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HOW SUCCESSFUL WAS THE MELTING POT IN THE ECONOMIC FIELD?[1]

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Abstract

This work finds for the first time an almost continuous trend, as of the mid-1990s, in which the income gap between households of the two major ethnic groups in Israel (European/American versus Asian/African descent) has been reduced. In 2011 the net income gap was 27 percent, whereas in the mid-1990s it was around 40 percent. Paradoxically, it seems that increased inequality between educated individuals and uneducated individuals accounts for the economic rise of those of Asian/African descent. The increase in return on higher education has promoted less-educated people (of Asian/African descent) to increase their investment in education. This hypothesis is in line with the rise of education levels among those of Asian/African descent, which was faster than the rise among native Israelis of European/American descent.

This work also reveals a significant improvement in representation of the Asian/African ethnic group in the past three decades. This improvement is manifest in a sharp decline in the proportion of households of Asian/African descent in the two bottom deciles, as well as a significant rise in their representation in the upper deciles. In the last two years of the studied period, the share of the Asian/African ethnic group in the upper decile was for the first time proportional to its share in the general population. Furthermore, this study shows that the wage gap between employees of both ethnic groups is larger than expected as per the measured differences in education level. The continent of origin can explain approximately 10 percent of the wage gap among men and 5 percent among women. However, these two estimates have fluctuated greatly over the years.

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1. INTRODUCTION

By now, it might seem strange to look into the assimilation of Asian or African Jews into the Israeli economy compared to Jews whose parents or grandparents were born in Europe or America. This skepticism is justified especially because the lion's share of Jews living in Israel today were born in Israel and have quite a lot in common. The vast majority of Jews in both of these social groups thinks of Hebrew (in its Sephardic pronunciation) as their primary language, identifies with Israeli nationality and belongs to the same religion. This majority also shares some common key values which can be generalized as a Jewish and democratic state based on concepts of market economy and the modern welfare state.

However, one's place of origin has not been completely expunged from Israeli public discourse. Every time we think we might have succeeded in eliminating it, ethnic origin seems to reappear. While it is true that the large majority of the adult Jewish population in Israel identifies itself as Israeli or Jewish (64%), there is still a significant group of people (24%) who define their identity according to their city or country of origin or according to their ethnic background, such as Ashkenazi or Mizrahi, and others still (12%) who do not attach themselves to any such group.[2] Ethnic division is alive and kicking even among Israelis of mixed ethnic origin (one parent of European/American descent and another of Asian/African descent).[3]

Ethnic origin also played a prominent role in the January 2013 elections. The decision of Minister Moshe Kahlon not to participate in the Likud primary elections brought about a lively discussion in the media concerning the gap between the ethnic composition of the Likud candidate list and that of traditional Likud voters.[4] The union between Likud and Yisrael Beiteinu, headed by Avigdor Liberman, was also viewed through the ethnic lens.

Ethnic origin, however, is also present outside the political field. In a series of articles published in *Haaretz*, Eva Illouz claimed that people originating from Asia and Africa suffer from discrimination that prevents them from reaching senior positions in major fields of life, such as the legal system, higher education and cultural institutes.[5] Yifat Bitton also sees the lack of representation of Mizrahi Jews in research university faculty, especially in the more prestigious faculties, as evidence of discrimination (Bitton, 2012). Ethnic origin is also present in television shows and plays a role in public response to news and articles

[2] Data based on responses in a 2008 social survey, in which respondents were presented with the following question: "Many researchers are interested in the self definition of geographical, cultural and ethnic identity. How would you define yourself with regard to your origin?" Respondents could only choose one identity.

[3] Talia Sagiv (2014) finds that ethnic identity also shapes the behavior of descendants of mixed-origin families in various fields such as music and food, as well as in meaningful life events like weddings or funerals. The ethnic identity adopted by children of mixed origin is affected by external appearances (skin tone, among others), family name, place of residence and the extent to which they identify with one of the parents (the dominant parent).

[4] For example, Minister of Housing Ariel Atias from Shas was quoted in *Globes* saying: "The Likud is holding a couple of ornamental Mizrahi fig leaves." (2 January 2013)

[5] The series appeared in *Haaretz* in 2012, on February 24, March 16, and April 4.

posted online (talkback reader response system). Many other examples can be brought into the discussion; however, I believe we can stop here and say that the ethnic gap still interests the public, although it might be that ethnic identity is limited to symbols which at one time represented qualitative differences that have faded as Israeli society has matured. In light of this, researchers of Israeli society should also be engaged with the topic.

