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## **Labour Market Activities of Rural Households in developing countries.**

Sylvester Jatta

University of rome "Tor vergata".

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## Abstract

Using national data from 14 representative developing countries, this paper explores rural wage employment and its potential as a mechanism for improving the living standards of the rural poor. The analysis suggests that the sector of employment (agricultural or non-agricultural) and the overall household livelihood strategy appear to be of limited importance in determining whether a household uses wage employment as a pathway out of poverty. Rather, high-productivity wage employment appears to be linked to the underlying assets of the household and its individual members. In particular, the evidence points to educational and infrastructure investment as critical for providing opportunities in the labour market that lead to higher wages. The analysis also suggests that gender is very important for participation in labour markets as well as wages earned in those markets, indicating that special attention be given to the gender consequences of any labour policy.

**Key words:** rural labour market, mechanism, assets, educational and infrastructure investment, labour markets, gender, pathway out of poverty, livelihood strategies, non-agricultural employment.

### 1. The functions of rural labour activities

A recent study of developing countries that examines what makes the middle class shows that the primary characteristic of this group in both urban and rural areas is that they have permanent, well-paying jobs (Banerjee & Duflo (2008)<sup>1</sup> Although this study paints a picture of wage employment as a key element of improving household living standard, in rural areas the labour market, and at least agricultural wage employment, has often been viewed negatively with a general perception that it is a refuge sector for the rural poor (Lanjouw, 2007). Along with this negative perception of farm labour, the rural labour force is growing at a rate faster than the agricultural labour force limiting the ability of the agricultural sector to absorb rural labour (World Bank, 2008).

If this is correct, it raises questions about the potential for agricultural labour as a pathway to the middle class. As a must, one alternative option for rural labour in developing countries is rural to urban migration to where there might be greater opportunities for steady employment. There is evidence that the poor have indeed been migrating to urban centers at a rate faster than the rest of the population, although the number of poor people in rural areas remains substantially higher than in urban areas (Ravellion, Chen & Sangraula, 2007). Another alternative to agricultural wage employment is rural non-farm labour. The data show that the rural non-farm economy has increased in importance in terms of the share of rural household income it provides and that it continues to grow (FAO, 1998; Reardon, Berdegue & Escobal, 2001; Davis et al, 2007). What is less clear is the role that rural non-agricultural activities can play in providing poverty alleviation for rural households and whether it is truly distinguishable from agricultural wage activities. There remains a question of whether the rural non-agricultural economy can provide such employment opportunities. Given the evidence that permanent wage labour is linked to higher standards of living, it is important to understand whether using wage employment as a pathway

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<sup>1</sup>Banerjee & Duflo (2008) define the middle class as household whose daily per capita expenditure valued at purchasing Power parity are between US\$2 and \$4, and those between \$6 and \$10

out of poverty is a realistic possibility for the rural population. The objective of this paper is to analyze rural employment in developing countries to see the role that off-farm labour participation in welfare of the rural population. Rural labour markets differ from urban markets primarily because of the central role of agriculture in the rural economy. Both the nature of the work done on farms and the seasonality of the demand for workers determines how rural labour is organized. Rural labour markets are also likely to be limited by the absence of infrastructure familiar to more densely populated areas. Without good roads and communications both workers and employers suffer higher transaction costs in labour market interactions, making them thinner than they would otherwise be. Search costs are higher in the coordination of employers and workers, and the higher costs of movement reduce geographic integration. These factors are likely to create differences between rural and urban labour supply and in assessing rural labour supply we provide contrasts to the urban sector.

As part of research on rural employment, it is important not just to describe the characteristics of employment and how it is different from urban areas, but also to understand why some may achieve higher wages in the labour market while others do not. Our difference in returns is in the employment sector. A common contrast is in between agricultural and non-agricultural wage employment with the expectation, mentioned above, that agriculture tends to be low productivity and non-agricultural activities higher productivity. We explore whether this is the case both in general and through examining individual non-agricultural industries. In addition we also want to consider what are the factors underlying labour market outcomes, such as gender, education, access to land and infrastructure might influence labour market employment and the wages earned in employment.

