Two Dimensions to Immigrants' Economic Incorporation:

Soviet Immigrants in the Israeli Labour Market

Anastasia Gorodzeisky

and

Moshe Semyonov

Revised August 2009

Anastasia Gorodzeisky is a researcher in CEACS at Juan March Institute, Madrid. Correspondence to: CEACS, Juan March Institute, Calle Castello, 77 Madrid 28006, Spain. Email: agorodzeisky@ceacs.march.es

Moshe Semyonov is Bernard and Audre Rapoport Professor of the Sociology of Labor at Tel Aviv University and also Professor of Sociology at the University of Illinois at Chicago. Correspondence to: Department of Sociology and Department of Labor Studies, Tel Aviv University, Ramat Aviv, Tel Aviv 69978, Israel. Email: moshes@post.tau.ac.il

Two Dimensions to Immigrants' Economic Incorporation:

Soviet Immigrants in the Israeli Labour Market

Abstract

The present research examines the economic integration of immigrants from the Former Soviet Union (hereafter, also FSU) in the Israeli labour market in terms of occupational mobility (i.e. decreasing occupational disparities) and earnings mobility (i.e. decreasing earnings disparities) in comparison with several Israeli Jewish sub-populations. The data were taken from the annual Income Surveys conducted by the Israel Bureau of Statistics between the years 1995 and 2006. Analysis of the data reveals little occupational and earnings mobility of Soviet immigrants throughout the period and substantial occupational and earnings disadvantages compared to all Jewish sub-populations. Although FSU immigrants have experienced some socioeconomic advancement over the years, fifteen years after arrival in Israel, they are still lagging behind all Jewish sub-populations, especially behind Jews of European-American origin, in attainment of socioeconomic outcomes. The findings are discussed in light of the assimilation model suggesting that the social and economic circumstances associated with the arrival of Soviet immigrants in Israel have long lasting detrimental consequences for their economic assimilation.

Keywords: immigration, labour market, inequality, ethnicity, Israel

Two Dimensions to Immigrants' Economic Incorporation:

Soviet Immigrants in the Israeli Labour Market

1. Introduction

Students of immigration have uniformly observed that immigrants tend to experience hardships in finding suitable employment and rewarding jobs upon arrival in the host country. With the passage of time, however, most immigrants experience upward occupational and earnings mobility (Borjas 1982, 1994; Broom and Gunderson 1991, Chiswick 1978, 1979; Chiswick and Miller 1998; Kogan 2003; Raijman and Semyonov 1995). Consequently, many immigrant groups are able to close occupational and earnings gaps and to achieve parity with native-born and other sub-populations in attainment of economic outcomes. From a theoretical point of view these findings suggest that - to a great extent - the economic integration of immigrants stems from their social and cultural integration. When immigrants master the language, acquire social and cultural skills and develop social ties in the new country, they are in a better position to compete for more desirable and better-paying occupations and to increase earnings.

Although the literature on economic integration of immigrants has grown and become substantial, it is only rarely that researchers have simultaneously examined the two major dynamic mechanisms through which economic advancement of immigrants takes place: upward occupational mobility (i.e. decreasing inequality in attainment of occupations) and upward earnings mobility (i.e. decreasing earnings inequality within occupations). Likewise, researchers have also seldom examined the integration of a new immigrant population in comparison with several sub-populations. In this regard, the arrival of mass immigration from the Former Soviet Union (FSU) to Israel in 1989 provides us with a unique opportunity to examine the dynamic incorporation of an immigrant group into the labour market of the host

society in terms of both upward occupational mobility and upward earnings mobility in comparison to multiple sub-populations.

In what follows we first review previous theory and research on the subject; second, we outline the context of Israeli society and immigration to Israel; third, we propose an integrative analytical model that enables an estimation of both over time change in attainment of occupational status and in earnings of immigrants as compared to other sub-populations; and fourth, we present findings resulting from our analyses and discuss their meaning in the light of the assimilation theoretical model and previous research. By so doing this paper contributes to a better understanding of the dynamic mechanisms of immigrants' incorporation into the labour market of the host society.

2. Previous Theory and Research

Studies that focus on the economic incorporation of immigrants into the labour market of the host society have arrived at two main conclusions. First, upon arrival immigrants often experience considerable hardships in attaining suitable employment and rewarding jobs. Second, with the passage of time immigrants are likely to improve their relative position in the labour market of the host society. (e.g. Chiswick 1978, 1982, Chiswick and Miller 1988; Semyonov 1997). The difficulties that immigrants face in the labour market of the host society after arrival are attributed, according to the assimilation model, to their limited access to information, restricted knowledge of the new society, lack of ties and connections, limited access to social networks, lack of language proficiency, and inadequate professional skills. Consequently, immigrants often compromise and take lower status and lower-paying jobs than the ones they had in their country of origin. With the passage of time, however, immigrants learn the language, acquire necessary cultural skills, develop social ties, and adjust their professional skills to the demand and requirements of the labour market of the

host society. Consequently, they find jobs that better fit their skills and, thus, are able to improve their occupational status and earnings (e.g. Borjas 1982, 1994; Broom and Gunderson 1991; Chiswick 1978; Kogan 2003; Raijman and Semyonov 1995).

There are two major complementary mechanisms through which economic mobility of immigrants takes place. The first is due to intra-generational occupational transitions. Over the years immigrants are able to find jobs of higher status and of higher earnings than the ones they had taken upon arrival in the new country. That is, with the passage of time they are able to move into occupations that better fit their skills and qualifications. The second is that over time they experience an improvement in earnings due to promotion and advancement within occupational labour markets. Consequently, immigrants are able to attain earnings returns on human capital resources that are more similar and more equal to the earnings returns of the native born populations employed within the same occupational strata of the labour market.

Although often viewed as a source of competition for some members of the host society, immigrants can also become a source of opportunity for other members of that same society. The presence of a large pool of subordinate and vulnerable people in the labour market may also provide opportunities for members of the majority population (especially members of groups at the top of the social hierarchy) to 'overflow' to higher-paying jobs (e.g. Lewin-Epstein and Semyonov 1986). Specifically, an influx of a large body of immigrants into the labour market of the host society may generate opportunities in the form of new jobs and labour market expansion. Indeed, it was demonstrated by Lewin-Epstein and Semyonov (1986) that 'when more than one group stood to benefit from entry and growth of the subordinate group, those at the top benefited more from the compositional change' (1986: 351).

The economic success of immigrants in the host society and the impact they have on the relative positions of other sub-populations are largely dependent on immigrants' socio-

demographic profile (e.g. gender, age) and human-capital resources (e.g. education, language). Notwithstanding the impact of human-capital attributes on economic performance, researchers have also demonstrated that immigrants' success in the labour market is dependent on characteristics of country of origin, context of reception, period of arrival and the size and quality of the immigration cohort (e.g. Cohen and Haberfeld 2007; Kogan 2003, 2006; Portes and Rumbaut 1990; Raijman and Semyonov 1995, 1998). That is, immigrants that arrive during periods of economic decline and periods of mass migration are more likely to face greater competition and greater difficulties in the labour market of the host society than immigrants who arrive during periods of economic growth and low levels of migration.

This paper focuses on the integration of one cohort of immigrants (i.e. immigrants from the Former Soviet Union who arrived in 1990-91 to Israel), and compares this specific cohort to several other sub-groups in the Israeli labour market. We propose a model that enables not only an examination of occupational and earnings mobility but also a simultaneous estimation of the two major mechanisms through which economic integration takes place: occupational mobility (i.e. decreasing disparities along hierarchical occupational order) and earnings mobility (i.e. decreasing earnings disparities within occupational labour markets). By focusing on one cohort of immigrants that arrived at the same time from the same country and by introducing an analytical model that combines both individuals and their occupations over time we will be in a position to control for differences due to variations in characteristics of country of origin, specific period of arrival and size of the immigration flow. As a result we will be able to arrive at accurate estimates of immigrant integration in terms of occupational status and earnings, as compared to other groups.

