family.

Tab. 1: Variables and Their Descriptive Statistics

Influencing Factors	Specific Variables	Meaning and Remarks	Mean Value	Standard Deviation	Expected Direction
Human Capital					
X_1	Age	full-year-age	39.85	9.90	+
X_2	Education	1=no school education,2= primary school,3=junior high school,4= senior high school, 5=secondary technical school, 6=tertiary education or higher	3.58	1.09	+
X_3	Vocational Skills	1=no skill level, 2=junior technician, 3 =mid-level technician, 4=senior technician, 5=engineer, 6=senior engineer	2.03	1.09	+
X_4	Working Life	1= less than 1 year, 2= 1-3 years, 3= 3-5 years,4=5-9years,5=10-14years,6=15-19 years,7= more than 20 years	4.16	1.66	+
Job Status					
X_5	Job Satisfaction	very satisfied = 10 points, satisfied = 8 points, average=5 points, dissatisfied = 3 points , very dissatisfied = 1 point	5.75	2.01	+
X_6	Job Stability	job changes in the recent 3 years.1= no change,2=1 change, 3=2 changes, 4 =3 changes, 5 = 4 or more changes	1.66	1.01	−
X_7	Wage Income	average monthly household wage income in city, unit is thousand yuan, to an accuracy of 10 yuan	3.73	2.26	+
Family Demographics					
X_8	Number of Family Members	total number of family members	3.42	0.71	−
X_9	Number of Laborers	members with the ability to work and within labor age, including 16-60 years old men, 16-55 years old women	2.95	0.74	+
X_{10}	Number of School-age Children	number of children under 16 years old who are at school or are about to go to school	0.38	0.58	+
Rural Assets Status					
X_{11}	Homestead Area	family homestead area at the end of 2012, the unit is Mu	0.69	0.68	−
X_{12}	Housing	family rural housing area at the end of 2012, the unit is m2	111.20	56.04	−
X_{13}	Farmland Area	farmland area at the end of 2012, the unit is Mu	3.24	3.18	−
X_{14}	Net Rural Income	net rural income at the end of 2012, unit is thousand yuan	9.32	8.58	−
Moved-in Place					
X_{15}	Distance	Distance from the hometown to working area or settlement area, the unit is 10 kilometers	2.31	3.26	−
X_{16}	Housing Price	average housing price in the moved-in place in 2012, the unit is thousand yuan	5.61	3.72	−
X_{17}	City Type	1 = special municipality, 2 =provincial capital or sub-provincial city, 3 = prefecture-level city, 4 =county-level city, 5 = county or small town	3.08	1.20	+

On the basis of the regression analysis, in order to further understand the impact of different variables on the choices of migration patterns, this paper uses the extended Oaxaca-Blinder decomposition to decompose the differences in migration patterns selection. Oaxaca-Blinder decomposition was proposed in 1973 by Oaxaca and Blinder, mainly applicable to the linear regression equation. Consider the following regression equation:

$$Y_\ell = X_\ell^{'}\beta_\ell + \varepsilon_\ell, E(\varepsilon_\ell), \ell \in \{A, B\} \quad (1)$$

X represents a matrix containing sample data and a constant column, and β represents a column vector containing the regression coefficients and intercepts, ε refers to random error, A, B represents two different arrays of samples. According to Oaxaca-Blinder decomposition, the mean difference between the two samples can be expressed as follows:

$$E(Y_A) - E(Y_B) = [E(X_A) - E(X_B)]'\beta_B + E(X_B)'(\beta_A - \beta_B) + [E(X_A) - E(X_B)]'(\beta_A - \beta_B) \quad (2)$$

$$= \quad E \quad + \quad C \quad + \quad I$$

Individual Effects Coefficient Effects Interactive Effects

Based on Oaxaca-Blinder decomposition, Yun proposed an extended decomposition method, which can further decompose individual effects, coefficient effects and interactive effects according to different variables, and the extended Oaxaca-Blinder decomposition is used in this paper[7] .

