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Can an ethnic group climb up from the bottom of the ladder?

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Abstract

Studies in the US have shown that black immigrants have remained at the bottom of the wage ladder and that other groups of immigrants have overtaken them over time. The goal of this research is to determine whether a specific group of immigrants can displace a group at the bottom of the ladder. We use Israeli data to compare two ethnic groups: Israeli Arabs and Ethiopian immigrants. Israeli Arabs were considered to be the least successful ethnic group in the Israeli labor market until they were displaced by the Ethiopian immigrants. The results of our analysis show that an ethnic group at the bottom of the wage ladder can be replaced by another.

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INTRODUCTION

A large number of studies have examined the wage gap between natives and immigrants. For example, Carliner (1981) and Chiswick (1978) found that the wages of natives exceed those of immigrants initially but that over time the wage gap narrows and after about 15 years immigrants in fact surpass natives. In contrast, studies such as Borjas (1985, 1987 and 1994) and Freidberg (1992) found that although wage gaps narrowed over time, the wages of immigrants do not necessarily overtake those of immigrants. The main explanation of the diminishing wage gap over time is the increasing level of fluency in the local language. Studies such as McManus, Gould and Welch (1983), McManus (1985), Chiswick (1991), Tainer (1998), Carliner (2000), Dustmann (1994), Dustmann and Van Voset (2001), Grenier (1984) and Kossoudji (1988) found a positive link between level of fluency and immigrants' wages. Similar results were obtained in studies done on immigrants from the FSU in Israel (Chiswick, 1998; Chiswick and Reppeto, 2001; Beenstock, Chiswick and Reppeto, 2001; and Berman, Lang and Siniver, 2003). They found that wage gaps between natives and FSU immigrants narrowed over time and also that the wages of FSU immigrants rose with level of fluency in Hebrew. Cohen-Goldner and Eckstein (2008, 2010) found that in addition to fluency in Hebrew, vocational training has a positive effect on the wages of FSU immigrants and that it also increases their chances of finding a job. [1]

Studies in the US have looked at wage gaps between various ethnic groups. Some of them have focused on the difference in wages between native blacks and black immigrants. Thus, Daneshvary and Keith-Schwer (1994) found that black immigrants earn 8.7 percent less than native blacks and Model (1991) found that they earn 12 percent less. In contrast, Butcher (1994) found that the wages of black immigrants are similar to those of native blacks but that the rate of employment among black immigrants is higher. Mason and Austin (2011) found that the wages of black immigrants are somewhat higher than those of native blacks. Dodoo and Baffour

[1] See also Epstein and Gang (2010a, 2010b).

(2002) found that white immigrants from Africa earn 80 percent more (in annual terms) than black immigrants from Africa. Many studies, such as Smith and Welch (1977), Cancio, Evans and Maume (1996) and Blau (1992) found that native whites earn more than native blacks.

In summary, it can be said that studies in the US have shown that black immigrants and native blacks are less successful in the labor market than other groups; however, there is no consensus as to which of the two groups is more successful. What can be said is that blacks as a whole remain at the bottom of the ladder and have yet to be displaced.[2]

In Israel, on the other hand, there has been no comprehensive study of black immigrants (i.e. immigrants from Ethiopia) due to the scarcity of data. The present study attempts to compare the integration of Ethiopian immigrants in the Israeli labor market to that of Israeli Arabs, who until now were considered to be the least successful group in the labor market. In addition, we will compare the wage gap between Ethiopian immigrants and Israeli Arabs to that between native blacks and black immigrants in the US. Our results will show that the situation of Ethiopian immigrants appears to parallel that of black immigrants in the US.

