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ETHNIC MINORITIES AND RURAL INCOME INEQUALITY: THE CASE OF ISRAELI ARABS

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מרכז טאוב
לחקר המדיניות החברתית בישראל

סדרת ניירות מחקר

אי שוויון בהכנסות בישובים קטנים: מיעוטים, השכלה וילודה

איל קמחי

נייר מחקר מס׳ 10-01

תקציר

מאמר זה בוחן את הגורמים המשפיעים על אי השוויון בהכנסות בקרב אוכלוסיית הישובים בקטנים בישראל (עד 20,000 תושבים) בעזרת נתונים מסקר הוצאות המשפחה של 2005, תוך שימוש בטכניקה של פירוק אי שוויון באמצעות רגרסיה. כמחצית מאוכלוסייה זו היא ערבית, וההכנסה לנפש במשפחות ערביות היא רק כ-60% מהממוצע. עם זאת, אי השוויון בקרב המשפחות הערביות גם הוא נמוך משמעותית מהממוצע. פירוק אי השוויון בוצע באמצעות שני מדדים חלופיים: מדד הג׳יני ומדד מקדם ההשתנות בריבוע, והמשתנים המסבירים מצליחים להסביר 60% ו-40% מסך אי השוויון, בהתאמה. תוצאות הפירוק מראות כי השתייכות לאוכלוסייה הערבית מסבירה בין 10% ל-16% מסך אי השוויון בהכנסת לנפש, כלומר כרבע מסך אי השוויון המוסבר. ההשכלה (הנמוכה ב-30% בקרב הערבים) מסבירה בין 10% ל-13% מאי השוויון, ואילו גודל המשפחה (הגדול בכמעט 50% בקרב הערבים) מסביר בין 9% ל-16%. לעומת זאת, מיקום גיאוגרפי ומגדר הם בעלי חשיבות מובהקת סטטיסטית אך נמוכה בהרבה להסברת אי השוויון בהכנסה לנפש (פחות מ-1% כל אחד). מאחר שאת ההשתייכות האתנית לא ניתן לשנות, מדיניות שמטרתה להקטין את אי השוויון יכולה להתבסס על שיפור ברמת ההשכלה או על הקטנת הילודה. הגדלת ההשכלה באופן הומוגני בכלל האוכלוסייה צפויה להקטין את אי השוויון, אולם הגדלת ההשכלה בקרב הערבים היא בעלת ההשפעה הגדולה ביותר, ושיפור בהשכלה שיגרום גם להקטנת אי השוויון בהשכלה יביא ליתר שוויוניות בהכנסה לנפש. הקטנת גודל המשפחה באופן הומוגני גם היא צפויה להקטין את אי השוויון בהכנסה לנפש, אולם היא משפיעה באופן דומה על יהודים ועל ערבים. מכאן שהקטנת גודל המשפחה בקרב המשפחות הגדולות במיוחד, גם בקרב יהודים וגם בקרב ערבים, עשויה להביא להשפעה הגדולה ביותר על אי השוויון.

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Ethnic Minorities and Rural Income Inequality: The Case of Israeli Arabs

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Abstract

Using inequality decomposition techniques, this paper quantifies the roles of ethnicity, gender and geographic location in rural income inequality in Israel. Per-capita income inequality within the rural Arab population is much lower than within the rural Jewish population. Belonging to the Arab minority explains between 10% and 16% of rural income inequality. Schooling, which is much lower among the rural Arab population, and household size, which is much higher among the rural Arab population, also explain significant fractions of inequality. Geographic location and gender of the head of household explain much smaller fractions. Simulations reveal that rural per-capita income inequality could potentially be reduced by a uniform increase in schooling or by a uniform decrease in household size. The equalizing effect of schooling is higher for Arab households, while the equalizing impact of reduced fertility is roughly similar for Jewish households and for Arab households. In order to succeed in reducing per-capita income inequality, schooling-enhancing policies should be directed at the lower end of the schooling distribution, while fertility-reducing policies should be directed at high-fertility households.

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Introduction

Income inequality has been increasing in many countries in the last 20-25 years. This is believed to be, at least in part, due to the globalization process that benefited technology-intensive sectors and increased the returns to human and physical capital. Rural areas, once conceived as relatively equal, have not escaped this trend. On top of the widening gaps between urban and rural areas, the declining terms of trade and the increasing risks in agriculture drove many rural households to search for additional or alternative income sources, thereby increasing rural heterogeneity and inequality.

