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Introduction

Remittances are defined as money and goods that are transmitted to households back home by people working away from their origin communities. In the Third World such resource transfers can often have a profound impact on the distribution of household income in rural areas. In many developing countries the bulk of the work force still lives in the countryside. In these countries, rural incomes tend to be lower than incomes earned in the urban sector. It is this disparity between rural and urban incomes that causes rural residents to go and seek work elsewhere—either in urban centers or abroad. And it is this disparity in income levels that should be of concern to policymakers and others interested in equity and poverty-alleviation issues. If the remittances of migrant workers lead to a significant increase in rural income inequalities, there may be important effects on the patterns of consumption and investment in the countryside. From an economic standpoint, a significant rise in rural income inequalities may doom those broader development efforts which depend on the increasing purchasing power of the poor, and from a political standpoint, a sharp rise in income inequalities may shorten the life of an unpopular ruling elite.

Despite these considerations, there is still no general agreement about the impact of remittances on the distribution of rural household income in the Third World. Even when these remittances are quite large—as they often are in the case of workers working abroad in Europe or the Middle East—there is no consensus as to the impact these earnings have on rural income distribution. On the one hand, I. Gilani, M. Khan, and M. Iqbal, in their study of the impact of remittances of Pakistani migrants working in the Middle East, argue that remittances have “worsened income distribution in the country” as a

whole.¹ Similarly, M. Lipton, analyzing the effects of both internal and international remittances, maintains that such resource flows have a negative impact on rural income distribution.² Both studies suggest that remittances, and especially remittances from abroad, worsen rural income distribution because they are earned mainly by upper-income villagers. On the other hand, some studies suggest a very different outcome. For example, in their study of two Mexican villages, O. Stark, J. E. Taylor, and S. Yitzhaki found that internal and international remittances had an egalitarian impact on village income distribution.³ A. Oberai and H. K. Singh arrived at a similar conclusion for remittances earned by internal migrants in India.⁴

Two main reasons seem to account for such lack of consensus on the impact of remittances on rural income distribution: the use of local-level data collection techniques that preclude making unambiguous empirical judgments about the impact of remittances, and the reluctance and/or inability to estimate migration and predicted income functions that would facilitate the analysis of pre- and postmigration income data.

This article attempts to overcome these, and similar, problems by proposing a framework and techniques for analyzing the impact of remittances on rural income distribution. The analysis presented here is quite focused. Because of the tremendous volume of international remittances in the selected case study, it examines only the impact of international (and not internal) remittances on rural inequality. Moreover, the study neglects effects other than remittances that migration may have had on the incomes of those who remained behind. Other works treat the impact of migration on the production and investment behavior of nonmigrants.⁵ Given the confusion that reigns in this research area, it seemed advisable to limit the scope of the present undertaking.

Data

Data for the study come from a household survey conducted in 1986–87 in Minya Governorate, a rural province about 250 kilometers south of Cairo. In this governorate a total of 1,000 households were interviewed in three villages. These villages were not selected on the basis of any purported migration characteristics;⁶ rather, they were chosen because they were the same communities that I had studied in 1978–80.⁷ In the interviews detailed data were collected on the members of each household: age, education, primary and secondary occupation, and contribution to gross household income. Data were also gathered on household landowning status, rental income, and presence/absence of a household member working abroad during the last 10 years (1976–86). Income contributions in the form of remittances

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from household members who went to work abroad were all valued in terms net of travel costs and basic subsistence (food and housing) abroad.

Two aspects of this household survey need to be noted. First, in this area of rural Egypt social tradition renders it "shameful" for women to work outside of the household. Few females are thus engaged in outside remunerative employment, and those who are, are reluctant to admit it. In the survey these phenomena led to an under-reporting of the female contribution to gross household income, a problem not unknown to other rural Third World surveys. Second, in order to enhance data accuracy, several checks were done in the field. After they were collected, all data—and especially those on migration, occupation, income, and landholding—were reviewed by local authorities in each of the three villages.

Table 1 presents summary data for the survey. It shows that 339 households, or 33.9% of the total, reported that a household member had gone to work abroad within the last 10 years. This recorded rate of migration abroad is much higher than other studies in rural Egypt have reported.⁸ Table 1 also shows that, of the 339 migrant households, 225 households have migrants who have returned home and 104 households still have migrants working abroad. Virtually all of these migrants have gone to work in a neighboring Arab oil country: Iraq, Kuwait, Libya, and Saudi Arabia.

Since the volume of migration abroad is so high, remittances play a critical role in the economies of the surveyed households. Table 1 shows that the share of remittances in total gross household income for all 1,000 households is 12.46%. For migrant households, such remittances account for 30.41% of total gross income. These figures are not surprising. During the time of the survey, an individual migrant working abroad in an Arab oil country could easily gross three to four times more per month than he could working in rural Egypt.⁹

All of the migrants in the survey are male. With regards to their other personal characteristics, table 1 reveals that the migrants are quite similar to the survey population as a whole. While 46% of the males over 18 years in the sample work as farmers/peasants, 49% of all migrants fall into this category. Similarly, while 77% of the males in the survey are either illiterate or able to read and write only simple phrases, 75% of all migrants fall into this category. According to the table, the typical migrant is in his early thirties and married and spends a mean average of 2.12 years working abroad.

Table 2 compares selected characteristics of migrant and nonmigrant households. It shows that households with migrants still abroad are significantly larger (7.49 persons) than either once-abroad migrant (7.33 persons) or nonmigrant households (6.55 persons). Households

TABLE I

SUMMARY TABLE OF 1986-87 HOUSEHOLD AND INTERNATIONAL MIGRANT CHARACTERISTICS

All households:	
1. Number of households	1,000
2. Mean family size	6.83
3. Total number of males 18 years or older	1,859
4. Mean land access (feddans) ^a	.90
5. Occupation status of all males over 18 years (%):	
a) Farmer/peasant	46.3
b) Government worker	17.0
c) Artisan	6.9
d) Merchant	5.2
e) Agricultural laborer	6.9
f) Professional	2.6
g) Private sector worker	1.0
h) Student	6.8
i) Unemployed	5.2
j) Retired	2.0
6. Mean gross income per month (including remittances) of all households in Egyptian LE ^b	225.88
7. Share of international remittances in total gross household income (%)	12.46
All migrant households:	
8. Number of households with migrants ever abroad	339
9. Number of households with migrants still abroad	104
10. Number of total individual migrants	365
11. Mean age of all migrants (years)	33.29
12. Marital status of all migrants (married = 100, unmarried = 0)	78.8
13. Mean land access of all migrant families (feddans) ^a	.72
14. Average time spent abroad (years)	2.12
15. Occupational status in Egypt of all migrants (%):	
a) Farmer/peasant	49.0
b) Government worker	18.4
c) Artisan	9.4
d) Merchant	4.4
e) Agricultural laborer	15.4
f) Professional	2.2
g) Private sector worker	...
h) Student	.3
i) Unemployed	.6
j) Retired	.3
16. Mean gross income per month (including remittances) of all migrant households in Egyptian LE ^b	273.0
17. Share of international remittances in total migrant gross household income (%)	30.41

^a 1 feddan = 1.038 acres.

