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A global update with a focus on sub-Saharan Africa

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Economic transformation and diversification towards off-farm income in rural and urban areas

A global update with a focus on sub-Saharan Africa

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Abstract

We update earlier cross-country studies on household income sources using an expanded harmonized dataset. Our study covers a total of 93 surveys representing 41 countries – nearly double that of previous studies – to depict rural and urban households' livelihood strategies across different levels of economic development. The findings shed light on the relationship between household livelihood activity portfolios and per capita gross domestic product (GDP), confirming a picture of multiple livelihood activities across the rural and urban space, at different levels of development. However, we find an emerging divergence between countries from sub-Saharan Africa and those from the rest of the world regarding employment and income generation. Both rural and urban households in countries in sub-Saharan Africa have significantly lower participation, shares of income, and specialization in wage labour than countries in the rest of the world, at similar levels of GDP per capita. Conversely, significantly higher shares of rural households in sub-Saharan Africa specialize in on-farm income-generating strategies at similar levels of GDP per capita, overall, suggesting a slower pace of transformation in this region. We also find that, as economies develop in sub-Saharan Africa, self-employment (usually an informal sector) is an emerging activity in urban areas, and in half of the countries, represents a larger share of household income than wage-employment. These results provide additional evidence on sub-Saharan Africa's diverging pathway of structural transformation, and with household income strategies remaining subject to seasonality factors in which their livelihoods are particularly vulnerable to risk and production losses.

Keywords: household livelihood strategies, diversification, specialization, self-employment, migration, rural households, urban households, poverty reduction, structural transformation.

JEL codes: D13, F22, F24, Q1, R2.

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1 Introduction

Economic development is associated with a structural transformation of economies, which involves the movement of labour from low to higher productive activities. This structural change in the composition of output and employment occurs within and/or across sectors to higher value activities (Clark, 1940; Gabardo, Pereima and Einloft, 2017; Lele and Mellor, 1981; Lewis, 1954; Syrquin, 1988). Historically, the reallocation of economic activity and labour occurs away from agriculture to industries and services (Losch, Magrin and Imbernon, 2013; Timmer, 2009; Winters *et al.*, 2008). In rural areas, the structural transformation process is primarily linked to *rural transformation* (Arslan, Cavatassi and Hossain, 2022), a process that entails an increase in agricultural productivity, a shift from subsistence to commercial farming, and the development of a highly diversified production system (IFAD, 2016). As changes in agricultural systems take place, rural transformation also refers to the emergence of new income-generating opportunities in the rural non-farm sector (Mellor, 2017; Woodhill *et al.*, 2022).

Economic transformation has been assessed by different approaches, starting with the development of the "dual economy" approach by Lewis (1954) and its expansion by Ranis and Fei (1961), as well as with the neoclassical analytical approach by Solow (1956). These approaches were mostly based on the structural changes observed in several high-income countries during the 19th and beginning of 20th centuries, in Europe and the United States of America. However, during the 20th century, fundamental structural changes were also observed in several developing countries across the different regions, indicating either a nascent or evident structural transformation process (McMillan, Rodrik and Sepulveda, 2017). In Latin America, growth over the 20th century occurred with a large share of workers moving from agriculture to manufacturing (McMillan, Rodrik and Sepulveda, 2017); and in the first decade of the 21st century, a large number of developing economies expanded with unprecedented gains in poverty reduction, mostly driven by economic growth and structural change in populous Asian countries such as China and India (McMillan, Rodrik and Sepulveda, 2017). During this period, Africa's sectoral composition also shifted, with employment moving into higher-productivity activities (De Vries, Timmer and De Vries, 2015; McMillan and Harttgen, 2014), but without becoming drivers of growth as these sectors did not expand faster than agriculture (De Janvry and Sadoulet, 2010).

Studying the patterns of structural transformation and its relationship with growth is still central for development economics. Most of what we have known about the process is from advanced economies, where more data and analysis are available (Herrendorf, Rogerson and Valentinyi, 2014). Therefore, more evidence is needed about this ongoing process in lower income countries, including the factors that give rise to different patterns of transformation (Herrendorf, Rogerson and Valentinyi, 2014; McMillan, Rodrik and Sepulveda, 2017). Given that over 1.1 billion people living in moderate to extreme poverty work in agriculture (Christiaensen and Martin, 2018), and that agriculture still constitutes a large share of GDP in low-income countries, policy choices geared towards within-sector transformation need to be strategically conceptualized and informed by evidence. Agricultural-driven growth needs to be considered as a main force of economic development and poverty reduction for low-income countries and in rural areas (Christiaensen and Martin, 2018; de Janvry and Sadoulet, 2020); yet fundamental questions on which sectors could absorb surplus agricultural labour is still a challenge in many developing countries.

Also, structural transformation of agriculturally-oriented developing countries will not necessarily follow the same path as early-developed countries (Woodhill *et al.*, 2022). Developing countries face different challenges compared to developed countries. In sub-Saharan Africa (SSA), they are highly endowed with natural resources and face high competition in a global economy, particularly from Asian countries, often exacerbated by new trade rules and more technologically sophisticated production (McMillan, Rodrik and Sepulveda, 2017). Conflict, climate change and other environmental problems are additional pressing challenges facing this group to a greater extent (FAO, 2016).

A subset of the literature has assessed whether SSA's pace and nature of transformation have been either sluggish (slower than the pace of other regions, given the level of growth), different (towards non-tradable services instead of tradable manufacture), or both (see, for example, Barrett *et al.*, 2017). Fox, Thomas and Haines (2017) study the extent and the speed of structural transformation among low and middle-income countries in SSA, covering 30 countries. They conclude that during the continent's best decade of growth (from 2000 to 2010), some countries were on a path of transformation with sectors' productivities converging; but this phenomenon took place as the result of strong movement in the shares of labour and output from agriculture into services rather than to into industry (Fox, Thomas and Haines, 2017). A number of structural features of the region condition the nature of structural transformation (Alobo Loison, 2015; Barrett *et al.*, 2017). Access to quality land is constrained by declining farm sizes in the face of increasing population pressures and land fragmentation, compounded by the generally poor and degraded soil quality and the increasingly limited access to water. Lower levels of human capital in rural areas inhibit the uptake of innovation and limit agricultural labour productivity growth. Limited and costly institutional and physical infrastructure weaken the functioning of local markets, leading to greater price volatility and increased transaction and input costs. Finally, African agriculture is relatively more exposed to an insured risk, with limited access to financial services, particularly for small-scale producers.

Our contribution to the debate around economic transformation in Africa brings a micro-level view from a household-livelihood-strategies perspective, assessing the level and extent of household participation in on- and off-farm income-generating activities at different levels of economic development. Using the totality of household member participation and income generation, we quantify livelihood diversification within and across households and account for labour allocation decisions across sectors within households. Cross-country studies using earlier versions of the data on which this study is based (Davis *et al.*, 2010; Davis, Di Giuseppe and Zezza, 2017) painted a picture of multiple activities across rural space and diversification across rural households, though somewhat less so in the SSA countries included in the sample. Davis, Di Giuseppe and Zezza (2017) argued that the evidence pointed towards a potential convergence to income diversification patterns similar to other regions. Moreover, while Davis, Di Giuseppe and Zezza (2017) found that African households are more likely to specialize in farming compared to households in other regions, the shares of participation and income in non-agricultural activities were comparable.

Apart from Davis, Di Giuseppe and Zezza (2017) and Winters *et al.* (2010), few studies have generated empirical evidence on patterns of household diversification and specialization by analysing cross-country comparable data on household income sources. This paper adds new information to households' income strategies from developing economies using cross-country comparable income aggregates developed by FAO's Rural Livelihoods Information System

(RuLIS) and its predecessor, the Rural Income Generating Activities (RIGA) project. These datasets double the number of countries analysed by Davis, Di Giuseppe and Zezza (2017), and cover a wider time range – from the early 1990s to 2019. Moreover, the analysis adds six more countries from SSA to those covered by the previous study, as well as India, a largely populated country, along with nine countries in other regions. Finally, the analysis also includes the urban sample of these datasets, reported separately, to provide a complete picture of households' livelihood-strategies transitions as economies develop and urbanize.

In this expanded analysis, we do find a different, or perhaps more nuanced, story. While a number of key conclusions are similar for the rural sample (including large-scale diversification is present everywhere, greater specialization in on-farm income-generating activities in SSA and greater specialization in off-farm income-generating activities in the rest of the world at similar levels of GDP per capita), we see a growing divergence of household livelihood trends between SSA and in the rest of the world that was not evident before.

The paper continues as follows: in Section 2 we introduce the theory and concepts of household livelihood strategies which are the basis of this analysis. In Section 3 we present both datasets used in our analysis, while in Section 4 we describe the methodology. Section 5 presents the results of the analysis, starting from the patterns of rural and urban households' income strategies reflected by their participation in different income-generating activities first and by the shares of income from different activities in the total income across all the sample and by expenditure quintile. The section also explores patterns of diversification and specialization and uses measures of stochastic dominance to characterize the association between household income specialization strategies and household welfare. Finally, Section 6 concludes the paper.

2 Household livelihood strategies

In this section we introduce some concepts and characteristics of household livelihood strategies, with a focus on rural areas. We are interested in how households adapt their livelihood strategies in the process of structural transformation and growth. The very definition of structural transformation entails a reduction of the share of agriculture in GDP and in the share of agricultural employment in total employment, and the reallocation to other sectors of the economy. At the household level, agricultural incomes typically decline (Headey, Bezemer and Hazell, 2010) while incomes from usually higher value, non-agricultural activities (in manufacturing and services) increase. This results in lower levels of on-farm employment (Woodhill *et al.*, 2022) and decreasing poverty in rural areas (Barrett, Reardon and Webb, 2001; Ellis, 1998; Reardon *et al.*, 2007; Winters *et al.*, 2010). In rural areas these transitions imply that household income diversification is more a norm than an exception in all regions in the world (Davis, Di Giuseppe and Zezza, 2017).

However, transitions out of agriculture depend on several factors, both from the supply side of labour (skills, asset endowments, location) and the demand side (investment and economic opportunity). While rural livelihoods are incredibly diverse, inside and outside of agriculture, poor rural households in low-income and lower-middle income countries share several common characteristics in terms of opportunities and constraints to economic activities. These include low levels of agricultural productivity (IFAD, 2016), exposure to high production risks (FAO, 2016), and pervasive multiple market failures (Arslan, Cavatassi and Hossain, 2022). These factors are further exacerbated by a lack or low level of access to information, services, and productive assets (FAO, 2014). As a result, most households diversify income sources (Barrett *et al.*, 2001; Davis *et al.*, 2010; Reardon *et al.*, 2007) to manage risk. In SSA, the constraints are compounded by declining farm size, an absent demographic transition resulting in population growth in urban and rural areas, and limited job creation. This has meant that households in the region have held onto agriculture (Fan and Rue, 2020; Hazell, 2015; Woodhill *et al.*, 2022), while diversifying into other off-farm sectors (Alobo Loison, 2015; Woodhill *et al.*, 2022).

Households' diversification strategies are the result of push or pull factors. Push factors force agricultural households to seek additional livelihood activities within or outside their current livelihood portfolio, yielding survival-led strategies. Pull factors, on the other hand, bring households to improved living standards (Alobo Loison, 2015), contributing to opportunity-led diversification. In rural contexts, push factors derive from the nature of high-risk and low-potential agriculture and recurrent poorly functioning markets. Pull factors are more prevalent in more agriculturally dynamic environments (Haggblade, Hazell and Reardon, 2007), with better links to market opportunities, both in the agricultural and non-agricultural sectors (Losch, Fréguin-Gresh and White, 2012; Readon, 1997).

Households with a greater stock of education/skills and assets can access better opportunities in the non-farm sector (Haggblade, Hazell and Reardon, 2007), facilitating the transition from a diverse portfolio of farm and non-farm activities towards specialization in formal wage employment, and into higher return incomes. Non-agricultural wage employment has generally been seen as the higher value activity in rural areas (Davis, Di Giuseppe and Zezza, 2017). The intensity (full time or part time) and duration (year round versus seasonal) of wage employment can also provide an indication of the returns and stability of wage employment (see Winters *et al.*, 2008).

Among off-farm income sources, self-employment opportunities are crucial in the process of household income diversification, particularly for those households and individuals with low skills, limited resources or when wage opportunities are not readily available. Self-employment can help households transition from agriculture towards more productive employment depending on existing pull and push factors (World Bank, 2007). Also, participation in these activities can indicate either opportunity-led or survival-led diversification, depending on the level of returns determined by household stocks of asset and skill endowments, which are often unevenly distributed by gender, wealth status and enabling environments (Alobo Loison, 2015; Barrett *et al.*, 2001; Barrett, Reardon and Webb, 2001).

Opportunities to earn income outside the farm also present opportunity costs related to production on-farm. Employment opportunities to work in return for food or income in rural areas is highly seasonal. The busiest times of the year in rural areas are generally at the start or early in the cropping season when soils need to be tilled, seeds sown, and weeds removed. The greatest food shortages – the hunger season – often coincide with peak labour demand for weeding and when many members of poorer households work temporary off-farm jobs for food (Bouwman, Andersson and Giller, 2021; Leonardo *et al.*, 2015). When the income earned off-farm is insufficient for hiring in labour, and thus cannot compensate for the absence in farming, attention to own crops may be delayed, resulting in yield penalties due to late planting and weeding (Giller *et al.*, 2021; Kamanga *et al.*, 2010).

Transfers are important sources of complementary income for households in both urban and rural areas, helping them manage risk, especially when facing credit constraints (Daidone *et al.*, 2019; Davis, Di Giuseppe and Zezza, 2017). Transfers, monetary or in-kind, can originate from social protection (welfare) programmes, or from supporting networks of family or friends, including remittances from internal or international migrants. For labour-constrained households, transfers can constitute the bulk of their income when they entirely rely on members who have migrated, or when they rely on social assistance to survive. If enough to satisfy households' basic needs, transfers can facilitate investments in capital formation, both human (education) and physical (assets), also playing an important role for household income strategy transformation (Daidone *et al.*, 2019), and where pull factors exist. Some households that receive large income transfers can invest in productive assets which could be used to develop an additional source of income.

Overall, we present a complex picture of survival strategies by households. In the next section we introduce the data and indicators used in the study, which take as a basis the concepts and evidence described above.

3 Data: the Rural Income Generating Activities (RIGA) and the Rural Livelihoods Information System (RuLIS)

The data used in this study draws on two databases composed of comparable national household survey data. The Rural Livelihoods Information System (RuLIS) (FAO, 2023), launched in 2021, is a database developed by FAO with the support of the World Bank and the International Fund for Agricultural Development (IFAD). The database represents a pool of nationally representative household survey data, currently covering 41 countries, including from the Living Standards Measurement Study surveys (LSMS) of the World Bank and other similar household budget or socio-economic surveys. Its preceding project, the Rural Income Generating Activities (RIGA) (FAO, 2023), constructed a database covering 22 countries, and established a methodology for estimating household income aggregates across countries in a comparable manner (Carletto *et al.*, 2007). Each survey is representative for both urban and rural areas, as defined in each country/survey.

Both RuLIS and RIGA income aggregates are constructed based on the same methodological approach. Consistency checks between the two databases were conducted during data preparation. When a country dataset is available in both databases, we used the RuLIS version.[1] Our study covers 17 countries from SSA, ten from Asia, seven from Europe and Central Asia, and seven from Latin America, and a total of 93 surveys, due to the inclusion of surveys from the same country at multiple points in time. The data for GDP per capita, expressed in purchasing power parity (PPP) constant 2017 USD, is obtained from the World Banks' world development indicators (WDI) database (World Bank, 2023).

Following Alobo Loison (2015), Davis, Di Giuseppe and Zezza (2017) and Davis *et al.* (2010), household income sources can be classified (at least) by four ways, as shown in Table 1. Classification I is the most disaggregated one with seven sub-categories (one for each income-generating activity). With these categories, three other classifications are constructed by aggregating them into higher level groupings. Classification II, for example, distinguishes between agricultural and non-agricultural activities, while Classification III orders by location into on-farm and off-farm categories. Finally, Classification IV groups the income-generating activities by type of labour from which income is derived.

[1] The following countries were available in both datasets: Albania 2005, Ghana 2013, Kenya 2005, Malawi 2004, Niger 2011, Nigeria 2013 and the United Republic of Tanzania 2009, 2011 and 2013.

Table 1. Different classifications of household income-generating activities

Classification I	Classification II
(1) Crop production (2) Livestock production (3) Agricultural wage employment (4) Non-agricultural wage employment (5) Non-agricultural self-employment (6) Transfer (7) Other non-labour income	Agricultural activities: (1) Crop production (2) Livestock production (3) Agricultural wage employment Non-agricultural activities: (4) Non-agricultural wage employment (5) Non-agricultural self-employment (6) Transfer (7) Other non-labour income
Classification III	**Classification IV**
On-farm activities: (1) Crop production (2) Livestock production Off-farm activities: (3) Agricultural wage employment (4) Non-agricultural wage employment (5) Non-agricultural self-employment (6) Transfer income (7) Other non-labour income	On-farm labour: (1) Crop production (2) Livestock production Agricultural labour: (3) Agricultural wage employment Non-agricultural labour: (4) Non-agricultural wage employment (5) Non-agricultural self-employment Non-labour sources: (6) Transfers (public and private income transfers) (7) Other non-labour income

Source: Authors' own elaboration based on Davis, B., Di Giuseppe, S. & Zezza, A. 2017. Are African households (not) leaving agriculture? Patterns of households' income sources in rural Sub-Saharan Africa. *Food Policy,* 67: 153–174.

As our indicator of structural transformation, we use GDP per capita, similar to previous studies (Davis *et al.*, 2017; Winters *et al.*, 2010). In a subset of cases, we also use agricultural value added (as a percent of GDP) to characterize the importance of agriculture in the economy and to establish a more direct relationship between households' transition out of agriculture and the role of the agricultural sector. The GDP per capita and agricultural value added indicators for each survey year are taken from the World Development Indicators (World Bank, 2023).

4 Methodology

Our study uses two main indicators. The first indicator refers to household participation in the different income-generating activities. This is a simple indicator variable defined by whether any income was earned by a household from a given category of income source. If income comes from the source, as indicated in the categories introduced in Table 1, the assigned value is 1, and 0 otherwise.

The second indicator refers to the proportion of household income generated by the categories introduced in Table 1. The shares of income can be computed in two ways: either as *the mean of income shares* or *the share of mean income*. We explain the difference of these two indicators below:

A. The **mean of income shares**, calculate income shares of all income sources for each unit of analysis (the household in this case), and then, calculate the mean of all household shares (by income source). This measure is used to reflect household level income-generating strategies, regardless of income size.

B. The **share of mean incomes**, calculate income shares as the share of a source of income over the total number of households. This measure is used to reflect the importance of an income source over a given population.

As with Davis, Di Giuseppe and Zezza (2017) and Davis *et al.* (2010), since we are interested in the average household strategy, and not its national relevance, for this study, we aggregate household income shares as indicator A, as follows:

$$\mu_x = \frac{\sum_{i=h}^{n} IS_{xh}}{n} \quad (1)$$

Where IS_{xh} is the share of income category x in total household income for household h, and n is the total number of households in the sample. Thus, income shares (IS_{xh}) are first calculated for each household, and then, the average over all households' income shares is computed for each income-generating activity.[2] We analyse participation and income shares separately for rural and urban households.[3]

We continue as with previous studies to analyse SSA in comparison to countries from the rest of the world (RoW). Based on the evidence cited above, we are interested in observing the potential differences between SSA and RoW countries regarding a different path of structural transformation. Given the increased number of available surveys, we also provide some analysis disaggregating RoW countries into three regions (Asia, Latin America and Eastern Europe and Central Asia). Our comparison of participation and income shares in different income-generating activities between SSA and RoW countries is ordered by GDP per capita corresponding to each survey year, in purchasing power parity (constant 2017 USD). Trends are smoothed by applying an adaptation of Preston curves which are often used for assessing the relationship between life expectancy and income per capita (Bloom and Canning, 2007; Preston, 1975). We follow an approach similar to that of Masters *et al.*, (2016) and Masters,

[2] For the RuLIS datasets, we conducted an outlier check for all the income share variables, using the same methodology as in the RIGA project. We follow Covarrubias, de la O Campos and Zezza (2009), defining an outlier as values greater than or less than three standard deviations from the median when checking for extreme values.

[3] The definition of rural and urban is specific to each country/survey, and these vary across countries.

Rosenblum and Alemu (2018), which use non-parametric local polynomial regression with a uniform bandwidth to provide consistent estimates of the dependent variable in question at each level of GDP per capita and of agricultural value added, as percent of GDP.[4] The methodology provides visual patterns based on more accurate breaking points, showing best linear fits. We report regressions with a 95 percent confidence interval to test for differences between SSA and RoW countries. Since our independent variable is the same in each regression, we impose a consistent bandwidth,[5] so the pattern of estimated means can be compared among the dependent variables, and the confidence intervals allow hypothesis testing by direct visual inspection.

Finally, to complement the analysis of household income strategies and welfare, we follow Davis, Di Giuseppe, and Zezza (2017) and conduct first-order stochastic dominance analysis of the distributions of household consumption expenditure by income diversification and specialization categories. This statistical method allows a more systematic assessment for determining which income-generating activities are associated with higher levels of welfare (expenditures). The analysis is simply done by comparing the distribution of the cumulative density function (CDF) of total consumption expenditures of households in the different income classifications. If CDF lines do not intersect, the one strategy stochastically dominating the others in terms of per capita expenditure (in such way that $F(x) \leq G(x)$), suggest higher association with welfare (and potentially, a pathway out of poverty). We compare the expenditure CDFs of households in diversified strategies with those that are specialized in on-farm activities, or agricultural wage employment, or non-agricultural wage employment or self-employment (we exclude transfers in this part of the analysis).

[4] More specifically, and as stated by Barron (2014): For instance, to estimate the slope at x=6, local linear regression takes all the data with x between 5.5 and 6.5 and estimates the slope at that point. Then, it moves to 6.1, takes all the points between 5.6 and 6.6 to estimate a new slope. Since both sets contain basically the same points, the slopes are going to be very similar, so the function looks continuous (Barron, 2014).

[5] We impose a uniform bandwidth of 3.45 to ensure local means are computed over the same range in each curve for comparison purposes and this is the width that best fits the data.

