

Second-generation Jewish immigrants in Israel: have the ethnic gaps in schooling and earnings declined?

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Abstract

This article examines trends in the socio-economic gaps between Western and Eastern Jewish men and women in Israel for the period 1975–1992. The results, based on a quasi-longitudinal design of descriptive statistics (cross section and cohort analyses) and Ordinary Least Squares [OLS] regressions, suggest that in spite of a slight narrowing of the ethnic gap in schooling – the main factor affecting earnings – the overall earnings gap between second-generation Eastern and Western immigrant men has increased in the period 1975–1992. The widening in the earnings gap among men, despite the narrowing of the schooling gap, is rooted in three processes affecting the Israeli society and economy during this time: first, the ageing of both ethnic groups, second, the increase in the returns to college education, third, the tendency of Easterners to complete their college education later in life than Westerners. These processes affected men more than women, and therefore the ethnic earnings gaps among women are smaller than among men. Decomposing the earning gaps into ‘explained’ and ‘unexplained’ portions, we found that the ‘unexplained’ portion of the gap has increased during the period, especially among men.

Keywords: Earnings; schooling; Israel; socio-economic gaps; inequality.

Israeli Jewish society is characterized by an ethnic cleavage between Jews who immigrated to Israel from Europe and America (henceforth, Western), and those from Asia and Africa (henceforth, Eastern). There are persisting socio-economic gaps between Western immigrants, who achieved high levels of education and earnings, and their Eastern counterparts, who never caught up with them or with native-born Israelis. Moreover, the gaps between the two immigrant groups with respect to the main socio-economic measures, education and earnings,

seem to be as persistent among immigrants' offspring (henceforth, second-generation immigrants) as among the immigrants themselves.

This article focuses on second-generation immigrants,¹ namely, native Israelis born to foreign-born parents. The literature analysing the socio-economic gaps between second-generation Western immigrants and their Eastern counterparts is extensive. However, most previous research has rarely used a longitudinal or quasi-longitudinal research design. Rather, it has usually provided information regarding the gaps at one point in time, and then compared the results to studies done in the past, often using different data sets and sample designs. Moreover, the data used by most previous research were from the 1983 Israeli census. In that year, however, second-generation Eastern Jews were too young for their socio-economic characteristics to reflect their achievements in the educational system and their performance in the Israeli labour market. This article will contribute to the literature on ethnic gaps in Israel's labour market by detecting changes in the gaps during the years 1975–1992. The article is organized as follows: the first section reviews the recent studies documenting the development of ethnic gaps in Israel. The second section presents the data and measures. The third and the fourth sections present descriptive statistics regarding trends in the schooling and earnings gaps, for men and women, respectively. The fifth section presents multivariate analyses based on OLS regressions, and the final section presents the conclusions.

1. The ethnic cleavage in the Israeli-Jewish society

First generation

In May 1948 the newly established state of Israel had about 600,000 Jews, mostly foreign born of Western origin. During the next three and a half years, this relatively small population base actively attracted nearly 700,000 new Jewish immigrants. About half of them were survivors of the Jewish Holocaust in Europe. The other half of this immigration wave, known as the 'Mass Migration', consisted of Jewish residents of Arab countries in Asia and North Africa. Following a short recess in immigration in 1952, immigration continued, albeit at a slower pace. During the next twenty-five years an additional 800,000 Jews immigrated to Israel. About 45 per cent of them came from Europe, America and Australia, and 55 per cent from Arab countries in Asia and mostly North Africa.²

The social, economic and cultural assimilation of Western immigrants in Israeli society was fast and complete. By 1975 their schooling, occupations and earnings were no different from those of native-born Israelis or of veteran immigrants who arrived in Israel during the pre-state period (Boyd, Featherman and Matras 1980). In contrast, as late as 1983 Eastern immigrants failed to achieve parity with the native population. Thus,

while in other migration societies (US, Canada, and Australia) the socio-economic differences between most immigrant groups and natives disappeared after eleven to fourteen years (Chiswick 1978), Jewish Eastern immigrants, both those who arrived during the mass migration (1948–51) as well as in later waves, have failed, so far, to close the socio-economic gaps between them and the other groups – Western immigrants and native Israelis.

Second generation

While the experience of first-generation Eastern immigrants was bad enough, it could be explained by the relatively low level of economic development of the source countries from which they came (Semyonov and Lerenthal 1991). But the persistence of socio-economic gaps among the Israeli-born children of these immigrants is more difficult to explain.

It is beyond the scope of this article to review all the studies documenting the ethnic gaps and/or providing macro sociological explanations for their persistence among the second generation (see, for example, Peres 1971; Smootha 1978; Ben Refael 1982; Berenstein and Swirski 1982; Eisenstadt 1985). For the purpose of this article, the most important studies are the recent empirical papers focusing on the sources and development of the gaps among second-generation immigrants. Such comprehensive studies were conducted by sociologists (Smootha and Kraus 1985; Nahon 1987; Semyonov and Lerenthal 1991), demographers (Schmelz, DeLlapergola, and Avner 1991), economists (Amir 1987; Yitchaki 1987; Mark 1994; 1996), and researchers of industrial relations (Haberfeld 1992).

Despite the many differences between these studies regarding methodology, data sets and the researchers' discipline, there is a consensus that the gaps in educational levels and earnings between Israeli born of Eastern and Western origins were not attenuated compared to the differences found among their Eastern and Western parents. Put differently, despite the expectations for closing the gaps among the second generation, as found in other immigrant societies (Boyd *et al.* 1980; Carliner 1980; Borjas 1990; Simon 1990), the findings of these studies, especially those of Amir (1987), Nahon (1987), Haberfeld (1992) and Mark (1994; 1989), suggest that the gaps within the second generation are no smaller, and perhaps even larger than the gaps observed in the first generation.