3. The Setting -- Israel an Immigrant Society

Israel is a society of immigrants inhabited by Jews and Arabs[1]. Currently over fifty percent of the Jewish population of Israel are first generation immigrants and most others are sons and daughters of immigrants. Indeed, the ethnic composition of Israel has been shaped by immigration flows. The first Jewish immigrants had begun arriving in Palestine at the turn of the twentieth century with the goal of establishing a Jewish state. Most of the early immigrants came from Eastern and Central European countries and when the state was established in 1948 they numbered around 600,000 people. These early immigrants were in a better position than any other group to occupy the most desirable positions in the social, economic and political system of the new state.

Shortly after statehood Israel had begun absorbing a large influx of immigrants (most came as refugees) from the Muslim countries in Central Asia and North Africa along with European survivors of the holocaust. Consequently, during the first decade after statehood the population of Israel almost tripled. The new immigrants (especially those of Asian or North African origin) had experienced considerable hardships in integrating and adjusting to the Israeli social and economic system. Even to-date – sixty years after the establishment of the state – immigrants from Asia and North Africa are still disadvantaged in terms of their attainment of socioeconomic rewards (e.g. Cohen et al. 2007; Haberfeld and Cohen 2007).

After the first decade of independence immigration to Israel had slowed down and become smaller in size and scope, and more scattered. This change was predominantly influenced by push factors in countries of origin. During the three decades between 1960 and late 1980 Israel had experienced slow streams of Jewish immigration from a variety of countries in North and South America, South Africa, Eastern Europe, Iran and Ethiopia, to name just a few.

The year 1989 was a turning point in the immigration flows to Israel. Since the disintegration of the Soviet Union, Israel has experienced the largest influx of immigrants since the establishment of the state. More than one million Jewish immigrants and their family members had left the Soviet Union and made Israel their new home (more than 400,000 people arrived between 1990 and 1991). Consequently, during one decade the population of Israel increased by 20 percent. This immigrant population was disproportionately characterised by people with academic education and professional occupations (e.g. Cohen and Haberfeld 2007; Cohen and Kogan 2007; Friedberg 2001; Haberfeld et al. 2000; Raijman and Semyonov 1998; Remennick 2003). Despite their professional skills and the substantial support they received from the government[2], many faced difficulties in findings suitable jobs and most experienced substantial downward occupational mobility upon arrival (Friedberg 2000; Raijman and Semyonov 1998; Remennick 2003; Stier and Levanon 2003).

Intermediate assessments suggest that most immigrants have experienced a gradual and steady improvement in their relative social and economic position but that they have not yet closed the gaps with the Israeli born group or with immigrants that arrived at earlier periods (Cohen and Haberfeld 2007; Cohen and Kogan 2007; Cohen Goldner and Weiss 2009; Haberfeld et al 2000; Lewin-Epstein et al 2003; Raijman and Semyonov 1998; Remennick 2003). Unfortunately, most studies that focused on the occupational and earnings attainment of the Soviet immigrants were conducted shortly after their arrival[3] and a comprehensive and systematic evaluation of their economic incorporation in comparison to other major ethnic groups not been offered to date. This is the major goal of the present analysis.

When considering the facts that most FSU immigrants are highly educated, that they had received substantial support and that most belong to the dominant ethnic group in Israel (Jews of European origin), we might have expected them to experience, with the passage of time, a significant rate of upward occupational and earning mobility within occupations. As a result of this progress we would have expected them to close the gaps with other Jewish sub-populations. More specifically, we would have expected FSU immigrants to close the gap with Jews of Asian-African origin (the subordinate Jewish group) at a faster rate than with Jews of European- American descent (the dominant group). Our analyses will be conducted separately for men and women, reflecting the accumulated knowledge that demonstrates that the incorporation of immigrants into the labour market of the host society differs for the two gender groups (e.g. Raijman and Semyonov 1997; Rebhun 2008). Indeed, the study of Soviet immigrants provides a unique opportunity to examine economic mobility of immigrants that arrived under difficult conditions but at the same time are highly qualified in terms of educational and professional skills and are members of the dominant ethnic sub-population.

4. Data and Variables

Data for the present analysis were taken from the Income Surveys conducted annually by the Israeli Central Bureau of Statistics (as part of the Labour Force Surveys) for the years 1995-2006. The Surveys cover all households in Israel. They provide information regarding social and demographic characteristics as well as labour force activity and earnings for all members of the household age 15 years and over. Data for the present analysis pertain to one cohort -- those who were born in 1940- 1965.

For the purpose of the analysis and in order to increase the number of cases to ensure reliable statistical estimates we assembled the surveys into four distinct time periods: 1995-1997, 1998-200, 2001-2003, and 2004-2006. For each time-period we identified FSU

immigrants who were born in 1940-1965 and who arrived in Israel during the 1990 -1991 period (immediately after the disintegration of the FSU). We compare those immigrants (who were 25-51 years of age upon arrival) to other Jewish groups in the Israeli labour market of the same cohort (also 25-51 years of age in 1990-1991). By so doing we track one cohort of immigrants and compare this cohort with respective Jewish cohorts throughout the entire period.

We start by comparing the position of the FSU immigrants to other groups in the labour market 4-5 years after arrival to Israel, for two main reasons. First, state support starts immediately upon arrival but continues in the form of re-training programmes, reduced income tax, scholarship for academic studies and tax exemption on income from abroad for several years. After this initial period immigrants are rarely entitled to extra benefits. Second, we operate under the premise that five years after arrival immigrants have acquired sufficient knowledge of the language, have completed training and re-training programmes, have passed professional exams, and have taken standard full-time employment instead of part-time and temporal work [4].

The Soviet immigrants are compared to the following Jewish sub-groups: 1) Jewish immigrants who arrived in Israel from countries in Asia or Africa before 1989 (hereafter ASAF); 2) Jewish immigrants who arrived in Israel from European or American countries before 1989 (hereafter EUAM); 3) Jewish native born Israelis whose father arrived in Israel from countries in Asia or Africa; in other words second generation Jewish immigrants from Asia and Africa (hereafter IBASAF) and 4) Jewish native born Israelis whose fathers arrived in Israel from European and American countries or were born in Israel (hereafter IBEUAM).

The individual-level variables selected as predictors of occupational socioeconomic status and of earnings include[5]: age (in years), marital status (married = 1), education (in years of formal schooling), residence in the three major metropolitan centers of Israel (metropolitan

centre = 1), and hours of work per week (used only in equations predicting earnings). Each individual's gross monthly earnings are reported in terms of New Israeli Shekels from salaried employment (available only for salaried employees). Occupational status is measured on a scale ranging from 1 to 100 computed by Semyonov et al. (2000) for detailed 2-occupations at the 2-digit classification level in Israeli society[6].

5. Analysis and Findings

5.1. Descriptive Overview

In Appendix Table A1 and A2 we detail the mean characteristics of the FSU immigrants who were born in 1940-1965 and arrived in Israel in 1990-1991 and the mean characteristics of all four Jewish sub-populations of the same cohort, at four points in time, for a descriptive overview. The data provide insight into the hierarchical order of the Israeli system of ethnic stratification with IBEUAM and EUAM at the top of the hierarchy and IBASAF and ASAF at the bottom of the hierarchy. The data also suggest that shortly after arrival in Israel (1995-97) the average occupational status of FSU immigrant men, although being considerably lower than EUAM and IBEUAM men, was higher than both ASAF and IBASAF men. At the same time, the average occupational status of FSU women, although being considerably lower than both EUAM and IBEUAM and slightly lower than IBASAF, was higher than that of ASAF women.