5 Results

5.1 Participation in income-generating activities

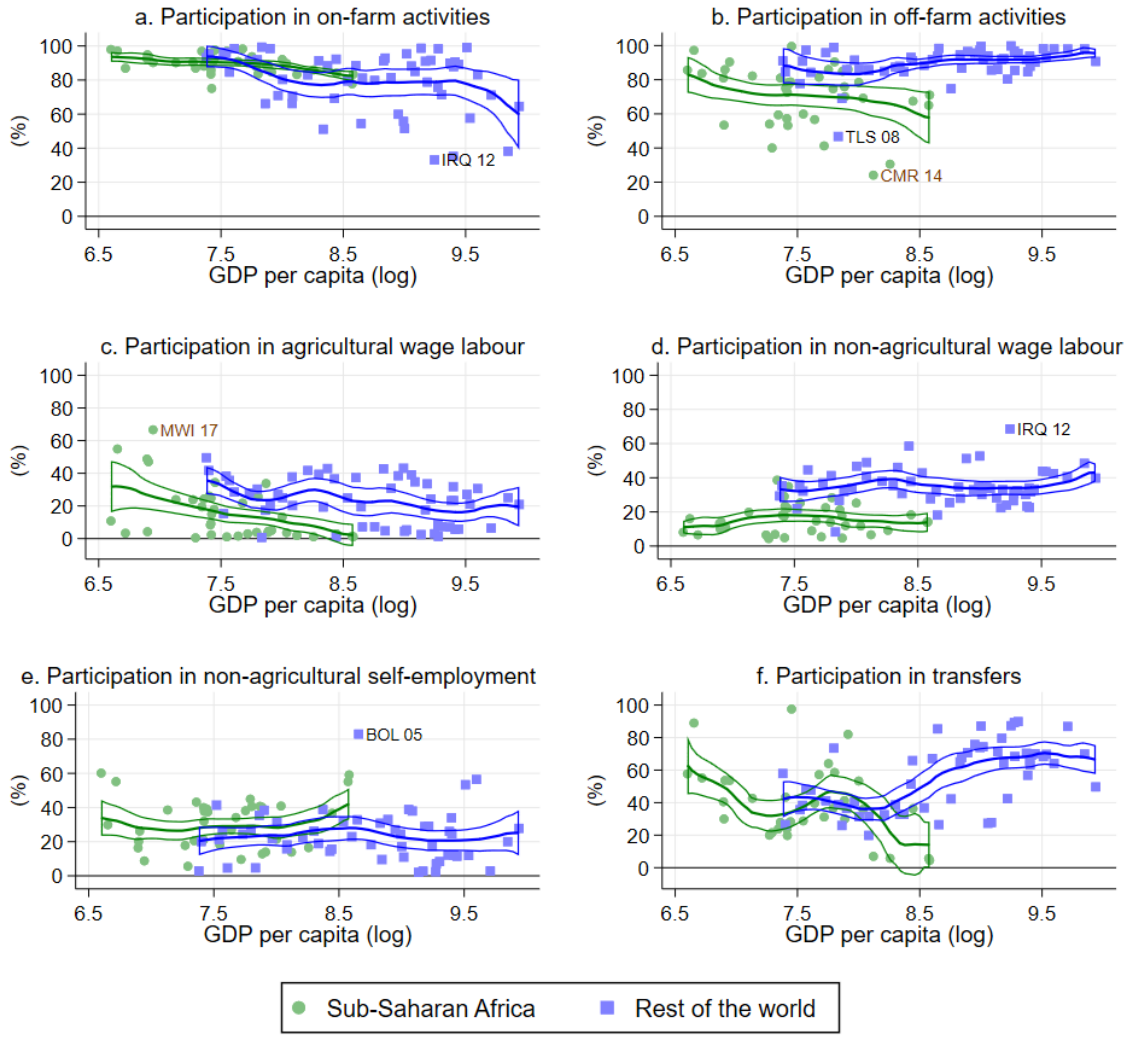
In this section, we present results of the first indictor, participation of rural and urban households across different income-generating activities.

Looking at rural households only, Figure 1 plots each country's participation in different income-generating activities for both SSA and RoW. We find that most rural households continue to engage in agricultural production, including at higher GDP per capita levels and that there is no significant difference in on-farm participation between SSA and RoW countries at comparable levels of GDP per capita. Table 2 shows the participation of rural households in different income-generating activities. In the SSA countries, about 90 percent of households participate in on-farm activities, though this participation decreases with increasing GDP per capita (as seen in Figure 1). Similarly, in the RoW countries more than 80 percent of rural households on average had on-farm activities, though the rates of participation were much more dispersed with increasing levels of GDP per capita.

In contrast, participation in off-farm activities among SSA countries decreases with increasing GDP per capita, and is quite dispersed, ranging from 24 percent in Cameroon (2014) to 99 percent in Rwanda (2013) (see Table A2 in the Annex). Among RoW countries, the opposite is observed – participation is uniformly high in rural areas with an average of 90 percent (as seen in Table 2), except for Timor-Leste (2008), and steadily increasing with GDP per capita. Finally, Figure 1 shows that RoW countries have significantly higher participation in off-farm activities than SSA countries at comparable levels of GDP per capita.

In terms of the share of agriculture value added in GDP (Figure 2), the level of participation in on-farm activities is increasing with agriculture's importance in national income with no differences across SSA and RoW countries. For the RoW countries, the opposite trend is observed for participation in off-farm activities, which become more important as the agricultural value-added share decreases. This trend is not evident for SSA countries, for which an inverted U trend emerges for participation in off-farm activities. The lower tail of that inverted U presents a marked divergence in the SSA trend from that of RoW, indicating that although non-agricultural sectors became more important in the national economy, rural household income strategies did not experience a corresponding shift towards non-agricultural activities. This discord between a diminishing sectoral importance of agriculture in national income and the rural household level income composition provides initial insight to the shortcomings in consolidating a rural transformation that extends across different sectors and that is broad-based in its household-level reach.

Figure 1. Percentage of rural households participating in different income-generating activities, by per capita GDP in 2017 PPP dollars



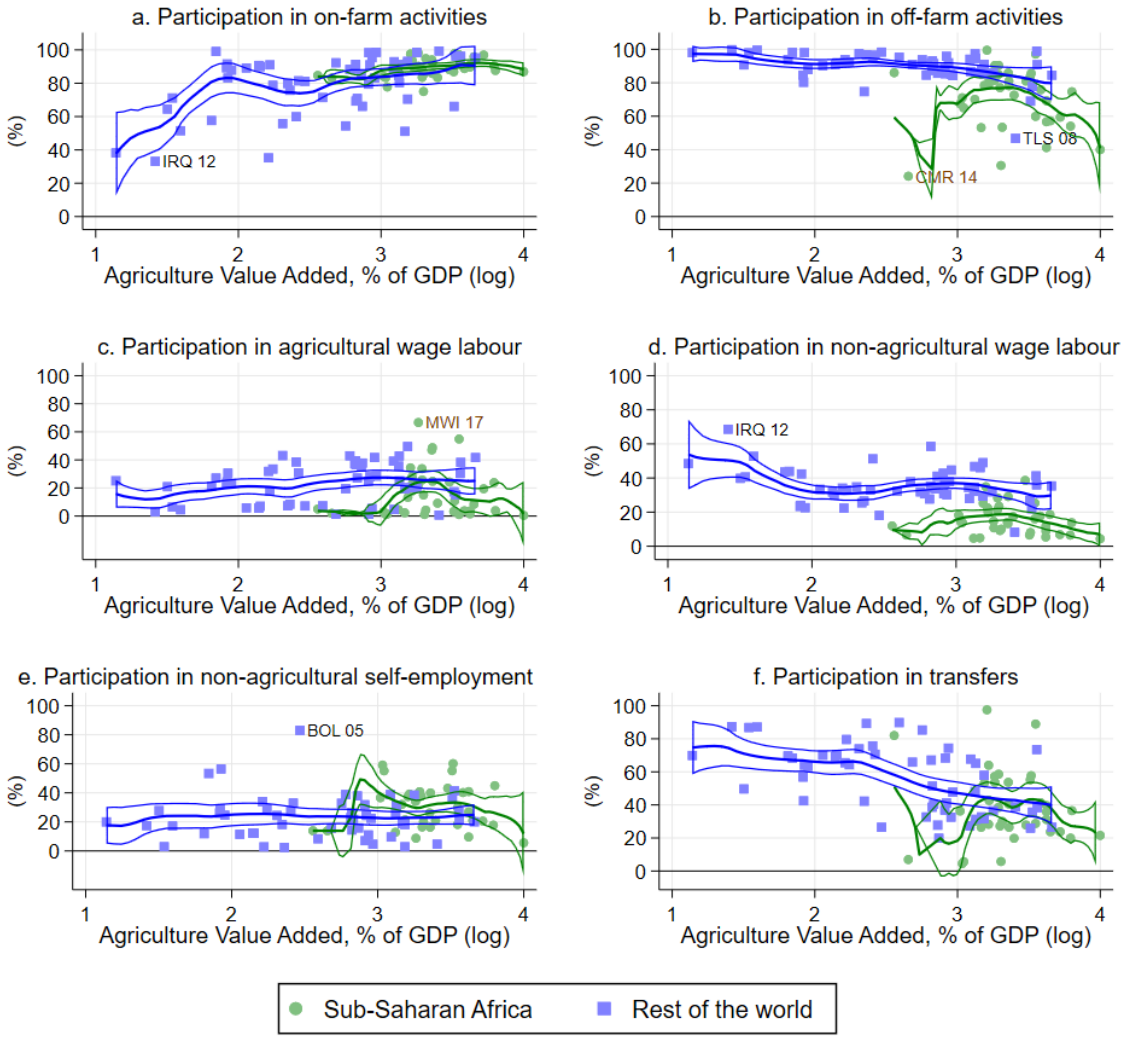
Notes: Lines show means and confidence intervals for sub-Saharan Africa and rest of the world countries estimated by lpolyci (STATA). Outliers are labelled and are defined as values greater of less than three standard deviations from the median.

Sources: Authors' own elaboration based on FAO. 2023. RuLIS - Rural Livelihoods Information System. In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/in-action/rural-livelihoods-dataset-rulis; FAO. 2023. Rural Income Generating Activities (RIGA). In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/economic/riga/rural-income-generating-activities; World Bank. 2023. DataBank | World Development Indicators. In: *World Bank*. Washington, DC. [Cited 22 February 2023]. https://databank.worldbank.org/source/world-development-indicators/Series/NY.GDP.PCAP.PP.KD#

Disaggregating the off-farm activities, we observe that agricultural wage labour clearly declines by levels of GDP per capita in SSA countries. The highest share is observed for Malawi in all survey years, with at least 47 percent of rural households participating in agricultural wage labour (compared to the average of 16 percent for SSA countries). In addition, Rwanda and the United Republic of Tanzania have also a higher participation rate, close to 35 percent on average participating in this activity (Table A2). In Malawi, the high participation rate reflects the importance of seasonal labour in agriculture for rural households (commonly referred as *Ganyu* labour).

In contrast, there is no clear relationship between agricultural wage participation rates and levels of GDP per capita among the RoW countries. At similar levels of GDP per capita, RoW countries have significantly higher participation in agricultural wage labour as compared to SSA countries.

Figure 2. Percentage of rural households participating in different income-generating activities, by agricultural value added (% of GDP)



Notes: Lines show means and confidence intervals for SSA and RoW countries estimated by lpolyci (STATA). Outliers are labelled and are defined as values greater of less than three standard deviations from the median.

Sources: Authors' own elaboration based on FAO. 2023. RuLIS - Rural Livelihoods Information System. In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/in-action/rural-livelihoods-dataset-rulis and FAO. 2023. Rural Income Generating Activities (RIGA). In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/economic/riga/rural-income-generating-activities

On the other hand, as revealed by the Preston curves in Figure 1, rural households in SSA countries have significantly lower participation in non-agricultural wage employment compared to countries in other regions, regardless of the level of GDP per capita. This is true for countries at comparable income levels. The mean share of participation in non-agricultural wage employment for SSA countries is 16 percent (ranging from 4 percent in Sierra Leone (2011) to 39 percent in Uganda (2010), which is 19 percentage points lower than the mean

for the RoW countries. The highest participation rate is observed in Iraq (2012) with 69 percent; between 2007 and 2012 Iraq saw a large increase in the share of rural households working in non-agricultural wage employment, with a large decline in agricultural work (Table A2). The lowest is observed in Timor-Leste (2008) with 8 percent participation rate.

These trends are also observed when comparing the level of participation in non-agricultural wage activities along the agriculture value added in GDP distribution (Figure 2). At high levels of agriculture value added, which is where most SSA and RoW overlap, around 30 percent to 40 percent of rural households in RoW countries participate in non-agricultural wage activities, but only 10 to 20 percent participate in SSA countries, reflecting what is likely an overall lack of employment opportunities in rural areas. Agricultural wage labour and non-agricultural self-employment both exhibit similar levels of participation across regions.

In terms of non-agricultural self-employment, on average participation is higher in SSA countries (30 percent) compared to RoW countries (23 percent) (seen in Table 2). However, across levels of GDP per capita (seen in Figure 1), there is no significant difference between SSA and RoW countries, each registering wide variability in self-employment rates. Sierra Leone (2011) and Malawi (2017) have self-employment participation rates of 6 percent and 9 percent, respectively, while Nigeria (in 2013 and 2016) and Niger (in 2011 and 2014) show rates of around 60 percent. Such disparity is also present among RoW countries: the Plurinational State of Bolivia in 2005 (over 80 percent on average) and Panama in 1997 and 2003 (close to 55 percent) have the highest participation in self-employment, while the Eastern European and Central Asian countries have on average 8 percent participation rates in rural areas.

With regard to non-labour income sources, the contrast in the receipt of transfers among SSA and RoW countries is striking. While the receipt of public or private transfers declines steadily with rising GDP per capita among rural households in SSA countries, an upward tendency is observed among the RoW sample. Since transfers are characterised by social support, public pensions and private remittances, the different trends may reflect the different nature of formal and informal social provisions across countries. The large share of rural SSA countries receiving transfers could reflect remittances from urban or international migrants, while the high participation among high GDP per capita RoW countries may correspond with the receipt of public transfers or pensions. At similar levels of GDP per capita, however, the Preston curves mostly overlap, pointing to a commonality between SSA and RoW countries.

In contrast to rural households, those in urban areas tend to be mostly involved in off-farm activities (Table 3). On average, 90 percent of urban households in SSA countries participate in off-farm activities, almost three times the participation in on-farm activities (32 percent). Likewise, countries in the RoW have an urban off-farm participation share of 96 percent, 6 percentage points higher than SSA. While the urban on-farm participation rate is on average similar between the two country groups, across GDP per capita, as was in the case of rural households, there is a large variability among the RoW countries (Figure 3). Countries such as Iraq (2007, 2012) and Mexico (2014) have a very low rate of on-farm participation rate among urban households (3–4 percent, on average), while Cambodia (2009), and Timor-Leste (2008) have more than 80 percent, on average, of urban households participating in on-farm activities. Countries like Armenia, Bulgaria and Panama also show a dramatic decline in urban households' participation in on-farm activities over time (Table A3). The wide variation across countries may be linked to differences in the definition of urban (or rural) in each country, outdated territorial assignation of urban-rural areas, or by the different level of urban

households' linkages with rural-based agricultural activities (e.g. managing rural agricultural activities while residing in an urban area).

Table 2. Participation in income-generating activities, rural households (%)

		Crop	Livestock	Agri wage	Non-agri wage	Self-employment	Transfers	Others	Agri income (total)	Non-agri income (total)	On-farm (total)	Off-farm (total)
Panel A												
Sub-Saharan Africa	Mean	87	56	16	16	30	39	9	91	66	90	71
	Min	73	25	0	4	6	4	0	78	22	75	24
	Max	97	87	67	39	60	98	49	99	99	98	99
Rest of the world (RoW)	Mean	71	65	23	35	23	56	16	84	83	80	90
	Min	8	10	1	8	2	20	0	35	46	33	47
	Max	99	98	50	69	83	90	91	99	100	99	100
Panel B (RoW disaggregation)												
Asia and the Pacific	Mean	65	61	23	39	23	48	28	81	81	76	88
	Min	8	10	1	8	5	20	1	35	46	33	47
	Max	98	91	42	69	41	90	91	99	100	99	100
Europe and Central Asia	Mean	82	72	12	33	8	71	11	89	87	88	91
	Min	22	54	1	22	2	48	0	61	73	58	84
	Max	99	86	50	45	16	89	25	99	97	99	98
Latin America	Mean	70	64	31	34	34	54	9	85	83	78	91
	Min	31	20	7	18	18	26	2	54	67	35	75
	Max	88	98	43	51	83	76	48	99	96	99	98

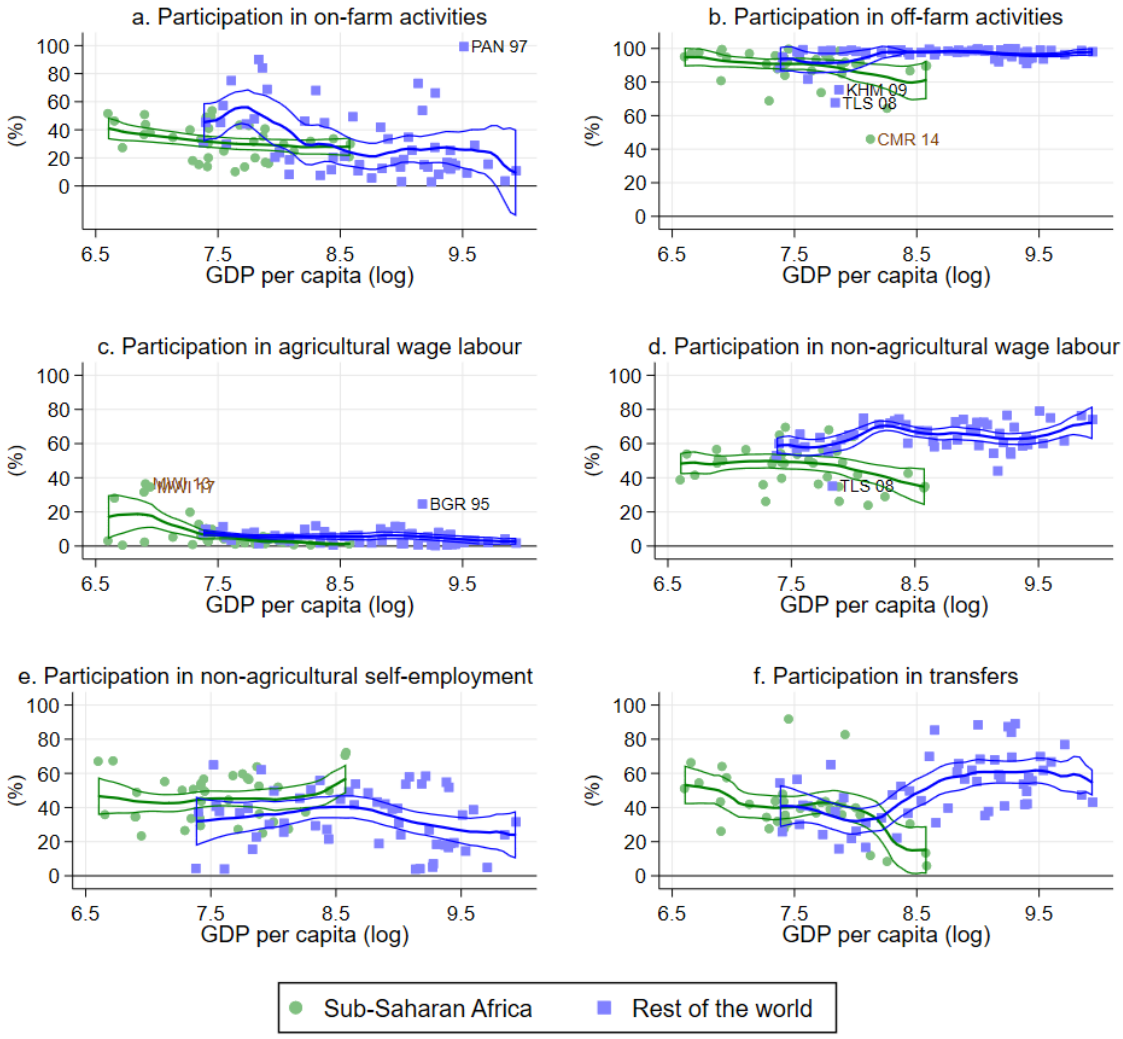
Sources: Authors' own elaboration based on FAO. 2023. RuLIS - Rural Livelihoods Information System. In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/in-action/rural-livelihoods-dataset-rulis and FAO. 2023. Rural Income Generating Activities (RIGA). In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/economic/riga/rural-income-generating-activities

Table 3. Participation in income-generating activities, urban households (%)

		Crop	Livestock	Agri wage	Non-agri wage	Self-employment	Transfers	Others	Agri income (total)	Non-agri income (total)	On-farm (total)	Off-farm (total)
Panel A												
Sub-Saharan Africa	Mean	27	16	7	47	46	40	12	35	88	32	90
	Min	5	4	0	24	23	6	0	11	45	10	46
	Max	50	37	36	70	72	92	51	60	99	54	100
Rest of the world (RoW)	Mean	25	18	5	64	33	51	16	34	95	31	96
	Min	2	1	0	35	4	16	0	3	67	3	68
	Max	81	99	25	79	65	89	76	99	100	99	100
Panel B (RoW disaggregation)												
Asia and the Pacific	Mean	26	22	5	64	36	45	27	35	94	32	95
	Min	2	2	1	35	16	16	1	3	67	3	68
	Max	81	82	11	77	65	89	76	90	100	90	100
Europe and Central Asia	Mean	30	11	4	57	12	62	6	34	93	32	94
	Min	3	3	0	44	4	41	0	11	80	9	82
	Max	74	22	25	62	24	84	23	75	99	75	99
Latin America	Mean	22	18	7	69	45	50	13	33	97	29	98
	Min	3	1	2	58	17	31	5	7	89	4	91
	Max	65	99	12	79	58	70	31	99	99	99	100

Sources: Authors' own elaboration based on FAO. 2023. RuLIS - Rural Livelihoods Information System. In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/in-action/rural-livelihoods-dataset-rulis and FAO. 2023. Rural Income Generating Activities (RIGA). In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/economic/riga/rural-income-generating-activities

Figure 3. Percentage of urban households participating in different income-generating activities, by per capita GDP in 2017 PPP dollars



Notes: Lines show means and confidence intervals for SSA and RoW countries estimated by lpolyci (STATA). Outliers are labelled and are defined as values greater of less than three standard deviations from the median.