In this study I chose not to use the terms *Mizrahi* and *Ashkenazi* due to the identity 'baggage' that they carry. As mentioned above, most Israeli Jews do not adopt these social identities, and I therefore chose to use the continents from which they or their parents came.[6] The examination of the economic assimilation of Israelis of Asian/African descent is important not only because of the public interest in the topic, but also for pure economic considerations. It should be seen as an examination of economic mobility in Israeli society. Especially, this examination might contribute to the effort to reveal barriers, if such exist, that prevent certain groups in the population from realizing their economic potential. Economic gaps between two population groups can be explained based on differences in genetic background, cultural background (leisure and risk preferences) or central variables of the starting point, such as financial capital (stocks and bonds), physical capital (ownership of land or real estate) or human capital (parents' level of education). Nonetheless, economic gaps can also be a result of past or present governmental or private discrimination against members of a certain group that inhibits individuals from realizing their full potential in the economic arena. Discrimination can appear either prior to entering the workforce (while acquiring education) or later on, and is manifested both in the prospects of finding an occupation that is appropriate to a person's skills and in the level of hourly pay.

The degree of economic mobility of social groups also affects the intensity of solidarity in Israeli society. If members of a certain group feel that their economic path is partly or completely blocked, they are not expected to express empathy toward those who are perceived as responsible for the barriers they face. This feeling is also important for the success of the Zionist project: creating a new nation via the ingathering of the Children of Israel, whose members share a destiny and are thus severing their diasporic attachment.

This work explores the extent to which the melting pot has been successful in the economic field. Three principal indices are used to examine the degree of assimilation of Jews of Asian/African descent in Israeli economy. The first index measures the gap in monetary income between households headed by Jews of Asian/African descent and households headed by Jews of European/American descent during a period of over three decades (1979–2011). The representation of households of Asian/African descent in each income decile is the second index testing the success of the economic melting pot. This work shall present the development of representation of Israelis of Asian/African descent during three decades, alongside the shifts in representation of other major population groups such as Arabs, Ultra-Orthodox and Immigrants (*Olim*). The representation index

[6] Some studies have explored intra-ethnic variance according to country of origin instead of continent of origin (see, for example, Khazzoom, 1999).

provides a new perspective, differing from that of the first index, by illustrating the position of people of Asian/African descent in comparison with all other population groups in Israeli society, and not just with people of European/American descent.

The third index testing the economic assimilation of Jews of Asian/African descent measures the gap in hourly pay between native Israelis whose father was born in Asia or Africa and native Israelis whose father was born in Europe or America, as well as the wage gap between both ethnic groups, after controlling for the effect of differences in various characteristics, such as education and experience (ethnic coefficient). While the first and second indices provide documentary information about trends in the gap between the two ethnic groups, the third index promotes our understanding of the reasons for and sources of this gap.

a. Ethnic Gaps: Education, Demography, and Identity

The current work is an extension of a diverse study conducted by researchers of various fields who examined the ethnic gap in many fields of life ever since the establishment of the State of Israel. One may summarize the knowledge gathered thus far by saying that in many areas, the gap between the two ethnic groups has been eliminated or continuously diminished, excepting the economic gap. It seems fit to begin with a description of findings in the development of mixed-origin couples, whose offspring undermine the relevance of the ethnic gap.

Barbara Okun and Orna Khait-Marelly show that the rate of mixed-origin couples increased continually from 14% in the late 1950s to 28% in the early 1990s (Okun and Khait-Marelly, 2008).[7] This increase demonstrates the erosion of ethnic origin as a factor in choosing a spouse. Barbara Okun reveals yet more evidence of the significant reduction in the gap between the two ethnic groups, manifested in a drop in *unions of exchange*, where lower-education individuals from the Europe/America ethnic group, imbued with a higher social status, marry higher-education individuals from the Asia/Africa ethnic group, with a lower social status (Okun, 2001). This interesting study provides an indirect indication of the lessening in the ethnic gap.

The larger number of children of Jews who immigrated to Israel from Islamic countries compared to Jews who immigrated to Israel from Christian countries was one of the most prominent differences found between the two ethnic groups in the past. In the state's first decade it seemed that the family size of Jews of Asian/African descent was deeply rooted in cultural norms that would change very gradually, if at all. However, by the 1970s the great differences in marriage age were eliminated (Peres and Katz, 1981) as were the differences in family size between the groups (Ben Porat, 1989; Yuchtman-Yaar, 2005). Eliminating

[7] On the other hand, Haya Stier and Yossi Shavit, as well as Sergio DellaPergola in a more recent study, show that the rate of mixed-origin couples increased during the 1970s and 1980s, but levelled off during the 1990s (Stier and Shavit, 2003; DellaPergola, 2007).

the gap in the number of children per family greatly contributes to diminishing the gap in per capita income when the income gap does not change.