Figures 1a and 1b and Figure 2a and 2b about here

Figures 1 and Figures 2 reveal that both the first and second generation of immigrants from European and American countries have been placed at the top of the Israeli stratification ladder throughout the entire period. They are characterized by considerably higher

occupational status and earnings than all other sub-groups. Comparison between average occupational status (see Figures 1a and 1b) and average earnings (see Figures 2a and 2b) of FSU immigrants and all other Israeli Jewish subgroups shows relatively small changes over time. All groups had experienced a rise in occupational status and in earnings but the rise had only been slightly steeper among FSU immigrants than among all other groups. Consequently, by 2004-06 the average occupational status of FSU immigrant men had remained lower than that of EUAM and IBEUAM, but somewhat higher than that of ASAF and IBASAF. FSU immigrant women have achieved parity in occupational status with IBASAF women and even slightly overtook them, but have not achieved parity with EUAM and IBEUAM women. The earnings gaps between FSU immigrants and all other sub-groups had remained substantial throughout the entire period (with only one exception – by 2001-03 the average earnings of FSU immigrants had become identical to ASAF women). Moreover, the data reveal a relatively small decrease in the size of the earning gaps between FSU immigrants and other sub-population groups, especially among men.

5.2. Multivariate Analysis

Although the data presented in the Appendix Tables and in Figures 1 and 2 are very interesting and meaningful, they do not provide accurate estimates of the relative advantages and disadvantages in attainment of labour market outcomes. Since the sub-groups are characterised by different socio-demographic characteristics and by different levels of education, in the following analysis we estimate effects of group origin on attainment of occupational status and earnings net of variations in attributes of individuals. In other words, the multivariate analysis provides accurate estimates of the extent to which FSU immigrants had decreased occupational and earnings gaps relative to other groups. By so doing we will be

in a position to evaluate the economic mobility of FSU immigrants relative to other sub-populations in Israel.

5.2.1. Narrowing the Occupational gap?

To examine the relative net disadvantage of FSU immigrants as compared to all other sub-populations in attainment of occupational status and over time change in the size of the occupational disadvantage we pooled all four samples into one data set and estimated two regression equations (equation 1 pertains to men and equation 2 pertains to women). In each equation we let occupational SES be a function of education, age, marital status, metropolitan residence, a series of dummy variables representing sub-group membership (FSU immigrants are the comparison category), a series of dummy variables representing the periods (1995-97 the omitted category) and interaction terms between each period and group membership. The values of the estimated coefficients for group membership serve as indicators of the size of the net advantage (positive value) or net disadvantage (negative value) a group had in attainment of occupational status in comparison to FSU immigrants (in 1995-97). The coefficients for the interaction terms between period and group membership serve as indicators of the net advantage (or disadvantage) a specific sub-group had in a specific period in the attainment of occupational status relative to FSU immigrants (in comparison to 1995-97). The results of the analysis are presented in Table 1.

Table 1 about here

The data reveal that regardless of gender, occupational status tends to increase with education, and to be higher among married persons and among residents of metropolitan centres. Occupational status, however, tends to decline with age among women, but not

among men. Other things being equal, the data reveal that in 1995-97, shortly after arrival in the country, FSU immigrants were at a considerable disadvantage in attainment of occupational status relative to all sub-populations. The most advantageous groups in the Israeli labour market are EUAM and IBEUAM (in 1995-97 – the initial time point -- the net occupational advantage reached 12.93 and 14.66 status points, respectively, among men, and 13.68 and 15.51 status points, respectively, among women). It was not as advantageous to be from ASAF and IBASAF as it was to be from the European groups, yet quite advantageous when compared to those from the FSU. The net advantage of ASAF and IBASAF in attainment of occupational status amounted in 1995-97 to 8.88 and 7.70 status points respectively among men, and to 9.68 and 10.46 status points respectively among women.

The estimated coefficients for the interaction terms between period and group membership reveal some differences in the over time decline in the size of the occupational disadvantage experienced by FSU immigrants. Among men, the relative occupational disadvantage decreased only when compared to ASAF. Specifically, between 1995-97 (the initial time point) and 2004-06 (the last time point) the net occupational advantage of ASAF men over FSU men had decreased from 8.88 points to 5.78 points (8.88-3.10 on the occupational status scale). By way of contrast, the interaction terms between group membership and time point were statistically insignificant for all other groups of men (EUAM, IBEUAM, IBASAF) indicating no change in the relative occupational disadvantage of FSU men throughout the period.

The results observed for FSU women were different from those observed for men. The data suggest that the net occupational disadvantage of FSU women had declined throughout the period in comparison to all sub-populations. The data also suggest that the improvement in the relative occupational position of FSU women was gradual but not linear and that the trends differ across sub-groups comparisons. For example, in 1995-97 ASAF women enjoyed

a 9.68 status points net advantage over FSU immigrant women in attainment of occupational positions. Between 1995-97 and 1998-2000 the net advantage of ASAF women had not changed (the coefficient of interaction terms between ASAF and 1998-00 time point is statistically insignificant). However, between 1998-00 and 2001-03 it had decreased by 3.29 points and only by an additional 1.23 points (4.52-3.29) between 2001-03 and 2004-06. When compared to EUAM women the trend was quite different. Between 1995-7 and 1998-2000 the net advantage of EUAM women over FSU women had decreased by a moderate amount, from 13.68 status points in 1995-97 to 11.56 status points (13.68- 2.12) in 1998-2000. In 2001-03, however, the net occupational advantage of EUAM was no different from their occupational advantage in 1995-97 (the coefficient of interaction term between EUAM and 2001-03 is insignificant by conventional statistical standards), but by 2004-06 the net advantage of EUAM women had further decreased by 2.84. The decline in the net occupational advantage enjoyed by the IBEUAM and IBASAF women over FSU immigrant women had mostly taken place during the earliest period but had slowed down in the latter periods. The net occupational disadvantage of FSU immigrant women relative to IBASAF and IBEUAM women declined by 5.09 and 3.82 status points, respectively, between 1995-97 and 2004-06; more than half of this decline had taken place between 1995-97 and 1998-2000.

In general, then, by 2004-06 both first and second generation immigrant women from Asian and African countries (ASAF and IBASAF) had retained about half of their initial (around 10 status points) advantages over FSU immigrant women, while first and second generation women from European and American (EUAM and IBEUAM) had retained more than three quarters of their initial (13.68 and 15.51 status points, respectively) advantages over FSU women. Apparently, FSU women were more successful than FSU men in converging occupationally with other women.

5.2.2. Narrowing Earnings Gaps?

The second mechanism through which immigrants experience economic mobility in the labour market of the host society is through advancement in terms of earnings over time. That is, with the passage of time immigrants are expected to achieve better paid jobs and higher earnings. As a result earnings disparities between immigrants and other sub-populations are likely to decrease and the size of immigrants' earnings disadvantage is likely to be lessened.

In order to estimate the change in earnings disadvantage of FSU immigrants over time we pooled the four samples to estimate a series of regression equations predicting (ln) monthly earnings of individuals. In equations 1 and 2 (for men and women respectively) earnings are estimated as a function of education, age, marital status, metropolitan residence, hours of work in week, a series of dummy variables representing sub-group membership (FSU immigrants serve as the comparison category), a series of dummy variables representing the periods (1995-97 the omitted category) and interaction terms between each period and group membership. Similar to the previous analysis (for occupational status) the coefficients for group membership in each period serve as indicators of the net advantage each group had over FSU immigrants in the attainment of earning (at the initial point in time) and the coefficients for the interaction terms between period and group membership serve as indicators of the earnings net advantage (or disadvantage) a specific sub-group had in a specific period relative to FSU immigrants (compared to 1995-97 -- the initial point in time). The results of the analysis are displayed in column 1 and 2 of Table 2.

Table 2 about here

The findings suggest that regardless of gender earnings are likely to increase with education and hours of work and to be higher among married persons. The data also reveal a curve-linear relationship between age and earnings. Other things being equal, the findings show substantial and significant earnings gaps between FSU immigrants and other sup populations in 1995-97, especially between FSU immigrants and EUAM and IBEUAM. Specifically, at the initial point in time the net earnings advantage of IBEUAM over FSU immigrants was about 64 per cent for both men and women, while the net earnings advantage of ASAF over FSU immigrants was 44 per cent in case of men and 50 per cent in case of women.