Sources: Authors' own elaboration based on FAO. 2023. RuLIS - Rural Livelihoods Information System. In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/in-action/rural-livelihoods-dataset-rulis; FAO. 2023. Rural Income Generating Activities (RIGA). In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/economic/riga/rural-income-generating-activities; World Bank. 2023. DataBank | World Development Indicators. In: *World Bank*. Washington, DC. [Cited 22 February 2023]. https://databank.worldbank.org/source/world-development-indicators/Series/NY.GDP.PCAP.PP.KD#

Non-agricultural wage labour constitutes the largest income-generating activity among urban households in both SSA and the RoW countries, with a participation share of 47 and 64 percent, respectively (Table 3). Using the Preston curves, by level of GDP per capita, the participation rate is significantly higher in RoW compared to SSA countries, and this difference increases with rising GDP per capita.

Conversely, participation in self-employment is higher among urban households in SSA countries (46 percent, on average), compared to the RoW countries (33 percent, on average). In particular, among half of the SSA countries in our sample, self-employment registers the

highest participation rate by urban households; this observation does not characterise any of the RoW countries (shown in Table A3). However, the Preston curves overlap indicating no significant differences by GDP per capita, which is similar to the pattern observed among rural households. Overall, there is wide variability in self-employment rates among urban households in both SSA and RoW countries.

As one would expect, participation in agricultural wage employment is very low among urban households both in SSA and the RoW countries, with only 7 and 5 percent of households, on average, participating in these activities. However, in Malawi in all survey years (33 percent, on average) and Bulgaria in 1995 (25 percent, on average) an important number of urban households participate in agricultural wage employment. In Malawi, this is explained by the country's more rural nature of urban places as well as by households' participation in agricultural seasonal work. In Bulgaria, more recent surveys (2001, 2007) show a much lower participation rate of 1–2 percent in agricultural wage employment, signalling important transformations in urban livelihood strategies.

Finally, participation in transfers in the urban space reflects the trends observed among rural households. Access to transfer income declines notably with rising GDP per capita among SSA countries. While at similar levels of GDP per capita, participation among households in RoW countries is comparable to SSA countries, the rise in transfer participation among the former group as GDP per capita grows is clear, and very similar to the trends for non-agricultural wage labour participation.

5.2 Income shares from income-generating activities

In this section we present the second indicator, income shares from the different income-generating activities, as indicated in the methods section. While participation rates tell us what activities households engage in (and at the different levels of economic development), income shares provide us with more information on the extent to which these activities are more or less relevant for a household income strategy.

Starting with rural households, SSA countries have a higher share of income from on-farm activities (60 percent on average) and a lower share of off-farm income (40 percent) compared to countries in the RoW (33 percent and 67 percent, respectively) (Table 4). Rural households in the Latin American countries have on average 27 percent of income from on-farm activities and 73 percent off-farm, while rural households in the European and Central Asian countries have on average 37 percent in on-farm activities, and 63 percent off-farm.

Table 4. Share of income-generating activities of rural households (%), mean of shares

		Crop	Livestock	Agri wage	Non-agri wage	Self-employment	Transfers	Others	Agri income (total)	Non-agri income (total)	On-farm (total)	Off-farm (total)
Panel A												
Sub-Saharan Africa	Mean	50	9	6	9	15	9	1	66	34	60	40
	Min	23	3	0	3	3	0	0	36	15	31	16
	Max	76	26	34	18	39	30	11	85	64	84	69
Rest of the world (RoW)	Mean	21	12	12	22	11	20	3	45	55	33	67
	Min	1	1	0	6	1	2	-1	12	9	4	9
	Max	88	39	28	52	36	60	24	91	88	91	96
Panel B (RoW disaggregation)												
Asia and the Pacific	Mean	25	11	11	24	13	12	5	47	53	36	64
	Min	1	1	0	6	1	2	-1	12	9	11	9
	Max	88	39	26	52	25	31	24	91	88	91	89
Europe and Central Asia	Mean	22	15	5	19	4	35	2	41	59	37	63
	Min	2	2	1	12	1	7	0	15	28	4	35
	Max	55	34	17	32	9	60	10	72	85	65	96
Latin America	Mean	16	11	18	22	15	17	2	45	55	27	73
	Min	1	1	4	13	8	5	0	23	41	4	50
	Max	30	37	28	36	36	32	8	59	77	50	96

Sources: Authors' own elaboration based on FAO. 2023. RuLIS - Rural Livelihoods Information System. In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/in-action/rural-livelihoods-dataset-rulis and FAO. 2023. Rural Income Generating Activities (RIGA). In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/economic/riga/rural-income-generating-activities

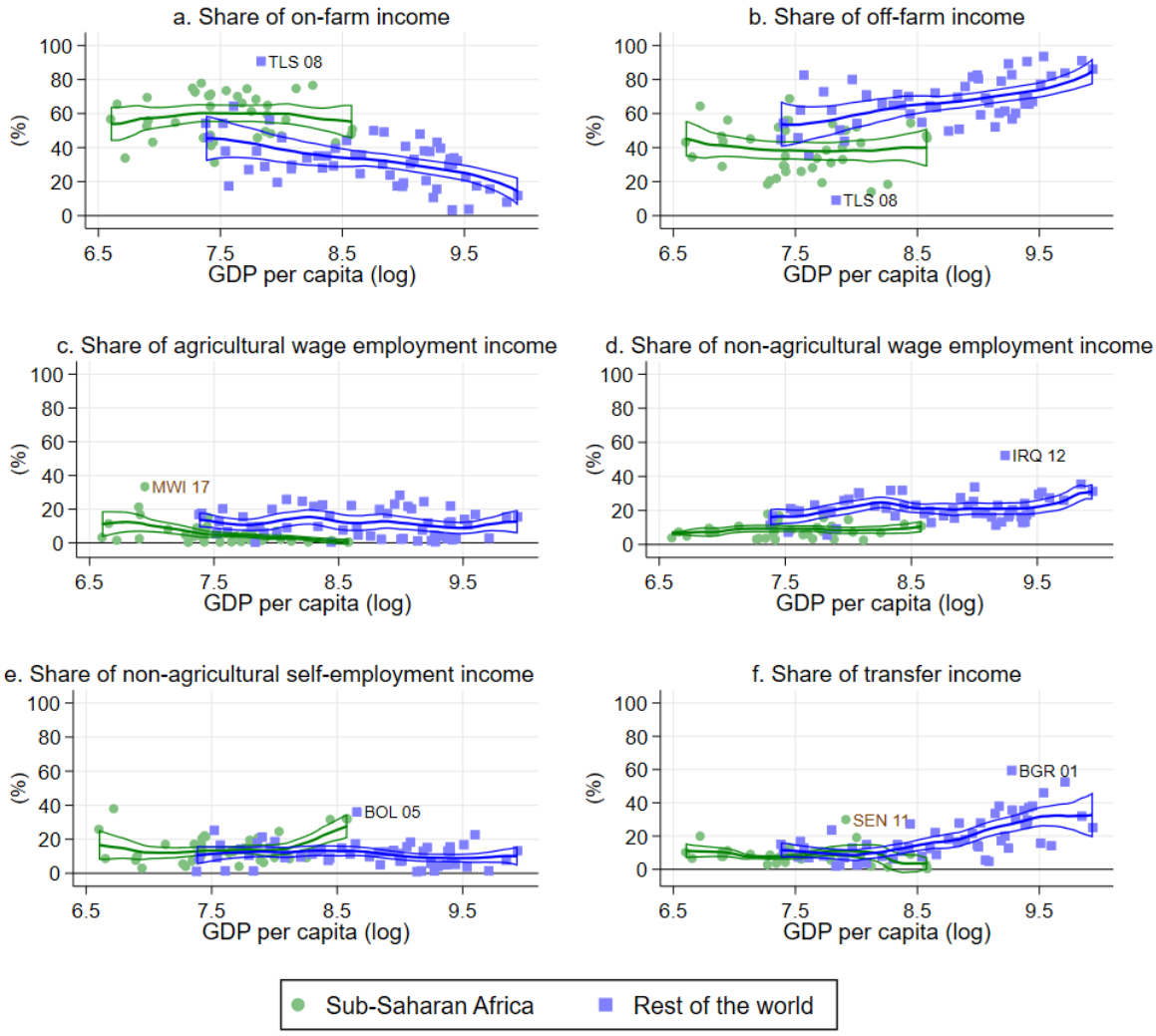
Table 5. Share of income-generating activities of urban households (%), mean of shares

		Crop	Livestock	Agri wage	Non-agri wage	Self-employment	Transfers	Others	Agri income (total)	Non-agri income (total)	On-farm (total)	Off-farm (total)
Panel A												
Sub-Saharan Africa	Mean	9	2	3	37	33	13	3	14	86	11	89
	Min	1	0	0	21	10	1	0	3	70	2	71
	Max	25	9	17	54	50	38	20	30	97	29	98
Rest of the world (RoW)	Mean	5	1	3	49	20	19	4	9	91	6	94
	Min	0	-1	0	27	2	1	0	1	39	0	40
	Max	45	16	16	66	49	51	26	61	99	60	100
Panel B (RoW disaggregation)												
Asia and the Pacific	Mean	7	2	2	48	24	11	6	11	89	9	91
	Min	0	-1	0	27	6	1	0	1	39	0	40
	Max	45	16	5	66	49	30	26	61	99	60	100
Europe and Central Asia	Mean	6	1	2	45	8	36	1	9	91	7	93
	Min	0	0	0	31	2	14	0	2	58	0	60
	Max	39	3	16	52	19	51	4	42	98	40	100
Latin America	Mean	2	1	4	51	24	16	3	6	94	2	98
	Min	0	0	1	40	7	6	1	1	88	0	94
	Max	4	3	7	66	36	25	9	12	99	6	100

Sources: Authors' own elaboration based on FAO. 2023. RuLIS - Rural Livelihoods Information System. In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/in-action/rural-livelihoods-dataset-rulis and FAO. 2023. Rural Income Generating Activities (RIGA). In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/economic/riga/rural-income-generating-activities

The difference in the share of on- and off-farm income between households in SSA and RoW is significant at all levels of GDP per capita, including for countries at comparable levels of income (Figure 4). For countries in the RoW, the share of on-farm income sharply decreases with increasing GDP per capita, and the share of off-farm income increases sharply. In both cases for the SSA countries there is no clear trend with increasing GDP per capita, only that agricultural income shares remain high regardless of economic growth.

Figure 4. Share of rural households' income from on-farm and off-farm activities, by per capita GDP in 2017 PPP dollars



Notes: Lines show means and confidence intervals for SSA and RoW countries estimated by lpolyci (STATA). Outliers are labelled and are defined as values greater of less than three standard deviations from the median.

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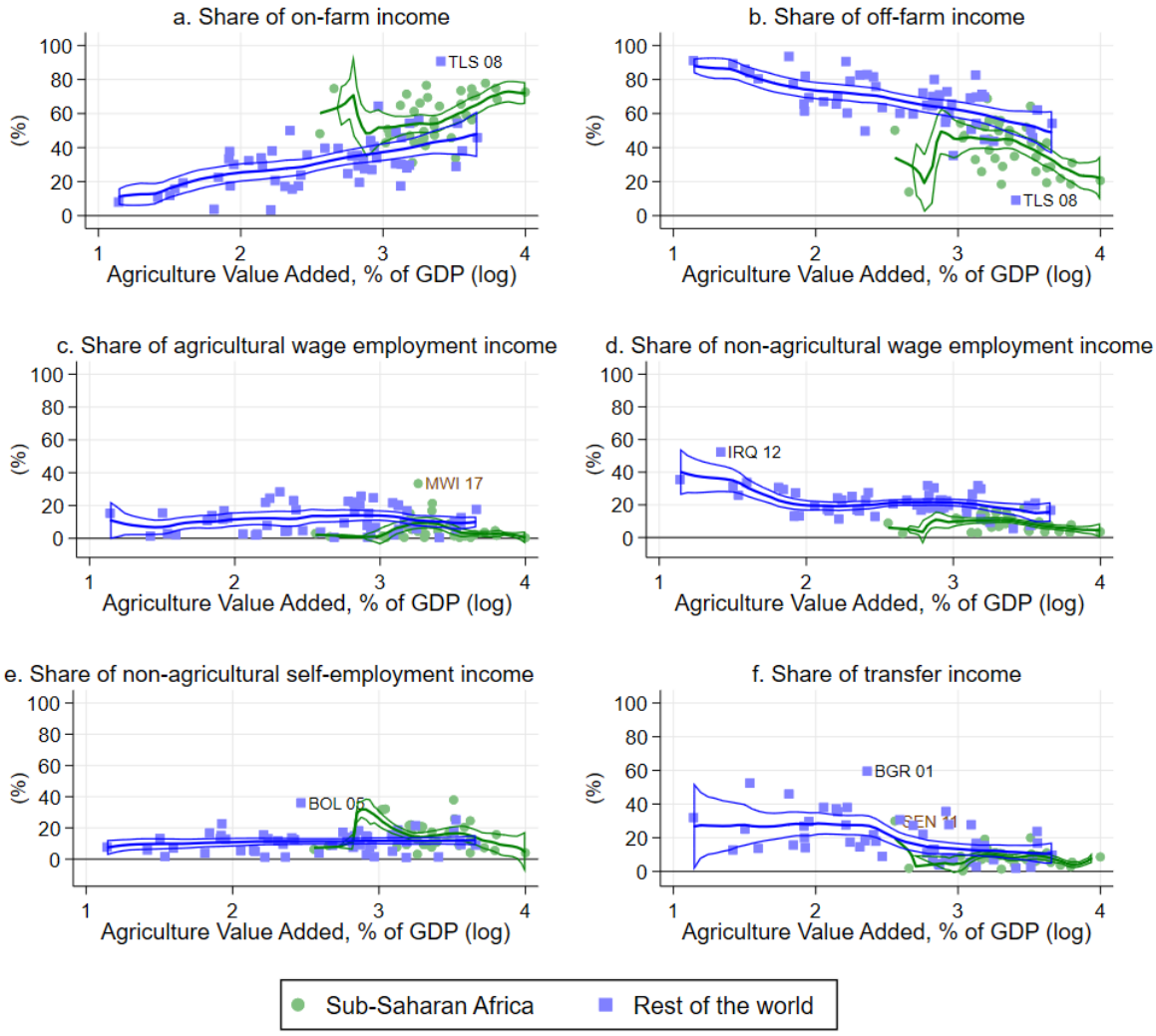
Along the distribution of agriculture value added in GDP (Figure 5), the share of on-farm (off-farm) income in RoW countries is positively (negatively) related to agriculture value added, reflecting a clear transition of household income strategies away from agriculture as other sectors of the economy grow. For the SSA countries, it is clear that at equivalent levels of agriculture value added, the share of income derived from on-farm (off-farm) activities is significantly higher (lower) than for RoW countries.

Figure 5. Share of rural households' income from on-farm and off-farm activities, by agricultural value added (% of GDP)



Notes: Lines show means and confidence intervals for SSA and ROW countries estimated by lpolyci (STATA). Outliers are labelled and are defined as values greater of less than three standard deviations from the median.

Sources: Authors' own elaboration based on FAO. 2023. RuLIS - Rural Livelihoods Information System. In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/in-action/rural-livelihoods-dataset-rulis and FAO. 2023. Rural Income Generating Activities (RIGA). In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/economic/riga/rural-income-generating-activities

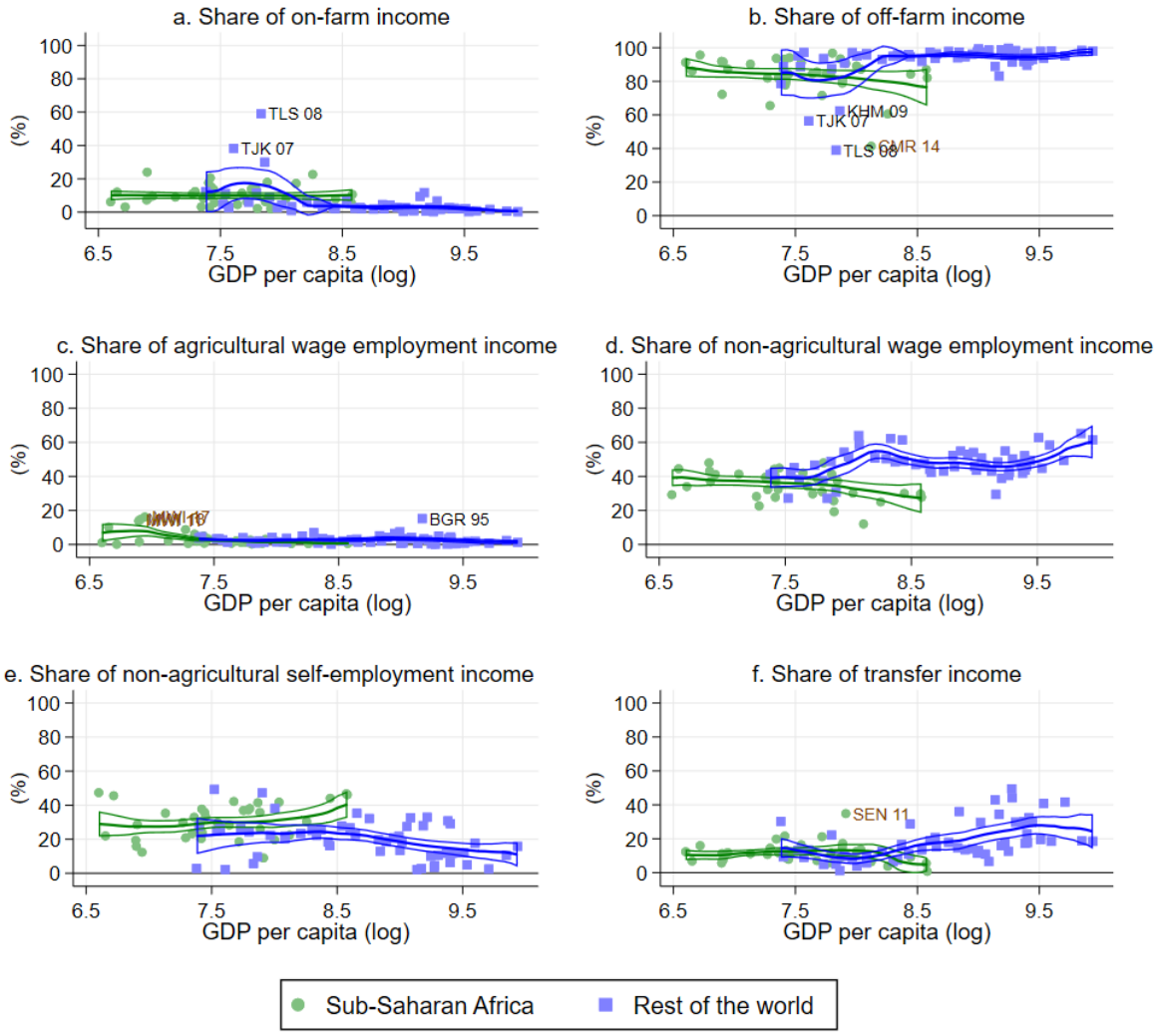
Disaggregating the off-farm income sources of income for rural households, the shares from non-agricultural wage employment (22 percent versus 9 percent), agricultural wage employment (12 percent versus 6 percent) and transfers (20 percent versus 9 percent) are higher in the RoW countries than in SSA countries, while the share of non-agricultural self-employment income is similar (11–15 percent) (Table 4). As observed in Figure 5, the shares of agricultural and non-agricultural wage employment are significantly higher in the RoW countries across all levels of GDP per capita. In terms of self-employment, there are no significant differences observed between SSA and RoW countries, except Nigeria (2013, 2016) a higher income country driving the trend upward. Finally, the share of income from transfers in RoW countries moves upward at higher levels of GDP per capita, though at

comparable levels of GDP per capita there are no significant differences between RoW and SSA countries. Senegal (2011) is an outlier, with a higher share (29 percent) of rural household income from transfers, reflecting the country's high migration and diaspora abroad.

For urban households in both SSA and RoW countries, we see a marked difference compared to rural households. Urban households obtained most of their income from off-farm activities, with off-farm income share reaching 94 percent and 89 percent (compared to 6 percent and 11 percent on-farm share) on average among the RoW and SSA countries, respectively (Table 5). The trend of on-farm income share is constant across income level for both sets of countries, except the dispersion of a few RoW countries (Figure 6). For example, in Timor-Leste in 2008, agriculture remains the main sector in both rural and urban areas, as on-farm income share constitutes around 60 percent for urban households.

Urban households in the RoW countries have a higher share of non-agricultural wage employment (49 percent, on average) and transfer income (19 percent, on average) than SSA countries (37 percent and 13 percent, respectively), while urban households in SSA countries have a higher average share of self-employment income (33 percent versus 20 percent) (Table 5). Like rural households, the share of non-agricultural wage income among urban households shows an upward sloping trend for the RoW countries, while it slightly declines for SSA countries; self-employment for SSA countries is also increasing with higher GDP per capita (Figure 6). Finally, there is no difference in the share of transfers among urban households between SSA and RoW countries, it increases with a higher income level for the RoW countries.

Figure 6. Share of urban households' income from different on-farm and off-farm activities, by per capita GDP in 2017 PPP dollars



Notes: Lines show means and confidence intervals for SSA and RoW countries estimated by lpolyci (STATA). Outliers are labelled and are defined as values greater of less than three standard deviations from the median.