Many rural households are likely to be involved in many economic activities, including agricultural production, in part due to the seasonal nature of farming. It is critical to examine what relations might exist between a household's overall livelihood strategy and wage employment. Through this combination of analyses the hope is to provide a clear understanding of rural labour employment and the factors that influence it.

To meet the goals of this paper, the analysis presented below is organized in four areas as follows:

- i) Understanding the time dimension of employment participation (section 3),
- ii) Comparing agricultural and non-agricultural activities including evaluating (section 4) employment activities by industrial sectors (shown),
- iii) Understanding the key factors that influence high productivity wage employment (section 5),
- and iv) linking individual wage employment to households livelihood strategies (section 6).

The necessary data are described in section 2 of this paper which provides a review of the multicountry World Bank data base which is used in this analysis. Section seven 7 then provides a conclusion.

## 2. The World Bank data base of Least Developed countries

For this analysis I used data from 14 developing countries of the World Bank data base. This data is a collection of multipurpose surveys from countries in the four principal developing areas - Asia, Africa, Eastern Europe, Central Asia and Latin America. These data were made available through a joint initiative of the World Bank and Food and Agricultural Organization of the United Nations<sup>2</sup>. Although previous analysis of the Bank's data base has been conducted at the

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<sup>2</sup> Information on the RIGA data base can be found at <http://www.w. w. fao. org/es/riga/index-en> htm

household level, this paper pursues questions of employment and wage patterns and therefore individual level data has been constructed.

Creating comparable individual level labour data requires establishing a consistent framework to resolve the many challenge inherent in a multi-country analysis of developing countries. The first key step involves defining rurality, which is our primary sample selection criterion. Following previous research using the Banks data base, government definitions are used, since they reflect local information about what constitutes a rural area (Carletto et al, 2007). Rurality is defined based on the location of the domicile of the household and not on the location of employment (i.e. areas with fewer than 1500 inhabitants).

Since the interest in this paper is on the labour income of rural households. The focus of this analysis is on individuals of working age, defined here as those between 15 and 60. Labour market participants are defined as any individuals in the household in this age category that responded to labour time and earnings questions in wage employment modules of the corresponding living standard survey of developing countries.

Along with the data on rural labour market activities, individual and household level income variables are also available in this data set obtained from "a living standard survey of developing countries of the World Bank data(WB).<sup>3</sup>This allows for an investigation of how labor labour markets participation and remuneration varies based on individual and household factors. The final data set includes data on individual labour force participation, time participation categories, daily wages, individual characteristics and household characteristics. Table 1 list the countries used in this investigation, the particular survey used and the number of working age of individuals in rural areas in each survey.

(Table 1)

### 3. Rural versus urban labour markets: Employment rates and the stability of employment

There is a great deal of variance in overall participation rates, suggesting substantial differences in rural labour markets in each developing country (see table 1 conclusion of paper). In general, rural labour market participation rates are slightly lower than urban rates, although somewhat surprisingly not dramatically so. Across all the countries rural participation rates are, on average, 88% of urban rates. This may be due to the fact that in many developing countries self employment activities are very important even in the urban sector.

In South America nearly uniform rates, between 34% and 39% are found while in the other regions there are broader ranges of participation. Comparing participation rates across levels of Development (figure 1 last pages of paper) shows there are no clear trends in rural labour market participation rates even though participation rates appear to increase slightly in urban areas as development occurs, possibly reflecting the rise of the middle class noted by Banerjee & Duflo (2008). The lack of clear pattern across the globe provides a strong indication that rural labour market participation reflects local conditions. (figure 1)

Because of its association with long-term, stable and presumably high productivity work, we are interested in distinguishing permanent work from casual and seasonal employment. Defining this in practical terms given the available data requires distinguishing the duration and frequency of employment. Duration is the length of time that a job has continuously been worked at, by a

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<sup>3</sup> Details concerning the constructure of comparable labour data can be found in Quinones et al (2008)

specific person in a given time period/span and frequency refers to how often a job is worked at, by an individual, in a given time period. To operationalize this distinction in a manageable framework, employment is categorized using combinations of duration and frequency into one of the following four classifications: i) Full Year-Full Time (FYFT), ii) Full Year-Part Time (FYPT), iii) Part Year-Full Time (PYFT), and iv) Part Year-Part Time<sup>4</sup>.