THE DATA

The data are taken from the Survey of Income carried out by the Central Bureau of Statistics. The sample includes data on the incomes of 12,341 residents of Israel, which includes Israeli Arabs and Ethiopian immigrants. There are a total of 2396 observations, of which 694 (28.9 percent) are employed and 1702 are non-employed. Of the former, 533 (76.80 percent) are men and 163 (23.49 percent) are women. The sample includes 571 Israeli Arabs and 123 Ethiopian immigrants. Tables 4 till 6, present that among the Israeli Arabs, 466 (81.61 percent) are men and 105 (18.39

[2] One other possibility could be an information process under which people use information others have and thus discriminate based on information they do not have assuming others have the available information , see for example Bauer et al (2009) and Epstein (2010).

percent) are women, the average log wage per day is 5.143 NIS (0.429), the average age is 36.33 (13.406) years, the average education is 8.979 (3.332) years, the average experience is 21.354 (15.396) years and 64.06 percent are married. Among the Ethiopian immigrants, 67 (54.47 percent) are men and 56 (45.53 percent) are women, the average log wage per day is 4.924 NIS (0.636), the average age is 32.903 (14.182) years, the average education is 6.272 (5.295) years, the average experience is 20.631 (18.307) years and 41.09 percent are married. The data descriptive are presented in tables 1-6.

Tables 5 presents that among the Israeli Arab men the average log wage per day is 5.226 NIS (0.372), the average age is 35.532 (13.626) years, the average education is 9.469 (2.772) years, the average experience is 20.062 (15.072) years and 62.34 percent are married. Among the Ethiopian immigrants the average log wage per day is 5.267 NIS (0.373), the average age is 31.607 (14.211) years, the average education is 7.180 (4.965) years, the average experience is 18.426 (18.045) years and 39.34 percent are married.

The descriptive statistics between the two groups seems very similar. However it seems that the wages of the male Ethiopians are higher or equal to that of the Israeli male Arabs, while the Arabs have more experience and are older than the Ethiopians.

Tables 6 presents that among the Israeli Arab women the average log wage per day is 4.776 NIS (0.469), the average age is 37.106 (13.149) years, the average education is 8.505 (3.736) years, the average experience is 22.602 (15.608) years and 65.73 percent are married. Among the Ethiopian immigrants the average log wage per day is 4.509 NIS (0.643), the average age is 34.095 (14.085) years, the average education is 5.437 (5.462) years, the average experience is 22.658 (18.358) years and 42.71 percent are married.

For woman we obtain similar result to that of the men when comparing the Ethiopians to the Israeli Arabs.

We will now turn to look at a more differ analysis of the data.

RESULTS

Our goal is to determine whether the wage equations differ between Israeli Arabs and Ethiopian immigrants. The analysis was carried out for men only, for women only and for both genders combined. Most of the individuals in each population have a low level of education and therefore it was decided to focus on individuals with no more than 12 years of schooling.

In the first stage, we estimated the wage equations of Israeli Arabs and of Ethiopian immigrants without differentiating between men and women.

Table 7 presents the results of the OLS estimation, which was based on 694 observations (dependent variable: log of daily wage).

1. On average, men with a low level of education earn more than women with low a level of education (i.e. the fixed effect dummy variable for gender was positive and significant in each of the specifications).
2. A married individual earns a premium for being married and his wage is higher than that of a single individual.
3. The return on schooling for both Israeli Arabs and Ethiopian immigrants is positive and significant. Furthermore, the return on schooling for Israeli Arabs is higher than that for Ethiopian immigrants (the reference group in the regression is Ethiopian immigrants). The opposite results were obtained in one of the specifications (Table 7, Column 1) but in that case a dummy variable was added for ethnic group and the average wage of Israeli Arabs was higher than that of Ethiopian immigrants.
4. Ethiopian immigrants receive a positive return on years in Israel and their income is positively correlated with that variable.
5. The return on work experience is positive with declining marginal return. While the return on education is higher for Israeli Arabs, the return on work

experience is higher for Ethiopian immigrants. Here as well there is positive return for both groups with a declining marginal return.

6. The regression's goodness of fit is 32.3 percent and is significant.
7. The Heckman Rho coefficient is significant and therefore the regression was run using Heckman's two-stage method (see Table 8). It can be seen that in the wage equation for Ethiopian immigrants' education has no effect while for Israeli Arabs it is positive. Unlike the earlier results, Israeli Arabs have a higher return on work experience than Ethiopian immigrants.
8. The starting point of Israeli Arabs is superior to that of Ethiopian immigrants while on the other hand the wage profile of Ethiopian immigrants is steeper than that of Israeli Arabs. As a result, the wages of the two groups converge after about 17 years (see Figure 2).