^b 1 Egyptian LE = US\$0.73.

with migrants still abroad also have significantly more male members over 13 years of age than households in the other two categories. As will be demonstrated below, larger households, and especially households with more male members over 13 years old, enjoy higher incomes,¹⁰ and wealthier households tend to send more migrants abroad. As expected, row 5 in table 2 reveals that households with migrants still abroad have much higher predicted gross incomes (including remit-

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TABLE 2

SUMMARY TABLE OF MIGRANT HOUSEHOLDS VERSUS NONMIGRANT HOUSEHOLDS

	661 Households Not Abroad	235 Migrant Households Once Abroad	<i>t</i> -statistic (Two-tailed)	104 Migrant Households Still Abroad ^a	<i>t</i> -statistic (Two-tailed)
1. Mean household size	6.55	7.33	-3.43**	7.49	-2.99*
2. Mean number of males in household over 13 years	2.10	2.47	-3.75**	2.80	-5.19**
3. Mean land farmed (feddans) ^b	1.07	.67	1.88	.81	.71
4. Predicted mean gross household income ^a per month (excluding remittances) in Egyptian LE ^c	201.70	211.08	-1.29	228.84	-2.67**
5. Predicted mean gross household income ^a per month (including remittances) in Egyptian LE ^c	201.70	218.10	-2.15**	387.03	-15.40**

^a Household income figures in rows 4 and 5 are predicted values and thus may not sum up to the actual figures recorded in table 1.

^b 1 feddan = 1.038 acres.

^c 1 Egyptian LE = US\$0.73.

* Difference between households is significant at the .10 level.

** Difference between households is significant at the .05 level.

tances) than households in the other two categories.¹¹ Interestingly enough, row 5 also shows that once-abroad migrant households have higher predicted gross incomes (including remittances) than nonmigrant households. Since migrant households tend to spend the bulk of their remittance earnings on nonproductive investment (e.g., housing),¹² this latter finding may suggest that households that sent members abroad have gained some skills enabling them to earn more in the postmigration stage.

Model Specification and Estimation

In analyzing the effects of remittances on rural income distribution in Egypt, it seems desirable to use three equations to determine: (1) who goes to work abroad and (2) how remittances affect pre- and postmigration income.

The first equation specifies the socioeconomic determinants of working abroad (WA). This is a dichotomous variable and can be hypothesized as a function of the following variables:

$$\begin{aligned} \text{WA} = & \text{LND} + \text{AGE} + \text{MAR} + \text{EDUC} \\ & + \text{EMP1} + \text{EMP2} + \text{MALE13}, \end{aligned} \quad (1)$$

where:

- LND = land farmed (rented and owned) by household;¹³
- AGE = age of male;
- MAR = one if male is married, zero otherwise;
- EDUC = educational status of male (one if preparatory school or higher, zero otherwise);
- EMP1 = employment status of male (one if agricultural laborer, zero otherwise);
- EMP2 = employment status of male (one if student, zero otherwise);¹⁴ and
- MALE13 = number of males in household over 13 years of age.

In this specification, variable LND captures the effect of household land farmed on worker migration. In most Third World rural areas, land is usually positively correlated with overall household economic status. The variables AGE and MAR capture the differential impact of age and marital status on worker migration. It is hypothesized that younger males and unmarried males are more likely to go work abroad. The variables EDUC, EMP1, and EMP2 capture the effect of educational and employment status on male worker migration. Finally, MALE13 is entered to capture the effects of household size on

worker migration. The hypothesis is that larger households with more males available for work are more likely to send someone abroad.

The second and third equations are needed to solve the following methodological problems. Since 104 households still have a migrant abroad and are receiving remittances, it is not known what the actual gross income of these households would have been without remittances. It therefore becomes necessary to predict the gross income of all households without remittances. And then to be consistent, it is also necessary to predict the gross income of all households with remittances.

In pursuit of these ends, the following procedure was used. First, the parameters predicting gross household income (excluding remittances) (PREX) were estimated from the 661 households that had not sent a migrant abroad. These parameters were then applied to all 1,000 households. This made it possible to predict gross household incomes excluding remittances for the three sets of households: those with no migrants; those with migrants once abroad; and those with migrants still abroad. The equation used here was:

$$\text{PREX} = \text{LND} + \text{EDUC} + \text{HS} + \text{MALE13}, \quad (2)$$

where LND = land farmed (rented and owned) by household, EDUC = mean education of male household members over 18 years (one if preparatory school or higher, zero otherwise), HS = size of household, and MALE 13 = number of males in household over 13 years.

Finally, in order to predict gross incomes including remittances for the three sets of households, equation (2) was revised to include migration dummy variables. The dependent variable in the revised equation is gross household income (including remittances) (PRIN).¹⁵ The revised equation can be written as:

$$\text{PRIN} = \text{LND} + \text{EDUC} + \text{HS} + \text{MALE13} + \text{MIG1} + \text{MIG2}, \quad (3)$$

where MIG1 = households with migrants once abroad and MIG2 = households with migrants still abroad.

In equations (2) and (3), the size of landholding and the education of male household members are captured by the variables LND and EDUC. It is hypothesized that these two variables are positively correlated with gross household income. The variable HS captures the effect of household size on household income. The variable MALE13 is entered to capture the effect of the number of males over 13 years of age on household income. The two migration dummy variables—MIG1 and MIG2—capture the impact of migration abroad on incomes when remittances from abroad are included.

Empirical Results of the Equations

The working abroad equation (1) was run for all 1,859 males over 18 years of age in the sample using ordinary least squares (OLS) and a logit regression. The results are summarized in table 3. Thirteen of the fourteen coefficients are significantly different from zero at the 5% level.

