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**INEQUALITY DECOMPOSITION IN THE ARAB REGION:
APPLICATION TO JORDAN, EGYPT,
PALESTINE AND TUNISIA**

Racha Ramadan, Vladimir Hlasny and Vito Intini

Working Paper No. 1016

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Abstract

Economic inequality across socio-demographic groups in the Arab region is high and growing. This paper evaluates the differentials in household expenditures across rural/urban areas, female/male-headed households, non-educated/educated-headed households and non-employed/employed-headed households, in ten Household Income and Expenditure surveys from four Arab countries: Egypt (2008, 2010 and 2012), Jordan (2006 and 2010), Palestine (2007, 2010 and 2011) and Tunisia (2005 and 2010). Unconditional quantile regressions are used to analyze the differentials across the population distribution and to decompose them by source. Results show that Egypt and Tunisia – countries that have faced political instability during the early 2010s – exhibit relatively high expenditure gaps across rural/urban and non-educated/educated groups. Expenditure gaps in Jordan and Palestine – countries that have largely avoided instability – and those across non-employed/employed and female/male headed households are more moderate. Overall, education and the return to it, geographic location and household composition play an important role in bringing about, as well as reducing, economic inequality across social groups. These findings have important implications for development policy in the Arab region and possibly for our understanding of the socio-political climate leading up to the Arab Spring.

JEL Classification: D31, D63, N35

Keywords: Economic inequality; Unconditional quantile regression; Blinder-Oaxacade composition; Arab region

ملخص

عدم المساواة الاقتصادية بين الفئات الاجتماعية والديموغرافية في المنطقة العربية في ارتفاع متزايد. تقيم هذه الورقة فروق النفقات المنزلية عبر المناطق، الأسر التي يرأسها الذكور أو الإناث والأسر الريفية / الحضرية غير المتعلمين / برئاسة المتعلمات و / الأسر التي تعولها العاملین لغير العاملين، في عشرة من مسوح الدخل والإنفاق لأربع دول عربية : مصر (2008، 2010 و 2012)، والأردن (2006 و 2010)، فلسطين (2007 و 2010 و 2011) وتونس (2005 و 2010). ونستخدم انحدارات غير مشروطة لتحليل الفوارق في توزيع السكان حسب المصدر. وتشير النتائج إلى أن مصر وتونس من البلدان التي تواجه عدم الاستقرار السياسي خلال 2010 تشهد فجوات عالية نسبياً للإنفاق عبر المجموعات الريفية / الحضرية وغير المتعلمين / المتعلمات. ثغرات الإنفاق في الأردن وفلسطين وهما من البلدان التي تجنبت عدم الاستقرار وتلك عبر الأسر غير العاملين / العاملات برئاسة الإناث / الذكور هي أكثر اعتدالاً. عموماً، والتعليم وعودة إليها، والموقع الجغرافي وتكوين الأسرة تلعب دوراً هاماً في إحداث، فضلاً عن الحد، وعدم المساواة الاقتصادية بين الفئات الاجتماعية. هذه النتائج لها آثار هامة لسياسات التنمية في المنطقة العربية وربما لفهمنا للمناخ الاجتماعي والسياسي التي سبقت الربيع العربي.

1. Introduction

It is widely perceived that inequality in the Arab region is relatively low overall (Page, 2007). However, findings from micro level data do not systematically point to the same direction, and paint a more complex picture of the extent and form of inequality across households. Ali (2003), using high quality data on income, expenditure and their distribution, observed that there was evidence of fairly high levels of income inequality. Bibi and Nabli (2010) concluded that country-level inequality trends in the region were mixed, and the lack of reliable data made it difficult to measure inequality accurately. Alvaredo and Piketty (2014) reached a similar conclusion but maintained that income inequality was relatively high in the region. Belhaj Hassine (2014) identified a complex profile of intergroup inequality using a recently harmonized set of household expenditure surveys.

Despite this inconclusiveness, recent drops in public employment, combined with structural adjustment programs implemented over the last three decades, stagnating oil price, and the increasing restrictions imposed by Europe and Gulf Cooperation Council countries on migration flows originating from the region, send premonitory signals concerning a potential increase in inequality, at least in those countries that are set to be more affected by these trends. Moreover, high inequality patterns are found in childhood development indicators and international education test scores across Arab countries when compared to other developing countries. This carries the risk of transmitting the emerging inequality pattern further to the labor market and other swathes of Arab societies by means of high inequality of opportunity (Hashemi and Intini, 2015; Hlasny and Intini, 2015; Peragine et al., 2015).

With significant unemployment rate and limited youth and gender-related opportunities, Arab countries still have a long path to achieving social justice and prosperity. Economic growth and economic equality are the key mottos in the drive toward social justice in Arab countries (Azour, 2014; Tessler, Jamal and Robbins, 2015). The recent uprisings throughout the region and popular demand for more social justice call for further investigation of inequality issues (AfDB, 2012).

This is not only a fairness and social-justice concern but also a problem for countries' development. According to various United Nations organizations (ECA, ILO, UNCTAD, UNDESA and UNICEF, 2012), high inequality hampers economic growth and increases government costs for ensuring minimum levels of security. Above a certain threshold, inequality undermines good-quality growth and poverty alleviation efforts (Chambers and Krause, 2010; Berg and Ostry, 2011). Inter-group inequality is particularly worrisome as it may yield intergenerational transmission of inequality, poverty traps for entire social groups, polarization, social tension and political instability (Stewart and Langer, 2007; Kabeer, 2010; UNDP, 2013). The low level of inequality in the Arab region reflected by low values of the Gini index may hide severe regional inequality and inter-group inequalities (Salehi-Isfahani et al., 2012; Belhaj Hassine, 2014). Proper measurement, understanding and eradication of inter-group inequalities are thus priorities for regional scholars and policymakers especially amid the flux following the Arab uprisings. However, besides Belhaj Hassine's (2014) work, the analysis is scanty and inconclusive with respect to inter-group comparisons for vulnerable socio-demographic groups such as rural or uneducated households.

Hence, this paper aims to fill a void in the literature, measuring inter-group inequalities across Arab countries, decomposing them by source, and evaluating trends in the inequalities and their sources over time. Inequalities between different geographic areas and socio-economic groups are measured in order to estimate the effect of circumstances that people live in on overall inequality.

Inter-group inequality is thought to be driven by differences in households' human capital, socio-demographic characteristics and geographic location. Differences in households' endowments such as human capital, socio demographic characteristics and households' geographic location, are evaluated as main determinants explaining the expenditure differentials between social groups. In particular, expenditure differentials across rural/urban areas, female/male-headed households, non-educated/educated headed households and non-employed/employed-headed households are evaluated, using ten Household Income and Expenditure surveys from four Arab countries: Egypt (2008, 2010 and 2012), Jordan (2006 and 2010), Palestine (2007, 2010 and 2011) and Tunisia (2005 and 2010). The paper follows Belhaj Hassine (2014) in applying unconditional quantile regression decompositions to analyze the expenditure gaps across the population distribution and to decompose them by source. Endowments of various household characteristics and returns to these endowments that are responsible for the expenditure gaps are identified. Data permitting, systematic trends across survey waves are analyzed.

Our study advances Belhaj Hassine's analysis in several respects. First, we use an updated set of household surveys including one survey following the public uprising in Egypt. This allows us to comment on the socio-economic conditions in the country at the onset and during the period of instability. Second, we focus on additional dimensions of inequality. Beside rural/urban expenditure gaps, we study expenditure gaps across households with female versus male, non-educated versus educated, and non-employed versus employed heads. Third, we perform robustness tests evaluating choices regarding the exact delineation of educated versus non-educated, and employed versus non-employed groups of households; regarding adult-equivalence scales; and regarding currency conversion rates. Fourth, we explore the counterintuitive findings regarding the effect of gender and employment status on expenditure gaps. Finally, our study tells a different story than Belhaj Hassine regarding the profile and evolution of inequality in the Arab region. Because we report advanced results for inequality in total household expenditures, we omit the discussion of expenditures on food and non-durables.

The paper is organized as follows. The first section reviews the literature of inequality measurement in the Arab region. Section two describes the model. The data and estimated results are presented in sections three and four, respectively. Finally, section five concludes with a discussion of main lessons, their robustness and their implications for policymaking.

2. Literature Review

Income distribution plays an important role in the interplay between development and poverty. According to Son and Kakwani (2004), initial levels of economic development and income inequality can significantly influence the extent to which economic growth reduces poverty. Moreover, inequality slows down growth, worsens education and health outcomes, and negatively impacts productivity. All these factors may yield social and political instability as well as outbreaks of conflict (Ncube and Anyanwu, 2012; UN-ESCWA, 2015).

The Arab region is characterized by high and volatile economic growth driven significantly by oil production and prices that are not pro-poor. Inequality in economic distribution yields a disconnect between economic growth and wellbeing of the poor. However, this inequality is not reflected well in standard measures of aggregate inequality such as the Gini coefficient.

The Gini coefficient has been decreasing or stagnating in Arab countries during the past decade. However, the Gini does not account well for inequalities at the extreme ends of wealth and income distributions (Hlasnyand Intini, 2015). It also does not account explicitly for inequalities between different groups based on observable characteristics such as gender, region or education level.

Inequality in its various dimensions (wealth and income inequality, unemployment, and unequal access to education, health and employment) was partly responsible for the political instability and uprisings in the Arab region (Kanbur, 2013). Hence, the answer of “*Inequality between whom?*” is very relevant when studying inequality in the Arab region. Managing and mitigating the inequalities between social groups matters for economic growth and development (Kanbur, 2013).

Decomposing inequality into parts associated with differences in demography or geography allows a better understanding of inequality in Arab countries. Gender inequality is an important dimension of inequality tackled in existing literature. It has consequences for poverty and growth. Hence, decreasing gender inequality and empowering women should be a top concern for Arab region policymakers (Kanbur, 2013).¹ Rural/urban and cross-region inequalities have also been recognized as significant components of overall inequality (Bibi and Nabli, 2010; Boutayeb and Helmert, 2011; Belhaj Hassine, 2014). Understanding of inequalities across other socio economic groups is limited, but may be as important as understanding gender, rural/urban and cross-region inequalities.

Methodological literature provides a variety of approaches to decompose inequality. A well-established approach consists of decomposing inequality measures such as the Generalized Entropy (GE) indices into within-group and between-group components, as these indices satisfy principles for decomposition including the Pigou-Dalton transfer principle (Bibi and Nabli, 2009, 2010). Using this approach allows us to put a figure on the relative importance of within-region and between-region inequality in Arab countries (Bibi and Nabli, 2010). Using micro-level data from 1995/1996 and 1999/2000, El-Laithy et al., (2003) found that 87 and 82 percent, respectively, of inequality at the national level can be explained by within-region disparities, while the rest can be attributed to disparities across regions. On the other hand, using raw data from the 1997 and 2002 Jordanian national household surveys, Shahateet (2006) identified serious regional economic inequality and called for a more space-balanced approach to tackling inequality.

Another approach is based on the commonly known regression-based Blinder-Oaxaca decomposition. Said and El-Hamidi (2005) explored the changes in the distribution of returns to education and gender wage premia in Egypt and Morocco using joint models of educational choice and wage determination. Using Blinder-Oaxaca decompositions of sector and gender wage gaps, and controlling for education, experience and regional indicators, they found that the unexplained component in public sector wage premia and gender gaps – or the differentials in returns – have declined in Egypt, but substantially increased in Morocco over the 1990s. Biltagy (2014) examined the determinants of gender wage gap in Egypt by applying the Blinder-Oaxaca decomposition to the 2006 wave of the Egyptian Labor Market Panel Survey (ELMPS 2006). She found that the female/male wage gap is 25 percent and that the gap can, for the most part, be attributed to discrimination against women.

One drawback of the standard Blinder-Oaxaca decomposition is that it only estimates the mean effect of a given variable on the gap in economic outcomes. In fact, the effects of covariates can differ along the income/expenditure/wage distribution. An alternative method that allows estimating the impact of explanatory variables at different points on the welfare-aggregate

¹ A word of caution is warranted here for the following reasons: i) the proportion of female headed HHs is usually low and there is risk of selection bias, ii) HH head gender has generally a low explanatory power of economic inequality and this is generally due to the particular status of women who head their own households who are mostly widowed running their own business, or benefiting from remittances from husband or other family members living abroad.

distribution is the unconditional quantile regression (UQR) technique proposed by Firpo *et al.* (2009) and Fortin *et al.* (2010), evaluated by Fournier and Koske (2012).

The UQR technique estimates the impacts of explanatory variables on individual quantiles of the unconditional distribution of an outcome variable – per-capita annual household expenditure here. It measures how the whole distribution, not only the average, of the outcome variable will be affected by changes in explanatory variables. Using this approach, the expenditure differential between any two social groups in any quantile of the expenditure distribution is decomposed into two effects: the *endowment* effect and the *returns* effect. The endowment effect is the “explained” part of the differential associated with the difference in values of household characteristics between the two groups of households, such as education levels, employment status, location, etc. The returns effect is the “unexplained” part of the differential interpreted as the effect of the difference in returns to individual characteristics between the two social groups, computed at values of characteristics possessed by the advantaged group (Ndoye, 2015).

This approach allows us to identify the determinants of the gap in expenditure distribution between any two groups; rural/urban, female/male, non-educated/educated, non-employed/employed, etc. This approach has not been utilized adequately in decomposing inequality in Arab countries. To our knowledge, only Belhaj Hassine (2014) used this approach to study the determinants of inequality in the Arab region, by applying UQRs to harmonized household surveys from twelve Arab countries. Using rural/urban decomposition, she found that the endowment effects dominate the returns effects and that both effects are larger at higher quantiles in most countries, which reveals that the expenditure gap is wider for high-expenditure groups. Decomposition of non-metropolitan/metropolitan inequality revealed different patterns in the endowment and returns effects across Arab countries. Another important finding of Belhaj Hassine’s was that human capital and community characteristics are the most important factors responsible for the gaps between rural/urban middle class and better-off households.

3. Methodology

The paper uses unconditional quantile regression (UQR) decomposition to study welfare gaps across the entire population distribution and decompose them by source. The UQR is implemented by a recently developed re-centered influence function (RIF) method (Firpo *et al.*, 2009; Fortin *et al.*, 2010; Belhaj Hassine, 2014).

RIF is a simple regression-based procedure for performing a detailed decomposition of different distributional statistics across the distribution of the outcome variable. RIF allows us to decompose the welfare gap at various quantiles of the unconditional distribution of total expenditures per capita into two parts: the difference in households’ endowment characteristics – such as age, education, employment of the head and geographic location – and the difference in the returns to these characteristics. The first part can be viewed as the part of inequality *explained* by various household characteristics, while the second part can be viewed as *unexplained*, attributable to some latent form of segmentation, inefficiency, or discrimination in the market for human capital. The RIF is used in this paper to decompose the distribution of total expenditure by rural/urban, female/male head, non-employed/employed head, and non-educated/educated head. Since household expenditure is a proxy for income, it is appropriate to use it to measure the returns to households’ endowments.

The method consists of two stages. The first stage entails estimating the UQR on log annual household expenditure per capita of the two groups of interest,² then constructing a counterfactual distribution that would prevail if group 1 (e.g., rural households) received the returns that pertained to the second group (urban households, respectively). The comparison between the counterfactual and the empirical distribution allows us to estimate the part of the welfare gap attributable to differences in household characteristics (*endowment effect*) and the part attributable to differences in returns to these characteristics (*returns effect*).

The method can be expressed as using the following influence function re-centered so that its mean corresponds to the θ^{th} quantile of y , log annual expenditure per capita:

$$RIF(y, Q_\theta) = X\beta + \varepsilon \quad (1)$$

$RIF(y, Q_\theta)$ is estimated by computing the sample quantile Q_θ and deriving the density of y at that point by Kernel method. X is a matrix of regressors that can be divided into five groups. The first group consists of household-head characteristics including age, age squared, gender and marital status. The second group consists of three binary indicators for the education level of the head. The third group includes binary indicators for the employment status and employment sector of the household head. The fourth group contains household characteristics including household size, and ratio of those below 14 years and those above 65 years of age in the household. Finally, the fifth group includes geographic location indicators.

After estimating the RIF equation for individual deciles from the 10th percentile to the 90th percentile of the population, the predicted values for individual socio-economic groups are decomposed into the endowment and returns effects as follows:

$$\begin{aligned} \hat{Q}_\theta^i - \hat{Q}_\theta^j &= \{\hat{Q}_\theta^i - \hat{Q}_\theta^*\} + \{\hat{Q}_\theta^* - \hat{Q}_\theta^j\} \\ &= (\bar{X}^i - \bar{X}^j)\hat{\beta}_\theta^i + \bar{X}^j(\hat{\beta}_\theta^i - \hat{\beta}_\theta^j) \end{aligned} \quad (2)$$

for i/j pairs: rural/urban, female/male head,

non-educated/educated head, non-employed/employed head.

*= counterfactual values.

where $\hat{Q}_\theta$ is the θ^{th} unconditional quantile of log annual expenditure per capita, $\bar{X}$ is the vector of the means of covariates and $\hat{\beta}_\theta^k$ is the estimate of the unconditional quantile partial effects of group k . $\hat{Q}_\theta^* = X^j \hat{\beta}_\theta^i$ is the θ^{th} quantile of the unconditional counterfactual distribution that would have prevailed for group j if they received group i 's returns to their characteristics.

The first term in equation 2, $(\bar{X}^i - \bar{X}^j)\hat{\beta}_\theta^i$, is the endowment effect. It is the contribution of the differences in distributions of household characteristics to inequality at the θ^{th} unconditional quantile. The second term, $\bar{X}^j(\hat{\beta}_\theta^i - \hat{\beta}_\theta^j)$, is the returns effect – the inequality due to differences in the returns to household characteristics at the θ^{th} unconditional quantile (Belhaj Hassine, 2014).

3.1 Data

Inequality analysis in this paper is based on ten harmonized household surveys from four Arab countries: Egypt, Jordan, Palestine and Tunisia. Provider of these data, Economic Research Forum (ERF), harmonized these surveys by standardizing all household characteristics and flow variables

²In our case: Rural/urban households, and households with female/male, non-educated/educated and non-employed/employed heads.

such as expenditure and income components according to their conceptual content, coding structure, and international standard definitions and classifications.

We are able to use multiple survey waves for each of the included countries. This allows us to follow the evolution of expenditures and of inequality over time, and in the case of Egypt before and after the Arab Spring. For Egypt, we use the Household Income, Expenditure and Consumption Surveys (HIECS) for 2008/2009, 2010/2011 and 2012/2013, the most recent wave. For Jordan, two rounds of the Household Expenditure and Income Survey (HEIS) are used – the 2006 and 2010 waves. For Palestine, three waves of the Palestine Expenditure and Consumption Surveys (PECS), for 2007, 2010 and 2011, are available. For Tunisia, the 2005 and 2010 rounds of the National Survey on Household Budget, Consumption and Standard of Living (EBCNV) are used. These datasets differ in their sample size, as well as in the levels and distribution of the included variables.

Annual total household expenditure per capita, the welfare aggregate of interest and a proxy for income in this study, is subject to particular differences across surveys. Refer to table A1 in the Appendix. From 2008 to 2012, average total expenditure per capita increased in Egypt by 21% during 2008–2012 (from 1,425.38 to 1,719.77, in international dollars PPP). At the same time, there was a decrease in expenditure on food at the onset of the Arab Spring, before it started increasing again in 2012/2013. The increase in total expenditure was accompanied by a decrease in the average share of food among total expenditure, or Engel coefficient, from 49% in 2008 to 41% in 2012.

In Jordan, average total expenditure per capita increased by 24% during 2006–2010 (from \$2,500 to \$3,109). Food expenditure rose by 37% (from \$762 to \$1,046). Share of food in total expenditure surprisingly increased even as households' purchasing power improved, from 33% to 36%. In Palestine, both total household expenditure and food expenditure increased from 2007 to 2011 by 28% and 27% (from \$3,759 to \$4,826, and from \$1,123 to \$1,422), respectively. Share of food expenditure in total expenditure decreased from 35% in 2007 to 34% in 2011. In Tunisia, average total expenditure increased by 28% during 2005–2010 (from \$2,601 to \$3,332). At the same time, food expenditure rose by only 11% (from \$906 to \$1,005), making its share in average total expenditure slide from 41% to 34%. Refer to table A2 in the Appendix. Tables A3 and A4 report statistics at the level of expenditure quintiles and deciles, respectively.

To study inequality in household expenditures between various demographic groups, we split households according to their residence in rural versus urban areas, and according to the education level, employment status and gender of the heads of households. In Palestinian surveys, the binary split of households into rural versus urban areas results in the omission of up to 900 households (21% of the sample) residing in refugee camps. With regard to education, we distinguish household heads who have completed no education or who are illiterate, and those with any educational achievement. In the Tunisian 2005 survey, information on educational achievement is missing for a substantial number of households. We impute education status for some of them using information on ownership of computer connected to the internet, employment sector, and education of the spouse. With regard to employment status, we distinguish household heads who are currently employed against those who are unemployed or currently not seeking work (i.e., out of formal labor force). These specifications of education and employment status are selected in view of conceptual considerations regarding important cutoffs in the variables, and the variables' empirical distributions. Across surveys and segments of population by wealth, between 5% and 85% of households are classified as educated, and between 43% and 88% are classified as employed (refer to table A5 in the Appendix).

Determinants of expenditures inequality across households consist of individual and household characteristics including household heads' age, age squared, gender and marital status. Five binary indicators of household heads' specific education level (illiterate/no education; primary to lower secondary; secondary; post-secondary through post-graduate), four indicators of employment status (employee; employer; self-employed; other) and five indicators of employment sector (government; public; private; foreign/cooperative; other/missing) are used. Household size, ratio of those below 14 years and those above 65 years of age in the household, and geographic-region indicators are controlled for.

3.1.1 Characterization of expenditure quantiles

We proceed by evaluating household characteristics and outcomes across different wealth strata of survey samples. Refer to table A3. Dividing households according to their total expenditure per capita into five distinct groups (expenditure quintiles), we find that expenditures per capita vary significantly between the wealthiest and the poorest households, and the wealthiest and poorest groups contribute very different portions to aggregate expenditures.³

Among our sample of surveys, Palestine and Tunisia had a higher degree of inequality between the richest one-fifth and the poorest one-fifth of households, since the aggregate-expenditure share of the 5th quintile (47.6% and 48.0%) has been approximately eight times as high as the share of the 1st quintile (6.1% and 5.9%). In Jordan and particularly in Egypt this ratio of aggregate-expenditure shares is much lower, at 6.27 (44.6%/7.7%) and 4.15 (39.7%/9.6%), respectively. In the 2008 and 2010 waves of the Egyptian data, the aggregate-expenditure share of the 5th quintile (41%) was 4.5-times as high as the aggregate-expenditure share of the 1st quintile (9%). In 2012 the ratio of aggregate-expenditure shares in Egypt declined to 4.15, a slight decrease in inequality between the poorest and the richest households. Such improvement can be explained by the different policies applied after the political instability of 2011, including the increase of subsidies budget and public sector wages.

In Jordan, as in Egypt, the aggregate-expenditure share of the 5th quintile to the aggregate-expenditure share of the 1st quintile decreased. The ratio of aggregate-expenditure shares fell from 6.42 to 6.27. The fall in this ratio was greater in Palestine (and Tunisia) where the aggregate-expenditure share of the 5th quintile was 7.74-times as high as the aggregate-expenditure share of the 1st quintile in 2007 (8.25 in Tunisia in 2005), but by 2011 the ratio decreased to 6.70 (7.20 in Tunisia 2010).