Israeli Arabs have a greater probability on average of finding a job than Ethiopian immigrants though the effect of work experience on the probability of finding a job is greater for Ethiopian immigrants than for Israeli Arabs.

Analysis According to Gender

a. Men with a low level of education:

Table 9 shows the results of the OLS estimation using the 533 observations of men (the dependent variable is the logged daily wage). It can be seen that married men with a low level of education earn more on average than similar unmarried men. Israeli Arabs on average earn more than Ethiopian immigrants (according to the dummy variable). Education has a positive effect on wages but the return on education is higher for Israeli Arabs than when the base group in the regression is Ethiopian immigrants. As in the general results presented above, the return on work experience is positive and significant with declining marginal return; however, in this case, Ethiopian immigrants have an advantage over Israeli Arabs since they have a higher return on work experience.

Ethiopian men receive a positive return on years in Israel and their income is positively correlated with that variable.

The starting point of Arab men is superior to that of Ethiopian men while the wage profile of Ethiopian men is steeper. Therefore, the wages of Ethiopian men converge to those of Arab men after about 10 years (see Figure 1).

b. Women with a low level of education:

Table 10 presents the results of the OLS estimation for 161 Arab and Ethiopian women with a low level of education. The results are in fact very similar to those for men. The effect of being married is positive though marginal. Schooling and work experience have a positive effect on wages. While the return on schooling is higher for Arab women than for Ethiopian women, the return on work experience is higher for Ethiopian women. The regression's goodness of fit is 19.2 percent and significant.

In contrast to the case of men in which the wages of the two groups converge after 10 years, in the case of women it takes more than 20 years (see Figure 3).

SUMMARY AND CONCLUSIONS

Until the arrival of Ethiopian immigrants in Israel, Israeli Arabs were considered to be the least successful group in the labor market. According to the findings of this study, Ethiopian immigrants have now replaced them.

The return on schooling is higher for Arab Israelis than for Ethiopian immigrants and this remains true when the genders are considered separately. The return on work experience is higher for Ethiopian immigrants than for Israeli Arabs and this again remains true when the genders are considered separately.

In the case of men, the wages of Ethiopian immigrants converge to those of Israeli Arabs after about 10 years while in the case of women it takes more than 20 years. In other words, Ethiopian men close the wage gap with Israeli Arabs more rapidly than Ethiopian women.

Most of the studies that have examined wage gaps in the US between native blacks and black immigrants have found that black immigrants are at least as successful as native blacks and some studies have found that they are more successful. In contrast, the results for Israel have shown that Ethiopian immigrants are less successful than Israeli Arabs and are replacing them at the bottom of the ladder. Thus, the situation of the Ethiopian immigrants appears to parallel that of black immigrants in the US.

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APPENDIX

Following is a list of the variables used:

Incsalpm = Salary income during the last month
Wdayspmn = Number of days worked during the last month. If an individual did not work during the last month, it is treated as a missing value.
Ln_W_day = Ln(Incsalpm/ Wdayspmn),
Age = continuous variable (in years)
Education = continuous variable (in years)
EXP = Age - 6 - Education (6 is the number of years prior to starting school)
Exp^2
Ysm = Years since migration; a continuous variable (in years)
Ysm^2 = Years since migration squared
Marital = a dichotomous variable, which takes a value of 1 for a married individual and 0 otherwise.
Immi_ar_eth = a dichotomous variable, which takes a value of 1 for an Israeli Arab and 0 for an Ethiopian immigrant.
edu_ar_eth = Immi_ar_eth multiplied by Education.
exp_ar_eth = Immi_ar_eth multiplied by exp.
Exp2_ar_eth = Immi_ar_eth multiplied by Exp^2.
ysm_ar_eth = Immi_ar_eth multiplied by ysm.
Ysm2_ar_eth = Immi_ar_eth multiplied by Ysm^2.

The wage of a non-employed individual was input as a missing value in order to enable calculation of the average daily wage.
Work experience was defined as age less 6 years and less years of schooling (the deduction of 6 years reflects the period prior to Grade 1). The data do not make it possible to differentiate between schooling obtained abroad and that obtained in Israel.