Moreover, these studies found that the ethnic gaps in educational levels between second-generation Eastern and Western Jews were not smaller in the 1980s compared to the 1970s (Mark 1996). In Israel, as in other industrialized countries, investment in human capital is the main avenue through which men and women attain high paying jobs. Thus, the failure to close the gaps in educational attainment among the second-generation

immigrants is the main explanation provided by previous research for the persistence of the earnings gap. This finding suggests that schooling, not the labour market, is responsible for the economic gaps between second-generation Western and Eastern Jews. In fact, most previous research detected no differential labour market treatment (i.e., 'discrimination') of Jews of Eastern origin. Eastern Jews were not paid less than demographically comparable Western Jews.

Because schooling differences, and especially college education, were found to be the main factor responsible for the reproduction of the socio-economic gaps in occupational distribution and wages among second-generation immigrants, many studies focused on the reasons for the relative failure of Israeli-born Eastern Jews to attain college degrees. Some studies focused on the lower quality of schools serving Eastern Jews (Ayalon 1994). Others stressed the tracking in the Israeli educational system funnelling a disproportionate number of Eastern Jews to terminal vocational secondary schools, thus preventing them from attaining the matriculation certificate which is a prerequisite for enrolment in college (Shavit 1984; Swirski 1990). Mark (1994) points out that in addition to these reasons, Eastern and Western Jews have different tastes for education. Members of the former group, she claims on the basis of expenditure surveys, invest less in human capital than the latter.

Another important finding of the empirical studies focusing on second-generation Israeli immigrants, is that the gaps between men are larger than among women (Semyonov and Lerenthal 1991). To be sure, Israeli women of all ethnic origin earn less than men of identical schooling, experience and other measurable productivity-related characteristics. The question, however, is whether the trends in the gaps among women are similar to those among men.

To summarize, previous research reached four conclusions regarding the gaps among second-generation immigrants in Israel. First, the gaps in education and earnings among the second generation are no less than among the first generation. Second, within second-generation immigrants, the gaps in the early 1980s are no smaller than during the 1970s. Third, the schooling gap is the key factor responsible for the gaps in wages and earnings. Finally, the gap among men is wider than among women.

The present article uses data from 1975, 1982 and 1992 to examine whether the trends in the development of the gaps found in previous research covering the 1970s and early 1980s are still valid for the late 1980s and early 1990s.

2. Data and measures

The data are taken from the Income surveys conducted by the Central Bureau of Statistics during 1975, 1982 and 1992. Income surveys are

conducted annually as a supplement to workforce surveys, and include basic demographic information about respondents as well as earnings data. The surveys are based on a representative sample of households in urban communities with a population of at least 2,000. Since earnings data are not available for the self-employed, we limit our analysis to salaried workers in the labour force, twenty-five to fifty-four years old.³ The upper age limit is due to the small number of second-generation Jews older than fifty. The lower age limit reflects the fact that most Israelis serve in the military for two to three years, and rarely graduate from college and get a permanent job before they are twenty-five years old.

We define as second-generation Jews all those born in Israel to foreign-born fathers, and all foreign-born Israelis who immigrated to Israel before they were fourteen years old. This procedure is standard in migration studies that regard persons immigrating as children as second generation.⁴ Thus, second-generation Eastern Jews are defined as all those born in Israel to fathers⁵ who were born in Asia or Africa, and those born in Asia or Africa and immigrated to Israel before they were fourteen years old. Westerners are all those born in Israel to parents born in Europe, America or Australia, as well as the foreign born of these continents who immigrated to Israel before they were fourteen years old. In addition, we included the small group of third-generation Israelis (Israelis born to Israeli-born fathers), within the group of Western Jews. There is evidence that this group, which is mostly of Western origin, is very similar in its educational and earnings attainment to Western Jews.⁶

We use two measures of schooling. One is years of schooling. The second is whether the respondent has at least a BA degree. Past research suggests that the two ethnic groups attend different types of schools and, as a result, there is an educational gap in university attendance.

Earnings is annual salary from work. It is expressed in different currencies, as Israel changed its currency twice during 1975–1992. Since we compare the two ethnic groups during the same years, this does not pose any difficulty.

3. Descriptive results

The average Israeli in 1992 had more years of schooling, was more likely to be a university graduate, and had higher earnings than in 1975 (Table 1). This reflects the expansion of the Israeli economy and educational system, keeping over 80 per cent of its youth in high schools, sending an increasing proportion of graduates to higher education, and raising workers' salaries. The important question for the purpose of this study is whether the increase in the educational attainment and earnings of Eastern Jews is larger than that of their Western counterparts, thus narrowing the gaps between the groups. In order to answer this question we present for each cell in Tables 2 and 3 (age-group by gender by year)

Table 1. *Mean years of schooling, percentage with at least a BA degree, and mean annual earnings: Eastern and Western Jewish salaried men and women, 25–54 years old, 1975, 1982 and 1992*

	Mean years of schooling			Percentage with at least BA			Mean annual earnings		
<i>Year:</i>	<i>1975</i>	<i>1982</i>	<i>1992</i>	<i>1975</i>	<i>1982</i>	<i>1992</i>	<i>1975</i>	<i>1982</i>	<i>1992</i>
Men:									
Western	12.8	13.8	14.2	24.9	35.5	41.4	26,181	191,429	62,088
Eastern	9.9	10.5	11.6	5.9	8.7	11.1	20,624	134,173	42,066
Women:									
Western	13.3	13.7	14.3	20.7	30.1	40.5	15,254	95,275	30,517
Eastern	9.9	11.2	12.0	3.9	7.6	11.3	11,975	75,729	24,436

the ratio between the mean for Eastern Jews divided by the mean for Western Jews. The higher the ratio, the smaller the gap. A ratio of 1.0 indicates parity, and a ratio of over 1.0 indicates that Easterners' educational levels are higher than those of Westerners.