Repeating the analysis at the level of deciles, the same patterns emerge. Table A4 in the Appendix presents the shares of total expenditure by population decile. For instance, Egypt saw the distribution of expenditures narrowing during 2008–2012. The share of total expenditure received by the poorest decile increased from 3.88% to 4.10% while the share of the richest 10% decreased from 27.14% to 25.86%. In Palestine, similarly, the aggregate-expenditure share of the poorest 10% increased from 2.39% in 2007 to 2.76% in 2011, while the expenditure share of the richest 10% decreased from 31.85% to 30.15%.

Households' characteristics also differ markedly across the expenditure quintiles. For instance, in Egypt, around 75% of the lowest quintile households live in rural areas, while around 78% (70%) of the highest quintile households live in urban areas in 2008 (2012, respectively). This

³Beside multiple survey waves for Egypt, Jordan, Palestine and Tunisia, we had access to the 2009 wave of the Sudanese National Baseline Household Survey. Results for this survey are omitted to preserve space, in light of the fact that we cannot perform intertemporal analysis for Sudan. The following discussion makes only an occasional note of the results for Sudan, and these results are deferred to the appendix.

concentration of the poor in rural areas motivates the common labeling of rural areas as poverty pockets. Regarding the education level and employment status of household heads, table A5 in the Appendix shows that in Egypt only 32% of households in the poorest quintile had an educated head in 2008. This rate increased over the years to 41% in 2012, compared to 66% in the highest expenditure quintile. With respect to household's employment status, the situation is conceptually and empirically different. Heads of poor households cannot afford staying out of labor force, and often accept underemployment or informal jobs with low wages. Hence, in Egypt, around 82% of household heads in the poorest quintile were employed in 2012 compared to only 59% in the richest quintile.⁴

These patterns are common across the countries included in this study. Over time we observe a decline in the disparity between the lowest and highest expenditure quintiles in terms of urbanization, education and gender of household heads. On the other hand, in terms of employment status, the prevalent pattern is that of divergence, with stagnating employment status among the poor and declining employment among the richest.⁵ A similar analysis at the level of expenditure-decile groups is reported in table A6 in the Appendix. In most countries, similarly to the findings for expenditure quintiles, the poor households are disproportionately concentrated in rural areas, with a female head, with no education, and a high propensity to be employed.

3.1.2 Measures of overall inequality

For a different measure of inequality in expenditures, table A7 reports Gini coefficients estimated for total expenditure per capita and food expenditure per capita across the national surveys. In general, these Ginis are modest across the evaluated countries, and are typically further falling over time. In Egypt from 2008 to 2012, inequality in both total expenditure and food expenditure, as measured by the Gini, decreased from 31.3 to 29.6 and from 25.8 to 24.9, respectively. In Palestine, the Gini for total expenditure per capita similarly decreased from 40.8 to 38.4, while the food expenditure per capita Gini decreased from 33.4 to 31.5. In Tunisia, the total expenditure Gini fell from 41.4 to 38.5, and the food expenditure Gini fell from 33.3 to 32.3. The only exception to this trend is Jordan, where the two Ginis rose slightly between 2006 and 2010 from 35.8 to 36.2 and from 33.2 to 33.4, respectively.

In all surveys, total-expenditure inequality is higher in urban areas than in rural ones. With the exception of Tunisia, inequality in food expenditure is also higher in urban areas. Inequality in both total expenditures and food expenditures is higher among households with non-employed heads rather than employed heads. This is true across the vast majority of surveys, with the exception of Palestine 2007 and Tunisia 2005. Inequality is also typically higher among households with non-educated heads rather than educated heads, but there are some notable

⁴Statistical measurement issues probably contribute to this low employment rate in the highest quintile. Household heads in the richest quintile have a wider range of options for being economically active, may misreport their employment status, or may fail to respond to household survey, particularly when they are economically active.

⁵In Palestine the demographic distribution is different because of the continuing Israeli-Palestinian conflict and the presence of refugees. These differences are worth noting. In 2007, households in both the poorest and the richest quintiles were concentrated in urban areas, with urbanization rates of 55% and 71%, respectively. The remaining households in the poorest quintile were distributed evenly between rural areas and refugee camps, while only 7% of the richest quintile lived in refugee camps. By 2011, the share of rich households living in refugee camps increased to 16%, while the share of poorest households living in refugee camps remained at the 2007 level of 24%. The share of households with an educated head is nearly the same for the poorest and highest quintiles with 78% and 80%, respectively, in 2007. These shares increased by 2011 to 80% and 81% for the lowest and highest quintiles, respectively. As in Egypt, status as employed is more prevalent in the poorest quintile (81% in 2011) than in the richest quintile (71% in 2011).

exceptions such as the experience in Egypt. In 2010, interestingly, the ranking of inequality between the educated and the non-educated groups changed in Jordan, Palestine and Tunisia.

With respect to household heads' gender, across the ten surveys, inequality in both total expenditures and food expenditures is overwhelmingly higher among female-headed households. The single exception is Palestine 2007. These results show that households with female heads are more vulnerable and more likely to fall into poverty and be affected by inequality. This inter-group analysis illustrates that the profile of inequality differs somewhat based on which dimension we are tackling: total expenditure or food expenditure. Distinct demographic groups also experience different extent of inequality. Moreover, interestingly, residence in rural/urban areas, education and employment status have different bearing on the degree of inequality experienced by the respective demographic groups.

These trends in survey data can be contrasted with those in the countries' national-accounts data to gauge how representative they are of real conditions in the respective economies. In Egypt and Jordan, during 2000–2013 GDP per capita rose from 7,811 to 10,732 and from 7,695 to 11,407 constant 2011 international dollars, respectively. In Palestine, GDP per capita rose from 4,206 to 4,484, or by only 7%, during 2000–2013 (figure A1 in the Appendix). These increases in GDP per capita were not accompanied by decreases in poverty, at least in Egypt and Jordan. According to national poverty lines, 25.2% of the Egyptian population was poor in 2011 compared to 16.7% in 2000, and in Jordan poverty rate reached 14.4% in 2010. Even these rates mask significant differences across rural and urban areas, and much higher rates in rural areas. In 2011, poverty rates were 32.3% and 15.3% in rural and urban areas of Egypt, respectively. In Jordan, rural poverty rate was 16.8% compared to the urban rate of 13.9% (figures A2 and A3). In Palestine, poverty has been declining (figure A4). The national poverty headcount ratio stood at 25.8% in 2011 compared to 35.5% in 2003. Similar decreases in poverty were achieved in urban (from 32.0 to 26.1%) and rural (from 38.5 to 19.4%) areas. Only in Tunisia, poverty headcount ratio decreased from 32.4% in 2000 to 15.5% in 2010 (figure A6).

4. Estimation Results

Results of the UQR for rural/urban inequality decomposition in the four countries are presented in Tables 1–4. Results for female/male, non-employed/employed, and non-educated/educated inequality are then presented in Tables 5–8, 9–12 and 13–16.

First, for the rural/urban gap, the inequality is widening over the years for all countries. Rural/urban gap is especially high in countries that later experienced political instability, namely Egypt and Tunisia. The rural/urban gap increased in 2010 and 2011 for Tunisia and Palestine, respectively, especially among poor households. In Palestine, the rural/urban gap is positive for the lowest expenditure decile while it is negative for the highest decile. This implies that expenditure per capita is higher among the rural poor than among the urban poor. In 2010, the gap between the urban poor and the rural poor decreased in both Jordan and Egypt. However, in Egypt, the situation worsened after the uprisings of 2011, indicating that the rural poor are the main group affected by the deterioration of the economic situation post 2011. (Refer to Tables 1–4. Similar results for the Sudanese 2009 survey are presented in Table A8 in the appendix.)

Decomposing expenditure inequality into the endowment and returns effects (Figures A7-A16) shows that the favored groups, urban households, have greater endowments. In Egypt, higher endowment of the favored group is observed especially among the low-income strata. For the high-income group, inequality in expenditures can be explained by the returns effects. In other words, for instance, urban poor households are more endowed compared to the rural poor. Moreover, the

return to the characteristics of the urban rich is typically higher than the return to those characteristics earned by the rural rich. In Palestine in the top decile group, the returns effect is dominated by the endowment effect, and the return to the characteristics of the rural rich is lower than the return to the characteristics of the urban rich. In Jordan and Tunisia, the endowments of rural households are lower than the endowments of urban households across all expenditure deciles. This differential increases in magnitude nearly monotonically across expenditure deciles.

Although female-headed households face a higher level of inequality, according to the Gini index, the UQR shows that female-headed households have a higher per capita expenditure in Egypt, Palestine and Jordan. This gender gap increased in Egypt over the years, while in Palestine this gap decreased in 2011 compared to 2007 for all expenditure groups (Table 5). Across the Egyptian, Palestinian and Jordanian surveys, the positive gender gap was rising with households' income level.

Gender gap in Jordan is positive in favor of female-headed households across years and expenditure deciles. This gap decreased in 2010 among the lowest and middle decile groups, but increased in the highest decile. In Tunisia, gender gap was positive in favor of female-headed households in all population deciles in 2005, while in 2010 it was positive only among the highest expenditure decile (Tables 6-8).

Decomposition of the gender gap in Egypt shows that female-headed households have lower endowments than their male counterparts (negative endowment effect), especially for low and highest income groups. However, the return to these characteristics is higher for female-headed households. In Palestine, female heads' characteristics and returns to them were higher than those of their male counterparts in 2007. In 2011, however, the endowment effect was positive and dominated the negative returns effect from the lowest to the seventh decile. For high-expenditure deciles (from the eighth to the tenth) the endowment of rich female heads decreased but the return to it increased. Rich female-headed households thus received higher returns to their attributes than rich male-headed households. This may result if rich female-headed households reside closer to markets, or if these households systematically differ from male-headed households in ways that are not captured by the model.

In Jordan, women's endowment of characteristics in 2010 was higher than that of male heads in the lowest and middle deciles, but lower in the highest decile. The returns effects were negative among the lowest expenditure decile – suggesting that they worked to decrease the female/male gap among the bottom of the expenditure distribution – while they were positive among the middle and highest deciles. Similar composition was observed in Tunisia, where poor female-headed households tended to be more endowed with market-valued characteristics than their poor male-headed counterparts, but faced lower returns to these endowments. Among rich households, female-headed households had lower endowments but faced greater returns to them.

The female/male gap analysis shows that the gender inequality story changes based on which inequality measure is used. Here, according to the Blinder-Oaxaca decomposition on expenditures per capita, female-headed households are better off than their male counterparts, which is not the story told by the Gini index. Such results suggest that looking at a single inequality measure may be misleading. A deeper analysis of the causes of inequality is required in the effort to usher in equality across social groups.

For the non-employed/employed decomposition, results in Egypt show that, similarly to the gender gap, the difference between expenditure per capita for non-employed and employed household heads is positive. This expenditure difference increased from 2008 to 2010 for the low-expenditure

group, then decreasing during 2010–2012, while for the high-expenditure group the difference decreased in 2010 but increased in 2012 (Table 9).

In Palestine, the employment-status gap among the lowest decile was negative in 2007 and 2010, and then became positive in 2011. However, the gap was not significant. Among the highest decile of Palestinian households, the employment-status gap was positive for all three survey waves but decreased over the years (Table 10). In Jordan, similarly, the gap was negative in the lowest decile showing that among poor households, non-employed-headed households had lower expenditure per capita than their employed counterparts, but this gap became positive in the middle and high expenditure deciles (Table 11).

In Tunisia, decomposition reveals that the difference in expenditure between non-employed and employed households was in favor of the non-employed group, and increased along the expenditure distribution. Between the 2005 and 2010 waves, the overall gap fell in magnitude in the bottom and middle of the population distribution, but increased in the highest decile (Table 12).

Decomposing this employment gap between the endowment and the returns effects shows that the endowments of non-employed household heads are higher than those of the employed heads. This is true at all expenditure levels and especially among the high-expenditure decile. However, these endowments appear rewarded more highly among the employed. In other words, the positive gap between non-employed and employed heads can be explained by the dominance of the positive endowment effect over the negative returns effect. It is worth noting that the positive gap between the non-employed and employed may be driven by measurement issues as household heads in the richest quintile have a wider range of options for being economically active, may misreport their employment status, or may fail to respond to household survey, particularly when they are economically active (Hlasny and Verme 2016).

Education is an important aspect in explaining inequality in Arab countries. Moreover, comparing expenditures of households with educated versus non-educated heads in Egypt shows that the expenditure differential increased over the years for all expenditure groups. This differential can be explained by the difference in characteristics between educated and non-educated household heads. Non-educated and educated heads also received different returns to these characteristics, and this gap in returns increased among the highest expenditure decile group. Rich educated household heads are thus rewarded more for their various endowments than the non-educated rich. The same pattern is evident in Palestine and Tunisia, where both the endowment and the returns effects contribute to the pro-educated welfare gap (Tables 13-14 and 16).

In Jordan, the overall differential increased during 2006–2010 among the poorest deciles, while falling among the middle and high expenditure deciles. This trend is due to a widening in the endowment gap among the poor and the middle-expenditure groups, and a narrowing in the endowment gap among the rich. In addition, the returns effect appears to have increased among the poor and fallen among the middle- and high-expenditure groups (Table 15).

Finally, the results in Tables 1–16 show that households' endowments, mainly education of household heads, in addition to households' geographic location and composition, are important determinants of expenditure gaps. These findings follow the conclusions by Belhaj Hassine (2014). Households' education and geographic location are the most significant determinants of the rural/urban gap in the four countries. Educated urban household heads are predicted to be more endowed with various marketable characteristics than educated rural heads and, reassuringly, educated heads are predicted to be more endowed than uneducated heads. In Egypt and Palestine,

education of the household head and return to education contributed significantly to decreasing of the rural/urban expenditure gap. However, in Tunisia and Jordan, the returns effect did not have significant impact on inequality.

Returns to education, geographic location and household composition are important determinants of the gender gap in Egypt, Jordan and Palestine, especially among the high expenditure groups. Returns to education and geographic location decrease the gender gap, while returns to household composition exacerbate it. In Tunisia, however, returns to education appear to contribute to the pro-female expenditure differential (most coefficients are positive), implying that female-headed households receive higher returns to education. Returns to employment, household composition and geographic location are for the most part higher among male-headed households (most coefficients are negative) and thus work to mitigate the observed overall gap. One half of these effects are statistically significant, suggesting that these trends are systematic. Nevertheless, the importance of these factors diminished in latter years in Jordan and Palestine.

In Egypt, across all survey waves and expenditure groups, education differentials mitigate the expenditure gap between the non-employed and the employed significantly. Also notably, the returns to education and to household composition have positive significant impacts on the expenditure gap, particularly for middle and high-expenditure groups. In Jordan, household composition contributes positively, raising the non-employed/employed expenditure gap among middle and high expenditure households. Education of the household head (and geographic location in 2006) contributes negatively, attenuating the non-employed/employed gap among middle and high expenditure households. In Tunisia and Palestine, household composition and geographic location, as well as returns to them, affect the expenditure gap significantly favoring the non-employed.

With respect to education gap, the employment status, geographical location and composition of households –as well as their returns – are the main determinants of the pro-educated gap in Jordan, Palestine and Tunisia. In Egypt, it is the characteristics of household heads – including gender, age and marital status –that play a significant role in increasing the pro-educated gap, but this contribution diminished in 2012 compared to previous years. For the returns effects, the results show that the return to geographic location has a positive significant impact on inequality for the middle and high-expenditure class in Egypt. Hence, location where the educated rich and the non-educated rich live contributes to widening of the expenditure gap between the two groups. The return to household composition has a positive and significant effect on the expenditure gap among all Egyptian expenditure classes in years 2008 and 2012.

5. Concluding Remarks

This study aimed to measure economic inequalities between various socio-economic groups and across population wealth strata in the Arab region. Inequality among different geographic areas and social groups was measured in order to estimate the effect of circumstances that people live in on overall inequality. Differences in households' endowments, such as human capital, socio-demographic characteristics and households' geographic location, were evaluated as main determinants of the expenditure differentials across social groups. The study used a rich sample of ten Household Income and Expenditure surveys from four Arab countries: Egypt, Jordan, Palestine and Tunisia. This allowed us to evaluate trends in inequality and its composition over time – in the case of Egypt even before and after the Arab Spring uprisings. An additional set of results for Sudan was reported in the appendix (Table A8 and Figure A17). We followed Belhaj Hassine (2014) in applying unconditional quantile regressions to decompose expenditure gaps by their source at different points in the population distribution, and we performed this analysis for

expenditure gaps between rural versus urban, female versus male, non-employed versus employed, and non-educated versus educated headed households.

We found that Egypt and Tunisia – countries that have faced political instability during the early 2010s – exhibited relatively high expenditure gaps across rural/urban and non-educated/educated groups. On the other hand, the gaps in Jordan and Palestine – countries that have largely managed to avoid instability – and those across non-employed/employed and female/male headed households are more moderate. Between 2008 and 2012 the rural/urban and education gaps decreased in Egypt while the household-gender and employment gaps increased, especially for the highest population decile. In Jordan, between 2006 and 2010, the rural/urban gap decreased across all population quantiles, while the employment gap increased. The education gap increased for the poor but decreased for the rich, while the gender gap fell for the poor but increased for households at the median and the top of the expenditure distribution. In Palestine, between 2007 and 2011, the rural/urban gap decreased for the rich while it increased for the poor. The gender and employment gaps decreased for both the poor and the rich. However, the education gap increased. In Tunisia, between 2005 and 2010, the rural/urban gap increased both for the rich and the poor. The education gap increased for the poor but decreased for the rich. The employment and gender gaps fell significantly for poor and median-expenditure households but increased slightly for the rich.

These results paint a complex picture of the pattern of inequality in the Arab region. While overall inequality regressed in most Arab countries, this favorable trend did not hold for inter-group inequality evaluated across different pairs of demographic groups, or across all wealth strata of population. Inter-group inequalities in different countries have different sources, and the degrees to which they can be attributed to ‘explained’ differences in endowments of human capital across demographic groups, and to ‘unexplained’ differences in returns to these endowments differ.

A number of robustness checks were performed to evaluate sensitivity of our results to variable definitions. One, in the analysis above, expenditure per capita was obtained by dividing household expenditure by the number of household members. This was used in deference to previous literature in the aim to facilitate comparison of Gini coefficients across studies. An alternative approach is to use a modified OECD adult-equivalence scale with household size computed as $[1 + 0.7 (N_{adults}-1) + \alpha N_{children} + \alpha N_{elderly}]$ where α is taken to be 0.3 to account for a lesser role played by children under the age of 14 and the elderly aged 65+ years (Glewwe and Twum-Baah, 1991, as cited in Haughton and Khandker 2009:29). This alternative, evaluated for Jordan 2010, yields results reported in figure A18 in the Appendix. These results are qualitatively analogous to those in figure A14. While the level of expenditure per capita has changed, measures of inequality remain similar. Similarly, using of particular currency conversion factors does not appear to drive any results. Using of UNSD (2015) conversion factors or the quantitatively different World Bank (2015) estimates yields the same regression results for the endowment and returns effects.

Another robustness check concerns classification of household heads as educated vs. non-educated or employed vs. non-employed, and classification of all households as either male-headed or female-headed. In the baseline specification of the analysis of non-educated/educated inequality, only household heads who have not completed any level of schooling are classified as non-educated. In some countries it may be more appropriate to use a higher cutoff. As an alternative specification we have considered distinguishing household heads with up to primary/lower secondary school achievement from those with secondary/post-secondary and post graduate education. Figure A19, panel (a), reports the results for the Jordanian year-2010 survey, where 1,863 household observations are thus classified as non-educated and 982 as educated. The results for this exercise differ somewhat from those in figure A11. The endowment effect is now estimated

to be just below zero at the low and high expenditure deciles of the population and zero around the median. This compares to a positive endowment effect for all population deciles, also lowest at the bottom and top expenditure deciles, in the original specification. Under the alternative specification, the returns effect is negative, slightly smaller than under the original specification. Interestingly, the returns effect is now estimated to be increasing in strength with the population quantile (compared to decreasing, originally), with the strongest returns effect accruing to the educated among the top expenditure decile.

In the baseline specification of the analysis of non-employed/employed inequality, all household heads with non-missing employment status were used, and unemployed and out-of-labor force household heads were thus grouped together regardless of their intention to seek formal employment. This results in excessive heterogeneity among the group of households classified as non-employed, as well among the employed group. As an alternative specification less sensitive to the uncertainty regarding household-heads' true employment status and occupation, we narrow the analysis down to the group of employed heads, and investigate inequality between employees vs. employer and self-employed workers. We also investigate inequality between public-sector employees vs. employees in other sectors (including employers and the self-employed in the private sector, in joint cooperatives, in the foreign sector or others). Figure A19, panels (b) and (c), report the results of these exercises for the Jordanian year-2010 survey. The endowment effect is near zero for all population quantiles, and only rises above zero in the highest decile (favoring the non-employee and non-public group). Meanwhile, the returns effect is positive for all population quantiles, rising somewhat at higher quantiles. Hence, employers, the self-employed, and private sector employees appear to benefit from higher returns to their endowments, while only the wealthiest among them benefit from higher endowments. These patterns are clearly different from those in figure A14 panel (b), even if the comparison groups and the identity of the disadvantaged/advantaged groups are different here.⁶

Hence, it appears that detailed decomposition results for each population decile may not follow through under alternative delineations of comparison groups. Nevertheless, the sign of overall inequality, its decomposition into endowment and returns effects, and their ranking at various population quantiles are estimated consistently under alternative specifications, showing support for general results. A common thread is thus revealed to run across the ten surveys and alternative model specifications. Education and its return, geographic location, and household composition play a crucial role in the story of inequality and possibly even political stability in the Arab region, as well as in the drive to reduce expenditure differentials across social groups.

⁶Another potential issue is that in the baseline specification of the analysis of female/male household inequality, gender of even temporary household heads is considered to classify households. We may worry about households whose provisional head is a woman (or man) but whose permanent head is temporarily absent. The absent spouse or relative may contribute to household finances significantly through financial remittances or through input in financial decision-making. For this reason, an alternative specification was attempted taking only households with permanent heads into consideration. Female-headed households are only those where the head is female, and she is widowed, divorced, never married, or married living in a couple. Unfortunately this analysis failed in some surveys because of an insufficient number of households with permanent female heads.

A final sensitivity test involves estimating robust coefficient standard errors using bootstrap method. In the program calculating the Blinder-Oaxaca decomposition in Stata (Jann 2008) this requires omitting analytical household weights from the model, so not only standard errors but coefficients themselves are affected. Results for Jordan 2010 reveal that the endowment and the returns effects retain their qualitative role. With respect to their magnitude, the returns effect is very robust to this change, while the endowment effect changes in magnitude, particularly among households in the two highest expenditure quintiles. Bootstrap standard errors are generally smaller than ordinary standard errors, suggesting that the degrees of confidence reported in our study are for the most part lower estimates. The true endowment and returns effects are expected to be as significant as or more significant than those reported here.

Implications of these findings are that public policy should focus mainly on two sets of interventions: those that aim to enhance households' endowments and those that aim to enhance returns to these endowments for disadvantaged groups. Investing in human capital accumulation of disadvantaged groups, facilitating equal access to developmental opportunities across regions, and improving family composition using better family planning can be policy interventions linked to the former. Policies towards better education services for disadvantaged groups, a more efficient allocation of resources to health services, strengthening institutional capacity in disadvantaged areas, and facilitating integration of markets for factors of production nationwide could be return-enhancing policy interventions aimed to reduce inter-group disparities in household characteristics. Specific country-level as well as subnational policy interventions related to these overreaching goals should be further explored. UN-ESCWA could help governments to lead the discussion.