TABLES

Table 1: Descriptive statistics for Israeli Arabs and Ethiopian immigrants with a low level of education

	All – IsraeliArabs_Ethiopians			
Variable	Mean	Std. Dev.	Min	Max
Ln_W_day	5.103	0.480	2.923	6.657
Age	35.818	13.578	15	65
Education	8.572	3.817	0	12
EXP	21.246	15.866	0	59
Ysm	1.759	4.904	0	51
Married (percent)	60.61			
N	694			

Table 2: Descriptive statistics for Israeli Arabs and Ethiopian men with a low level of education

	IsraeliArabs_Ethiopians - Male			
Variable	Mean	Std. Dev.	Min	Max
Ln_W_day	5.232	0.372	3.213	6.657
Age	34.956	13.778	15	65
Education	9.133	3.289	0	12
EXP	19.822	15.547	0	59
Ysm	1.704	4.836	0	51
Married (percent)	58.96			
N	533			

Table 3: Descriptive statistics for Israeli Arabs and Ethiopian women with a low level of education

	IsraeliArabs_Ethiopians - Female			
Variable	Mean	Std. Dev.	Min	Max
Ln_W_day	4.681	0.551	2.923	6.108
Age	36.645	13.336	15	65
Education	8.035	4.194	0	12
EXP	22.610	16.052	0	59
Ysm	1.814	4.969	0	24
Married (percent)	62.20			
N	161			

Table 4:Descriptive statistics for Israeli Arabs and Ethiopian immigrants with a low level of education (each group separately)

	Israeli Arabs				Ethiopian immigrants				Means Difference (Israeli Arabs – Ethiopians)
Variable	Mean	Std. Dev	Min	Max	Mean	Std. Dev	Min	Max	Mean
Ln_W_day	5.143	0.429	3.213	6.657	4.924	0.636	2.923	6.651	0.219
Age	36.33	13.406	15	65	32.903	14.182	15	65	3.427
Education	8.979	3.332	0	12	6.272	5.295	0	12	2.707
EXP	21.354	15.396	0	59	20.631	18.307	0	59	0.723
Ysm	-	-	-	-	12.631	5.941	0	51	-
Married (percent)	64.06				41.09				-
N	571				123				-

Table 5: Descriptive statistics for Israeli Arabs and Ethiopian immigrant men with a low level of education (each group separately)

	Israeli Arabs – Male				Ethiopians immigrants – Male				Means Difference (Israeli Arabs – Ethiopians)
Variable	Mean	Std. Dev.	Min	Max	Mean	Std. Dev.	Min	Max	Mean
Ln_W_day	5.226	0.372	3.213	6.657	5.267	0.373	4.012	6.651	-0.041
Age	35.532	13.626	15	65	31.607	14.211	15	65	3.925
Education	9.469	2.772	0	12	7.180	4.965	0	12	2.289
EXP	20.062	15.072	0	59	18.426	18.045	0	59	1.636
Ysm	-	-	-	-	12.602	5.976	0	51	-
Married (percent)	62.34				39.34				-
N	466				67				-

Table 6:Descriptive statistics for Israeli Arabs and Ethiopian immigrant women with a low level of education (each group separately)

	Israeli Arabs – Female				Ethiopians immigrants – Female				Means Difference (Israeli Arabs – Ethiopians)
Variable	Mean	Std. Dev.	Min	Max	Mean	Std. Dev	Min	Max	Mean
Ln_W_day	4.776	0.469	3.363	6.108	4.509	0.643	2.923	5.568	0.267
Age	37.106	13.149	15	65	34.095	14.085	15	64	3.011
Education	8.505	3.736	0	12	5.437	5.462	0	12	3.068
EXP	22.602	15.608	0	59	22.658	18.358	0	58	-0.056
Ysm	-	-	-	-	12.658	5.926	0	24	-
Married (percent)	65.73				42.71				-
N	105				56				-

