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**Return Migration of Israelis from the United States  
During 1980-1990s**

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## Abstract

This paper is aimed at analyzing self selection of returning immigrants. The question is whether returning immigrants are representative of all arriving immigrants of their cohort, or drawn from either end of the skill distribution of arriving immigrants. We propose an empirical model for analyzing this question, and apply it to Israeli immigrants in the US who returned to Israel. Using the 5% Public Use Microdata Sample (PUMS) of the 1980 and 1990 US census data, we focus on the cohorts of Israeli-born Jewish immigrants who arrived the US between 1970 and 1980, and returned to Israel during the following 10 years. Analyzing these synthetic cohorts of Israeli immigrants in the US in both 1980 and 1990, and comparing them to natives of similar ages, enables us to infer the schooling and income levels of Israeli immigrants who left the US between 1980 and 1990. The results of the analyses suggest that selectivity on schooling is positive, namely, those who return from the US to Israel are of higher schooling than those who remain in the US. However, the income analysis suggests that at each schooling level, the selectivity on unmeasured traits is negative, namely, those who returned to Israel would have been less successful in the US labor market than Israelis of similar schooling (and other measured characteristics) who remained in the US.

**RETURN MIGRATION OF ISRAELIS FROM THE UNITED STATES  
DURING 1980-1990s**

One of the main debates in the immigration literature since the mid 1980s focuses on immigrants' self-selection and socioeconomic assimilation. Many studies attempt to estimate immigrants' self-selection and rates of assimilation in a variety of destination countries, at different periods, of different immigrant cohorts, originating in different countries (Chiswick 1978; Massey 1987; Simon 1989; Borjas 1987, 1990, 1994, 1995; Bloom and Gunderson 1990; Portes and Rumbaut 1990; Funkhouser and Trejo 1995; Cohen, Zach, and Chiswick 1997; Smith and Edmonston 1997). Estimates of socioeconomic assimilation are derived by using one or more cross sectional data sets. Such data include, in addition to standard demographic and labor market information, a variable measuring time spent in the host country. This variable is added to standard earnings function, and its coefficient serves as the estimated rate of immigrants' assimilation.

Common to most of these studies is the implicit assumption that return migration from host to origin country is random with respect to immigrants' skills. Put differently, whether one cross sectional survey is used, or pooled data from successive surveys, these studies assume that a random sample of immigrants at any time is representative of all arriving immigrants. This, however, is not necessarily the case. It is quite possible that emigrants are drawn from either tail of the skill distribution of all arriving immigrants. Consequently, immigrants who remain in the destination country and are thus included in various samples used by researchers are not representative of all arriving immigrants. In

short, if there is a nonrandom return migration, estimated assimilation is biased. For example, if the less skilled tend to emigrate back to their country of birth, assimilation studies would find a positive rate of assimilation, even in cases where no assimilation had occurred. This is why examining the characteristics of returning immigrants is crucial for understanding immigrants' economic assimilation in the country of destination. Indeed, this was one of Jasso and Rosenzweig's (1990) conceptual critiques of Borjas's (1987) conclusions regarding the declining skills of immigrants to the US during the 1970s. Neglecting to take into account positive selectivity in emigration, they argue, could arguably have resulted in underestimating immigrants' skills and economic assimilation. Yet, for a variety of reasons, from data availability to difficulties in estimation, the assumption of random return migration has hardly been tested empirically.

This paper examines the nature of return migration among Israeli-born Jewish immigrants in the US. The first section discusses theoretical perspectives of selective return migration and applies them to the Israeli case. The second section presents the data -- 5% Public Use Microdata Samples (PUMS) of the 1980 and 1990 US census. The third section presents the empirical framework for testing the hypothesis and the results. A final section presents some general conclusions.

### **1. Selectivity in Return Migration**

In most migration streams significant proportions of immigrants return to their countries of origin after spending a relatively short time in the host countries. In the US, about one-third of all legal immigrants arriving between 1908 and 1957 emigrated, and the

overall rates appear to have risen to as much as 50% since then (Warren and Peck 1980; Jasso and Rosenzweig 1982; 1990a; Borjas and Bratsberg 1996). Rates of outmigration vary by country of origin. In general, rates are lower among immigrant groups originating in countries which are poor, are located a large distance from the US, and are undemocratic. Thus, rates of return were found to be higher among immigrants coming from Europe and the Americas, and lower among Asian immigrants (Jasso and Rosenzweig 1982; 1990a; Borjas and Bratsberg 1996). Refugees, whether or not granted such status by the Immigration and Naturalization Service, also experienced low rates of return migration, as they could not have returned to their country. This was the case, for example, with refugees from Laos, Cambodia and Vietnam during the 1980s.

