CARESS Working Papr 98-04

The Effects of Immigration on Socioeconomic Gaps in a Labor Managed System Versus in a Competitive System*

Yochanan Shachmurove
Department of Economics
The City College of the City University of New York and The University of Pennsylvania

Tikva Leker
Department of Economics
Bar-Ilan University

April 1998

Abstract

While most studies on immigration focus on its impact on the labor market, in this study we address its effect on socioeconomic gaps. By studying Israeli immigration,m we examine the effects of mass immigration on socioeconomic gaps among generations using the Israeli Censuses for 1961 and 1983. We look at the socioeconomic gaps within two difference economic systems within the same economy. One system is perfect competition oriented while the second, the kibbutz, is organized as a labor-managed firm. Both generations distinguished between the different ethnic groups and the parents' country of origin. In particular, three groups are examined, in the first generation using the 1961 census, those who were born in Asian and African countries, in European and American countries, and in Israel. In the second generation, using the 1983 census, we look at those whose fathers were born in the respective areas. The analysis

*We would like to thank Jere Behrman, Joseph Deutsch, Lawrence Klein and Herb Levine.

decomposes the Occupation Socioeconomic Score (OSS) differentials into human capital and market evaluation differences for each generation separately. The model develops a gap function that quantifies the socioeconomic gaps and uses iso-gap curves to compare pre-immigration and post-immigration gaps.The study finds that the score differentials among the examined groups in the kibbutz are lower than in the city, prior to the second wave of immigration. Even after the second wave of immigration the score differentials in the kibbutz, among the examined groups, are lower than in the city. We attempt to explain this occurrence by looking at how society in the kibbutz differs in the treatment of immigrants. In particular, we focus on how the kibbutz, because of its size and reward structure, is able to internalize certain externalities and aim at a relatively higher level of education for all.

JEL classification Numbr: F22, D7, D7, H4, I2, J3, P32.

1. Introduction

Most studies on immigration concentrate on the effects immigration has on the labor market (see, among others, Abowd and Freeman, eds. 1991, Borjas and Freeman, eds. 1992 and Lecker, 1995). Many of these studies compare the earnings and employment opportunities between the native and immigrant populations, dealing specifically with the wage differentials between these two groups.

This paper examines the effects of the mass political migration on the socioeconomic gaps in Israel. By using the occupational socioeconomic index for Israeli occupations, this paper presents an empirical analysis that compares the socioeconomic gaps within and outside the kibbutz. The analysis deals with two generations. The first generation includes immigrants to Israel and the native-born population, while the second generation is considered to be their sons. The analysis also decomposes the score differentials into human capital and market evaluation differences for each generation, separately.

In addition, this paper presents a model that may explain the empirical results. It compares the effect of a wave of political immigrants (see, for example, Chiswick, 1982) on the socioeconomic gaps between two different economic systems. One system is assumed to be perfectly competitive, while the second is organized as a labor-managed firm. On the labor-managed firm (LMF) in transition economies and on the optimum size of the LMF, see, for example, Shachmurove and Spiegel, 1996. For the LMF in transition economies, see Shachmurove and Spiegel, 1995B. The

model develops a gap function that quantifies the socioeconomic gaps and uses iso-gap curves to compare the pre-migration and the post-migration gaps.

After a brief introduction of the kibbutz in Israel, serving as background to the analysis in Section II, Section III describes the data used. The methodology, statistical analysis, and main findings follow in section IV. The model is presented in section V. Finally, section VI summarizes the study.

2. The Kibbutz

The kibbutz is a small, collective rural community in Israel, based on voluntary membership. The kibbutz integrates both production and household functions. Income in the kibbutz is derived from production, to which individuals do not necessarily contribute equally. Yet, equality is the principle that is supposed to govern income distribution. There are no income accounts and the concept of a wage is meaningless. Income is distributed "to each according to his needs, within the means of the community" (Barkai, 1977, p. 11). In 1983, there were 114,814 members in 267 settlements, constituting 3.4 percent of the Jewish population in Israel (Israeli Census, 1983).

