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Spillovers from off-farm self-employment opportunities in rural Niger

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ABSTRACT

Low-skilled off-farm self-employment is the most accessible opportunity for households in rural Niger looking to diversify their income sources. This raises the question of whether promoting the non-farm sector is detrimental to the performance of the farm sector. Unfortunately, the evidence base in West Africa and the Sahel for this important policy question is thin. In this paper we identify the covariates of the farm households' decision to participate in off-farm self-employment in rural Niger. We estimate the effect of that decision on farm activity investment. We find that participating in off-farm self-employment is highly correlated with farm and non-farm factors. Participation in off-farm self-employment is linked to increased agricultural spending on crop and livestock inputs, but a lower propensity to hire labour. Our results suggest that policies to promote the non-farm sector can support the development of the agricultural sector in rural Niger.

1. Introduction

In Niger, more than half of the population lives in rural areas and depends on agriculture. However, farm households face significant challenges due to climate change and agricultural factors that hinder agricultural production and threaten food security. The focus on agricultural production and lack of diversification of farm household revenues is highlighted in the literature as a cause of vulnerability.

Agriculture is the main economic activity in peri-urban and rural Niger and represented an average of 40% of the country's GDP between 2006 and 2015 according to the World Development Indicators data (The World Bank, 2017). However, a nationally representative survey on households' vulnerability to insecurity, conducted in November 2011 by the National Institute of Statistics (INS), indicated that 34.9% of households were food insecure. The 3N (Nigeriens Nourishing Nigeriens) Initiative, introduced in 2012 by the Government of Niger, attempts to address farm-related concerns by supporting sustainable agricultural development and food security. The 3N Initiative focuses on creating conditions conducive to dealing with all nutrition risks or food insecurity, and ensuring the agricultural sector is a vehicle for social transformation and economic growth (IMF Country Report, 2013).

Another reality observed in Niger, particularly in rural areas, is a lack of formal and decent wage employment. Rural exodus, mainly among young people, is attributed to the employment shortage. The National Agency for Employment Promotion shows that unemployed people struggle to find a job and want better linkages between the labour market, vocational training, and policies to support entrepreneurship (IMF Country Report, 2013).

Low-skilled off-farm self-employment[1] is currently the most accessible off-farm opportunity for farm households. The recent and nationally representative Living Standards Measurement Study – Integrated Surveys on Agriculture (LSMS-ISA-2011) data we use in this paper shows that more than 50% of farm households were involved in some off-farm non-paid employment. Involvement in the rural non-farm economy is, therefore, a potential risk management strategy for a large number of rural households.

There is new interest in promoting the development of the rural non-farm economy as a source of growth in agriculture-based countries and an important route out of poverty (IFAD, 2011). As such, the main challenge for policy interventions is to promote rural off-farm employment while enhancing agricultural production and improving food security. This is certainly the case in rural

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[1] Self-employment/entrepreneurship (non-agricultural) activities of individual household members.

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Niger where the promotion of the non-farm sector may compromise the performance of the farming sector, presenting conflicting policy objectives. The main question that we attempt to answer in this paper is whether increasing off-farm self-employment opportunities is beneficial for agricultural households in Niger. As such, we examine the nature of the relationship between the farm sector and the non-farm sector in the country, particularly through off-farm self-employment. As farm households become more diversified towards this type of non-farm employment, market imperfections may cause interdependencies between farm and non-farm activities, and may lead to spillover effects.

The issue of the linkage between farm and non-farm activities has been studied previously in the literature. Farm and off-farm sectors can grow in tandem, each helping to address market or government failures that hinder advances in the other (Barrett, Reardon, & Webb, 2001; Dorosh & Mellor, 2013; Johnston & Mellor, 1961; Mellor & Malik, 2017).

The literature on investment linkages provides evidence that non-farm activities are an important source of cash income, which can improve farm productivity if used for farm input purchases or longer-term capital investment purposes (Anriquez & Daidone, 2010; Marenya & Barrett, 2007; Reardon, Crawford, & Kelly, 1994). There is also the argument that expanding non-farm activities through labour transfers out of farming may result in negative externalities (Gedikoglu, McCann, & Artz, 2011; McNally, 2002). Promoting non-farm activities can attract the agricultural labour force and even generate unemployment if the cost of waiting and searching for non-farm working opportunities is lower than the loss in income by remaining in the agricultural sector. As such, policy interventions intended for rural areas may be inefficient if they ignore the nature of the linkage between farm and non-farm activities.