Men

Education. The ratio for years of schooling across all age groups (25–54) increased from .77 in 1975 to .82 in 1992. Likewise, the ratio for the percentage graduating from college rose from .24 in 1975 to .27 in 1992. These small increases in the ratios suggest that the notion that the educational gap between the ethnic groups widened during the 1980s is not warranted.

While the overall increases in the ratio are small, they are persistent in all age groups with respect to years of schooling, and in most age groups with respect to the proportion having a college education. Thus, the overall increase in the ratio reflects larger increases in some age groups, and lower or no increases in other age groups. Thus, with respect to years of schooling we observe virtually no changes in the ratios among the oldest age group (45–54) and relatively small increases among those between 30 and 44 years old. This is not surprising given that most people complete their secondary schooling before the age of twenty, and their academic schooling ten to fifteen years later. Thus, the educational ratios among those over thirty years old reflect the educational gaps that were formulated during the 1960s, 1970s and early 1980s. The ratios for these age groups, however, are less instructive in understanding the development of schooling gaps during the last decade, 1982–1992.

It is the youngest age group (25–29) which is the most meaningful to examine, as it contains persons who have completed their schooling during the 1980s and early 1990s. Here we observe the largest increases in the schooling ratios. In 1975 the average second-generation Eastern

Table 2. Ratios (Eastern / Western) of mean years of schooling, percentage with at least BA, and mean annual earnings: Jewish salaried workers of Western and Eastern origin, by age and sex, 1975, 1982 and 1992

	Mean years of schooling			Percentage with at least BA			Mean annual earnings		
Age /Year:	1975	1982	1992	1975	1982	1992	1975	1982	1992
25–54 Men	.77	.76	.82	.24	.25	.27	.79	.70	.68
Women	.74	.82	.84	.19	.25	.28	.79	.79	.80
25–29 Men	.77	.81	.89	.14	.17	.25	.88	.87	.87
Women	.82	.85	.88	.16	.32	.31	.89	.89	.96
30–34 Men	.76	.78	.81	.23	.23	.21	.84	.68	.85
Women	.70	.82	.86	.10	.21	.32	.76	.86	.83
35–39 Men	.76	.77	.82	.26	.20	.32	.74	.77	.60
Women	.60	.79	.84	.28	.31	.27	.55	.81	.78
40–44 Men	.75	.76	.80	.21	.23	.32	.75	.65	.69
Women	.58	.70	.80	.30	.13	.13	.71	.60	.82
45–54 Men	.77	.73	.77	.20	.31	.26	.77	.70	.63
Women	.80	.75	.77	.41	.00	.31	1.03	.74	.70
BA + Men							1.00	.83	.88
Women							.89	1.04	1.05

man had .77 years of schooling of his Western counterpart. By 1992 the respective figure for this age group was .89, which indicates a real, substantive improvement in the relative standing of Easterners in the educational hierarchy.

But years of schooling do not tell the entire story of the educational gap. The types of educational degrees are important too. Our second measure of schooling – the proportion having BA degrees – suggests that as late as 1992 the gap is still substantial. Although the ratio among the youngest age group increases from .14 in 1975 to .17 in 1982 and to .25 in 1992, it is still very low. If we assume that the increase in the ratio during the period 1982–92 will continue at the same rate well into the next century, it will take another ninety-four years for the same proportion of Eastern and Western Jews in this age group to have a college degree. In other words, the second-generation Eastern men who are expected under these assumptions to achieve college graduation parity with Westerners are yet to be born.

College education for Israelis lasts well into the thirties. In all survey years the proportion of college graduates for both ethnic groups is substantially higher among those 30–39 than among those 25–29. This trend of obtaining academic degrees later in life, appears to be getting stronger for both ethnic groups, but especially for Easterners. It is thus instructive to examine the development of the educational gaps within birth cohorts. The structure of our data enables us to follow the educational levels of those born between 1948 and 1957 at two points in time: in 1982 (when

they were 25–34 years old) and in 1992 (when they were 35–44 years old).⁷

Following members of the two groups who were born in the first decade of Israel's existence, indicates that during the 1980s both groups enhanced their education. For example, in 1982 when the birth cohort of 1953–57 was 25–29 years of age, 28.5 per cent of Westerners and 4.8 per cent of Easterners had a college degree. The respective figures for 1992, when members of this cohort were 35–39 years old, are 41.6 per cent and 13.2 per cent (data not shown). A higher proportion of Easterners than Westerners get their college degrees later in life. This could explain why the college ratio for this birth cohort has increased from .17 in 1982, when they were 25–29 years old, to .32 in 1992, when they were 35–44 years old (Table 3). A similar increase in the ratio is observed among members of those groups born between 1948 and 1952, from .23 in 1982 to .32 in 1992.

These findings have opposing implications. On the one hand, it is evident that when comparing percentages of college graduates among those under thirty years of age, we overestimate the ethnic gap, since nearly two-thirds of second-generation Easterners, compared to less than one-third among Westerners, attained their college degree when they were over thirty years old. On the other hand, the ethnic gaps in education between the groups are not confined to such measures as years of schooling, college attendance and types of schools. Rather, the average age at which men of these two ethnic groups graduate from college is another dimension in which Westerners have a clear advantage over Easterners. The former complete their college education earlier in life than the latter, and this difference has far-reaching implications for earnings gaps. The earlier one invests in college education, the more years one can expect to receive returns for one's investment, and the higher

Table 3. *Ratios (Eastern / Western) of mean years of schooling, percentage with at least BA, and mean annual earnings: Jewish salaried workers by age, birth cohort and sex, 1975, 1982 and 1992*