Since the kibbutz has incorporated socioeconomic equality as a valued goal, it may seem meaningless to compare the socioeconomic gaps within and outside the kibbutz. If we assume equality causes no significant dispersion of socioeconomic scores inside the kibbutz, it can be inferred that score differentials do not exist. However, reality differs from these ideological assumptions. The data to be presented later shows that there does exist statistically significant score dispersion within the kibbutz.

The question we address is whether the deep ideological commitment of the kibbutz to equality results in the closing of gaps between the first and second generation, including immigrants, native-born Israelis, and their sons.

3. Data

A mass political immigration to Israel occurred during the first decade of its existence. The Israeli Declaration of Independence in 1948 stated that all Jews from the Diaspora have the right to

immigrate and become immediate citizens of Israel. As a result, two large waves of immigrants arrived in Israel between 1948 and 1960. The first wave, arriving between 1948 and 1952, more than doubled the size of the Jewish population in Israel, from 650,000 in 1948 to 1,500,000 in 1952. The second wave of immigrants arrived in Israel between 1954 and 1960 (*see*, Darvish-Lecker, 1990). Consequently, the kibbutzim (plural of kibbutz) absorbed many immigrants and developed rapidly.[1]

This study compares the socioeconomic gaps in the kibbutz with those outside it in 1961 and 1983. The analysis deals with two generations. The first generation includes the immigrants to Israel and the native-born population, while the second generation is comprised of their sons. Since wages in the kibbutz are meaningless, the comparison uses Tyree's Occupation Socioeconomic Index for Israel. The index for two-digit definition was used where the score range is from zero to one hundred (Tyree, 1981).[2] The data, except for the occupation socioeconomic score (OSS), was derived from the Israeli Census of Population, for the years 1961 and 1983 (20 percent questionnaire each).

The examined sample includes members of kibbutzim and wage earners outside the kibbutzim, who are divided into three categories according to their continent of origin. Thus, the sample includes three groups for each generation. The first generation in 1961 includes those who were born in Asian and African countries (A), in European and American countries (E), and those who

[1]For more details on the economic circumstances in the first decade after independence of Israel, *see* Halevi and Klinov-Malul, 1968. Studies on the integration of this mass Jewish immigration into society reveal an economic gap among Jewish ethnic groups, both in the first generation of immigrants and th second (*see*, for example, Amr (1988) and Benski et al. (1991). In 1957-58 the average monthly wage of males born in Asia or Africa amounted to only 63 percent of that of European or American born males, i.e., a 37 percent gap. By 1963-64 this gap had narrowed to 32 percent and it continued to shrink in the early 1970s. The weekly wage gap among male immigrants shrunk from 26 percent in 1968-69 to 13 percent in 1975-76 (Amir, 1988).

[2]Tyree's index is an Occupational Socioeconomic Index for Israel. It was statistically calculated from the data of income, years of schooling and occupations, which were derived from the Israeli Census of Populaton, 1972. Tyree followed Bogue (1963), who developed the ocuupational socioeconomic index for the U.S., including the average income and educational levels in each occupation, rather then Duncan's approach, which correlated the income and educational levels with the occupational prestige score to create the well-knowned Duncans' index (1961). It is worth mentioning the using the 1972 Tyree's index for 1961 and 1983 is like using the average scores between these two years.

were born in Israel (I). The second generation in 1983 is divided into those who were born in Israel, distinguishing between those individuals whose fathers were born in the three areas mentioned before, (A), (E), and (I).

The mass political immigration to Israel was comprised mostly of people from European and Middle-Eastern countries. The Jews arriving from Europe and the Americas were culturally similar, as were Jews from the Middle East. Notably, Jews, who later immigrated to Israel but had previously lived in America and Europe, spoke Yiddish at home and were neighbors to Christians. Similarly, Jews from the Middle East shared cultural traits from their countries of origin. Most of these Jews spoke Arabic and were neighbors to Muslims. Therefore, the European and American countries are considered in this study as one origin of migration, and the Islamic countries as another.

Tables 1 and 2 present the occupational (one-digit) distributions and the average OSS for the employed males in the kibbutz, compared to those outside the Kibbutz, by the continent of origin in 1961 and 1983, respectively.