Income inequality in Israel has also been increasing in recent years. While female labor force participation is steadily approaching that of men, considerable gender gaps still exist, especially among ethnic minorities. Wages are also lower among minorities, and since the majority of ethnic minorities reside in rural communities and small towns, we observe lower household incomes in rural areas compared to urban areas in Israel. In 2005, Per-capita household income was more than 30% lower in rural communities and small towns than in the country as a whole, while that of the rural Arab population was more than 40% lower than in the rural population as a whole. Figure 1 shows kernel density estimates of per-capita income among Jewish and Arab households. It is evident that the mean income of Arab households is much lower, and that income is much more concentrated among Arab households than among Jewish households. This implies that both the mean and the spread of the income distributions of ethnic groups affect overall rural income inequality.

This paper aims at quantifying the roles of ethnicity, gender and geographic location in rural income inequality. Previous research (Kimhi, 2008) has shown that in the country as a whole, the contribution of ethnic minorities to income inequality is significant, and this contribution comes mainly through female income. Inequality decomposition techniques are used, first to decompose inequality by income sources, because the data reveal considerable differences in the source distribution of household income between Arab households and Jewish households in rural Israel (Jewish households rely more on wage labor, while Arab households rely more on self-employment and transfers). We then use regression-based inequality decomposition techniques in order to assess the roles of various explanatory variables on income inequality, with a focus on ethnicity, gender and location. The data reveal

that female household headship is relatively abundant in the Jewish population but relatively rare among Arab households. In addition, Arab households are over-represented in more remote areas. The resulting correlation between ethnicity, gender and location justifies the use of the regression-based inequality decomposition rather than the more common decomposition by population sub-groups.

The rest of this paper goes as follows. The next section describes the inequality decomposition methodologies. The following section presents the data and provides descriptive statistics. After that we present the decomposition results. The last section offers a summary and some conclusions.

Inequality decomposition techniques

The most common inequality decomposition technique is the decomposition of inequality by population sub-groups. Since our aim is to examine the interaction between gender, ethnicity and location, splitting the sample to sub-groups defined over all possible combinations is not practical. We therefore apply the regression-based techniques suggested by Morduch and Sicular (2002) and Fields (2003). These are generalizations of the inequality decomposition by income sources, and hence we start with the latter technique.

Decompositions of the Gini index of inequality by income sources appeared in the literature in the 1970s. Shorrocks (1982), however, was the first to offer a general scheme that can be used with other inequality measures as well. He suggested focusing on inequality measures that can be written as a weighted sum of incomes:

$$(1) \qquad I(\mathbf{y}) = \Sigma_i a_i(\mathbf{y}) y_i,$$

where a_i are the weights, y_i is the income of household i, and $\mathbf{y}$ is the vector of household incomes. If income is observed as the sum of incomes from k different sources, $y_i=\Sigma_k y_i^k$, the inequality measure (1) can be written as the sum of source-specific components S^k:

$$(2) \qquad I(\mathbf{y}) = \Sigma_i a_i(\mathbf{y}) \Sigma_k y_i^k = \Sigma_k [\Sigma_i a_i(\mathbf{y}) y_i^k] \equiv \Sigma_k S^k.$$

Dividing (2) by $I(\mathbf{y})$, one obtains the proportional contribution of income source k to overall inequality as:

(3) $s^k = \Sigma_i a_i(\mathbf{y}) y_i^k / I(\mathbf{y})$.

Shorrocks (1982) noted that the decomposition procedure (3) yields an infinite number of potential decomposition rules for each inequality index, because in principle, the weights $a_i(\mathbf{y})$ can be chosen in numerous ways, so that the proportional contribution assigned to any income source can be made to take any value between minus and plus infinity. In particular, he applied this technique to three measures of inequality that are commonly used in empirical applications: (a) the Gini index, with $a_i(\mathbf{y})=2(i-(n+1)/2)/(\mu n^2)$, where i is the index of observation after sorting the observations from lowest to highest income, n is the number of observations and μ is mean income; (b) the squared coefficient of variation with $a_i(\mathbf{y})=(y_i - \mu)/(n \mu^2)$; and (c) Theil's T index with $a_i(\mathbf{y})=\ln(y_i/\mu)/n$.

Shorrocks (1982) further showed how additional restrictions on the choice of weights can reduce the number of potential decomposition rules. In particular, two restrictions are sufficient to derive a unique decomposition rule. The restrictions are (a) that an equally-distributed income source has a zero contribution to overall inequality; and (b) that if total income is divided into two components whose factor distributions are permutations of each other, their inequality contributions are equal. The unique decomposition rule obtained by imposing these restrictions is:

(4) $s^k = \text{cov}(\mathbf{y}^k,\mathbf{y})/\text{var}(\mathbf{y})$.

This is the decomposition rule that is based on the squared coefficient of variation inequality index. Fields (2003) reached this conclusion in a different way. However, Shorrocks (1983) still suggested not to rely solely on this decomposition rule, but rather to compare the results of several different decomposition rules.