In general, rural labourers are not permanent workers since they do not work full time for a full year and instead work in different combinations of full/part year and full/part time (shown in table 1) last pages of this paper. Seasonally and casual work are clearly important features of rural labour markets. In countries with data<sup>5</sup> only in Bangladesh does full Year, and full time represent over 50% of employment. More than half of the countries including South American countries, are more or less evenly split between full year and part year employment.

Compared to urban workers, rural workers are less likely to be permanent (i. e. FYFT). Of those that participate in labour markets, rural workers are, on average, about two-thirds as likely to be in permanent work compared to their urban counterparts. Although this is the case, the amount of permanent work increases with the level of economic development (shown in figure 2 ) suggesting it approaches urban levels as development occurs. Thus while participation rates in rural labour markets do not appear to increase dramatically with the level of development, the composition of rural labour appears to shift towards more permanent work, becoming more like the urban sector. (see figure2)

#### 4. Farm versus non-farm employment

The general view of agricultural wage employment noted in the introduction is put succinctly by Lanjouw in the following: ‘A fairly robust stylized fact about rural poverty in many parts of the developing countries is that the poor are highly represented and the majority among agricultural wage labourers. Unskilled labour is often the only asset the poor can depend on to raise their living standards. Farm wage labour, particularly casual daily wage employment, is seen in many places as an occupation or employment of last resort. Income is typically low, the work is physically demanding, (no need of intellectual capacity) employment is prone to significant seasonal variation and it can be associated with a lack of seasonal status ‘(Lanjouw, 2007,p57)

This view is largely confirmed by the rural data from the countries being studied with some caveats noted below. Among the rural populations that participate in each set of activities, the poorest quintile in each country participates in greater numbers in agricultural wage employment than in non-agricultural wage employment (shown in figure 3, first panel data). This is most pronounced in Asia and in South America where 30-50% of all farm wage participants are in the poorest quintile. In all countries except Ghana and Bulgaria, the share of farm wage participants declines at higher expenditure levels. This is in contrast to non farm activities which tend to be more evenly distributed across expenditures quintiles only declining in Nepal and Ecuador and even rising in a number of cases. Furthermore, the richest quintile participates in greater numbers in non farm wage employment, the analysis also points to the relatively unskilled nature of agricultural wage employment. In general agricultural labourers have lower education than non-farm labourers

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<sup>4</sup> The precise definitions of these variables can be found in Quinones et al (2008)

<sup>5</sup> Due to insufficient information on time use in the surveys, it is not possible to distinguish Full Year and Part Year for Ghana, Nigeria and Bulgaria, instead these are divided only by Full Time and Part Time.

(shown in figure 3, second panel). In fact in all cases but Tajikistan the proportion of high school graduates participating in non farm activities is double the same proportion for farm labour.

By virtue of the seasonality of production, agriculture tends to lead to more casual work opportunities than non farm activities. For all countries except Equador, non-agricultural activities are more likely to be full year and full time (shown in figure 3, panel 3). These patterns are more pronounced in Asia and least pronounced in Latin America, where the patterns of time use for agricultural and non-farm activities are most similar. Even among non-farm activities, rural workers experience greater seasonality and casual labour opportunities than their urban counterparts. A clear feature of rural labour markets is the lack of permanence in labour relationships (shown in figure 3)

The relatively poor and unskilled nature of farm wage is apparent even when non--agricultural activities are divided by industry (manufacturing, construction, commerce related activities, services, mining and utilities and other activities). In general farm wage participation rates among the richest quantile are lower compared to all non-farm industries (shown in 4, panel 1 last pages of this paper). Within the non farm sector, there is some variance, with a higher share of richer households (shown in quantile 5) participating in the service sector and lower share participating in construction. All sectors boast higher education levels than farming (shown in figure 4, panel 2).

Education seems to be one reason for the positive link between higher expenditures and the service sector. The average years of education for participants in the service industry are higher than the total average of education for participants in farming in all cases. This is in contrast to construction where in most cases the average education of participants is near or below the total average of education although it remains higher than the education levels found for farming participants in all cases but one. It suggests that while construction is not a high education activity, it appears to be an activity for those with at least a minimal level of education. (shown in figure 4, ).

