Income Disparity between Agricultural and Non-Agricultural Households

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The income disparity between agricultural and non-agricultural households has been increasing in many countries. Studies in the labor economics literature often link population aging and underemployment to low labor participation and productivity, fewer savings, and greater financial pressure on households.

Keywords: income disparity ; agricultural and non-agricultural households ; underemployment ; aging

1. Introduction

Population aging in agricultural households becomes more prevalent than in non-agricultural households as better-educated, wealthier, and younger-generation workers tend to shun low-paying manual jobs in agriculture [1][2]. Underemployment, which was considered an urban-specific issue in the past, is also a serious problem among agricultural households because of surplus labor, particularly in developing countries [3]. Underemployment is the condition where workers' working hours are less than full-time or positions are inadequate concerning workers' training or economic needs [4]. Therefore, the term underemployed workers refers to relatively less productive workers. Even in many developed countries, new technology adoption and structural change result in a greater extent of underemployment in the agricultural labor market (e.g., due to the adoption of newly developed farm equipment, farmers need fewer workers to operate their farms; yet all family workers are still classified as employed farm workers) [5]. The underemployed agricultural household members (who are likely less productive family workers) decrease overall household productivity and per capita household income.

Many studies in labor economics point out that aging and underemployment are major factors in determining the wage, well-being, and productivity level of workers (e.g., [4][6][7][8]). A few studies specifically argue that aging and underemployment become more prevalent and problematic in the agricultural sector than non-agricultural sectors, which could be two major factors affecting the income disparity between agricultural and non-agricultural households. For example, Lee et al. [9] show that the Korea Gini index increased from 0.330 to 0.342 between 2006 and 2011 and that population aging has a significant effect on the inequality index. Bell and Blanchflower [6][10] find that for the post-Great Depression period in the U.K. and U.S., underemployment had a more significant role in wages than unemployment for all industries. In addition, Loughrey and Hennessy [11] show that the underemployment rate increased by 10% from 2002 to 2010 in the Irish agricultural sector and that the change in the underemployment rate was significantly correlated with a change in agricultural household income. Previous studies provide ample evidence that aging and underemployment play a significant role in the economic condition of agricultural and non-agricultural households (e.g., [3][4][7][8][10][11][12]). However, little has been done in the literature to empirically examine the effects of aging and underemployment on household income and income disparity between agricultural and non-agricultural sectors.

2. Impact of Aging and Underemployment on Income Disparity between Agricultural and Non-Agricultural Households

In the past, agriculture was considered the backbone of the overall economy in many countries. However, structural changes due to technological advancements, globalization, and environmental constraints have led to a deterioration of the social and economic status of agriculture [13]. One important issue caused by the structural changes is the increased income disparity between the agricultural and non-agricultural sectors. The increased income disparity has generated both economic and social problems regardless of countries' level of economic development [13][14]. Previous studies in the literature claim that the "urban bias" caused by the rapid labor transfer from agriculture to non-agriculture has resulted in negative effects of structural changes such as an increasingly aging population and a high underemployment rate in the agricultural sector [15].

Aging refers to the increasing ratio of older adults (typically aged over 65) among the population. Clark et al. [16] and Pammolli et al. [17] argue that population aging could burden the whole economy by increasing support costs for older adults (e.g., pension and medical expenses). Furthermore, the increased social expenditure required by an aging population may increase income inequality at the country [9] or regional [18] level.

Cymbranowicz [19] points out that underemployment, which is also considered “incomplete employment,” has become one of the biggest problems in the labor market since the great recession drastically increased the underemployment rate in most countries. In the U.K., for example, the underemployment rate exceeded the unemployment rate during the great recession [20] and now, underemployment has a greater influence on wage income than unemployment [6]. Underemployment generally refers to the situation where job openings are filled (or the employed workers are replaced) with workers who (1) earn a lower wage than the average wage of half of the population, (2) are underutilized, or (3) work less regardless of their willingness or capability to work. This “incomplete employment” can cause a decrease in overall wage income.

Many earlier studies find that income level is highly correlated with aging and underemployment rate. In these studies, factors affecting agricultural household income include household economic conditions, conditions of farmland, regional economic environments, and farm policies [21][22][23][24][25][26][27][28]. However, only a few studies discuss the potential impact of aging and underemployment on agricultural households. Some studies consider the age of farm operators or the number of laborers [29][30] as important factors of agricultural household productivity. Nonetheless, household-level aging or employment status (e.g., underemployment) has rarely been examined to study agricultural income and income disparity in the literature.

Seok et al. [7] and Boockmann et al. [31] claim that the aging agricultural workforce is likely to decrease the productivity level and labor participation rate in the agricultural sector. Spěšná et al. [32] also find that low wages in the agricultural sector serve as a barrier for young people to participate in the agricultural workforce and as a result, increase the proportion of aged workers in agriculture over time. The increased population of aged workers in agriculture could be closely related to the situation where most of the elderly agricultural workforce lives below the poverty line in some countries [33].

A few studies in the literature argue that household income is harmed by underemployment if workers unintentionally work less [34], if a lack of infrastructure exists [35], or if workers are underemployed due to the economic crisis such as the great recession [6]. As these problems become severe in the agricultural sector, underemployment is considered one of the determining factors of the low-income problem in agriculture [36][37][38].

Although many studies point out that aging and underemployment are important factors to determine income, the effect of aging and underemployment on agricultural income has been rarely studied in the literature. A primary reason for the lack of studies on the underemployment effect on agricultural incomes may be due to the fact that underemployment is mostly hidden or neglected in the agricultural sector. In many countries, agricultural labor data are collected mostly through self-reported surveys, and many farm household individuals tend to report themselves as either farm or family workers whether or not they contribute to farm production. Besides, unlike the non-agricultural sector, the agricultural sector lacks information about workers’ productivity (e.g., annual performance evaluation), particularly about family workers’ contribution to farm productivity. It is not likely that the head of the agricultural household (likely the farm operator) provides an objective evaluation of family workers’ contributions to farm production. Therefore, underemployment is less detectable in the agricultural sector than in the non-agricultural sector. The hidden underemployment problem may have been gradually increased and may have affected household income negatively in the agricultural sector [11][39][40]. To address the problem, previous studies generally use three underemployment criteria such as working hours, income level, and skill level-based measures [4][20][41].

3. Conclusions

The results suggest that the implementation of proper government policies could address aging and underemployment problems in agricultural households and significantly reduce the income disparity between agricultural and non-agricultural sectors. The implementation of proper government policies can attract more young adults and employment and business opportunities to agricultural regions. Aging and underemployment problems in agriculture could also be improved through immigration policies, as suggested by many studies in the literature (e.g., [42][43]).

Increasing immigrant workers has been considered one of the most effective ways to improve employment problems and age structure in the labor force [44][45]. However, these studies also point out that large-scale immigration would incur

significant costs such as political, social, health, and economic inequality problems. Therefore, a future research direction might be to conduct a cost-benefit analysis of immigration labor, particularly focusing on aging and employment status in the agricultural sector.

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