EMPIRICAL ANALYSIS

Tab. 2: Regression Results of Selection Models

Independent Variable	Logit Model				Ordered Logit	Mlogit	
	Regression 1	Regression 2	Regression 3	Regression 4	Regression 5	Regression 6	Regression 7
Human Capital							
X_1	0.063***	0.083	-0.039	-0.029	0.046***	0.069***	0.047*
X_2	0.328**	0.331**	0.06	0.079	0.337***	0.305**	0.357*
X_3	0.161	0.159	0.087	0.065	0.135	0.13	0.196
X_4	0.200**	0.200**	0.137	0.121	0.187**	0.158*	0.333***
Job Status							
X_5	0.039	0.04	-0.124	-0.093	-0.03	0.076	-0.024
X_6	-0.241*	-0.243*	0.089	0.08	-0.250*	-0.251	-0.216
X_7	0.669***	0.668***	0.402***	--	0.512***	0.563***	0.909***
Family Demographics							
X_8	-1.200**	-1.202**	-0.48	-0.641	-1.224***	-1.171**	-1.386*
X_9	0.824*	0.827*	0.986	1.032	0.961**	0.68	1.169*
X_{10}	1.465***	1.455***	0.809	0.913	1.523***	1.323**	1.807**
Rural Assets Status							
X_{11}	-0.08	-0.082	-0.39	-0.37	-0.253	0.037	-0.321
X_{12}	-0.006**	-0.006**	-0.002	-0.003	-0.005**	-0.005*	-0.008**
X_{13}	-0.245***	-0.245***	-0.128*	-0.149*	-0.256***	-0.198***	-0.346***
X_{14}	-0.086***	-0.086***	0.031	0.033	-0.060***	-0.099***	-0.067***
Moved-in Place							
X_{15}	-0.063	-0.062	0.032	0.047	-0.036	-0.065	-0.039
X_{16}	-0.003	-0.003	-0.381***	--	-0.044	0.027	-0.216***
X_{17}	0.015	0.014	-0.426*	-0.258*	0.037	0.032	-0.17
$X_?$	--	-0.0003	--	0.130***	--	--	--
_cons	-4.590***	-4.950***	1.083	-1.305	Cut1=3.248*** Cut2=5.320***	-4.784***	-5.043***
Obs	1060	1060	392	392	1060	1060	
P_r2	0.466	0.466	0.306	0.267	0.335	0.386	0.386

*Remarks: *, **, ***represent being significant at 0.1, 0.05, 0.01 levels.*

Analysis of the regression results. As shown in Table 2, the regression 1-4 are the results calculated by Logit model, in which the process of the migration is divided into two phases. Regression 1-2 are the analysis results of the selection between individual migration and family migration; regression 3-4 are the analysis results of the selection between temporary family residence and permanent family residence; the regression 5 is the result obtained by seeing the migration as a sequential selection process and processing with ordered Logit model; the regression 6-7 are the results obtained by seeing the migration as a selection between three patterns and processing with multinomial Logit model which takes individual migration as the reference group.

First, the choices in the first-phase migration are analyzed. Apart from vocational skills, job satisfaction, homestead area and the variables of the move-in place, the effects of all the other variables are significant. The influencing directions of each variable are in line with expectations. The influence of each human capital variable for migrant

workers' selection of family migration is positive, among which age, education and work life have significant effects, indicating that the older the migrant workers, the higher the level of education, the richer the migration experience, the more likely the whole family migration would occur. There are studies to prove that the realization of family migration has an inverted U-shaped relationship with migrant workers' ages. For the sake of robustness and on the basis of regression 1, the author adds the squared age and conducted regression analysis, the coefficient of the squared term is negative, but not significant, as shown by regression 2. This shows that there is a weak inverted U-shaped relationship between family migration pattern selection and migrant workers' ages, which may be due to the ages of respondents are small, averaged 39.85 years old, not yet reaching the maximum age limit[2]. Job status variables have positive effects on family migration selection, among which wage income coefficient is positive and passes the 1% significance test, coefficient of job stability is negative and passed the 10% significance test, indicating that the higher labor income of migrant workers, the more stable their jobs, the greater probability their achievement of family migration. Each variable of family demographics has significant effects on family migration selection but the direction is uncertain. Among them, the coefficient of the number of members is negative, indicating that the larger the family size, the greater the difficulty to choose family migration; the coefficient of the number of laborers is positive, indicating that the stronger the families' money-earning capacity, family migration is more likely to be chosen; the coefficient of the number of school-age children is positive, and has passed the 1% level of significance test, indicating that migrant workers choose family migration to a certain extent out of consideration for their children's education, with the hope of their children receiving a high level of education in urban areas. The influence of rural household assets variables is negative, suggesting that the higher the rural net income, the higher the value of real estate, the more difficult for them to choose family migration. The effects of all the variables of the move-in place on the choice of family migration are not significant.

Secondly, based on the analysis of the first phase, we analyze migrant workers' choice in the second phase. As is shown in regression 3, after the realization of family migration, the most significant influencing factors of workers' selection on permanent settlement are wage income and housing price of moved-in place, indicating income and housing price are determining factors of whether migrant workers settle permanently in cities. As a comparison, the one variable of the ratio of income to housing price is introduced, after deleting the two previous variables, to take regression analysis. Shown in regression 4, the result is that the ratio of income to housing price takes a positive coefficient, which is also well past the 1% significance test. Taking into account the fact that the coefficient of the variable of city type is negative, we view this as an indication that based on affordable housing prices, the families of migrant workers tend to settle in larger cities. In addition, farmland has a significant negative effect on migrant worker family's choice to settle in cities, which further confirms the farmers' special feeling on the farmland in China. Age, job satisfaction, job stability, rural net income, the distance have inconsistent influencing direction with the expected, but all not significant. Compared with regression 1, it is worth noting that the influences of the distance and job satisfaction are not significant in both phases, indicating that urban migrant workers does not give much thought to them; the insignificant influence of vocational skills should be because the overall vocational skills are not high, the gap between each other is not large; and the reason why homestead's influence is not significant is that homestead cannot be freely transferred and only accounts for a smaller proportion of total rural assets, so urban migrant workers generally don't consider it much.