There is still some confusion in the literature about the meaning of the inequality contributions of the different income sources. This could easily lead to wrong interpretations (Kimhi 2007). For the Gini decomposition rule, Lerman and Yitzhaki (1985) have shown that the contribution of each income component is a product of its share in total income, the Gini correlation between this component and total income, and the Gini coefficient of that income component. For the squared

coefficient of variation decomposition rule, Shorrocks (1982) has shown that the inequality contribution of an income source is equal to the average of two quantities: the inequality that would be observed if this income source was the only source of inequality, and the amount by which inequality would fall if inequality in this income source was eliminated. These two examples imply that inequality contributions are related to source-specific income variability.

Perhaps a more policy-relevant piece of information is the impact on inequality of a uniform change in each particular income source. Shorrocks (1983) has noted that comparing s^k, the contribution of income source k to inequality, and μ^k/μ, the income share of source k, is useful for knowing whether the k^{th} income source is equalizing or disequalizing. Lerman and Yitzhaki (1985) have shown that the relative change in the Gini inequality index following a uniform percentage change in $\mathbf{y}^k$ is $(s^k-\mu^k/\mu)\mathrm{G}(\mathbf{y})$. Kimhi (2007) has shown that a similar result can be obtained for other inequality measures using simulations.

Regression analysis has been used since the 1970s for the purpose of inequality decompositions. It enables to identify exogenous variables, that are known to affect income and may be sensitive to policy measures (e.g., education), and measure their effect on income inequality. Morduch and Sicular (2002) and Fields (2003) extended the technique of inequality decomposition by income source (3) to decompose income inequality by determinants of income using a regression-based technique. They expressed household income (or log-income) as:

$$\mathbf{y}=\mathbf{X}\boldsymbol{\beta}+\boldsymbol{\varepsilon}, \tag{5}$$

where $\mathbf{X}$ is a matrix of explanatory variables, $\boldsymbol{\beta}$ is a vector of coefficients, and $\boldsymbol{\varepsilon}$ is a vector of residuals. Given a vector of consistently estimated coefficients $\mathbf{b}$, income can be expressed as a sum of predicted income and a prediction error according to:

$$\mathbf{y} = \mathbf{X}\mathbf{b}+\mathbf{e}. \tag{6}$$

Substituting (6) into (1) and dividing through by $I(\mathbf{y})$, the share of inequality attributed to explanatory variable m is obtained as:

$$s^m = b_m\Sigma_i a_i(\mathbf{y})x_i^m/I(\mathbf{y}). \tag{7}$$

Using the regression coefficients, it is possible to compute the "income contributions" of the explanatory variables as

(8) $\mu^m = b_m \Sigma_i x_i^m / \Sigma_i y_i$,

and evaluate the impact on the Gini index of inequality of a uniform increase in an explanatory variable, as in Lerman and Yitzhaki (1985), by computing $(s^m - \mu^m/\mu)G(\mathbf{y})$. Kimhi (2007) claimed that this is interpretable only in the case of continuous explanatory variables, and suggested an alternative simulation-based method to evaluate these "marginal effects".

Data

The data for this research were taken from the 2005 Family Expenditure Survey in Israel. In addition to a detailed account of household expenditures, the survey collected personal information about household members, including their demographic characteristics, their labor market activities and their income from various sources. Additional income components, which could not be assigned to individuals, were collected at the household level. In particular, income sources were grouped into four major components at the household level: wage-labor income, self-employment income, capital income and transfer income.

The original data set included 6,272 households. We selected households residing in rural localities and small towns (under 20,000 inhabitants). These amounted to 1,147 households, among whom more than half are Arab households. Table 1 compares per-capita household income and the distribution of household income by source among population sub-groups defined by gender, ethnicity and rurality. We find that per-capita income is considerably lower in rural localities and small towns than in urban areas. Within the rural population, per-capita income of Arab households is less than half than per-capita income of Jewish households, and per-capita income of female-headed households is considerably higher than per-capita income of male-headed households. This latter result stems from two facts. First, rural Jewish households are almost equally split between male-headed and female-headed households, while only 10% of Arab households are female-headed. This implies that Arab society is still male-dominated, in the sense that the male is almost always

considered as the head of household by default, while in the Jewish population, gender roles within the household are much more equalized. Second, per-capita income of male-headed households and that of female-headed households within the Jewish population and within the Arab population are more or less equal. Hence, the observed difference in per-capita income between male-headed and female-headed households is due entirely to the Jewish-Arab income differences. This implies that it is important to control for both gender and ethnicity in the analysis of the distribution of per-capita income.