The data show a relatively minor decline in the earnings disadvantages experienced by FSU immigrants, especially among men. For example, the net advantage of EUAM men decreased from 51.7 per cent in 1995-97 to 42.3 per cent (51.7-9.4) in 2004-06 and of IBASAF men from 48.7 per cent in 1995-7 to 36.4 per cent (48.7-12.3) in 2004-06. Among women the decline in immigrants' earnings disadvantage had begun between 1995-97 and 1998-00 but had not continued into 2004-06. Overall, from 1995-7 to 2004-06 the earnings disadvantage among FSU women had decreased only till 2001-3 (compared to all groups) but not after that. For example, the net advantage of EUAM women decreased from 55.4 per cent in 1995-97 to 37.3 per cent in 2001-03, but did not continue to decrease in 2004-06. Apparently, earnings mobility for FSU women has stopped after 2001-3. Indeed, these findings suggest that there has been very little earning assimilation in Israel. That is, even 15 years after arrival FSU immigrants earn about 35-45 per cent less than demographically comparable Jews. Considering the high level of education among FSU immigrants, it seems that throughout the entire period FSU immigrants have been less able than other groups to convert educational credentials and other human capital resources into economic rewards[7].

5.2.3. Estimating an Integrated Hierarchical Linear Model

At the start of the paper we argued that immigrants' economic mobility takes place along two axes: occupations and earnings. That is, advancement along the occupational hierarchy and advancement in terms of earnings represent the two major simultaneous mechanisms through which immigrants' mobility takes place. Since individuals are embedded in occupations and since occupational composition changes over time (especially in the case of immigrants) it is necessary to estimate earnings differentials between subpopulations while taking into account over time changes in the attributes of individuals and changes in the structure of occupations and in the distributions of individuals across occupations. Thus, we adopt an analytical procedure introduced by Semyonov and Lewin-Epstein (2009) to estimate hierarchical linear regression models (HLM) predicting earnings as a function of individual-level attributes plus their occupations. In the two-level HLM models used here we let the socio-demographic characteristics, hours of work and group membership of individuals (first-level variables) to be nested in the second- level variables: socioeconomic status of occupation and period. The estimated coefficients are displayed in column 3 and 4 (for men and women respectively) of Table 2. These coefficients should be understood as the effects of the respective variables on earnings net of occupational status[8].

The effects of the individual-level socio-demographic characteristics obtained from the HLM regressions (listed in columns 3 and 4 in Table 2) are consistent with those previously observed in Table 2. The findings suggest that even after controlling for occupational status the earnings disadvantages of FSU immigrants relative to all other Jewish sub-groups had been substantial throughout the entire period. It should be noted, however, that once occupational distributions are taken into consideration the net earnings disadvantage of FSU immigrants within occupational labour markets had become considerably smaller than those observed in columns 1 and 2 (i.e. without occupations included in the equations). For

example, in 1995-97 the net earnings advantage of ASAF over FSU immigrants (in the two-level estimation) amounted to 34.1 per cent in the case of men and to 38.2 per cent in the case of women (considerably lower than the estimates obtained with no control for occupations -- 44.1 per cent for men in column 1 and 49.7 per cent for women in column 2). Likewise, the net earnings advantage of IBEU (the most advantageous group in the Israeli labour market) over FSU immigrants within occupational labour markets reached 49.5 per cent in the case of men and 42.8 per cent in the case of women (considerably lower than those obtained without control for occupations -- 64.3 per cent for men and 63.5 per cent for women in column 1 and 2 respectively).

The coefficients for interaction terms between periods and group membership reveal that the decline in the net earning disadvantages of FSU immigrants relative to all groups had been quite moderate throughout the periods. Between 1995-97 (the initial time point) and 2004-06 (the last time point) earnings gaps had decreased only slightly. For example, between 1995-97 and 2004-06 the earnings advantage of EUAM persons over FSU immigrant had decreased by 10 per cent (from 37 per cent to 26 per cent), the earnings advantage of IBASAF men had decreased by 12.1 per cent (from 40.1 per cent to 28 per cent), and the earnings advantage of IBASAF women had decreased by 10 per cent (from 40.2 per cent to 30.2 per cent).

Generally speaking, the coefficients for the interaction terms indicate that the decline in the size of the earnings gaps between FSU immigrants (both men and women) and other groups was negligible during the first period (from 1995-97 to 1998-00) and quite moderate during the latter period (form 1998-00 to 2001-03). In the latest period (from 2001-3 to 2004-06) decrease in the earnings disadvantage among FSU men had leveled off and virtually stopped among FSU women. In some cases it even regressed back to the size of the earnings disadvantage that was observed in the initial point in time.

These findings, therefore, lead to the following three-fold conclusion. First, there had been a moderate and not always linear decline in the earnings gap within the occupational labour market between immigrants and all sub-groups over the period under analysis; second, although the gaps narrowed, they remained substantial and significant; and third, the decrease in the earnings gap was quite pronounced in the middle period (2001-03) but leveled off among men and stopped among women during the final period under study.

6. Conclusions

The influx of immigrants from the former Soviet Union to Israel following the disintegration of the USSR has provided us with a unique opportunity to examine the economic integration of a large flow of immigrants that arrived in the host society from the same destination and at the same time. This group of immigrants has two distinct-unique features: most are characterized by a high level of education and professional training, and most belong to the dominant ethnic group in Israeli society (i.e. they are Jews of European descent). Yet, they arrived at a period of mass migration, thereby putting substantial pressure on the labour market. In this paper we argue that the integration of this group into the economy of the host society did not follow the linear trajectory outlined by the assimilation theoretical model, due to the unique circumstances associated with their arrival in Israel.

We further contend that the economic integration of immigrants should be evaluated in terms of mobility along two major dimensions: occupations and earnings. Subsequently, we examine a model that considers integration along these two dimensions. The data show that the cohort of immigrants who arrived in Israel in 1990-1991 attained occupational positions of lower socioeconomic status than European-Americans (the dominant groups whether or not they are from the first or second generation) but higher than Asian-Africans (the vulnerable Jewish groups whether first or second generation). However, further analysis reveals that FSU

immigrants were economically disadvantaged in attainment of socio-economic rewards when compared to all Jewish sub-groups. Their occupational disadvantage becomes apparent once their socio-demographic attributes, especially their educational level, are taken into account. That is, FSU immigrants were less successful than comparable Jews in converting education to occupational positions and in attaining earnings.

With the passage of time FSU immigrants had only slightly improved their ability to attain occupational status. The data reveal that immigrant women had experienced moderate occupational mobility over the years (they were able to close half of the initial occupational gaps with Asian-African women and one quarter of the initial gap with European-American women). FSU men were less successful than FSU women in closing occupational gaps (they were able to decrease the size of their occupational disadvantage only when compared to first generation Asian-African men).

The earnings disadvantage of FSU immigrants was substantial as compared to all Jewish groups, especially when compared to European-Americans. To estimate the size of the decline in the net earnings disadvantage of FSU immigrants over time, we took into account both changes in attributes of individuals and changes in the structure of occupations. The findings show that the decline in the net earnings disadvantage of FSU immigrants over time had been quite moderate and not linear and that only part of their earnings disadvantage can be attributed to their occupational distributions. The decrease in the earnings gaps was quite pronounced in the middle period (2001-03) but leveled off among men and stopped among women during the final period under study (2004-06). In general, 15 years after their arrival in Israel, the earnings ‘penalty’ of FSU immigrants amounted to approximately 30 per cent.