	Mean years of schooling			Percentage with at least BA			Mean annual earnings		
<i>Cohort/Year:</i>	1975	1982	1992	1975	1982	1992	1975	1982	1992
1953–57/Age:		25–29	35–39		25–29	35–39		25–29	35–39
Men		.81	.82		.17	.32		.87	.60
Women		.85	.84		.32	.26		.89	.77
1948–52/Age:	25–27	30–34	40–44	25–27	30–34	40–44	25–27	30–34	40–44
Men	.79	.76	.80	.14	.23	.32	.92	.68	.69
Women	.84	.82	.80	.22	.21	.13	.87	.86	.82
1943–47/Age:	28–32	35–39	45–49	28–32	35–39	45–49	28–32	35–39	45–49
Men	.76	.77	.77	.17	.20	.27	.88	.77	.61
Women	.74	.79	.83	.07	.31	.29	.80	.81	.72

one's lifetime earnings. We shall elaborate on this issue in the next section where we present the descriptive statistics regarding earnings of the two ethnic groups.

Earnings. The overall ratio in annual earnings between Easterners and Westerners decreased from .79 in 1975 to .70 in 1982 and to .68 in 1992 (Table 2). The increasing gaps in earnings between the two ethnic groups is surprising, given that the educational gaps have not widened during this period, but rather narrowed – albeit not by a great deal. Much of the increase in the earnings gaps occurred during 1975–1982. During 1982–1992 the earnings gap decreased among some age groups and increased among other groups, especially the older age groups.

The gaps among older age groups are the most revealing, since they reflect differences when workers are at, or near, their peak earnings profiles, and may thus serve as an indication of what is expected in future years of younger cohorts. We thus present in Table 3 earnings data for three five-year cohorts born between 1943 and 1957. Members of the youngest cohort were born during 1953–57, and were 25–29 years old in 1982. In that year, the average Eastern worker had annual earnings that were 87 per cent of the earnings of the average Western. Ten years later, in 1992, when members of this cohort were 35–39 years old, they earned only 60 per cent of their Western counterparts. The experiences of the other two cohorts of second-generation Eastern men were similar: when they were relatively young, in 1975, they earned 88–92 per cent of their Western counterparts. After seven years, in 1982, when they were 30–39 years old, their relative earnings dropped to only 68–77 per cent of Westerners' average earnings, and the percentages sunk to 61–69 when they reached their peak earnings in 1992, when they were in their forties.

That in 1982 and 1992, but not in 1975, there were earnings differences between college educated Western and Eastern Jews (bottom of Table 2) deserves further analysis. It could be that the gap in years of schooling between Western and Eastern men of at least college education widened between 1975 and 1982. We have checked this possibility, and the results suggest that we can safely reject it.⁸ We believe that part of the explanation for this finding is rooted in the age gaps at which Western and Eastern men completed their college education in the 1980s and 1990s compared to the 1970s. While in the 1970s we detected almost no ethnic differences in the ages of college graduation, by 1982 and 1992 Easterners got their college degrees at an older age than Westerners. Consequently, at any given age, the latter have more years of experience as college graduates, and therefore higher wages than the former.

Taken together, the results regarding men's earnings suggest a few trends. First, the earnings gaps during the years 1975–1992 have been widening. Second, in all three surveys earnings gaps are larger among older workers, who are at their peak earnings, than among younger workers. Third, earnings gaps among those with at least a BA degree

that were non-existent during 1975, started to develop during the late 1970s and 1980s. Finally, although much of the increase in the earnings gaps is the result of the seven-year period 1975–1982, earnings gaps among the older age groups have continued to increase in the 1980s and early 1990s.

These trends, we believe, are primarily the result of two processes, one demographic, the other economic, affecting Israel during 1975–92. The demographic change affecting the earnings gap between the two ethnic groups is that they reached maturity by 1992. In 1975 the average ages of second-generation Eastern and Western men in our sample were 32.6 and 35.2 years, respectively. By 1992 both groups aged, reaching average ages of 37.3 for Easterners and 38.7 for Westerners. Thus, during this period, both groups aged, and the difference between them has narrowed. These changes, most likely, have affected the gaps in opposing directions. Since earnings is positively correlated with age and experience, the narrowing of the age difference between Western and Eastern Israelis probably attenuated the overall earnings gap between the two ethnic groups. But since the *rate* at which earnings increases with age and experience is positively correlated with schooling, the ageing of both groups resulted in a larger earnings increase to Westerners than to Easterners. That the overall earnings gap increased during 1975–92 suggests that the small attenuation of the schooling and age gaps between the two ethnic groups was not large enough to offset the earnings growth of the better educated men. Thus, as long as there are substantial schooling differences between Eastern and Western Jewish men, we can expect the earnings difference between them to grow with age until both groups reach their peak earnings.

While ageing is no doubt partly responsible for the increase in the overall earnings gap between Eastern and Western Jews, it cannot explain the increase in the earnings gaps *within* age groups. The main economic factor affecting the gaps during the years 1975–1992 is increasing income inequality in Israel. Between 1975 and 1982 the Gini coefficient for salaried households increased from .28 to .32 (Israel 1983). By 1992 it reached .35 (Israel 1993). This increase in inequality reflects many changes in the Israeli economy and society during that period, the most important of which for the purpose of the present study is the increase in the returns to schooling. In 1975 men with less than college degrees earned 78 per cent of men with at least a BA degree. The respective figure for 1982 is 65 per cent, and for 1992, 57 per cent (data not shown). Once again, it appears that the small improvements in the relative schooling of Easterners during 1975–92 were too late and too little to offset the effect of increasing returns to higher education, which are partly responsible for the increase in the earnings gap between Western and the less educated Eastern men of the same age.