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Data sources

The following datasets were accessed in the Harmonized Household Income and Expenditure Surveys (HHIES) database at Egypt-based Economic Research Forum's (ERF) portal, <http://www.erfdataportal.com>

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Table 1: Quantile Decomposition for Egypt (2008-2010-2012) by Rural/Urban Household

		2008			2010			2012		
		10th pctlile	50th pctlile	90th pctlile	10th pctlile	50th pctlile	90th pctlile	10th pctlile	50th pctlile	90th pctlile
Endowment Effects (Explained)	Overall Gap	-0.246*** (0.00938)	-0.344*** (0.007)	-0.635*** (0.015)	-0.215*** (0.017)	-0.331*** (0.013)	-0.588*** (0.026)	-0.232*** (0.015)	-0.284*** (0.012)	-0.518*** (0.028)
	Endowment	-0.038*** (0.0123)	-0.076*** (0.008)	-0.186*** (0.014)	-0.081*** (0.022)	-0.079*** (0.015)	-0.123*** (0.027)	0.021 (0.021)	-0.040*** (0.014)	-0.100*** (0.026)
	Returns	-0.207*** (0.015)	-0.268*** (0.010)	-0.449*** (0.019)	-0.134*** (0.026)	-0.252*** (0.018)	-0.465*** (0.035)	-0.253*** (0.025)	-0.245*** (0.016)	-0.418*** (0.036)
	Head char	0.003* (0.001)	-0.002* (0.001)	-0.004*** (0.002)	-0.006* (0.003)	-0.004* (0.002)	-0.006 (0.004)	-0.002 (0.003)	-0.002 (0.002)	-0.015*** (0.005)
	Head edu	-0.028*** (0.004)	-0.046*** (0.003)	-0.078*** (0.005)	-0.033*** (0.006)	-0.044*** (0.004)	-0.068*** (0.008)	-0.029*** (0.006)	-0.034*** (0.004)	-0.062*** (0.007)
	Head empl	0.015*** (0.004)	0.003 (0.003)	0.000 (0.005)	0.013** (0.006)	0.005 (0.004)	0.006 (0.007)	0.005 (0.007)	-0.000 (0.004)	-0.007 (0.008)
Returns Effects (Unexplained)	Hh comp	-0.068*** (0.003)	-0.076*** (0.003)	-0.103*** (0.005)	-0.054*** (0.005)	-0.070*** (0.005)	-0.079*** (0.009)	-0.060*** (0.005)	-0.062*** (0.005)	-0.082*** (0.008)
	Geo.location	0.040*** (0.011)	0.044*** (0.007)	-0.001 (0.012)	-0.002 (0.020)	0.033** (0.014)	0.025 (0.024)	0.106*** (0.019)	0.059*** (0.012)	0.065*** (0.023)
	Head char	-0.563*** (0.131)	-0.035 (0.095)	-0.424** (0.211)	0.217 (0.223)	-0.192 (0.155)	-0.490 (0.345)	-0.435** (0.219)	-0.396** (0.163)	0.051 (0.408)
	Head edu	-0.090*** (0.013)	-0.116*** (0.009)	-0.223*** (0.020)	-0.019 (0.024)	-0.079*** (0.017)	-0.224*** (0.037)	-0.047** (0.022)	-0.088*** (0.016)	-0.269*** (0.040)
	Head empl	0.006 (0.025)	-0.017 (0.017)	-0.015 (0.037)	-0.022 (0.0418)	-0.043 (0.029)	0.034 (0.062)	0.019 (0.040)	-0.041 (0.028)	-0.039 (0.068)
	Hh comp	0.137*** (0.046)	0.191*** (0.033)	-0.071 (0.069)	0.328*** (0.077)	0.196*** (0.053)	-0.173 (0.116)	0.070 (0.070)	0.203*** (0.051)	0.218* (0.123)
	Geo.location	0.103*** (0.013)	0.134*** (0.009)	0.155*** (0.017)	0.078*** (0.022)	0.140*** (0.015)	0.230*** (0.030)	0.143*** (0.021)	0.138*** (0.014)	0.253*** (0.032)
	Constant	0.200 (0.138)	-0.427*** (0.100)	0.128 (0.220)	-0.715*** (0.235)	-0.275* (0.163)	0.158 (0.361)	-0.004 (0.228)	-0.060 (0.169)	-0.631 (0.421)
	Observations	23,415	23,415	23,415	7,713	7,713	7,713	7,525	7,525	7,525

Notes: Computed by the authors using HEICS 2008/09, 2010/11 and 2012/13 (OAMDI, 2014a,b,c). Standard errors computed using the delta method in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 2: Quantile Decomposition for Palestine (2007-2010-2011) by Rural/Urban Household

		2007			2010			2011		
		10th pctl	50th pctl	90th pctl	10th pctl	50th pctl	90th pctl	10th pctl	50th pctl	90th pctl
Endowment Effects (Explained)	Overall Gap	0.216** (0.089)	0.076 (0.051)	-0.276*** (0.081)	0.128*** (0.036)	0.028 (0.029)	-0.159** (0.062)	0.266*** (0.033)	0.094*** (0.026)	-0.187*** (0.042)
	Endowment	0.250*** (0.063)	0.067 (0.048)	0.033 (0.071)	0.391*** (0.046)	0.118*** (0.035)	0.029 (0.083)	0.319*** (0.035)	0.159*** (0.031)	0.078** (0.039)
	Returns	-0.033 (0.101)	0.009 (0.061)	-0.309*** (0.099)	-0.263*** (0.054)	-0.091** (0.041)	-0.188* (0.098)	-0.053 (0.044)	-0.065* (0.037)	-0.265*** (0.053)
	Head char	-0.000 (0.005)	-0.001 (0.005)	0.003 (0.009)	0.002 (0.003)	0.000 (0.002)	0.006 (0.008)	-0.005 (0.004)	0.001 (0.003)	0.009* (0.005)
	Head edu	-0.009 (0.010)	-0.003 (0.012)	0.001 (0.016)	-0.012* (0.006)	-0.008 (0.006)	-0.012 (0.012)	-0.013** (0.005)	-0.012** (0.005)	-0.007 (0.005)
	Head empl	-0.024 (0.017)	-0.007 (0.013)	0.056** (0.025)	0.001 (0.012)	-0.013 (0.009)	-0.007 (0.024)	-0.020** (0.009)	-0.003 (0.008)	0.002 (0.010)
Returns Effects (Unexplained)	Hh comp	-0.003 (0.018)	0.010 (0.018)	0.013 (0.026)	-0.007 (0.007)	-0.006 (0.010)	-0.014 (0.021)	0.014* (0.007)	0.003 (0.010)	-0.009 (0.013)
	Geo.location	0.285*** (0.060)	0.068 (0.043)	-0.040 (0.064)	0.408*** (0.044)	0.145*** (0.032)	0.057 (0.077)	0.341*** (0.034)	0.171*** (0.030)	0.083** (0.038)
	Head char	0.719 (1.324)	1.041 (0.672)	-0.100 (1.155)	0.188 (0.581)	-0.508 (0.456)	1.514 (1.016)	-0.675 (0.530)	-0.440 (0.407)	0.378 (0.671)
	Head edu	-0.440** (0.213)	0.036 (0.113)	-0.216 (0.191)	-0.157* (0.089)	-0.099 (0.070)	-0.002 (0.157)	-0.006 (0.080)	-0.012 (0.060)	-0.228** (0.101)
	Head empl	0.134 (0.251)	-0.017 (0.139)	0.108 (0.231)	-0.082 (0.105)	-0.138* (0.082)	0.353* (0.187)	0.150* (0.084)	0.065 (0.064)	0.003 (0.106)
	Hh comp	0.776 (0.693)	0.445 (0.350)	-0.150 (0.603)	0.163 (0.230)	0.399** (0.180)	-0.116 (0.406)	0.372* (0.211)	-0.059 (0.163)	0.990*** (0.266)
	Geo.location	0.084 (0.133)	-0.296*** (0.081)	-0.435*** (0.131)	0.484*** (0.073)	-0.033 (0.056)	-0.163 (0.134)	0.314*** (0.059)	0.039 (0.049)	-0.126* (0.071)
	Constant	-1.307 (1.481)	-1.201 (0.742)	0.485 (1.281)	-0.859 (0.608)	0.288 (0.476)	-1.775* (1.068)	-0.208 (0.555)	0.340 (0.428)	-1.283* (0.702)
Observations		1,029	1,029	1,029	3,227	3,227	3,227	3,413	3,413	3,413

Notes: Computed by the authors using PECS 2007, 2010 and 2011 (OAMDI, 2014e,f,g). Standard errors computed using the delta method in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 3: Quantile Decomposition for Jordan (2006-2010) by Rural/Urban Household

		Jordan 2006			Jordan 2010		
		10th pctl	50th pctl	90th pctl	10th pctl	50th pctl	90th pctl
	Overall Gap	-0.100*** (0.037)	-0.167*** (0.032)	-0.360*** (0.052)	-0.017 (0.029)	-0.140*** (0.027)	-0.343*** (0.054)
	Endowment	-0.116*** (0.036)	-0.178*** (0.034)	-0.264*** (0.055)	-0.09*** (0.026)	-0.084*** (0.025)	-0.193*** (0.049)
	Returns	0.016 (0.049)	0.011 (0.040)	-0.097 (0.068)	0.073** (0.036)	-0.056* (0.031)	-0.150** (0.062)
Endowment Effects (Explained)	Head char	-0.006 (0.006)	-0.010 (0.008)	-0.013 (0.015)	-0.002 (0.006)	-0.008 (0.005)	-0.033** (0.016)
	Head edu	-0.033** (0.015)	-0.066*** (0.014)	-0.107*** (0.024)	-0.039*** (0.011)	-0.050*** (0.011)	-0.069*** (0.020)
	Head empl	-0.006 (0.014)	0.019 (0.012)	0.010 (0.020)	-0.010 (0.012)	0.002 (0.010)	0.016 (0.020)
	Hh comp	-0.043*** (0.013)	-0.097*** (0.018)	-0.086*** (0.024)	-0.015 (0.015)	-0.035** (0.015)	-0.105*** (0.030)
	Geo.location	-0.028 (0.027)	-0.024 (0.022)	-0.067* (0.038)	-0.024 (0.016)	0.008 (0.015)	-0.003 (0.028)
	Head char	-0.050 (0.567)	1.149*** (0.443)	0.895 (0.763)	-0.423 (0.487)	0.108 (0.421)	3.284*** (0.855)
Returns Effects (Unexplained)	Head edu	-0.106 (0.085)	0.033 (0.067)	0.075 (0.115)	-0.057 (0.064)	-0.040 (0.056)	0.023 (0.113)
	Head empl	-0.012 (0.058)	0.124*** (0.045)	0.110 (0.078)	0.015 (0.044)	0.040 (0.038)	0.005 (0.076)
	Hh comp	0.408 (0.264)	-0.009 (0.208)	0.090 (0.358)	0.245 (0.171)	0.210 (0.148)	-0.222 (0.300)
	Geo.location	-0.012 (0.024)	0.012 (0.019)	-0.017 (0.032)	0.013 (0.018)	0.027* (0.016)	0.070** (0.032)
	Constant	-0.213 (0.597)	-1.298*** (0.467)	-1.248 (0.804)	0.280 (0.489)	-0.402 (0.423)	-3.311*** (0.860)
	Observations		2,897			2,845	

Source: Computed by the authors using Jordanian HEIS 2006 and 2010/11 (OAMDI, 2014d; ERF & DOS, 2013). Standard errors computed using the delta method in parentheses. *** p<0.01, ** p<0.05, * p<0.1 non-directional t-test.

Table 4: Quantile Decomposition for Tunisia (2005-2010) by Rural/Urban Household

		Tunisia 2005			Tunisia 2010		
		10th pctl	50th pctl	90th pctl	10th pctl	50th pctl	90th pctl
	Overall Gap	-0.574*** (0.018)	-0.562*** (0.015)	-0.667*** (0.025)	-0.660*** (0.020)	-0.576*** (0.015)	-0.676*** (0.023)
	Endowment	-0.190*** (0.020)	-0.263*** (0.018)	-0.402*** (0.030)	-0.270*** (0.027)	-0.318*** (0.019)	-0.340*** (0.028)
	Returns	-0.384*** (0.025)	-0.298*** (0.021)	-0.265*** (0.036)	-0.390*** (0.032)	-0.258*** (0.022)	-0.336*** (0.034)
Endowment Effects (Explained)	Head char	0.005 (0.003)	0.0059** (0.003)	0.003 (0.005)	-0.011*** (0.004)	-0.003 (0.003)	0.001 (0.004)
	Head edu	-0.029*** (0.009)	-0.061*** (0.008)	-0.162*** (0.015)	-0.031** (0.016)	-0.0714*** (0.011)	-0.154*** (0.017)
	Head empl	-0.003 (0.008)	-0.009 (0.007)	-0.046*** (0.011)	-0.007 (0.008)	-0.022*** (0.006)	-0.019** (0.008)
	Hh comp	-0.078*** (0.007)	-0.090*** (0.007)	-0.110*** (0.010)	-0.086*** (0.008)	-0.074*** (0.006)	-0.074*** (0.008)
	Geo.location	-0.086*** (0.017)	-0.110*** (0.014)	-0.087*** (0.024)	-0.135*** (0.022)	-0.147*** (0.015)	-0.094*** (0.022)
Returns Effects (Unexplained)	Head char	-0.457* (0.277)	-0.530** (0.217)	-0.165 (0.387)	0.250 (0.330)	-0.605** (0.237)	-0.670* (0.374)
	Head edu	-0.024 (0.051)	0.005 (0.040)	-0.058 (0.071)	0.119 (0.185)	-0.180 (0.131)	-0.128 (0.206)
	Head empl	0.089** (0.037)	0.031 (0.029)	0.018 (0.051)	0.145*** (0.039)	0.038 (0.028)	-0.030 (0.044)
	Hh comp	0.121 (0.095)	0.098 (0.075)	0.175 (0.132)	-0.032 (0.102)	0.239*** (0.073)	0.138 (0.114)
	Geo.location	0.006 (0.041)	-0.033 (0.034)	0.092 (0.060)	-0.022 (0.052)	-0.105*** (0.035)	0.067 (0.055)
	Constant	-0.119 (0.305)	0.131 (0.239)	-0.327 (0.425)	-0.850** (0.402)	0.355 (0.287)	0.286 (0.452)
	Observations		12,305			11,278	

Notes: Computed by the authors using Tunisian EBCNV 2005 and 2010 (OAMDI 2014c; OAMDI 2014d), and Sudanese NBHS 2009 (OAMDI 2014b). Standard errors computed using the delta method in parentheses. *** p<0.01, ** p<0.05, * p<0.1 non-directional t-test.

Table 5: Quantile Decomposition for Egypt (2008-2010-2012) by Female/Male Household Head

		2008			2010			2012		
		10th pctl	50th pctl	90th pctl	10th pctl	50th pctl	90th pctl	10th pctl	50th pctl	90th pctl
Endowment Effects (Explained)	Overall Gap	0.038*** (0.014)	0.067*** (0.011)	0.181*** (0.022)	0.063*** (0.019)	0.069*** (0.019)	0.205*** (0.036)	0.020 (0.022)	0.073*** (0.017)	0.216*** (0.040)
	Endowment	-0.122*** (0.034)	-0.104*** (0.025)	-0.219*** (0.053)	-0.173*** (0.057)	0.007 (0.051)	-0.265** (0.104)	-0.110** (0.053)	-0.046 (0.036)	0.166* (0.094)
	Returns	0.160*** (0.036)	0.171*** (0.025)	0.399*** (0.055)	0.235*** (0.059)	0.062 (0.052)	0.470*** (0.107)	0.130** (0.055)	0.119*** (0.037)	0.049 (0.098)
	Head char	-0.104*** (0.026)	-0.102*** (0.018)	-0.143*** (0.039)	-0.096*** (0.034)	-0.009 (0.030)	-0.073 (0.063)	-0.071* (0.039)	-0.065** (0.026)	0.056 (0.069)
	Head edu	-0.035*** (0.009)	-0.094*** (0.007)	-0.245*** (0.016)	-0.047*** (0.015)	-0.101*** (0.014)	-0.270*** (0.030)	-0.057*** (0.014)	-0.093*** (0.010)	-0.316*** (0.030)
	Head empl	-0.012 (0.022)	0.021 (0.016)	0.010 (0.034)	-0.060 (0.044)	0.033 (0.039)	-0.053 (0.080)	-0.076** (0.035)	-0.020 (0.023)	0.205*** (0.061)
Returns Effects (Unexplained)	Hh comp	0.056*** (0.007)	0.090*** (0.006)	0.161*** (0.012)	0.050*** (0.009)	0.098*** (0.011)	0.126*** (0.018)	0.122*** (0.016)	0.153*** (0.012)	0.221*** (0.029)
	Geo.location	-0.028*** (0.004)	-0.020*** (0.003)	-0.003 (0.006)	-0.021*** (0.006)	-0.014*** (0.005)	0.006 (0.008)	-0.028*** (0.006)	-0.020*** (0.004)	-0.000 (0.010)
	Head char	-0.074 (0.195)	0.213 (0.137)	0.586** (0.294)	0.370 (0.270)	-0.219 (0.230)	1.494*** (0.482)	0.205 (0.311)	0.186 (0.211)	0.210 (0.544)
	Head edu	-0.041** (0.018)	0.043*** (0.013)	0.176*** (0.027)	0.000 (0.029)	0.045* (0.025)	0.217*** (0.052)	0.008 (0.030)	0.065*** (0.020)	0.348*** (0.053)
	Head empl	-0.050 (0.034)	-0.071*** (0.024)	0.015 (0.051)	0.014 (0.057)	-0.056 (0.048)	0.086 (0.102)	0.094* (0.052)	0.003 (0.036)	-0.212** (0.091)
	Hh comp	-0.049 (0.052)	-0.045 (0.036)	0.170** (0.078)	0.132* (0.073)	0.017 (0.060)	0.387*** (0.127)	-0.114 (0.084)	-0.173*** (0.058)	0.394*** (0.145)
	Geo.location	-0.009 (0.024)	-0.013 (0.017)	-0.032 (0.036)	0.045 (0.031)	-0.001 (0.026)	0.0545 (0.055)	-0.009 (0.036)	0.046* (0.024)	-0.108* (0.063)
	Constant	0.382* (0.201)	0.044 (0.141)	-0.515* (0.303)	-0.326 (0.282)	0.277 (0.241)	-1.770*** (0.504)	-0.054 (0.321)	-0.009 (0.218)	-0.583 (0.561)
Observations		23,428	23,428	23,428	7,713	7,713	7,713	7,525	7,525	7,525

Notes: Computed using HEICS 2008/09, 2010/11 & 2012/13 (OAMDI, 2014a,b,c). Standard errors computed in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 6: Quantile Decomposition for Palestine (2007-2010-2011) by Female/Male Household Head

	10th pctlile	2007			2010			2011	
		50th pctlile	90th pctlile	10th pctlile	50th pctlile	90th pctlile	10th pctlile	50th pctlile	90th pctlile
Overall Gap	0.340*** (0.086)	0.196*** (0.056)	0.409* (0.244)	0.076 (0.064)	0.132** (0.053)	0.208*** (0.080)	0.096*** (0.034)	0.098*** (0.035)	0.242*** (0.064)
Endowment	0.074 (0.212)	0.412*** (0.134)	-0.672 (0.657)	0.632*** (0.204)	0.300* (0.155)	0.528** (0.252)	0.233*** (0.075)	0.304*** (0.083)	0.061 (0.169)
Returns	0.266 (0.219)	-0.216 (0.138)	1.080 (0.668)	-0.556*** (0.211)	-0.168 (0.159)	-0.319 (0.262)	-0.137* (0.079)	-0.207** (0.086)	0.181 (0.177)
Endowment Effects (Explained)	Head char	0.061 (0.186)	0.321*** (0.117)	0.770 (0.574)	0.228 (0.180)	0.004 (0.135)	0.157 (0.223)	0.120* (0.069)	0.195 (0.157)
	Head edu	-0.174*** (0.062)	-0.047 (0.035)	-0.501*** (0.192)	0.120** (0.057)	-0.026 (0.041)	-0.077 (0.069)	-0.034* (0.021)	-0.177*** (0.023)
	Head empl	-0.058 (0.132)	-0.018 (0.082)	-1.253*** (0.410)	-0.004 (0.097)	0.047 (0.073)	0.231* (0.121)	-0.039 (0.041)	-0.083 (0.094)
	Hh comp	0.237*** (0.083)	0.152*** (0.054)	0.254 (0.234)	0.297*** (0.072)	0.258*** (0.056)	0.213** (0.088)	0.187*** (0.030)	0.107* (0.058)
	Geo.location	0.006 (0.018)	0.004 (0.007)	0.059 (0.062)	-0.010 (0.013)	0.017 (0.016)	0.004 (0.019)	-0.003 (0.003)	0.019 (0.012)
	Head char	-1.430 (1.357)	-1.508* (0.831)	2.287 (3.792)	-1.725 (1.217)	-0.021 (0.917)	-2.193 (1.534)	0.762 (0.585)	2.600** (1.215)
Returns Effects (Unexplained)	Head edu	0.400** (0.182)	-0.018 (0.110)	1.209** (0.476)	-0.692*** (0.135)	-0.102 (0.102)	-0.124 (0.173)	-0.171** (0.072)	0.252* (0.139)
	Head empl	0.017 (0.209)	-0.066 (0.125)	1.555*** (0.539)	-0.122 (0.141)	-0.159 (0.107)	-0.366** (0.181)	0.022 (0.075)	0.058 (0.145)
	Hh comp	0.202 (0.453)	0.560** (0.266)	2.506** (1.030)	-0.205 (0.248)	-0.070 (0.188)	1.422*** (0.329)	-0.075 (0.155)	1.396*** (0.257)
	Geo.location	-0.217 (0.138)	-0.373*** (0.085)	-0.509 (0.387)	-0.234** (0.094)	0.073 (0.071)	0.014 (0.118)	-0.361*** (0.045)	-0.078 (0.091)
	Constant	1.294 (1.456)	1.189 (0.889)	-5.968 (4.015)	2.422* (1.282)	0.111 (0.966)	0.929 (1.615)	-0.313 (0.618)	-4.047*** (1.287)
	Observations	1,231	1,231	1,231	3,757	3,757	3,757	4,317	4,317

Notes: Computed by the authors using PECS 2007, 2010 and 2011 (OAMDI, 2014e,f,g). Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 7: Quantile Decomposition for Jordan (2006-2010) by Female/Male Household Head

	10th pctl	Jordan 2006 50th pctl	90th pctl	10th pctl	Jordan 2010 50th pctl	90th pctl
Overall Gap	0.107** (0.051)	0.313*** (0.066)	0.258*** (0.081)	0.008 (0.041)	0.189*** (0.041)	0.320*** (0.081)
Endowment	-0.004 (0.238)	-0.168 (0.291)	-0.192 (0.363)	0.403*** (0.134)	0.028 (0.130)	-0.502* (0.277)
Returns	0.110 (0.243)	0.481 (0.294)	0.451 (0.369)	-0.395*** (0.137)	0.161 (0.132)	0.822*** (0.284)
Endowment Effects (Explained)	Head char	-0.081 (0.120)	-0.109 (0.147)	0.229 (0.185)	-0.063 (0.074)	-0.252*** (0.071)
	Head edu	-0.112** (0.050)	-0.296*** (0.063)	-0.399*** (0.079)	-0.109*** (0.031)	-0.264*** (0.065)
	Head empl	-0.060 (0.223)	-0.061 (0.270)	-0.114 (0.339)	0.311*** (0.110)	-0.132 (0.227)
	Hh comp	0.240*** (0.068)	0.296*** (0.083)	0.083 (0.102)	0.266*** (0.045)	0.182** (0.087)
	Geo.location	0.009 (0.007)	0.002 (0.012)	0.008 (0.010)	-0.002 (0.006)	-0.010 (0.020)
	Head char	-1.372 (1.156)	0.925 (1.374)	-0.803 (1.745)	0.505 (0.722)	-1.179* (1.455)
Returns Effects (Unexplained)	Head edu	-0.040 (0.107)	0.366*** (0.123)	0.500*** (0.160)	0.032 (0.078)	0.230 (0.154)
	Head empl	-0.012 (0.232)	0.043 (0.279)	0.083 (0.352)	-0.450*** (0.119)	0.110 (0.245)
	Hh comp	0.145 (0.257)	-0.400 (0.278)	0.372 (0.378)	-0.284 (0.178)	0.840** (0.344)
	Geo.location	-0.132 (0.147)	-0.030 (0.172)	-0.287 (0.221)	-0.005 (0.100)	-0.478** (0.202)
	Constant	1.521 (1.249)	-0.424 (1.484)	0.587 (1.885)	-0.192 (0.757)	-0.601 (1.527)
	Observations		2,897			2,845

Notes: Computed by the authors using Jordanian HEIS 2006 and 2010/11 (OAMDI, 2014d; ERF & DOS, 2013). Standard errors computed using the delta method in parentheses. *** p<0.01, ** p<0.05, * p<0.1 non-directional t-test.