Table 3 suggests the following. With respect to the household-level variables (LND and MALE13), males from households with more land farmed—rented and owned—are less likely to go abroad.¹⁶ The table shows that males from large households (with more males over the age of 13) are also less likely to seek work abroad. At first, this seems to be a puzzling finding. However, as will be explained below, large households (with more males over 13) are also more likely to have at least one family member working abroad.¹⁷

With respect to the personal-level variables (AGE, MAR, EDUC, EMP1, and EMP2), table 3 suggests that younger males are more likely to go to work abroad. This is not surprising. It is, however, surprising that married males are also more likely to work abroad. This finding may indicate the impact of the relatively high mean age (33.29 years) of

TABLE 3
REGRESSION ANALYSIS OF MIGRATION ABROAD ON SELECTED VARIABLES

VARIABLE	ORDINARY LEAST SQUARE REGRESSION		LOGIT REGRESSION	
	Regression Coefficient	t-ratio	Regression Coefficient	t-ratio
Land farmed (LND)	-.008	-2.347**	-.111	-2.751**
Age of male (AGE)	-.007	-10.444**	-.043	-7.452**
Marital status of male (one if married, zero otherwise) (MAR)	.170	7.065**	1.039	5.849**
Educational status of male (one if preparatory school or higher, zero otherwise) (EDUC)	.097	3.761**	.641	4.001**
Employment status (one if agricultural laborer, zero otherwise) (EMP1)	.201	5.793**	1.010	5.092**
Employment status (one if student, zero otherwise) (EMP2)	-.259	-6.264**	-3.792	-3.729**
Males in household over 13 years (MALE13)	-.013	-2.212**	-.086	-1.938*
Constant	.366	10.621**	-.454	-1.741*

NOTE.—The dependent variable is WA. $R^2 = .117$; $N = 1,859$.

* Difference is significant at the .10 level.

** Difference is significant at the .05 level.

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migrants. In the Egyptian countryside, males—and especially uneducated males working in agriculture—tend to marry in their early to mid-twenties. Table 3 reveals that educated males—those educated to preparatory school and above—are more likely to migrate. In rural Egypt most educated males seek work with the government. But since they must often wait 4–5 years after graduation to be assigned to a government post, many of them choose to work abroad in the interim.

The EMP1 and EMP2 variables in table 3 show two things: that students are less likely to go to work abroad and that males who are employed as agricultural laborers are more likely to do so. While it may be clear why students tend to stay home, it may not be so obvious why agricultural laborers migrate. As noted above, males from households with limited land access are more likely to work abroad. It therefore follows that males with limited land access who are also employed in agriculture should likewise be more likely to migrate. In the survey, fully 80% of the agricultural laborers belong to a landless household.

Table 4 attempts to extend and refine the logit results reported in

TABLE 4
PREDICTED PROBABILITIES OF MIGRATION ABROAD USING LOGIT RESULTS

	Predicted Probability of Migration Abroad (%)
1. All independent variables at the mean, except employment status is agricultural laborer (EMP1 = 1)	46.0
2. All independent variables at the mean, except age of male is 25 years (AGE = 25)	31.3
3. All independent variables at the mean, except educational status of male is preparatory school or higher (EDUC = 1)	30.1
4. All independent variables at the mean, except number of males in household over 13 years is one (MALE13 = 1)	21.4
5. All independent variables at the mean, except land farmed is zero (LND = 0)	20.6
6. All independent variables at the mean	18.1
7. All independent variables at the mean, except educational status of male is less than preparatory school (EDUC = 0)	15.7
8. All independent variables at the mean, except number of males in household over 13 years is five (MALE13 = 5)	13.8
9. All independent variables at the mean, except land farmed is 5 feddans (LND = 5)	11.8

NOTE.—Predicted probability is calculated using the equation:

$$PR = \frac{e^{\beta x}}{1 + e^{\beta x}}$$

where β = coefficient of logit regression and x = value of independent variable. $N = 1,859$.

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table 3 by presenting a list of predicted probabilities for migration abroad. The table shows that when all the variables are at the mean, any male in the sample of 1,859 males has an 18.1% probability of going to work abroad. Yet when the values of different variables are varied from the mean, the probability of migrating abroad also changes. For instance, a landless male (row 5) has a 20.6% probability of migrating, while a male from a household with five feddans (row 9; 1 feddan = 1.038 acres) has only an 11.8% probability. These figures serve to emphasize the point that the presence or absence of land resources is not the only factor causing males to migrate. Many of the landless males in row 5 do not need land to survive because they are employed outside of agriculture as government workers, artisans, and merchants. Yet table 4 shows that when poverty of land resources combines with employment status in agriculture, the probability of migration soars. Row 1 shows that agricultural laborers have the highest probability of migration: 46.0%. In the case of agricultural laborers, poverty of land combines with employment in agriculture to "push" people abroad.

Table 5 summarizes the parameter results obtained from using equation (2) to estimate predicted gross household income (excluding remittances). All of the coefficients in table 5 are significantly different from zero at the 5% level.

In table 6, equation (2) was run with migration dummy variables (MIG1 and MIG2) on all 1,000 households. The results show that the parameter findings reported in table 5 are robust. All of the coefficients in table 6 are in the same direction and of the same magnitude as those in the preceding table. Five of the six coefficients in table 6 are significantly different from zero at the 5% level.

Taken together, tables 5 and 6 show that land farmed (LND)—rented and owned—is strongly and positively correlated with pre-

TABLE 5

REGRESSION TO ESTIMATE PREDICTED GROSS HOUSEHOLD INCOME (EXCLUDING REMITTANCES)

Variable	Regression Coefficient	t-ratio
Land farmed (LND)	25.320	18.889**
Mean education of male household members over 18 years (one if preparatory school or higher, zero otherwise) (EDUC)	-28.686	-2.790**
Household size (HS)	7.187	4.755**
Males in household over 13 years (MALE13)	37.553	10.703**
Constant	55.429	6.375**

NOTE.—Regression was run on 661 households not abroad. The dependent variable is PREX. $R^2 = .559$; $N = 661$.

** Difference is significant at the .05 level.

TABLE 6

REGRESSION TO ESTIMATE PREDICTED GROSS HOUSEHOLD INCOME (Excluding Remittances)

Variable	Regression Coefficient	t-ratio
Land farmed (LND)	25.141	77.460**
Mean education of male household members over 18 years (one if preparatory school or higher, zero otherwise) (EDUC)	- 30.423	- 14.385**
Household size (HS)	6.559	22.090**
Males in household over 13 years (MALE13)	38.848	55.311**
Migration (once abroad) (MIG1)	0.056	.033
Migration (still abroad) (MIG2)	- 112.662	- 47.654**
Constant	57.298	32.142**

NOTE.—Regression was run on all 1,000 households. The dependent variable is PREX. $R^2 = .952$; $N = 1,000$.