Turning to the distribution of income by source, we observe that slightly over a half of household income originates from wage labor, while income from self employment accounts for less than 10% of the total. The remaining income is equally split between capital income and transfer income. This distribution is relatively stable across population sub-groups, with a few exceptions. Self employment income is slightly more important in rural areas than in urban areas, and especially among rural Arab households. Wage labor income is less important among rural Arab households, especially among female-headed households. Transfer income is more important for rural Arab households, especially among female-headed households.

Inequality decomposition results

Table 2 presents the results of the decomposition of inequality by income sources for two inequality measures: the Gini and the squared coefficient of variation. As mentioned earlier, these measures allow for intuitive interpretations of the decomposition results. We report the source-specific shares of inequality and the simulated marginal effect of a universal percentage increase in each income source. Standard errors of both inequality shares and marginal effects were obtained by bootstrapping (200 repetitions), using a special code written in Gauss. The inequality shares (or contributions) of the four different income sources are not very different from the income shares of these income sources. However, the inequality shares of the two labor-related income sources (wage-labor and self-employment) are higher than their income shares, while the inequality shares of capital income and transfer income are lower than their income shares. This implies, according to the intuition suggested by Shorrocks (1982), that labor income is inequality-increasing while capital income and transfer income are inequality-decreasing. The fact that transfer income is inequality-decreasing makes sense, because public transfers are based on

income to a large extent. The fact that capital income is inequality-decreasing is somewhat surprising, because it is common to think that income-generating capital is more abundant among high-income households. Perhaps this is not the case in rural Israel.

The bottom part of table 2 shows the marginal effects, i.e., the simulated percentage changes in inequality due to a one-percent uniform increase in income from each income source. The simulated marginal effects are in line with the intuitive results. However, not all marginal effects are statistically significant. In particular, the positive marginal effect of self-employment income and the negative marginal effect of capital income are not statistically significant in the case of the decomposition rule based on the squared coefficient of variation inequality measure. Hence, using these two marginal effects to draw conclusions should be done with caution.

We now move to the regression-based inequality decomposition results. Table 3 shows the variables used to explain per-capita income. We use demographic characteristics of the household and the head of household, as well as regional dummy variables. Demographic characteristics include a dummy for female-headed households, which are much more abundant among the rural Jewish population, as explained before, age, schooling (higher among Jewish heads of household), a dummy for immigrants arriving after 1990 (relevant only for Jewish heads of household), a dummy for Arab households, and the number of households differentiated between two age groups: up to 18 years of age, and over 18 years of age. Arab households are larger, especially due to the younger age group. Five regional dummies are included, after experimenting with a larger set of dummies. The first four regions are in the north, where the majority of rural households are located. Southern regions are grouped into a single group. The remaining regions, in the center of the country, are in the excluded category. There are considerable differences between the regional distributions of Jewish households and Arab households. Arab households dominate the rural population in the north, while Jewish households dominate the rural population in the south. It should be noted, though, that the sample does not include the Arab population that reside outside of recognized localities, and these are mostly in the south. Within the northern region, we can see that Arab households strongly dominate the rural population in the Yizre'el and Akko areas. Hence, we expect to find different regional patterns of income distribution among Arab households and Jewish households.

The bottom part of table 3 shows the inequality decomposition measures. We can easily see that per-capita income inequality is much lower among rural Arab households than among rural Jewish households. This is explained by the fact that the Arab population is concentrated in the lower part of the rural income distribution (figure 1), but may also indicate stronger equalizing (formal and informal) social institutions among the rural Arab population.

Table 4 shows the results of the linear multivariate regressions explaining per-capita income. We find that per-capita income is higher among female-headed households, but the difference is statistically significant only among Arab households. As we observed before, this is mostly due to transfer income. The effect of age is nonlinear, with income increasing with age up to a certain age and decreasing afterwards. Schooling has a positive effect on income, and this effect is much stronger among the Jewish population. This could be due to labor market discrimination against Arabs that makes it difficult for them to compete in the skilled labor market. Jewish households headed by a new immigrant have significantly lower per-capita income. Arabs households have significantly lower per-capita income than Jewish households. Household size has a negative effect on per-capita income, meaning that additional household members contribute to income less than existing household members, which is a common result. Interestingly, the effect of adults is stronger than the effect of children among Jewish households, while the reverse is true among Arab households. This might indicate that household members that contribute the least to income are mostly the elderly among Jewish households and are mostly young children among Arab households. The coefficients of the regional dummies indicate lower per-capita income in the periphery than in the center of the country. The regional patterns vary among Arab Households and among Jewish households. For example, per-capita income is significantly lower in the Zefat area, in the Haifa area and in the south among Jewish households but not among Arab households, while per-capita income is significantly lower in the Yizre'el area among Arab households but not among Jewish households. It should be noted that we also included dummy variables for small and medium-size towns in the regressions, but these did not have statistically significant coefficients, and were therefore removed.