Table 8. Quantile Decomposition for Tunisia (2005-2010) by Female/Male Household Head

	10th pctl	Tunisia 2005 50th pctl	90th pctl	10th pctl	Tunisia 2010 50th pctl	90th pctl
Overall Gap	0.013 (0.036)	0.0477** (0.021)	0.0867** (0.035)	-0.151*** (0.034)	-0.013 (0.022)	0.090** (0.035)
Endowment	0.159* (0.085)	-0.001 (0.048)	-0.155* (0.081)	0.041 (0.083)	0.080 (0.053)	-0.225** (0.087)
Returns	-0.146 (0.090)	0.049 (0.050)	0.242*** (0.086)	-0.191** (0.086)	-0.093* (0.054)	0.314*** (0.091)
Endowment Effects (Explained)	Head char	-0.019 (0.065)	-0.095*** (0.036)	-0.191*** (0.062)	0.001 (0.060)	-0.083** (0.038)
	Head edu	-0.053** (0.022)	-0.076*** (0.013)	-0.223*** (0.023)	0.000 (0.021)	-0.048*** (0.013)
	Head empl	0.054 (0.046)	0.040 (0.026)	0.141*** (0.043)	-0.057 (0.053)	0.091*** (0.033)
	Hh comp	0.189*** (0.024)	0.140*** (0.013)	0.133*** (0.021)	0.157*** (0.023)	0.155*** (0.014)
	Geo.location	-0.011 (0.012)	-0.010 (0.007)	-0.015** (0.008)	-0.061*** (0.012)	-0.035*** (0.009)
Returns Effects (Unexplained)	Head char	0.831 (0.521)	0.166 (0.300)	0.467 (0.523)	1.733*** (0.511)	0.189 (0.324)
	Head edu	0.147 (0.095)	-0.017 (0.055)	0.048 (0.095)	0.023 (0.222)	-0.027 (0.141)
	Head empl	-0.050 (0.071)	-0.072* (0.041)	-0.146** (0.071)	0.071 (0.069)	-0.046 (0.044)
	Hh comp	-0.267* (0.142)	-0.076 (0.084)	0.497*** (0.148)	-0.179 (0.130)	-0.170** (0.083)
	Geo.location	0.075 (0.095)	-0.129** (0.054)	-0.080 (0.095)	0.104 (0.085)	-0.140*** (0.054)
	Constant	-0.881 (0.550)	0.176 (0.318)	-0.544 (0.554)	-1.942*** (0.570)	0.101 (0.362)
Observations		12,305			11,278	

Notes: Computed by the authors using Tunisian EBCNV 2005 & 2010. Standard errors computed using the delta method in parentheses. *** p<0.01, ** p<0.05, * p<0.1 non-directional t-test.

Table 9: Quantile Decomposition for Egypt (2008-2010-2012) by Non-Employed/Employed Household Head

		2008			2010			2012		
		10 th pctl	50 th pctl	90 th pctl	10 th pctl	50 th pctl	90 th pctl	10 th pctl	50 th pctl	90 th pctl
	Overall Gap	0.037*** (0.012)	0.103*** (0.010)	0.283*** (0.021)	0.047** (0.019)	0.120*** (0.016)	0.263*** (0.033)	0.037* (0.020)	0.137*** (0.015)	0.312*** (0.034)
	Endowment	0.115*** (0.018)	0.165*** (0.015)	0.195*** (0.033)	0.112*** (0.028)	0.162*** (0.022)	0.163*** (0.048)	0.072** (0.030)	0.104*** (0.023)	0.221*** (0.053)
	Returns	-0.079*** (0.021)	-0.062*** (0.015)	0.088** (0.036)	-0.065** (0.032)	-0.042* (0.024)	0.100* (0.052)	-0.035 (0.033)	0.032 (0.024)	0.091 (0.058)
Endowment Effects (Explained)	Head char	0.095*** (0.019)	0.111*** (0.015)	0.184*** (0.034)	0.046 (0.030)	0.109*** (0.023)	0.135*** (0.050)	-0.055* (0.031)	0.012 (0.023)	0.126** (0.055)
	Head edu	-0.037*** (0.005)	-0.077*** (0.005)	-0.192*** (0.012)	-0.056*** (0.009)	-0.080*** (0.008)	-0.167*** (0.019)	-0.035*** (0.009)	-0.073*** (0.007)	-0.192*** (0.021)
	Hhd comp	0.068*** (0.011)	0.116*** (0.009)	0.151*** (0.019)	0.127*** (0.018)	0.129*** (0.014)	0.153*** (0.029)	0.167*** (0.020)	0.164*** (0.015)	0.243*** (0.034)
	Geo.location	-0.011*** (0.004)	0.015*** (0.003)	0.053*** (0.006)	-0.004 (0.006)	0.004 (0.005)	0.041*** (0.009)	-0.005 (0.007)	0.001 (0.005)	0.044*** (0.009)
Returns Effects (Unexplained)	Head char	-0.278* (0.155)	-0.429*** (0.112)	-0.419 (0.256)	0.248 (0.238)	0.066 (0.176)	0.237 (0.391)	0.227 (0.252)	-0.049 (0.183)	-0.045 (0.426)
	Head edu	0.005 (0.013)	0.070*** (0.010)	0.233*** (0.023)	0.043* (0.024)	0.073*** (0.018)	0.200*** (0.039)	-0.007 (0.024)	0.072*** (0.017)	0.270*** (0.042)
	Hhd comp	-0.027 (0.050)	-0.107*** (0.036)	0.221*** (0.080)	0.018 (0.077)	-0.005 (0.06)	0.483*** (0.126)	-0.134* (0.077)	-0.119** (0.056)	0.714*** (0.130)
	Geo.location	-0.008 (0.019)	-0.030** (0.014)	-0.003 (0.032)	-0.001 (0.029)	0.001 (0.022)	0.068 (0.048)	-0.058* (0.030)	0.055** (0.022)	-0.092* (0.051)
	Constant	0.230 (0.170)	0.434*** (0.124)	0.057 (0.282)	-0.372 (0.260)	-0.177 (0.192)	-0.886** (0.427)	-0.063 (0.272)	0.073 (0.198)	-0.757 (0.462)
	Observations	23,428	23,428	23,428	7,719	7,719	7,719	7,525	7,525	7,525

Notes: Computed using HEICS 2008/09, 2010/11 and 2012/13 (OAMDI 2014a,b,c). Standard errors computed using the delta method in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 10: Quantile Decomposition for Palestine (2007-2010-2011) by Non-Employed/Employed Household Head

		2007			2010			2011		
		10 th pctl	50 th pctl	90 th pctl	10 th pctl	50 th pctl	90 th pctl	10 th pctl	50 th pctl	90 th pctl
	Overall Gap	-0.025 (0.075)	0.115 (0.074)	0.308*** (0.101)	-0.017 (0.040)	0.046 (0.031)	0.168** (0.067)	0.017 (0.032)	0.011 (0.030)	0.132** (0.059)
	Endowment	0.132 (0.093)	0.217** (0.097)	0.353*** (0.129)	0.117* (0.062)	0.090** (0.044)	0.162 (0.107)	0.151*** (0.044)	0.160*** (0.043)	0.182** (0.092)
	Returns	-0.157 (0.112)	-0.103 (0.109)	-0.045 (0.150)	-0.135* (0.070)	-0.044 (0.048)	0.006 (0.121)	-0.133** (0.052)	-0.149*** (0.046)	-0.050 (0.104)
	Head char	0.036 (0.110)	0.116 (0.110)	0.372** (0.151)	0.095 (0.070)	-0.012 (0.047)	-0.055 (0.121)	-0.025 (0.049)	0.059 (0.046)	0.169 (0.104)
Endowment Effects (Explained)	Head edu	-0.055 (0.048)	-0.100** (0.048)	-0.220*** (0.067)	-0.083*** (0.021)	-0.054*** (0.015)	-0.052 (0.036)	-0.048*** (0.016)	-0.093*** (0.016)	-0.126*** (0.033)
	Hhd comp	0.177** (0.077)	0.226*** (0.077)	0.161 (0.104)	0.133*** (0.050)	0.190*** (0.036)	0.281*** (0.087)	0.227*** (0.039)	0.206*** (0.037)	0.142* (0.081)
	Geo.location	-0.026 (0.021)	-0.024 (0.028)	0.041 (0.037)	-0.027** (0.012)	-0.034*** (0.010)	-0.012 (0.021)	-0.004 (0.004)	-0.012 (0.008)	-0.003 (0.013)
	Head char	-0.064 (1.102)	0.250 (0.966)	0.239 (1.403)	0.489 (0.660)	-0.275 (0.471)	-1.294 (1.113)	-0.538 (0.563)	0.199 (0.455)	1.863* (1.008)
Returns Effects (Unexplained)	Head edu	-0.055 (0.163)	-0.029 (0.142)	0.421** (0.207)	-0.067 (0.090)	-0.083 (0.064)	-0.124 (0.150)	-0.221*** (0.074)	0.041 (0.057)	0.149 (0.124)
	Hhd comp	0.517 (0.456)	0.526 (0.377)	2.134*** (0.564)	-0.105 (0.214)	0.139 (0.155)	0.827** (0.356)	-0.142 (0.185)	-0.405*** (0.140)	0.562* (0.304)
	Geo.location	-0.084 (0.115)	0.029 (0.107)	-0.142 (0.151)	0.078 (0.054)	-0.016 (0.038)	0.023 (0.092)	-0.203*** (0.044)	0.003 (0.037)	0.028 (0.082)
	Constant	-0.472 (1.247)	-0.879 (1.112)	-2.697* (1.601)	-0.530 (0.712)	0.191 (0.505)	0.574 (1.207)	0.971 (0.599)	0.014 (0.492)	-2.653** (1.095)
Observations		1,231			3,757			4,317		

Notes: Computed by the authors using PECS 2007, 2010 and 2011 (OAMDI, 2014e,f,g). Standard errors computed using the delta method in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 11: Quantile Decomposition for Jordan (2006-2010) by Non-Employed/Employed Household Head

	10th pctl	Jordan 2006 50th pctl	90th pctl	10th pctl	Jordan 2010 50th pctl	90th pctl
Overall Gap	-0.057* (0.035)	0.085*** (0.027)	0.172*** (0.049)	-0.093*** (0.027)	0.040 (0.027)	0.208*** (0.048)
Endowment	0.180*** (0.043)	0.185*** (0.033)	0.208*** (0.062)	0.132*** (0.031)	0.183*** (0.035)	0.240*** (0.059)
Returns	-0.238*** (0.052)	-0.100*** (0.038)	-0.036 (0.073)	-0.225*** (0.039)	-0.143*** (0.038)	-0.032 (0.070)
Endowment Effects (Explained)	Head char	0.117** (0.055)	0.139*** (0.040)	0.204*** (0.078)	0.096** (0.039)	0.129*** (0.040)
	Head edu	-0.057*** (0.018)	-0.110*** (0.015)	-0.147*** (0.027)	-0.058*** (0.011)	-0.112*** (0.022)
	Hh comp	0.127*** (0.042)	0.167*** (0.032)	0.161*** (0.060)	0.094*** (0.027)	0.158*** (0.030)
	Geo.location	-0.007* (0.004)	-0.011** (0.004)	-0.010 (0.006)	0.001 (0.002)	0.001 (0.006)
Returns Effects (Unexplained)	Head char	1.559** (0.667)	-0.096 (0.477)	0.831 (0.926)	0.380 (0.562)	1.031 (0.957)
	Head edu	-0.088 (0.085)	0.122** (0.061)	0.129 (0.118)	-0.105 (0.071)	0.085 (0.119)
	Hh comp	0.147 (0.233)	0.126 (0.167)	0.118 (0.323)	0.174 (0.167)	0.853*** (0.281)
	Geo.location	-0.120 (0.086)	0.056 (0.062)	-0.095 (0.120)	0.110* (0.066)	-0.168 (0.112)
	Constant	-1.736** (0.704)	-0.308 (0.505)	-1.018 (0.980)	-0.478 (0.578)	-1.834* (0.992)
	Observations		2,897		2,845	

Notes: Computed by the authors using Jordanian HEIS 2006 and 2010/11 (OAMDI, 2014d; ERF & DOS, 2013). Standard errors computed using the delta method in parentheses. *** p<0.01, ** p<0.05, * p<0.1 non-directional t-test.

Table 12: Quantile Decomposition for Tunisia (2005-2010) by Non-Employed/Employed Household Head

		Tunisia 2005			Tunisia 2010		
		10th pctl	50th pctl	90th pctl	10th pctl	50th pctl	90th pctl
	Overall Gap	0.0927*** (0.022)	0.103*** (0.017)	0.116*** (0.027)	0.031 (0.027)	0.092*** (0.016)	0.137*** (0.024)
	Endowment	0.364*** (0.029)	0.183*** (0.021)	0.003 (0.034)	0.425*** (0.039)	0.168*** (0.021)	0.099*** (0.030)
	Returns	-0.272*** (0.034)	-0.080*** (0.024)	0.113*** (0.040)	-0.394*** (0.043)	-0.076*** (0.023)	0.038 (0.035)
Endowment Effects (Explained)	Head char	0.190*** (0.031)	0.050** (0.022)	0.099*** (0.037)	0.087** (0.043)	0.045** (0.023)	0.049 (0.034)
	Head edu	-0.036*** (0.009)	-0.071*** (0.007)	-0.214*** (0.015)	-0.004 (0.009)	-0.040*** (0.005)	-0.107*** (0.010)
	Hh comp	0.162*** (0.025)	0.165*** (0.018)	0.090*** (0.029)	0.279*** (0.034)	0.126*** (0.018)	0.123*** (0.026)
	Geo.location	0.048*** (0.007)	0.039*** (0.005)	0.029*** (0.006)	0.062*** (0.012)	0.038*** (0.006)	0.033*** (0.005)
Returns Effects (Unexplained)	Head char	0.563 (0.356)	0.411 (0.254)	1.083** (0.438)	1.050** (0.474)	0.696** (0.275)	0.724* (0.436)
	Head edu	-0.025 (0.061)	-0.035 (0.043)	0.076 (0.075)	-0.505** (0.206)	0.091 (0.122)	-0.074 (0.194)
	Hh comp	-0.100 (0.111)	-0.034 (0.079)	0.429*** (0.137)	-0.394*** (0.121)	-0.118 (0.072)	0.355*** (0.115)
	Geo.location	0.054 (0.057)	-0.068* (0.041)	0.004 (0.069)	0.108 (0.069)	-0.028 (0.039)	0.071 (0.061)
	Constant	-0.764** (0.386)	-0.354 (0.275)	-1.480*** (0.475)	-0.653 (0.549)	-0.717** (0.317)	-1.037** (0.502)
	Observations		12,305			11,278	

Notes: Computed by the authors using Tunisian EBCNV 2005 and 2010 (OAMDI 2014c; OAMDI 2014d). Standard errors computed using the delta method in parentheses. *** p<0.01, ** p<0.05, * p<0.1 non-directional t-test.

Table 13: Quantile Decomposition for Egypt (2008-2010-2012) by Non-Educated/Educated Household Head

		2008			2010			2012		
		10 th pctile	50 th pctile	90 th pctile	10 th pctile	50 th pctile	90 th pctile	10 th pctile	50 th pctile	90 th pctile
	Overall Gap	-0.252*** (0.009)	-0.275*** (0.007)	-0.483*** (0.015)	-0.211*** (0.015)	-0.248*** (0.012)	-0.428*** (0.026)	-0.217*** (0.015)	-0.210*** (0.012)	-0.356*** (0.026)
	Endowment	-0.066*** (0.009)	-0.052*** (0.006)	-0.029*** (0.011)	-0.006 (0.014)	-0.023** (0.011)	0.011 (0.020)	-0.034** (0.015)	-0.019* (0.011)	0.025 (0.020)
	Returns	-0.186*** (0.012)	-0.223*** (0.008)	-0.454*** (0.017)	-0.204*** (0.019)	-0.226*** (0.014)	-0.438*** (0.029)	-0.183*** (0.020)	-0.191*** (0.014)	-0.380*** (0.030)
	Head char	0.025*** (0.006)	0.026*** (0.004)	0.032*** (0.007)	0.037*** (0.010)	0.022*** (0.007)	0.034** (0.014)	0.019* (0.011)	0.014** (0.007)	0.029** (0.014)
Endowment Effects (Explained)	Head empl	-0.002 (0.007)	-0.007 (0.005)	0.003 (0.009)	0.004 (0.011)	0.002 (0.008)	0.004 (0.015)	0.005 (0.013)	-0.011 (0.009)	-0.007 (0.017)
	Hhd comp	-0.053*** (0.006)	-0.037*** (0.004)	-0.011 (0.007)	-0.016* (0.009)	-0.008 (0.007)	0.030** (0.013)	-0.015 (0.010)	0.013* (0.007)	0.041*** (0.014)
	Geo.location	-0.035*** (0.003)	-0.034*** (0.002)	-0.052*** (0.004)	-0.032*** (0.005)	-0.039*** (0.004)	-0.057*** (0.007)	-0.043*** (0.006)	-0.036*** (0.004)	-0.038*** (0.007)
	Head char	-0.474*** (0.134)	-0.070 (0.100)	-0.397* (0.229)	-0.409* (0.211)	-0.328** (0.160)	0.148 (0.355)	0.037 (0.225)	-0.473*** (0.168)	0.027 (0.385)
Returns Effects (Unexplained)	Head empl	0.010 (0.029)	-0.027 (0.021)	-0.077 (0.048)	0.068 (0.045)	-0.007 (0.034)	0.007 (0.075)	-0.012 (0.046)	0.034 (0.034)	0.037 (0.079)
	Hhd comp	0.144*** (0.046)	0.183*** (0.034)	0.284*** (0.077)	0.194*** (0.071)	0.218*** (0.054)	0.037 (0.120)	0.154** (0.071)	0.095* (0.054)	0.615*** (0.125)
	Geo.location	0.019 (0.014)	0.111*** (0.010)	0.214*** (0.022)	0.023 (0.024)	0.114*** (0.018)	0.235*** (0.038)	0.039 (0.025)	0.109*** (0.018)	0.303*** (0.040)
	Constant	0.115 (0.139)	-0.420*** (0.102)	-0.478** (0.230)	-0.080 (0.217)	-0.224 (0.163)	-0.864** (0.358)	-0.401* (0.232)	0.045 (0.171)	-1.362*** (0.390)
	Observations	23,415	23,415	23,415	7,713	7,713	7,713	7,525	7,525	7,525

Notes: Computed using HEICS 2008/09, 2010/11 and 2012/13 (OAMDI, 2014a,b,c). Standard errors computed using the delta method in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 14: Quantile Decomposition for Palestine (2007-2010-2011) by Non-Educated/Educated Household Head

		2007			2010			2011		
		10 th pctl	50 th pctl	90 th pctl	10 th pctl	50 th pctl	90 th pctl	10 th pctl	50 th pctl	90 th pctl
	Overall Gap	-0.057 (0.098)	-0.058 (0.071)	-0.086 (0.085)	-0.265*** (0.040)	-0.160*** (0.036)	-0.189*** (0.068)	-0.186*** (0.033)	-0.187*** (0.033)	-0.127** (0.050)
	Endowment	0.072 (0.109)	0.459*** (0.079)	0.159* (0.087)	0.142*** (0.044)	0.189*** (0.040)	0.210*** (0.076)	-0.008 (0.035)	0.091** (0.038)	0.087 (0.056)
	Returns	-0.129 (0.137)	-0.516*** (0.087)	-0.245** (0.112)	-0.408*** (0.052)	-0.349*** (0.046)	-0.400*** (0.092)	-0.178*** (0.045)	-0.279*** (0.042)	-0.214*** (0.070)
Endowment Effects (Explained)	Head char	-0.124 (0.124)	0.156** (0.079)	-0.103 (0.099)	0.097** (0.043)	-0.036 (0.038)	-0.046 (0.076)	-0.013 (0.034)	0.016 (0.033)	0.055 (0.054)
	Head empl	-0.096 (0.084)	0.064 (0.053)	0.055 (0.064)	-0.011 (0.040)	0.063* (0.035)	0.037 (0.070)	-0.030 (0.033)	-0.006 (0.032)	-0.065 (0.051)
	Hhd comp	0.284*** (0.102)	0.182*** (0.066)	0.160** (0.079)	0.002 (0.033)	0.114*** (0.032)	0.178*** (0.062)	0.023 (0.028)	0.068** (0.031)	0.090* (0.047)
	Geo.location	0.007 (0.023)	0.056** (0.024)	0.047* (0.025)	0.054*** (0.015)	0.047*** (0.012)	0.041** (0.016)	0.013* (0.007)	0.012 (0.008)	0.005 (0.009)
	Observations	1,231			3,757			4,317		
Returns Effects (Unexplained)	Head char	-2.355 (1.497)	1.091 (0.937)	-0.022 (1.291)	-1.395** (0.606)	-0.550 (0.536)	-0.324 (1.055)	-1.306** (0.550)	0.130 (0.478)	0.454 (0.817)
	Head empl	-0.161 (0.241)	-0.208 (0.150)	-0.271 (0.218)	0.164* (0.097)	-0.279*** (0.086)	-0.377** (0.168)	-0.111 (0.081)	-0.091 (0.069)	-0.105 (0.119)
	Hhd comp	0.111 (0.615)	-0.099 (0.382)	1.234** (0.554)	0.296 (0.202)	-0.021 (0.178)	0.069 (0.350)	0.278 (0.193)	-0.138 (0.165)	0.865*** (0.284)
	Geo.location	-0.034 (0.152)	-0.066 (0.095)	-0.088 (0.130)	0.263*** (0.052)	0.046 (0.046)	-0.010 (0.092)	-0.142*** (0.045)	-0.036 (0.040)	-0.0133 (0.068)
	Constant	2.312 (1.682)	-1.235 (1.054)	-1.098 (1.441)	0.265 (0.652)	0.456 (0.577)	0.243 (1.139)	1.103* (0.581)	-0.144 (0.512)	-1.415 (0.870)

Notes: Computed by the authors using PECS 2007, 2010 and 2011 (OAMDI, 2014e,f,g). Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1.