Finally, we shall make a comparative analysis of the models used. As shown by regression 6 and regression 7, the introduction of multinomial Logit analysis is aimed to further explore the influencing mechanism of those factors for different choices of migration patterns. Apart from the number of laborers and housing price in moved-in place, the significant influencing factors are the same in regressions 6 and 7, all being influencing factors for choices of family migration shown in regression 1, and this is consistent with the results of the preceding analysis. Among them, the absolute values of all the coefficients in regression 7 are larger, indicating that for families with individual migration, the factors have a more significant influence on their choice to settle in cities, that is, they are more inclined to settle in cities. But when really facing the choice, families need further consider the entire family's earning capacity and settlement costs which are related to the number of laborers and housing price in moved-in place. To illustrate if migrant workers' migration can be seen as an ordered-selection process, this paper uses ordered Logit model to make an analysis, the results shown by regression 5. The regression results are close to regression 1, indicating that to a certain extent, in the ordered-selection process, to achieve family migration plays a vital role. But ordered Logit model defines that the regression coefficients of independent variables remain constant between different levels, namely Parallelism Hypothesis, so it is necessary to carry out tests. Both the Score Test and Wald Test show that all variables don't meet Parallelism Hypothesis, thus the use of an ordered Logit model is not suitable④.

Oaxaca-Blinder decomposition analysis. Logit model used herein is not a linear equation, being used directly will

④ Score Test: Chi2 = 56.01, df = 17, P = 0.000; Wald Test: Chi2 = 52.06, df = 17, P = 0.000.

cause deviation in decomposition results. So Y in the Oaxaca-Blinder decomposition model is log-odds ratio(LOR) calculated through $x'\beta$ in Logit model[8]. Since LOR of different groups take the same Logit regression coefficients, so Oaxaca-Blinder decomposition can only get individual effects, coefficient effects and interaction effects are zero, the results are shown in Table 3. Regression decomposition results show that in the first phase of migration pattern selection, the effects of all factors are significant; job status thereof plays the most important role, contribution rate reaching up to 49.06%, close to 50%. Among all the variables of job status, wage income ranking No. 1 is a decisive variable, indicating that when migrant workers consider whether to migrate the whole family, the prior consideration is whether their earning capacity can support the entire family in the town. Meanwhile, the stability of ongoing income is another important factor to consider, the importance ranking 8th. The factors after the job status is rural assets status, the contribution rate 31.12%, indicating that the rural assets status greatly restricted their choice of family migration, among which farmland and rural income are the most significant, the importance ranking 2ed and 3rd respectively. Human capital characteristics is also an important factor, with a contribution rate of 15.27%, age and work experience thereof having the most significant effects, the importance ranking 4th and 6th respectively. Although the influence of each family demographics variable is significant, the total contribution rate was only 4.37%, indicating that in urban migrant workers' choice of family migration, family demographic factors is just for the reference, among which school-age children's education is the most important factor, ranking 5th of all the variables. As most migrant workers' families don't decide on permanent settlement when they decided to migrate to the city, so the variables of move-in places do not become a significant factor.

Tab. 3: Oaxaca-Blinder Decomposition Results of Migration Patterns Selection

Individual Migration→Family Migration						Temporary Residence→Permanent Residence					
Overall Difference	First Decomposition		Second Decomposition		Ranking	Overall Difference	First Decomposition		Second Decomposition		Ranking
-3.863	Human Capital	-0.59** *	X_1	-0.313***	4	-1.351	Human Capital	-0.094*	X_1	-0.035	7
			X_2	-0.058*	10				X_2	-0.008	13
			X_3	-0.055***	11				X_3	-0.013	11
			X_4	-0.164***	6				X_4	-0.037	6
	Job Status	-1.895* **	X_5	-0.024***	12		Job Status	-0.586* **	X_5	-0.043	5
			X_6	-0.119***	8				X_6	0.004	16
			X_7	-1.751***	1				X_7	-0.546***	1
	Family Demographic	-0.169* **	X_8	-0.127*	7		Family Demographic	-0.021	X_8	0.015	17
			X_9	0.128**	17				X_9	-0.033	8
			X_{10}	-0.170**	5				X_{10}	-0.004	14
			X_{11}	-0.008	14				X_{11}	-0.06	4
	Rural Assets Status	-1.202* **	X_{12}	-0.075**	9		Rural Assets Status	-0.217* **	X_{12}	-0.022	10
			X_{13}	-0.566***	2				X_{13}	-0.105***	3
			X_{14}	-0.553***	3				X_{14}	-0.03	9
	Moved-in Place	-0.007	X_{15}	-0.011	13		Moved-in Place	-0.433* **	X_{15}	-0.012	12
			X_{16}	0.002**	15				X_{16}	-0.421***	2
			X_{17}	0.003*	16				X_{17}	-0.001	15