I am not aware of any study documenting a gap in life expectancy according to ethnic origin throughout the years. However, Orly Manor and others have shown that the mortality rate of Jewish men originating in Africa was higher than that of Jewish men originating in Europe or Asia (especially Yemen), but this gap in mortality rates was eliminated once differences in the family's socioeconomic background were removed (Manor et al., 1999). Similar results were also found with regard to the ethnic gap in women's mortality rate, which was eliminated once differences in the family socioeconomic index were brought into consideration (Manor et al., 2000).

Momi Dahan and others found large ethnic gaps in the chances of earning a matriculation certificate, favoring native Israelis whose parents or grandparents originated from Europe/America (Dahan et al., 2003). However, it was also found that the rate of graduates who earned their certificate was similar in native Israelis of Asian/African descent and native Israelis of European/American descent if their parents had the same level of education and economic background. Yaakov Gilboa also found that the gaps in Meitzav achievement test scores among 5th and 8th graders were eliminated once differences in parent educational and economic background were taken into account (Gilboa, 2009).

Avraham Brichta, joined later by Gidon Rahat and Reut Itzkovitch Malka, shows that throughout the years the State of Israel has witnessed a significant reduction of the ethnic gap in political representation (Brichta, 2001; Rahat and Itzkovitch Malka, 2012). Brichta shows that the first Knesset included a negligible number of members of Asian/African descent, but their rate gradually grew until the 15th Knesset (1999), when their rate was almost equal to their proportion of the population. The representational gap also diminished among high ranking officers in the IDF (Barak and Tsur, 2012).

The geographic distribution of residence in the two ethnic groups, which is a key index of the development of the ethnic gap, has also caught the attention of researchers. It was found that the degree of ethnic segregation, measured by the tendency of Jews of European/American descent to live separately from Jews of Asian/African descent, has been reduced over the years (Schmeltz et al., 1991).

Self-identification is another field where the gap between the two ethnic groups has been reduced. Ethnic identity is less significant among native Israelis than among non-natives of both ethnic groups (Peres et al., 2006). The gap in degree of religiousness between native Israeli Ashkenazi and Mizrahi Jews is smaller than the gap between Ashkenazi and Mizrahi Jews born outside of Israel (Yuchtman-Yaar, 2005). The ethnic gap was also reduced in the field of leisure activities (Haas, 1998). Hadassa Haas' study found convergence in consumption of leisure activities among Ashkenazi and Mizrahi native Israelis in main categories such as theater, entertainment, social gatherings and other activities.

b. Ethnic Gaps in the Economic Field

Seeing the two ethnic groups nearing each other in various fields of life highlights the lack of decline in the economic gap, which seems to be the most stubborn of gaps. Study after study have shown that, almost exclusively, the great income gaps between Israelis of European/American descent and Israelis of Asian/African descent have not diminished, and at times have even widened. The gap in monetary income between the two ethnic groups has attracted much research attention from economists as early as the first years after the establishment of the state.

Giora Hanoch (1961), followed by Haim Levi (1968), found great gaps between the two ethnic groups among the first generation (non-natives), and these gaps widened between 1951 and 1960 (Hanoch, 1961).[8] These two studies, as well as others that followed, attempted to test the extent to which these gaps were a result of exogenous factors such as age or level of education (which was acquired mostly in the country of origin), and to what extent they stemmed from "inexplicable" or unobservable factors such as discrimination or quality of education. These studies have shown that the income gaps between the two ethnic groups were greater than the gaps in human capital, favoring individuals of European/American descent by approximately 15 percent.

Shmuel Amir continued the work of Hanoch and Levi, and in a series of studies explored the ethnic economic gap from the 1960s to the beginning of the 1980s (Amir, 1975, 1976, 1980, 1987). These studies revealed an unsettling picture, according to which the wage gaps in the second generation (native Israelis of both ethnic groups) were even greater than those found among the first generation (non-natives of both ethnic groups). Amir found that the expansion of the wage gap was related to a more rapid rise in education attainment among native Israelis of European/American descent than among native Israelis of Asian/African descent.[9] Similar findings were obtained in the studies of Nili Mark and others (Weiss, Mark and Fishelson, 1978) as well as in Mark's own studies (Mark, 1994, 2000).