Table 5 shows the regression-based decomposition results. Comparing the Gini and squared CV decomposition rules, we find that using the decomposition rule based on the Gini index of inequality explains more than 60% of per-capita income

inequality, while using the decomposition rule based on the Squared CV index of inequality explains slightly less than 40%. Despite this, the two sets of decomposition results are qualitatively similar in terms of signs and statistical significance. When the sample is split between Jewish households and Arab households, the explanatory power of the Gini decomposition rule declines sharply, while that of the squared CV decomposition rule declines only moderately. In all cases, the demographic variables explain the largest portion of per-capita income inequality, while the regional dummies explain much less of it. In fact, the aggregate impact of location on inequality among Arab households is negligible. This means that location explains the average Jewish-Arab income differentials and some of the income variability within the Jewish population, but none of the income variability within the Arab population. This implies that geographic mobility within the rural sector is not expected to change the per-capita income distribution of the Arab population, holding everything else constant.

The dummy variable of female-headed households explains per-capita income inequality in the complete rural sample, but not after splitting the sample to Jewish and Arab sub-samples. This means that this variable is relevant for the explanation of average Jewish-Arab income gaps but not for the explanation of income distributions within these population sub-groups. The single most important demographic variable for explaining per-capita income distribution is the dummy variable for Arab households, which explains about a quarter of explained inequality. Two other important variables are schooling and household size. Interestingly, these variables explain a larger fraction of per-capita income inequality among the Arab population than among the Jewish population. Most of the explanatory power of household size is attributed to the number of children rather than the number of adults. Immigrant status has a relatively small but statistically significant share of inequality among the Jewish population.

Finally, we derive the marginal effects of explanatory variables on inequality. Each marginal effect is the percentage increase in inequality due to a uniform increase in the value of the variable. Note that equation (8) and the subsequent analysis could be used to derive the marginal effects for continuous variables, but none of the explanatory variables in our regression are continuous. We therefore derive simulated marginal effects in two different ways. For the count variables (age, schooling and household size) we increase each variable by one unit (year of age, year of schooling

and household member, respectively). For the dummy variables (female-headed, new immigrant, Arab and the regional dummies) we increase the value of the variable by one percentage point, which is equivalent to increasing the population in the relevant sub-group on the expense of the excluded category so that its fraction in the population is larger by one percentage point without changing the other characteristics of this sub-group. Table 6 provides the simulated marginal effects. Note that it is not possible to compare the absolute magnitudes of these effects across explanatory variables, because marginal effects that were simulated using a unit increase are by far larger in absolute value than those simulated using percentage increases. Hence, we will focus on the signs of the marginal effects rather than on their magnitudes.

An increase in the fraction of female-headed households is expected to reduce rural per-capita income inequality, especially among Arabs. This makes sense because we have seen that per-capita income is significantly higher among female-headed Arab households. A uniform increase in age is expected to reduce inequality. More importantly, a uniform increase in schooling is also expected to reduce inequality, and especially among Arab households. This identifies rural schooling as a potential inequality-reducing policy instrument. An increase in the fraction of new immigrants among the rural Jewish population is expected in increase inequality, because income of households headed by a new immigrant is significantly lower. The same is true about an increase in the fraction of Arab households. An increase in household size is also expected to increase inequality. This identifies family planning and child subsidies as another policy area to potentially decrease rural inequality. Increasing the fraction of rural households in the periphery (north and south) is expected to increase inequality among the Jewish population. This pattern is somewhat different in the case of the Arab population, where increasing the fraction of households in the north is expected to increase inequality, while increasing the fraction of households in the south is expected to reduce inequality. Note that some of these effects are based on insignificant coefficients in the income-generating regressions (table 4), so using them for policy implications should be done with caution.

Conclusion

This paper aimed at quantifying the roles of ethnicity, gender and geographic location in rural income inequality. We found that per-capita income inequality within the rural Arab population is much lower than within the rural Jewish population. The

regression-based inequality decomposition exercise reveals that after controlling for a variety of determinants of income, belonging to the Arab minority still explains between 10% and 16% of rural income inequality, depending on the decomposition rule used. Schooling, which is much lower among the rural Arab population, explains between 10% and 13%, while household size, which is much higher among the rural Arab population, also explains between 10% and 16%. Geographic location explains between 6% and 8% of rural income inequality. Gender of the head of household explains less than 1% of rural income inequality, despite the fact that female-headed households are much less common among the rural Arab population.

