Abstract

Modern agricultural supply chains have been playing an increasingly important role in developing countries and have had significant effects on rural labor markets. This article analyses the effects of smallholder farmer participation in export vegetable supply chains in Northern Tanzania on both household hired labor demand and off-farm labor supply, using an age-disaggregated approach. In our sample, neither separability nor exogeneity of smallholder farmer participation in export supply chains can be rejected. Hence, we apply lognormal double-hurdle models and find that participation in export supply chains positively affects households’ decision to hire labor from all age groups. We also find that it increases the unconditional overall level of hired labor demand, while the age-disaggregated analysis shows that these effects mostly benefit rural youth. However, our sample does not allow us to establish statistically significant evidence of an effect on household off-farm labor supply although the point estimates point to nonnegligible positive effect sizes.

JEL classifications: I31, J43, O12, Q12

Keywords: Export vegetable supply chains; Hired labor; Off-farm labor; Smallholder farmers; Rural youth; Tanzania

1. Introduction

Over the past decades, global agri-food systems have witnessed the emergence and consolidation of modern domestic and export supply chains, in particular in developing countries, such as African countries who have been supplying an increasing share of high-value agricultural products, in particular fresh horticultural commodities, to developed countries (Maertens et al., 2012). This process has, among others, been pushed by the increased demand for higher quality and more diverse products in the latter (Humphrey et al., 2004). Such supply chains have had important effects in terms of rural development through diverse pathways. While the exclusion of smallholder farmers from these supply chains can be a problem (Humphrey et al., 2004; Reardon and Barrett, 2000), positive effects via product and labor markets have been documented (Maertens et al., 2012), and positive income and price effects for participating farmers have been found (Maertens and Swinnen, 2009; Neven et al., 2009; Rao and Qaim, 2011).

Modern supply chains (MSCs) can also have direct and indirect effects on and through labor markets, respectively (Maertens et al., 2012). For participating farmers, higher levels of on-farm hired labor use (Maertens et al., 2012; Neven et al., 2009) and direct positive effects on their hired labor demand (Rao and Qaim, 2013) have been noted. Export supply chains may also generate off-farm employment opportunities for poor rural households in developing countries, typically as employees in the associated agro-processing sector (Humphrey et al., 2004; Maertens and Swinnen, 2009; Maertens et al., 2012). Participation in these supply chains via labor markets has positive effects on income, agricultural production, and poverty reduction (Maertens, 2009; Maertens and Swinnen, 2009; Maertens et al., 2012). These labor effects have also been particularly important for women (Maertens et al., 2012; Rao and Qaim, 2013).

Such positive employment effects are relevant in the context of rural employment for poverty reduction in developing countries, particularly in sub-Saharan Africa. In the region, nonfarm and off-farm income have been increasingly important for the livelihoods of rural households (Barrett et al., 2001; Davis et al., 2017). Among others, they allow them to diversify incomes,