All of the above mentioned studies found that the wage gap between the two ethnic groups is greater than that which can be explained by differences in education level and other characteristics that affect the worker's productivity and wage, such as seniority and occupation. European and American Jews came to Israel with a higher level of education and more highly-favored occupations than Jews immigrating to Israel from Asia or

[8] Levi (1968) showed that the economic gap between the two ethnic groups of the first generation (non-natives), which in 1963/4 was 32% of an Ashkenazi employee's pay, had in fact been reduced since 1957/8, when it was approximately 37%.

[9] It should be duly noted that comparisons such as those made by Shmuel Amir and Nili Mark, between native Israelis and non-natives at a given point in time, are not equal to a comparison of wage gaps among children and their parents. Amir (1980, 1987) also found an optimistic finding, according to which in the early 1980s the wage gaps among non-natives were lower than in the late 1960s.

Africa.[10] Nonetheless, the wages of native Israelis of Asian/African descent were lower than those of native Israelis of European/American descent not only due to their lower level of education. The wage gap that cannot be accounted for by differences in worker characteristics, and is a result of discrimination or unobservable factors, was found to be somewhere between 6 and 20 percent with no clear visible trend during the periods studied in the above-mentioned works (1951–1992). Discrimination against Israelis of Asian/African descent in the workforce was one of the hypotheses raised as a possible explanation of this inexplicable wage gap. Another hypothesis raised was that the large economic gap was due to the fact that workers of Asian/African descent had no connections with decision makers. This lack of connection was manifested for example in the tendency to send immigrants to peripheral areas, far from urban and employment centers (Semyonov and Tyree, 1981).[11]

In an unjustly overlooked study, Bensimon and DellaPergola showed that there were significant differences in the ways in which immigrants entered the Israeli workforce (Bensimon and DellaPergola, 1984). Immigrants from Asia and Africa who had prestigious occupations lost their status in the labor hierarchy, and most of them (69%) became blue collar or unskilled workers once they entered the Israeli workforce. However, a much lower rate (44%) of Jews who immigrated to Israel from Europe or America paid a similar price. Such gaps in downward mobility were not recorded among Jews of both ethnic groups who immigrated to France during the same years.

In two separate studies conducted in recent years, Yinon Cohen and Yitchak Haberfeld demonstrated that the economic gap between the two ethnic groups among the second generation (native Israelis) has not been reduced, and has even widened to some extent. The first study, covering the years 1975 to 1992, revealed consistent wage gaps between native Israelis whose parents immigrated to Israel from Asia/Africa and native Israelis whose parents immigrated to Israel from Europe/America, while the gap in educational attainment between the groups was slightly reduced (Cohen and Haberfeld, 1998). A consistent gap in hourly wage between the two ethnic groups was also found in a study focusing on the period between 1975 and 2001. However, during this period a significant reduction in the

[10] Sociologists also linked the economic gap among the first generation to differences in economic development in the country of origin (Semyonov and Lerenthal, 1991). In addition, the economic superiority of European/American Jews might have stemmed from possible selective migration of Jews from Islamic countries. Jews with greater human capital preferred to immigrate to places such as France, Canada, and South America.

[11] Oren Yiftachel and Sandy Kedar suggested a macro-sociological explanation, according to which the state blatantly preferred the dominant ethnic group (Ashkenazi Jews) over other social groups (Arabs and Mizrahi Jews), therefore causing the economic inferiority of Mizrahi Jews (Yiftachel and Kedar, 2000). Another similar macro-sociological explanation was presented by Yehouda Shenhav, who argued that the discrimination stemmed in the perception that Mizrahi Jews inhibited the forging of Israel as a European-oriented state in Zion. Despite the overt religious-national aspect of the Zionist project that Mizrahi Jews share, the covert European aspect is responsible for the discrimination of Mizrahi Jews in Israel (Shenhav, 2006). However, while these explanations might be appropriate for the early years of the state, they do not help us understand the long-term development of the gap between both ethnic groups.

education level gap was also recorded (Haberfeld and Cohen, 2007). Cohen and Haberfeld explain the enigma of the consistent economic gap and the reduction in the educational gap in terms of the significant expansion in economic inequality that occurred during these years (Dahan, 1996; Dahan, 2002). In other words, the rise in the return on education had a greater effect than the reduction in the gap in education level, and therefore the ethnic economic gap widened.