Table 7:Israeli Arabs and Ethiopian immigrants with a low level of education

	Arab _ Ethiopian			
Variable	I	II	III	IV
Intercept	3.809 (0.209)*	4.119 (0.101)*	4.106 (0.098)*	4.132 (0.088)*
Gender	0.519 (0.038)*	0.523 (0.037)*	0.525 (0.037)*	0.525 (0.037)*
Marital	0.124 (0.042)*	0.125 (0.042)*	0.125 (0.042)*	0.129 (0.041)*
Education	0.019 (0.013)	0.008 (0.011)*	0.006 (0.010)	-
Exp	0.048 (0.011)*	0.0370 (0.009)*	0.036 (0.009)*	0.035 (0.009)*
Exp^2	-0.001 (0.0002)*	-0.0009 (0.0002)*	-0.0009 (0.0002)*	-0.0009 (0.0002)*
Ysm	0.023 (0.014)	0.013 (0.013)	0.019 (0.007)*	0.021 (0.005)*
Ysm^2	-0.0001 (0.0003)	0.0001 (0.0003)	-	-
Immi_ar_eth	0.392 (0.231)	-	-	-
edu_ar_eth	-0.040 (0.015)*	0.030 (0.012)*	0.033 (0.009)*	0.037 (0.007)*
exp_ar_eth	0.001 (0.012)*	-0.028 (0.009)*	-0.026 (0.009)*	-0.026 (0.009)*
exp2_ar_eth	0.001 (0.0002)	0.0008 (0.0002)	0.0008 (0.0002)	0.0009 (0.0002)

	*	*	*	*
Ysm_ar_eth	-	-	-	-
Ysm2_ar_eth	-	-	-	-
N	694	694	694	694
R^2	0.326	0.324	0.323	0.323
Heckman Rho				(<.0001) Significant

Note: Standard errors appear in parentheses. * denotes significant.

Table 8: Israeli Arabs and Ethiopian immigrants with a low level of education – Heckman

Variable	Heckman
Ln_W_day.Intercept	4.787 (0.145)*
Ln_W_day.Gender	0.326 (0.062)*
Ln_W_day.Marital	0.139 (0.041)*
Ln_W_day.Education	-
Ln_W_day.Exp	-0.008 (0.003)*
Ln_W_day.Exp^2	-
Ln_W_day.Ysm	0.018 (0.006)*
Ln_W_day.Ysm ^2	-
Ln_W_day.immi_ ar_eth	-
Ln_W_day.edu_ar_eth	0.016 (0.007)*
Ln_W_day.exp_ar_eth	0.013 (0.003)*
Ln_W_day.exp2_ar_eth	-
Sigma. Ln_W_day	0.439 (0.023)*
work.Intercept	-4.094 (0.360)*
work.Gender	1.165 (0.065)*
work.Marital	-0.184 (0.085)*
work.Education	0.086 (0.014)*
work.Exp	0.227 (0.021)*
work.Exp^2	-0.004 (0.0004)*

work.Ysm	0.098 (0.029)*
work.ysm2	-0.002 (0.0008)*
work.immi_ar_eth	1.586 (0.332)*
work.exp_ar_eth	-0.150 (0.021)*
work.exp2_ar_eth	0.003 (0.0004)*
work.edu_ar_eth	-
Heckman Rho	-0.559 (0.109)*
N	2396
N Work=0	1702
N work=1	694
Log likelihood	-1453

Note: Standard errors appear in parentheses. * denotes significant.

Table 9: Arab and Ethiopian men with a low level of education

Variable	Arab Ethiopian Male			
	I	II	III	IV
Intercept	4.544 (0.227)*	4.582 (0.209)*	4.750 (0.087)*	4.883 (0.065)*
Married	0.148 (0.048)*	0.151 (0.048)*	0.151 (0.048)*	0.206 (0.032)*
Education	0.007 (0.016)	-	-	-
Exp	0.244 (0.014)	0.022 (0.013)	0.021 (0.011)*	-
Exp^2	-0.0005 (0.0003)	-0.0005 (0.0003)	-0.0005 (0.0003)*	-
Ysm	0.035 (0.019)	0.039 (0.016)*	0.022 (0.006)*	0.019 (0.004)*
Ysm^2	-0.0004 (0.0004)	-0.0004 (0.0003)	-	-
Immi_ar_eth	0.207 (0.248)	0.171 (0.232)	-	-
edu_ar_eth	0.023 (0.018)	0.030 (0.008)*	0.303 (0.007)*	0.021 (0.006)*
exp_ar_eth	-0.019 (0.015)	-0.018 (0.014)	-0.017 (0.011)	-
exp2_ar_eth	0.0005 (0.0003)	0.0005 (0.0003)	0.0005 (0.0003)*	-
Ysm_ar_eth	-	-	-	-
Ysm2_ar_eth	-	-	-	-

N	533	533	533	533
R^2	0.111	0.111	0.108	0.095

Note: Standard errors appear in parentheses. * denotes significant.