The results reported by this study are based on an analysis of one cohort of immigrants and on a simultaneous estimation of both occupational mobility and earnings mobility. The results are reasonably consistent with previous studies that examined economic assimilation

and economic disadvantages of FSU immigrants throughout their first 10 years in Israel (e.g. Cohen and Haberfeld 2007, Eckstein and Weiss 2004). Yet, patterns of economic integration observed for FSU immigrants in the present research diverge from patterns observed previously for other immigrant groups in Israel. That is, it was demonstrated (Semyonov, 1987) that most immigrant groups in Israel are able to economically assimilate and close occupational and earnings gaps with native born at a linear rate within a period of approximately 15 to 17 years[9]. This type of assimilation pattern, however, did not occur in the case of Soviet immigrants in Israel, neither in its pace nor in its form. Their economic disadvantages are still substantial 15 years after arrival, their pace of assimilation is quite slow and their assimilation had not been linear over the years.

We attribute the slow and non-linear form of economic integration among FSU immigrants to the unique circumstances associated with their arrival in Israel as well as to the age of the specific cohort of immigrants investigated here. Despite being members of the super-ordinate ethnic group in Israel and despite having high levels of education, Soviet immigrants arrived in Israel in mass numbers during a short period of time and as a result put considerable pressure on the labor market; in effect, saturating it. The group examined here was 25-51 years of age upon arrival and 39-66 by the time the period under study ended. Upon arrival and as a result of the difficulties they faced in the Israeli labour market, most had to compromise and take low-status and low paying jobs (e.g. Stier and Levanon 2003; Raijman and Semyonov 1998; Remennick 2003). In the years that followed the immigrants were able to improve their relative economic positions but since many of them had already reached an older age it became difficult if not impossible for many to continue closing the economic gaps at a linear rate. Consequently their economic mobility has leveled off. Indeed, the lasting hardships observed here are rooted in the special circumstances associated with this specific cohort of immigrants and may not be found among younger cohorts of

immigrants or among other groups of immigrants. Apparently, periods of mass migration and of labour market saturation can have long lasting detrimental consequences for the economic success of immigrants many years after their arrival in the host country.

Acknowledgements

Work on this paper was supported by Grant 842/06 awarded by Israel Science Foundation and by Institute for Social Research Tel Aviv University.

Notes:

1. The Arab minority (mostly Muslims) constitutes of about 20 per cent of the Israeli population. They are subordinate to the Jewish majority in every aspect of social stratification. In the present research we focus only on the Jewish population because the number of Arabs in the sample is too small for a reliable statistical analysis.

2. Israel actively encourages and supports the immigration of Jews and provides them with assistance during their first years after arrival. Although the scope, amount, and type of support have changed over the years, when assessed in financial terms, it is quite substantial. The immigrants from the FSU had also received considerable government support (known as the 'basket of absorption') in the form of housing subsidies, living allowances, language instruction and job re-training programmes.

3. One notable exception is the recent study by Cohen Goldner and Weiss (2009) in which the earning assimilation of FSU immigrants was examined 15 years after arrival (although without considering occupations).

4. Stier and Levanon (2003) found that four years after arrival most FSU immigrants in Israel were still employed in occupations for which they were over-qualified and Raijman and

Semyonov (1995) demonstrated extreme downward occupational mobility among the majority of FSU immigrants upon arrival to Israel.

5. Unfortunately, our models are missing control for language proficiency because this important information is not included in the Income Survey.

6. The index-scale was computed as a linear combination of average earnings and average educations of employees in each occupation estimated through first-principal component factor analysis procedure.

7. In order to test direct earning returns on education and over-time change in these returns among FSU immigrants in comparison to other Jewish populations in Israel, we estimated two- way interaction between education and immigrant status and three-way interactions of education, immigrant status and year as displayed in the table below:

Coefficients (STD) from linear regression predicting (LN) earnings of salaried workers[a]

	MEN	WOMEN
Education x FSU	-0.024* (0.008)	-0.024* (0.008)
Education x FSU x 1998-2000	-0.009 (0.010)	0.006 (0.010)
Education x FSU x 2001-2003	0.009 (0.010)	0.006 (0.010)
Education x FSU x 2004-2006	0.005 (0.011)	0.001 (0.010)

a. The equation also includes age, age square, central city residence, education, hours of work in week, FSU, a series of dummy variables presented 1998-2000, 2001-2003, 2004-2006 (1995-1997 - omitted category) and interaction terms between FSU and time period (the coefficients are not presented for the sake of space parsimony). *p<0.05

The results show that regardless of gender, FSU immigrants, in general, receive lower earning returns on education than all other sub populations in the study (the interaction terms between education and FSU is negative and significant). The disadvantage of FSU immigrants in terms of earnings returns on education has not declined with the passage of time. The coefficients of the three-way interactions are statistically insignificant.

8. The individual-level model is formally defined as:

$$y_{ij} = \beta_{0j} + \beta_{kj}x_{kj} + \varepsilon_{ij} \quad (1)$$

where y_{ij} is the (log) monthly earning for i^{th} individual in occupation j. β_{0j} is the intercept for occupation j, X is a vector of individual characteristics, β_{kj} is a corresponding vector of coefficients, and ε_{ij} is the error term. The intercept from individual level equation serves as a dependent variable in the occupational-level equations:

$$\beta_{0j} = \gamma_{00} + \gamma_{01}z_{ij} + \upsilon_{0j} \quad (2)$$

where γ_{00} is the across occupations intercept, z is a vector (ι) of occupational level characteristics, γ_{01} is a vector of corresponding coefficients and υ_{0j} is an error term referring to occupational differences in earnings that are not attributable to the occupational-level variables.

To evaluate the extent to which time period (as a second-level variable) affects the relationship between group membership and earnings we estimate the slopes of group membership from the individual-level model as dependent variables:

$$\beta_{1j} = \gamma_{10} + \gamma_{11}z_{ij} + \upsilon_{1j} \quad (3)$$

where γ_{10} is the constant, γ_{11} represents the effect of second level attribute (e.g. time period) on the slope , and υ_{1j} is an error term pertaining to occupational differences in the effects of individual level variables on earnings that are not attributable to specific occupational variables.

9. They also diverge from those observed in other immigrant societies such as those in the US (e.g. Chiswick, 1978, 1979) or Canada (Chiswick and Miller 1988, Bloom and Gunderson, 1991 for Canada) where economic assimilation for most immigrant groups lasts on average 15 years.

References

Bloom, D and Gunderson, M. (1991) 'An analysis of the earnings of Canadian immigrants', in Abowd, J.M. and Freeman, R.B. (eds) *Immigration, trade, and the labor market*. University of Chicago Press, 321-42.

Borjas, G. J. (1982) 'The earnings of male Hispanic immigrants in the United States', Industrial *and Labor Relations Review*, 35 (3): 343-353.

Borjas, G. J. (1994) 'The economics of immigration', *Journal of Economic Literature*, 32 (4): 1667-1717.

Chiswick, B. R. (1978) 'The effect of Americanization on the earnings of foreign-born men', *Journal of Political Economy*, 86 (5): 897-922.

Chiswick, B.R. (1979) 'The economic progress of immigrants: Some apparently universal patterns', in Fellner, W. (ed) *Contemporary economic problems*, Washington: The American Enterprise Institute, 357-99.

Chiswick, B. R. and Miller, P. W. (1988) 'Earnings in Canada: The role of generation, French ethnicity, and language', *Research in Population Economics*, 6: 183-228.

Cohen, Y., Haberfeld, Y. and Kristal, T. (2007) 'Ethnicity and mixed ethnicity: Educational gaps among Israeli-born Jews', *Ethnic and Racial Studies*, 30 (5): 896-917.

Cohen, Y. and Haberfeld, Y. (2007) 'Self-Selection and earning assimilation: Immigrants from the Former Soviet Union in Israel and the United States', *Demography*, 44 (3): 649-68.

Cohen, Y. and Kogan, I. (2007) 'Next year in Jerusalem . . . or in Cologne? Labor market integration of Jewish immigrants from the Former Soviet Union in Israel and Germany in the 1990s', *European Sociological Review*, 23 (2): 155-68.