The reason behind the positive link between higher expenditures and skill level, and non-farm or farm wage employment is likely to be the fact that farm wages tend to be lower than the non-farm or farm wages. In fact, in all African and South American countries, the farm wage distribution is lower than the non-farm distribution for rural workers (shown in figure 5, ).<sup>6</sup> In Asia, it is unambiguously lower in all countries except Vietnam where clear differences are harder to observe. The only country where the farm wage distribution is higher is Albania.

This pattern of higher wages for non-farm employment holds even when examining permanent versus casual/seasonal work. Looking across levels of development (shown in figure 6, ), the ratio of agricultural to non-agricultural wages appears to decline over time. Overall the picture that emerges is that, as development occurs, rural employment becomes more stable and the gap between agricultural and non-farm wages narrow. (shown in figure 5, and figure 6).

Although farm wages tend to be lower than non-farm wages and the poor and unskilled tend to disproportionately participate in farm wage activities, there are better off households that are employed in farm wage and there are a substantial number of relatively poor households involved in non-farm wage activities along with the wealthier households.

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<sup>6</sup> Distribution are presented as the log of daily wages. Daily wages are used rather than hourly wages since these are the most consistent across the national surveys for the included countries and do not require assumption about the hours per day worked.

The wage distributions shown in Figure 5 clearly show a significant overlap in the daily earnings in each sector. As such, this sectoral distinction is not exceptionally useful for understanding the role of rural labour markets in improving the well being of the rural population and correspondingly what policies to implement. Since our underlying interest is in knowing which activities tend to be more productive labour and thus a potential pathway out of poverty, it would be valuable to come up with such a categorization.

To get a sense of the share of activities that are high and low productivity, Lanjouw (1999) uses the average agricultural wage as a reference point defining those higher than this as high productivity and those below this as low productivity. Here we follow a similar approach but use both farm and non-farm wages and take into account that non farm wages tend to be higher than agricultural wages. Three productivity categories are defined

i) low productivity: activities earning less than the median farm wage

ii) medium productivity. activities earning between the median farm wage and the median non farm wage: and

iii) high productivity :activities earning more than the median non-farm wage.

This distinction works well except in the case of Albania, Bulgaria and Vietnam where non-farm wages are not clearly higher than farm wages. In these cases, we divide the sample between high and low productivity based on the median farm wage.

Using this productivity categorization, it is clear that a significant number of farm workers are considered high productivity and similarly amount of non-farm work is low productivity (Table 2). In Africa, 25-30% of agricultural work is high productivity and thus has equivalent returns to higher-value non-agricultural work. Similarly about a quarter to a third of non-agricultural work is low productivity work and similar to low-value farm work. Comparable numbers emerge for Latin America except that high value farm work is slightly less prevalent (just below 20% ). In Asia, the numbers are lower for Nepal and Bangladesh where only around 10% of farm earnings are in the high productivity category and smaller numbers of non-farm workers are in the low productivity category. Tajikistan follows a smaller pattern. Thus, in these cases the two sectors are more distinct.

Interestingly, the analysis of time categories (not shown here) suggest that there are no clear distinctions between productivity in permanent, casual and seasonal work.

Even when examined by non-farm industry (not shown) a range of levels of productivity are found across industry, with only services and mining and utilities consistently high productivity. These results suggest that there appear to be other factors driving the differences in wages. The question we then want to address is what key factors tend to allow workers to participate in more productive activities. (shown in Table 2).

## 5. Important elements attracting high productivity activities

To explore the factors that are driving differences in labour market participation and wages we turn to regression analysis . First, we analyze participation in wage employment and then, among those who participate, what drives them into low versus high levels of productivity. This is done by examining probit regressions. (one is participation and zero otherwise) on overall labour market participation followed by probit regressions on participation in the particular productivity category (one is participation in the activity and zero otherwise). This second set of probit regressions is run only for those individuals that participate in wage employment activities, and allows us to

distinguish the key factors that pull an individual labourer into a high productivity activity versus those characteristics that push individuals into a low productivity activity.