Women

To examine whether or not the gaps among women are narrowing faster than among men, we compare the trends in the ratios (Eastern/Western) of the three variables (years of schooling, percentage with at least BA and annual earnings) for both gender groups over time. Tables 2 and 3 are designed to this end – the figures for women are presented below those for men. It appears that there are no major gender differences in closing the ethnic schooling gap, although the improvement among the entire age group, 25–54, is a bit larger among women. Thus, Eastern women improved their overall ratio from .74 in 1975 to .84 in 1992. The respective figures for men are .77 to .82. Likewise, with respect to college graduation, the improvement among women, from .19 to .28, is larger than among men, from .24 to .27. While the ratios in 1992 are similar for both men and women, women started from a lower ratio in 1975. This implies that the rate at which Eastern women have been narrowing the college gap with Western women is faster than the rate at which their Eastern brothers close the same gap. However, the major improvement in the ratio among women was achieved between 1975 and 1982. During 1982–1992 there are no appreciable differences between men and women with respect to the rate at which they closed the educational gap with their Western counterparts.

Examining the results by age cohorts (Table 3), there is one difference deserving consideration: while among men, the ratio for those with college degrees improves more in the older age groups, the opposite is true for women. This suggests that, on average, college educated Eastern women obtained their degrees earlier in life than their Western counterparts, while the situation among men is reversed – Eastern men earn their degrees later than Western men.

Perhaps this fact is partly responsible for the results regarding the earnings gap. While the gap between men of the two ethnic groups widened significantly, from .79 in 1975 to .68 in 1992, the ratios among women have been similar for the entire period: .79 in both 1975 and 1982 and .80 in 1992 (Table 2). In fact, among women 25–44 years old, the earnings gaps are smaller in 1992 than in 1975, whereas among men of the same ages the gaps in 1992 are much larger than in 1975. Moreover, college educated Eastern women not only closed the gap between them and Western college graduates, but actually surpassed their Western counterparts by 1982 and 1992 (bottom of Table 1). These findings are in accordance with previous research (Semyonov and Kraus 1983; Semyonov and Lerenthal 1991) suggesting that the crowding of women within a small number of occupations does not enable a large variation in earning between ethnic groups among women.

In sum, while both gender groups somewhat attenuated the ethnic

educational gap during 1975–1992, the ethnic earnings gap among men has increased, whereas among women it decreased during this period. We mentioned above three processes responsible for the increase in the earnings gap among men during this period: ageing, rising inequality through rising returns to college education, and age at college graduation. Apparently, the first two factors hardly affect the ethnic earnings gap among women, and the third affected it in the opposite direction. Among women, unlike men, Easterners are those who complete their university education at a relatively young age. This being the case, age at college graduation does not contribute to widening the earnings gap among women.

Both salaried women and men aged similarly during 1975–1992. Moreover, both Eastern men and women attenuated the age gap with their Western counterparts similarly. But since women's earnings-age profiles are flatter than men's, ageing does not result in larger earnings gaps among them as it does among men. This can be seen in Table 3, where earnings of cohorts are being reported. The ratios indicate that the earnings gaps among men are widening significantly with age, while for women the rise in the gaps is relatively modest. In short, while among men the effect of ageing on the earnings of the more educated surpassed the effect of narrowing the age gap between the ethnic groups, the two effects apparently cancelled each other among women.

Likewise, the increase in overall inequality in Israeli society and in the returns to college graduation affected men much more than women. Among men, workers without a college degree experienced a sharp relative decline in their earnings: from 78 per cent of their college graduate counterparts in 1975, to 57 per cent in 1992. Among women, the decline was relatively modest: from 78 per cent in 1975 to 70 per cent in 1992. Thus, it appears that the rise in the Gini coefficient for households, reported above for the period 1975–1992, has been affected mostly by the rise in Western men's earnings. This can be shown by observing changes in women's earnings as a percentage of men's earnings within ethnic groups. Among Easterners, women's earnings as a percentage of men's earnings was stable at 58 per cent for the entire period. Among Westerners, the respective percentages declined from .58 in 1975 to .49 in 1992. Put differently, if we consider Western men as the benchmark for other ethnic-gender groups in Israel, we conclude that the earnings gap between this benchmark and all other groups has increased between 1975 and 1992.

4. Regression Results

Men

So far we have focused on ethnic gaps in schooling and their possible effects on gaps in annual earnings. However, earnings gaps may be due

to other factors in addition to education. For example, it is possible that part of the ethnic gaps in annual earnings is due to the difference in hours of work, in experience and in other such productivity-related variables. To examine this question, we first ran OLS wage regressions for Western and Eastern men and women for the years 1975, 1982 and 1992 (a total of 12 equations). The dependent variable in the regression equations is the natural logarithm of hourly wage.⁹ The independent variables in the equations are years of schooling, a dummy variable coded '1', if the person holds at least a BA degree, experience,¹⁰ experience squared, a dummy variable coded '1' if the person is married, and a dummy variable coded '1' if the person immigrated to Israel as a child, as opposed to being born there (Appendix A presents the results of the regressions).

The regressions were run for one purpose only: to estimate the proportion of the wage gap between Westerners and Easterners which is due to each variable, as well as the proportion of the gap which is remained 'unexplained'. To this end, we used Oaxaca's (1973) method for decomposing the gaps in average earnings between the two ethnic groups. This was done for men and women separately. Thus, in each year, Eastern men are being compared to Western men, and Eastern women to Western women.¹¹

Table 4 presents the results of the decompositions in percentages. The first three columns present the results for men. The main variable responsible for the earnings gap in 1975 is years of schooling (but not a

Table 4. *Percentages of In hourly earnings between second-generation Western and Eastern salaried workers by gender, 1975, 1982 and 1992^a*

Gender:	Men			Women		
Year:	1975	1982	1992	1975	1982	1992
Total gap ^b	.21	.31	.34	.38	.28	.26
Total gap in per cent:	100%	100%	100%	100%	100%	100%
Years of schooling	81	40	43	90	58	61
BA +	-6	22	22	-6	0	15
Exp., exp. ²	-6	-5	-9	-3	-1	-5
Married	4	3	0	4	0	0
Immigrated as child	0	2	0	2	4	2
Total 'explained' gap	73	62	56	87	61	73
Total 'unexplained' gap	27	38	44	13	39	27

^aTable reads: the difference in the average years of schooling between Western and Eastern men in 1973, 1982, and 1992, account for 81, 40, and 43 per cent to the differences in their ln hourly wages in these years, respectively. The differences in average years of schooling between Western and Eastern women account for 90, 58 and 61 per cent of the differences in their ln hourly wages in these years, respectively.