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5.3 Income shares by welfare level

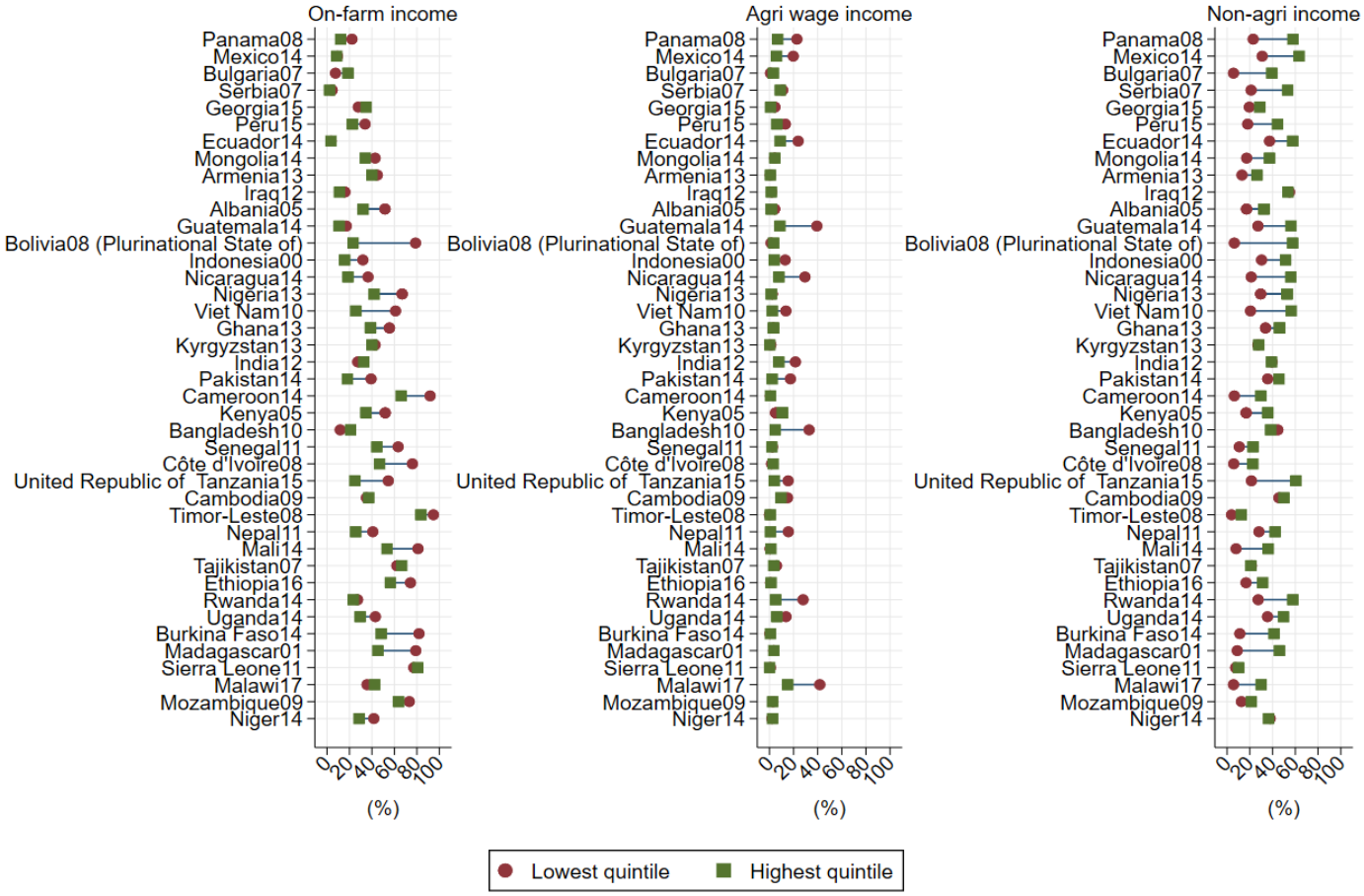
The previous section highlighted variation in participation and income shares by national wealth (GDP per capita). As GDP per capita increases, and the value added of agriculture in GDP decreases, households have increasingly higher shares in off-farm sources of income, particularly non-agricultural wage income and transfers. This trend is very pronounced in the RoW countries, while in the SSA countries this trend has not yet emerged. In this section, we investigate the relationship between sources of income and wealth, measured by expenditure, at the household level.

Figure 7 presents income shares by expenditure quintiles for all countries in our sample. On-farm and agricultural wage income are the main income-generating activities for the poorest households in rural areas. In terms of on-farm income, in only seven countries (Bangladesh, Bulgaria, Georgia, India, Malawi, Sierra Leone and Tajikistan) do households in the highest consumption quintile have a greater share of on-farm income, and the differences are relatively small. In terms of agricultural wage labour, in only four countries (The Plurinational State of Bolivia, Bulgaria, Côte d'Ivoire and Kenya) do households in the highest quintile have a greater share of agricultural wage income, again with small differences.

In contrast, across nearly all countries income from non-agricultural labour (non-agricultural wage and non-agricultural self-employment) represents a higher share of total income among the richest households. In only three countries (Bangladesh, Iraq and Niger) do households in the lowest quintile have a greater share of non-agricultural labour income, again with minimal differences compared to the upper quintile. In terms of transfers, the relationship is more mixed, though with strong regional patterns. Transfer income is concentrated in wealthier households in Bangladesh, Côte d'Ivoire, Nepal, Niger and Pakistan, while it is concentrated in poor households in the Eastern European and Central Asian countries of Armenia, Bulgaria, Georgia, Mongolia and Serbia, and to a lesser extent in the Latin American countries of Ecuador, Mexico, Panama and Peru. Among all SSA countries, except Kenya and Niger, transfer income is a nominal share of income; any notable returns from transfers come from private sources, reflecting social support networks and the returns to migration.

For the Eastern European/Central Asian and Latin American countries and Bangladesh, where transfers constitute a greater share of income for the poorest households, these transfers are overwhelmingly public (e.g. pensions, social transfers) in nature (Figure 8). Conversely, for Albania, India, Indonesia, Nepal, Niger, Pakistan, Uganda and Viet Nam, private transfers (e.g. gifts, remittances) are more important for wealthier households. For Kenya, Malawi and Sierra Leone, private transfers are instead more important for the poorest quintile. But there is no visible difference in the share of public transfers among the poorest and richest quintiles among SSA countries (which is close to zero), except in Kenya and Niger. This suggests the lack of or limited public and social assistance programmes in the region of the years analysed.

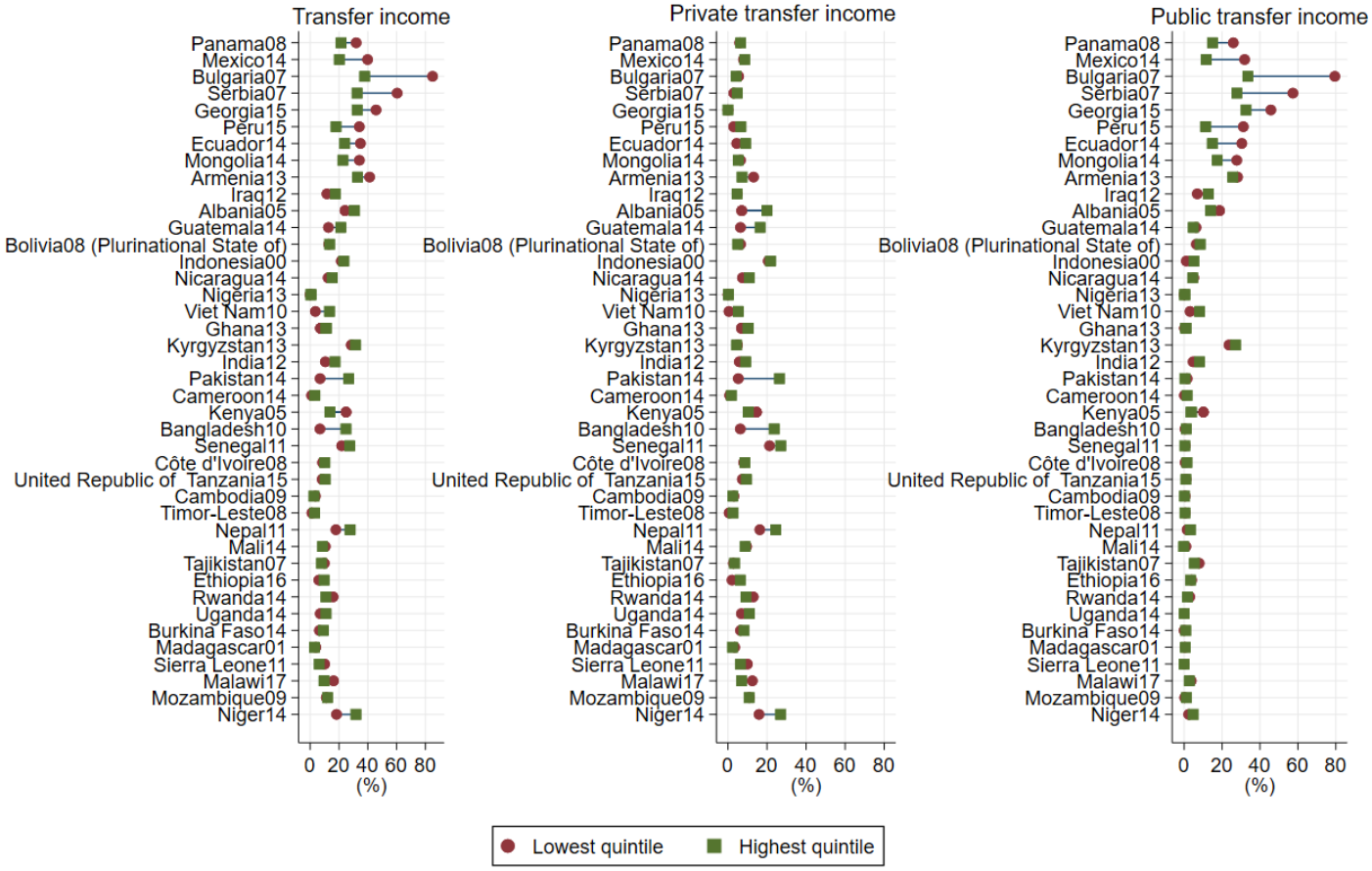
Figure 7. Share of rural households' total income from different income-generating activities, by expenditure quintiles



Notes: Countries are sorted from bottom to top by increasing GDP per capita. Non-agri labour income includes non-agricultural wage and non-agricultural self-employment incomes.

Sources: Authors' own elaboration based on FAO. 2023. RuLIS - Rural Livelihoods Information System. In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/in-action/rural-livelihoods-dataset-rulis and FAO. 2023. Rural Income Generating Activities (RIGA). In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/economic/riga/rural-income-generating-activities

Figure 8. Share of rural households' income from private and public transfers, by expenditure quintiles



Note: Countries are sorted from bottom to top by increasing GDP per capita.

Sources: Authors' own elaboration based on FAO. 2023. RuLIS - Rural Livelihoods Information System. In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/in-action/rural-livelihoods-dataset-rulis and FAO. 2023. Rural Income Generating Activities (RIGA). In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/economic/riga/rural-income-generating-activities

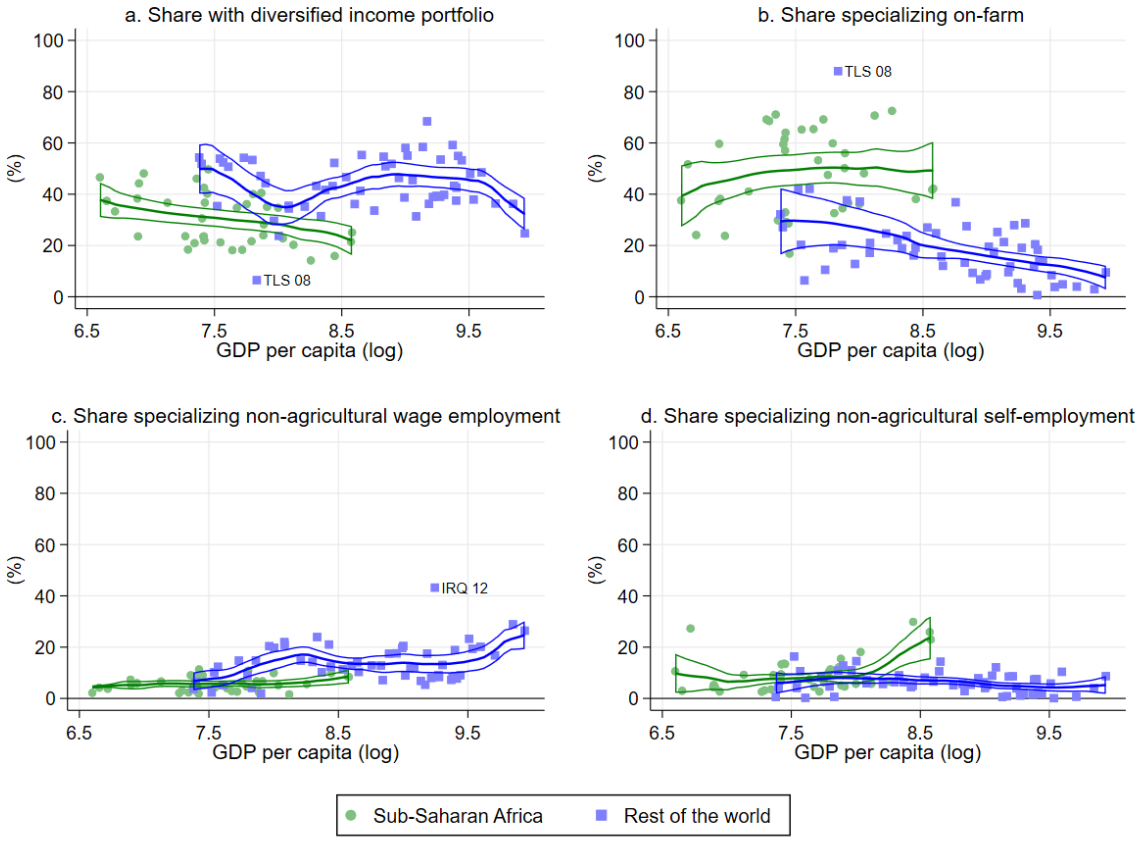
5.4 Income diversification and specialization

In this section, we look at both indicators – participation and income shares - of specialization and diversification in income-generating strategies. Following Davis *et al.* (2010) and Davis *et al.* (2017), we define household specialization in an income-generating activity when at least 75 percent of total household income comes from that activity. If no one income source is above 75 percent, then the household is considered diversified.

Overall, diversified households represent the single largest group among rural households in RoW countries. Over 44 percent of all rural households have diversified income strategies (Table 6), and in 47 of the 55 RoW surveys considered, the share of households with diversified income strategies is the largest group. In contrast, 48 percent of households in SSA countries are specialized in on-farm activities, representing the largest category in 28 out of 38 SSA surveys. In RoW countries, 19 percent of households specialize in on-farm activities, ranging from 24 percent in Asia to 16 percent in Latin America and 17 percent in Eastern Europe and Central Asia.

These differences can be clearly seen in Figure 9. While the share of households with diversified income portfolios among RoW and SSA countries converges and then diverges with increasing GDP per capita, specialization on-farm clearly decreases with GDP per capita in RoW countries. Moreover, rural households in RoW countries have a higher share of specialization in non-agricultural wage employment at nearly every level of GDP per capita.

Figure 9. Share of rural households diversifying or specializing in different income-generating activities, by per capita GDP in 2017 PPP dollars



Notes: Lines show means and confidence intervals for SSA and RoW countries estimated by lpolyci (STATA). Outliers are labelled and are defined as values greater of less than three standard deviations from the median.

Sources: Authors' own elaboration based on FAO. 2023. RuLIS - Rural Livelihoods Information System. In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/in-action/rural-livelihoods-dataset-rulis; FAO. 2023. Rural Income Generating Activities (RIGA). In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/economic/riga/rural-income-generating-activities; World Bank. 2023. DataBank | World Development Indicators. In: *World Bank*. Washington, DC. [Cited 22 February 2023]. https://databank.worldbank.org/source/world-development-indicators/Series/NY.GDP.PCAP.PP.KD#

Table 6. Diversification and specialization of income-generating activities of rural household (share of total income)

		Diverse income portfolio	Specialized (>=75% of total income)					
			Agricultural wage	Non-agricultural wage	Self-employment	Transfers	Others	On-farm income
Panel A								
Sub-Saharan Africa	Mean	30	2	6	10	4	0	48
	Min	14	0	2	3	0	0	17
	Max	50	16	11	30	15	3	73
Rest of the world (RoW)	Mean	44	7	14	6	10	1	19
	Min	6	0	2	0	0	0	1
	Max	68	20	43	16	45	5	88
Panel B (RoW disaggregation)								
Asia and the Pacific	Mean	41	6	15	8	5	1	24
	Min	6	0	2	1	0	0	5
	Max	58	17	43	16	14	5	88
Europe and Central Asia	Mean	52	2	9	2	18	0	17
	Min	36	0	4	0	1	0	3
	Max	68	5	19	5	45	3	42
Latin America	Mean	41	11	16	8	8	1	16
	Min	25	3	8	4	1	0	1
	Max	55	20	29	14	18	5	37

Sources: Authors' own elaboration based on FAO. 2023. RuLIS - Rural Livelihoods Information System. In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/in-action/rural-livelihoods-dataset-rulis and FAO. 2023. Rural Income Generating Activities (RIGA). In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/economic/riga/rural-income-generating-activities

Table 7. Diversification and specialization of income-generating activities of urban household (share of total income)

		Diverse income portfolio	Specialized (>=75% of total income)					
			Agricultural wage	Non-agricultural wage	Self-employment	Transfers	Others	On-farm income
Panel A								
Sub-Saharan Africa	Mean	29	2	30	25	7	1	7
	Min	17	0	9	7	0	0	1
	Max	50	11	44	42	22	10	21
Rest of the world (RoW)	Mean	31	2	38	14	12	1	3
	Min	14	0	15	0	0	0	0
	Max	58	9	59	39	38	7	51
Panel B (RoW disaggregation)								
Asia and the Pacific	Mean	31	1	37	18	6	1	6
	Min	14	0	15	4	0	0	0
	Max	58	3	59	39	17	6	51
Europe and Central Asia	Mean	31	1	34	5	25	0	3
	Min	25	0	20	0	7	0	0
	Max	46	9	41	16	38	1	21
Latin America	Mean	31	2	41	15	8	1	1
	Min	21	0	28	3	1	0	0
	Max	44	5	59	26	16	7	3

Sources: Authors' own elaboration based on FAO. 2023. RuLIS - Rural Livelihoods Information System. In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/in-action/rural-livelihoods-dataset-rulis and FAO. 2023. Rural Income Generating Activities (RIGA). In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/economic/riga/rural-income-generating-activities

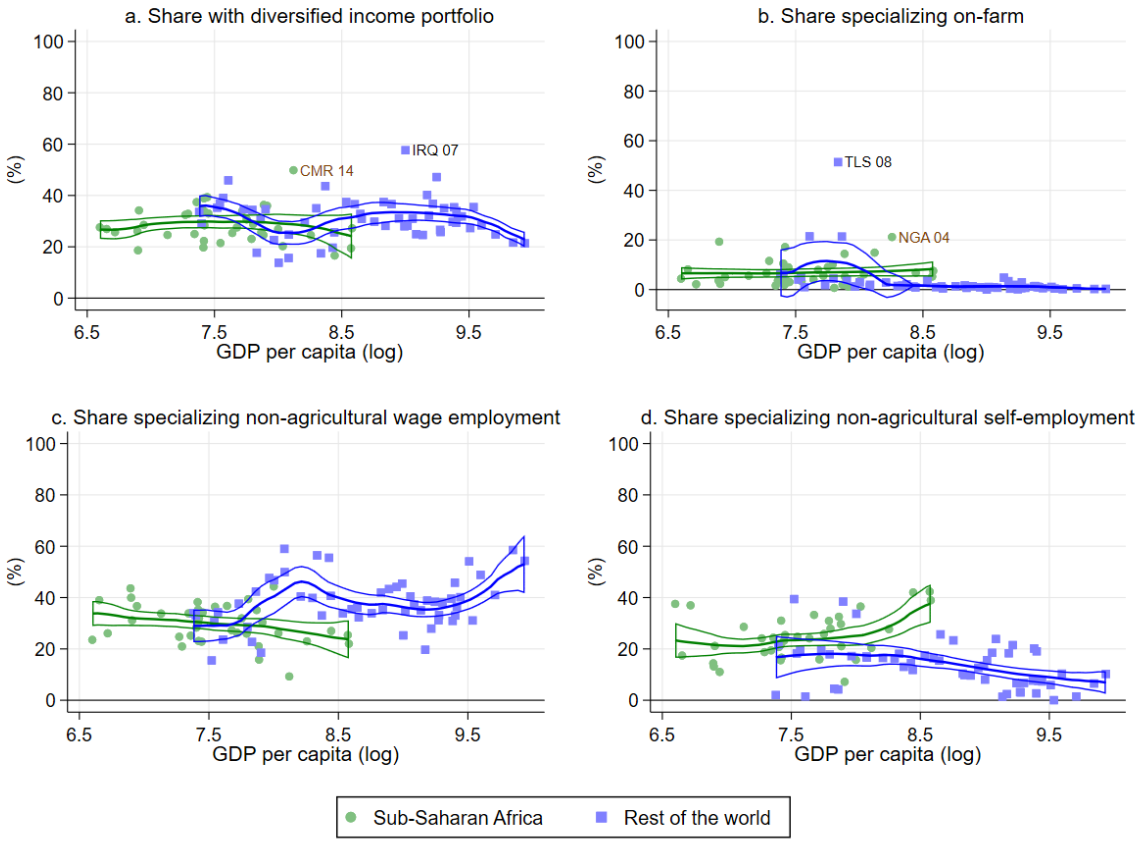
Looking at specialization in off-farm activities, about 14 percent of rural households on average in the RoW countries specialize in non-agricultural wage employment, with shares as large as 43 percent in Iraq (2012) and 29 percent in Mexico (2014). In contrast, only 6 percent of rural households on average specialize in this activity in SSA countries, with the highest share registered in Uganda (2012), and in the United Republic of Tanzania (2013) at 11 percent. In both SSA and RoW, specialization in non-agricultural wage employment increases with higher levels of income. Although specialization in self-employment is not common in SSA (10 percent on average) and RoW countries (6 percent), a significant share of rural households in Ghana (30 percent in 1998), Niger (27 percent in 2014) and Nigeria (26 percent in 2016 and 23 percent in 2013) specialize in this activity (Table A6).

Overall, relatively few households specialize in transfers in SSA countries (4 percent on average) though 15 percent of households in Senegal (2011) and 11 percent in Niger (2014) specialize in transfers. Over 10 percent of RoW households specialize in transfers, although this is heavily weighted by the countries in Eastern Europe and Central Asia (18 percent), and in particular Bulgaria in 1995 (45 percent) and 2001 (41 percent), Serbia in 2007 (33 percent) and Georgia in 2014–2015 (20–21 percent) where substantial public subsidies were put in place as part of economic transition packages.