Cohen Goldner, S. and Weiss, Y. (2009) 'Highly skilled Russian immigrants in the Israeli labor market: Adjustment and impact'. Paper was prepared for the American enterprise

institute conference: 'High-skilled immigrants in a globalized labor market'. http://www.aei.org/docLib/Cohen%20Goldner%20Weiss%20Paper.pdf

Eckstein, Z and Weiss, Y. (2004) 'On the wage growth of immigrants: Israel, 1990-2000', *Journal of the European Economic Association*, 2(4): 665-95.

Friedberg, R.M. (2000) 'You can't take it with you? Immigration assimilation and the portability of human capital', *Journal of Labor Economics*, 18 (2): 221-51.

Friedberg, R.M. (2001) 'The impact of mass migration on the Israeli labor market', *The Quarterly Journal of Economics,* 116 (4): 1371-1408.

Haberfeld, Y., Semyonov, M. and Cohen, Y. (2000) 'Ethnicity and labor market performance among recent immigrants from the Former Soviet Union to Israel', *European Sociological Review,* 16 (3): 287-99.

Haberfeld, Y. and Cohen, Y. (2007) 'Gender, ethnic and national earnings gaps in Israel: The role of rising inequality', *Social Science Research,* 36 (2): 654-72.

Kogan, I. (2003) 'Ex-Yugoslavian in the Austrian and Swedish labour markets: the significance of the period of migration and the effect of citizenship acquisition', Journal *of Ethnic and Migration Studies*, 29 (4): 595-622.

Kogan, I. (2006) 'Labor markets and economic incorporation among recent immigrants in Europe', *Social Forces*, 85(2): 697-721.

Lewin-Epstein, N. and Semyonov, M. (1986) Ethnic Group Mobility in the Israeli Labor Market. *American Sociological Review*, 51 (3): 342-52.

Lewin-Epstein, N., Semyonov, M., Kogan, I., and Wanner, R. (2003) 'Institutional structure and immigrant integration: A comparative study of immigrants' labor market attainment in Canada and Israel', *International Migration Review* 37 (2): 389-420.

Portes, A. and Rumbaut, R. G. (1990) *Immigrant America: A portrait.* Berkeley: University of California Press.

Raijman, R. and Semyonov, M. (1995) 'Modes of labor market incorporation and occupational cost among new immigrants to Israel', *International Migration Review* 29 (2): 375-93.

Raijman, R and Semyonov, M. (1997) 'Gender, ethnicity and immigration: Double disadvantage and triple-disadvantage among recent immigrants in the Israeli labor market', *Gender and Society,* 11 (1): 108-25.

Raijman, R. and Semyonov, M. (1998) 'Best of times, worst of times, and occupational mobility: The case of Soviet immigrants in Israel', *International Migration,* 36 (3): 291-310.

Rebhun, U. (2008). 'A double disadvantage? Immigration, gender and employment status in Israel', *European Journal of Population,* 24 (1): 87-113.

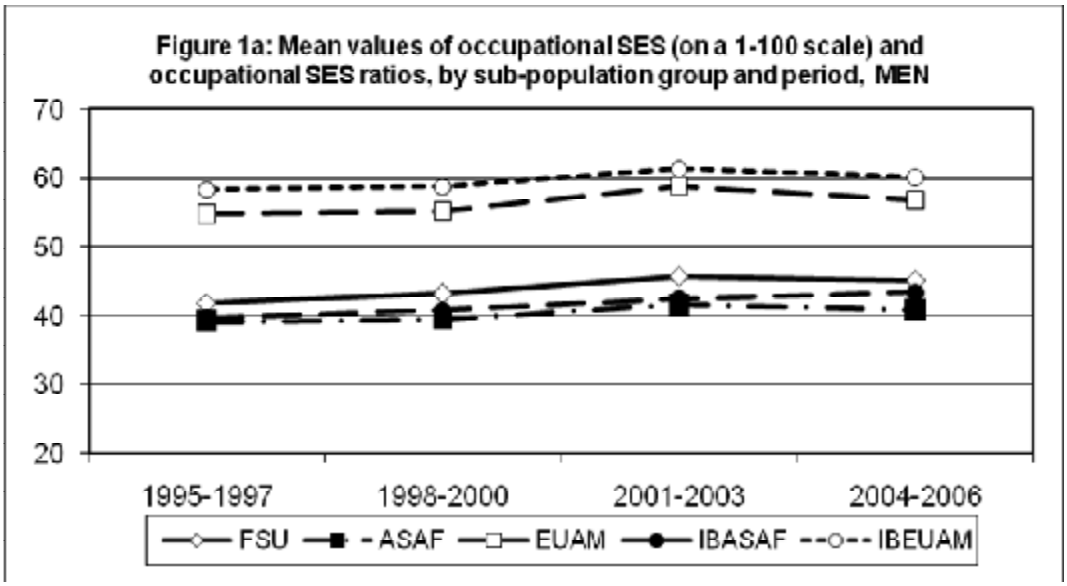
Remennick, L. (2003) 'Career continuity among immigrant professionals: Russian engineers in Israel', *Journal of Ethnic and Migration Studies,* 29 (4): 701-21.

Semyonov, M. (1997) 'On the cost of being an immigrant in Israel: The effects of tenure, origin and gender', *Research in Social Stratification and Mobility,* 15: 115-31.

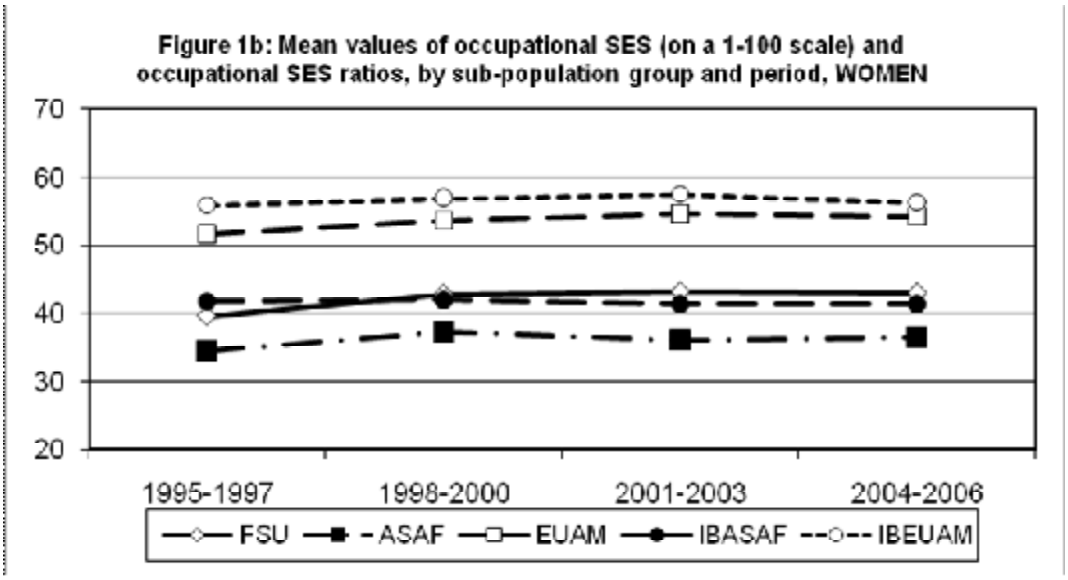
Semyonov, M. and Lewin-Epstein, N. (2008) 'The declining racial earnings' gap in United States: Multilevel analysis of males' earning, 1960-2000', *Social Science Research*, 38 (2): 296-311.

Semyonov, M., Lewin-Epstein, N. and Mandel, M. (2000) 'Updated socioeconomic scale for occupations in Israel', *Megamot,* 40 (4): 706-729 (in Hebrew).

Stier, H and Levanon, V. (2003) 'Finding an adequate Job: Employment and income of recent immigrants to Israel', *International Migration,* 41 (2): 81-107.