^bThese gaps are based on geometric means, not on actual earnings.

^cThe total unexplained portion of gap for men when Easterners serve as the base-group are 15 per cent for 1975, 43 per cent for 1982, and 26 per cent for 1992. The comparable figures for women are 20, 10, and 8 per cent.

BA degree). By 1992 the same variable is still the most important for explaining the ethnic gap in hourly wage, together with the BA degree. Ethnic differences in other variables have virtually no effect on the earnings gap (marital status and immigrating as a child) or a small negative effect (experience). The two measures for education (years of schooling and BA), however, explain a larger portion of the total gap in 1975 than in both 1982 and 1992. In fact, all variables included in the models explain nearly three-quarters of the total gap in 1975, less than two-thirds in 1982, and even less than that in 1992. Put differently, fully 44 per cent of the hourly wage gap between Western and Eastern men remains 'unexplained' by the variables included in the model in 1992. This is a sizeable portion, larger than the unexplained portion found in 1982 (38 per cent), and also larger than the unexplained portion in 1975 (27 per cent).

The unexplained portion of the earnings gap may be due to ethnic differences in omitted variables (variables not included in the analysis, such as quality of education, actual job tenure, actual years of experience). Had such variables been included in the analyses, they might have accounted for at least part of the unexplained portion of the earnings gap between the groups. In addition to omitted variables, measurement errors in the variables included in the analysis could also be responsible for part of the unexplained portion of the gap. Only if models are well specified (that is, include all the relevant variables), and are free of measurement errors, may one conclude that the unexplained portion of the earnings gap is due to labour market discrimination (Cain 1986).

To be sure, no study – and ours is no exception – is totally free of measurement errors, nor from the probability that some omitted variables could lower the proportion of the unexplained gap, and thus the estimated portion of the gap which is due to labour market discrimination. However, to the extent that our models suffer from these problems, it is reasonable to assume that the effects of most omitted variables (for example, quality of schooling, job tenure) were similar in the three surveys.¹² Likewise, there is no reason to expect larger measurement errors in the earnings survey of 1992 than of 1975, as the data sources we use are similar. We should therefore pay more attention to the *increase* in the unexplained portion of the gap during the period 1975–1992, than to the actual percentages, as the rise in this portion is probably net of measurement errors and most omitted variables.

Having said that, we cannot rule out the possibility that the effects of some omitted variables are indeed larger in 1992 than in previous years. In the case of men, the likely candidates are omitted variables associated with age at college graduation and ageing. Consider, for example, the role of social networks for getting high paying jobs (Granovetter 1995). Assuming that Westerners' networks of friends lead them to better jobs and earnings than Easterners' networks, and given the evidence that such networks are more important among older workers than among younger

workers (Granovetter 1995), it is possible that part of the growth in the proportion of the unexplained variation between 1975 and 1992 is associated with this omitted variable.

This being the case, all we may conclude is that there is a greater *possibility* that discriminatory practices against Eastern men exist in the Israeli labour market of 1992 than is true for 1982 or 1975.

Women

The last three columns of Table 3 present the results of the decompositions for women. The two measures for educational level account for about the same proportion of the gap among women as among men. Also similar to men, ethnic differences in other variables hardly account for the earnings gap between Western and Eastern women.

The unexplained portion of the earnings gap among women has increased from 13 per cent in 1975, to 39 per cent in 1982, and then declined to 27 per cent in 1992. The interpretation of the unexplained gap in the case of women is the same as for men. For evaluating whether there is labour market discrimination, changes in the unexplained portions are more important than the actual percentages in a specific year, assuming no major changes over time in the effects of omitted variables and measurement errors.¹³

Thus, while among men the figure for the unexplained portion of the variance is the largest in 1992, thereby supporting the conclusion that the role of ethnicity, and perhaps of discriminatory practices, may have increased between 1975 and 1992, for women there is no consistent trend in the direction of the unexplained portion of the gap. Thus, we may conclude that the existence of ethnic discrimination among Jewish women is less likely than among Jewish men.

This conclusion is consistent with previous research in Israel as well as in the US. In both countries, ethnic-linked socio-economic differences were found to be much smaller among women than among men (Almquist 1975; Semyonov and Kraus 1983; Habersfeld 1992), probably due to women's concentration in a few occupations, as well as to gender-based discrimination – two related processes that affect women similarly, regardless of ethnicity (Lieberson and Waters 1988; Semyonov and Lerenthal 1991).

5. Conclusions

Israeli-Jewish society is characterized by an ethnic cleavage between Jews who immigrated to Israel from Europe and America, and those emigrating from Asia and Africa. The gaps between the two immigrant groups with respect to the main socio-economic measures, education and

earnings, seem to be as persistent among second-generation immigrants as among the immigrants themselves.