** Difference is significant at the .05 level.

dicted gross household income (excluding remittances). This is to be expected, given the importance of land and agriculture in this—and other—rural Third World areas. The number of males over 13 years old per household (MALE13) is also strongly and positively correlated with predicted gross household income (excluding remittances). The effect of males over 13 years old on predicted gross household income is even greater than that for household size (HS) on such income. This is perhaps to be expected in an environment where only males are normally “permitted” to earn income outside of the household and where the presence of many nonwage earners (e.g., the young and old) may actually represent a burden on the household’s overall economic position.

However, in tables 5 and 6 it is surprising to note that the mean education of household males over 18 years (preparatory school or higher) (EDUC) is strongly and negatively correlated with predicted gross household income (excluding remittances). This relationship does not mean that an educated farmer earns less than an uneducated farmer. Rather, the relationship stems from the fact that educated people in rural Egypt do not usually become farmers but, rather, seek government employment. In the Egyptian countryside the weakness of the private sector makes the government the employer of only resort for most educated people. Yet not only must educated people often wait years to receive a government job, but when they do begin working they start at very low wage rates—LE 30–60 (US\$15–\$30) per month in the countryside. All of this makes the returns to preparatory and secondary school education either low or negative in rural Egypt. An educated villager may well prefer a government job that earns less

than one in agriculture, simply because government work involves less physical exertion than working in the fields.

Table 7 reports the results obtained from using equation (3) to estimate predicted gross household income (including remittances) for the three different sets of households. Five of the six coefficients are significantly different from zero at the 5% level.

With only one exception, all of the coefficients in table 7 are in the same direction and of the same magnitude as those in table 6. The one exception is, however, notable. In table 7 the still-abroad migration dummy variable (MIG2) is strongly and positively correlated with predicted gross household income including remittances. In table 6, this same variable is just as strongly and negatively correlated with predicted household income excluding remittances. This dramatic switch is to be expected in an environment where remittances account for such a large share of gross income for migrant households. According to the coefficients for the MIG2 variables in tables 6 and 7, the presence of a migrant still abroad raises predicted gross household income per month by 37.97%: from 112.66 LE to 155.44 LE.

Empirical Results: International Remittances and Rural Inequality

Now that household incomes have been predicted without and with remittances for all 1,000 households, it becomes possible to compare differences in rural income distribution between these two situations. In these analyses the situation with remittances includes remittances earned by the 104 households that still have a migrant abroad.

Table 8 takes the results of the predicted income equations in

TABLE 7

REGRESSION TO ESTIMATE PREDICTED GROSS HOUSEHOLD INCOME (Including Remittances)
FOR ALL 1,000 HOUSEHOLDS

Variable	Regression Coefficient	t-ratio
Land farmed (LND)	25.305	31.427**
Mean education of male household members over 18 years (one if preparatory school or higher, zero otherwise) (EDUC)	-18.209	-3.470**
Household size (HS)	7.182	9.750**
Males in household over 13 years (MALE13)	40.955	23.528**
Migration (once abroad) (MIG1)	5.144	1.218
Migration (still abroad) (MIG2)	155.441	26.503**
Constant	46.362	10.483**

NOTE.—Regression was run on all 1,000 households. The dependent variable is PRIN. $R^2 = .810$; $N = 1,000$.

** Difference is significant at the .05 level.

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order to analyze the impact of remittances on household income distribution. Column 1 ranks all 1,000 households by income quintile groups on the basis of their predicted gross household income (excluding remittances). Column 2 shows what percentage of total predicted household income each quintile group commands without remittances. Column 3 shows what percentage of total predicted household income each quintile group commands when remittances from migrants still abroad are included. Column 4 shows the percentage change in household income for each quintile group between the excluding and including remittances situations. Columns 5 and 6 then reveal the predicted mean household income accruing to each quintile group in both situations, and column 7 summarizes the percentage changes in predicted mean household income between the excluding and including remittances situations.

Table 8 shows that households from the poorer income quintile groups are benefiting less from remittances than households in other quintile groups. Column 4 shows that the share of total predicted gross income going to households in the bottom income quintile declined by 7.88% when remittances from abroad are included, while column 7 reveals that the predicted mean income of households in this group increased by only 0.18% when remittances are included. By contrast, the percentage of total predicted gross income going to households in the top income quintile increased by 10.09% when remittances are included, and the predicted mean income of these households rose by 19.73%. The top quintile group recorded the largest percentage increases in both relative and mean income when remittances are included.

Table 8 also shows that the distribution of rural household income worsened when remittances from abroad are included. The Gini coefficient of inequality increased from 0.236 to 0.271 when remittances are included.¹⁸ Theil's entropy measure also rose from 0.098 to 0.113.¹⁹ Both of these measures of inequality suggest a rather sharp increase in the incidence of rural inequality when remittances from abroad are included in gross household income.

These findings are bolstered by table 9, which presents all the income data in per capita terms. Column 1 ranks the 1,000 households according to their predicted per capita income (excluding remittances). The shares of total predicted per capita income going to each quintile group are presented excluding remittances (col. 2) and including remittances (col. 3). The changes in predicted mean per capita income for each quintile group are also shown for excluding remittances (col. 5) and including remittances (col. 6).

The results of table 9 are virtually identical to those of table 8. Column 4 shows that the share of total predicted per capita income going to households in the bottom income quintile declined by 7.81%

TABLE 8
IMPACT OF INTERNATIONAL REMITTANCES ON RURAL GROSS HOUSEHOLD INCOME DISTRIBUTION

(1) Percent of 1,000 Households Ranked by Predicted Gross Income (Excluding Remittances)	(2) Percent of Predicted Gross Household Income (Excluding Remittances) (%)	(3) Percent of Predicted Gross Household Income (Including Remittances) (%)	(4) Percent of Change between Columns 2 and 3 (%)	(5) Mean Predicted Gross Household Income per Month (Excluding Remittances) in Egyptian LE*	(6) Mean Predicted Gross Household Income per Month (Including Remittances) in Egyptian LE*	(7) Percent of Change between Columns 5 and 6 (%)
Lowest 20%	11.04	10.17	- 7.88	114.11 (16.01)	114.32 (16.29)	0.18
Second 20%	14.58	13.66	- 6.31	150.71 (11.18)	153.52 (12.24)	1.86
Third 20%	18.15	17.18	- 5.34	187.61 (11.02)	193.12 (12.32)	2.94
Fourth 20%	22.34	21.67	- 2.99	230.92 (14.59)	243.59 (19.33)	5.49

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Top 20%	33.89	37.31	10.09	350.30 (108.26)	419.40 (147.52)	19.73
Top 10%	19.99	23.02	15.16	413.25 (123.44)	517.54 (154.00)	25.24
Gini coefficient ^b	.236	.271	14.79	...	...	...
Theil's entropy measure ^c	.098	.113	15.56	...	...	...