As expected, these tables show an outstanding occupational difference between members of the kibbutz with wage earners in the city. In the kibbutz, there is a higher percentage of farm workers and a lower percentage of scientists, educators, professionals, and technical workers than in the general Israeli population. The Duncan's Index of Dissimilarity between the occupational distributions in the kibbutz and outside it was calculated for all three groups and its values were found to be similar: 53.1, 46.6, and 46.2 in 1961, and 43.6, 41.2, and 48.0 in 1983, for the groups A, E and I, respectively.[3]

Table 3 presents the characteristics of groups A, E, and I, in both generations, for the kibbutz and for the rest of the population. It reveals that for all three groups in both generations, the OSS inside the kibbutz is higher than the OSS outside the kibbutz. The OSS increased between 1961 and 1983 in the kibbutz and outside it.[4] Furthermore, Table 3 shows a lower dispersion in the human

[3]The Duncans' Index of Dissimilarity is defined as $D = 1/2 \sum \mid ki - oi \mid$, where, ki is the percentage of males in the kibbutz and oi is the percentage outside the kibbutz employed in occupation i (Duncan and Duncan, 1955).

[4]It is interesting to note that the ratio of the standard deviation and the average score, which measures the relative dispersion, is higher in the kibbutz than outside of it in all three groups in 1983 and is higher or almost equal in 1961. This finding shows that in the kibbutz there are OSS gaps among both generations of immigrants and of the

capital levels inside the kibbutz, relative to that outside the kibbutz, among both generations with higher years of schooling in 1961 and with similar years of schooling in 1983. There is higher educational similarity between the groups A, E, and I in the kibbutz than outside it in the number of years of schooling and in the distributions by the type of school. As can be calculated from Tables 1-3, the average years of schooling in the kibbutz, for all the groups combined, are 10.4 with a standard deviation of 2.3 for the 1961 sample, and 12.6 with a standard deviation of 1.8 for 1983. Similarly, the corresponding values for outside the kibbutz are 9.0 with a standard deviation of 3.3 years for the 1961 sample, and 12.4 with a standard deviation of 2.8 in the 1983 sample.

4. The Empirical Study

4.1. Methodology

To examine the OSS differentials we used the same methodology as was used in examining wage differentials (Oaxaca, 1973; Blinder, 1973; Cotton, 1988 and Oaxaca and Ransom, 1994). Using Oaxaca's methodology let S_{ij} be the OSS of individual i in group j. A socioeconomic score equation with the natural logarithm of OSS as dependent variable can be expressed as:

$$\text{In Si} = \sum \beta_j \cdot X_{ij} + \varepsilon_{ij} \tag{4.1}$$

where X_{ij} is a vector of observed characteristics, β_j is a vector of coefficients that are common to the members of group j, but may vary across groups (one of the coefficients is the intercept, for which $X = 1$), and ε_{ij} is the error term.

Now, the average observed log OSS for group i as can be estimated by:

$$\overline{\ln S_j} = \sum \overline{\beta}_j \overline{X}_j \tag{4.2}$$

where $\overline{\beta}_j$ is a vector of the least squares regression coefficients and $\overline{X}_j$ is a vector of the average observed characteristics of group j. Based on equation (2), the OSS differential between two groups a and b can be written as:

$$\overline{\ln S_a} - \overline{\ln S_b} = \sum \overline{\beta}_a \overline{X}_a - \sum \overline{\beta}_b \overline{X}_b \tag{4.3}$$

native-born population which stem from different occupational distributions.

where, with some elementary manipulations, the terms on the right-hand side of (3) can be decomposed into either:

$$\overline{\ln S_a} - \overline{\ln S_b} = \sum \overline{\beta}_a(\overline{X}_b - \overline{X}_a) + \sum \overline{X}_b(\overline{\beta}_b - \overline{\beta}_a \tag{4.4}$$

or,

$$\overline{\ln S_a} - \overline{\ln S_b} = \sum \overline{\beta}_b(\overline{X}_b - \overline{X}_a) + \sum \overline{X}_a(\overline{\beta}_b - \overline{\beta}_a \tag{4.5}$$

The two terms on the right-hand side of either (4) or (5) describe two parts of the OSS differential; those due to differences in average characteristics of the groups - the human capital differences, and those due to differences in the parameters of the OSS function - the market evaluation, respectively.

