“Brief summary of the Panel Estimates of Male-Female Earnings Functions paper"

Summary for HW2

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In Partial Fulfilment of the Requirements for Econ 426

November 2018

The difference in the wages of males and females has always been an interesting question in economics, especially for empirical studies. Kim and Polachek have studied this issue in detail in one of their research papers. They wanted to show that the perceptible wage inequality favoring men is a result of distinct human capital characteristics, work discontinuity and other factors. Econometrically, these factors were causing distortions to the original OLS model, such as heterogeneity, endogeneity and also selectivity, which violate the Gauss-Markov assumptions. Required tests and remedies were applied to find both unbiased and consisted results. Besides, they were also focusing on the job intermittency, comparing different samples to account for the selectivity problem. The findings of the paper were dramatic, disproving the widespread belief.

The data used in the paper is Panel Study of Income Dynamics (PSID), which is cross-section data gathering of approximately 5000 families in USA starting from 1968 through 1987. The group of people was asked similar questions continuously throughout the period. Since some people were dying and due to missing data, the panel data was not perfectly balanced. Thus, only 12 year period of 2659 individuals was employed in the paper. Furthermore, two samples were created, the whole sample and the less intermittent sample, to demonstrate the difference among the people working continuously and the ones with considerable intermittency.

The estimation part of Kim and Polachek's paper consists of numerous tests and various methods. In the general model the logarithm of average labor income (lwage) was taken as a dependent variable. Among the independent variables experience, hometime, and several individual variables, such as number of children, schooling, and the size of

respondent's area of residence (SMSA) were used. Additionally, parameter alpha that represents the effect of unobserved characteristics and the error term were on the right-hand side of the equation. First of all, OLS was implemented to compare other models with its output. Then, the endogeneity test was conducted; Wu-Hausman test resulted in the existence of endogeneity and, therefore, the model was estimated once with an instrumental variable to account for this issue. After that, the heterogeneity test was implemented by analyzing the different models of Fixed Effect model (both Mean deviated and First Differenced models), the Between-Group Estimator model and also the Random Effect model (GLS). The chi-square test was not able to reject the null of heterogeneity; thus, the model was purged for the heterogeneity. Such occasion required researchers to check this heterogeneity adjusted data for endogeneity again, since it was a different model. As a second stage, the endogeneity test depicts the need of instrumental variables, which were also applied. All the variations of diverse models used were reported.

In conclusion, the data concludes that the unexplained part of wage inequality among men and women after numerous applications of different methods decreases from 40% to less than 10%. Therefore, their income is assumed to be more or less equal. All the econometric problems, such as endogeneity, heterogeneity and selectivity were resolved.