Simulated marginal effects reveal that rural per-capita income inequality could potentially be reduced by a uniform increase in schooling or a uniform decrease in household size. The equalizing effect of schooling is higher for Arab households, while the equalizing impact of reduced fertility is roughly similar for Jewish households and for Arab households. In general, policies do not generate uniform changes in variables such as schooling or fertility. Recall that both schooling and household size contribute positively to inequality (table 5), and that these contributions are related, among other things, to the variability of these variables. The conclusion is that schooling -enhancing and fertility-reducing policies that will also reduce the variability in these variables are likely to succeed in reducing rural inequality. This means that schooling-enhancing policies should focus on the lower end of the schooling distribution, while fertility-reducing policies should focus on high-fertility households. For example, reducing the progressivity of child subsidies with the number of children, a policy that came into effect in recent years, is a step in the right direction.

These results indicate that rural income inequality and the gaps between Arabs and Jews could be reduced by a combination of education-enhancing and income-generating policies in rural Arab communities, and fertility-decreasing measures directed at high-fertility households. However, the remaining gaps could only be closed by fully removing labor market discrimination against Arabs.

While gender of the head of household was not found to be an important factor, this research could be extended by examining the role of gender-specific incomes within rural households and their differential contributions to inequality, as in Kimhi (2008).

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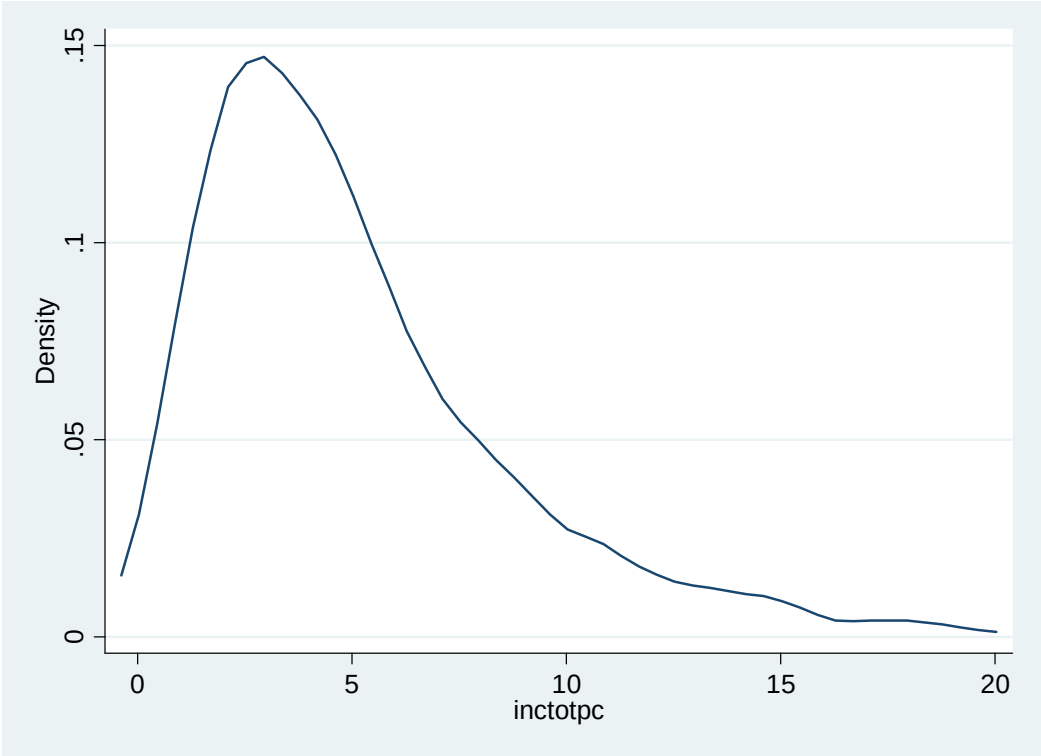
Figure 1. Kernel density estimates of per-capita income by population sub-group