Traditionally, the human-capital characteristic in the analysis of wage differentials includes education and experience in the labor market. In this study, we include years of schooling, the last school attended (five types of schools), years of experience in the labor market, and the interaction between years of schooling and experience.[5]

4.2. Statistical Analysis

The empirical analysis compares the socioeconomic gaps in Israel within and outside the kibbutz in 1961 and 1983. The data in 1961 and 1983 corresponds to the "pre-immigration" and "post-immigration" stages, respectively. The fact that the mass political immigration to Israel occurred during its first decade of existence slowed the process of absorbing the immigrants. Thus, although 1961 is chronologically outside the time frame of the pre-immigration period, this year is similar to the pre-immigration period, from the economic point of view. Therefore, it is appropriate to use the 1961 data from the first Israeli census, for the "pre-immigration" stage, to test the model.

The analysis includes two parts. In the first part, we calculate and compare the OSS differentials in 1961 between the immigrant groups A and E with the Israeli native-born population (I). In 1983, we calculate the OSS differentials of the immigrants' sons who were born in Israel (A and E)

[5]The variable "Years of experience" is defined as age minus six minus years of schooling. Because the OSS includes an income component, we expect the same effects of the variables as in the wage equation, i.e., positive coefficients of schooling and type of schools, and an inverse U-shaped effect of years of experence on the OSS.

and the second generation of the Israeli native-born population (I) in the kibbutz and outside it. In the second part, OSS differentials are decomposed into human capital (explained) and market evaluation (unexplained) components. The explained component is decomposed to sub-components, according to the individual's resources. The empirical analysis compares the OSS differentials and their components in the kibbutz to those outside the kibbutz and examines the kibbutz's success in closing the gaps between the two generations of the immigrant and the native population in Israel.

Table 4 presents the OSS differentials and their decompositions of the examined groups within and outside the kibbutz for the first generation in 1961, and the second generation in 1983. Generally, it shows that in the cross-section comparisons, the OSS differentials in the kibbutz are lower than in the population outside of it for all three pairs of groups, except for the (E-I) pair in the first generation. The differential between groups I and A outside the kibbutz is almost five times as great as the differential inside the kibbutz. Between E and A, the differential is more than double in the second generation. Furthermore, Table 4 shows that, in a comparison of two time periods, the OSS differentials remain the same or decrease. For all three pairs of groups outside the kibbutz, the OSS differentials rise. These results show that the post-immigration gaps in the city and in the kibbutz are larger than the pre-immigration ones. Moreover, despite immigration, the kibbutz succeeds in closing the gaps.

The OSS differentials were calculated, based on the estimated OSS equations, for three pairs of groups (I-A, E-I, and E-A) in the kibbutz as well as outside of it in 1961 and 1983. These results are presented in Tables 5 and 6, for the 1961 and 1983 samples, respectively. In Table 5 for 1961, the (I-A) pair compares members of the native-born population with first-generation immigrants from Asian or African countries. In Table 6 for 1983, the (I-A) pair compares the second generation of the native-born population with Israeli born sons of Asian or African fathers. Similarly, the (E-I) pair compares the immigrants that arrived in Israel from European or American countries and their Israeli born sons to the native-born population. The (E-A) pair compares the immigrants who came from European or American countries and their Israeli born sons with those from Asian or African countries and their Israeli born sons, respectively.

Generally, the decomposition of the OSS differentials shows that the shares of the human capital components of the entire OSS differentials are higher in the second generation than in the first. This

means that the OSS differentials within and outside the kibbutz originate from differences in the characteristics of the individual, more than from differences in the market evaluation. Differences in the market evaluation of the same resources may be treated as a type of discrimination. It seems that both in the kibbutz and outside of it, such discrimination has decreased from the 1961 to the 1983 samples.

However, although the percentages of the non-discriminatory human capital component of the entire OSS differentials are high, for the second generation, the kibbutz has higher differentials than communities outside of it. This means that the market evaluation component, representing the elements of discrimination between the various ethnic groups in Israel, outside the kibbutz, is decreasing slower than inside it.