Israeli immigrants in the US are thus expected to experience relatively high rates of return migration, as Israel scores relatively high on measures of both economic development and democracy. Previous research has reported that over one-third of Israeli Jews who had been residing in the US for an average of 2.5 years, returned to Israel (Cohen and Haberfeld 1997). Jews, however, comprised only about two-thirds of the estimated 70,000 and 120,000 Israeli born who were enumerated by the 1980 and 1990 US census, respectively (Cohen and Haberfeld 1997). The others are composed of two groups of Palestinian Arabs (PAR): Israeli citizens (known in Israel as "Israeli Arabs") and Palestinians who resided in the Israeli-occupied West Bank and Gaza Strip before immigrating to the US. Rates of return migration for PARs are very low (less than 10 percent, data not shown). The proportion of Jewish returnees is much higher than that of PARs' because the latter benefited only marginally from processes of democratization and

economic development in Israel affecting their Jewish counterparts during the past two decades.<sup>1</sup> Since this paper is aimed at analyzing selectivity among returnees, and there is a very small portion of PARs among them, we will focus on Jews in the remainder of this paper.

Three theoretical approaches attempt to answer whether emigrants are disproportionately drawn from the skilled or less skilled of their arriving immigrant cohort. The first relies on intertemporal substitution models that tend to view immigration as a planned move, aimed at taking advantage of temporary opportunities (e.g., Stark and Bloom, 1986). This approach argues that returning immigrants are the more skilled and successful, especially if their immigration had been planned to be short term. Applied to Israelis in the US, this approach would lead us to expect the return migration of Israelis to be positive. If immigration from Israel to the US was planned to be short-term, for specific purpose such as accumulating human or physical capital, then the Israelis who succeeded in these tasks are expected to return to Israel. Indeed, these were the findings reported by Ritterband (1978) in his study of return intentions among Israeli students in the US, as well as Toren's (1976; 1978) studies of returning Israelis (many of which were students) who registered with the Israeli ministry of absorption. But it is not clear whether these findings can be extended to the bulk of Israeli Jews who came to the US for purposes other than schooling.

The second general approach expects returnees to be negatively selected. Those who return, the theory maintains (e.g., Lam 1986), are those who failed in the country of

destination, and return migration is viewed as a “correction” in light of better information (DaVanzo and Morrison, 1981). Expectation, or more precisely, unfulfilled expectation, is central to this approach, which has successfully explained emigration of Jewish immigrants from Israel. Blejer and Goldberg (1980) and Beenstock (1996), using different longitudinal data sets and focusing on different immigrant groups in Israel, found that the propensity of Jewish immigrants in Israel to emigrate is related, among other things, to unfulfilled expectations in the labor market. Similarly, Borjas (1989), using longitudinal data, found negative selectivity in return migration among immigrant scientists and engineers in the US. By contrast, Jasso and Rosenzweig (1990), using synthetic cohorts drawn from US censuses, found positive selection among returning immigrant men from the Eastern Hemisphere, and no selectivity in return migration among Western Hemisphere men. Likewise, Bloom and Gunderson (1990) did not detect non-random return migration among synthetic cohorts of immigrants drawn from Canadian censuses. Applied to Israeli immigrants in the US, this theoretical framework would expect those failing socioeconomically in the US to realize they made a “mistake” and “correct” it by returning to Israel.

The third approach for understanding selectivity in return migration is best articulated. It expands Borjas’ (1987; 1990) model of immigrant self-selection and analyzes return migration (Ramos, 1992; Borjas and Bratsberg, 1996). In his original model, Borjas (1987; 1990) demonstrated that immigrants' skills depend, in part, on returns to skills offered both in countries of origin and of destination. Positive selection of immigrants occurs from relatively egalitarian countries that do not reward their skilled workers

compared to host countries. But from countries of high income inequality, where skills are generously compensated, the selection of immigrants is negative: the unskilled are those seeking to improve their economic lot by migrating to a more egalitarian country, where they expect to be protected by a net of social services. Ramos (1992) extended the model to the return migration of Puerto Rican immigrants in the US. Since returns to skills were lower in the US than in Puerto Rico, the less skilled immigrated from Puerto Rico to the US, and among them, the more skilled Puerto Rican in the US returned home. In this model the prediction is straightforward: if selectivity of the initial migration step is negative, then, *ceteris paribus*, return migration is positive. Likewise, if selectivity of the initial step is positive, then return migration is negatively selected. In other words, the process of return migration is expected to accentuate the selectivity of the initial step. Borjas and Bratsberg (1996) followed the logical conclusions of the model: Since recent cohorts of US immigrants are negatively selected, they argue, return migration is expected to be positive, thus lowering further the skills of surviving immigrants. Applied to specific immigrant groups, the prediction of this model depends on the nature of the initial migration step. Since immigrants from Israel to the US were positively self-selected in the 1970s and 1980s (Borjas, 1990; Cohen, 1996), and since returns to skills have been higher in the US than in Israel (Gottschalk and Smeeding, 1997), the less skilled and less successful among Israelis in the US had stronger incentive to return to Israel during the 1980s. In short, Borjas' model predicts a negative selection of return migration among Israelis from the US back to Israel.