The results of this analysis are available in appendix 1 and results are summarized in Figure 7.

Along with examining participation, the factors influencing daily wages earned are also analyzed using standard wage equations where the dependent variable is the log wage. Key results are presented in Table 3 and full results are in the Appendix. Overall, the results suggests that three factors matters most in labour markets

- i) the gender of the individual
- ii) their education level, and
- iii) their location and thus access to infrastructure.

Somewhat surprisingly, land access appears to have a minimal influence in labour markets.

Gender has a substantial impact on labour market activity. Controlling for other factors, women are generally less likely to participate in labour markets than men. This is possible because of social constraints and requirement to stay at home to manage the household activities. The magnitude of this effect varies across regions with the largest effects found in South America where on average rural women are 35-50% less likely than men to participate in labour markets. In fact in general there appears to be a link between labour market participation and development with women being even less likely to participate in rural labour markets in more developed countries (shown in figure 7,

panel 1).

The analysis also indicates that employed women have a higher probability of working in low productivity jobs than high productivity jobs. Examination of daily wage earnings confirms that males earn substantially more than females in general (for 14 out of 15 countries the results are statistically significantly different) with female earnings between 5% and 50% lower than male earnings when controlling for basic individual characteristics (shown in Table 3 ) and (Figure 7 ).

The key to participating in high value wage employment activities appears to be education. Generally, there is a positive relationship between education and participation in rural labour markets suggesting that education is linked to labour markets and that labour markets are used as apathway out of poverty for the educated (shown in figure 7, panel 2 ). Again he magnitude of the results varies across country but tend to be increasing with the level of development. Examination of interaction terms in participation equations (which not shown) indicate that the impact on participation of education is larger for women with each additional year leading to even greater participation for women than men.

Along with influencing overall participation, education is closely linked to high productivity employment. In 13 out of 15 countries, education is negatively associated with participation in low productivity employment and positively associated with participation in high productivity employment with each additional year of education increasing the probability of high productivity employment by 1 to 4%. The results indicate the effects are stronger for higher levels of development suggesting education becomes even more important for participation in high productivity activities in relatively wealthier countries.

Not surprisingly then, education is associated to higher wages or income in all countries except for Vietnam and Albania. (shown in Table 3).



Infrastructure access and proximity to urban areas<sup>7</sup> appears to a mixed role in participation in labour market activities, but an important role in the type of activity and the wages earned on those activities. The results for participation are not consistent across country although appear to slightly increase with the level of development (shown in figure 7, panel 3). Infrastructure/proximity tends to be negatively associated with low productivity work and positively associated with high productivity work in 12 out of 15 developing countries. This relationship is slightly stronger with a higher level of development.

Infrastructure and proximity also appear to be associated with higher wages with those closer to urban settings earning higher income except in Eastern Europe (shown in Table 3 ). Those that are close to urban center and thus with greater access to infrastructure are in a better position to get high productivity work and to earn more money from that work.

The location of household in a rural setting and access to public infrastructure influence the ability to take advantage of rural labour markets.

Land has historically been viewed as a key asset for rural households because of the link between land and agriculture. The relationship between household land ownership and wage employment is of great interest since it may represent an agricultural path as opposed to one based on wage employment.

The analysis indicates there is generally a negative relationship between land ownership and participation in labour markets suggesting that the lack of land pushes working age individuals into the labour market (shown in figure 7, panel 4). Yet the magnitude of this effect is generally not great and in terms of productivity, there appears to be little influence of land ownership on the type of activity of the labourer (few results are significant and thus results are not shown in figure 7).

Other factors seems to be more important in determining whether individuals work for a wage and the type of work they obtain.

A similar analysis of the factors influencing participation and wages in individual industries provides additional insight into the role of these key factors. Women are much less likely to be involved in construction, mining or utilities, but more likely to be in the service sector (shown in Table 4, ). Their wages (shown in Table 5, of this paper) in the service sector are either not significantly different from males or are less, particularly in Latin America.

The pattern generally holds for wages across sectors where they tend to be statistically insignificantly different from men, or significantly less, with significant differences found mostly in Latin America.