Table 15: Quantile Decomposition for Jordan (2006-2010) by Non-Educated/Educated Household Head

		Jordan 2006			Jordan 2010		
		10th pctl	50th pctl	90th pctl	10th pctl	50th pctl	90th pctl
Overall Gap		-0.176*** (0.032)	-0.198*** (0.032)	-0.160** (0.068)	-0.240*** (0.045)	-0.103*** (0.030)	-0.117** (0.055)
Endowment		0.030 (0.037)	0.112*** (0.040)	0.323*** (0.089)	0.100** (0.050)	0.145*** (0.031)	0.071 (0.054)
Returns		-0.206*** (0.047)	-0.310*** (0.047)	-0.483*** (0.105)	-0.340*** (0.060)	-0.248*** (0.037)	-0.188*** (0.068)
Endowment Effects (Explained)	Head char	-0.096** (0.047)	0.058 (0.049)	0.241** (0.110)	-0.050 (0.062)	0.029 (0.037)	0.115* (0.068)
	Head empl	-0.036 (0.029)	-0.019 (0.031)	0.006 (0.069)	-0.142*** (0.045)	-0.035 (0.027)	-0.137*** (0.049)
	Hh comp	0.169*** (0.037)	0.088** (0.040)	0.105 (0.086)	0.297*** (0.050)	0.159*** (0.029)	0.126** (0.050)
	Geo.location	-0.008 (0.008)	-0.015* (0.009)	-0.030 (0.019)	-0.004 (0.011)	-0.007 (0.007)	-0.033** (0.013)
	Head char	-2.112*** (0.573)	-0.200 (0.540)	(0.592) (1.174)	(0.836) (0.787)	0.222 (0.500)	(0.087) (0.942)
Returns Effects (Unexplained)	Head empl	-0.073 (0.058)	-0.017 (0.056)	-0.075 (0.122)	0.098 (0.077)	-0.014 (0.049)	0.031 (0.091)
	Hh comp	0.212 (0.204)	0.122 (0.186)	0.529 (0.400)	-0.296 (0.234)	0.288* (0.151)	0.898*** (0.289)
	Geo.location	-0.046 (0.077)	0.060 (0.072)	0.004 (0.156)	0.251** (0.099)	0.144** (0.064)	0.108 (0.121)
	Constant	1.813*** (0.623)	-0.275 (0.594)	-0.348 (1.297)	0.443 (0.842)	-0.888* (0.530)	-1.139 (0.996)
	Observations		2,897			2,845	

Notes: Computed by the authors using Jordanian HEIS 2006 and 2010/11 (OAMDI, 2014d; ERF & DOS, 2013). Standard errors computed using the delta method in parentheses. *** p<0.01, ** p<0.05, * p<0.1 non-directional t-test.

Table 16: Quantile Decomposition for Tunisia (2005-2010) by Non-Educated/Educated Household Head

		Tunisia 2005			Tunisia 2010		
		10th pctl	50th pctl	90th pctl	10th pctl	50th pctl	90th pctl
Overall Gap		-0.513*** (0.029)	-0.592*** (0.021)	-0.750*** (0.029)	-0.619*** (0.025)	-0.622*** (0.020)	-0.617*** (0.029)
Endowment		-0.189*** (0.016)	-0.166*** (0.011)	-0.124*** (0.015)	-0.225*** (0.016)	-0.200*** (0.012)	-0.198*** (0.017)
Returns		-0.324*** (0.029)	-0.425*** (0.020)	-0.626*** (0.031)	-0.394*** (0.026)	-0.422*** (0.020)	-0.419*** (0.030)
Endowment Effects (Explained)	Head char	0.004 (0.009)	0.009 (0.006)	0.002 (0.010)	-0.011 (0.008)	-0.023*** (0.005)	-0.011 (0.009)
	Head empl	-0.052*** (0.011)	-0.057*** (0.008)	-0.030** (0.012)	-0.020* (0.011)	-0.017** (0.008)	-0.029** (0.013)
	Hh comp	-0.019** (0.009)	-0.007 (0.007)	-0.017* (0.009)	-0.031*** (0.009)	-0.024*** (0.007)	-0.027*** (0.011)
	Geo.location	-0.122*** (0.009)	-0.111*** (0.006)	-0.079*** (0.008)	-0.164*** (0.009)	-0.136*** (0.007)	-0.131*** (0.009)
Returns Effects (Unexplained)	Head char	-0.009 (0.493)	-0.143 (0.347)	0.175 (0.528)	-0.024 (0.464)	-0.049 (0.359)	0.260 (0.547)
	Head empl	0.006 (0.080)	-0.058 (0.056)	-0.210** (0.085)	0.067 (0.062)	-0.131*** (0.048)	-0.218*** (0.073)
	Hh comp	0.214 (0.152)	0.458*** (0.107)	0.554*** (0.163)	-0.023 (0.120)	0.219** (0.092)	0.061 (0.141)
	Geo.location	-0.114 (0.083)	0.239*** (0.058)	0.298*** (0.088)	-0.131* (0.077)	0.161*** (0.060)	0.268*** (0.091)
	Constant	-0.421 (0.499)	-0.922*** (0.351)	-1.442*** (0.534)	-0.283 (0.475)	-0.623* (0.367)	-0.790 (0.560)
	Observations		11,431			11,188	

Notes: Computed by the authors using Tunisian EBCNV 2005 and 2010 (OAMD1 2014c; OAMD1 2014d). Standard errors computed using the delta method in parentheses. *** p<0.01, ** p<0.05, * p<0.1 non-directional t-test.

Appendix: Additional Data Summary and Additional Results

Sudanese National Baseline Household Survey (2009)

For Sudan, a single wave of the National Baseline Household Survey (NBHS) is available for year 2009. One problem with this survey is that, like with the Tunisian 2005 survey, a substantial number of households have information on educational achievement missing. We must impute education status for some of them using information on literacy of household heads.

Sudan is exceptional in comparison to the surveys described in the main text in that total expenditure per capita is at the lowest level among the evaluated countries, at \$1,165 in year 2009. Average food expenditure per capita is on a similar level as in Egypt, at \$667, making up 60% of average total expenditure per capita. Sudan also has a higher degree of inequality between the richest one-fifth and the poorest one-fifth of households compared to the surveys in the main text, since the aggregate-expenditure share of the 5th quintile (46.3%) has been approximately eight times as high as the share of the 1st quintile (6.0%).

Sudanese total-expenditure Gini coefficient is at the high end of the distribution among the five countries, and is only exceeded by the Ginis for Palestine 2007 and Tunisia 2005. The Gini for rural population, for the non-employed, for the non-educated and for female-headed households exceeds those in other groups (except for Palestine for the latter two groups). Sudanese Gini for food expenditure is far above those in the other four countries. Furthermore, this inequality is particularly high among rural, non-employed, non-educated and female-headed households. The rural poverty rate (57.6%) is more than the double of urban poverty rate (26.5%) in 2009.

Estimation Results

Only one survey wave is available for Sudan. This limitation prevents us from inferring how expenditure inequality in the country evolved over time, and also means that fewer estimates are available to check the robustness of our inequality decomposition and its patterns across individual demographic groups and population quantiles. Nevertheless, estimates for Sudan in tables 13–16 are large in magnitude and highly significant, suggesting that our results are robust to sampling errors and other data issues.

Table A8 indicates that the overall rural/urban expenditure gap in Sudan favors urban households, and is particularly large among the lowest expenditure decile of the population. This negative significant gap is due to both endowment and returns effects. The returns effects dominate among the lowest decile, while the endowment effects dominate among the middle and highest deciles. Figures A16–A17 illustrate the decomposition into the endowment and returns effects across all expenditure deciles.

Regarding endowments that may be valued by markets, rural/urban differentials in education and employment of the household head, household composition and geographic location have positive bearing on the overall expenditure gap. The endowment effects of education and geographic location rise in magnitude with the expenditure quantile, while those of employment and household composition fall. Finally, the returns effects are much less significant than the endowment effects, but reveal that returns to education and geographic location contribute to the negative overall expenditure gap, and are the largest in the lowest expenditure decile.

Expenditure gap between male and female headed households, shown in table 14, favors male households among the lowest decile, but favors female households among the wealthiest segment of the population (significant). The endowment effects are small negative across all deciles

(insignificant throughout), favoring male households, while the returns effects are negative among the lowest decile and but positive for the middle and the highest deciles (significant for the latter two).

With respect to individual endowments of characteristics and their differentials between the male and female households, we conclude that education and geographic location increase the gap in favor of male-headed households, while employment status and household composition increase it in favor of female-headed households. The returns effects of these characteristics typically favor male-headed households who may face more developed markets for human capital. Returns to characteristics of household heads and to employment status increase the expenditure gap favoring male-headed households, while returns to other endowments have sporadic or small effects on the overall gap.

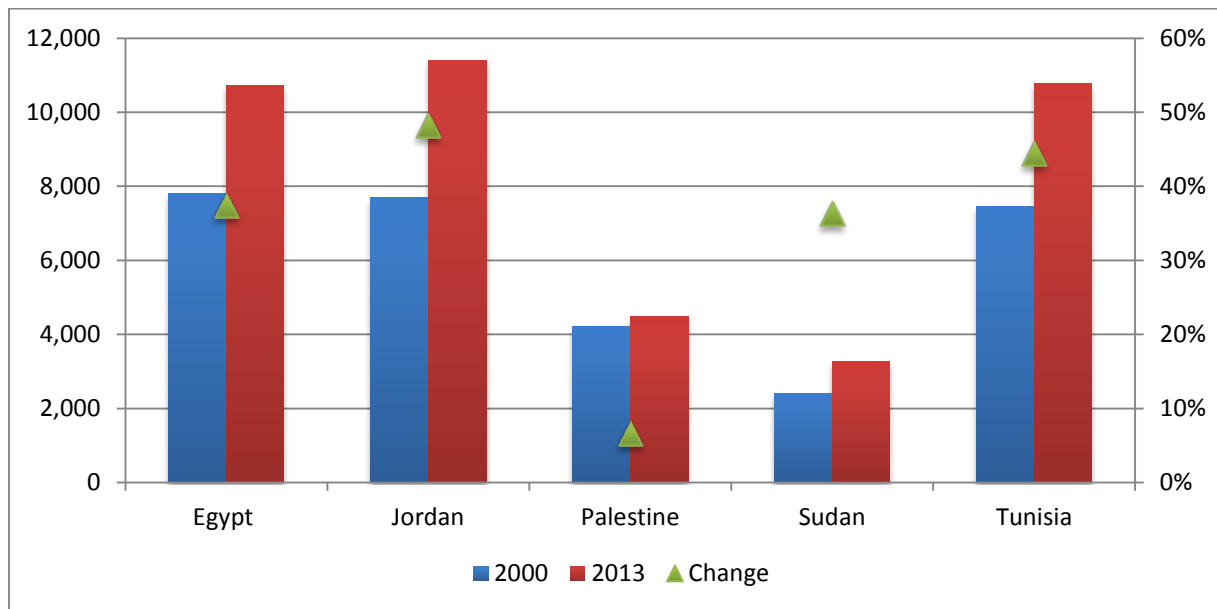
Table 15 presents the results of decomposition of the non-educated/educated gap in household expenditures. The overall gap is negative, favoring households with educated heads. This is attributable to both endowment and returns effects. The returns effects dominate, particularly so among the highest expenditure decile households. Differentials in employment status and of geographic location appear to widen the overall expenditure gap toward the educated (with the exception of the highest decile where the endowment effect of employment is positive significant). The differential in characteristics of household heads appears to be narrowing it. All of these endowment effects are largest among the lowest decile group.

Regarding returns to endowments, educated household heads are estimated to earn higher returns to their characteristics, increasing the expenditure gap in favor of the educated significantly, but lower returns to employment and to household composition, lowering the overall gap somewhat.

Finally, table 16 shows the results of decomposition of the expenditure gap in Sudan between households with non-employed versus employed heads. This gap is significant negative for the lowest and the middle deciles, exhibiting favor toward employed households. It is weakly positive for the highest expenditure decile. Decomposing this overall gap, we find that the endowment effects are small and insignificant positive, while the returns effects are significant negative for the lowest and the middle deciles, driving the overall inequality.

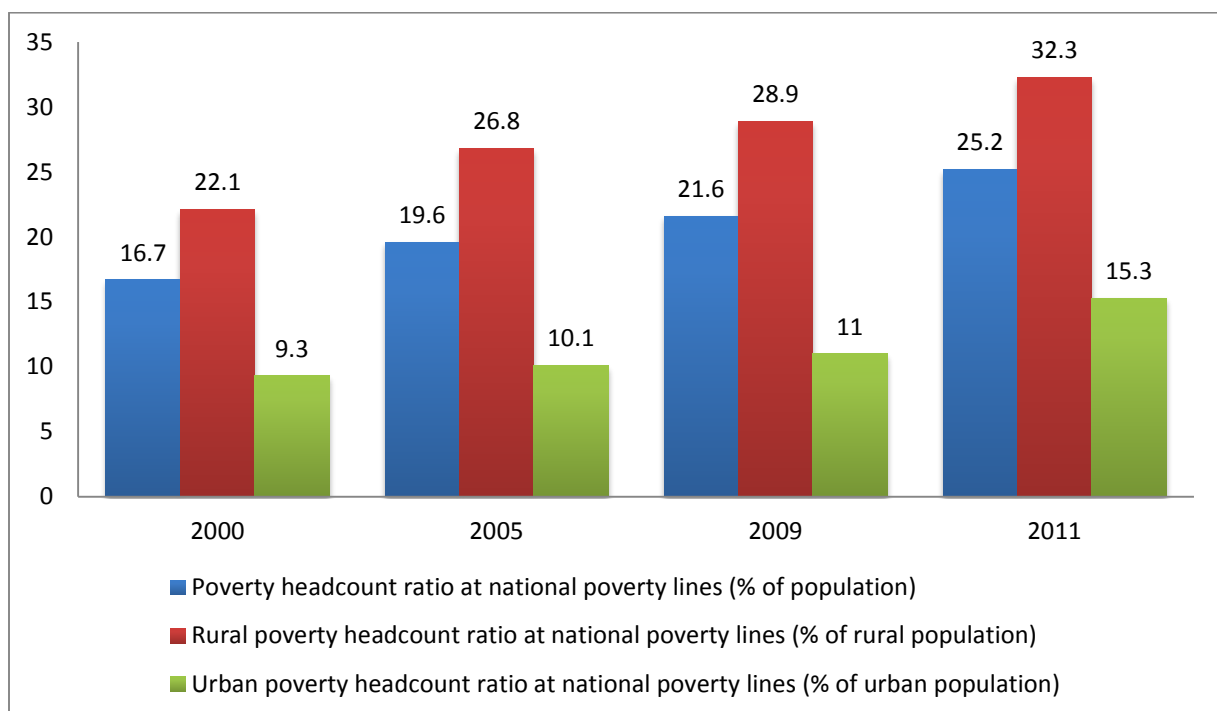
Differentials in endowment of education (significant) and geographic location (insignificant) contribute to the gap in favor of the employed. Differentials in endowment of household-head characteristics mitigate it to favor the non-employed. Gaps in returns to these endowments between the non-employed and the employed groups do not individually explain the overall expenditure gap. The returns effects of individual household endowments are small and insignificant, or switch signs across population deciles. Only household-head characteristics have consistent returns effects across all deciles, all negative but insignificant, suggesting that households with employed heads may have higher returns to their heads' characteristics.

Figure A1: GDP Per Capita in 2000 and 2013, and Growth Rate (Constant 2011 intl. \$)



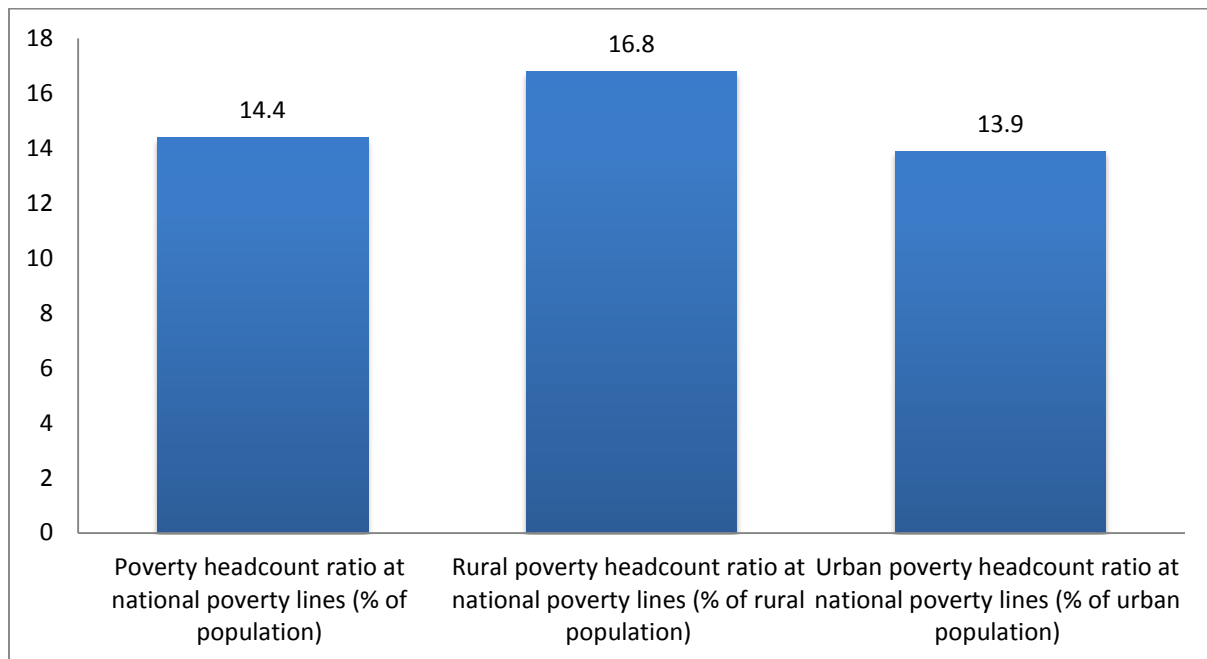
Source: World Development Indicator data, 2015.

Figure A2: Poverty Headcount Ratio in Egypt, 2000–2011



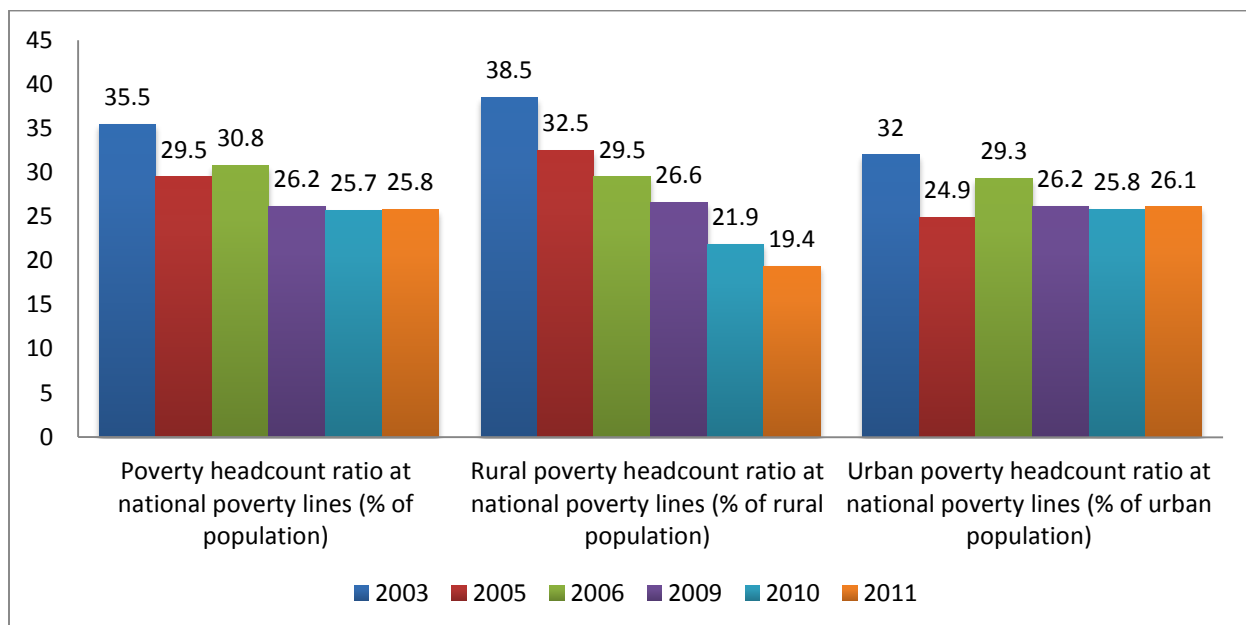
Source: World Development Indicator data, 2015.

Figure A3: Poverty headcount ratio in Jordan 2010



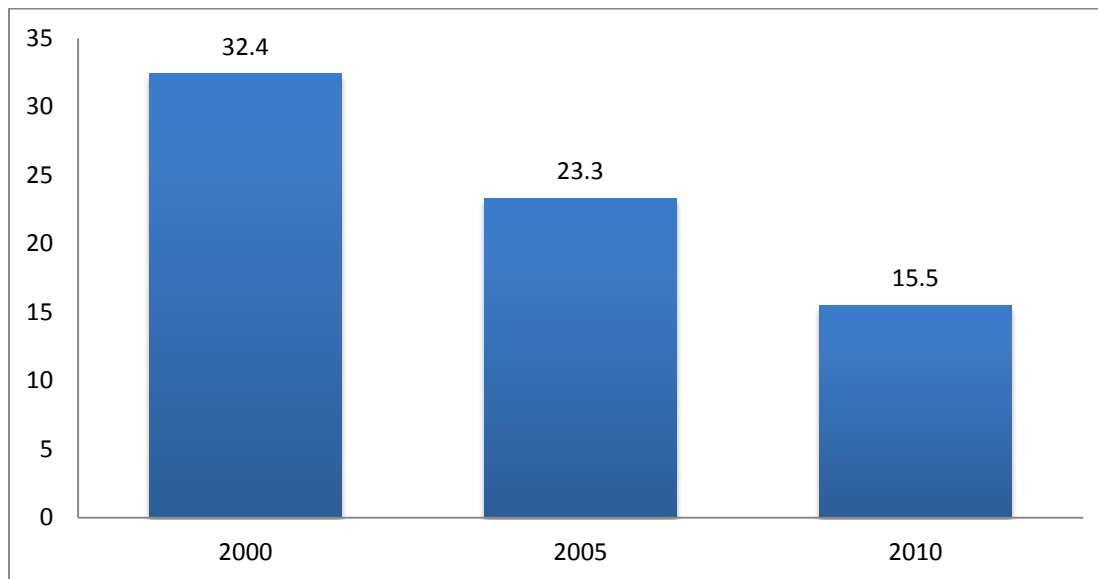
Source: World Development Indicator data, 2015

Figure A4: Poverty Headcount Ratio in Palestine, 2003–2011



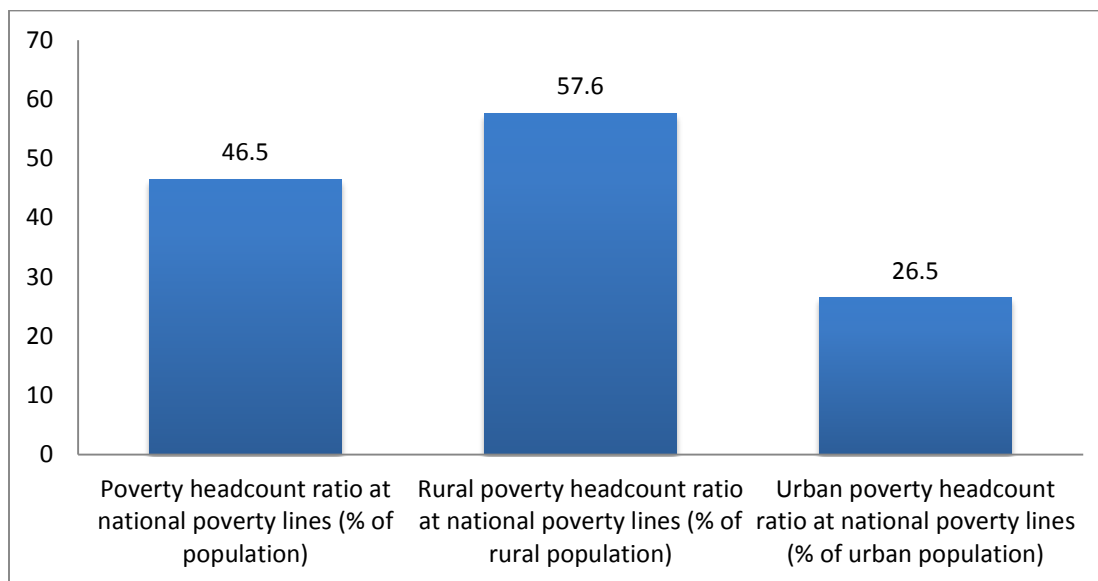
Source: World Development Indicator data, 2015.