To be sure, the three theories discussed above are not mutually exclusive. It is possible that returning immigrants from a specific country are drawn from both tails of the skill distribution. Successful immigrants, who achieved their target in the host country, may return home to reap the benefits of their success (Massey 1987), whereas unsuccessful immigrants may emigrate back to correct the mistake they had made. In the case of Israelis, for example, it is possible that those who came as students return after obtaining the degree, whereas those failing economically also return as they realized their migration did not fulfill their expectations. Moreover, in the Israeli case, Borjas' model expects negative selectivity in return migration, much like the theory of unfulfilled expectations. This paper, however, is not designed to decide between the theories. Rather, theoretical considerations are discussed in order to illuminate the possible processes leading to *selectivity in return migration*, as well as to be suggestive of its direction in the Israeli case.

## **2. Data**

We use the 5% PUMS of the 1990 and 1980 US censuses (US, 1992). These large samples enable studying relatively small groups who resided in the US in the census year, such as the Israeli-born. Relevant information in the PUMS include country of birth, period of immigration (grouped in 5-year periods), enrollment in an educational institution, language spoken at home, and reported ancestry. In addition, these samples include detailed schooling and labor market information for each individual.

We focus our analyses on all Israeli born Jews<sup>2</sup> who entered the US between 1970 and 1980. We can thus trace two synthetic cohorts of Israeli-born immigrants in these data

sets: those entering the US between 1970-74 and those who entered during 1975-80. Differences in the sizes and composition of these cohorts between the 1980 and 1990 PUMS resulted from mortality, undercount, and emigration (Cohen and Haberfeld 1997). We estimated mortality during the 10-year period using life tables for the Israeli population and the age/sex structure of these immigrant cohorts (Israel 1991), and found that mortality was negligible because of the young ages of the immigrants. We assume that very few Israeli immigrants in the US emigrated to third countries. Studies of return migration normally assume that all emigrants returned to their native countries, rather than emigrated to a third country. There is no known reason to expect Israeli-born immigrants in the US to behave differently. Finally, assuming that the census undercount among Israeli immigrants in the US was similar in both 1980 and 1990<sup>3</sup>, we can use these data to trace differences in the characteristics of immigrants that are due to selective return migration.

The main variables for testing labor market skills of returnees are education and annual income from work and self employment. Education is considered to be the main *measured* characteristic for labor market quality. Two measures of education are used: years of schooling and the proportion having at least a college degree. A measure of earnings is used in migration studies as the best available summary indicator for individual *productivity and skills*. Earnings are considered to be a function of productivity (and of course labor supply), which is, in turn, determined by all relevant individual characteristics, measured and unmeasured, and is therefore used as the best indicator for immigrant' labor market quality (Borjas, 1990).

### **3. Empirical Estimation**

In the 1980 PUMS there were 4,020 Israeli men, 25-50 years old, who entered the US during the preceding five years.<sup>4</sup> By 1990, only 2,763 remained in the US. Thus, 31 percent of men who entered in the late seventies and resided in the US in 1980, returned to Israel during the following 10 years. The respective figure for women is 32 percent. Because of the universal inverse correlation between rates of return migration and years since migration, the rate of return migration among the earlier cohort (bottom panel of Table 1) are lower: 25 percent for men, and 22 for women. It is important to note that these are underestimates as they exclude all Israeli born immigrants who entered the US during 1970-80, and emigrated before the 1980 census. Rather, these are estimates among immigrants who had resided in the US an average of 2.5 years (the cohort of 75-80), and 7.5 years (the cohort of 1970-74).

#### *3.1 Schooling*

To compare the schooling of returnees to immigrants who remained in the US, we limit the analyses to persons 25-50 years old in 1980 (35-60 years old in 1990), who entered the US during 1970-74 and during 1975-1980. Comparing the mean schooling of these synthetic cohorts will inform us if the returnees are better educated than those who remained in the US. Since educational levels of cohorts can only rise over time, mean schooling in 1990 must be equal or higher than in 1980, under conditions of zero return migration, randomly selected return migration, or negative selection in return migration. If, however, mean schooling in 1990 is significantly lower than the mean in 1980, it must

be that selectivity of the returnees was positive, i.e., the highly educated were more likely to return to Israel than the less educated.