For agriculture, the influence of gender on participation varies except in Latin America where it is clearly negative and with a high magnitude. In nearly all countries, women also earn less than men in farm rural income generating activities. (shown in Table 4, )

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<sup>7</sup> Access to infrastructure (such as electricity) and distance to urban centers is likely to influence labour market participation yet creating comparable measures of infrastructure access and proximity is challenging because of differences in variables available across countries. Following Filmer & Pritchett (2001). A principal components approach is used to create an infrastructure/proximity access index that includes both public goods (electricity, telephone, etc. ) and distance to infrastructure (school, health centers, towns, etc). The higher the index the more remote households are from urban areas.

Wage employees with high levels of education are less likely to be involved in agriculture in every country (shown in Table 4). On the other hand, the service industry seems to be the most influenced by education with an increase in education leading to a greater probability of participation in all countries. In Asia and Latin America, a similar pattern is found for commerce. Participation in construction, alternatively is found to be negatively related to education in most countries including all of Asia and most of South America.

Given participation education has a positive effect or no significant effect on wages (shown in Table end of paper) regardless of the industry. This is particularly true of agriculture and services. While agriculture is not chosen as the sector to participate in by the educated/skilled, and the educated or skilled worker who when find the right employment opportunities do receive higher wages (shown in Table 5).

Finally, infrastructure or proximity to urban settings tends to be negatively associated with participation in agriculture while positively associated with commerce and services.

Although greater proximity was found to have an overall positive influence on wages except in Eastern Europe, it is often statistically insignificant for the individual industries. There are a number of cases in which it is significantly positive but no broader pattern across the industries emerges.

The rural labour economy is clearly complex and the characterization of the agricultural labour employment as a refugee sector of the poor and unskilled while appropriate in some circumstances fails to recognize that agricultural wage labour can offer a pathway out of poverty and that much of the non-agricultural sector can be characterized in a similar manner.

The differences across the non-agricultural industries indicate that even within the sectoral categorization there remain substantial differences across the industries. The analysis presented indicates that in evaluating rural labour markets, it is more appropriate to consider the level of productivity and correspondingly wages earned of these activities and the factors that influences this productivity.

## 6. Means adopted for families livelihood -- rural income activities

As observed in the introduction, an important characteristic of the rural economy is the central role played by farm of the economies of developing countries. Participation rates in farming of rural households in developing countries remain high, even if household members work-off (see Davies et al 2007). Individuals' decision making on labour market participation is likely to be at least partially based on the households overall livelihood strategy. As such understanding rural labour requires considering labour participation in the context of household livelihood.

Among overall household means to improve well being, wage employment maybe used as a specific pathway out of poverty and thus the focus of the livelihood means or as ways to diversify income to obtain liquidity or hedge against risk. Understanding the motivation for a household strategy is complicated by the fact that multiple household members are involved in economic activities and what may appear to be diversification at the household level may actually be individual specialization in the highest return activity available to that particular individual. While high productivity wage employment opportunities are likely to reflect specialization, low return activities are less likely to be so except in those cases where households have such limited assets and have no option but to be employed primarily in low return activities.

To understand how individual wage employment fits with a household's overall livelihood strategy, we need to turn to household-level data and categorize household means.

Households can be defined as having income from three main sources

- i) wage employment,
- ii) farm production and
- iii) non farm employment including transfers and other sources of income.

Household can then be defined as diversified if less than 75% of their income is from a single source and specialized if 75% or more of their income comes from a single source. Using this definition, between a quarter and a half of rural households can be viewed as diversified while the rest specialize in certain activities (see figure 8 panel 1).

Except in Africa diversified households are the norm. In Africa specialists tend to be in farming with over half of households in all three countries specializing in agricultural production.

Among households that are diversified a clear component of that diversification is through wage employment (shown in figure 8 panel 2). Wage labour participation rates are over 50% in most countries for diversified households with rates over 70% in a number of countries including all South American countries.

Furthermore, it is common for multiple household members to work off the farm with nearly all countries having over a quarter of households in which diversified households have more than one member in wage employment. Outside Africa among household that specialize in wage employment this number is even greater with over one-third of household having more than one member in wage employment. In Africa those that specialize in wage employment tend to rely on one wage earner.