The decomposition of the human capital component of all the OSS gaps in the second- generation shows that, outside the kibbutz, the explained component of the three pairs of groups stem from differences in educational levels. Meanwhile, within the kibbutz, the differences in experience levels, is the important factor. In the next section, a model is presented that may serve as a possible explanation for the empirical results.[6]

5. The Model

The model deals with the impact of immigration on the socioeconomic gaps, comparing its effects on two different economic systems within an economy. One economic system is a "ity" reigned by a perfectly competitive environment. The second is a "kibbutz," organized as a labor managed firm. The model aims to explain the two main findings that are described in the empirical study. First, it shows that the average years of schooling in the kibbutz are higher than in the city and second, that the post-immigration gaps in the city are larger than in the kibbutz.

Assume an economy with two types of labor, $L_1^0(i = 1, 2)$, where the workers are different in their skill levels as measured by the average years of schooling for each group, $\overline{E}_1$ and $\overline{E}_2$, respectively, where $\overline{E}_1 > \overline{E}_2$. It follows that, , the average level of years of schooling of the labor force is equal

[6]We thank the referee for alerting the readers and us that the model presentd is one possibility for explaining the empirical findings presented above.

to:

$$E = [L_1^0 \cdot \overline{E}_1 + L_2^0 \cdot \overline{E}_2]/[L_1^0 + L_1^0] \tag{5.1}$$

The economy consists of two sectors, one sector which is relatively highly skilled and produces education, E, while the second produces good X. The motivation to invest in E arises from its two-folded characteristic, as a utility-providing commodity and as a factor of production. Without loss of generality, it is assumed that it is possible to ignore, during the pre-immigration stage, any positive externalities associated with increasing the educational level of a society. Both production functions are assumed to satisfy the neo-classical characteristics and assumptions, as follows:

$$E = E(L_{iE}), E'(L_{iE}) > \text{ and } E"(L_{iE}) < 0 \forall i = 1, 2 \tag{5.2}$$

and

$$X = X(L_{iX}, E), X_{Li} > 0, X_{LiLi} < 0, X_E > 0, X_{EE} < 0 \forall i = 1, 2 \tag{5.3}$$

where, L_{iE} and L_{iX} are the labor inputs in the sectors that produce E and X, respectively, and:

$$L_{iE} + L_{iX} = L_1^0 \forall i = 1, 2 \tag{5.4}$$

Given the above technologies for producing the two outputs, the economy is constrained by a Production Possibilities Frontier (PPF) as follows:

$$X = F(E \mid L_1^0 \forall i = 1, 2 \tag{5.5}$$

For the sake of simplicity, it is assumed that, initially, before the wave of immigration arrives, the native consumers maximize their utility from the two normal goods X and E, subject to their budget constraint. Since the labor markets are assumed to be perfectly competitive, the more educated workers (type 1) earn a higher real wage than the less educated workers (type 2). Furthermore, it is assumed that type 1 workers desire to consume more than type 2 workers. Since the workers are different in their educational levels and in their earnings, there are socioeconomic gaps (differentials) in the economy. In this model we assume ex-post gaps, i.e., that reducing gaps is not a social target. Thus, policy makers do not *ex-ante*, act towards the objective of closing the gaps. Therefore, it is assumed that the gaps can be quantified *ex-post*, by a gap-function, G, as follows:

$$\text{Gaps } = A_0 \cdot \text{ G(E,X} \mid \text{ d)}$$

where $G_E > 0$, $G_X > 0$, $G_{EE} < 0$, $G_{xx} < 0$, $G_{EX} = G_{XE} > 0$.[7] The term A_0 in the gap function is defined as the ratio of the average years of schooling of the first group of workers and the average years of schooling of the second group (i.e., $A_0 = \overline{E}_1/\overline{E}_2$). Assuming *ceteris paribus*, the higher this ratio, the higher the socioeconomic gaps. An alternative measure for A_0 can be the standard deviation of the years of schooling of the workers, where, *ceteris paribus*, the higher the dispersion of the years of schooling, the higher the socioeconomic gaps.