*Note: *,**,***represent being significant at 0.1, 0.05, 0.01 levels.*

As is also showed in Table 3, in the second phase of family migration, job status still remains in the most important position with a contribution rate of 43.38%, further evidencing that wage income is the decisive factor in migration pattern selection. The most important difference from the first phase is that a migrated family needs housing to settle permanently, so in this stage moved-in place factors' effects emerge, the contribution rate up to 32.05%. Among them, the housing price in the moved-in place becomes a major obstacle to migrated family's settlement, its importance coming only after wage income and ranking 2ed. Although rural assets status' influence declined significantly, it is still an influencing factor that cannot be ignored, the contribution rate being 16.06%, farmland is still the asset which is the most difficult for migrated family to let go. Individual characteristics of migrant workers and family demographic characteristics, with no significant factors, show the small effects. This suggests that when migrant families decided whether to settle in the city, individual and family demographic characteristics are no longer the important factors to consider; they give more thoughts to their ability and the costs to settle in the city.

CONCLUSION

Based on fieldwork data obtained in 2013 about urban migrant workers' families in Shandong province, using Logit model and Oaxaca-Blinder decomposition, this paper analyzes the influencing factors in urban migrant workers' choices of migration patterns. The findings are as follows: (1) Job status, rural assets, human capital characteristics and family demographic orderly affect the first phase of migration pattern selection significantly, that is, whether to

choose the family migration. The factors affecting migrant workers' choices in the second phase, that is, whether to settle in the city are in the order of job characteristics, the variables of the moved-in place, rural assets and human capital characteristics.(2) With a contribution rate of 45.33%, wage income is a decisive factor in migrant workers' decision on family migration; rural net income and farmland are important factors in hindering family migration; age, the number of school-age children, work life, the number of family members and job stability are also factors that cannot be neglected; other factors' contribution rates are very small and thus negligible. (3) With a contribution rate of 40.41%, wage income is a decisive factor in migrant family's choosing whether to settle in the city. Housing price in the moved-in place is the most important factor in restraining family settlement in the city. Farmland is still a factor that cannot be neglected. Other factors' contribution rates are not significant.

Based on the above analysis and conclusions, in order to promote urban migrant workers to achieve successful family migration and integration into the city in China, policy making should be focused on the following aspects. (1) Authorities should effectively develop vocational skills retraining programs to improve professional skills of urban migrant workers, abolish discrimination against migrant workers in employment policies, improve the employment information service system, so as to help migrant workers find a good job, get a good income. (2) Authorities should improve coordinated urban and rural social security system, reduce migrant family's inclination to depend on farmland as a basic survival safeguard, speed up the registration of property rights of rural assets, foster rural assets trade market, so as to render migrant families to be able to obtain appropriate compensation and leave no worries behind when they migrate to the city, and also to provide some capital for them to settle in the city. (3) While strengthening social security housing or low-rent housing construction, authorities should effectively ensure migrant families' residence rights in urban areas, which should be gradually brought into the urban housing system, thus to reduce migrant families 'costs to settle in the city.

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REFERENCES

[1] Zhou Hao. *Population Research in Chinese,* n.6, pp. 60-69, **2004.**
[2] Hong Xiaoliang. *Chinese Journal of Population Science in Chine*se, n.6, pp. 42-50, **2007.**
[3] Zhu Mingfen. *Chinese Rural Economy in Chinese,* n.2, pp.:67-76, **2009.**
[4] Sun Zhanwen. A Study on Migration Decision and Migration Behavior of Migrant Workers' Families. A doctor paper of Shandong Agricultural University, pp. 178-181 , **2013.**
[5] Tang Zhen, Zhang Yujie. *Journal of Agro technical Economics in Chinese,* n.4, pp. 4-11., **2009.**
[6] Li Qiang, Long Wenjin. *Chinese Rural Economy in Chinese,* n.2, pp. 46-54., **2009.**
[7] Yun M.. *Economics Letters,* v.82, n.2, pp. 275-280, **2004.**
[8] Jann, Ben. *The Stata Journal,* v.8, n.4, pp. 453-479, **2008.**