A. Jewish households



B. Arab households

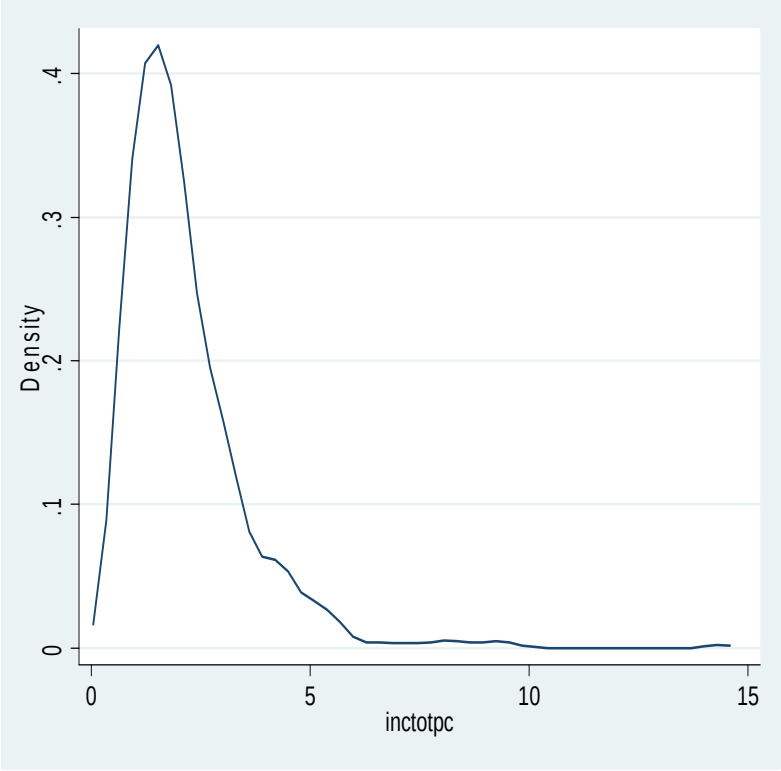


Table 1. Income levels and sources by population sub-groups

	Number of households	Per-capita income	Share of wage-labor income	Share of self-employment income	Share of capital income	Share of transfer income
Complete sample	6,272	5,353	54%	9%	19%	18%
Urban	5,125	5,727	55%	9%	19%	18%
Rural	1,147	3,684	54%	11%	18%	17%
Rural population						
By ethnicity						
Jewish	532	5,470	57%	9%	18%	16%
Arab	615	2,140	49%	13%	19%	19%
By gender						
Male-headed	818	3,222	53%	12%	18%	17%
Female-headed	329	4,884	55%	8%	20%	18%
By ethnicity and gender						
Jewish-male	264	5,519	57%	9%	18%	16%
Jewish-female	268	5,422	57%	8%	19%	16%
Arab-male	554	2,127	50%	14%	18%	18%
Arab-female	61	2,252	33%	10%	22%	35%

Table 2. Inequality decomposition by income source

	Mean per-capita income (NIS per month) and percent	Inequality measures	
		Gini	Squared CV
Inequality index		0.4452	1.0802
Inequality contributions			
Wage-labor income	1,849 (50.0%)	0.5616 (22.4)**	0.6074 (11.0)**
Self-employment income	338 (9.2%)	0.1119 (6.14)**	0.0945 (3.77)**
Capital income	728 (19.7%)	0.1699 (15.1)**	0.1678 (5.67)**
Transfer income	769 (20.9%)	0.1565 (8.45)**	0.1304 (4.56)**
Marginal effects (%)			
Wage-labor income		0.0605 (4.54)**	0.2202 (1.96)*
Self-employment income		0.0209 (2.25)*	0.0057 (0.156)
Capital income		-0.0276 (-4.52)**	-0.0603 (-1.14)
Transfer income		-0.0538 (-5.38)**	-0.1614 (-2.82)**

Notes
t-statistics of inequality contributions and marginal effects (in parentheses) are based on bootstrapped standard errors.
* statistically significant at 5%.
** statistically significant at 1%.

Table 3. Explanatory variables and inequality measures

Variable		Sample mean		
		All	Jewish	Arab
Demographics				
Female-headed	dummy	0.29	0.50	0.10
Age	years	46.96	46.61	46.39
Schooling	years	11.43	13.50	9.64
New immigrant	years	0.08	0.17	0.00
Arab	dummy	0.54	0.00	1.00
Household members 0-18	count	1.96	1.38	2.47
Household members over 18	count	2.57	2.26	2.84
Location				
Zefat	dummy	0.04	0.03	0.05
Yizre'el	dummy	0.13	0.04	0.21
Akko	dummy	0.22	0.03	0.38
Haifa	dummy	0.15	0.14	0.16
South	dummy	0.18	0.28	0.09
Inequality measures				
Gini coefficient		0.4452	0.4045	0.3242
Squared coefficient of variation		1.0802	0.7792	0.4440

Table 4. Results of income-generating regressions

Variable	All rural	Jewish	Arab
Female-headed	0.212 (0.93)	0.082 (0.22)	0.452 (2.53)*
Age	0.282 (7.00)**	0.432 (6.14)**	0.058 (2.27)*
Age squared	-0.226 (-5.78)**	-0.370 (-5.40)**	-0.037 (-1.48)
Schooling	0.209 (9.27)**	0.264 (6.42)**	0.147 (10.8)**
New immigrant	-2.227 (-6.27)**	-1.908 (-3.91)**	
Arab	-1.682 (-5.85)**		
Household members 0-18	-0.394 (-7.07)**	-0.742 (-5.43)**	-0.278 (-9.61)**
Household members over 18	-0.409 (-4.99)**	-1.012 (-5.08)**	-0.076 (-1.80)
Zefat	-1.858 (-3.72)**	-3.311 (-2.87)**	-0.302 (-1.15)
Yizre'el	-1.336 (-3.92)**	-1.375 (-1.39)	-0.485 (-2.61)**
Akko	-1.279 (-4.14)**	-1.149 (-1.15)	-0.303 (-1.78)
Haifa	-0.954 (-3.19)**	-1.119 (-2.06)*	-0.077 (-0.40)
South	-1.270 (-4.45)**	-1.891 (-4.32)**	0.158 (0.64)
Intercept	-2.702 (-2.71)**	-4.920 (-2.77)**	-0.012 (-0.02)
R^2	0.383	0.300	0.310
F-statistic	54.03**	18.57**	24.59**

