

Measure Dependent Ratio in Consumptions with Household Type Heterogeneity

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Dependent ratio, especially old dependent ratio, has been widely used as an indicator to monitor population age structure and its implication on social-economic development. Among the implications, the most important consideration goes to saving-driving-economic growth and sustainability of pension system. The former matters for economic growth and the latter one matter for society stability.

When relationship between age and consumptions are discussed, researchers focus on using life cycle consumption theory. The age varying consumption has been recently recognized by the literatures, for example, (Thomas J. et al., 2004) (Alessie & Ree, 2009), and (Erlandsen & Nymoen, 2006). However, all these works do not incorporate the impacts of living styles (three generations or two generations households) into the age dependent consumption pattern.

Another related exercise is the “equivalent scale” in the poverty assessment. The equivalent scale is to incorporate the household composition when measuring consumption per capita by including both the effect of “economies of scale” and “different needs of people at different age”. For example, see Deaton (1997). However, different from our purpose, their focus is on the welfare measure (the share of food consumption) rather than the absolute consumption expenditures.

In this paper, we contribute to the literature in three aspects: (1) we adjust the traditional dependent ratio in a way to accommodate the economic measures: consumption and income. The traditional dependent ratio is constructed by dividing the young and old population with the labor force population, which approximates the ratio of economic burden to the economic generation. To improve this measure by incorporating the consumption expenditure of young and old people into the numerator and the income of labor force people into the denominator. We find the expenditure and income adjusted ratio is much lower. (2) To advance our understanding consumption pattern variations across different age group, we employ a linear regression equation to decompose the household expenditure to different age group members. We find the old people consume much less than labor force population. The aged old (70 years old and above) consumes even less. However, the aged old who live with their offspring consume no less than the younger old do. It implies that living with offspring improve the aged old people’s welfare a lot. (3) We find for the households with young members, the grandparent generation presence does help reducing the

consumption of young member within that household, which provides supporting evidence to the common claimed “inter-family” child caring service provided by the old generation.

We employ the household survey data from Bangladesh, China, Cambodia, Thailand, and Viet Nam. We have considered two factors in selecting these countries: first, the aging of population in China has gained worldwide attention and also has implications beyond the country boundary. The other four countries are peer countries in the emerging Asia sharing distant or close similarity with China. Second, in our analysis, to control for the endogenous effect of income on expenditure, we need both the data on expenditure and income. Those five countries are the countries with both income and expenditure in their household surveys. The surveys are Household Income & Expenditure Survey 2010 for Bangladesh, Cambodia Socio-economic Survey 2009, Chinese General Social Survey 2005, Household Socio-Economic Survey 2009 for Thailand, and Household Living Standards Survey 2010 for Viet Nam.