The term d is a given relative distribution of E and X, under perfectly competitive conditions. The assumption that G is a positively increasing function of both products, originates from the fact that increasing the production of E and X, for the same relative distribution, will increase the consumption of E and X for the highly-educated workers more than for the less educated workers. As a result, the gap increases.[8] Given the function $G(X, E)$, iso-gap curves can be defined where each curve is the locus of all the bundles of X and E that maintain the same level of gap. Under the properties of the gap function, the iso-gap curves are concave. Thus, each iso-gap curve is defined as:

$$\text{Gap} \ = A_0 \cdot \ \text{G(E,X)} \ = \ \text{G}_0 \tag{5.6}$$

Using equation (12) the marginal rate of gap-transformation (RGT) is defined by:

$$RGT = -G_E/G_x \tag{5.7}$$

It is reasonable to accept the idea of a gap function considering the objectives of this study. For newly established countries, such as Israel in 1948, the newly independent nations in Africa during the 1970s, or the United States in 1776, the main ladder for achieving socioeconomic recognition

[7] Even if $G_{ee} > 0$ and $G_{xx} > 0$, the main results may stay the same. Moreover, in this paper we do not deal with the debate on inequality changes with income growth, i.e., with the traditional inequality indices leading to an *inverted* U-shaped pattern of inequality (*see* Kuznets, 1955) or whether growth generates a U-shaped pattern of inequality (*see*, for example, Fields, 1987). In both paths of inequality changes, the results may remain the same. An alternative measure for A_0 can be the standard deviation of the workers' years of schooling where, *ceteris paribus*, the higher the dispersion of the years of schooling, the higher the socioeconomic gaps.

[8] It is assumed that in the short-run the effect of the produced education on the heterogeneity of the labor force is negligible on the supply side (i.e., on the production function), but not on the demand side (i.e., on the consumption of X and E).

was through education. This is especially true where the population was relatively homogeneous, without large differences in the ability of the people to consume and produce the good X.

This last argument supports the assumption that, under perfectly competitive conditions, one reallocated unit of labor removed from producing X and devoted to education, will decrease the socioeconomic gap by more than one unit of labor allocated for producing the product X. This assumption still holds, even if the effect of increasing the average years of schooling is higher for post-graduates than for primary educated workers, provided a minimum need for X is obtained. This assumption implies that, in absolute terms, the marginal Rate of Production-Transformation (RPT) is lower than the marginal Rate of Gap-Transformation (RGT). Formally,

$$\mid RPT \mid = F_E/F_x < G_E/G_X = \mid RGT \mid, \forall (E,X) \varepsilon\text{-}\ ^{E \oplus X} \tag{5.8}$$

Figure 1 illustrates the relationship of the gap-function and the production possibility frontier under the above assumptions.

The curve AB in figure 1 represents the production possibilities frontier between E and X. Since every combination of E and X creates a different level of gap, through each bundle on AB (e.g., A_1, A_2 and A_3) passes a downward sloping iso-gap curve (G_1, G_2 and G_3, respectively) which is steeper than the curve AB. A movement along the curve AB from A_1 to A_3 will increase the socioeconomic gap, i.e., $G_3 > G_2 > G_1$.

Now assume that immigrants enter the economy, where their number does not exceed the native population size and they are more heterogeneous in their spectrum of years of schooling, relative to the existing population. In other words, after immigration, $\overline{E}_1$ will be the same or higher, and $\overline{E}_2$ will be the same or lower so that the term A_0, in the gap-function, is higher as illustrated by equation 11. Thus, the immediate impact of immigration is to increase the level of the socioeconomic gaps. In other words, increasing A_0 does not effect the form of the iso-gap curves. Rather, it increases the level of the gap that is expressed by each curve.

Under the assumption that the sector which produces education is education-intensive, an immigrant is, on average, less efficient in producing education, E, than in producing X. In other words, it is more difficult for an immigrant, who is an unskilled worker, to perform the task of a

skilled one. As a result of immigration and the above assumptions on the distribution of newcomers, the relative price of education will rise and P_x/P_E will fall. The increase in the relative price of education will cause an increase in the level of consumption of X, but the change in the consumption of E is ambiguous for both the city and the kibbutz.