<Table 1 here>

To be sure, even if mean schooling in 1990 is similar or only slightly higher than in 1980, positive return migration during the 1980s is still possible. This is because during 1980-90 there was some schooling growth among persons 25-50 years old in 1980 (Cohen et al. 1997). To estimate what would have been the mean schooling of this cohort in 1990 under condition of zero return migration, we calculated the 10 years observed schooling growth in a sample of white native-born Americans, 25-50 years old in 1980 (drawn from the PUMS). Assuming that schooling growth among immigrants should be similar to that of natives, we compare the 10-year schooling growth experienced by both groups during 1980-90. The results of these comparisons will tell if emigration selectivity among Israelis in the US, as indicated by schooling, has been positive, negative or random.

Table 1 presents mean schooling and percent with at least a B.A. degree, for the two cohorts of Jewish men and women by age groups.<sup>5</sup> Among members of the recent cohort (top panel) the mean schooling of Jewish men and women (in all age groups) is larger in 1980 (column 1) than in 1990 (column 2). Mean schooling of Israeli born men declined by .4 years between 1980 and 1990 (column 3), while the mean schooling of natives of similar ages increased by .3 years during this period (column 4). This implies that the more educated among Israeli born Jewish men emigrated from the US between 1980 and 1990.<sup>6</sup> The decline in schooling among those 25-35 years old is of particular interest, as nearly one third of them were students in 1980, whose rate of return migration is known

to be higher than that of other immigrants (Bratsberg 1995). When Israelis who were students in 1980 were excluded from the analysis (third row), we observe an increase of .2 years between 1980 and 1990, compared to a decline of .4 years among this entire age group (second row). Among natives, the schooling of this age group increased by .4 years (without students) and by .3 years (with students). It thus appears that returning students are responsible for a major part of the decline in the level of schooling of Israeli born men between 1980 and 1990. However, that when students are excluded, natives' schooling rises faster than that of Israeli immigrants, implies that the overall decline in years of schooling of Israeli-born men could probably not be attributed solely to returning students.

The right panel of Table 1, where rates of college graduates are presented, points to the same general conclusion: those with college degrees tend to leave the US more than those with less than college education, and the results with and without students are appreciably the same. There is a 6.3 percentage points decline in the proportion of Israeli born men with a B.A. degree between 1980 and 1990, compared with an increase of 2.7 percentage points among natives of the same ages. The declines are similar for both age groups, and are appreciably the same when students are excluded.

The results for Jewish women are similar, and even stronger than the results for men. Israeli women who immigrated to the US during 1975-80 had .5 less years of schooling in 1990 than in 1980, compared to an increase of .2 years among white native women of similar ages. Among younger women, the decline was .4 years, compared to an increase of .5 years among native women. The proportion of those having a B.A. degree among

Israeli women has declined by over 10 percentage points, compared to an increase of 3.4 percentage points among native women. Similarly to men, returning students are responsible for a major part of the decline in schooling levels of Israeli women in the US during the 1980. When students in 1980 are excluded from the analysis, Israeli women increased their schooling, but not as much as native women of similar ages. As is the case among men, this implies that highly educated returning students could probably not explain the entire decline in the schooling of Israeli women in the US in 1980-90.

The bottom panel of Table 1 replicates the results for the earlier cohort of Israelis, those entering the US in 1970-74. Among the vast majority of immigrants, those 25-35 years old in 1980, the results are similar to those observed for the more recent cohort, namely, those who return appear to be more highly educated than those who stay, and this holds for both gender groups with and without students. Among older immigrants, those 35-50 in 1980, schooling level in 1990 is much higher than expected given schooling increase among natives during this period. This implies that the small number of emigrants of this age group were of lower schooling levels than those who remained in the US. It is important to emphasize, however, that findings regarding the older age group of both cohorts are based on relatively small number of returnees, and should be taken with more caution than the findings regarding the younger age group, containing over 75 percent of Israeli immigrants in the US.

Taken together, the schooling levels presented in Table 1 suggest a positive selection among Israeli emigrants from the US, for both men and women. The highly educated

among Israeli immigrants in the US tend to return to Israel more than the less educated. This is in part because those who came to the US for the purpose of studying tend to be of both higher schooling levels and greater propensity to return to Israel than other Israeli immigrants. However, even when students are excluded from the analyses, the schooling levels of Israelis in the US decline (among the cohort of 1970-74), or rises at a slower rate than that of comparable natives (the cohort of 1975-80). This being the case, we may conclude that among Israeli men and women who came to the US for reasons other than schooling, the pattern of selectivity is most likely positive, although not as strong as when students are included in the analysis.