NOTE.—Numbers in parentheses are standard deviations of mean income.

^a Egyptian LE = US\$0.73.

^b The Gini coefficient is an index commonly used to measure the inequality of a distribution of income. It can be represented as:

$$G = I + \frac{1}{H} - \frac{2}{HY} \sum_1^H p(h)y^h.$$

where H = number of units, y^h = quantity over which inequality is measured, Y = total inequality, and $p(h)$ = rank assigned to household, h , ranked by y .

^c Theil's entropy measure is another index used to measure inequality of a distribution of income. Scaled to lie between zero and one, it can be expressed as:

$$T = 1 - \frac{Y}{H} \exp \left(- \sum \frac{y^h}{Y} \ln y^h \right).$$

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TABLE 9

IMPACT OF INTERNATIONAL REMITTANCES ON RURAL PER CAPITA INCOME DISTRIBUTION

(1) Percent of 1,000 Households Ranked by Predicted per Capita Income (Excluding Remittances) (%)	(2) Percent of Predicted per Capita Income (Excluding Remittances) (%)	(3) Percent of Predicted per Capita Income (Including Remittances) (%)	(4) Percent of Change between Columns 2 and 3 (%)	(5) Mean Predicted per Capita Income per Month (Excluding Remittances) in Egyptian LE ^a	(6) Mean Predicted per Capita Income per Month (Including Remittances) in Egyptian LE ^a	(7) Percent of Change between Columns 5 and 6 (%)
Lowest 20%	12.68	11.69	-7.81	20.64 (2.21)	20.73 (2.36)	.44
Second 20%	15.73	14.69	-6.61	25.60 (1.22)	26.05 (1.36)	1.76
Third 20%	18.29	17.13	-6.34	29.77 (1.05)	30.37 (1.29)	2.02
Fourth 20%	21.85	20.85	-4.58	35.56 (2.25)	36.97 (2.56)	3.97
Top 20%	31.46	35.65	13.32	51.20 (26.64)	63.20 (34.84)	23.44
Top 10%	18.57	22.47	21.00	60.45 (39.87)	79.68 (43.31)	31.81
Gini coefficient	.198	.241	21.27	...	...	...
Theil's entropy measure	.084	.106	20.01	...	...	...

NOTE.—Numbers in parentheses are standard deviations of mean income.
^a 1 Egyptian LE = US\$0.73.

when remittances are included, while their predicted mean per capita income increased by only 0.44%. At the same time, both the Gini and the Theil indices show a rather sharp increase in rural inequality when remittances from the 104 households with a migrant still abroad are included.

Since remittances are so large in this area, households with migrants still working abroad tend to change dramatically their income ranking between the excluding and including remittances situations. For example, households with migrants still abroad which are ranked in the lowest quintile group without remittances may well jump into the next-to-highest group when remittances are included. Since it is important here to pinpoint the effect of remittances on households in the same income group, it seems useful to hold income quintile rankings constant between the excluding and including remittances situations.

Table 10 holds the income quintile group rankings of households constant between the two situations. For example, households with migrants still abroad that are ranked in the bottom income quintile group without remittances remain in that same quintile group when remittances are included. This type of constant ranking enables us to tell how households in any particular income quintile group fared with the flow of remittances from abroad.

Column 4 in table 10 shows that the percentage of total predicted gross income going to the households in the bottom income quintile group declined by 2.26% when remittances from the 104 households with a migrant still abroad are included. This was the largest percentage decline in total predicted gross household income recorded by any quintile group when remittances from abroad are included. Similarly, column 7 reveals that households in the bottom quintile group posted the smallest increase (6.29%) in predicted mean gross income between the excluding and including remittances situations.²⁰ Evidently, the poorest households are not benefiting as much as other households from the flow of remittances from abroad.

According to table 10, households from the top income quintile group gained the most when remittances from abroad are included. Column 4 shows that the top quintile group increased its share of total predicted household income by 0.71% when remittances are included, and column 7 discloses that the predicted mean income of households in this group rose by 9.52% when remittances are included. While these represent the largest increases in relative and mean income for any quintile group, they are not of the magnitude noted in tables 8 and 9. Evidently the type of constant quintile ranking used in table 10 tends to redistribute the gains from remittances in such a way as to reduce the magnitude of the increases going to the top income group.

A final look at table 10 discloses that mean household size is positively related with predicted gross income (excluding remittances).

TABLE 10

IMPACT OF INTERNATIONAL REMITTANCES ON RURAL GROSS HOUSEHOLD INCOME DISTRIBUTION WITH GROSS INCOME RANK ORDER OF HOUSEHOLDS HELD CONSTANT

(1) Percent of 1,000 Households Ranked by Predicted Gross Income (Excluding Remittances)	(2) Percent of Predicted Gross Household Income (Excluding Remittances) (%)	(3) Percent of Predicted Gross Household Income (Including Remittances) (%)	(4) Percent of Change in Gross Household Income between Columns 2 and 3 (%)	(5) Mean Predicted Gross Household Income per Month (Excluding Remittances) in Egyptian LE*	(6) Mean Predicted Gross Household Income per Month (Including Remittances) in Egyptian LE*	(7) Percent of Change between Columns 5 and 6 (%)	(8) Mean Household Size	(9) Mean Number of Males in Household over 13 Years
Lowest 20%	11.04	10.79	-2.26	114.11 (16.01)	121.29 (47.12)	6.29	3.99	1.01
Second 20%	14.58	14.55	-.21	150.71 (11.18)	163.56 (64.64)	8.53	5.60	1.38
Third 20%	18.15	18.04	-.61	187.61 (11.02)	202.79 (63.42)	8.09	6.63	2.05
Fourth 20%	22.34	22.49	.55	230.92 (14.58)	252.81 (79.65)	9.48	7.52	2.83
Top 20%	33.89	34.13	.71	350.30 (108.26)	383.65 (146.72)	9.52	10.44	4.06
Top 10%	19.99	19.49	-2.57	413.25 (123.44)	438.17 (157.91)	6.03	11.82	4.49

NOTE.—Numbers in parentheses are standard deviations of mean income.