It is worth noting that when P_X/P_E decreases and X and are E normal goods, the substitution effect will increase the consumption of X and decrease the consumption of E, while the income effect is positive for both X and E. Thus, the combined effects for X are clearly positive while the effects for E are ambiguous.

The kibbutz differs from the city because it is structured as a small, producing and consuming economic community. As such, the kibbutz is able to internalize the positive externalities of education. The kibbutz child does not have to "go" to school, because she is already there. Having the classroom in the same house where the child lives permits flexibility in scheduling. Therefore, the school and non-school parts of the day can be blended together. Moreover, classes in the Kibbutz are relatively small, generally 10-12 students. In contrast, schools that city children attend are relatively large and tend to serve several neighborhoods. In the 1980's, the average classroom composed of 35 children and generally, schools in the city had several classrooms for each grade level (Devereux et. al., 1983). On the importance of size in economics, especially the benefits of being small, see Shachmurove and Spiegel, 1995A.

Moreover, the role of city teachers contrasts sharply with their counterparts in the kibbutz. The teacher may come from a quite different background from that of the children she teaches, and may live in a different part of the city. She has little basis for contact with the parents of her students and rarely sees the children outside the school setting. As opposed to the city, the special circumstances and features of the educational system in the kibbutz create an atmosphere of collective equal support that increases the level of education for its members.

Furthermore, a kibbutz member accumulates benefits that are available only if he stays within the community. An individual that leaves will lose almost all the benefits he has accrued. As a result, members of the kibbutz are aware that they will be able to directly benefit from any investment in education that he takes upon himself. Since the positive externalities of education are internalized in the kibbutz, members will tend to invest more in their education. As the individual

matures, becomes more experienced, and productive, he is worth more to the community and at the same time, less likely to leave the community.

Based on all the arguments presented above, the kibbutz is capable of offering more education for any given price ratio. The meaning of this difference between the city and the kibbutz is that in equilibrium:

$$RPT_K < RPT_C = P_X/P_E \tag{5.9}$$

where P_X/P_E is the price ratio of X to E and RPT_K and RPT_C are the marginal rates of production-transformation in the kibbutz and the city, respectively (for a given PPF).

Figure 2 illustrates the pre-immigration and post-immigration positions. It visualizes the effect of immigration on the existing gaps. For the sake of simplicity, it is assumed that the curve DF represents the production possibility frontier in the pre-immigration stage in both the city and the kibbutz. Point A is the initial equilibrium and the line G_0 is its corresponding iso-gap curve, for both the city and the kibbutz. One may think of G_0 as a normalization of the gap between the kibbutz and the city.

In the post-immigration stage, under the assumptions of the characteristics of the immigrants in comparison to the native population, the curve DF shifts to the IH curve. Again, it is assumed that IH represents the PPF in both the city and the kibbutz. As a result of the rise of P_X/P_E, the new equilibrium points for the city and the kibbutz are to the right of point T (where $X = X_0$). However, under condition (15), the new equilibrium in the city (point A_C in figure 2) is to the right of the equilibrium point for the kibbutz (point A_k).[9] The corresponding iso-gap curves are G_C and G_K for the city and the kibbutz, respectively, where G_C represents a higher gap level than G_K. Although the gaps increase as a result of immigration, the gap increases more in the city than in the kibbutz. It is worth mentioning that this conclusion is strengthened by the fact that in the kibbutz, which operates as a labor-managed firm, at least a part of E and X is equally distributed among its members.

We see that both conclusions of the model are in accordance with the main findings of the empirical study. First, the level of education in the kibbutz is higher than in the city because the

[9]Figure 2 shows that the consumption of E for both the city and the kibbutz fall compared to the intial point A but it can also be that both levels of E rise or the level of eduction, E rises in the kibbutz and falls in the city.

kibbutz can internalize positive externalities. Second, after migration, the gaps in the city increase more than in the kibbutz.

6. Summary

This paper introduces an empirical study which compares the occupational socioeconomic score differentials among two generations within and outside the kibbutz. The first generation is comprised of immigrants to Israel and the native-born population, while the second generation is comprised of their sons. Each cross-section comparison shows that the OSS differentials in the kibbutz are lower than outside of it. The comparison of two time periods shows that the post-immigration gaps between the city and the kibbutz are larger than the pre-immigration gaps.

