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As for the effect of the control variables, the effect of PGDP which measures the economic development level on the industrial structure alteration is negative, which mainly because the amount of variation of the industrial structure alteration began to flatten with the development of the economy in certain country or region. From the view of direction of the industrial structure alteration, the coefficients of co-integration equation (1) and (2) are negative which means the higher the economic development level, the industrial structure tends to the servitization. Such trend is accordance with the one in developed countries all over the world. According to the data delivered by World Bank Database, the added value proportion of service industry has reached up to more than 70%. The effect of *employ* variable on the industrial structure alteration is positive, which means the alteration of the employment structure can cause the significant alteration of the industrial structure. Moreover, the direction of the industrial structure alteration is the same as the one of employment structure, because the coefficients of *employ* in co-integration equation (1) and (2) are positive. Such phenomena are accordance with the practical condition. In the industrial structure, the larger the added values proportion of the secondary and the tertiary industry, the stronger the ability of employment, and vice-versa. The wage variable in the four co-integration equations is negative, which shows that, on the one hand, the increase of the wage level in certain region can cause that the industrial structure alteration begins to flatten, which is the same as the effect of the industrial structure alteration of the economic development level. It is mainly because the increase of the wage level means the higher economic development level; on the other hand, the increase of wage level can cause the proportion of the secondary industry decreases, meanwhile, the proportion of the tertiary industry in the industrial structure increase, which means the increase of wage level tend to servitization. The effect of *fixasset* variable on the industrial structure is positive, which means the increase of the fix-asset investment can cause the industrial structure alteration to some extent. Moreover, the coefficients of *fixasset* in co-integration equation (1) and (2) are positive, which shows that the increase of the fix-asset investment can cause the proportion of the secondary industry increase in the

industrial structure, that is, restrain the servitization. The main reason of such phenomenon is that the production of the secondary industry demands more fix-asset investment volume, while, the production of the serving products need less fix-asset investment volume.

Such conclusion can be gotten that the border export can have more impact on the industrial structure alteration, which mainly reflects on decreasing the proportion of the secondary industry and increasing the tertiary industry; the border import can have less impact on the industrial structure alteration, and the direction of the effect of border import on the industrial structure is the same as the border export. However, the impact is not so significant.

## REFERENCES

- [1] Lan Qingxin and Tian Haifeng, "Substantial evidence analysis and present situation research on trade structure change and economic growth model transformation in China", *Journal of Zhuzhou Institute of Technology*, vol. 3, pp. 39-44, 2002.
- [2] Dickey, D. and W. Fuller, "Likelihood ratio tests for autoregressive time series with a unit root", *Econometrica*, vol. 49, no. 4, pp. 1057-1073, 1981.
- [3] Granger, C. W. J., "Some properties of time series data and their use in econometric model specification", *Journal of Econometrics*, vol. 16, no. 1, pp. 121-130, 1981.
- [4] Johansen, S. and Juselius, K., "Maximum likelihood estimation and inference on cointegration- with applications to the demand for money", *Oxford Bulletin of Economics and Statistics*, vol. 52, no. 2, pp. 169-210, 1990.
- [5] Kelejian, H. H., "An extension of a standard test for heteroscedasticity to a systems framework", *Journal of Econometrics*, vol. 20, no. 2, pp. 325-333, 1982.
- [6] Lutkepohl, H., *Introduction to Multiple Time Series Analysis*, New York: Springer-Verlag, 1991.
- [7] Urzua, C. M., "Omnibus tests for multivariate normality based on a class of maximum entropy distributions", in *Advances in Econometrics*, vol. 12, Greenwich, Conn.: JAI Press, pp. 341-358, 1997.