The results presented in this article suggest that in spite of a slight narrowing of the ethnic gap in schooling – the main factor affecting earnings in the three survey years – the overall earnings gap between second-generation Eastern and Western Jewish immigrant men has increased between 1975 and 1992. The increase in the earnings gap among men, despite the narrowing of the schooling gap, is rooted in three processes affecting the Israeli society and economy during this period: first, the ageing of both ethnic groups; second, the increase in the returns to college education; and third, the tendency of Easterners to complete their college education later in life than Westerners. These processes affected men more than women, and therefore the ethnic earnings gaps among women are smaller than among men, and the gaps have not appreciably changed during the period 1975–1992.

Education is the main factor affecting earnings for both men and women during the entire period. However, the proportion of the ethnic earnings gap which remains unexplained by all variables included in our analysis for 1992 is nearly a half among men, but only about one-quarter among women. The 1992 figure for men is higher than the figures in either 1975 or 1982, whereas for women, there is no consistent trend in the direction of the unexplained variation. These results suggest that the importance of ethnicity in earnings determination among workers of similar characteristics has increased during the last decade among Israeli Jewish men, but not among women.

What could explain the relatively weak effect of ethnicity on Israeli women? It seems that in Israel, as in the US, the answer is rooted in gender-based processes that are far more important than ethnicity. As Lieberman and Waters (1988, p. 133) explain regarding differences in occupations among US ethnic/racial groups:

The ethnic/racial effect is muted for women [compared to men] because they are already concentrated in certain occupations by virtue of the fact that they are women – gender differences in occupational distributions has a much stronger effect for women than do ethnic/racial effects.

Discussing ethnic/racial income differences among men and women, Lieberman and Waters (1988, p. 139) conclude that ‘the color line is less sharply defined for women than for men’.

Taken together, the rising importance of the ethnic factor in Israel among men, combined with little over time changes in gender-based occupational segregation (Cohen, Bechar and Raijman 1987), and pay discrimination (Haberfeld 1996) are responsible for changes in the relative positions of the four Jewish groups in Israeli society. Specifically, the

earnings gaps between the favoured group in the society – Western men – and the three other groups under consideration – Western women, Eastern men, and Eastern women – have widened during the period 1975–1992, while the gaps within these three less advantaged groups have remained stable.

Acknowledgments

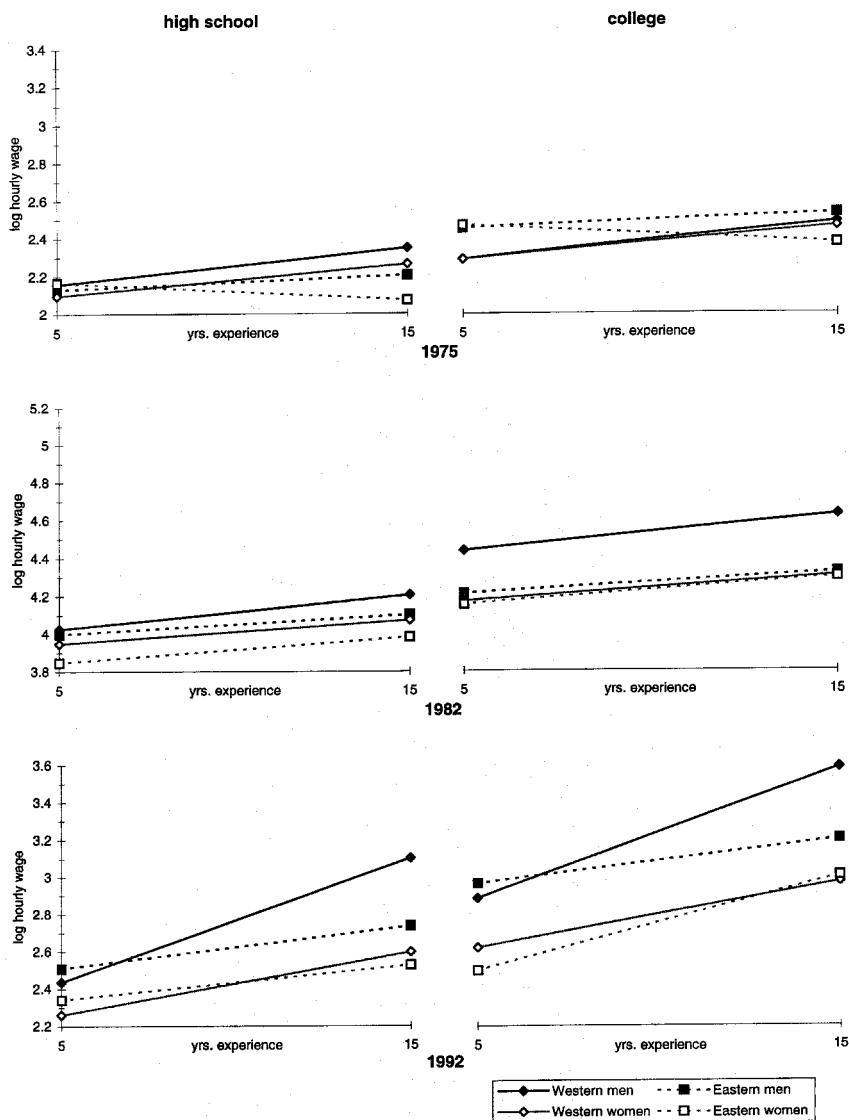
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Appendix A. Coefficient estimates of *ln* hourly wage regressions for 1975, 1982 and 1992: second-generation Western and Eastern salaried men and women (standard errors in parentheses).