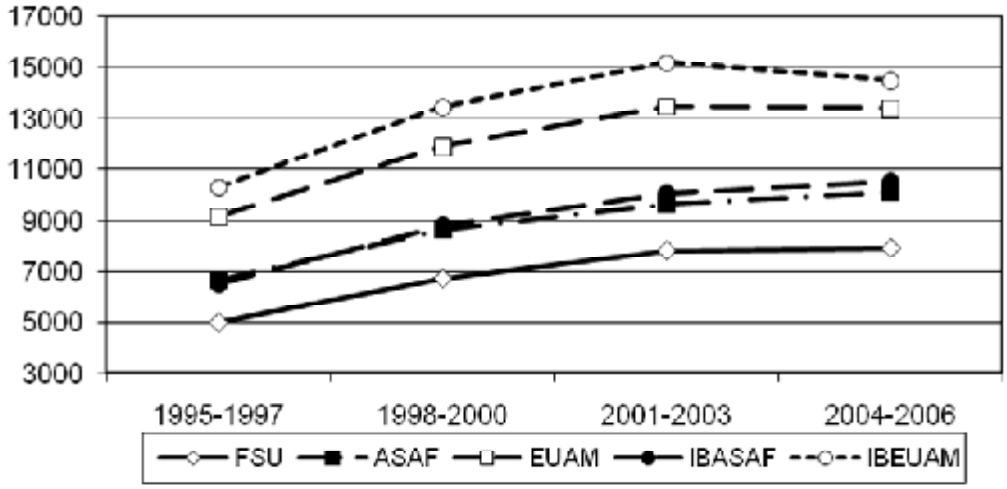


FSU/ASAF	1.07	1.09	1.1	1.11
FSU/EUAM	0.76	0.78	0.78	0.8
FSU/IBASAF	1.05	1.06	1.08	1.04
FSU/IBEUAM	0.72	0.74	0.75	0.75



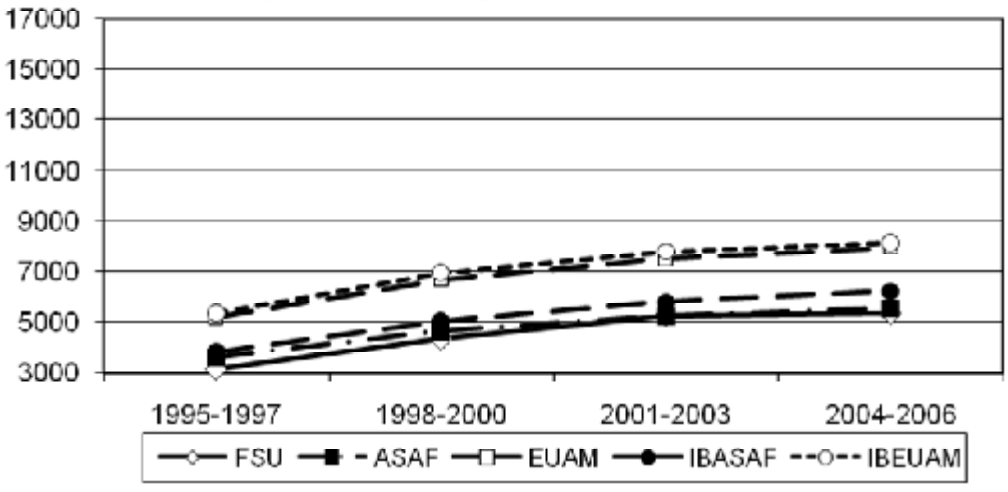
FSU/ASAF	1.15	1.14	1.2	1.17
FSU/EUAM	0.77	0.8	0.79	0.79
FSU/IBASAF	0.95	1.02	1.04	1.04
FSU/IBEUAM	0.71	0.75	0.75	0.76

Figure 2a: Means of monthly earnings (in NIS) and earning ratios, by sub-population group and period, MEN



FSU/ASAF	0.75	0.78	0.81	0.78
FSU/EUAM	0.55	0.57	0.58	0.59
FSU/IBASAF	0.77	0.76	0.78	0.75
FSU/IBEUAM	0.48	0.5	0.52	0.55

Figure 2b: Means of monthly earnings (in NIS) and earning ratios, by sub-population group and period, WOMEN



FSU/ASAF	0.88	0.94	1	0.97
FSU/EUAM	0.61	0.65	0.7	0.68
FSU/IBASAF	0.82	0.86	0.91	0.86
FSU/IBEUAM	0.59	0.63	0.68	0.66

Table 1: Coefficients (STD) from linear regression predicting occupational SES for salaried workers [1]

	MEN (1)	WOMEN (2)
Intercept	-23.39*	-23.00*
Age	0.01	-0.07*
	(0.02)	(0.02)
Married	3.20*	2.66*
	(0.42)	(0.25)
Central cities	0.76*	1.19*
	(0.32)	(0.26)
Education	4.29*	4.32*
	(0.04)	(0.03)
ASAF	8.88*	9.68*
	(0.94)	(0.81)
ASAF x 1998-2000	-1.09	-1.99
	(1.26)	(1.07)
ASAF x 2001-2003	-1.72	-3.29*
	(1.32)	(1.13)
ASAF x 2004-2006	-3.10*	-4.52*
	(1.33)	(1.14)
EUAM	12.93*	13.68*
	(0.98)	(0.81)
EUAM x 1998-2000	-1.68	-2.12*
	(1.32)	(1.08)
EUAM x 2001-2003	-0.17	-1.62
	(1.38)	(1.14)
EUAM x 2004-2006	-1.83	-2.84*
	(1.38)	(1.14)
IBASAF	7.70*	10.46*
	(0.90)	(0.76)
IBASAF x 1998-2000	-0.96	-2.88*
	(1.21)	(1.01)
IBASAF x 2001-2003	-1.21	-3.97*
	(1.27)	(1.05)
IBASAF x 2004-2006	-0.93	-5.09*
	(1.27)	(1.05)
IBEUAM	14.66	15.51*
	(0.90)	(0.75)
IBEUAM x 1998-2000	-0.71	-2.27*
	(1.21)	(1.00)
IBEUAM x 2001-2003	-0.54	-2.16*
	(1.26)	(1.05)
IBEUAM x 2004-2006	-1.17	-3.82*
	(1.26)	(1.04)
1998-2000	0.64	2.96*
	(1.01)	(0.83)
2001-2003	2.62*	3.04*
	(1.06)	(0.88)
2004-2006	1.70	3.39*
	(1.07)	(0.88)
R^2	0.385	0.425

1. 1995-1997 – omitted category; FSU – omitted category

Table 2: Coefficients (STD) from linear regressions (Model 1 and 2) and from bi-level regressions predicting (LN) earnings of salaried workers[1]