Figure A5: Poverty Headcount Ratio in Tunisia, 2000, 2005 and 2010



Source: World Development Indicator data, 2015

Figure A6: Poverty Headcount Ratio in Sudan, 2009



Source: World Development Indicator data, 2015

Figure A7: Decomposition into Endowment and Returns Effects, Egypt 2008

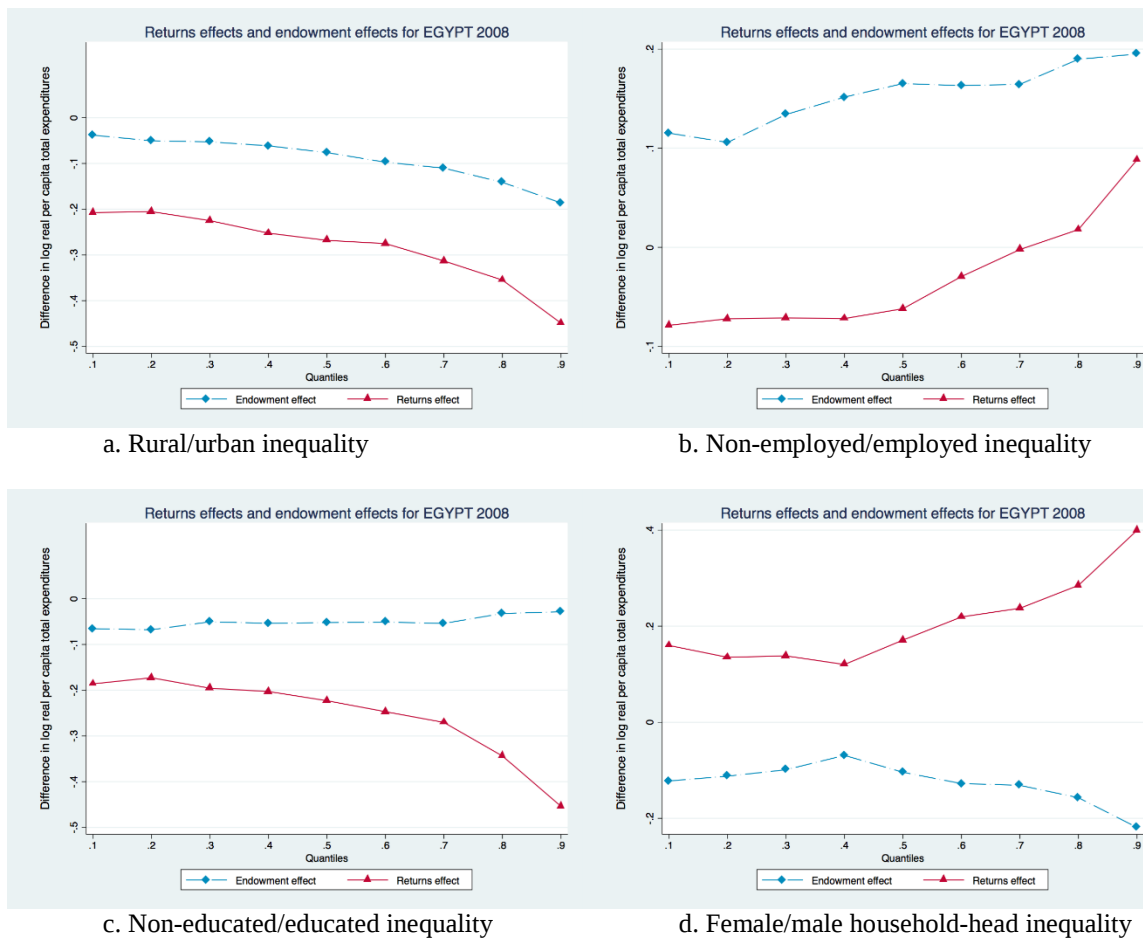


Figure A8: Decomposition into Endowment and Returns Effects, Egypt 2010

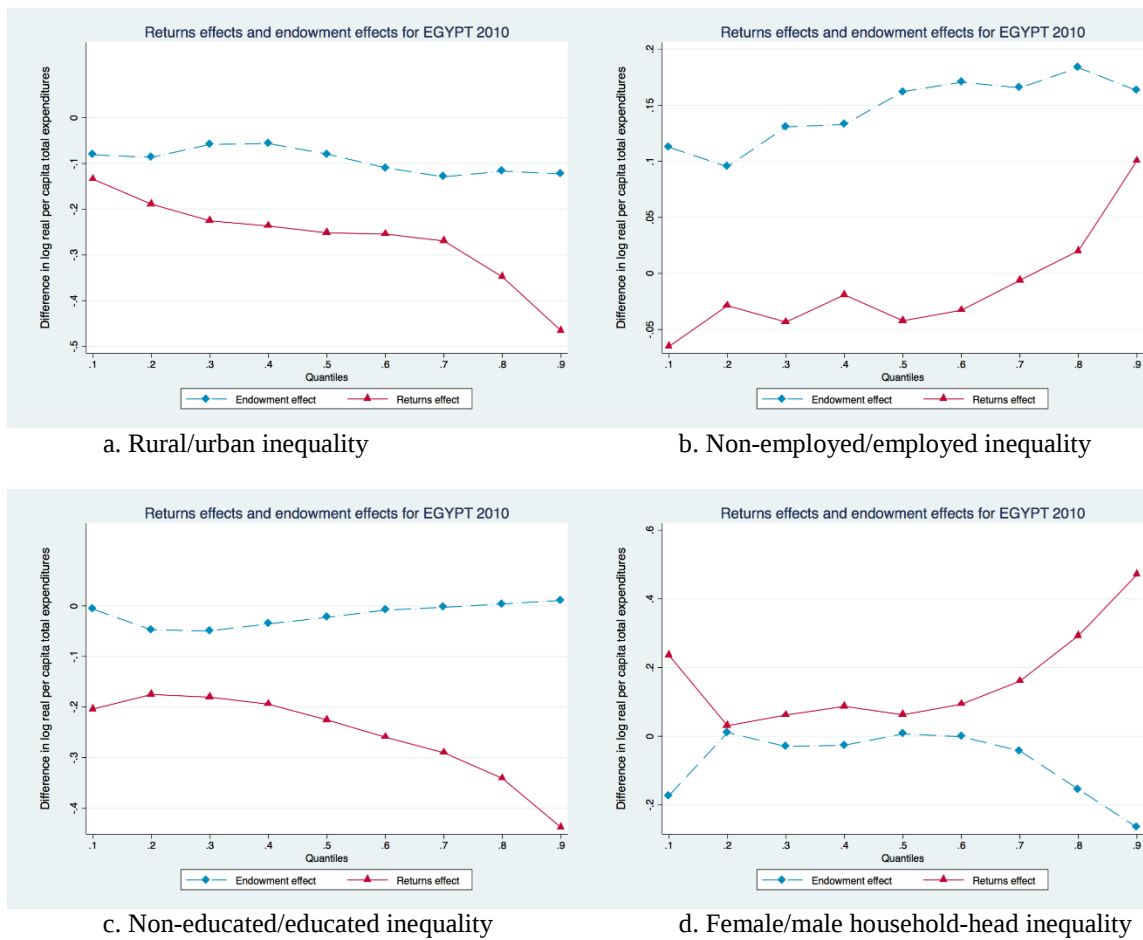


Figure A9: Decomposition into Endowment and Returns Effects, Egypt 2012

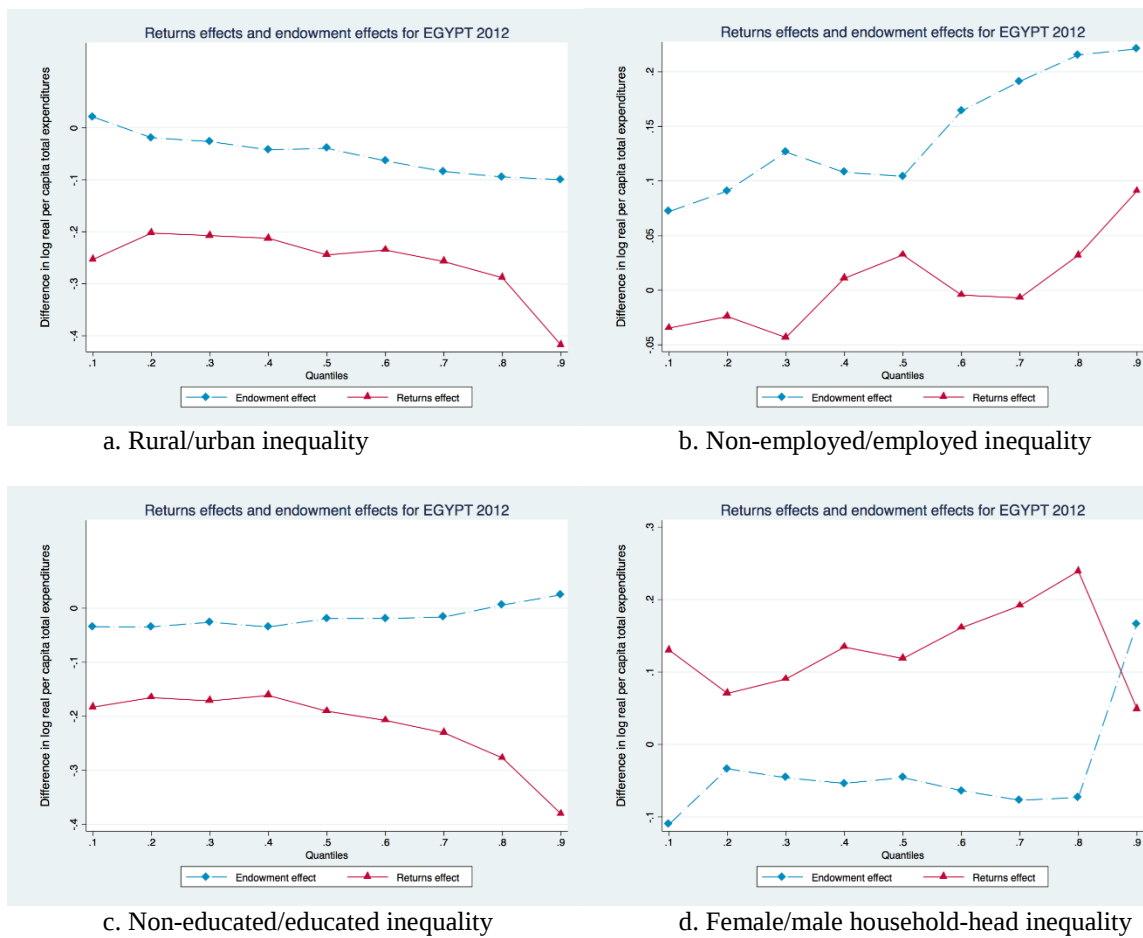


Figure A10: Decomposition into Endowment and Returns Effects, Palestine 2007

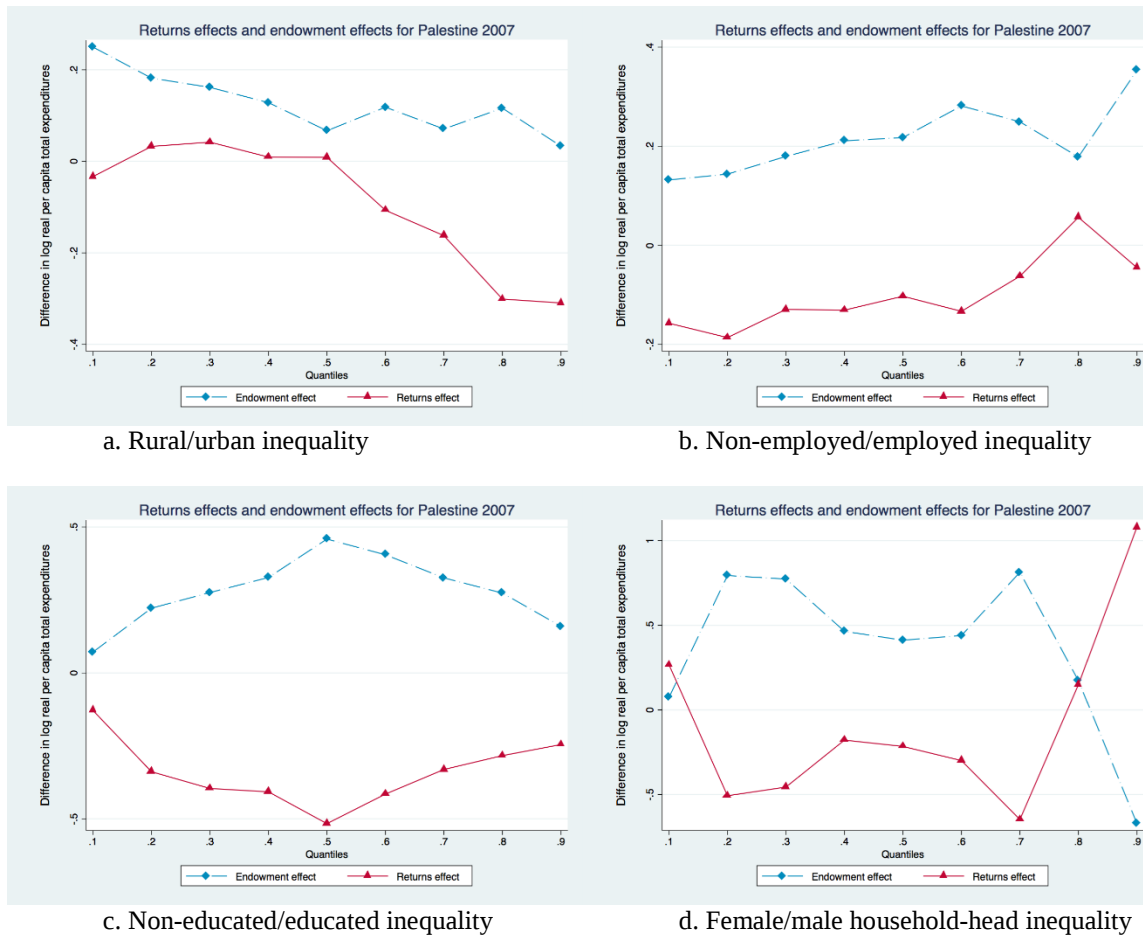


Figure A11: Decomposition into Endowment and Returns Effects, Palestine 2010

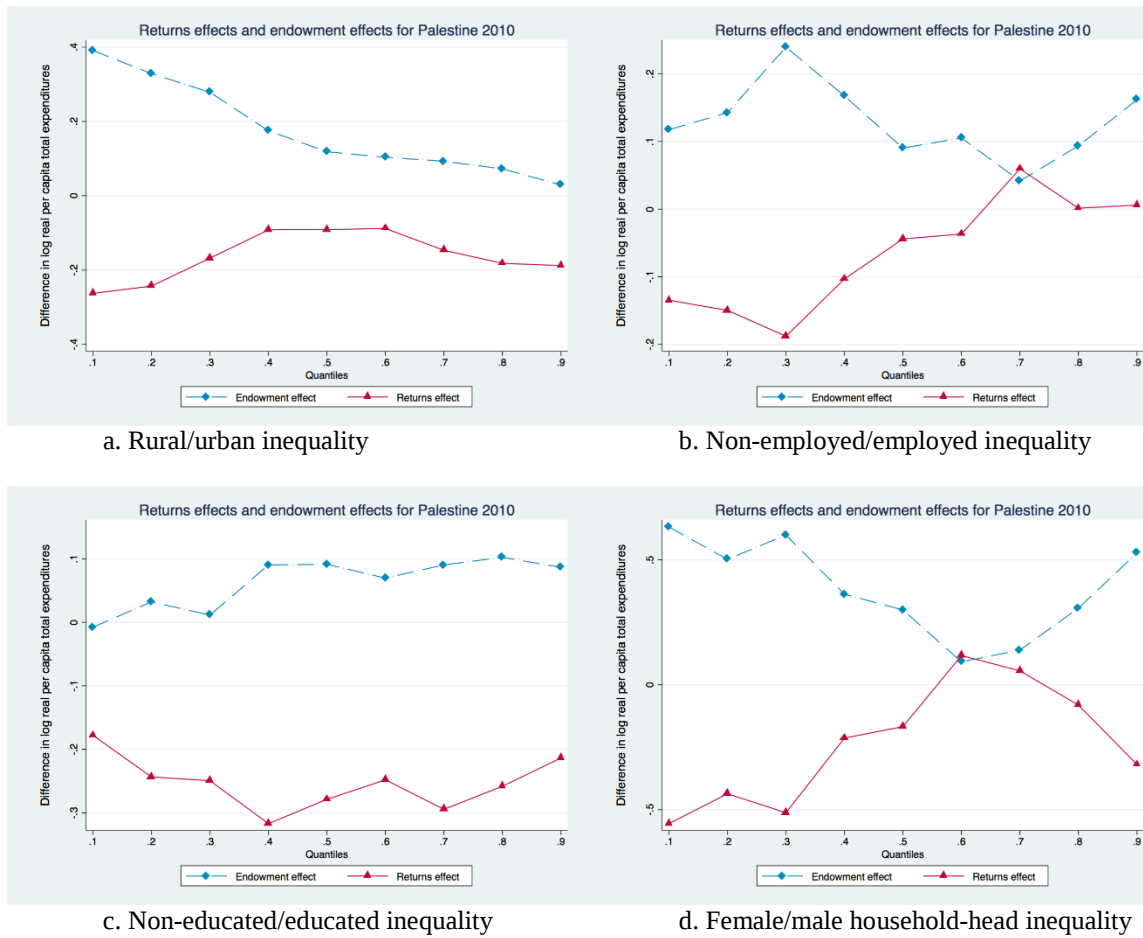


Figure A12: Decomposition into Endowment and Returns Effects, Palestine 2011

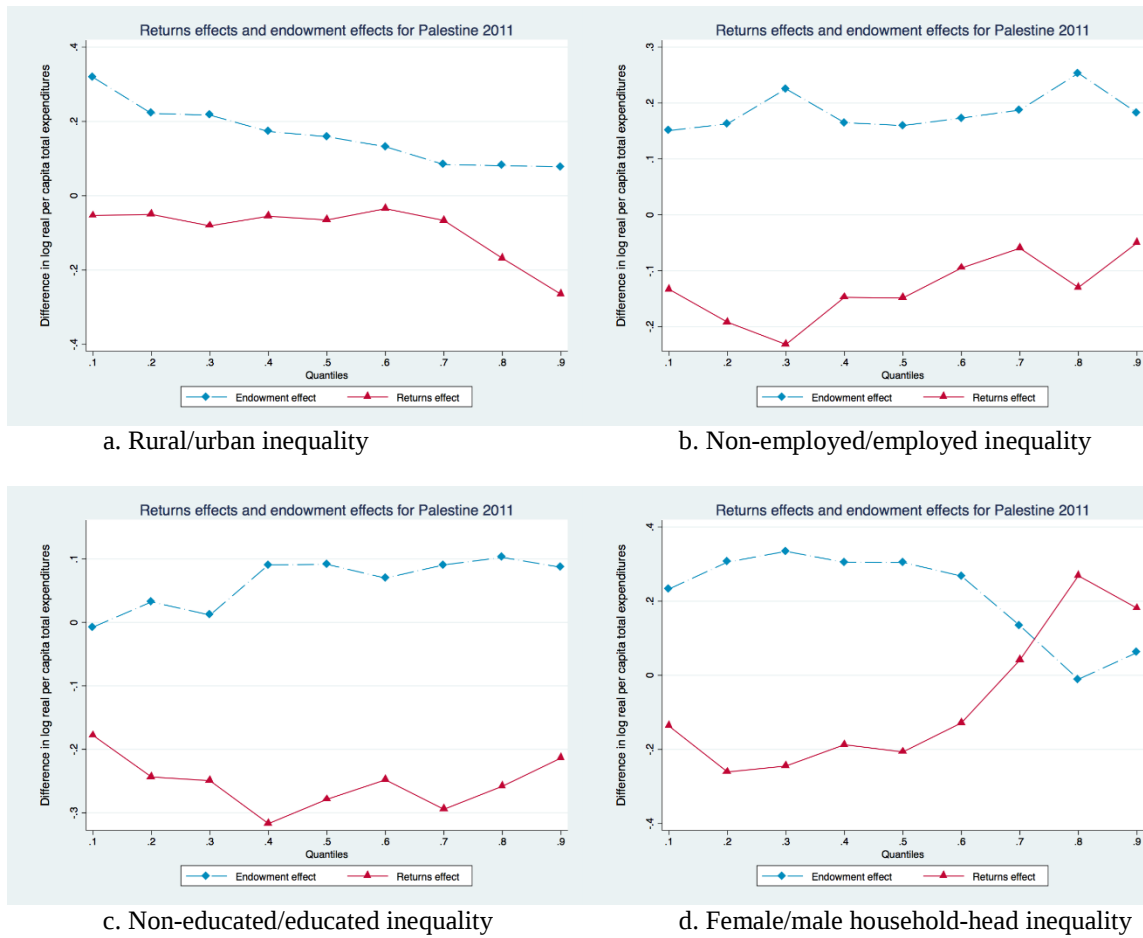


Figure A13: Decomposition into Endowment and Returns Effects, Jordan 2006

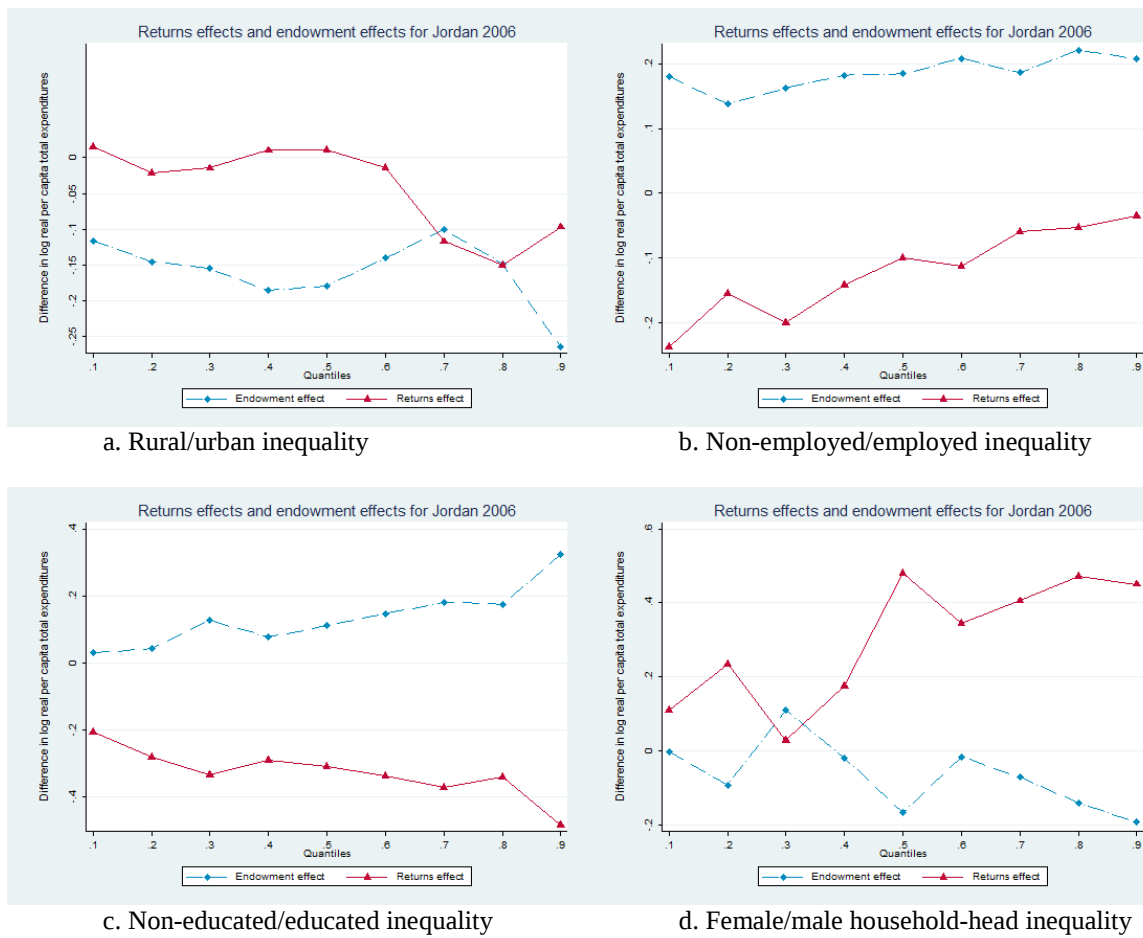


Figure A14: Decomposition into Endowment and Returns Effects, Jordan 2010

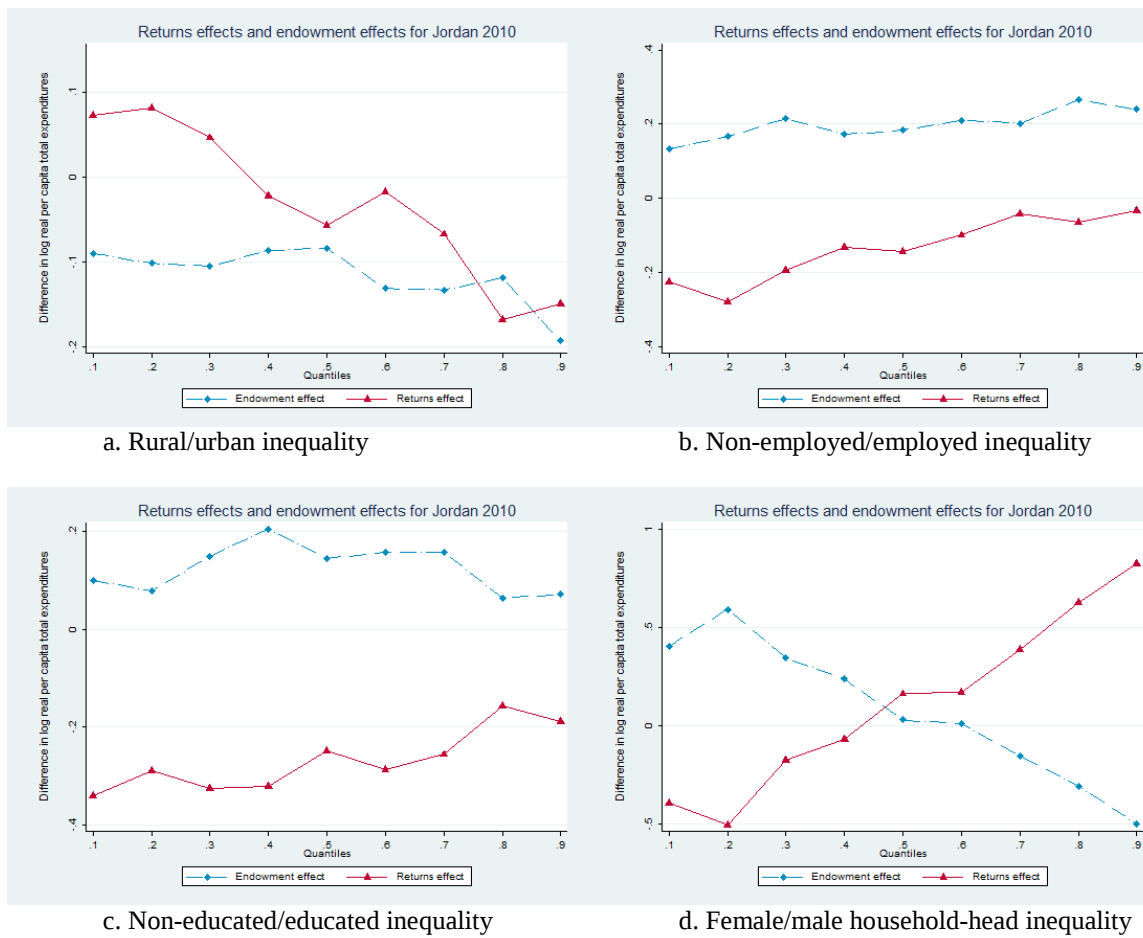


Figure A15: Decomposition into Endowment and Returns Effects, Tunisia 2005

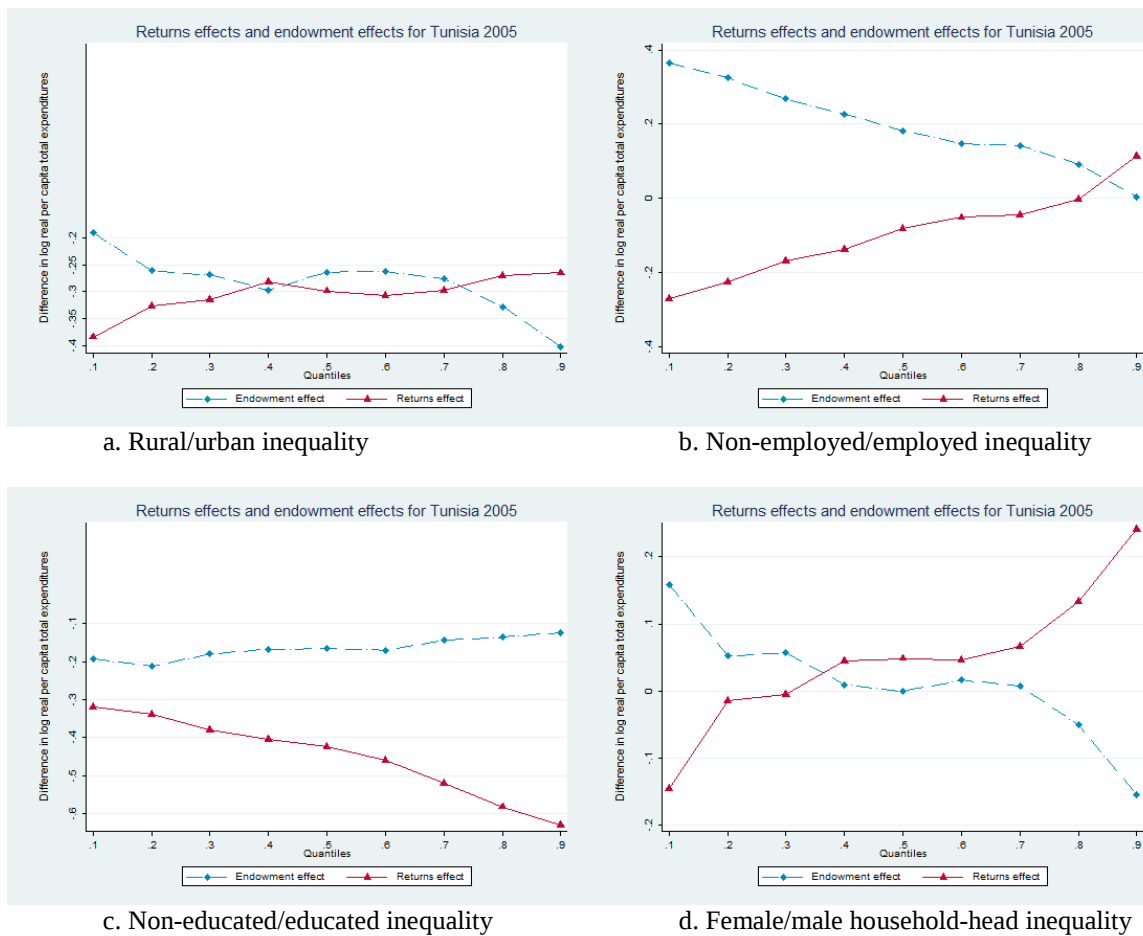


Figure A16: Decomposition into Endowment and Returns Effects, Tunisia 2010

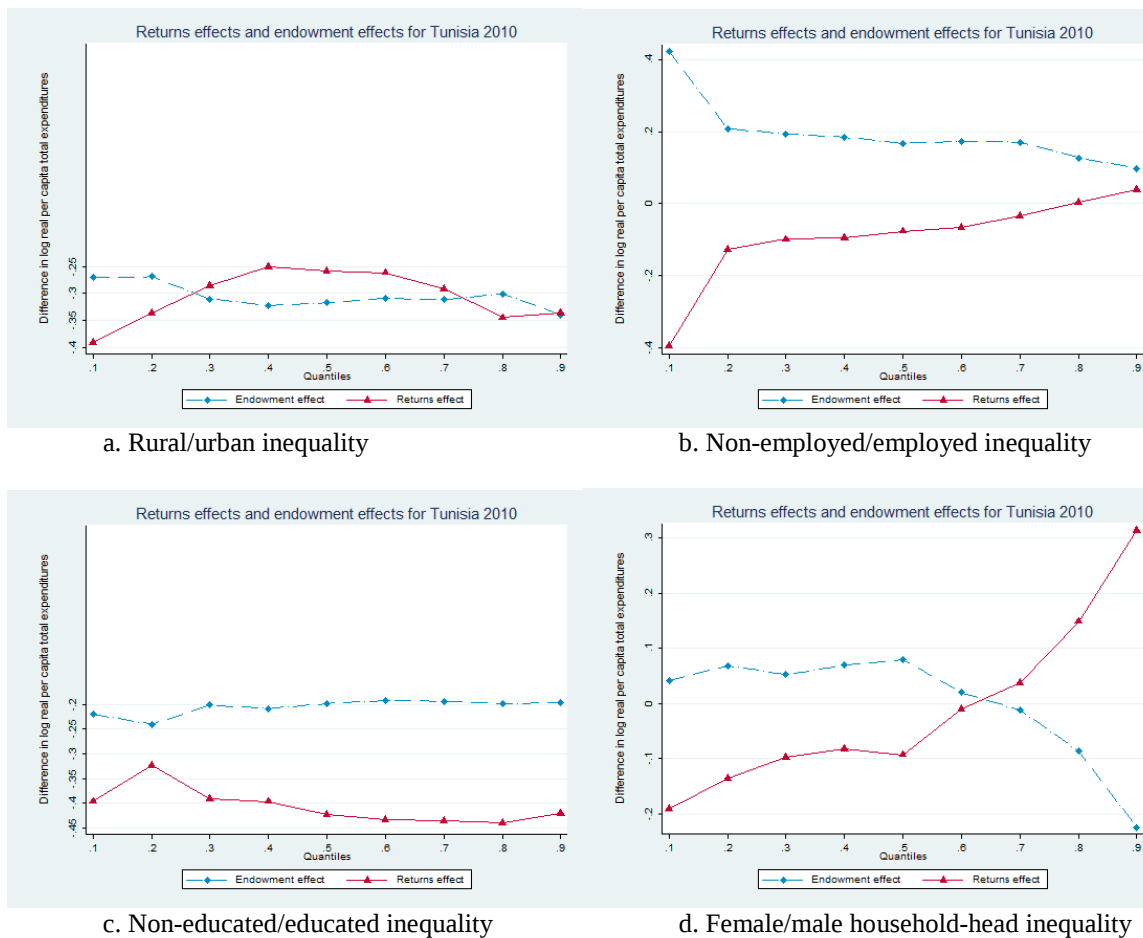