Not surprisingly, the picture changes with urban households (Table 7). Non-agricultural wage employment represents the activity in which the largest share of urban households specializes,

ranging from 30 percent among households in SSA countries to 41 percent among households in Latin American countries. Specialization in non-agricultural self-employment is more common among urban households in SSA countries (25 percent), compared to 14 percent among countries in RoW, with Asian and the Pacific countries showing a higher average of 18 percent. The inverse is true for specialization in transfer income, with RoW countries having a larger share of 12 percent compared to 7 percent in SSA countries. Very few urban households specialize in on-farm activities, ranging from 7 percent among SSA countries to 1 percent in Latin America. Overall, while urban households in most RoW countries are specializing in greater numbers in non-agricultural wage employment, among SSA countries urban household livelihoods are more evenly spread among non-agricultural wage employment specialization, non-agricultural self-employment specialization, and diversified portfolios. However, the share of urban households with diversified portfolios is remarkably consistent across regions, between 29 percent and 31 percent of households.

Figure 10. Share of urban households diversifying or specializing in different income-generating activities, by per capita GDP in 2017 PPP dollars



Notes: Lines show means and confidence intervals for SSA and RoW countries estimated by lpolyci (STATA). Outliers are labelled and are defined as values greater of less than three standard deviations from the median.

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These trends are clear in Figure 10. No differences are evident between SSA and RoW countries in terms of a diversified income portfolio across GDP per capita, or with the low levels of on-farm specialization. However, urban households in RoW countries have significantly higher shares of specialization in non-agricultural wage employment across GDP per capita levels, while the share of urban households specializing in non-agricultural self-employment appears to diverge between RoW and SSA countries with increasing levels of GDP per capita, becoming more important for SSA countries.

5.5 Income diversification and specialization by welfare level

Finally, we turn to the analysis of the relation between specialization, diversification, and household expenditures by consumption quintiles for rural households (Figure 11) and urban households (Figure 12).

In relation to rural households, no clear patterns emerge in terms of the wealth status and holding a diversified portfolio. In most SSA countries, both the poorest and richest rural households are equally likely to diversify their income sources, with a few exceptions. For example, the poorest rural households are more likely to diversify in Ethiopia, Ghana, Malawi, Niger, Rwanda, Senegal and the United Republic of Tanzania, while in Burkina Faso, Cameroon, Côte d'Ivoire and Uganda, wealthier households tend to diversify. In contrast, in other regions, the poorest rural households are more likely to diversify their income sources compared to the richest, except for a few countries such as Albania, Bangladesh, Bulgaria, Georgia, Iraq and Serbia, where the wealthiest households are more likely to diversify.

On-farm specialization is clearly a more common strategy among poorer rural households. The share is higher for poor households among all countries in SSA with the exception of Malawi and Sierra Leone. However, among the RoW countries, for one set of countries, such as Albania, the Plurinational State of Bolivia, Indonesia, Nicaragua, Pakistan, Timor-Leste and Viet Nam, a similar pattern is observed, while for a few, such as Bangladesh, India and Tajikistan, on-farm specialization is greater among better off households, though the differences are small. For most RoW countries, prevalence of on-farm specialization is similar for rich and poor rural households.

In contrast, there is a clear and consistent pattern when looking at specialization in non-agricultural wage and self-employment activities. In all countries, the wealthiest rural households have a higher share of non-agricultural wage and self-employment compared to households in the poorest quintile. Exceptions are Bangladesh and Iraq, where the poorest rural households have a higher share in non-agricultural wage activities, and Cambodia for which the poorest have a higher share specializing in self-employment.

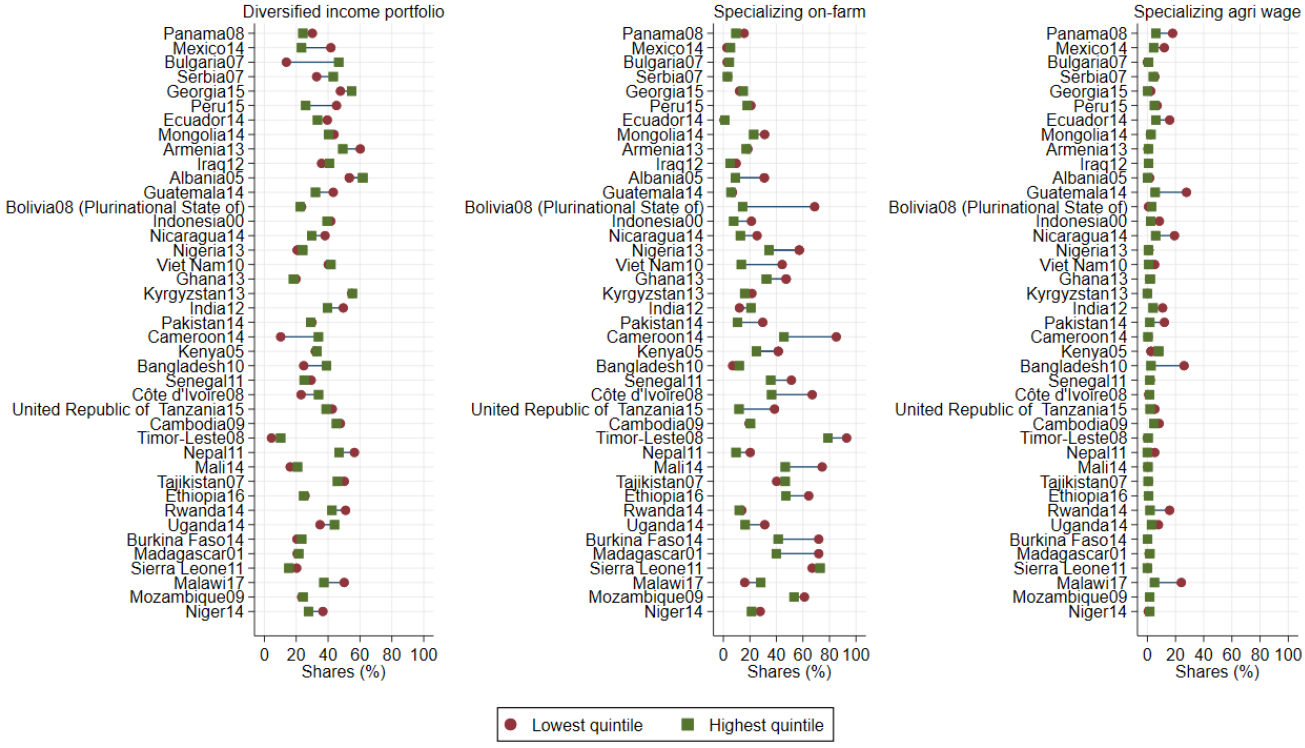
Specialization in agricultural wage activities is generally very low across the world. However, in some countries this livelihood option is quite important for rural households among the poorest quintiles (Figure 11). For example, the poorest households are more likely to specialize in agricultural wage activities in Malawi, Rwanda, Uganda and the United Republic of Tanzania, while the opposite is true in Kenya. Similarly, specialization in agricultural wage work is more common among rural households in the RoW countries, such as in Bangladesh, Ecuador, Guatemala, Indonesia, Mexico, Nicaragua and Panama, where we see large differences between the poorest and richest households.

Looking at transfers, while rural households receive transfers, specialization in this activity is not common and there is no difference between the poorest and richest quintile in many

countries of our sample. There are few exceptions, for example, in Bulgaria and Serbia, where the poorest show a high dependency on transfers in the years studied. In contrast, the richest households are more likely to specialize in transfers in Bangladesh, Nepal, Niger and Pakistan, likely reflecting income from international migration.

Moving to urban households (Figures 13 and 14), in all countries in general, the poorest households derive a larger share of their income from a diversified portfolio of activities. Exceptions showing wider differences of shares between the poorest and the richest are Bulgaria, the Plurinational State of Bolivia, Cameroon, Iraq, Serbia and Timor-Leste. The share of urban households specializing in on-farm activities is very low, and in those countries showing a larger share (Burkina Faso, Cameroon, Madagascar, Mozambique and Timor-Leste), it is for the most part due to poor urban households deriving most of their income from farming. Figure 14 also confirms the general trend that the richest households tend to specialize in non-agricultural wage employment activities, with Albania, Bangladesh, Iraq and Pakistan the exceptions. Other countries like India, Indonesia, Kyrgyzstan and Nicaragua, show small differences in the income shares derived from non-agricultural wage employment between poorest and richest. Finally, no clear patterns are observed in the income shares derived by the poorest and richest urban households from self-employment.

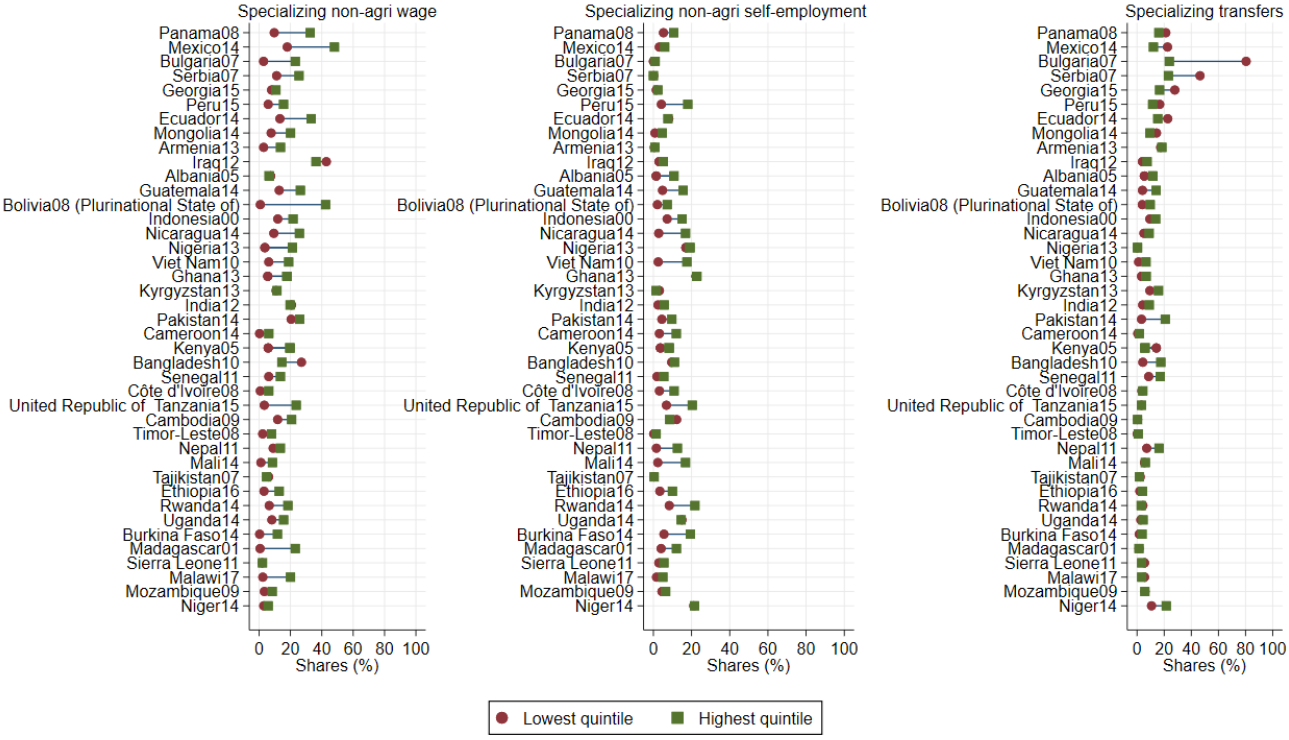
Figure 11. Diversification and specialization of income portfolios of rural households, by expenditure quintiles



Note: Countries are sorted from bottom to top by increasing GDP per capita.

Sources: Authors' own elaboration based on FAO. 2023. RuLIS - Rural Livelihoods Information System. In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/in-action/rural-livelihoods-dataset-rulis and FAO. 2023. Rural Income Generating Activities (RIGA). In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/economic/riga/rural-income-generating-activities

Figure 12. Specialization of income from agricultural wage employment and income transfers of rural households, by expenditure quintiles



Note: Countries are sorted from bottom to top by increasing GDP per capita.

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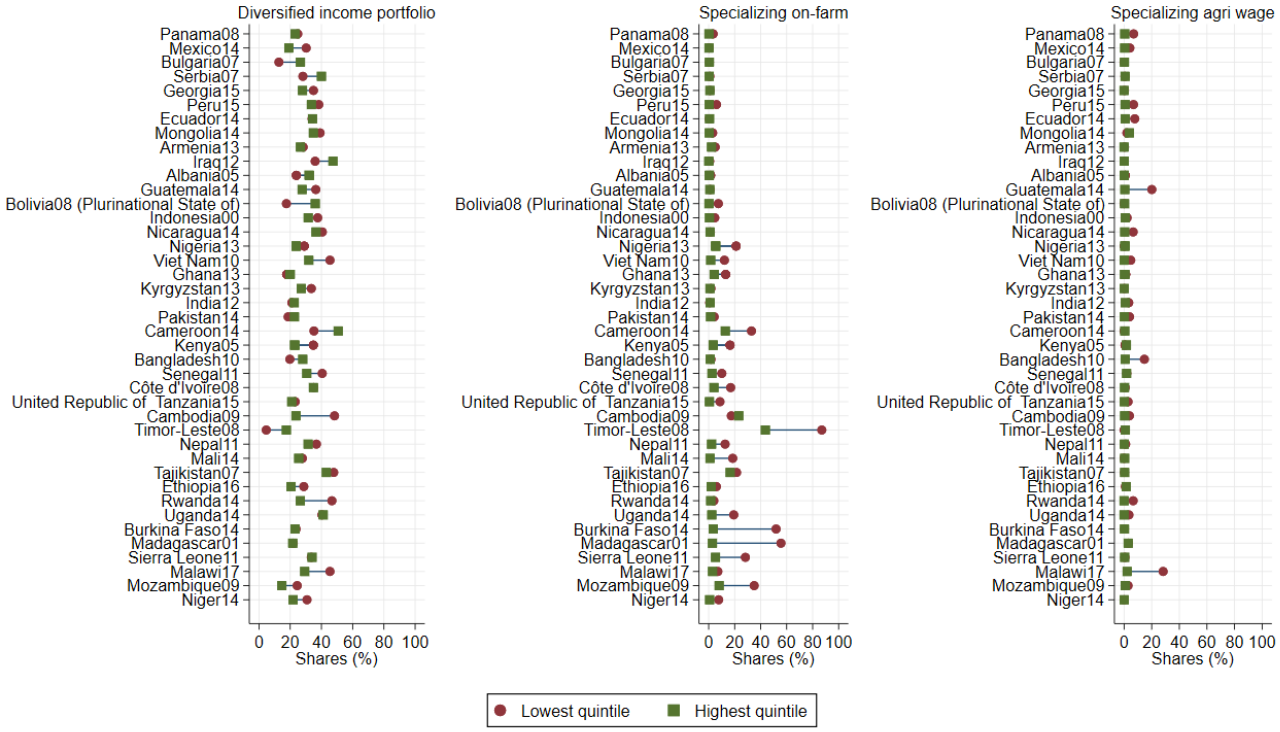
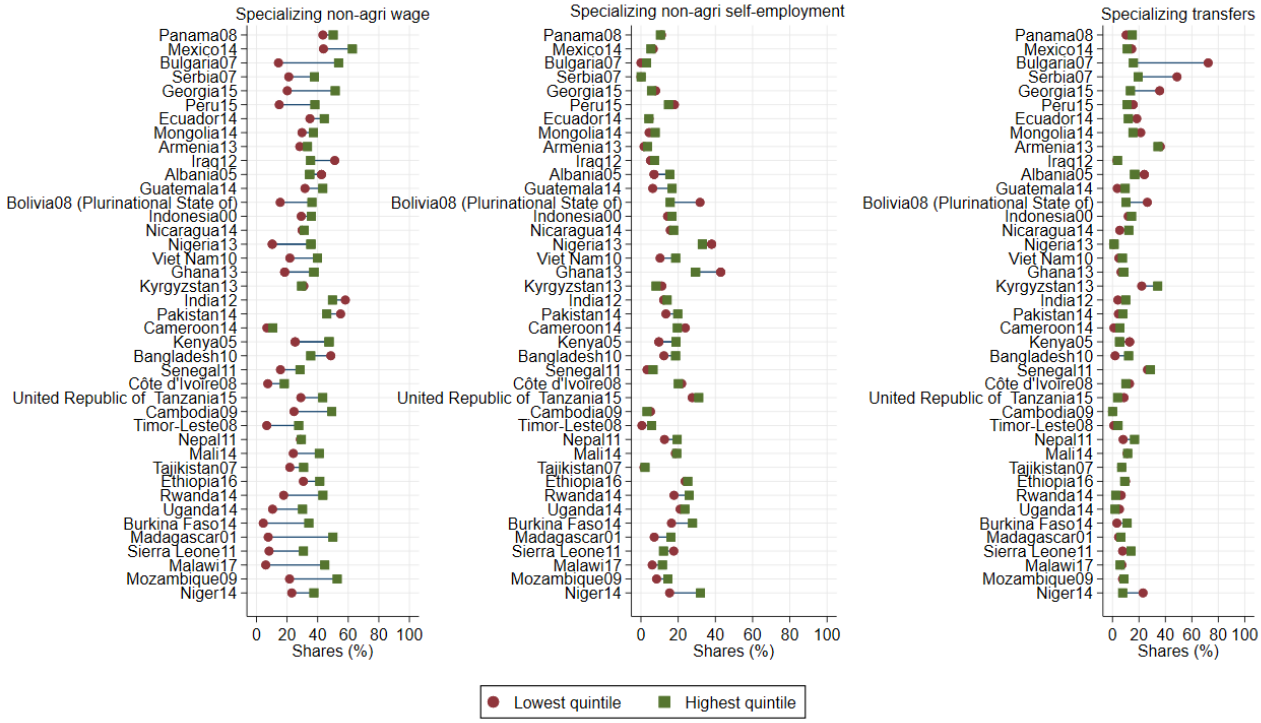
Figure 13. Diversification and specialization of income portfolios of urban households, by expenditure quintiles



Note: Countries are sorted from bottom to top by increasing GDP per capita.

Sources: Authors' own elaboration based on FAO. 2023. RuLIS - Rural Livelihoods Information System. In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/in-action/rural-livelihoods-dataset-rulis and FAO. 2023. Rural Income Generating Activities (RIGA). In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/economic/riga/rural-income-generating-activities

Figure 14. Diversification and specialization of income portfolios of urban households, by expenditure quintiles



Note: Countries are sorted from bottom to top by increasing GDP per capita.

Sources: Authors' own elaboration based on FAO. 2023. RuLIS - Rural Livelihoods Information System. In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/in-action/rural-livelihoods-dataset-rulis and FAO. 2023. Rural Income Generating Activities (RIGA). In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/economic/riga/rural-income-generating-activities

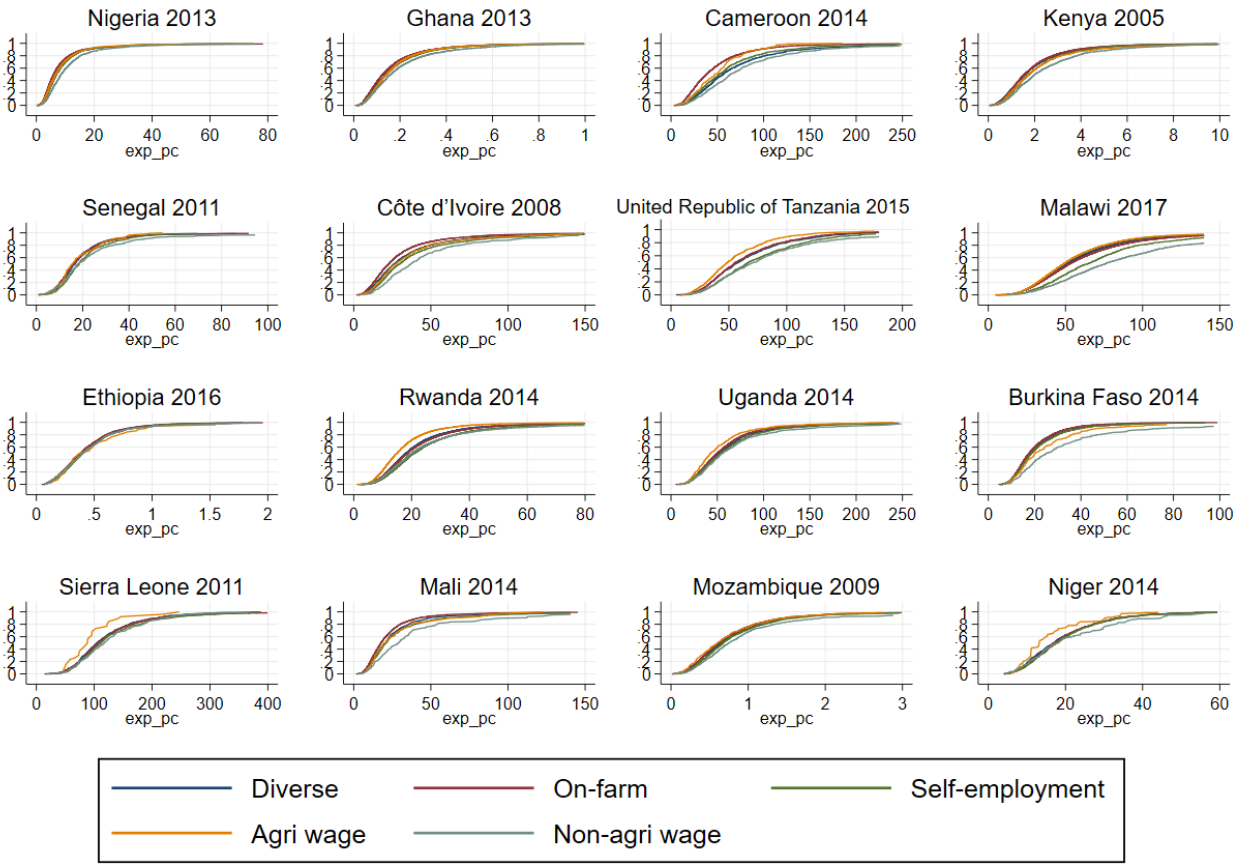
5.6 Stochastic dominance analysis of rural income-generating activities

In this section we present the stochastic dominance analysis. Figures 15 and 16 show for selected SSA and RoW countries the cumulative density function (CPF) of consumption expenditure in the rural households' diversified portfolio and their different income classifications, namely diversification or specialization in on-farm activities, agricultural wage employment, non-agricultural wage employment or self-employment (we exclude transfers in this part of the analysis).

Overall, we find a consistent pattern in terms of the relationship between income-generating strategies and welfare, with some important regional variation. In almost all countries, specialization in agricultural wage employment is stochastically dominated by the other income strategies. The exceptions are Ethiopia, Ghana, Mexico, Nigeria and Peru. In Nigeria on-farm activities are stochastically dominated by all other strategies; in Ethiopia agricultural wage income stochastically dominates other strategies in the middle of the distribution, while in Mexico and Peru agricultural wage labour dominates the next best category at low levels of income.