	Linear regression		Bi-level regressions	
	MEN (1)	**WOMEN (2)**	**MEN (3)**	**WOMEN (4)**
Intercept	4.11*	4.17*	8.125*	7.751*
Age	0.078*	0.038*	0.070*	0.053*
	(0.005)	(0.005)	(0.005)	(0.005)
Age Square	-0.0008*	-0.0003*	-0.0007*	-0.0005*
	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Married	0.234*	0.112*	0.194*	0.068*
	(0.012)	(0.008)	(0.013)	(0.008)
Central cities	0.0002	0.029*	0.011	0.019
	(0.009)	(0.008)	(0.010)	(0.011)
Education	0.071*	0.083*	0.035*	0.035*
	(0.001)	(0.001)	(0.003)	(0.003)
Hours of work in week	0.022*	0.035*	0.018*	0.033*
	(0.0003)	(0.0003)	(0.001)	(0.001)
Ethnic groups and Interaction Terms[2]				
ASAF	0.441*	0.497*	0.341*	0.382*
	(0.026)	(0.025)	(0.027)	(0.036)
ASAF x 1998-2000	-0.039	-0.069*	-0.024	-0.046
	(0.035)	(0.033)	(0.040)	(0.044)
ASAF x 2001-2003	-0.074*	-0.143*	-0.082*	-0.103*
	(0.036)	(0.034)	(0.041)	(0.047)
ASAF x 2004-2006	-0.077*	-0.139*	-0.053	-0.089
	(0.037)	(0.035)	(0.041)	(0.051)
EUAM	0.517*	0.554*	0.369*	0.373*
	(0.027)	(0.025)	(0.328)	(0.037)
EUAM x 1998-2000	-0.049	-0.084*	-0.027	-0.056
	(0.037)	(0.033)	(0.043)	(0.044)
EUAM x 2001-2003	-0.057	-0.181*	-0.086*	-0.132*
	(0.037)	(0.034)	(0.043)	(0.049)
EUAM x 2004-2006	-0.094*	-0.165*	-0.101*	-0.103*
	(0.039)	(0.035)	(0.046)	(0.047)
IBASAF	0.487*	0.538*	0.401*	0.402*
	(0.025)	(0.023)	(0.031)	(0.031)
IBASAF x 1998-2000	-0.057	-0.099*	-0.036	-0.062
	(0.034)	(0.031)	(0.043)	(0.045)
IBASAF x 2001-2003	-0.089*	-0.160*	-0.110*	-0.089*
	(0.034)	(0.031)	(0.043)	(0.046)
IBASAF x 2004-2006	-0.123*	-0.161*	-0.121*	-0.100*
	(0.036)	(0.032)	(0.043)	(0.047)
IBEUAM	0.643*	0.635*	0.495*	0.428*
	(0.025)	(0.023)	(0.033)	(0.040)
IBEUAM x 1998-2000	-0.054	-0.082*	-0.036	-0.042
	(0.034)	(0.031)	(0.048)	(0.051)
IBEUAM x 2001-2003	-0.114*	-0.185*	-0.151*	-0.119*
	(0.034)	(0.031)	(0.047)	(0.052)
IBEUAM x 2004-2006	-0.168*	-0.175*	-0.167*	-0.094
	(0.035)	(0.032)	(0.046)	(0.054)
Occupational level for models 3 and 4				
1998-2000	0.279*	0.312*	0.009*	0.010*
	(0.028)	(0.026)	(0.0004)	(0.0004)
2001-2003	0.399*	0.490*	0.259*	0.278*
	(0.029)	(0.026)	(0.039)	(0.046)
2004-2006	0.426*	0.512*	0.419*	0.462*
	(0.030)	(0.027)	(0.040)	(0.048)
SES	---	---	0.441*	0.500*
			(0.039)	(0.048)
R^2	0.349	0.478	----	----
Variance Component for models 3 and 4[3]	---	---	0.018	0.026
Occupation-level random effect (u)	---	---	0.307	0.267
Individual-level random effect (r)	---	---	0.018	0.026

1. FSU omitted category, 1995-1997 – omitted category. 2 In bi-level models 3 and 4 slopes of individual level variables (except of ethnic groups) are constrained to be identical across occupations. Age, education and SES have been centred around grand mean. Slopes of ASAF, EUAM, IBASAF and IBEUAM have been allowed to vary across occupations. 3. The variance components from fully unconditional model are: u (0.216) and r (0.378) for men, u (0.243) and r (0.410) for women. *p<0.05

Appendix Table: Mean values (STD) or per cent of variables by gender, by period and by sub-population group (cohort 1940-1965, only salaried workers)

MEN																				
	1995-1997					1998-2000					2001-2003					2004-2006				
	FSU	ASAF	EUAM	IB ASAF	IB EUAM	FSU	ASAF	EUAM	IB ASAF	IB EUAM	FSU	ASAF	EUAM	IB ASAF	IB EUAM	FSU	ASAF	EUAM	IB ASAF	IB EUAM
Number of cases	857	1479	1155	1862	1821	967	1853	1529	2481	2685	962	1741	1427	2218	2422	826	1460	1309	2136	2393
Hours of work per week	50.3 (10.6)	47.0 (10.5)	49.2 (10.6)	48.8 (11.1)	50.2 (11.7)	48.8 (10.6)	46.4 (10.5)	47.7 (11.4)	48.4 (11.1)	49.8 (11.8)	48.0 (10.9)	45.6 (11.0)	47.9 (12.1)	48.0 (11.4)	49.0 (12.7)	47.9 (10.7)	45.2 (11.5)	46.3 (11.9)	47.2 (11.5)	48.1 (12.1)
Education	14.4 (2.9)	11.7 (3.5)	14.3 (3.8)	12.1 (2.7)	14.8 (3.7)	14.6 (3.0)	11.9 (3.7)	14.7 (3.7)	12.5 (2.9)	14.9 (3.6)	14.7 (3.0)	12.1 (3.7)	14.7 (3.6)	12.6 (2.9)	15.1 (3.6)	14.7 (2.9)	12.4 (3.5)	14.9 (3.8)	12.8 (3.0)	15.1 (3.5)
SES	41.8 (28.5)	39.1 (23.5)	54.7 (27.8)	39.7 (22.9)	58.3 (26.5)	43.2 (28.4)	39.5 (23.5)	55.1 (27.3)	40.8 (22.9)	58.7 (26.2)	45.7 (31.2)	41.6 (24.7)	58.8 (28.1)	42.5 (23.9)	61.3 (27.0)	45.1 (30.5)	40.8 (24.8)	56.7 (28.7)	43.4 (24.8)	60.1 (27.0)
Monthly earning (in NIS)	4988 (2947)	6666 (5040)	9143 (6572)	6503 (4419)	10285 (8294)	6726 (4109)	8661 (6284)	11879 (10260)	8816 (6516)	13452 (10884)	7834 (5470)	9637 (7047)	13463 (10470)	10065 (7246)	15184 (12888)	7920 (4608)	10120 (8272)	13401 (10912)	10537 (7586)	14494 (10674)
WOMEN																				
	1995-1997					1998-2000					2001-2003					2004-2006				
	FSU	ASAF	EUAM	IB ASAF	IB EUAM	FSU	ASAF	EUAM	IB ASAF	IB EUAM	FSU	ASAF	EUAM	IB ASAF	IB EUAM	FSU	ASAF	EUAM	IB ASAF	IB EUAM
Number of cases	923	1312	1258	1832	1871	1101	1736	1684	2549	2741	1041	1588	1519	2424	2506	921	1342	1369	2440	2439
Hours of work per week	40.2 (11.7)	34.7 (11.1)	36.1 (11.4)	34.9 (11.2)	35.3 (11.3)	38.9 (12.1)	33.8 (11.2)	36.2 (11.9)	34.8 (10.9)	34.9 (11.9)	37.9 (11.6)	33.8 (11.6)	36.2 (11.8)	34.8 (10.9)	34.9 (12.3)	37.3 (12.5)	33.2 (12.1)	36.1 (12.0)	34.7 (11.4)	35.0 (12.2)
Education	14.7 (2.6)	11.3 (3.6)	14.3 (3.3)	12.6 (2.7)	14.8 (3.1)	14.8 (2.8)	11.8 (3.7)	14.6 (3.5)	12.8 (2.7)	14.9 (3.2)	14.9 (2.7)	11.8 (3.6)	14.8 (3.4)	13.0 (2.8)	15.1 (3.3)	14.8 (2.7)	12.2 (3.7)	14.9 (3.4)	13.1 (2.9)	15.2 (3.2)
SES	39.6 (27.8)	34.5 (22.4)	51.5 (23.8)	41.7 (21.4)	55.9 (20.9)	42.8 (26.3)	37.4 (22.0)	53.6 (23.9)	42.0 (20.6)	57.0 (20.7)	43.2 (27.8)	36.1 (24.1)	54.6 (24.1)	41.4 (22.5)	57.5 (22.4)	43.0 (28.6)	36.6 (23.8)	54.2 (25.3)	41.3 (22.5)	56.3 (22.3)
Monthly earning (in NIS)	3163 (2100)	3605 (2911)	5181 (4005)	3856 (2778)	5348 (4031)	4351 (3098)	4627 (3427)	6674 (4923)	5034 (4025)	6945 (5254)	5271 (3901)	5248 (4146)	7504 (5540)	5786 (4263)	7773 (6341)	5357 (3855)	5544 (4639)	7934 (5619)	6222 (4744)	8124 (5921)