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SYNOPSIS OF **ESSP WORKING PAPER 90**

Synopsis: Non-farm income and labor markets in rural Ethiopia

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Ethiopia's economy is rapidly transforming. However, the extent to which this is affecting off-farm income and labor markets in rural areas is not well understood. Based on a large-scale household survey in high potential agricultural areas of the country, we find that total off-farm income (defined as wage and enterprise income) makes up 18 percent of total rural income. Wage income in both the agricultural and non-agricultural sectors accounts for 10 percent of total household income, equating in importance to livestock income. We show off-farm income and wage income to be relatively more important for the poor and for female and youth-headed households. We further find that real rural wages increased by 54 percent over the last decade, mostly driven by high agricultural growth. While this wage increase is good news for the poor, it also induces adjustments in agricultural production practices, including increased adoption of labor-substituting technologies, such as herbicides.

INTRODUCTION

Stimulating the off-farm economy in rural areas of developing economies is considered an important step towards structural transformation of such economies. In particular, the development of well-functioning rural labor markets is increasingly seen as crucial for economic growth and for the creation of livelihood opportunities for young people. It is therefore important to understand how the off-farm sector and labor markets operate and to what extent their transforming influence is being felt.

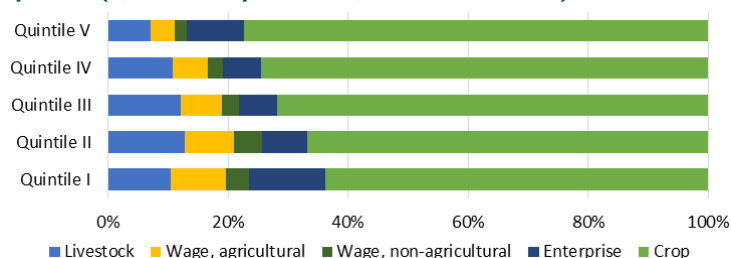
In Ethiopia, the economy remains dominated by the agricultural sector, with the majority of the population still making a living in this sector. Although rapid agricultural transformation has occurred, it is unclear exactly how the off-farm economy has been affected by these dramatic changes.

To research this topic further, we used two main datasets: Price data from the Central Statistical Agency (CSA) and data from farm households collected in the Agricultural Growth Program (AGP) baseline survey. A number of other datasets complement this data, including the ESSP Teff Producers dataset.

OFF-FARM INCOME IN RURAL AREAS

Off-farm income in Ethiopia is relatively low compared to other countries and is significantly related to the agricultural sector. It is estimated that crop income makes up 71 percent of total household income. Wage income makes up 10 percent of total household income, which roughly equates to the income share that households derive from livestock and livestock products. Enterprise income accounts for 8 percent of household income.

Figure 1: Contribution of different income sources, by income quintile (Quintile I = poorest; Quintile V = richest)



Source: Authors' computation using the AGP baseline survey data (2011)

We explored how different factors are associated with different shares of farm income. For example, crop production is lowest for the poorest income quintile (quintile I). The contribution of livestock and non-agricultural wage income as share of total household income is higher in quintiles II and III, and declines with increases in total income (Figure 1). We find that enterprise income is more important in the lowest and highest income quintiles, which may appear to contradict the assumption that establishing businesses require considerable initial investments. It is however, the engagement of the poor in lower investment activities, such as brewing and selling local liquor and ale, and the trading activities in grain and livestock, largely carried out by the rich, that makes sense of this finding. Overall, the off-farm sector is more important for the poor than for the rich.

Off-farm income sources are relatively more important for youth-headed households. These younger households might have to rely more on these off-farm sources of income as they often own less land than more established households. Notably, female-headed households overall rely more on off-farm income than male-headed households.

Further, we find that age and education of the household head influences off-farm income. Enterprising activities, associated with education, also positively affect diversification. Land quality and distance to cities play a part; agricultural and non-agricultural wage employment are positively and negatively, respectively, associated with distance from Addis Ababa.

AGRICULTURAL WAGES AND LABOR USE

We find that family labor is by far the most important contributor to agricultural work – hired labor contributes to only 7 percent of all agricultural work in the four major agricultural regions of Ethiopia. Within the regions there exists heterogeneity in terms of the share of hired-in labor to total labor used in agriculture, e.g. the share of hired-in labor is highest in Tigray and lowest in Amhara. The vast majority of households rely exclusively on family labor in crop production. Only about 23 percent of households use a combination of family and hired-in labor in crop production.