On the other hand, in almost all countries, non-agricultural wage labour and/or non-agricultural self-employment stochastically dominates all other income strategies. The exceptions are India and Bangladesh, where non-agricultural wage employment is stochastically dominated by diverse income portfolios, on-farm specialization and non-agricultural self-employment. In Pakistan and Viet Nam, self-employment activities stochastically dominate all other activities.

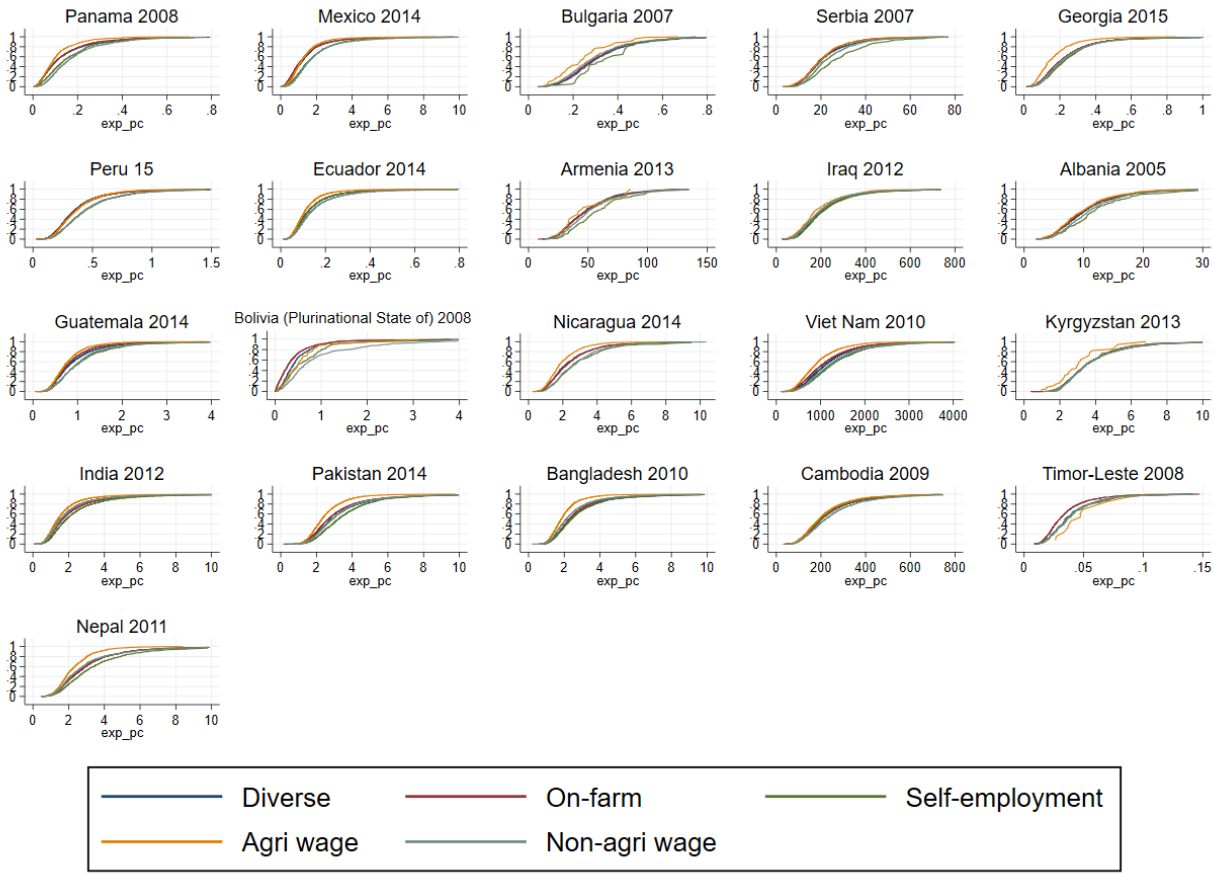
Figure 15. Cumulative per capita expenditure distributions, by rural income-generating strategies (sub-Saharan Africa)



Notes: Countries are sorted from the top left corner to the right bottom corner by increasing GDP per capita. exp_pc is per capita expenditure (in 10 000s).

Sources: Authors' own elaboration based on FAO. 2023. RuLIS - Rural Livelihoods Information System. In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/in-action/rural-livelihoods-dataset-rulis and FAO. 2023. Rural Income Generating Activities (RIGA). In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/economic/riga/rural-income-generating-activities

Figure 16. Cumulative per capita expenditure distributions, by rural income-generating strategies (rest of the world)



Notes: Countries are sorted from the top left corner to the right bottom corner by increasing GDP per capita. exp_pc is per capita expenditure (in 10 000s).

Sources: Authors' own elaboration based on FAO. 2023. RuLIS - Rural Livelihoods Information System. In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/in-action/rural-livelihoods-dataset-rulis and FAO. 2023. Rural Income Generating Activities (RIGA). In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/economic/riga/rural-income-generating-activities

6 Conclusions

This paper characterizes household income generation strategies in a broad array of countries at different stages of economic development and agricultural transformation. Using a newly available data set which significantly expands the number of surveys available for comparable cross-country income analysis, we provide new insights into the diverging patterns of household diversification and specialization across regions of the world.

First, the findings are consistent with previous studies, which find that overall, household income-generating strategies are to a large extent diversified in both urban and rural areas. Approximately 30 and about 44 percent of all rural households in SSA and rest of the world respectively have diversified income portfolios. For urban areas, about a third of households over all countries also pursue a diversified portfolio. The share of rural households with diversified portfolios tends to decrease with increasing GDP per capita. This trend is less evident for urban households. These diversified portfolios are important for both poor and wealthy households, and thus represent either survival-led (push) or opportunity-led (pull) strategies, depending on the particularities of each context and the economic opportunities available.

Second, the importance of on-farm and off-farm sources of income and specialization diverge between SSA and RoW countries. We find stronger evidence than previous studies that SSA may be on a different pathway of economic transformation, based on households' dissimilar income strategies at similar levels of GDP per capita. While on-farm income and specialization continue to be important for most rural households, in SSA countries, the share of households specializing in on-farm activities is significantly higher than in the RoW countries at comparable levels of development.

On the other hand, off-farm sources of income and specialization – and in particular of non-agricultural wage labour – increase with rising GDP per capita in RoW countries, among both urban and rural households. However, a similar pattern is not yet apparent among SSA countries. Moreover, differences are evident in terms of non-agricultural self-employment income between SSA and RoW countries, more prevalent among the former group. The trends suggest that fewer wage employment opportunities are being generated in the rural and urban areas of transforming SSA countries, and more in non-agricultural self-employment, particularly in urban areas. This observation, together with the fact that rural households in SSA continue to derive most of their incomes from on-farm activities, points to a lack of creation of wage employment beyond primary agricultural production. Overall, this suggests that, in a process of structural transformation in which agricultural productivity growth is relatively slower, it can substantially delay industrialization (as demonstrated empirically by Gollin *et al.*, 2002) and thus, sector reallocation is towards services and self-employment off the farm. As we described at the beginning of the paper, the structural causes are linked to constrained access to quality agricultural land, investment in human capital and institutional and physical infrastructure, and poorly functioning local markets.

We also find that transfers, either from public or private sources, play an important role in household diversification. In both rural and urban areas, transfers constitute an important source and share of household income, and in countries outside of SSA, their relevance in terms of the share of total household income increases with income levels. This is potentially driven by the higher share of public transfers (e.g. social protection) allocated to poorer rural households in wealthier, non-SSA, countries, including during support to economic transitions

(e.g. as in Eastern Europe and Central Asia during the 1990s). In contrast, the difference in the role of public transfers across the expenditure distribution of households in SSA is minimal at the time of the surveys analysed.

On the other hand, the role of migration is highlighted, to some extent, by the role of private transfers in households' income strategies. Countries like Albania, Pakistan, Indonesia and Nepal show that private transfers, in part coming from remittances, constitute a rather larger share of income for rural households at the top of the expenditure distribution. Among SSA countries, participation in transfers is also widespread, especially among countries at the lowest level of GDP per capita. The notable difference in income shares coming from private instead of public transfers among households in those countries reflects the role of informal transfers as part of a survival-led diversification strategy, related to the dearth of public social assistance for the most vulnerable.

Our results are relevant for policy on several fronts. First, we provide additional evidence on SSA's diverging pathway of structural transformation, based on observed (rural and urban) households' livelihood strategies, with slower development of non-agricultural wage sources of income at similar levels of GDP per capita and agriculture value-added in GDP as other countries. This leads to the pervasive reliance on on-farm sources of income and an increased reliance on non-agricultural self-employment, which implies household income strategies remain subject to seasonality factors in which their livelihoods are particularly vulnerable to risk and production losses. Among urban households in SSA, the importance of self-employment as a main income source indicates that vulnerability may extend to city dwellers as well. These patterns make it more difficult to obtain decent employment and access pathways out of poverty.

Second, despite the diverging pathways of structural transformation, diversification across income sources and within households continues to be an important livelihood strategy globally, in both SSA and RoW, for both rich and poor rural households. Diversification may thus reflect a pathway out of poverty or a survival strategy. Supporting and promoting diversification as a main strategy could help households in addressing the entry barriers to stable income activities, overcoming market failures, investing in capital formation, and overall representing a pathway out of poverty. However, policy makers should be aware of the challenges of promoting diversification in certain activities, such as off-farm employment (particularly self-employment), for which basic infrastructures are key and depend on environmental factors that are beyond the control of households: agricultural potential, opportunities for market access, growth of other sectors and their inclusivity potential. Furthermore, diversification strategies, when employed as a risk-management rather than livelihoods strengthening strategy, could also potentially harm productivity in on-farm activities, if diverting labour away from agricultural production when it is in highest demand. In this sense, supporting diversification strategies goes hand-in-hand with the investments for creating an enabling environment for value chain development in the rural space, and the policies to ensure the opportunities that emerge are stable and inclusive.

Indeed, agrifood systems in developing countries are currently undergoing major changes, with a large increase in the consumption of non-staple food and processed foods, largely driven by urbanization, and upon which value chain development can hinge. This expansion of demand can stimulate upstream and downstream linkages, implying the agrifood sector can potentially create new employment opportunities, including for rural households. The creation of higher value jobs along the agricultural value chain harbours potential to enhance the future

wellbeing of many of today's rural poor. These jobs may emerge with the appropriate investments from public and private sources in the value chain and in the related services and infrastructures required for agricultural value chains to thrive. Complementary policies, including investment in human capital and skills development in rural areas and childcare support, are important to assure that this process reaches the poor and vulnerable sectors of the population.

Finally, the significant role of nonlabour sources of income underscores the importance of managing risk within household income-generating strategies. Social protection and other sources of public transfers play an increasingly important role as countries develop, while at lower levels of GDP per capita private transfers play a greater role. Social assistance policies, paired with the development of rural financial services that offer savings and insurance opportunities, can help households to be "pulled", rather than "pushed" into low-return activities.

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Annex

Table A1. Household surveys and countries included in the analysis

Database	Country	Number of observations			Contribution of agriculture to GDP (%)	Per capita GDP, PPP constant 2017 USD
		Total	Rural	Urban		
Africa						
RuLIS	Burkina Faso 2014	10 626	6 418	4 208	23.69	1 671
RuLIS	Cameroon 2014	10 264	4 820	5 444	14.23	3 363
RuLIS	Côte d'Ivoire 2008	12 583	5 984	6 599	22.68	2 663
RIGA	Ethiopia 2012	3 964	3 461	503	44.33	1 438
RIGA	Ethiopia 2013	5 118	3 203	1 915	41.24	1 546
RuLIS	Ethiopia 2014	5 143	3 223	1 920	38.52	1 657
RuLIS	Ethiopia 2016	4 818	3 155	1 663	34.70	1 896
RIGA	Ghana 1992	4 464	2 903	1 561	44.78	2 420
RIGA	Ghana 1998	5 890	3 736	2 154	36.01	2 655
RIGA	Ghana 2005	8 564	4 979	3 585	37.45	3 093
RIGA	Ghana 2013	16 492	9 127	7 365	20.45	4 649
RIGA	Kenya 2005	12 902	8 240	4 662	24.24	2 983
RIGA	Madagascar 1993	4 465	2 630	1 835	NA	1 641
RIGA	Madagascar 2001	5 043	1 958	3 085	29.85	1 664
RIGA	Malawi 2004	11 215	9 791	1 424	34.71	775
RuLIS	Malawi 2011	12 174	9 955	2 219	28.77	987
RuLIS	Malawi 2013	3 975	2 939	1 036	28.67	999
RuLIS	Malawi 2017	12 269	10 042	2 227	26.10	1 038
RuLIS	Mali 2014	3 709	2 318	1 391	37.46	2 080
RuLIS	Mali 2017	3 749	2 293	1 456	37.43	2 248
RuLIS	Mozambique 2009	10 731	5 578	5 153	27.48	991
RIGA	Niger 2011	3 942	2 410	1 532	33.65	734
RuLIS	Niger 2014	3 572	2 284	1 288	33.43	827
RIGA	Nigeria 2004	19 088	14 467	4 621	27.23	3 854
RIGA	Nigeria 2013	4 702	3 207	1 495	20.76	5 329
RuLIS	Nigeria 2016	4 470	3 032	1 438	20.98	5 285
RuLIS	Rwanda 2014	14 294	12 048	2 246	24.69	1 723
RuLIS	Senegal 2011	5 833	2 811	3 022	12.88	2 733
RuLIS	Sierra Leone 2011	6 691	4 272	2 419	54.59	1 469
RIGA	United Republic of Tanzania 2009	3 255	2 055	1 200	26.04	2 157
RIGA	United Republic of Tanzania 2011	3 913	2 519	1 394	24.98	2 329
RIGA	United Republic of Tanzania 2013	4 989	4 223	766	26.79	2 449
RuLIS	United Republic of Tanzania 2015	3 333	1 969	1 364	26.75	2 613

Database	Country	Number of observations			Contribution of agriculture to GDP (%)	Per capita GDP, PPP constant 2017 USD
		Total	Rural	Urban		
RIGA	Uganda 2005	7 369	5 670	1 699	25.07	1 250
RuLIS	Uganda 2010	2 946	2 182	764	32.44	1 572
RuLIS	Uganda 2011	2 694	2 087	607	28.82	1 666
RuLIS	Uganda 2012	2 800	2 230	570	27.05	1 676
RuLIS	Uganda 2014	3 075	2 269	806	24.97	1 708
Asia and the Pacific						
RIGA	Bangladesh 2000	7 401	5 012	2 389	22.72	1 938
RIGA	Bangladesh 2005	10 063	6 390	3 673	18.57	2 280
RuLIS	Bangladesh 2010	12 199	7 807	4 392	17.00	2 883
RuLIS	Cambodia 2009	11 769	9 411	2 358	33.49	2 599
RuLIS	India 2005	41 261	26 771	14 490	17.62	3 238
RuLIS	India 2012	41 986	27 435	14 551	16.85	4 572
RIGA	Indonesia 2000	10 406	5 393	5 013	15.68	5 688
RuLIS	Iraq 2007	17 164	5 377	11 787	4.93	8 113
RuLIS	Iraq 2012	24 511	9 971	14 540	4.13	10 358
RuLIS	Mongolia 2014	16 152	7 186	8 966	13.34	10 980
RIGA	Nepal 1996	3 318	2 610	708	38.93	1 636
RIGA	Nepal 2003	5 014	3 609	1 405	35.11	1 885
RuLIS	Nepal 2011	5 954	3 873	2 081	34.98	2 434
RIGA	Pakistan 1991	4 633	2 309	2 324	22.84	2 993
RIGA	Pakistan 2001	15 578	9 682	5 896	24.20	3 245
RuLIS	Pakistan 2014	17 935	11 714	6 221	23.74	4 171
RuLIS	Timor-Leste 2008	4 439	2 492	1 947	30.16	2 522
RIGA	Viet Nam 1992	4 606	3 662	944	33.94	1 848
RIGA	Viet Nam 1998	5 962	4 240	1 722	25.78	2 702
RuLIS	Viet Nam 2010	9 377	6 735	2 642	18.38	5 089
Europe and Central Asia						
RIGA	Albania 2002	3 569	1 629	1 940	22.03	6 924
RIGA	Albania 2005	3 835	1 637	2 198	18.85	8 243
RuLIS	Armenia 2010	7 861	3 446	4 415	NA	9 286
RuLIS	Armenia 2013	5 182	1 833	3 349	18.43	10 691
RIGA	Bulgaria 1995	2 466	823	1 643	9.22	9 615
RIGA	Bulgaria 2001	2 624	877	1 747	10.60	10 645
RuLIS	Bulgaria 2007	4 297	1 274	3 023	4.66	16 465
RuLIS	Georgia 2013	11 079	6 885	4 194	8.62	11 752
RuLIS	Georgia 2014	11 133	6 837	4 296	8.53	12 263
RuLIS	Georgia 2015	10 969	6 728	4 241	7.81	12 611
RuLIS	Kyrgyzstan 2013	5 002	2 127	2 875	14.64	4 635
RuLIS	Serbia 2007	5 531	2 572	2 959	6.12	13 847
RIGA	Tajikistan 2003	4 148	2 629	1 519	24.19	1 604

Database	Country	Number of observations			Contribution of agriculture to GDP (%)	Per capita GDP, PPP constant 2017 USD
		Total	Rural	Urban		
RIGA	Tajikistan 2007	4 855	3 145	1 710	19.43	2 017
Latin America						
RIGA	Bolivia (Plurinational State of) 2005	4 080	1 748	2 332	11.79	5 750
RuLIS	Bolivia (Plurinational State of) 2008	3 934	1 605	2 329	10.44	6 351
RIGA	Ecuador 1995	5 720	2 490	3 230	21.91	8 576
RIGA	Ecuador 1998	5 726	2 502	3 224	17.48	8 826
RuLIS	Ecuador 2006	13 488	5 984	7 504	9.41	9 757
RuLIS	Ecuador 2014	28 793	14 938	13 855	9.13	12 078
RIGA	Guatemala 2000	7 266	3 846	3 420	22.82	6 831
RIGA	Guatemala 2006	13 681	7 874	5 807	11.26	7 267
RuLIS	Guatemala 2011	13 466	7 891	5 575	11.07	7 702
RuLIS	Guatemala 2014	11 507	6 277	5 230	10.07	8 043
RuLIS	Mexico 2014	19 407	5 188	14 219	3.13	18 907
RIGA	Nicaragua 1998	3 990	1 830	2 160	19.19	3 677
RIGA	Nicaragua 2001	4 152	1 830	2 322	16.81	4 026
RIGA	Nicaragua 2005	6 847	3 394	3 453	16.14	4 321
RuLIS	Nicaragua 2014	6 831	1 317	5 514	16.71	5 443
RIGA	Panama 1997	4 934	2 492	2 442	6.32	13 495
RIGA	Panama 2003	6 346	2 933	3 413	6.87	14 733
RuLIS	Panama 2008	7 009	3 244	3765	4.50	20 714
RuLIS	Peru 2010	21 226	6 925	14 301	6.83	10 066
RuLIS	Peru 2014	30 665	9 925	20 740	6.80	11 877
RuLIS	Peru 2015	31 938	10 708	21 230	7.05	12 110

Source: Authors' own elaboration.