* 1 Egyptian LE = US\$0.73.

According to column 8, mean household size increases steadily from 3.99 persons for households in the bottom income quintile to 10.44 persons for those in the top income quintile. Since it is important to measure the impact of international remittances on people, as well as households, it seems desirable to analyze the data in per capita terms.

Table 11 ranks all 1,000 households by income quintiles on the basis of their predicted per capita income (excluding remittances). These quintile rankings are then held constant between the excluding and including remittances situations.

As in the previous table, table 11 shows that the poorest households are benefiting less than upper income households from the flow of remittances. Column 4 of the table shows that the share of total predicted per capita income going to households in the bottom income quintile declined by 0.47% when remittances are included, and column 7 reveals that the predicted mean per capita income of these households rose by 8.43% when remittances are included. Both of these figures are lower than those recorded by households in the top income quintile. Table 11 shows that households in the top income quintile increased their share of total predicted per capita income by 2.51% when remittances from abroad are included and that their predicted mean per capita income rose by 11.68%.²¹ In both instances these increases were the largest recorded by any quintile group when remittances from abroad are included in per capita household income.

The findings of tables 10 and 11 raise an important question: Are households in the highest income group—the top quintile—benefiting more than households in other quintile groups from the flow of remittances from abroad?

Tables 12 and 13 attempt to answer this question by analyzing how individual migrants are distributed through the income order.

Table 12 ranks all 1,000 households by income quintile groups on the basis of their predicted gross income (excluding remittances). Holding these quintile group rankings constant, column 2 shows the distribution of all individual migrants within the various quintile groups. Columns 3 and 4 then reveal how migrants once abroad and migrants still abroad are distributed within the same quintile groups. The final column, 5, then analyzes how the distribution of individual migrants has changed over time.

Column 2 of table 12 reveals that for the sum total of 363 individual migrants, workers abroad were drawn quite disproportionately from the two highest income quintile groups—the fourth quintile and the top quintile. Both of these quintile groups produced more than their quintile shares of individual migrants. On the whole, this finding is quite consistent with the results of the migration regression reported in tables 3 and 4.²²

An examination of columns 3 and 4 of table 12 reveals an even

TABLE II

IMPACT OF INTERNATIONAL REMITTANCES ON RURAL PER CAPITA INCOME DISTRIBUTION WITH PER CAPITA INCOME RANK OF HOUSEHOLDS HELD CONSTANT

(1) Percent of 1,000 Households Ranked by Predicted per Capita Income (Excluding Remittances) (%)	(2) Percent of Predicted per Capita Income (Excluding Remittances) (%)	(3) Percent of Predicted per Capita Income (Including Remittances) (%)	(4) Percent of Change between Columns 2 and 3 (%)	(5) Mean Predicted per Capita Income per Month (Excluding Remittances) in Egyptian LE*	(6) Mean Predicted per Capita Income per Month (Including Remittances) in Egyptian LE*	(7) Percent of Change between Columns 5 and 6 (%)	(8) Mean Household Size	(9) Mean Number of Males in Household over 13 Years
Lowest 20%	12.68	12.62	-.47	20.64 (2.21)	22.38 (9.44)	8.43	8.38	1.58
Second 20%	15.73	15.37	-2.29	25.60 (1.22)	27.25 (8.60)	6.45	7.82	2.13
Third 20%	18.29	17.57	-3.94	29.77 (1.05)	31.15 (7.36)	4.64	6.96	2.43
Fourth 20%	21.85	22.19	1.56	35.56 (2.26)	39.34 (16.02)	10.63	6.20	2.67
Top 20%	31.46	32.25	2.51	51.20 (29.64)	57.18** (33.43)	11.68	4.82	2.52
Top 10%	18.57	18.38	-1.02	60.45 (39.87)	65.18** (42.38)	7.82	4.08	2.27

NOTE.—Numbers in parentheses are standard deviations of mean income.

* 1 Egyptian LE = US\$0.73.

** Difference between cols. 5 and 6 is significant at the .05 level taking into account the covariance of the two populations.

TABLE 12

DISTRIBUTION OF INDIVIDUAL MIGRANTS AMONG INCOME QUINTILE GROUPS WITH GROSS INCOME RANK ORDER OF HOUSEHOLDS HELD CONSTANT

(1) Percent of 1,000 Households Ranked by Predicted Gross Income (Excluding Remittances)	(2) Percent of All 363 Individual Migrants in Group (%)	(3) Percent of 244 Individual Migrants Once Abroad in Group (%)	(4) Percent of 119 Individual Migrants Still Abroad in Group (%)	(5) Percent of Change between Columns 3 and 4 (%)
Lowest 20%	15.98	20.49	6.72	-67.19
Second 20%	17.36	15.57	21.01	34.90
Third 20%	16.80	18.44	13.45	-27.10
Fourth 20%	23.14	22.13	25.21	13.91
Top 20% (Top 10%)	26.72 (13.22)	23.36 (12.30)	33.61 (15.13)	43.89 (23.03)

more important finding, namely, that the distribution of individual migrants has changed substantially over time. In the once-abroad category (col. 3), the bottom, fourth, and the top quintiles all produced about the same number of migrants. However, column 4 of the table shows that this pattern of migration was not repeated in the still-abroad category. In the still-abroad category the bottom income quintile suffered a very large decline in its share of individual migrants. According to column 5, the percentage of migrants produced by the bottom income quintile declined a dramatic 67.19% between the "once-abroad" and the "still-abroad" categories. In the still-abroad situation the fourth quintile and the top quintile once again produced the largest number of individual migrants.

These findings are reinforced by table 13, which ranks all 1,000 households into quintile groups on the basis of their predicted per capita income (excluding remittances). Column 2 of table 13 shows the distribution of all individual migrants within the various income quintile groups. Columns 3 and 4 then reveal how migrants once abroad and migrants still abroad are distributed within the same quintile groups.

Column 2 of table 13 shows that, for the sum total of 363 workers abroad, migrants were drawn fairly equally from all income groups. However, as in the previous table, table 13 discloses that the distribution of migrants has changed considerably over time. According to column 5, the two highest income groups—the fourth and the top income quintiles—registered large increases in their shares of migrants between the "once abroad" and the "still abroad" categories. The top income quintile group increased its share of migrants by 148.98% between these two categories. Column 4 shows that the top income quintile produced more individual migrants than any other group in the "still abroad" classification.