Many factors affect agricultural wages and labor use. We find that wages vary depending on task, gender, and age. Male workers earn 8 percent more than females, and older workers obtain lower

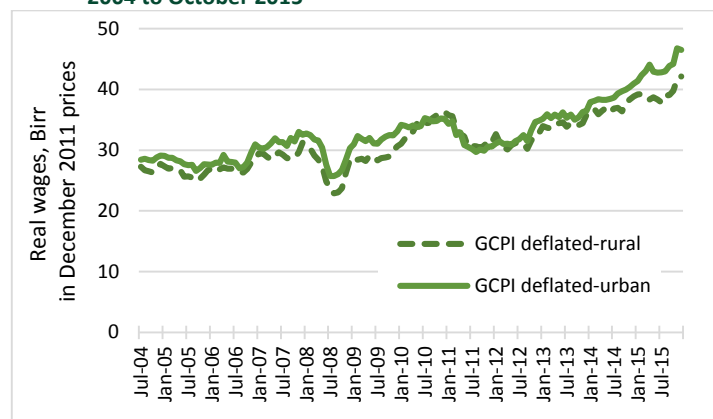
wages, possibly indicating that the productivity of older workers is presumed to be lower.

The results also show the importance of location on wages and wage-labor opportunities – hired-in labor clearly increases with urban proximity. Also, there appears a strong link of agricultural wage levels and poverty measures, suggesting that the poor might rely relatively more on these labor markets for their livelihoods. From further analyses, household and farm characteristics, such as the size of farm or household, the dependency ratio, and education of the household head, are all shown to impact hired labor. We find that agricultural labor markets are much more important in more urbanized and relatively better connected areas and during specific times of the year. We also find that the level of wages that are paid responds to these factors.

Rural wages

Trends in wage levels and in rural-urban wage gaps over time have important implication to Ethiopia's economic transformation. Using different indices, our calculations show that wages of unskilled laborers increased dramatically between July 2004 and December 2015, with daily wages in real USD more than doubling over this period. In real local currency, their levels increased by 54 percent over the last ten years (Figure 2).

Figure 2: Regional general CPI (GCPI) deflated daily wages of unskilled laborers in rural and urban areas, in Dec 2011 Birr per day, July 2004 to October 2015



Source: Authors' computation using CSA nominal wages data (2015a) and CSA regional GCPI data (2015b)

We note that the urban-rural wage gap has been low during most of the period examined. However, this wage gap has been widening in recent years. From our observations, wages in rural areas appear to respond mostly to changes in locally produced output, seemingly as most of the local population is engaged in these activities.

Implications of wage changes

Transformation of rural and agricultural labor markets has important implications on:

Poverty reduction - Increases in real wages are strongly correlated with a decline in poverty.

Substitution of labor with labor-saving modern inputs – In making use of some inputs, such as herbicides, less labor is required. Commercially-oriented farming areas show a particularly strong uptake of such herbicides, possibly linked to the higher wages in such areas.

Incentives for mechanization in agriculture – Although the use of mechanized services is still relatively low in Ethiopia, there is a strong threshold effect in the use of mechanized services.

Relaxation of credit constraints – The resultant improved access to agricultural inputs might lead to improved agronomic practices and higher agricultural productivity.

CONCLUSIONS

Ethiopia's economy is undergoing rapid transformation, mostly driven by rapid agricultural growth. Our research has identified the importance associated with connectedness and urbanization on labor markets and the general rise in wages driven by improvements in agricultural performance, including the adoption of labor-saving technologies. This, in turn, reduces poverty.

The policy implications of these findings on non-farm income and rural labor markets in Ethiopia are three-fold:

1. Low wages have been an asset for **attracting investors** to Ethiopia in the past. However, Ethiopia may start to lose that edge with the wage gap narrowing. Ethiopia therefore needs to ensure that the skills of its young population are upgraded so that industries can thrive in labor productive areas.
2. Higher costs of labor as well as the increasing commercialization of agriculture will require **increasing adoption of labor-saving technologies**. It is therefore important that Ethiopia proactively implements policies that allow for the provision of such appropriate technologies at low cost.
3. **Flexible and responsive labor markets** require easier migration to those areas with employment opportunities. Therefore, policies to encourage migration through more flexible land tenure and more secure land rental rules would facilitate the creation of such dynamic labor markets in the Ethiopian economy.

REFERENCES

Refer to **ESSP Working Paper 90** for a full list of references used in this study.

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The Ethiopia Strategy Support Program (ESSP) is financially supported by the United States Agency for International Development (USAID) and the Department for International Development (DFID) of the government of the United Kingdom and is undertaken as part of the CGIAR Research Program on Policies, Institutions, and Markets (PIM) led by the International Food Policy Research Institute (IFPRI). This publication has been prepared as an output of ESSP and has not been independently peer reviewed. Any opinions expressed here belong to the author(s) and do not necessarily reflect those of IFPRI, the Ethiopian Development Research Institute, USAID, DFID, PIM, or CGIAR.

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