Table A2. Participation of rural households in different income-generating activities, by country

	Country and year	Crop	Livestock	Agri wage	Non-agri wage	Self-employment	Transfers	Others	Agri income (total)	Non-agri income (total)	On-farm (total)	Off-farm (total)
Africa	Burkina Faso 2014	89	41	2	5	32	26	0	92	53	92	53
	Cameroon 2014	81	38	2	7	14	7	0	84	22	83	24
	Côte d'Ivoire 2008	85	38	5	5	13	30	49	87	69	86	70
	Ethiopia 2012	89	71	24	6	18	20	13	91	44	90	54
	Ethiopia 2013	94	82	19	7	21	24	18	98	52	97	59
	Ethiopia 2014	91	84	8	19	21	24	11	96	54	96	57
	Ethiopia 2016	92	87	1	25	18	29	8	97	60	97	60
	Ghana 1992	88	48	4	12	41	36	4	90	68	90	69
	Ghana 1998	83	46	3	18	37	36	3	85	67	84	67
	Ghana 2005	87	54	4	14	45	37	6	88	73	88	75
	Ghana 2013	88	52	4	18	40	41	13	89	75	89	76
	Kenya 2005	89	79	13	25	21	53	13	94	74	92	78
	Madagascar 1993	81	37	9	17	21	20	43	86	69	83	73
	Madagascar 2001	94	78	26	18	21	43	11	96	67	95	75
	Malawi 2004	96	65	55	16	30	89	7	98	93	97	97
	Malawi 2011	92	40	49	13	16	41	3	96	59	93	81
	Malawi 2013	93	51	47	14	26	54	4	97	70	94	86
	Malawi 2017	88	36	67	11	9	54	5	96	65	90	90
	Mali 2014	88	71	2	9	27	40	1	91	57	91	57
	Mali 2017	85	49	3	5	10	31	1	90	40	90	41
	Mozambique 2009	93	42	4	10	20	30	1	95	51	95	53
	Niger 2011	96	77	11	8	60	58	0	98	84	98	86
	Niger 2014	84	27	3	7	55	55	2	87	83	87	84
	Nigeria 2004	85	38	1	9	16	6	4	86	30	86	31
	Nigeria 2013	80	76	1	14	59	4	15	84	71	83	71
	Nigeria 2016	73	49	1	14	55	6	5	78	65	78	65
	Rwanda 2014	97	62	34	35	37	98	13	98	99	98	99
	Senegal 2011	74	70	5	12	14	82	6	86	86	85	86
	Sierra Leone 2011	86	25	0	4	6	22	18	87	40	87	40
	United Republic of Tanzania 2009	97	61	22	15	34	57	1	99	77	98	81
	United Republic of Tanzania 2011	91	55	28	22	38	64	3	95	83	94	86
	United Republic of Tanzania 2013	80	46	26	28	41	59	11	85	86	84	90
	United Republic of Tanzania 2015	85	59	34	21	41	39	2	90	74	89	85
	Uganda 2005	89	57	24	20	39	43	3	93	74	90	82

	Country and year	Crop	Livestock	Agri wage	Non-agri wage	Self-employment	Transfers	Others	Agri income (total)	Non-agri income (total)	On-farm (total)	Off-farm (total)
	Uganda 2010	86	59	24	39	43	28	8	90	72	88	81
	Uganda 2011	84	54	25	29	40	26	6	87	70	86	78
	Uganda 2012	75	44	15	23	38	27	6	78	70	75	77
	Uganda 2014	90	62	18	22	39	28	9	94	71	92	79
	Sample mean	87	56	16	16	30	39	9	91	66	90	71
Asia	Bangladesh 2000	82	60	36	32	26	48	55	90	90	85	97
	Bangladesh 2005	87	76	28	37	24	41	59	94	90	91	96
	Bangladesh 2010	53	53	27	34	22	40	27	79	80	71	91
	Cambodia 2009	60	66	17	27	35	26	30	71	63	66	69
	India 2005	51	56	38	41	16	20	6	80	65	66	86
	India 2012	54	57	37	59	14	51	7	81	87	69	93
	Indonesia 2000	54	10	19	32	33	85	14	64	92	54	94
	Iraq 2007	38	46	5	53	17	87	91	54	99	52	99
	Iraq 2012	25	26	3	69	17	87	84	35	100	33	100
	Mongolia 2014	8	70	7	32	8	90	6	75	94	71	95
	Nepal 1996	93	86	38	36	21	38	27	98	82	96	91
	Nepal 2003	88	73	30	41	27	73	84	95	98	92	99
	Nepal 2011	93	82	42	35	20	26	8	98	69	95	85
	Pakistan 1991	51	64	20	49	18	32	16	75	79	70	85
	Pakistan 2001	41	39	19	46	19	33	11	61	80	51	88
	Pakistan 2014	60	76	25	47	32	31	3	84	80	80	86
	Timor-Leste 2008	98	37	1	8	5	39	1	99	46	99	47
	Viet Nam 1992	76	58	25	43	32	37	10	83	79	79	88
	Viet Nam 1998	95	88	15	22	41	36	5	97	73	96	78
	Viet Nam 2010	98	91	20	32	38	36	19	99	80	98	86
	Sample mean	65	61	23	39	23	48	28	81	81	76	88
Europe	Albania 2002	92	86	5	28	10	68	4	93	85	93	87
	Albania 2005	95	86	5	30	11	74	19	96	90	95	92
	Armenia 2010	99	71	2	28	2	71	0	99	85	99	86
	Armenia 2013	98	61	1	31	7	68	0	98	85	98	85
	Bulgaria 1995	68	64	8	27	2	89	13	78	95	76	97
	Bulgaria 2001	58	62	6	41	3	87	22	72	97	71	98
	Bulgaria 2007	89	82	18	22	3	80	20	92	89	91	92
	Georgia 2013	82	74	7	30	12	70	25	91	90	90	92
	Georgia 2014	85	76	6	32	12	69	19	91	89	91	91
	Georgia 2015	79	75	6	33	11	70	14	90	88	89	90
	Kyrgyzstan 2013	89	64	1	38	16	66	1	92	91	92	91
	Serbia 2007	22	54	21	44	12	70	12	61	90	58	94
	Tajikistan 2003	89	69	50	29	3	58	1	95	73	93	91

	Country and year	Crop	Livestock	Agri wage	Non-agri wage	Self-employment	Transfers	Others	Agri income (total)	Non-agri income (total)	On-farm (total)	Off-farm (total)
	Tajikistan 2007	98	78	29	45	5	48	3	99	74	99	84
	Sample mean	82	72	12	33	8	71	11	89	87	88	91
Latin America	Bolivia (Plurinational State of) 2005	79	49	7	18	83	26	4	84	96	81	98
	Bolivia (Plurinational State of) 2008	73	75	7	25	18	42	4	82	71	80	75
	Ecuador 1995	64	76	34	33	29	64	4	85	84	79	92
	Ecuador 1998	31	35	32	34	34	66	4	58	87	35	94
	Ecuador 2006	74	76	39	34	39	27	48	93	85	88	94
	Ecuador 2014	68	78	35	34	38	28	15	89	71	85	86
	Guatemala 2000	88	66	43	35	31	65	4	94	84	91	95
	Guatemala 2006	81	46	31	51	33	71	3	86	90	81	97
	Guatemala 2011	56	41	38	33	27	76	2	73	90	60	96
	Guatemala 2014	54	23	43	35	24	74	15	73	90	56	97
	Mexico 2014	32	20	25	48	20	70	2	54	93	38	98
	Nicaragua 1998	85	72	39	35	26	39	19	95	73	91	87
	Nicaragua 2001	81	68	43	31	39	33	7	94	72	88	85
	Nicaragua 2005	82	75	37	28	23	67	3	92	81	88	92
	Nicaragua 2014	71	68	42	38	22	33	4	90	67	83	85
	Panama 1997	79	65	31	42	56	64	11	87	94	83	98
	Panama 2003	41	56	21	40	28	50	9	71	83	65	91
	Panama 2008	88	98	27	44	53	68	8	99	94	99	98
	Peru 2010	85	87	24	24	29	42	7	94	71	92	80
	Peru 2014	82	84	23	23	26	57	3	92	78	89	85
	Peru 2015	80	82	23	23	25	63	5	91	82	88	88
	Sample mean	70	64	31	34	34	54	9	85	83	78	91

Sources: Authors' own elaboration based on FAO. 2023. RuLIS - Rural Livelihoods Information System. In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/in-action/rural-livelihoods-dataset-rulis and FAO. 2023. Rural Income Generating Activities (RIGA). In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/economic/riga/rural-income-generating-activities

Table A3. Participation of urban households in income-generating activities, by country

	Country and year	Crop	Livestock	Agri wage	Non-agri wage	Self-employment	Transfers	Others	Agri income (total)	Non-agri income (total)	On-farm (total)	Off-farm (total)
Africa	Burkina Faso 2014	17	7	3	40	54	33	1	21	84	20	84
	Cameroon 2014	20	10	1	24	27	12	0	25	45	25	46
	Côte d'Ivoire 2008	15	6	1	26	36	36	51	17	85	17	85
	Ethiopia 2012	34	21	20	36	50	34	16	52	86	40	91
	Ethiopia 2013	10	9	13	48	34	44	16	26	93	15	96
	Ethiopia 2014	8	10	3	54	34	43	3	16	94	14	95
	Ethiopia 2016	15	19	4	54	41	39	4	28	92	25	94
	Ghana 1992	27	11	2	42	52	36	4	31	91	30	92
	Ghana 1998	32	11	1	43	50	30	3	34	86	34	87
	Ghana 2005	31	13	4	40	57	39	8	34	92	32	93
	Ghana 2013	38	14	3	35	53	42	15	42	89	41	90
	Kenya 2005	24	13	3	64	32	40	17	28	90	26	91
	Madagascar 1993	30	13	8	49	29	28	37	38	90	33	92
	Madagascar 2001	38	35	10	65	36	48	8	52	94	49	95
	Malawi 2004	45	14	28	54	36	66	24	56	95	46	97
	Malawi 2011	35	13	32	57	35	43	15	56	91	37	98
	Malawi 2013	41	19	36	51	49	64	19	60	96	44	99
	Malawi 2017	32	17	35	50	23	57	18	55	88	38	95
	Mali 2014	7	6	1	50	44	40	5	11	87	10	87
	Mali 2017	6	10	2	36	27	43	5	15	73	14	74
	Mozambique 2009	47	14	2	48	35	26	3	52	80	51	81
	Niger 2011	34	37	3	39	67	51	4	52	95	52	95
	Niger 2014	22	10	0	41	67	54	0	27	98	27	98
	Nigeria 2004	30	12	1	29	37	8	2	32	64	32	64
	Nigeria 2013	26	22	2	35	72	6	20	31	89	30	90
	Nigeria 2016	16	12	1	34	71	13	13	21	89	21	89
	Rwanda 2014	50	26	10	70	49	92	22	55	99	54	100
	Senegal 2011	5	13	5	49	25	83	26	19	91	16	92
	Sierra Leone 2011	17	4	1	26	27	28	21	19	69	18	69
	United Republic of Tanzania 2009	37	22	4	49	59	37	1	44	92	43	93
	United Republic of Tanzania 2011	38	20	6	56	60	44	11	44	96	43	96
	United Republic of Tanzania 2013	11	12	1	68	56	39	18	21	98	20	98

	Country and year	Crop	Livestock	Agri wage	Non-agri wage	Self-employment	Transfers	Others	Agri income (total)	Non-agri income (total)	On-farm (total)	Off-farm (total)
	United Republic of Tanzania 2015	26	20	6	56	64	42	1	37	98	35	99
	Uganda 2005	32	18	5	56	55	42	5	36	96	35	97
	Uganda 2010	30	19	6	51	51	32	14	34	87	33	88
	Uganda 2011	28	18	7	53	53	31	13	31	90	30	90
	Uganda 2012	40	16	6	49	44	36	13	43	89	41	92
	Uganda 2014	46	27	6	49	57	31	19	51	91	50	92
	Sample mean	27	16	7	47	46	40	12	35	88	32	90
Asia	Bangladesh 2000	26	14	5	66	38	41	56	32	99	30	99
Asia	Bangladesh 2005	39	29	7	63	37	24	53	47	97	44	99
Asia	Bangladesh 2010	11	16	6	65	30	22	38	24	97	21	99
Asia	Cambodia 2009	81	82	4	59	23	16	20	85	74	84	75
Asia	India 2005	3	7	5	71	26	17	10	12	94	8	96
Asia	India 2012	5	9	6	71	27	37	12	16	97	12	98
Asia	Indonesia 2000	10	3	6	61	41	85	18	16	96	11	96
Asia	Iraq 2007	2	2	1	72	31	88	76	4	100	3	100
Asia	Iraq 2012	2	2	1	77	27	87	74	3	100	3	100
Asia	Mongolia 2014	2	7	8	70	18	89	9	16	99	8	100
Asia	Nepal 1996	52	36	11	57	41	30	35	58	96	57	98
Asia	Nepal 2003	41	32	8	55	39	65	42	49	99	48	99
Asia	Nepal 2011	43	25	10	60	37	26	26	49	92	45	95
Asia	Pakistan 1991	10	13	3	75	31	31	12	20	97	19	98
Asia	Pakistan 2001	6	3	2	73	29	22	10	9	97	8	98
Asia	Pakistan 2014	9	21	4	65	50	26	1	26	97	24	98
Asia	Timor-Leste 2008	62	62	1	35	16	38	1	90	67	90	68
Asia	Viet Nam 1992	18	12	6	68	45	44	15	23	96	21	98
Asia	Viet Nam 1998	35	33	9	60	65	56	14	49	97	45	98
Asia	Viet Nam 2010	65	36	4	62	62	46	10	69	98	69	98
	Sample mean	26	22	5	64	36	45	27	35	94	32	95
Europe	Albania 2002	11	7	3	62	19	66	3	15	99	12	99
Europe	Albania 2005	18	10	1	59	24	68	23	20	98	19	99
Europe	Armenia 2010	73	4	1	54	4	68	0	73	93	73	94
Europe	Armenia 2013	66	3	0	54	7	70	0	66	95	66	95
Europe	Bulgaria 1995	23	13	1	55	5	84	8	28	97	28	97
Europe	Bulgaria 2001	12	9	2	62	5	77	13	17	96	16	96
Europe	Bulgaria 2007	52	20	25	44	4	59	10	63	85	54	92

	Country and year	Crop	Livestock	Agri wage	Non-agri wage	Self-employment	Transfers	Others	Agri income (total)	Non-agri income (total)	On-farm (total)	Off-farm (total)
	Georgia 2013	13	11	1	59	18	54	6	17	93	17	93
	Georgia 2014	13	11	1	59	19	57	6	17	93	16	94
	Georgia 2015	12	9	1	62	19	56	5	15	94	15	94
	Kyrgyzstan 2013	19	7	1	60	22	50	1	21	96	20	96
	Serbia 2007	3	8	3	60	15	62	7	11	93	9	94
	Tajikistan 2003	26	14	8	53	4	54	1	33	86	31	89
	Tajikistan 2007	74	22	4	58	4	41	3	75	80	75	82
	Sample mean	30	11	4	57	12	62	6	34	93	32	94
Latin America	Bolivia (Plurinational State of) 2005	14	5	2	58	54	31	13	17	97	15	98
	Bolivia (Plurinational State of) 2008	5	5	2	59	49	40	12	7	98	6	99
	Ecuador 1995	5	14	5	66	54	58	11	18	98	15	99
	Ecuador 1998	14	25	7	63	17	49	10	30	89	25	91
	Ecuador 2006	16	29	7	72	54	35	25	38	97	35	98
	Ecuador 2014	9	21	7	71	58	38	31	29	98	25	99
	Guatemala 2000	35	21	10	73	43	61	10	44	96	42	98
	Guatemala 2006	33	7	8	74	42	57	11	37	97	34	98
	Guatemala 2011	15	9	12	68	39	62	7	23	97	17	99
	Guatemala 2014	13	3	11	68	39	55	16	21	98	13	99
	Mexico 2014	3	1	4	76	24	47	5	7	98	4	99
	Nicaragua 1998	65	29	12	72	50	47	23	71	96	68	99
	Nicaragua 2001	42	18	8	74	56	52	10	48	98	45	99
	Nicaragua 2005	46	16	6	67	49	70	7	51	99	49	100
	Nicaragua 2014	37	24	10	71	45	34	8	50	96	46	97
	Panama 1997	26	10	3	75	39	67	16	31	99	29	99
	Panama 2003	4	8	2	74	32	43	12	12	98	11	98
	Panama 2008	38	99	2	79	36	70	19	99	99	99	99
	Peru 2010	11	11	6	61	58	41	15	17	95	13	97
	Peru 2014	11	10	6	61	55	42	10	17	96	13	97
	Peru 2015	10	9	7	63	52	42	11	17	97	12	98
	Sample mean	22	18	7	69	45	50	13	33	97	29	98

Sources: Authors' own elaboration based on FAO. 2023. RuLIS - Rural Livelihoods Information System. In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/in-action/rural-livelihoods-dataset-rulis and FAO. 2023. Rural Income Generating Activities (RIGA). In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/economic/riga/rural-income-generating-activities

Table A4. Income shares of different income-generating activities of rural households (% out of total income), by country

	Country and year	Crop	Livestock	Agri wage	Non-agri wage	Self-employment	Transfers	Others	Agri income (total)	Non-agri income (total)	On-farm (total)	Off-farm (total)
Africa	Burkina Faso 2014	62	11	1	3	16	7	0	74	26	73	27
	Cameroon 2014	64	20	1	3	10	2	0	85	15	84	16
	Côte d'Ivoire 2008	61	5	2	3	8	9	11	69	31	66	34
	Ethiopia 2012	71	9	5	3	6	3	3	85	15	80	20
	Ethiopia 2013	67	11	4	4	7	4	4	82	18	78	22
	Ethiopia 2014	45	26	2	8	10	5	3	74	26	71	29
	Ethiopia 2016	50	24	1	8	9	6	2	74	26	74	26
	Ghana 1992	54	3	2	7	25	9	0	59	41	57	43
	Ghana 1998	40	4	2	12	33	9	0	46	54	44	56
	Ghana 2005	66	3	2	8	16	6	0	70	30	69	31
	Ghana 2013	55	4	1	10	21	8	1	61	39	59	41
	Kenya 2005	32	15	7	15	9	19	2	55	45	47	53
	Madagascar 1993	57	8	5	12	11	4	3	69	31	65	35
	Madagascar 2001	57	13	6	6	9	6	2	77	23	71	29
	Malawi 2004	56	9	11	7	9	7	0	77	23	66	34
	Malawi 2011	48	5	21	10	8	8	1	74	26	53	47
	Malawi 2013	52	5	17	8	10	8	1	73	27	56	44
	Malawi 2017	37	6	34	8	3	11	1	77	23	43	57
	Mali 2014	54	17	1	6	12	10	0	72	28	71	29
	Mali 2017	66	13	1	4	4	12	0	80	20	79	21
	Mozambique 2009	57	13	3	7	9	10	0	73	27	71	29
	Niger 2011	48	9	3	4	26	10	0	60	40	57	43
	Niger 2014	29	5	2	5	39	20	0	36	64	34	66
	Nigeria 2004	76	5	1	7	10	1	1	81	19	81	19
	Nigeria 2013	46	7	1	11	33	0	2	53	47	53	47
	Nigeria 2016	45	5	1	11	34	3	1	51	49	50	50
	Rwanda 2014	23	8	15	17	21	13	2	46	54	31	69
	Senegal 2011	41	8	3	9	6	30	2	52	48	49	51
	Sierra Leone 2011	74	4	0	4	4	9	4	78	22	78	22
	United Republic of Tanzania 2009	53	13	4	6	13	10	0	71	29	66	34
	United Republic of Tanzania 2011	49	13	5	10	15	8	0	67	33	61	39
	United Republic of Tanzania 2013	37	9	6	16	20	10	2	52	48	46	54

	Country and year	Crop	Livestock	Agri wage	Non-agri wage	Self-employment	Transfers	Others	Agri income (total)	Non-agri income (total)	On-farm (total)	Off-farm (total)
	United Republic of Tanzania 2015	31	19	9	11	21	9	0	59	41	50	50
	Uganda 2005	52	3	8	11	17	9	0	63	37	55	45
	Uganda 2010	43	4	9	18	18	7	1	56	44	47	53
	Uganda 2011	43	5	9	16	18	8	1	57	43	49	51
	Uganda 2012	38	5	8	16	21	11	1	50	50	42	58
	Uganda 2014	35	8	10	14	22	9	1	53	47	44	56
	Sample mean	50	9	6	9	15	9	1	66	34	60	40
Asia	Bangladesh 2000	15	2	20	20	17	13	13	38	62	17	83
	Bangladesh 2005	18	9	15	23	14	8	12	42	58	27	73
	Bangladesh 2010	19	1	20	26	15	13	6	40	60	20	80
	Cambodia 2009	30	6	12	25	23	3	1	49	51	36	64
	India 2005	7	21	26	31	9	4	2	54	46	28	72
	India 2012	15	14	16	32	8	13	2	46	54	29	71
	Indonesia 2000	23	2	10	20	18	23	4	35	65	26	74
	Iraq 2007	9	10	2	34	7	14	24	22	78	19	81
	Iraq 2012	5	6	1	52	6	13	17	12	88	11	89
	Mongolia 2014	1	39	4	21	4	31	1	44	56	40	60
	Nepal 1996	20	18	13	21	9	17	2	51	49	38	62
	Nepal 2003	34	4	9	20	10	24	-1	47	53	38	62
	Nepal 2011	32	14	18	17	9	10	1	64	36	46	54
	Pakistan 1991	16	14	9	30	11	15	5	39	61	30	70
	Pakistan 2001	21	7	10	32	13	15	2	38	62	28	72
	Pakistan 2014	31	14	6	27	19	3	1	51	49	46	54
	Timor-Leste 2008	88	3	0	6	1	2	0	91	9	91	9
	Viet Nam 1992	34	11	8	23	15	8	2	52	48	45	55
	Viet Nam 1998	46	9	6	7	25	7	0	60	40	54	46
	Viet Nam 2010	41	15	6	9	21	7	0	62	38	56	44
	Sample mean	25	11	11	24	13	12	5	47	53	36	64
Europe	Albania 2002	15	34	2	15	5	28	0	51	49	49	51
	Albania 2005	17	23	3	18	7	28	3	43	57	41	59
	Armenia 2010	31	17	1	16	1	34	0	49	51	48	52
	Armenia 2013	30	14	1	18	3	36	0	44	56	43	57
	Bulgaria 1995	4	12	5	17	1	60	1	21	79	16	84
	Bulgaria 2001	8	7	3	26	2	53	1	19	81	16	84
	Bulgaria 2007	20	19	8	12	1	39	2	47	53	39	61

	Country and year	Crop	Livestock	Agri wage	Non-agri wage	Self-employment	Transfers	Others	Agri income (total)	Non-agri income (total)	On-farm (total)	Off-farm (total)
	Georgia 2013	17	13	3	16	5	36	10	33	67	30	70
	Georgia 2014	18	16	2	17	6	37	3	36	64	34	66
	Georgia 2015	16	16	3	19	5	38	2	35	65	32	68
	Kyrgyzstan 2013	33	7	1	23	9	27	0	40	60	40	60
	Serbia 2007	2	2	11	32	4	47	3	15	85	4	96
	Tajikistan 2003	37	17	17	12	1	15	0	72	28	55	45
	Tajikistan 2007	55	9	7	20	1	7	1	71	29	65	35
	Sample mean	22	15	5	19	4	35	2	41	59	37	63
Latin America	Bolivia (Plurinational State of) 2005	29	7	5	13	36	9	1	41	59	36	64
	Bolivia (Plurinational State of) 2008	30	20	4	17	10	18	1	54	46	50	50
	Ecuador 1995	13	7	24	23	13	17	1	45	55	21	79
	Ecuador 1998	3	1	23	26	16	29	1	27	73	4	96
	Ecuador 2006	22	9	22	19	16	6	8	52	48	31	69
	Ecuador 2014	22	11	20	18	18	5	5	54	46	33	67
	Guatemala 2000	28	3	20	20	12	17	0	50	50	30	70
	Guatemala 2006	21	3	17	28	13	18	0	41	59	24	76
	Guatemala 2011	15	2	23	23	14	22	0	41	59	18	82
	Guatemala 2014	9	8	28	25	12	15	3	46	54	17	83
	Mexico 2014	5	3	15	36	8	32	1	23	77	8	92
	Nicaragua 1998	21	15	22	21	11	6	5	57	43	35	65
	Nicaragua 2001	22	13	23	17	14	11	1	58	42	35	65
	Nicaragua 2005	22	13	22	18	11	12	1	58	42	36	64
	Nicaragua 2014	23	11	25	23	10	8	1	59	41	34	66
	Panama 1997	16	2	17	27	23	14	1	35	65	18	82
	Panama 2003	5	7	16	32	13	26	1	28	72	12	88
	Panama 2008	15	7	14	29	17	16	1	37	63	23	77
	Peru 2010	1	37	12	13	15	20	1	50	50	38	62
	Peru 2014	4	29	12	13	13	27	1	46	54	34	66
	Peru 2015	2	28	13	13	13	30	1	43	57	30	70
	Sample mean	16	11	18	22	15	17	2	45	55	27	73

Sources: Authors' own elaboration based on FAO. 2023. RuLIS - Rural Livelihoods Information System. In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/in-action/rural-livelihoods-dataset-rulis and FAO. 2023. Rural Income Generating Activities (RIGA). In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/economic/riga/rural-income-generating-activities