### *3.2 Income*

One method for detecting selectivity in return migration (but not in its direction) is to examine data on income dispersion. Random return migration dictates either no change or a rise in income dispersion among immigrants. A decline in the variance in the incomes of immigrants over time (relative to natives) reflects a situation in which returnees are drawn from one or both tails of the income distribution (Bloom and Gunderson 1990). By contrast, a growth in income dispersion among immigrants may be the result of several factors that are not necessarily related to selectivity in return migration. For example, rising income dispersion among immigrants could be the result of better information of employers about the productivity levels of the newcomers (Stark 1991), or it might reflect better transferability of immigrants' skills in 1990 than in 1980. We will therefore examine below changes in income dispersion among natives and Israeli immigrants.





variable coded 1 if respondent has a college degree<sup>7</sup>; 1990 is a dummy coded as “1” if the observation is drawn from the 1990 census, and  $ysm^8$  is years since migration.  $b_2$  is the period effect experienced by immigrants, and  $b_3$  is the growth in returns to college education in the eighties.  $b_4$  and  $b_5$  are estimates of immigrants’ assimilation. We allow for a curvilinear effect of assimilation on earnings by introducing  $ysm$  and its squared term into the model.

Next, we use the pooled sample of white, native-born Americans, to derive estimates of the period effect and the growth in returns to college education between 1980 and 1990:

$$\ln(y) = \underline{X}'\underline{C} + c_1(\text{b.a.}) + c_2(1990) + c_3(\text{b.a.} * 1990) \quad (2)$$

where  $y$  denotes earnings of the  $i^{\text{th}}$  native-born American at time  $j$  ( $j = 1980, 1990$ );  $X$  is a vector of earnings determinants and  $C$  is a vector of their coefficients;  $c_1$  is the effect of college education for natives;  $c_2$  is the period effect experienced by natives, and  $c_3$  is the growth in returns to natives’ college degree between 1980 and 1990. If there is no selectivity in return migration from the US to Israel,  $c_2$  and  $c_3$  should be the estimates of the respective effects ( $b_2$  and  $b_3$ ) among immigrants as well.

The most interesting effect for our purposes is  $b_2$ . This is the period effect on immigrants’ earnings. It captures two different factors: period effect, and changes in the skills of immigrants as a result of non-random return migration. In addition, the difference between immigrants and natives in growth in returns to college degrees ( $b_3 - c_3$ ) also serves

as an indication of non-random return migration among Israeli college graduates. Thus, the change in immigrants' skills ( $\Delta q$ ) can be estimated by:

$$(\Delta q) = (b_2 - c_2) + (b_3 - c_3) \quad (3)$$

A positive  $\Delta q$  indicates that the labor market skills of those who remained in the US are higher than that of the returnees, and a negative  $\Delta q$  indicates the opposite.

There are two issues that should be mentioned at this point. First, if indeed return migration is not a random process, then  $b_5$  might contain elements of the stayers' unique attributes.<sup>9</sup> In this case, a positive  $\Delta q$  underestimates the skills of stayers, and a negative  $\Delta q$  overestimates the skills of stayers.

Second, it is quite possible that return migration of immigrants belonging to the studied cohorts started before 1980. In this case, the 1980 sample is already censored. However, such a situation does not pose a serious threat to our results because the purpose of our analysis is to detect non-random return migration. As long as return migration does not stop, we can detect its nature in the post 1980 years.

We limited the analysis to men, 25-50 years old in 1980 (35-60 in 1990), working at least four weeks, with annual income of at least \$1,000. We limited the income analysis to men because nearly one half of Israeli women in the US were out of the labor force in either 1980 or 1990. The upper bound of the age limit was selected because very few Israelis of the studied cohorts were over 50 years old in 1980. Moreover, including men over 60 years old in 1990, when both labor force participation rates and incomes tend to decline,

Table 3. Regressions of Ln Income: Israeli-born immigrants and native born men (standard errors in parentheses).

	<u>Immigrants</u>	<u>Natives</u>
Age	.074* (.038)	.075** (009)
Age squared <sup>a</sup>	-.076 (.0472)	-.077** (0105)
Years of Education	.030* (.017)	.063** (.005)
Annual hours <sup>a</sup>	.048** (.004)	.038** (.001)
B.A. +	.055 (.118)	-.037 (.039)
1990 Servey	-.082 (.151)	-.170** (.024)
B.A. * 1990 Servey	.275* (.125)	.253** (.039)
Married	.193* (.080)	.281** (.022)
Student	-.041 (.103)	-.151** (.041)
Non-South	.325** (.113)	.139** (.020)
Salaried	-.019 (.070)	.142** (.025)
English	.050 (.067)	-----
YSM	.073** (028)	-----
YSM squared <sup>a</sup>	-.282* (.126)	-----
Number of cases	538	5316
Constant	6.26**	6.43**
F	23.2**	197.0**
R Squared (ajdusted)	.367	.288

Source: 1980 and 1990 PUMS.