Table 10: Arab and Ethiopian women with a low level of education

	Arab Ethiopian Female				
Variable	I	II	III	IV	V
Intercept	3.494 (0.596)*	3.547 (0.434)*	3.462 (0.342)*	3.837 (0.257)*	3.501 (0.311)*
Gender	-	-	-	-	-
Marital	0.098 (0.089)	0.098 (0.089)	0.098 (0.089)	-	-
Education	0.025 (0.029)	0.024 (0.028)	0.031 (0.018)	-	0.042 (0.018)*
Exp	0.064 (0.025)*	0.063 (0.023)*	0.066 (0.020)*	0.054 (0.017)*	0.086 (0.019)*
Exp^2	-0.001 (0.0004)*	-0.001 (0.0004)*	-0.001 (0.0004)*	-0.001 (0.0004)*	-0.002 (0.0004)*
Ysm	0.030 (0.052)	0.024 (0.014)	0.022 (0.014)	0.029 (0.013)*	-
Ysm^2	-0.0002 (0.002)	-	-	-	-
Immi_ar_eth	0.685 (0.678)	0.632 (0.539)	0.778 (0.291)*	0.768 (0.293)*	0.607 (0.226)*
edu_ar_eth	0.011 (0.038)	0.012 (0.037)	-	-	-
exp_ar_eth	-0.049 (0.029)	-0.048 (0.028)	-0.052 (0.025)*	-0.034 (0.024)	-0.066 (0.025)*
exp2_ar_eth	0.001 (0.0006)*	0.001 (0.0006)*	0.001 (0.0005)*	0.0009 (0.0005)	0.001 (0.0005)*
Ysm_ar_eth	-	-	-	-	-
Ysm2_ar_eth	-	-	-	-	-
N	161	161	161	161	161

R^2	0.196	0.195	0.195	0.172	0.192

Note: Standard errors appear in parentheses. * denotes significant.

Figure 1

Logged wages of Israeli Arabs and Ethiopian immigrants with a low level of education