Table A5. Income shares of different income-generating activities of urban households (% out of total income), by country

	Country and year	Crop	Livestock	Agri wage	Non-agri wage	Self-employment	Transfers	Others	Agri income (total)	Non-agri income (total)	On-farm (total)	Off-farm (total)
Africa	Burkina Faso 2014	9	1	1	31	42	15	0	12	88	11	89
	Cameroon 2014	21	9	1	21	38	11	0	30	70	29	71
	Côte d'Ivoire 2008	7	1	1	22	30	20	20	9	91	8	92
	Ethiopia 2012	10	2	9	30	32	12	5	21	79	12	88
	Ethiopia 2013	3	0	6	41	24	20	5	10	90	3	97
	Ethiopia 2014	2	1	2	46	26	22	1	5	95	3	97
	Ethiopia 2016	1	4	3	43	31	17	1	8	92	5	95
	Ghana 1992	8	0	1	32	44	14	0	10	90	9	91
	Ghana 1998	8	1	1	33	48	10	0	10	90	9	91
	Ghana 2005	14	0	3	32	38	12	1	17	83	14	86
	Ghana 2013	16	3	2	26	37	16	1	20	80	19	81
	Kenya 2005	3	1	2	54	21	13	5	7	93	5	95
	Madagascar 1993	18	3	5	41	21	9	3	26	74	21	79
	Madagascar 2001	14	4	4	38	27	11	2	21	79	18	82
	Malawi 2004	10	2	10	45	22	7	3	23	77	12	88
	Malawi 2011	6	1	14	48	20	6	5	21	79	7	93
	Malawi 2013	7	1	15	37	29	8	4	23	77	8	92
	Malawi 2017	8	2	17	42	13	12	6	27	73	10	90
	Mali 2014	3	2	1	47	32	13	2	6	94	5	95
	Mali 2017	3	5	2	38	24	27	1	10	90	8	92
	Mozambique 2009	21	4	2	45	16	12	0	27	73	25	75
	Niger 2011	6	0	1	30	49	13	1	7	93	6	94
	Niger 2014	3	0	0	34	46	16	0	3	97	3	97
	Nigeria 2004	25	2	1	30	36	5	1	28	72	27	73
	Nigeria 2013	10	2	1	30	50	1	7	13	87	11	89
	Nigeria 2016	5	1	1	32	50	6	5	7	93	6	94
	Rwanda 2014	3	2	3	45	33	10	3	9	91	6	94
	Senegal 2011	1	1	3	40	10	38	7	6	94	2	98
	Sierra Leone 2011	15	1	1	29	27	19	9	17	83	16	84
	United Republic of Tanzania 2009	8	3	2	35	44	7	0	14	86	12	88
	United Republic of Tanzania 2011	10	4	1	39	38	5	2	15	85	14	86
	United Republic of Tanzania 2013	1	1	0	48	38	6	5	3	97	2	98

	Country and year	Crop	Livestock	Agri wage	Non-agri wage	Self-employment	Transfers	Others	Agri income (total)	Non-agri income (total)	On-farm (total)	Off-farm (total)
	United Republic of Tanzania 2015	3	3	2	41	42	9	0	8	92	6	94
	Uganda 2005	9	0	2	42	36	11	0	11	89	9	91
	Uganda 2010	9	0	2	36	36	13	4	11	89	9	91
	Uganda 2011	9	2	2	40	33	10	5	12	88	10	90
	Uganda 2012	13	3	3	39	25	12	5	19	81	16	84
	Uganda 2014	10	4	3	33	37	8	5	17	83	14	86
	Sample mean	9	2	3	37	33	13	3	14	86	11	89
Asia	Bangladesh 2000	3	0	3	45	26	9	14	5	95	3	97
	Bangladesh 2005	4	2	4	47	26	5	12	10	90	6	94
	Bangladesh 2010	2	0	4	54	22	8	8	7	93	3	97
	Cambodia 2009	29	4	2	53	10	1	1	35	65	32	68
	India 2005	1	0	4	66	21	6	3	5	95	1	99
	India 2012	1	1	3	62	19	11	3	5	95	3	97
	Indonesia 2000	3	1	3	46	23	21	3	6	94	3	97
	Iraq 2007	0	0	1	46	13	13	26	1	99	0	100
	Iraq 2012	0	0	0	55	10	13	22	1	99	0	100
	Mongolia 2014	0	2	5	50	11	30	3	7	93	2	98
	Nepal 1996	7	4	3	42	25	13	5	14	86	11	89
	Nepal 2003	10	2	2	38	25	22	2	13	87	12	88
	Nepal 2011	8	3	5	41	28	9	6	16	84	11	89
	Pakistan 1991	2	2	1	59	22	10	4	5	95	3	97
	Pakistan 2001	2	1	1	63	23	8	3	4	96	3	97
	Pakistan 2014	3	2	2	52	38	4	0	6	94	4	96
	Timor-Leste 2008	45	16	1	28	6	5	0	61	39	60	40
	Viet Nam 1992	6	2	2	47	28	14	2	9	91	7	93
	Viet Nam 1998	6	-1	3	27	49	13	2	8	92	5	95
	Viet Nam 2010	6	3	1	31	47	10	2	10	90	9	91
	Sample mean	7	2	2	48	24	11	6	11	89	9	91
Europe	Albania 2002	1	1	2	46	13	36	1	4	96	2	98
	Albania 2005	2	1	1	44	19	30	4	4	96	3	97
	Armenia 2010	9	1	0	44	2	44	0	10	90	10	90
	Armenia 2013	7	0	0	43	5	45	0	7	93	7	93
	Bulgaria 1995	1	2	1	42	4	51	1	3	97	2	98
	Bulgaria 2001	1	1	1	51	3	43	1	3	97	2	98
	Bulgaria 2007	10	3	16	31	3	36	2	28	72	12	88

	Country and year	Crop	Livestock	Agri wage	Non-agri wage	Self-employment	Transfers	Others	Agri income (total)	Non-agri income (total)	On-farm (total)	Off-farm (total)
	Georgia 2013	2	1	0	50	12	32	3	3	97	3	97
	Georgia 2014	2	1	0	49	12	34	2	3	97	2	98
	Georgia 2015	1	1	0	52	13	32	1	2	98	2	98
	Kyrgyzstan 2013	2	0	0	51	17	30	1	3	97	2	98
	Serbia 2007	0	0	2	48	5	43	2	2	98	0	100
	Tajikistan 2003	10	3	4	45	3	33	1	18	82	14	86
	Tajikistan 2007	39	2	1	40	2	14	1	42	58	40	60
	Sample mean	6	1	2	45	8	36	1	9	91	7	93
Latin America	Bolivia (Plurinational State of) 2005	2	0	1	43	36	15	2	4	96	2	98
	Bolivia (Plurinational State of) 2008	1	1	1	43	32	18	3	3	97	2	98
	Ecuador 1995	0	1	3	49	28	16	3	4	96	1	99
	Ecuador 1998	1	1	5	57	7	25	4	7	93	2	98
	Ecuador 2006	1	0	4	51	28	11	5	5	95	1	99
	Ecuador 2014	0	0	4	46	33	7	9	5	95	1	99
	Guatemala 2000	4	0	5	53	20	15	2	10	90	5	95
	Guatemala 2006	4	0	4	56	19	14	3	8	92	4	96
	Guatemala 2011	3	0	7	54	21	14	2	10	90	3	97
	Guatemala 2014	1	1	7	54	22	12	3	9	91	2	98
	Mexico 2014	0	0	2	66	11	19	2	3	97	1	99
	Nicaragua 1998	3	2	7	50	25	6	6	12	88	5	95
	Nicaragua 2001	3	1	4	49	26	17	1	8	92	5	95
	Nicaragua 2005	2	1	3	48	27	19	1	5	95	2	98
	Nicaragua 2014	4	2	5	51	24	13	1	11	89	6	94
	Panama 1997	1	0	2	59	18	19	2	3	97	1	99
	Panama 2003	0	0	1	63	16	19	1	1	99	0	100
	Panama 2008	1	1	1	63	12	20	3	3	97	2	98
	Peru 2010	0	3	3	40	34	18	3	6	94	3	97
	Peru 2014	1	2	3	43	31	18	3	6	94	2	98
	Peru 2015	0	2	4	44	29	18	3	6	94	2	98
	Sample mean	2	1	4	51	24	16	3	6	94	2	98

Sources: Authors' own elaboration based on FAO. 2023. RuLIS - Rural Livelihoods Information System. In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/in-action/rural-livelihoods-dataset-rulis and FAO. 2023. Rural Income Generating Activities (RIGA). In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/economic/riga/rural-income-generating-activities

Table A6. Share of rural household with diversified and specialized income-generating activities (%)

	Country and year	Diverse income portfolio	Specialized (>=75% of total income)					
			Agricultural wage	Non-agricultural wage	Self-employment	Transfers	Others	On-farm income
Africa	Burkina Faso 2014	22	0	2	9	3	0	64
	Cameroon 2014	20	1	2	6	1	0	71
	Côte d'Ivoire 2008	28	1	2	5	4	3	56
	Ethiopia 2012	24	1	2	3	1	0	69
	Ethiopia 2013	21	1	2	4	1	1	71
	Ethiopia 2014	23	1	4	7	2	1	62
	Ethiopia 2016	21	0	4	6	2	0	65
	Ghana 1992	23	1	5	18	4	0	48
	Ghana 1998	16	1	10	30	5	0	38
	Ghana 2005	22	1	5	10	3	0	60
	Ghana 2013	24	1	6	15	3	0	50
	Kenya 2005	35	4	10	6	9	1	36
	Madagascar 1993	24	2	9	7	2	1	57
	Madagascar 2001	31	1	3	4	1	0	60
	Malawi 2004	37	3	4	3	1	0	52
	Malawi 2011	38	10	7	4	2	0	37
	Malawi 2013	44	6	6	5	1	0	38
	Malawi 2017	48	16	6	3	3	0	24
	Mali 2014	18	0	4	7	5	0	65
	Mali 2017	18	0	3	3	7	0	69
	Mozambique 2009	24	2	5	5	5	0	60
	Niger 2011	47	0	2	11	3	0	38
	Niger 2014	33	1	4	27	11	0	24
	Nigeria 2004	14	0	6	7	1	0	73
	Nigeria 2013	25	0	8	23	0	1	42
	Nigeria 2016	21	0	9	26	2	1	42
	Rwanda 2014	50	8	9	13	3	0	17
	Senegal 2011	35	2	7	5	15	1	37
	Sierra Leone 2011	18	0	3	3	5	2	69
	United Republic of Tanzania 2009	35	1	3	5	4	0	53
	United Republic of Tanzania 2011	36	1	6	6	3	0	48
	United Republic of Tanzania 2013	40	2	11	11	3	0	33
	United Republic of Tanzania 2015	40	3	7	12	3	0	34
	Uganda 2005	37	3	7	9	3	0	41
	Uganda 2010	46	4	9	9	2	0	30

	Country and year	Diverse income portfolio	Specialized (>=75% of total income)					
			Agricultural wage	Non-agricultural wage	Self-employment	Transfers	Others	On-farm income
	Uganda 2011	43	3	9	9	3	0	33
	Uganda 2012	37	4	11	13	5	0	29
	Uganda 2014	40	6	8	14	3	0	29
	Sample mean	30	2	6	10	4	0	48
Asia	Bangladesh 2000	52	11	12	11	5	2	6
Asia	Bangladesh 2005	54	8	15	8	3	1	11
Asia	Bangladesh 2010	30	15	20	11	9	2	13
Asia	Cambodia 2009	47	7	15	11	1	0	20
Asia	India 2005	35	17	22	6	2	1	17
Asia	India 2012	43	8	21	4	6	0	16
Asia	Indonesia 2000	41	6	14	11	11	1	16
Asia	Iraq 2007	58	1	20	4	3	5	9
Asia	Iraq 2012	39	1	43	4	4	4	5
Asia	Mongolia 2014	40	2	13	2	14	0	29
Asia	Nepal 1996	54	4	10	4	7	0	20
Asia	Nepal 2003	53	3	9	5	11	1	19
Asia	Nepal 2011	52	8	6	4	3	0	27
Asia	Pakistan 1991	34	6	21	7	9	2	21
Asia	Pakistan 2001	31	7	24	9	10	0	19
Asia	Pakistan 2014	24	3	20	15	1	0	37
Asia	Timor-Leste 2008	6	0	4	1	0	0	88
Asia	Viet Nam 1992	47	3	11	8	3	1	27
Asia	Viet Nam 1998	35	3	2	16	1	0	42
Asia	Viet Nam 2010	44	2	2	13	1	0	38
	Sample mean	41	6	15	8	5	1	24
Europe	Albania 2002	51	1	7	3	11	0	28
Europe	Albania 2005	55	1	9	5	10	0	20
Europe	Armenia 2010	58	0	7	1	13	0	21
Europe	Armenia 2013	53	0	8	1	18	0	19
Europe	Bulgaria 1995	39	2	9	1	45	0	3
Europe	Bulgaria 2001	36	1	17	1	41	0	4
Europe	Bulgaria 2007	68	2	5	1	13	0	10
Europe	Georgia 2013	59	1	7	1	17	3	12
Europe	Georgia 2014	55	1	8	2	20	1	14
Europe	Georgia 2015	53	1	9	2	21	0	14
Europe	Kyrgyzstan 2013	52	0	12	5	11	0	19
Europe	Serbia 2007	38	5	19	0	33	1	4
Europe	Tajikistan 2003	54	5	4	1	5	0	32
Europe	Tajikistan 2007	51	1	5	0	1	0	42
	Sample mean	52	2	9	2	18	0	17

	Country and year	Diverse income portfolio	Specialized (>=75% of total income)					
			Agricultural wage	Non-agricultural wage	Self-employment	Transfers	Others	On-farm income
Latin America	Bolivia (Plurinational State of) 2005	55	3	10	14	4	1	12
	Bolivia (Plurinational State of) 2008	34	3	13	5	8	0	37
	Ecuador 1995	36	18	17	9	7	1	12
	Ecuador 1998	38	17	19	7	18	1	1
	Ecuador 2006	46	13	12	9	2	1	17
	Ecuador 2014	31	13	12	12	2	5	25
	Guatemala 2000	55	9	13	6	5	0	13
	Guatemala 2006	52	9	17	5	7	0	9
	Guatemala 2011	46	13	18	8	8	0	7
	Guatemala 2014	39	20	20	6	7	0	8
	Mexico 2014	36	9	29	4	18	0	3
	Nicaragua 1998	43	13	14	6	1	1	22
	Nicaragua 2001	42	14	10	6	4	0	24
	Nicaragua 2005	36	15	13	7	5	0	25
	Nicaragua 2014	35	16	15	6	3	0	25
	Panama 1997	49	10	20	10	6	0	5
	Panama 2003	25	12	26	9	18	0	9
	Panama 2008	48	8	23	6	6	1	8
	Peru 2010	39	7	8	9	9	0	28
	Peru 2014	43	7	8	7	14	0	20
	Peru 2015	43	7	9	7	15	1	18
	Sample mean	41	11	16	8	8	1	16
	Sample mean (RoW)	38	5	11	8	7	1	31

Notes: Red cells indicate the category with the highest percentage in each country. Blue cells indicate the specialization category (i.e. excluding diversified) with the highest percentage.

Sources: Authors' own elaboration based on FAO. 2023. RuLIS - Rural Livelihoods Information System. In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/in-action/rural-livelihoods-dataset-rulis and FAO. 2023. Rural Income Generating Activities (RIGA). In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/economic/riga/rural-income-generating-activities

Table A7. Percentage of urban household with diversified and specialized income-generating activities (%)

	Country and year	Diverse income portfolio	Specialized (>=75% of total income)					
			Agricultural wage	Non-agricultural wage	Self-employment	Transfers	Others	On-farm income
Africa	Burkina Faso 2014	28	0	23	31	10	0	7
	Cameroon 2014	50	0	9	20	5	0	15
	Cote d'Ivoire2008	36	0	16	21	11	10	5
	Ethiopia 2012	32	6	25	24	5	1	7
	Ethiopia 2013	25	4	34	19	14	2	2
	Ethiopia 2014	20	1	38	21	17	0	2
	Ethiopia 2016	21	3	36	25	11	0	3
	Ghana 2005	20	1	26	37	10	0	6
	Ghana 2013	17	1	27	42	7	0	7
	Ghana 1992	23	2	26	31	8	1	10
	Ghana 1998	25	1	21	30	9	0	14
	Kenya 2005	27	1	44	16	6	2	3
	Madagascar 2001	22	3	35	16	6	1	17
	Madagascar 1993	35	1	28	21	4	0	11
	Malawi 2004	27	6	39	17	2	1	8
	Malawi 2011	26	9	44	14	2	2	4
	Malawi 2013	34	8	31	21	2	1	2
	Malawi 2017	29	11	37	11	6	3	5
	Mali 2014	25	0	37	24	9	1	4
	Mali 2017	34	1	26	16	17	0	6
	Mozambique 2009	19	1	40	13	8	0	19
	Niger 2011	28	0	24	38	6	0	4
	Niger 2014	26	0	26	37	9	0	2
	Nigeria 2004	25	0	23	28	3	1	21
	Nigeria 2013	27	1	22	39	0	4	8
	Nigeria 2016	19	0	25	42	4	3	5
	Rwanda 2014	33	1	34	25	3	0	3
	Senegal 2011	36	2	30	7	22	1	1
	Sierra Leone 2011	33	1	21	19	11	4	12
	United Republic of Tanzania 2009	28	1	27	33	3	0	8
	United Republic of Tanzania 2011	31	0	32	26	2	1	9
	United Republic of Tanzania 2013	29	0	39	28	2	1	1
	United Republic of Tanzania 2015	26	1	35	33	4	0	2

	Country and year	Diverse income portfolio	Specialized (>=75% of total income)					
			Agricultural wage	Non-agricultural wage	Self-employment	Transfers	Others	On-farm income
	Uganda 2005	25	1	34	29	6	0	6
	Uganda 2010	37	1	25	24	8	1	4
	Uganda 2011	39	0	30	22	3	1	4
	Uganda 2012	34	2	32	17	7	1	8
	Uganda 2014	39	2	23	23	3	1	9
	Sample mean	29	2	30	25	7	1	7
Asia	Bangladesh 2000	39	1	34	20	3	3	1
Asia	Bangladesh 2005	35	2	38	20	2	2	2
Asia	Bangladesh 2010	23	3	48	17	6	3	1
Asia	Cambodia 2009	31	1	42	4	0	0	21
Asia	India 2005	16	3	59	17	3	1	1
Asia	India 2012	20	2	55	15	6	1	1
Asia	Indonesia 2000	33	2	36	15	12	1	1
Asia	Iraq 2007	58	0	25	8	3	6	0
Asia	Iraq 2012	47	0	38	7	3	5	0
Asia	Mongolia 2014	35	3	38	7	17	0	1
Asia	Nepal 2003	37	1	31	18	7	1	5
Asia	Nepal 2011	34	0	29	18	14	1	4
Asia	Nepal 1996	29	2	33	22	6	2	6
Asia	Pakistan 2001	25	1	50	17	5	2	2
Asia	Pakistan 2014	17	1	56	18	5	1	2
Asia	Pakistan 1991	14	1	47	34	2	0	3
Asia	Timor-Leste 2008	18	1	23	5	3	0	51
Asia	Viet Nam 2010	37	1	34	18	6	0	4
Asia	Viet Nam 1992	35	1	15	39	5	0	4
Asia	Viet Nam 1998	35	0	18	38	4	1	4
	Sample mean	31	1	37	18	6	1	6
Europe	Albania 2002	28	1	35	10	25	0	1
Europe	Albania 2005	28	1	35	16	19	1	1
Europe	Armenia 2010	25	0	35	1	34	0	5
Europe	Armenia 2013	26	0	33	3	35	0	3
Europe	Bulgaria 2001	27	0	31	3	38	0	1
Europe	Bulgaria 2007	25	0	41	2	32	0	0
Europe	Bulgaria 1995	40	9	20	2	25	0	3
Europe	Georgia 2013	30	0	40	8	21	1	1
Europe	Georgia 2014	32	0	36	8	22	1	1
Europe	Georgia 2015	32	0	40	7	20	0	1
Europe	Kyrgyzstan 2013	26	0	41	12	21	0	1
Europe	Serbia 2007	35	1	31	0	31	1	0
Europe	Tajikistan 2003	34	2	34	2	22	0	6

	Country and year	Diverse income portfolio	Specialized (>=75% of total income)					
			Agricultural wage	Non-agricultural wage	Self-employment	Transfers	Others	On-farm income
	Tajikistan 2007	46	0	24	1	7	1	21
	Sample mean	31	1	34	5	25	0	3
Latin America	Bolivia (Plurinational State of) 2005	31	1	32	26	9	1	0
	Bolivia (Plurinational State of) 2008	30	1	34	23	10	1	1
	Ecuador 2006	32	2	39	18	7	1	0
	Ecuador 2014	29	3	46	3	16	2	1
	Ecuador 1995	31	2	40	18	6	2	1
	Ecuador 1998	25	3	37	24	3	7	1
	Guatemala 2000	37	3	42	10	5	0	2
	Guatemala 2006	37	2	43	10	6	1	1
	Guatemala 2011	31	4	44	13	6	1	1
	Guatemala 2014	28	5	45	13	6	1	1
	Mexico 2014	22	1	59	7	11	1	0
	Nicaragua 2001	35	4	40	16	1	2	1
	Nicaragua 2005	44	2	33	13	6	0	2
	Nicaragua 2014	37	2	35	16	9	0	1
	Nicaragua 1998	30	3	40	16	7	0	3
	Panama 2003	28	1	49	10	11	0	0
	Panama 2008	21	1	54	10	13	0	0
	Panama 1997	27	0	54	6	11	1	1
	Peru 2010	37	2	28	21	10	1	2
	Peru 2014	35	2	31	20	9	1	1
	Peru 2015	34	2	33	19	10	1	1
	Sample mean	31	2	41	15	8	1	1
	Sample mean (RoW)	30	2	35	18	10	1	5

Notes: Red cells indicate the category with the highest percentage in each country. Blue cells indicate the specialization category (i.e. excluding diversified) with the highest percentage.

Sources: Authors' own elaboration based on FAO. 2023. RuLIS - Rural Livelihoods Information System. In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/in-action/rural-livelihoods-dataset-rulis and FAO. 2023. Rural Income Generating Activities (RIGA). In: *FAO*. Rome. [Cited 22 February 2023]. www.fao.org/economic/riga/rural-income-generating-activities

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