



Analysis on macro economic factors affecting working hour and consumption in Korean economy

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This paper analyzes that which Macroeconomic factors give effects on working hours and the consumption with the time variables, as Robert Hall(1997) has done. To do this, I relatively set the simple economic structural model and applied it to the methodology conducted by Robert Hall in 1997. The Macroeconomic driving forces used in the analysis are as followings; 1) preference shift derived from the consumption-leisure choice, 2) technology shift from firms, 3) government expenditure shock and 4) exports shock. I make a equation of 4 factors and assume that driving forces are comprising two parts; they are atemporal variable, directly generated in each period, and inter-temporal variable, indirectly derived from the investment function.

Using the economically active population survey and population projections from Statistics Korea and making the number of population on a quarterly basis, the number of economically active population and working hours per capita, from the data from Bank of Korea I compiled real GDP per capita, private final consumption per capita, government final consumption per capita and the amount of exports and imports per capital. All variables made up with quarterly data from 1980 to 2012 were transformed with the form of log and I estimated the Vector Autoregression model and tested the proper time lag with a variety of testing methods such as AIC(Akaike Information Criterion) and SBC(Schwartz Bayesian Criterion)

From the empirical analysis, factors affecting structural changes(macroeconomic driving forces) are factors which give shocks on consumption, working hours and other endogenous variables. Since they play significant roles in the Korean economy, their movements are very important. The factor of personal preference is not only very sensitive to the business cycle unlike other factors but also has a huge business fluctuation. The factor of personal preference plunged dramatically in particular in depression such as oil shock in the early 1980s, Asian financial crisis in 1997 and global economic crisis in 2008 and it picked up in booming economic cycle. Other factors except the preference shock didn't fluctuate sharply and remained roughly consistent in their movements. Productivity which is technology shift from firms decreased temporarily in Asian financial crisis in 1997 and then was coincident with business cycle. Government expenditure shock contributed to reducing the business fluctuation by going up during the economic contraction and this means government expenditure can play a role in stimulating the economic activity during the period of the economic contraction as one of stimulus measures.

Changes of working hours and private consumption from 1980 to 2012 are mainly explained by labor supply shock that the representative household produces during the same period. In addition, the productivity factor also has an impact on consumption. In other words, Income effect has extremely limited impact on working hours and consumption and government expenditure has little leverage on working hours and consumption.

As the result, the working hours and the consumption can be mostly explained by the direct shocks of labor supply or the atemporal preferences, also the productivity is giving effect slightly on the consumption. However the export and government expenditure does not really have significant effect on either working hour nor the consumption.

Keywords : Business cycle, Working hour, Consumption, Labor supply shock