Gender:	Men						Women					
Year:	1975		1982		1992		1975		1982		1992	
Ethnic group:	Western	Eastern	Western	Eastern	Western	Eastern	Western	Eastern	Western	Eastern	Western	Eastern
Variable:												
Year of schooling	.059*** (.007)	.044*** (.007)	.039*** (.009)	.057*** (.010)	.055*** (.009)	.083*** (.010)	.107*** (.011)	.083*** (.011)	.067*** (.013)	.110*** (.013)	.068*** (.009)	.085*** (.009)
BA +	-.060 (.059)	.173** (.086)	.267** (.062)	.024 (.081)	.255*** (.055)	.173** (.077)	-.141* (.076)	.035 (.162)	.006 (.070)	-.038 (.111)	.138*** (.047)	.189*** (.070)
Experience	.026*** (.007)	.005 (.009)	.025*** (.011)	.005 (.013)	.067*** (.010)	.026** (.011)	.026*** (.009)	-.027* (.014)	.022* (.012)	.025* (.014)	.051*** (.008)	.023*** (.008)
Exp. ² (×100)	-.035** (.017)	.012 (.021)	-.035 (.028)	.028 (.029)	-.001*** (.027)	-.016 (.024)	-.047* (.023)	.088** (.034)	-.047* (.003)	-.057* (.034)	-.087*** (.023)	-.022 (.020)
Married	.208*** (.058)	.194*** (.049)	.412*** (.079)	.162*** (.061)	.160*** (.061)	.257*** (.055)	.136** (.054)	.163*** (.058)	.146** (.057)	.176*** (.063)	.031 (.042)	.130*** (.044)
Immigrant as child	.002 (.033)	.039 (.038)	-.029 (.047)	.051 (.041)	-.005 (.049)	-.026 (.047)	-.018 (.044)	.006 (.058)	-.039 (.052)	.007 (.055)	-.029 (.043)	.012 (.046)
Constant	1.12	1.38	3.03	3.12	1.28	1.13	.558	1.12	2.90	2.24	1.18	1.08
R ² (adjusted)	.168	.148	.185	.109	.248	.183	.22	.284	.098	.250	.189	.181
F ratio	24.0***	16.6***	25.2***	14.5***	44.9***	37.0***	26.7***	19.0***	10.5***	23.2***	33.7***	32.2***
Number of cases	686	540	639	662	799	963	548	273	526	399	843	847

* $p < .1$ ** $p < .05$ *** $p < .01$

Appendix B. Predicted values of \ln hourly wage in 1975, 1982, and 1992: second-generation Western and Eastern salaried men and women – by years of experience and education*



* The predicted values were calculated for married, Israeli-born workers.

Notes

1. Israeli Arabs are not considered in this article because they are not second-generation immigrants, and they operate in a different labour market than that of Jews. See Lewin-Epstein and Semyonov (1993).

2. Since this study is concerned with second-generation Jews, we are not concerned with immigration to Israel after 1978.

3. The results for education are appreciably the same if we include in the analysis those not in the labour force. Over 85 per cent of Israeli-born men, 25–54 years old, participated in the Israeli labour force during these years. The participation rates among Israeli-born women of these ages are 55, 67 and 76 per cent for 1975, 1982 and 1992, respectively (Israel 1993).

4. The results for both earnings and education are appreciably the same if we omit these children.

5. Data on country of birth for mothers are not available.

6. The results for both earnings and education are appreciably the same if we omit third-generation Israelis from the sample.

7. Although the data are not longitudinal in the sense that the samples include different individuals each year, we follow standard procedures of synthetic cohort analysis. This procedure takes advantage of the fact that the samples are representatives, and thus, it is possible to track cohort characteristics over time. For example, those 25–34 in 1982 are ten years older in 1992. Increases in the schooling of those 35–44 in 1992 compared to those 25–34 in 1982 thus represent schooling attainment by members of this cohort during the ten-year period.

8. The ethnic differences in years of schooling between those with at least a college degree were not larger in 1992 than in 1975 or 1982.

9. The results were appreciably the same when we used annual earnings as the dependent variable and included annual hours of work in the regressions.

10. Since Income Surveys do not include actual years of labour market experience, we measure experience as 'age-years of schooling-6'. This is a better proxy for years of labour market experience among men than among women. Men tend to join the labour force immediately after completing their schooling or military service. By contrast, women are more likely to delay entry to the labour force, and/or experience voluntary work interruptions. While admittedly crude, we have elected to use this measure for women (rather than age in years) in order to have the same models for both gender groups. Ethnic differences in participation rates are negligible among men. Western women have about 5–8 percentage points higher rates of participation than Eastern women of similar ages (Israel 1993). However, among working men and women, there are no major ethnic differences in hours of work (data not shown).

11. The main drawback of the method proposed by Oaxaca (1973) is that the estimated effects may vary depending on the group chosen to serve as the benchmark group (see Jones and Kelly [1984], and Fishelson [1994] for a review of various decomposition techniques). To surmount this difficulty, we decomposed the gap each year twice: once with Westerners serving as the base-group, and once with Easterners serving as the base-group. In the interest of clarity, we follow the convention and present in Table 4 the results where the superior group (Westerners) serve as the base-group. However, we provide (in note 'c' to Table 4) the estimate for the 'unexplained' portion of the gap which is obtained by using Easterners as the benchmark group.

12. Another such variable that we have decided not to include in the regressions is occupation. Since hourly wages are correlated with occupational status, one could argue that ethnic differences in occupations should be added to the 'explained' portion of the gap, thus reducing the total portion of the 'unexplained' gap, and hence the estimate for the level of discrimination. We have elected to follow the convention of discrimination studies that do not include occupations, as it is possible that entry to occupations is not free of discrimination. However, the general trend of the results remains the same when we

included dummies for ten occupations and ten industries in the model. In these models the proportion of the unexplained gap among men increased from 8.4 per cent in 1982 to 36.9 per cent in 1990 (data not shown). The low figure for 1982 partly explains why previous research, relying on data from the early 1980s and including occupational status in the models, did not detect differential labour market treatment of Eastern Jewish men in the 1980s.

13. Changes in the effects of omitted variables associated with age at college graduation and ageing are less likely among women than among men.

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