Even among households specializing in farm and non-farm self employment activities, there is a certain share of household often above 20%, participating in wage employment and in a number of cases more than one member. Even household that appear to specialize are using labour market to an degree (shown in figure 8 end of this paper).

Individuals in households that specialize in wage employment income tend to be in high productivity activities especially in Africa (shown in figure 8). Within these wage specializing households there are, however, a large share of individuals in medium and low productivity employment. Specialising in wage employment does not guarantee that it would be lucrative.

Diversified household also have a mix of wage earners in the various levels of productivity although there are slight more higher than low productivity. Those household in the two other categories of wage specialization tend to be less likely to be in high productivity activities if they participate in labour markets.

Overall the analysis shows that labour markets play a critical role in the livelihood strategies of rural households. Among those that specialize in wage labour, there is a clear tendency for those households to have a member in high productivity activity suggesting these households are using the labour market as a poverty alleviation pathway. At the same time a significant number of wagespecializing households that remain in low-productivity employment indicating there continues to be a segment of households using wage employment as a survival strategy.

Among diversified households a mix of high and low productivity wage employment activities are employed reflecting the multiple uses of wage employment in household livelihood strategies.

## 7. Conclusions and policy implications

Wage labour activities is clearly an important component of the strategies employed by rural households and individuals to maintain and improve their well-being. Participation rates in rural labour markets, however, vary substantially across developing countries and are complicated by the fact that rural labourers often work in casual or seasonal employment rather than in permanent employment.

While the poor and unskilled are disproportionately involved in casual and seasonal agricultural activities, a significant number of better-off individuals are employed in agriculture and significant number of non-farm labourers are rural poor. This suggests that agricultural wage employment is not solely an activity of the poor and non-farm wage employment the activity of the rich. Even when broken by non-agricultural industry, while services in particular appear to be generally more lucrative and others like construction less productive, what is striking is the range of returns obtained across the subsectors.

The analysis suggests that the distinction in labour markets between farm and non-farm sectors is to a degree a false dichotomy. Both can play similar roles for the household in terms of a pathway out of poverty, as a refuge sector for those with few options or as a mechanism to provide liquidity and hedge against risks.

Whether a household is diversified or specialized the role of agricultural and non-agricultural activities appears similar. Households that are specialized in wage employment appear to be largely taking this path because they have access to high-productivity work. The sector of employment and the overall household strategy appear to be less important in determining whether a household uses wage employment as a pathway out of poverty. Rather it appears to be more linked to the underlying assets of the household and its individual members. In particular education appears to be the critical asset that determines both participation and wages earned in rural labour market activities. Educational investment in rural areas plays a key role in providing options to households regardless of industry. Infrastructure/proximity also plays a key role and many cases and proximity to urban centers creates greater opportunities for labour markets to play an important role in poverty alleviation.

Unfortunately, the gender of the individual seems to greatly influence the ability to participate and earn wages with females less likely to participate and generally earning less than their male counterparts. This clearly needs to be further explored.

In terms of policy for developing countries, this paper points to educational and infrastructure investment as critical for using the labour market to provide opportunities for the rural poor. It also requires that special attention be directed to the gender consequences of any employment policy and potentially gender-targeted interventions.

Of course this paper or analysis is limited in that it focuses on the labour supply of rural households and the key factors influencing the supply. With such data, it is difficult to assess the demand for rural labour, what influences the demand and how opportunities can be created for the rural households through expanded high-productivity employment.

Our results do indicate that such returns can be found in any sector, including agriculture, suggesting that what is important is not the sector but the dynamism in the sector. As development

occurs the expectation is that agricultural employment will diminish, but agriculture is still likely to be a key driver of growth even in the non-agricultural sector of the economy through linkages effects. What is difficult to know is what other drivers of the rural econsare. The industrial classification is normally provided in household surveys and used here shows little about what is the ultimate source of rural economic growth. Is it ultimately agriculture or other industries such as tourism, mining, etc driving this economic growth? While some answers to these questions exists (see Haggblade, Hazell & Reardon, 2007), future research should explicitly consider the link between different sets of rural activities and agricultural and non-agricultural employment in developing countries.

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