<sup>a</sup>Coefficient multiplied by 100.

\* p < .05

\*\* p < .01

Table 2. Means (s.d.) of all variables used in the regressions: men, 25-50 years old in Israel, by group and survey year

Group:	Israeli Immigrants			Natives			
	Year:	Pooled	1980	1990	Pooled	1980	1990
Age							
Income		10.17 (.87)	9.97 (.84)	10.46 (.82)	10.21 (.76)	10.18 (.72)	10.25 (.79)
Years of Sch.		14.44 (3.28)	14.61 (3.16)	14.21 (3.45)	13.37 (2.93)	13.26 (3.12)	13.49 (2.72)
Married or higher		.41 (.49)	.44 (.50)	.38 (.49)	.28 (.45)	.28 (.45)	.30 (.46)
Age squared		35.95 (7.24)	31.87 (5.20)	41.68 (5.64)	40.32 (8.68)	35.70 (7.40)	45.14 (7.16)
Married		.81 (.39)	.77 (.42)	.86 (.35)	.78 (.42)	.77 (.42)	.79 (.41)
Annual hours		2067 (745)	1941 (752)	2245 (700)	2175 (659)	2142 (648)	2210 (652)
Married		.73 (.45)	.78 (.42)	.65 (.48)	.85 (.35)	.87 (.34)	.84 (.37)
Married		.12 (.32)	.19 (.39)	.02 (.15)	.05 (.22)	.06 (.23)	.04 (.20)
From South		.92 (.27)	.93 (.25)	.91 (.29)	.75 (.43)	.74 (.44)	.75 (.43)
Age squared		9.51 (5.40)	5.47 (2.50)	15.17 (2.48)			
Married		.66 (.48)	.62 (.49)	.71 (.46)			
Number of cases		538	314	224	5316	2715	2601

: 1. Mean years of schooling and percent with at least B.A. among Israeli-born Jewish grants arriving the US in 1970-80: 1980 and 1990 census by cohort, sex and age<sup>a</sup> groups.

Variable:	Years of Schooling				Percent with At least B.A.			
Group:	Israeli Immigrants		Natives		Israeli Immigrants		Natives	
Year:	1980	1990	90-80 <sup>b</sup>	90-80 <sup>b</sup>	1980	1990	90-80 <sup>b</sup>	90-80 <sup>b</sup>
Column:	1	2	3	4	5	6	7	8
<b>Immigrants arriving to the US in 1975-80</b>								
<b>Men (N 1980, 1990)</b>								
20 (4020, 2763)	14.9	14.5	-.4	+.3	46.8	40.5	-6.3	+2.7
25 (3180, 2210)	14.9	14.5	-.4	+.3	45.9	39.6	-6.3	+2.6
35 <sup>c</sup> (2020)	14.3	14.5	+.2	+.4	44.6	39.6	-5.0	+4.6
50 (840, 553)	15.2	14.0	-1.2	+.4	50.0	43.9	-6.1	+2.5
<b>Women</b>								
20 (3440, 2325)	14.3	13.8	-.5	+.2	39.0	28.8	-10.2	+3.4
25 (2960, 1801)	14.5	14.1	-.4	+.5	41.2	33.8	-7.4	+5.7
35 <sup>c</sup> (2,360)	13.9	14.1	+.2	+.6	33.6	33.8	+.2	+6.5
50 (480, 524)	13.2	12.7	-.5	0	25.0	11.5	-13.5	+1.0
<b>Immigrants arriving to the US in 1970-74</b>								
<b>Men</b>								
20 (3260, 2433)	14.0	13.8	-.2	+.3	36.2	33.3	-2.9	+2.7
25 (2580, 2017)	13.9	13.6	-.3	+.3	35.7	29.6	-6.1	+2.6
35 <sup>c</sup> (2,260)	13.8	13.6	-.2	+.4	33.6	29.6	-4.0	+4.6
50 (680, 416)	14.1	15.1	+1.0	+.4	38.2	51.0	+12.8	+2.5
<b>Women</b>								
20 (1960, 1594)	13.7	13.5	-.2	+.2	28.6	28.7	+.1	+3.4
25 (1600, 1221)	13.8	13.6	-.2	+.5	30.0	25.9	-4.1	+4.7
35 <sup>c</sup> (1,500)	13.8	13.6	-.2	+.6	30.7	25.9	-4.8	+6.5
50 (360, 373)	13.0	13.1	+.1	0	22.2	37.8	+15.6	+1.0

age in 1980. Age in 1990 is 10 years older.