Notes
* statistically significant at 5%.
** statistically significant at 1%.

Table 5. Regression-based inequality decomposition results

	All rural		Jewish		Arab	
Variable	Gini	Squared CV	Gini	Squared CV	Gini	Squared CV
Female-headed	0.0077 (7.60)**	0.0050 (4.77)**	-0.0003 (-0.73)	-0.0007 (-0.18)	0.0042 (0.84)	0.0026 (0.63)
Age	0.3277 (7.90)**	0.1755 (4.88)**	0.4927 (6.40)**	0.2736 (3.81)**	0.1046 (4.08)**	0.0636 (2.84)**
Age squared	-0.2529 (-7.51)**	-0.1296 (-4.43)**	-0.3598 (-5.47)**	-0.1937 (-3.30)**	-0.0694 (-4.13)**	-0.0408 (-2.70)**
Schooling	0.1296 (12.7)**	0.0955 (8.54)**	0.0597 (4.31)**	0.0586 (5.17)**	0.1195 (5.10)**	0.1299 (5.79)**
New immigrant	-0.0107 (-1.93)*	0.0034 (1.18)	0.0453 (6.08)*	0.0312 (5.80)**		
Arab	0.1578 (17.4)**	0.0990 (8.83)**				
HH members 0-18	0.1386 (12.8)**	0.0675 (7.99)**	0.1066 (7.64)**	0.0638 (5.44)**	0.2480 (10.7)**	0.1565 (6.61)**
HH members 19+	0.0252 (4.98)**	0.0229 (8.42)**	0.0126 (1.35)	0.0237 (4.09)**	0.0017 (0.54)	0.0047 (2.04)*
Zefat	0.0161 (4.29)**	0.0090 (5.05)**	0.0279 (3.57)**	0.0146 (3.08)**	0.0011 (0.46)	0.0003 (0.17)
Yizre'el	0.0248 (6.57)**	0.0173 (6.95)**	0.0028 (1.10)	0.0025 (1.61)	0.0008 (0.13)	0.0070 (1.49)
Akko	0.0367 (6.64)**	0.0248 (6.74)**	-0.0036 (-1.69)	-0.0010 (-0.70)	-0.0038 (-0.75)	-0.0022 (-0.53)
Haifa	-0.0077 (-2.20)*	-0.0031 (-1.10)*	-0.0045 (-0.98)	-0.0031 (-0.79)	-0.0030 (-3.08)**	-0.0024 (-2.50)**
South	0.0119 (2.28)*	0.0094 (3.58)*	0.0565 (5.88)**	0.0407 (5.69)**	-0.0089 (-5.19)**	-0.0056 (-4.95)**
Residual	0.3952 (14.8)**	0.6034 (15.3)**	0.5643 (18.2)**	0.6893 (16.5)**	0.6051 (23.2)**	0.6863 (24.0)**

Notes
t-statistics are based on bootstrapped standard errors.
* statistically significant at 5%.
** statistically significant at 1%.

Table 6. Marginal effects of explanatory variables on inequality (%)

	All rural		Jewish		Arab	
Variable	Gini	Squared CV	Gini	Squared CV	Gini	Squared CV
Female-headed	-0.06	-0.11	-0.02	-0.03	-0.21	-0.42
Age	-2.26	-3.96	-2.14	-3.49	-1.20	-2.28
Schooling	-5.38	-10.24	-4.62	-8.86	-6.43	-12.37
New immigrant	0.61	1.20	0.35	0.69		
Arab	0.46	0.90				
HH members 0-18	12.03	24.96	15.74	33.35	14.89	31.80
HH members 19+	12.54	26.07	22.81	49.88	3.69	7.46
Zefat	0.51	1.00	0.61	1.20	0.14	0.28
Yizre'el	0.37	0.72	0.25	0.50	0.23	0.45
Akko	0.35	0.69	0.21	0.41	0.14	0.28
Haifa	0.26	0.51	0.21	0.40	0.04	0.07
South	0.35	0.68	0.35	0.68	-0.07	-0.15