Additionally, many studies of market imperfections, in contexts similar to those in Niger, have stressed the importance of understanding the constraints faced by the rural non-farm sector and their related implications. Yet there is little knowledge of the covariates of low-skilled off-farm employment. There is also little evidence on the nature of the linkage between the farm and the non-farm sectors resulting from the increase of this kind of non-salary wage work. Knowledge on this topic is particularly scarce in Western Africa and countries in the Sahel, such as Niger.

In this paper we analyze the factors that are correlated with farm household decisions to get involved in off-farm self-employment and estimate the effects of these decisions on outcomes such as household agricultural expenditures. We provide a better understanding of the causes and consequences of off-farm self-employment opportunities, as reliable evidence to inform policy-makers. Additionally, we contribute to the empirical literature by addressing the potential endogeneity of participation in off-farm self-employment through the use of impact evaluation techniques under the counterfactual framework.

The rest of the paper is organized as follows. In Section 2, we review the literature. In Section 3, we describe the survey data. In Section 4 we discuss the methodological approaches. The estimated results are discussed in Section 5. Section 6 concludes with some policy implications.

2. Literature review

The rural non-farm sector may play an more important role thanks to the emergence of non-farm activities observed in rural areas. The non-farm sector is increasingly perceived as having the potential to absorb a growing rural labour force and to slow the rural exodus (Haggblade, Hazell, & Brown, 1989; Haggblade, Hazell, & Reardon, 2010; Lanjouw & Lanjouw, 2001). A common argument is that promoting the rural non-farm could also provide support for the agricultural sector. As such, many studies in developing countries are interested in understanding the constraints on the rural non-farm sector and their implications.

The first group of studies examines the covariates of agricultural households' decisions to get involved in non-farm activities, mostly off-farm self-employment. Policy recommendations derived from these address constraints or entry barriers to rural households' participation in these activities (Barrett et al., 2001). In general, access to some public and private assets is advocated as a support to help rural households increase their self-employment (Escobal, 2001). For example, education is linked to accessing better paid off-farm employment (de Janvry & Sadoulet, 2001; Yunez-Naude & Taylor, 2001), while being credit constrained reduces the scope for non-farm self-employment (Ali, Deininger, & Duponchel, 2014). Infrastructure and location are also found to hinder the development of self-employment opportunities (Bhatta & Årethun, 2013; Ghimire, Huang, & Rudra, 2014; Isgut, 2004).

Nagler and Naudé (2017) provide evidence of covariates of non-farm entrepreneurship in six Sub-Saharan Africans countries. The authors identify push factors related to the risk of farming under imperfect and missing markets for credit and insurance as important covariates. Access to credit, household wealth and education are drivers for business opportunities. These results differ by country, revealing the contextual aspect of non-farm entrepreneurship in rural Africa. In the case of Niger, Nagler and Naudé (2017) found that liquidity constraints seem to hinder entrepreneurial activities in rural and urban areas. However, there is no evidence of the effect of the riskiness of farming as a push factor. The authors found that households experiencing food shortages were less likely to operate a non-farm household enterprise in rural areas. Also, neither unexpected price changes of inputs or outputs, nor geographical (natural) shocks affect entrepreneurship in Niger.

The second group of studies that examine the implication of agricultural households' decisions to get involved in off-farm self-employment suggests that policies intended for the rural non-farm sector should also consider their impact on the farm sector. The literature on the relation between farm and non-farm activities stresses the importance of understanding the nature of this linkage when introducing or elaborating such policies in agricultural areas (Davis, Reardon, Stamoulis, & Winters, 2002). Expenditures linkages are largely observed in developing countries where market imperfections are highly likely. Investment linkages are one form of expenditures linkages that are highlighted in the literature.

Results are mixed, although the trend is towards a positive linkage. Some studies conclude that the allocation of household labour between agriculture and activities outside of agriculture, such as self-employment, affects farming choices and helps alleviate capital and credit constraints by providing the necessary cash for farm expenses (Davis et al., 2002; Oseni & Winters, 2009; Stampini & Davis, 2009; Woldenhanna, 2000). Other studies suggest the expansion of non-farm activities may be linked to negative externalities. It is argued that increasing off-farm employment opportunities may contribute to labour transfers out of farming and to reduced time available for farm management and intensive farming techniques (Gedikoglu et al., 2011; McNally, 2002; Phimister & Roberts, 2006).

We are not aware of any evidence on the existence or nature of linkages between the farm and the non-farm sectors induced by increased off-farm self-employment for Sahelian countries such as Niger. We aim to address this knowledge gap. We use the same cross sectional database as Nagler and Naudé (2017) to analyze covariates of farm households' decisions to participate in off-farm self-employment but we also account for unobserved heterogeneities

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