Mean year of schooling (percent with at least B.A.) for 1990 minus mean schooling (percent B.A.) for 1980.

excluding students in 1980.

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control for cohort effect. Pooling the 1980 and 1990 data imply that the possible values of  $ysm$  for the  
relis in our sample are 2.5, 7.5, 12.5, and 17.5 years.

possible bias in  $b_4$  is less of a problem because it captures  $ysm$  during the initial period of  
migration, while  $b_5$  captures the later stages of  $ysm$ .

income in 1979 was multiplied by the CPI rise between 1979 and 1989 (1.708).

We re-estimated the models presented in Table 3 after excluding students in 1980 from the analysis.

the results were appreciably the same.

he political regime to which both groups of PARs have been subjected is not as liberal and as democratic as enjoyed by their Jewish counterparts. Residents of the West Bank and Gaza have been under Israeli military occupation for over 30 years. PARs who are Israeli citizens fare better, but are still discriminated against in all spheres of life -- social, economic, political, and legal (Kretzmer, 1990). Furthermore, while the Israeli economy has grown significantly in recent years, the economy of the occupied territories has hardly grown, and the economic gap between Israel and the occupied territories is nearly as large as the gap between the US and Mexico. The economic conditions in the Arab sector of the Israeli economy is not much better: Arab communities are significantly poorer than Jewish communities. Arab income levels are much lower than that of Jews, in part due to discrimination (Lewin Epstein and Semyonov 1993; Cohen 1996).

See Cohen and Haberfeld (1997) and Cohen and Tyree (1994) for the method by which Jews can be identified among the Israeli- and Palestinian-born in the 1980 and 1990 PUMS.

The 1990 undercount was 1.6-1.8 percent compared to about 1.2 percent in the 1980 census (Hogan, 1993). However, it is likely that the undercount among the cohort of 1975-80 was higher in 1980, when it was the most recent immigrant cohort, than in 1990, 10-15 years after arriving in the US. Thus, although the overall undercount in 1990 was higher than in 1980, we do not believe that this was the case among the immigrant cohort under discussion.

These number of cases (presented in parentheses in Table 1) are population estimates obtained by using individual weights available in the 1990 PUMS (the data in the 1980 PUMS are self-weighted). The actual number of cases are about one twentieth of the population estimates.

The descriptive statistics presented in Table 1 are based on the weighted data. In subsequent analyses, presented in Tables 2 and 3, we used the unweighted data. The results of all analyses are appreciably the same with and without weights.

Because of the small number of cases, none of the differences in educational levels of Israelis (columns 3 and 7 of Table 1) is statistically significant from zero. The differences among natives (columns 4 and 8) are all statistically significant. Taken together, we can conclude that the differences between the changes in educational levels of Israeli immigrants and natives are probably present.

We present  $b_1$  separately from  $B$  because of the evidence that returns to college education have changed during the 1980s while other earnings determinants have not appreciably changed during that period.

The immigrant sample is composed of two cohorts: those arriving in 1975-80 and those arriving in 1950-74. The model assumes no changes in socioeconomic quality between the two cohorts, thus we do

returning Israelis tend to be highly educated. But when skills are inferred from  
ne, it appears that on average, the more skilled among highly educated Israelis in the  
end to remain there.

ly, the results based on the regressions are consistent with the notion advanced by  
as and Bratsberg (1996) that selectivity in return migration tends to accentuate  
tivity of the first migration step. But the results are also consistent with the approach  
unfulfilled expectations” predicting that the less successful tend to emigrate. In order  
cide between the empirical status of these two theoretical perspectives, additional  
grant groups need to be analyzed, especially those with negative selection in the initial  
ation step. The results of the present study suggest that part of the success of Israelis  
e US, observed by previous research (Borjas 1990; Cohen 1996), is due to negative  
tivity in return migration among Israelis.

ation among Israelis who came to the US for the purpose of studying. On the other hand, the income regressions suggest that with respect to income -- the main summary indicator for measured and unmeasured skills -- the selectivity of Israeli emigrants is positive. Those whose incomes grew faster than expected (relative to natives' income growth), tend to stay in the US. Unlike the case of schooling, returning students did not have a major impact on this finding.

A possible explanation for these results is that those who earn less (i.e., the less skilled) in each schooling level, tend to return to Israel, whereas the high earners in each schooling level tend to remain in the US. At each schooling level income is dispersed according to unmeasured traits. Apparently, the unmeasured traits of those who left were not as productive to the US labor market as those who remained in the US. It is interesting to note that a similar pattern of migration selectivity was observed between the US and Canada. The Americans who immigrate to Canada are of relatively high schooling. But an analysis of their earnings in the Canadian labor market reveals that they are not as successful as their schooling suggests (Borjas, 1990). Apparently, the less productive among highly educated Americans emigrate to Canada.