This paper also presents a model that attempts to explain the empirical results. It compares the effects of political immigration on the socioeconomic gaps in the economy of both the kibbutz and the city. The model is in accordance with the main findings of the empirical study. First, the level of education in the kibbutz is higher than in the city because the kibbutz can internalize positive externalities. Second, after migration, the gaps in the city increase more than in the kibbutz. Therefore, members of the kibbutz are exposed to higher education and lower socioeconomic gaps.

References

[1] Abowd, J. and Freeman, R. (eds.): Immigration, Trade and the Labor Market, Chicago, University of Chicago Press (1991).

[2] Amir, S.: Trends in Wage Differentials between Jewish Males of Different Ethnic Origin During the 1970s. *Economic Review* 63, 76-87 (1988).

[3] Barkai, H.: Growth Pattern of the Kibbutz Economy, North Holland (1977).

[4] Benski, T., Don, Y., Krausz, E. and Lecker-Darvish, T.: Iraqi Jews in Israel, Social and Economic Integration. Bar-Ilan University Press and Institute for Research on Iraqi Jewry, Ramat-Gan and Or Yehuda (1991).

[5] Blinder, A.S.:Wage Discrimination: Reduced Form and Structural Estimates. *Journal of Human Resources* 81, 436-455 (1973).

[6] Bogue, D.J.: Skid Row in American Cities. University of Chicago, Community and Family Study Center, Chicago, Chapter 4 and Appendix (1963).

[7] Borjas, G. and Freeman, R. (eds.): Immigration and the Work Force. Chicago, University of Chicago Press (1992).

[8] Chiswick, B.R.: The Employment of Immigrants in the United States. A Study in Contemporary Economic Problems. American Enterprise Institute, Washington and London (1982).

[9] Cotton, J.: On the Decomposition of Wage Differentials. *The Review of Economics and Statistics* 70, 236-243 (1988).

[10] Darvish-Lecker, T.: Externalities in Migration. *Economics Letters* 33, 185-191 (1990).

[11] Devereux, E.C. et al: Socialization Practices of Parents, Teachers and Peers in Israel: The Kibbutz versus the City. in E. Krausz, ed., The Sociology of the Kibbutz, The Israel Sociological Society (1983).

[12] Duncan, O. and Duncan, B.: A Methodological Analysis of Segregation Indexes. *American Sociological Review* 20, 210-217 (1995).

[13] Duncan, O.D.: A Socioeconomic Index for All Occupations. in Reiss, A.J. (ed.) Occupations and Social Status, The Free Press, New York, 109-138 (1961).

[14] Fields, G.S.: Measuring Inequality Change in an Economy With Income Growth. *Journal of Development Economics* 26, 357-374 (1987).

[15] Halevi, N. and Klinov-Malul R.: The Economic Development of Israel, Jerusalem and New York: Frederick A. Praeger Publishers with the Bank of Israel (1968).

[16] Kuznets, S.: Economic Growth and Income Inequality. *American Economic Review* (1955).

[17] Lecker, T.: Migrants' Performance in the Labor Market: The Latter the Better. *International Advances in Economic Research* 1, 3, 187-196 (1995).

[18] Oaxaca, R.: Male-Female Wage Differentials in Urban Labor Market. *International Economic Review* 9, 693-709 (1973).

[19] Oaxaca, R. and Ransom, M.: On Discrimination and the Decomposition of Wage Differentials. *Journal of Econometrics* 61,4, 5-21 (1994).

[20] Shachmurove, Y., and Spiegel U.: The Optimum Size of the Labor-Managed Firm. *Atlantic Economic Journal* 24,2, 110-117 (1996).

[21] Shachmurove, Y., and Spiegel U.: On Nations' Size and Transportation Costs. *Review of International Economics* 3,2, 235 -243 (1995A).

[22] Shachmurove, Y., and Spiegel U.: Labor-Managed Firms in Transition Economies. *Comparative Economic Studies* 37,1, 39-53, Spring (1995B).

[23] Tyree, A.: A Socioeconomic Occupational Status in Israeli Society. *Megamot* 27, 7-21 (in Hebrew) (1981).