Figure A17: Decomposition into Endowment and Returns Effects, Sudan 2009

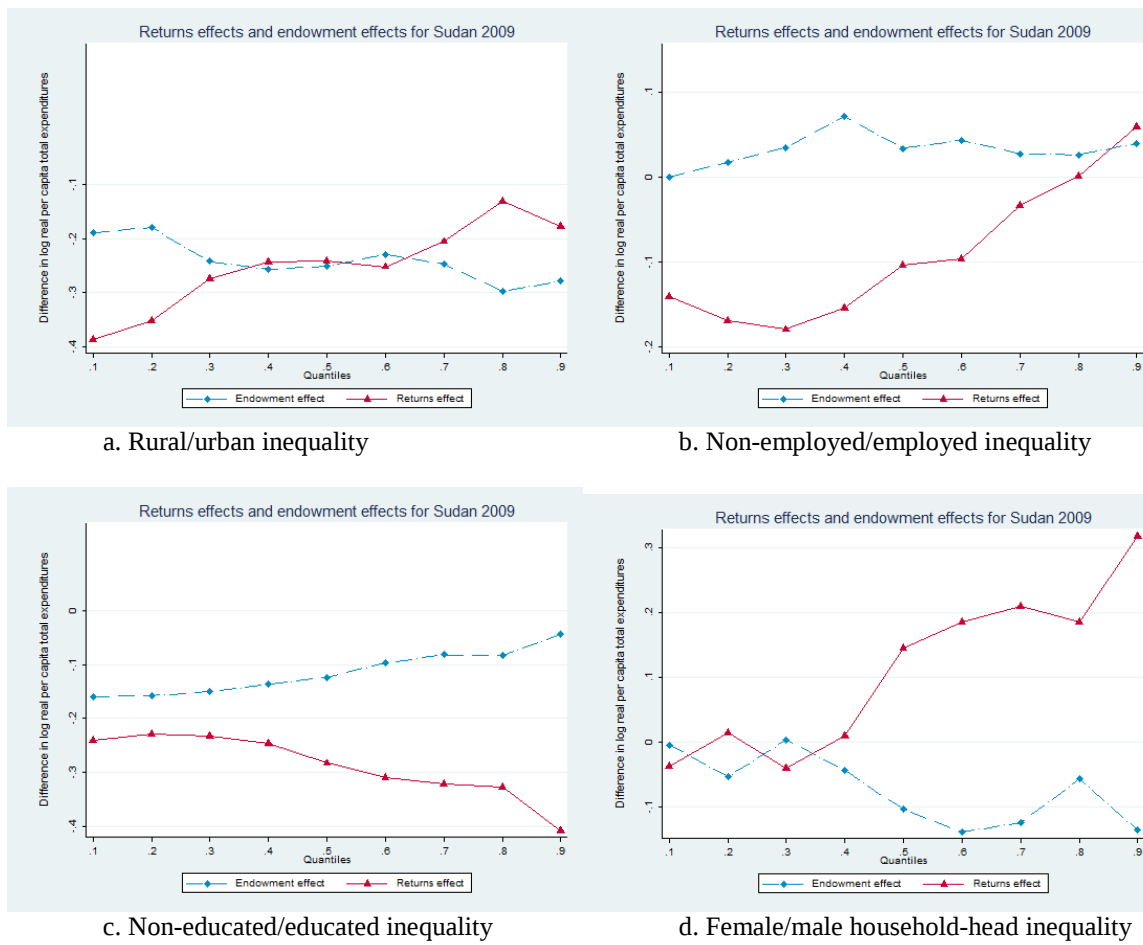
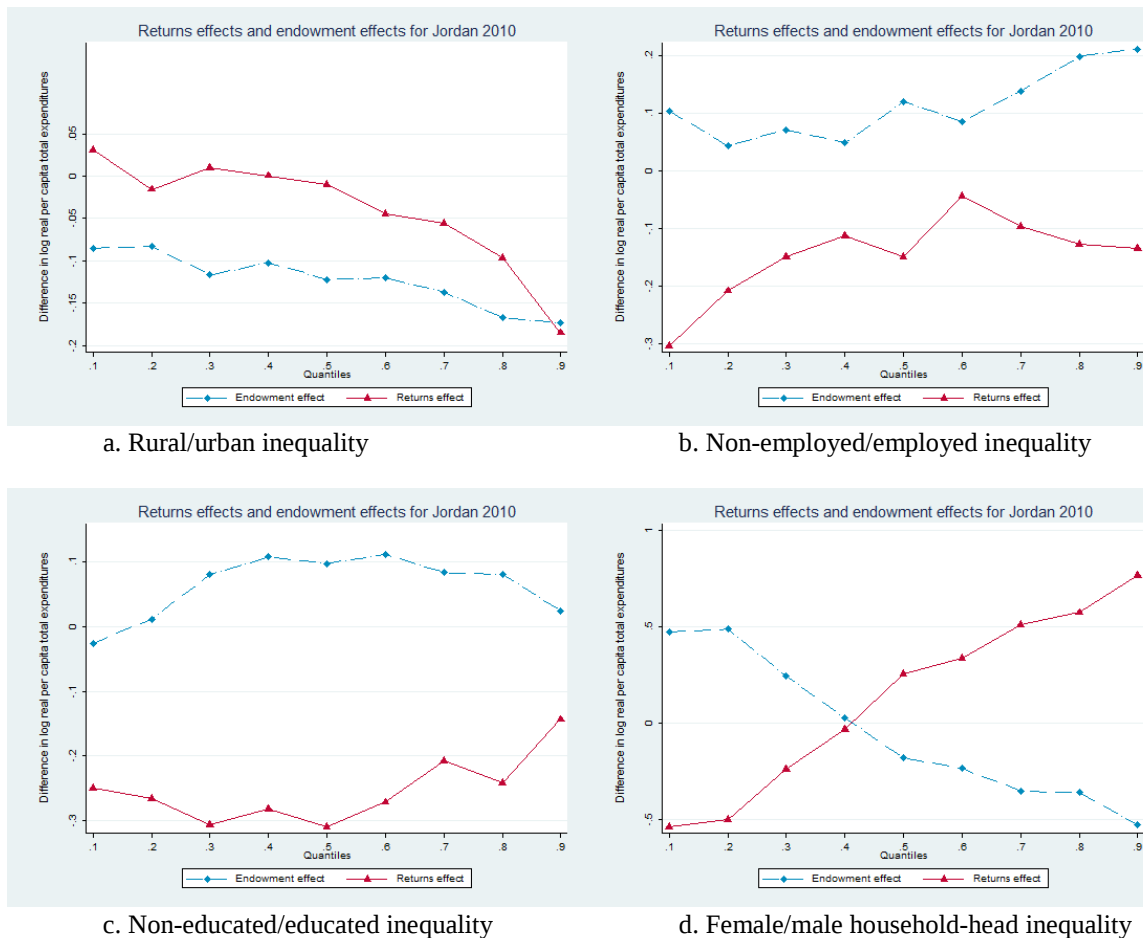
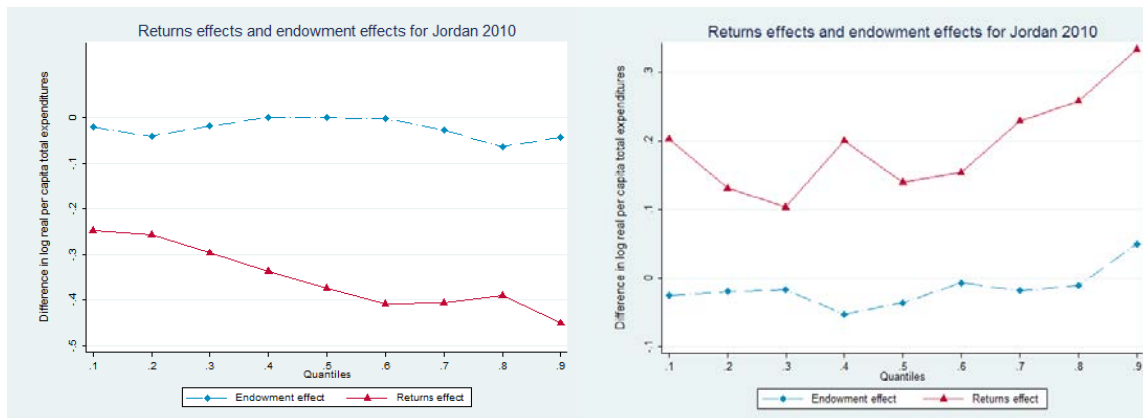


Figure A18: Decomposition Using an Alternative Adult-Equivalent Household-Size Scale, Jordan 2010



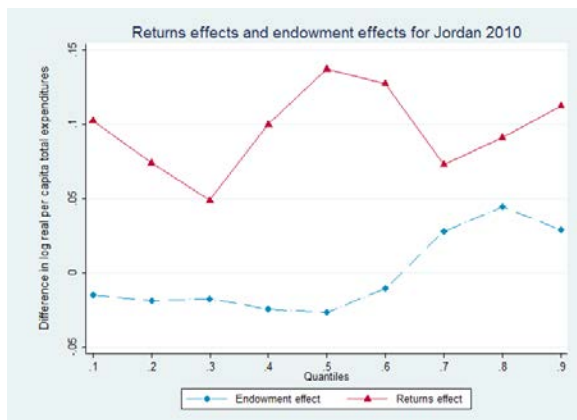
Note: Expenditure per capita is computed using a modified OECD adult-equivalence scale with household size taken as $[1 + 0.7 (\text{Nadults}-1) + 0.3 \text{Nchildren} + 0.3 \text{Nelderly}]$ to account for a lesser role played by children under the age of 14 and the elderly aged 65+ years (Glewwe and Twum-Baah, 1991, as cited in Haughton and Khandker 2009:29).

Figure A19: Decompositions Using Alternative Classifications of Household Heads, Jordan 2010



a. Low/higher educated inequality
Household heads with up to primary/lower secondary school achievement are distinguished from those with secondary/post-secondary and post graduate education.

b. Non-employee/employee inequality
Household heads who are employees are distinguished from those who are employers or self-employed workers.



c. Non-public/public sector employee inequality
Household heads who are employees in the public sector are distinguished from those who are employees in other sectors (including employers and the self-employed in the private sector, joint cooperatives, foreign sector etc.).