At a broader level, the empirical results suggest that the implicit assumption of many migrant assimilation studies -- that return migration is random with respect to skills -- is unwarranted, and must be empirically verified. Moreover, relying on schooling as the sole measure of immigrant skills, as done by some studies of return migration, may be misleading. Similar to previous research (Toren, 1976, 1978; Ritterband 1978), we found

regressions are the period effect for 1990 and the interaction effect between 1990 and degree. For both groups the interaction is positive and large: .27 for Israelis and natives. It reflects the rise in returns to higher education experienced by highly educated workers in the US during the 1980s compared to the 1970s. However, the effect for 1990 is negative (-.17) and statistically significant among natives, but not (-.08) and not significant among Israeli immigrants. Taken together, according to equation (3), the advantage in income growth of Israelis over natives ( $\Delta q$ ) is thus 11 percent. In other words, controlling for all measured characteristics (including years since migration and being a student<sup>11</sup>), the income of Israelis increased by 11 percent more than that of natives. Since we controlled for years since migration, the only process that could explain this result is negative selectivity in unmeasured characteristics among Israeli immigrants, namely, that those who should have earned less given their characteristics, left the US between 1980 and 1990. As a result, the remaining Israelis improved their income relative to natives, whose composition is not expected to change between 1980 and 1990.

### **Summary and Conclusions**

Results presented above, regarding the type of selectivity among Israeli born emigrants from the US to Israel, appear to be mixed: On the one hand, among both men and women, the descriptive statistics of years of schooling and percent college graduates show that highly educated Israelis tend to leave the US more than less educated. Thus, with respect to the key measured indicator of skills -- education -- we found positive selectivity on return migration. In large part this pattern of selection is due to high rates of return

man's (1980) correction, and found that the results with and without the correction are appreciably the same. We therefore present below the results without Heckman's correction.

<Table 2 here>

Table 2 presents the means and standard deviations of all variables used in the analysis, for immigrants and natives, by year of survey. The standard deviation in ln (income) among Israeli immigrants declined from .84 in 1980 to .82 in 1990 (Table 2). Although this decline is small and statistically insignificant, it is in contrast to a 10 percent increase (from 0.79) in the standard deviation among natives during the same period. The rising income dispersion among natives reflects several processes (e.g., aging, rising income inequality in the US between 1980 and 1990) that most likely affected immigrants as well. The income dispersion among Israeli immigrants did not increase during this period. Thus, in this case, we conclude that the income dispersion data are consistent with a process of non-random return migration among Israelis.

<Table 3 here>

Table 3 presents regression results aimed at detecting the type of selection among immigrants. The independent variables used in the regressions are annual hours of work, age squared, years of schooling, years since migration, years since migration squared, binary variables coded as 1 if the respondent is salaried, if the observation was drawn from the 1990 census, if the respondent has a B.A. degree, if he speaks English "very well" or only English, if he is a student, and if he does not live in the South. Column 1 presents the results for all Israeli-born Jewish men and column 2 presents the results for the native born American men of the same characteristics. The coefficients of interest in

: bias the results regarding the period effect. The choice of 50 as the upper bound for  
argely solves this potential problem.

dependent variable is ln annual income from work and self employment, expressed in  
dollars<sup>10</sup>. We use income rather than earnings because many Israeli immigrants  
change their labor market status during the 10 year period from salaried to self-employed  
vice versa. The proportion of self-employed among Israelis is very high -- 22 percent  
in their first decade in the US, and 35 percent in their second decade (Table 2). If we  
include salaried immigrants in 1980 who turned to be self employed in 1990, the model  
forces us to assume that they emigrated, and thus bias the results much more than by  
including the self employed in a standard earnings function.

A similar potential problem arises from the exclusion of the unemployed and those not in  
the labor force. Changes in labor force participation rates may bias the results if there is  
selectivity in participation rates among immigrants and/or natives. For example, if less  
skilled immigrants left the labor force between 1980 and 1990, our model forces us to  
assume that they emigrated. Not surprisingly, however, participation rates among Israelis  
are higher in 1990 than in 1980. In 1980, 86.2 percent of all 25-50 Israeli-born men,  
satisfying the conditions imposed for entering the analysis -- working for at least four weeks  
with an annual income of at least \$1,000. By 1990, after spending additional 10 years in the  
US, the respective proportion rose to 95.3 percent. Among natives the proportion of  
those satisfying the conditions was higher in 1980 (94.0 percent) than in 1990 (91.0  
percent). We checked for possible selectivity in being included in the analysis using