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TABLE 13

DISTRIBUTION OF INDIVIDUAL MIGRANTS AMONG INCOME QUINTILE GROUPS WITH PER CAPITA INCOME RANK ORDER OF HOUSEHOLDS HELD CONSTANT

(1) Percent of 1,000 Households Ranked by Predicted per Capita Income (Excluding Remittances)	(2) Percent of All 363 Individual Migrants in Group (%)	(3) Percent of 244 Individual Migrants Once Abroad in Group (%)	(4) Percent of 119 Individual Migrants Still Abroad in Group (%)	(5) Percent of Change between Columns 3 and 4 (%)
Lowest 20%	19.01	18.85	19.33	2.52
Second 20%	21.49	24.59	15.13	- 38.49
Third 20%	22.04	26.23	13.45	- 48.74
Fourth 20%	20.39	18.85	23.53	24.81
Top 20%	17.08	11.48	28.57	148.98
(Top 10%)	(7.71)	(6.56)	(10.08)	(53.78)

The findings of tables 12 and 13 shed light on the study as a whole. These tables show that households in the bottom income quintile are currently sending far fewer migrants abroad than those in the two highest income quintiles. The two highest income quintiles—the fourth quintile and the top quintile—are now sending the largest share of migrants abroad. The impact of these phenomena serves to explain the results noted in tables 8 and 9, namely, the rather sharp rise in rural inequality that occurs when remittances from abroad are included in gross household income.

However, it may be logically inferred from the data that this rise in rural inequality was neither automatic nor inevitable. Had the distribution of households sending migrants abroad been different, it is likely that the impact of remittances on household income distribution would also have been different. For example, if the bottom quintile was sending as many individual migrants abroad as it was in the "once-abroad" situation depicted in either table 12 or 13, rural inequality might have even improved with the addition of remittances from abroad.

The salient question then becomes, Why are the poorest households not sending as many migrants abroad as in the past? What are the characteristics of the present job market abroad that tend to discourage the participation of the poor?

Clearly, the post-1985 fall in the world price of oil has had a major impact on the job market abroad for Egyptian workers. Faced with declining oil revenues, all of the major Arab oil producers have been forced to reduce their employment of foreign workers. It may be hypothesized that the first Egyptian workers to lose their jobs in these countries were the unskilled. It may also be hypothesized that the majority of such unskilled workers come from the poorer income groups.

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Table 14 tries to test these two hypotheses by comparing certain characteristics of still-abroad migrants with those of once-abroad migrants. If unskilled workers are currently being "squeezed out" of the job market abroad, individual migrants still abroad (col. 1) should hold better jobs and be more educated than those who were abroad in the past (col. 2).

However, the data in table 14 do not confirm these two hypotheses. In terms of occupations abroad, row 1 shows that still-abroad migrants are no more likely to hold skilled positions—such as government jobs or teaching positions—than once-abroad migrants. In fact, migrants who are still abroad seem far more likely to work as relatively unskilled builders than once-abroad migrants. Moreover, in terms of education, still-abroad migrants seem to be slightly less educated than their counterparts. While 21% of all still-abroad migrants are high school or college educated, 23.4% of all once-abroad migrants hold such credentials. On the whole, those migrants who are still abroad appear no more skilled or educated than those who have returned.

Table 15 tries to analyze these issues from the perspective of the poorest households. The table compares selected characteristics of still-abroad individual migrants from the top income quintile (col. 1) with those of once-abroad migrant households from the bottom quintile

TABLE 14
SELECTED CHARACTERISTICS OF INDIVIDUAL MIGRANTS STILL ABROAD VERSUS
INDIVIDUAL MIGRANTS ONCE ABROAD

	(1) Individual Migrants Still Abroad (N = 119)	(2) Individual Migrants Once Abroad (N = 244)
1. Occupation abroad of migrants (%):		
Worker/peasant	60.5	61.5
Builder	23.5	11.9
Government worker	5.9	6.6
Private sector worker	5.0	14.8
Teacher	2.5	2.0
Other	2.5	3.2
2. Education of migrants (%):		
Illiterate	58.8	57.8
Read/write	17.7	16.4
Elementary school	...	0.8
Preparatory school	0.8	0.8
High school	19.3	21.3
University	1.7	2.1
Other	1.7	0.8
3. Mean age of migrants (years)	31.8	34.0
4. Mean gross income abroad per month (LE)	367.4	375.5

NOTE — 1 Egyptian LE = US\$0.73.

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TABLE 15

STILL-ABROAD INDIVIDUAL MIGRANTS IN TOP INCOME QUINTILE OF 1,000 HOUSEHOLDS
VERSUS ONCE-ABROAD INDIVIDUAL MIGRANTS IN BOTTOM INCOME QUINTILE OF
1,000 HOUSEHOLDS

	(1) Still-Abroad Individual Migrants in Top Quintile (N = 40)	(2) Once-Abroad Individual Migrants in Bottom Quintile (N = 50)
1. Occupation abroad of migrants (%):		
Worker/peasant	62.5	52.0
Builder	20.0	14.0
Government worker	10.0	12.0
Private sector worker	7.5	12.0
Teacher	...	4.0
Other	...	6.0
2. Education of migrants (%):		
Illiterate	60.0	50.0
Read/write	15.0	8.0
Elementary school	...	...
Preparatory school	...	2.0
High school	20.0	36.0
University	...	4.0
Other	5.0	...
3. Mean family size	11.28**	4.06**
4. Males over 13 years	4.60**	1.06**
5. Mean land farr (feddans) ^a	1.80**	.01**

^a 1 feddan = 1.5 acres.

** Difference between groups is significant at the .05 level.

(col. 2). If the poorest households are indeed producing most of the unskilled workers, the migrants in column 2 should be less trained and educated than those in column 1.

The results recorded in table 15 do not support this hypothesis. Row 1 of the table indicates that once-abroad migrants from the bottom quintile are far more likely to hold skilled positions—such as government jobs or teaching positions—than wealthier migrants who are currently abroad. Row 2 demonstrates the same thing with respect to education. Forty percent of the poor migrants who were once abroad have a high school or college education, as opposed to 20.0% of the top income migrants who are still abroad.