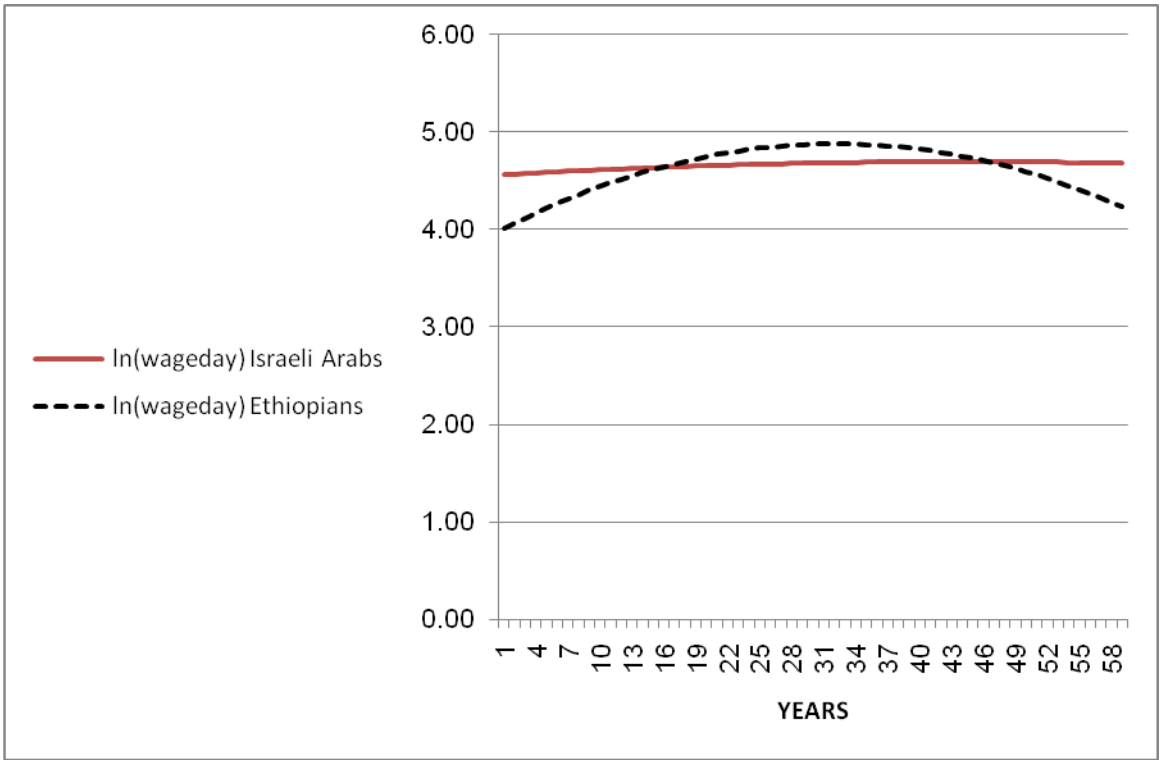

Figure 2

Logged wages of Arab and Ethiopian men with a low level of education

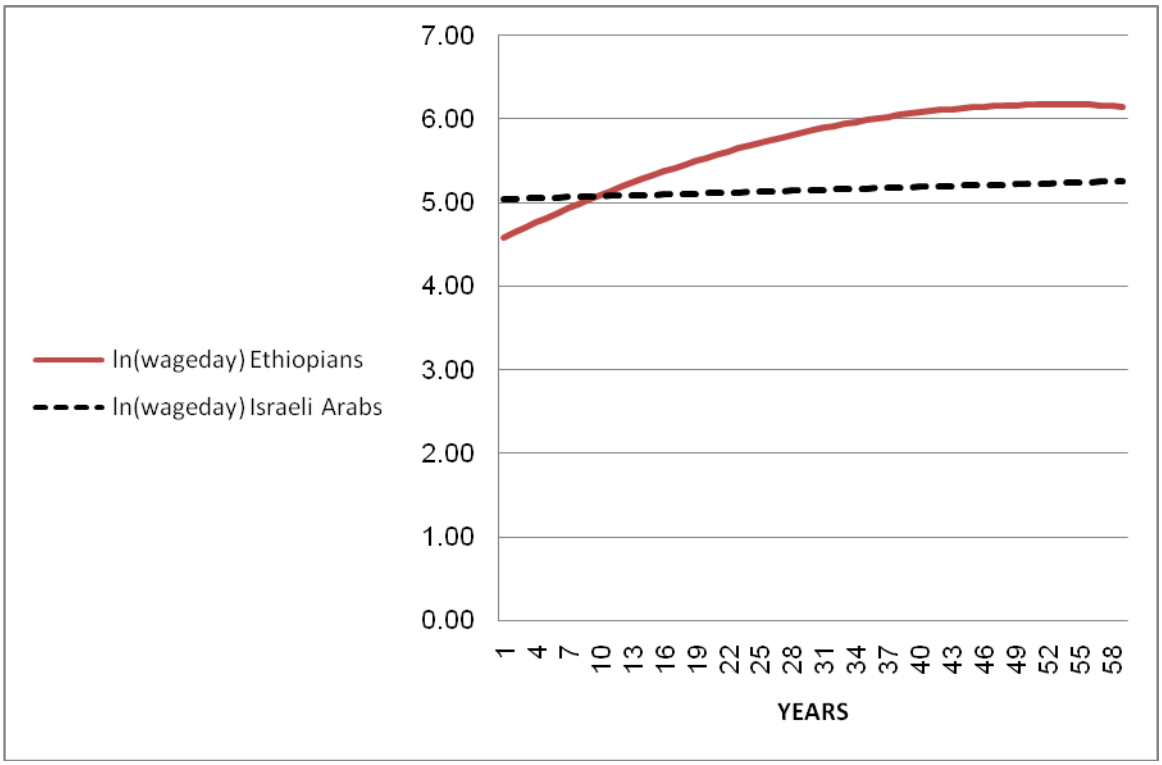

Figure 3

Logged wages of Arab and Ethiopian women with a low level of education