

Are Taiwanese Over-educated? From the Viewpoint of Education Expansion Policy

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1. Background

Taiwan's education policy has been under debate for a long time. However, at the same time, the economic transition is undergoing; that is, due to the loss of competitiveness in manufacturing sector, information, instead, communication and technology (ICT) is developing at high speed in recent years. Moreover, professional service sector is regarded as sunrise industry as well. Both ICT and professional service sectors are knowledge-based industries, that need people with higher education. Therefore, the objective of the thesis is to discuss the relationship between (1) education and wage return to education, (2) the wage return to related industry, (3) the effect of education expansion policy on each level of higher education and industries, employing the data from 1990, 1995, 2000, 2005, 2010, and 2016.

2. Methodology

First of all, in general, there are three methods to calculate wage return. However, the Mincer wage equation is widely applied because it can include several factors at the same time, thus it is applied in this thesis as well. Moreover, previous literatures identify the self-selection problem in the employment data since observed data only reflect samples who are already in the workforce or employed. In order to deal with this selection bias, we employed the Heckman two-step estimation procedure for this wage equation.

There are two models, for the first one, wage return to years of schooling and each industry are focused on. As for the second model, we include each different educational levels as dummies, instead of years of schooling in the first model. Since our focus is to investigate the influence of the education expansion policy which has been installed in year 1998, we employ the interaction terms of policy with both industry and higher education in the second model.

3. Result and Conclusion

From the first model, wage return to education become higher year by year. As for industries, the wage return to ICT sector dramatically changes from the lowest sector to the top third among industries after 2008, the financial crisis, while the wage return to manufacturing sector remains lower. Comparing Sale & service sector with professional service sector, the difference of wage return between them becomes larger year by year. The return to professional service has occupied the top two highest sector since 2010. However, in 1990 and 1995, wage return to sale & service sector is higher than that of ICT and manufacturing sectors, but later on its wage return has decreased to the lowest one since 2000.

From the second model, the effect of expansion policy itself changes from negative to positive from 2005 to 2016. Although all the interaction terms between the policy and education level show negative effects, they decrease from 2010 to 2016, especially for university and graduate school graduates. For the policy effect on industries, although every industry is affected negatively, the negative effect on ICT sector ranks low among all sectors in both 2010 and 2016. Except for utility sector, the negative effects of policy on all the other sectors decrease in 2016.

The expansion policy can be further observed along with 12-year compulsory education policy, which is focusing more on quality of education. Taiwan is undergoing economic transition and education expansion policy at almost the same time yet not for a long time; ICT and professional sectors are still undergoing development, and they demand workers with higher education. Therefore, that the improvement of education quality would improve the current condition of the policy's negative impact on industries is expected.