These results are paradoxical and may suggest two rather unexpected outcomes. First, the villagers who are currently getting squeezed out of the job market abroad are the most qualified. This may reflect the impact of various forms of job discrimination that more educated Egyptians now face in the Arab oil states in the wake of the Egyptian-Israeli peace accords. Second, the results of the tables suggest that the most educated and skilled migrants tend to come from the poorest income groups. This latter finding would, of course, be quite

consistent with the low or negative returns to formal education in rural Egypt that were noted above. In the Egyptian countryside poor households that lack land and other resources may try to educate their children so that these offspring can qualify for secure—but relatively low-paying—government jobs.

Summary

This study has analyzed the impact of international migration and remittances on the rural socioeconomic order in Egypt. The empirical findings show that age, marital status, employment, size of land farmed, and number of household males over 13 years are all statistically related to the decision of an individual to go to work abroad. The variables age, size of land farmed, employment as a "student," and number of household males over 13 years of age are all negatively related to the decision to work abroad, while the influence of all the other variables is positive.

The study shows that the remittance earnings of migrants abroad had a negative impact on rural income distribution in Egypt. The data indicate that remittances from abroad worsened rural household income distribution—both in gross terms and in per capita terms—because they were earned mainly by upper income villagers. Regardless of whether households are ranked in terms of gross income or per capita income, households in the top income quintile benefited the most from remittances. These findings thus tend to confirm those of Gilani, Khan, and Iqbal and of Lipton to the effect that international remittances have a deleterious impact on rural income distribution because they are earned mainly by upper income villagers.²³

However, it should be noted that the negative impact of remittances on rural income distribution was neither automatic nor inevitable. The data clearly show that at present remittances have a negative impact on income distribution because upper income groups are sending a disproportionately large share of migrants abroad. Yet in the once-abroad category of migrants, the poorest households did send virtually the same number of workers abroad as households in the upper income groups. Had households sending migrants abroad been as evenly distributed in the past, it may be logically inferred that the impact of remittances on rural income distribution would also have been more equitable. Researchers would thus be well advised to keep in mind the particular point in time in which they are trying to assess the impact of international remittances on rural income distribution.

Notes

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1. Ijaz Gilani, M. Khan, and Munawar Iqbal, "Labor Migration from Pakistan to the Middle East and Its Impact on the Domestic Economy, Part I," Research Report no. 127 (Islamabad: Pakistan Institute of Development Economics, 1981).
2. Michael Lipton, "Migration from Rural Areas of Poor Countries: The Impact on Rural Productivity and Income Distribution," *World Development* 8 (January 1980): 1-24.
3. With respect to international remittances alone, the three authors found that remittances from abroad had an equalizing impact on incomes in one village and an unequalizing impact on incomes in another village (Oded Stark, J. Edward Taylor, and Shlomo Yitzhaki, "Remittances and Inequality," *Economic Journal* 96 [September 1986]: 722-40).
4. A. Oberai and H. K. Singh, "Migration, Remittances and Rural Development: Findings of a Case Study in the Indian Punjab," *International Labour Review* 119, no. 2 (1980): 229-41.
5. See, e.g., J. Edward Taylor, "Differential Migration, Networks, Information and Risk," in *Migration, Capital and Development*, ed. Oded Stark (Greenwich, Conn.: JAI Press, 1986).
6. In fact, when the author announced his desire to study international migration in these three villages, several local informants advised him "to go elsewhere" because they felt that there "were so few migrants" in this area!
7. See Richard H. Adams, Jr., *Development and Social Change in Rural Egypt* (Syracuse, N.Y.: Syracuse University Press, 1986).
8. In a study of a single village in Asyut Governorate, Hopkins found that 10% of sampled households had a history of working abroad (Nicholas Hopkins, *Agrarian Transformation in Egypt* [Boulder, Colo.: Westview, 1987]). In another study of three villages in the Egyptian Delta, Commander and Hadhoud reported that 7%-10% of surveyed households had a member who worked abroad (Simon Commander and Aly Hadhoud, "From Labor Surplus to Labor Scarcity? The Agricultural Labor Market in Egypt," *Development Policy Review* 4 [June 1986]: 161-80).
9. During 1986-87 the mean monthly wage for a landless agricultural worker in the study area was LE 90 (US\$65). Working abroad, that same peasant could earn an average gross monthly wage of LE 350 (US\$255).
10. See table 10, cols. 8 and 9, and the accompanying text.
11. For an explanation of how the predicted gross household incomes have been calculated, see tables 5, 6, and 7 and the accompanying text.
12. Preliminary results suggest that remittance earnings in the study area were spent as follows: consumer durables (housing, appliances), 61%; productive investment (land, taxi, store), 28.2%; and consumption (marriage), 10.8%.
13. In rural Egypt government regulations regarding land tenancy are so structured that a tenant possessing a valid, written rental contract virtually "owns" the land that he rents; see Adams, p. 90.
14. It should be noted that the employment variables (EMPI and EMP2) in eq. (1) were self-defined by the respondents. However, running the equation without the employment variables does not change the results of the equation.
15. In eq. (3), predicted gross household income (including remittances) (PRIN) for households not abroad was calculated by setting the migration variables (MIG1 and MIG2) to zero.

16. In eq. (1) the land variable (LND) was run as a household-level variable. However, using the same equation to run the land variable on a per capita basis does not change the results of the equation.

17. Table 10, col. 9 reveals that the mean number of males per household over 13 years of age increases as predicted gross household income (excluding remittances) increases. Table 12, col. 2 shows that households in the upper-income quintiles have produced the largest number of migrants.

18. See table 8, note a.

19. See table 8, note b.

20. It should be noted that none of the changes in predicted mean gross income between cols. 5 and 6 of table 10 is statistically significant at the .10 level. This is due to the fact that only 10.4% of the sample (104 out of 1,000 households) still have a migrant abroad and are receiving remittances. Within each quintile group, the changes in mean income between the excluding and including remittances situations are statistically significant for the 104 households still receiving remittances. However, these changes in mean gross income are not significant for any of the quintile groups as a whole.

21. As noted in col. 6 of table 11, the change in predicted mean per capita income between the excluding and including remittances situations for the top quintile group is significant at the .05 level.

22. One of the findings of the migration regression (eq. [1]) is that males from households with limited land resources are more likely to migrate abroad. On the basis of this finding, it may appear that poor households—those that are landless or near landless—should also be more likely to send migrants abroad. However, as emphasized above, it is important to realize that land resources represent just one component (albeit an important component) of total household income. See, e.g., the coefficient results of the land variable (LND) in the predicted household income functions reported in tables 5, 6, and 7.

23. See nn. 1 and 2 above.