Table A1: Data Sources and Summary Statistics

Survey wave	Survey ^b	Households	Mean total expenditures per capita (st.dev.) ^a	Median total expend. per capita
Egypt 2008	HEICS 2008/09 (OAMDI 2014a) ^c	23,428	1,425.38 (1,221.58)	1,151.06
Egypt 2010	HEICS 2010/11 (OAMDI 2014b)	7,719	1,603.37 (1352.69)	1,287.40
Egypt 2012	HEICS 2012/13 (OAMDI 2014c)	7,525	1,719.77 (1251.38)	1,414.53
Jordan 2006	HEIS 2006 (OAMDI 2014d)	2,897	2,500.05 (2,274.26)	1,927.28
Jordan 2010	HEIS 2010/11 (ERF & DOS, 2013)	2,845	3,108.79 (4,139.79)	2,348.79
Palestine 2007	PECS 2007 (OAMDI 2014e)	1,231	3,759.11 (3756.81)	2,759.62
Palestine 2010	PECS 2010 (OAMDI 2014f)	3,537	5,138.56 (5012.92)	3,771.70
Palestine 2011	PECS 2011 (OAMDI 2014g)	4,317	5,280.86 (4878.28)	3,964.53
Sudan 2009	NBHS 2009 (OAMDI 2014h)	7,913	1,164.74 (1,260.34)	881.01
Tunisia 2005	EBCNV 2005 (OAMDI 2014i)	12,318	2,600.67 (2,818.96)	1,894.29
Tunisia 2010	EBCNV 2010 (OAMDI 2014j)	11,281	3,332.21 (2,930.51)	2,542.90

^a Converted using purchasing power parity exchange rate to international dollars (UNSD, 2015). Summary statistics account for household sampling weights and household size. ^b EBCNV = National Survey on Household Budget, Consumption and Standard of Living; HEICS = Household Expenditure, Income and Consumption Survey; HEIS = Household Expenditure and Income Survey; NBHS = National Baseline Household Survey; PECS = Palestinian Expenditure and Consumption Survey. ^c Egyptian HIECS data in ERF database are only partial extractions from original surveys (extracted randomly by survey administrators). The original surveys of HEICS include 48, 658 households (HEICS 2008/2009), 26,500 households (HEICS 2010/2011) and 24,863 households (HEICS 2012/2013). This issue is thought to affect efficiency but not consistency of regression estimates (Hlasny and Verme, 2013).

Table A2: Total Expenditure, Total Disposable Income and Food Expenditure (Intl. dollar PPP)

		Egypt		Jordan			Palestine		Sudan		Tunisia
	2008	2010	2012	2006	2010	2007	2010	2011	2009	2005	2010
Total expenditure	7,222.01	7,612.50	8,032.07	15,186.10	17,479.10	25,298.37	29,985.84	30,299.69	7,904.36	12,517.68	15,291.19
Total disposable income	8,730.50	8,604.13	9,279.60	12,862.11	15,599.18	n.a.	21,214.35	21,887.29	4,756.66	n.a.	n.a.
Food expenditure	3,350.87	3,094.32	3,083.06	4,690.57	5,958.89	7,787.21	9,188.15	9,260.09	4,523.80	4,416.98	4,620.79
Total expenditure/capita	1,425.38	1,603.37	1,719.91	2,500.05	3,108.79	3,759.11	4,695.58	4,825.61	1,164.74	2,600.67	3,332.21
Food expenditure/capita	643.82	642.85	647.28	761.55	1,046.21	1,123.47	1,388.60	1,421.59	667.48	906.47	1,004.64
Food share in total exp.	49%	44%	41%	33%	36%	35%	34%	34%	60%	41%	34%

Notes: Summary statistics account for household sampling weights. "n.a." indicates that data are not available in the survey.

Table A3: Average Households Expenditure Per Capita and Share of Aggregate Expenditure, by quintile (Intl. dollars PPP)

Quintile	2008	Egypt		Jordan			Palestine		Sudan		Tunisia
		2010	2012	2006	2010	2007	2010	2011	2009	2005	2010
1	705.64	788.78	880.86	1,028.89	1,272.47	1,280.02	1,892.32	1,969.32	375.48	785.46	1,066.10
	[9.10%]	[9.10%]	[9.57%]	[7.55%]	[7.71%]	[6.14%]	[6.73%]	[6.83%]	[6.02%]	[5.88%]	[6.31%]
2	1,025.25	1,141.60	1,244.50	1,645.06	1,967.24	2,229.06	3,112.63	3,226.32	670.26	1,377.05	1,852.17
	[12.95%]	[12.88%]	[13.33%]	[11.71%]	[11.55%]	[10.30%]	[10.73%]	[10.88%]	[10.61%]	[10.29%]	[10.93%]
3	1,304.29	1,453.93	1,562.18	2,237.01	2,646.54	3,211.91	4,304.84	4,469.21	965.00	1,968.09	2,609.34
	[16.20%]	[16.12%]	[16.46%]	[15.55%]	[15.17%]	[14.71%]	[14.75%]	[15.03%]	[15.20%]	[14.65%]	[15.38%]
4	1,721.21	1,918.78	2,037.49	3,192.80	3,789.05	4,754.32	6,281.86	6,557.38	1,391.38	2,860.82	3,747.60
	[20.82%]	[20.83%]	[20.97%]	[21.22%]	[21.00%]	[21.30%]	[21.09%]	[21.45%]	[21.90%]	[21.18%]	[22.04%]
5	3,485.14	3,860.17	3,938.16	6,601.92	7,976.75	10,434.27	13,533.24	13,771.91	2,916.03	6,478.80	7,679.37
	[40.94%]	[41.07%]	[39.67%]	[43.97%]	[44.58%]	[47.55%]	[46.70%]	[45.81%]	[46.27%]	[48.00%]	[45.35%]
Total	1,425.38	1,603.37	1,719.91	2,500.05	3,108.79	3,759.11	5,138.56	5,280.86	1,164.74	2,600.67	3,332.21

Notes: Author's calculations from national household surveys. PPP conversion rates from UNSD (2015). Summary statistics account for household sampling weights and household size.

Table A4: Share of Aggregate Expenditure, by Decile (%)

Decile	2008	Egypt		Jordan			Palestine		Sudan		Tunisia
		2010	2012	2006	2010	2007	2010	2011	2009	2005	2010
1	3.88	3.93	4.10	3.09	3.24	2.39	2.75	2.76	2.27	2.30	2.44
2	5.22	5.17	5.47	4.45	4.47	3.76	3.98	4.07	3.75	3.58	3.87
3	6.08	6.05	6.30	5.34	5.36	4.62	4.86	4.95	4.80	4.64	4.97
4	6.87	6.83	7.03	6.37	6.19	5.68	5.86	5.93	5.82	5.65	5.97
5	7.65	7.61	7.80	7.21	7.10	6.79	6.79	6.97	6.97	6.66	7.08
6	8.54	8.51	8.66	8.34	8.07	7.92	7.97	8.06	8.23	7.99	8.30
7	9.64	9.66	9.75	9.65	9.54	9.54	9.40	9.60	9.88	9.50	9.87
8	11.18	11.18	11.22	11.57	11.46	11.76	11.69	11.85	12.02	11.68	12.17
9	13.80	13.94	13.81	15.43	15.17	15.70	15.81	15.66	15.51	15.65	15.98
10	27.14	27.12	25.86	28.54	29.41	31.85	30.89	30.15	30.76	32.36	29.36

Notes: Author's calculations from national household surveys. PPP conversion rates from UNSD (2015). Summary statistics account for household sampling weights and household size.

Table A5: Distribution of Households by Quintiles and Characteristics of Household Heads

Household character.	Quintiles	2008	Egypt		Jordan		Palestine		Sudan	Tunisia		
			2010	2012	2006	2010	2007	2010		2011	2009	2005
Urban	1	24.97	25.32	26.25	66.03	66.43	55.06	69.15	49.65	10.04	32.06	33.63
	2	32.07	35.04	33.42	77.03	71.70	46.34	66.05	47.39	23.25	53.43	57.31
	3	39.47	43.65	40.86	76.38	71.35	45.12	62.23	51.85	31.73	64.98	66.31
	4	55.8	54.63	51.43	84.28	78.56	56.91	64.18	52.26	40.49	74.72	76.15
	5	77.57	73.74	69.50	90.85	88.05	71.14	74.17	60.83	49.87	84.69	88.43
	Total	45.97	46.47	44.29	78.91	75.22	54.91	67.15	52.40	31.08	61.96	64.36
Employed	1	82.71	82.25	82.39	56.38	57.82	85.02	84.18	80.9	82.47	71.24	67.83
	2	82.31	82.19	82.06	66.67	64.67	86.18	84.15	80.07	87.37	68.28	65.97
	3	79.89	77.40	77.14	67.41	65.38	81.30	80.45	82.41	88.12	65.94	65.03
	4	74.63	73.66	72.49	59.59	54.66	81.30	78.03	73.23	86.54	63.32	62.15
	5	61.96	60.77	58.94	48.36	42.88	73.98	72.3	71.38	84.83	61.22	55.23
	Total	76.30	75.26	74.60	59.68	57.08	81.56	79.82	77.60	85.87	66.00	63.24
Educated	1	32.05	38.60	41.00	68.10	71.35	78.14	81.65	80.32	19.01	6.76	5.04
	2	42.81	48.83	51.43	76.17	77.86	84.15	82.82	84.59	29.06	10.97	10.02
	3	49.54	54.73	55.35	79.66	80.84	81.71	84.18	84.84	33.50	15.90	14.62
	4	56.38	60.52	59.40	81.69	80.14	82.11	81.23	82.50	43.26	23.45	22.90
	5	67.90	69.13	66.18	83.94	79.79	80.49	83.89	81.00	52.97	44.56	41.78
	Total	49.74	54.36	54.67	77.91	78.00	81.32	82.75	82.65	35.56	20.53	18.88
Female hhd.	1	12.36	12.50	12.49	9.83	9.49	4.05	5.85	6.60	9.98	13.72	15.20
	2	12.97	12.44	13.29	8.64	9.84	6.91	6.79	8.34	9.73	16.13	13.08
	3	14.17	14.77	15.75	6.72	12.65	10.98	7.58	10.30	9.17	17.29	14.45
	4	18.42	17.48	19.07	13.64	13.71	6.91	11.32	14.25	9.54	18.50	14.49
	5	25.70	26.33	28.70	20.03	24.96	15.04	17.04	19.00	13.65	20.75	18.31
	Total	16.72	16.70	17.86	11.77	14.13	8.77	9.72	11.70	10.41	17.28	15.11

Notes: Summary statistics account for household sampling weights and household size.

Source: Author's calculations from national household surveys. PPP conversion rates from UNSD (2015).

Table A6: Distribution of Households by Expenditure Deciles and Characteristics of Household Heads

Household character.	Deciles	2008	Egypt 2010	2012	2006	Jordan 2010	2007	Palestine 2010	2011	Sudan 2009	2005	Tunisia 2010
Urban	1	22.58	23.19	21.51	61.38	62.46	56.45	74.73	50.93	7.20	25.04	26.04
	2	27.36	27.46	30.98	70.69	70.42	53.66	63.56	48.38	12.90	39.11	41.22
	3	30.43	31.61	30.68	74.48	69.12	47.97	66.22	44.44	21.49	49.43	55.41
	4	33.72	38.47	36.17	79.58	74.30	44.72	65.87	50.35	25.00	57.41	59.22
	5	36.08	42.10	37.72	74.48	73.68	43.9	60.90	52.08	27.81	60.42	63.92
	6	42.85	45.21	44.02	78.28	69.01	46.34	63.56	51.62	35.65	69.50	68.71
	7	53.09	49.87	49.67	83.39	75.79	57.72	64.80	51.97	37.50	70.60	75.71
	8	58.51	59.38	53.19	85.17	81.34	56.10	63.56	52.55	43.49	78.81	76.60
	9	69.10	64.46	61.75	88.28	84.21	65.04	71.01	52.55	47.41	80.99	87.15
	10	86.04	83.01	77.26	93.43	91.90	77.24	77.33	69.14	52.34	88.38	89.72
	Total	45.97	46.47	44.29	78.91	75.22	54.91	67.15	52.40	31.08	61.96	64.36
Employed	1	81.60	81.99	82.07	54.14	49.47	84.68	84.04	79.17	81.82	72.16	66.52
	2	83.82	82.51	82.71	58.62	66.20	85.37	84.31	82.64	83.12	70.33	69.15
	3	82.46	82.90	82.07	67.59	71.23	84.55	87.23	80.09	88.21	68.64	68.21
	4	82.16	81.48	82.05	65.74	58.10	87.80	81.07	80.05	86.54	67.91	63.74
	5	81.00	77.07	77.69	66.21	69.47	84.55	77.13	84.03	87.80	67.73	64.98
	6	78.79	77.72	76.60	68.62	61.27	78.05	83.78	80.79	88.43	64.16	65.07
	7	75.07	74.74	75.17	58.48	59.30	83.74	76.80	75.41	87.37	64.33	62.77
	8	74.18	72.57	69.81	60.69	50.00	78.86	79.26	71.06	85.71	62.31	61.52
	9	66.67	66.02	62.68	53.10	44.56	76.42	73.94	73.38	84.33	62.28	57.45
	10	57.26	55.51	55.19	43.60	41.20	71.54	70.67	69.37	85.34	60.16	53.01
	Total	76.30	75.26	74.60	59.68	57.08	81.56	79.82	77.60	85.87	66.00	63.24
Educated	1	28.08	33.55	35.46	61.38	64.21	78.23	79.79	77.08	16.67	6.5	3.75
	2	36.02	43.65	46.54	74.83	78.52	78.05	83.51	83.56	21.37	7.02	6.32
	3	40.50	45.85	49.00	73.79	78.25	82.93	81.38	84.49	28.07	9.69	8.68
	4	45.11	51.81	53.86	78.55	77.46	85.37	84.27	84.69	30.05	12.24	11.37
	5	47.78	54.27	53.92	78.28	83.51	86.18	84.04	86.11	32.74	13.53	14.18
	6	51.30	55.18	56.78	81.03	78.17	77.24	84.31	83.56	34.26	18.25	15.05
	7	55.27	60.62	59.10	81.31	80.35	83.74	78.13	80.97	40.78	20.76	19.35
	8	57.49	60.41	59.71	82.07	79.93	80.49	84.31	84.03	45.75	26.15	26.43
	9	62.74	62.78	61.89	81.72	77.54	78.86	86.17	78.94	48.17	35.41	36.18
	10	73.06	75.49	70.48	86.16	82.04	82.11	81.60	83.06	57.77	53.5	47.41
	Total	49.74	54.36	54.67	77.91	78.00	81.32	82.75	82.65	35.56	20.53	18.88
Female-headed	1	12.68	11.92	13.15	10.00	11.93	3.23	5.85	6.48	10.61	13.54	15.77
	2	12.04	13.88	11.84	9.66	7.04	4.88	5.85	6.71	9.36	13.90	14.63
	3	12.72	11.40	13.81	8.28	8.42	5.69	6.91	8.33	9.99	15.67	12.68
	4	13.23	13.47	12.77	9.00	11.27	8.13	6.67	8.35	9.47	16.60	13.48
	5	12.98	14.38	17.13	6.90	9.12	8.13	8.78	10.88	8.34	18.16	15.43
	6	15.36	15.16	14.36	6.55	16.20	13.82	6.38	9.72	9.99	16.42	13.48
	7	19.04	15.80	17.93	12.11	11.23	5.69	11.20	13.69	9.47	18.81	14.18
	8	17.80	19.15	20.21	15.17	16.20	8.13	11.44	14.81	9.61	18.18	14.80
	9	22.49	23.09	26.16	17.93	23.51	12.20	18.35	18.29	13.15	21.19	16.49
	10	28.91	29.57	31.25	22.15	26.41	17.89	15.73	19.72	14.16	20.31	20.12
	Total	16.72	16.70	17.86	11.77	14.13	8.77	9.72	11.70	10.41	17.28	15.11

Notes: Summary statistics account for household sampling weights and household size.

Source: Author's calculations from national household surveys. PPP conversion rates from UNSD (2015).

Table A7: Gini Index of Inequality

Subsample	2008	Egypt 2010	2012	Jordan 2006	2010	2007	Palestine 2010	2011	Sudan 2009	Tunisia 2005	2010
Total expend./capita											
Overall	31.32	31.42	29.59	35.81	36.21	40.83	39.18	38.43	39.88	41.40	38.50
Rural	23.05	23.64	23.67	30.99	29.24	33.05	34.78	30.21	39.09	36.92	34.33
Urban	34.47	34.41	32.33	36.23	37.07	44.08	40.51	40.42	36.35	39.50	36.03
Non-employed	35.45	35.64	34.01	37.86	37.26	39.94	41.53	39.65	42.76	41.14	38.94
Employed	29.97	29.92	27.99	34.33	35.22	44.45	38.65	38.10	38.70	41.43	38.10
Non-educated	25.00	25.19	25.03	35.18	36.23	38.51	42.01	39.99	38.72	37.00	35.80
Educated	33.54	33.36	30.95	35.65	36.08	41.18	38.66	38.03	38.07	41.89	35.69
Female hhd.	34.90	34.50	32.72	37.62	39.16	43.58	43.28	39.60	43.04	42.47	40.59
Male hhd.	30.70	30.87	29.01	35.39	35.62	40.45	38.83	38.27	39.56	41.22	38.23
Food expend./capita											
Overall	25.75	26.09	24.85	33.15	33.44	33.40	31.66	31.52	38.94	33.29	32.33
Rural	21.85	21.98	21.58	31.29	32.28	30.49	29.33	27.54	41.54	32.67	31.89
Urban	28.09	28.93	27.42	33.42	33.62	34.65	32.32	32.55	32.83	31.83	30.55
Non-employed	29.89	29.86	29.05	35.83	36.51	36.97	35.26	34.15	43.83	35.35	34.24
Employed	24.52	24.84	23.45	31.36	30.67	32.58	30.78	30.67	37.99	32.14	31.13
Non-educated	24.12	24.25	23.85	36.06	38.52	33.44	36.97	35.92	39.47	31.70	31.51
Educated	26.29	26.71	25.15	32.41	32.23	33.36	30.72	30.73	36.20	32.58	29.20
Female hhd.	29.33	28.38	27.37	36.31	39.21	32.40	36.53	35.23	43.06	34.97	36.97
Male hhd.	25.10	25.63	24.31	32.71	32.48	33.37	31.23	31.03	38.49	32.97	31.71

Notes: Summary statistics account for household sampling weights and household size.

Source: Author's calculations from national household surveys. PPP conversion rates from UNSD (2015).

Table A8: Quantile Decompositions for Sudan (2009)

		Rural/urban			Female/male household head			Non-educated/educated head			Non-employed/employed head		
		10th pctile	50th pctile	90th pctile	10th pctile	50th pctile	90th pctile	10th pctile	50th pctile	90th pctile	10th pctile	50th pctile	90th pctile
Endowment Effects (Explained)	Overall Gap	-0.576*** (0.025)	-0.493*** (0.019)	-0.456*** (0.030)	-0.042 (0.053)	0.041 (0.039)	0.181*** (0.067)	-0.402*** (0.028)	-0.406*** (0.020)	-0.452*** (0.029)	-0.140*** (0.046)	-0.070** (0.029)	0.100 (0.064)
	Endowment	-0.189*** (0.032)	-0.251*** (0.021)	-0.279*** (0.032)	-0.005 (0.090)	-0.104 (0.065)	-0.137 (0.116)	-0.160*** (0.017)	-0.124*** (0.013)	-0.044*** (0.017)	0.000 (0.045)	0.034 (0.029)	0.040 (0.065)
	Returns	-0.387*** (0.039)	-0.241*** (0.026)	-0.177*** (0.041)	-0.038 (0.100)	0.145** (0.070)	0.318** (0.128)	-0.241*** (0.030)	-0.283*** (0.021)	-0.408*** (0.031)	-0.141** (0.060)	0.104*** (0.035)	0.060 (0.086)
	Head char	0.002 (0.004)	0.002 (0.003)	0.008* (0.004)	0.030 (0.058)	-0.033 (0.040)	-0.155** (0.075)	0.020** (0.008)	-0.003 (0.005)	0.018** (0.008)	0.033 (0.050)	0.059** (0.029)	0.209*** (0.073)
	Head edu	-0.067*** (0.017)	-0.109*** (0.011)	-0.177*** (0.018)	-0.035 (0.040)	-0.114*** (0.029)	-0.268*** (0.055)				-0.003 (0.017)	0.038*** (0.011)	0.185*** (0.030)
	Head empl	-0.028*** (0.008)	-0.011** (0.005)	0.002 (0.007)	-0.040 (0.033)	0.025 (0.023)	0.147*** (0.043)	-0.024*** (0.008)	-0.004 (0.005)	0.020*** (0.007)			
Returns Effects (Unexplained)	Hh comp	-0.032*** (0.008)	-0.016** (0.007)	-0.007 (0.010)	0.111*** (0.032)	0.106*** (0.023)	0.102** (0.040)	-0.007 (0.006)	0.008 (0.006)	0.011 (0.007)	-0.006 (0.036)	0.025 (0.023)	0.026 (0.051)
	Geo.location	-0.065** (0.027)	-0.118*** (0.018)	-0.105*** (0.027)	-0.071** (0.034)	-0.088*** (0.025)	0.037 (0.041)	-0.148*** (0.014)	-0.125*** (0.010)	-0.094*** (0.013)	-0.024 (0.016)	-0.012 (0.010)	-0.011 (0.016)
	Head char	-0.359 (0.288)	0.379* (0.214)	-0.345 (0.356)	-0.961* (0.582)	-0.146 (0.405)	-0.384 (0.736)	-1.523*** (0.336)	-0.503** (0.236)	-0.635* (0.358)	-0.128 (0.458)	-0.483* (0.266)	-0.556 (0.632)
	Head edu	-0.108** (0.045)	-0.062* (0.033)	-0.036 (0.055)	-0.091 (0.076)	0.039 (0.053)	0.317*** (0.096)				-0.079 (0.062)	-0.052 (0.036)	0.369*** (0.087)
	Head empl	0.000 (0.076)	-0.033 (0.056)	0.018 (0.092)	-0.043 (0.114)	-0.227*** (0.078)	-0.579*** (0.141)	0.025 (0.091)	0.028 (0.064)	0.090 (0.097)			
	Hh comp	-0.085 (0.177)	0.140 (0.130)	0.196 (0.216)	-0.343 (0.292)	-0.224 (0.202)	0.108 (0.366)	0.158 (0.193)	0.260* (0.135)	0.729*** (0.204)	-0.174 (0.310)	-0.117 (0.180)	0.592 (0.432)
	Geo.location	-0.112** (0.054)	-0.067* (0.039)	-0.088 (0.064)	0.175* (0.105)	0.072 (0.073)	-0.019 (0.133)	0.026 (0.051)	-0.053 (0.036)	-0.084 (0.054)	0.122 (0.084)	-0.005 (0.049)	-0.068 (0.119)
	Constant	0.277 (0.325)	-0.597** (0.241)	0.078 (0.402)	1.226* (0.646)	0.631 (0.449)	0.876 (0.816)	1.071*** (0.369)	-0.016 (0.259)	-0.508 (0.392)	0.117 (0.553)	0.552* (0.321)	-0.278 (0.767)
	Observations		7,774			7,774			7,774			7,774	

Notes: Computed by the authors using Sudanese NBHS 2009 (OAMDI 2014b). Standard errors computed using the delta method in parentheses. *** p<0.01, ** p<0.05, * p<0.1 non-directional t-test.