Based on data gathered in three Household Expenditure Surveys from 1979/80, 1992, and 2002, Shlomo Yitzhaki and Edna Schechtman showed that the (standard) income distribution per capita among adults aged 30 and up of second generation Israelis of Asian/African descent is more comparable to the income distribution among first generation Israelis of Asian/African descent than to income distribution among second generation Israelis of European/American (Yitzhaki and Schechtman, 2009). This led the researchers to conclude that the melting pot has not fulfilled its mission.

2. EMPIRICAL ANALYSIS

a. The data

The data for this study are based on Income Surveys from 1979 to 2011. This annual survey has been conducted by the Central Bureau of Statistics since 1965, gathering the current monetary incomes of households from work, capital and government assistance. Significant changes were made to the study methods in 1985, and income has since been measured quarterly (instead of annually). In 1995 the Income Survey sample was broadened and for the first time included households in Arab urban communities with populations of 2,000 to 10,000 inhabitants. The 2011 survey was based on a sample of 15,171 households, 60 percent of which answered the Income Survey and the rest the Household Expenditure Survey. As of 1997 the income estimates are based on incomes gathered from two surveys: the Income Survey annexed to the Labor Force Survey, and the Income Survey conducted as a part of the Household Expenditure Survey.[12]

The second source of data for this study is the Labor Force Survey conducted by the Central Bureau of Statistics, upon which the wage gap between the two ethnic groups is based. The Labor Force Survey, conducted regularly since 1954, is one of the main surveys that follow the development of labor force characteristics. Every year four surveys are conducted, including more than 25,000 respondents (in 2010 the sample included an average of 26,000 interviewees in each quarterly survey).[13]

[12] In the years 2000–2001 residents of eastern Jerusalem were excluded from the Income Survey due to security circumstances that prevented the CBS surveyors from reaching them.

[13] Over the years changes were made in the sampling system, estimates and study of Labor Force Surveys. The changes made between the years 1954 and 2003 were published in a special technical dossier number 78.

Labor Force Surveys also include information on the continent of origin of the respondents and their parents. In this study the father's continent of origin is a key variable in defining the origin of a household or a worker. For some reason the Income Surveys only include information on the continent of origin of the respondents and their fathers, and therefore the population could not have been stratified into two homogeneous ethnic groups and one group of mixed origin. In the following section we will discuss the possible biases that this might cause.

It is important to note, already at this early stage, that the Income Surveys that provide cross-sectional information about individuals at a specific point in time do not allow an investigation of the potential contribution of possible changes in population composition to the narrowing or widening of income and education gaps between the two ethnic groups. The ethnic gaps among native Israeli workers are also affected by differences in human capital in the previous generation. Gaps in human capital (education) between Asian/African immigrants and European/American immigrants were not uniform throughout the years of their absorption in Israel, and the development of income gaps over time is therefore also affected by changes in the composition and characteristics of immigrants.

b. Defining Origin

The definition of ethnic groups in this study is made by the continent of origin of the individual or his/her father. The group of individuals of Asian/African descent includes Israelis born in these continents and native Israelis whose father was born in Asia/Africa (including South Africa). Similarly, the group of individuals of European/American descent includes Israelis born in these continents and native Israelis whose father was born in Europe/America. Alongside these two ethnic groups we have defined four other social groups. The third generation group is comprised of Jews whose father was born in Israel, Arabs, immigrants who came to Israel in 1990 or later, and Ultra-Orthodox Jews—a group that includes households that reported in the survey that the most recent educational institute in which one of the family members studied was a Talmudic College ("Yeshiva").[14] Stratifying the Israeli population into six social groups, as shown in Table 1, is designed to analyze the representation of all parts of Israeli society in the studied period.

A geographical definition of origin is far from perfect. Converging Israelis from such different continents as Asia and Africa into one group hides significant sociodemographic differences among the members of this social group. This definition also does not adequately treat other migration stops before immigration to Israel. According to this

[14] According to various definitions, the Ultra-Orthodox population accounts for between 5 and 12 percent of the general population (Dahan, 1998, Levine and Hacohen, 2010; Friedman et al., 2011). The definition chosen for this study is the only operational definition in the Labor Force Survey. In 2011, 21 percent of those who are defined as Ultra-Orthodox in this study were of Asian/African descent (first and second generation), while 27 percent were of European/American descent (first and second generation).

Table 1
Population Composition (persons, percent of total population)

Year	Asia/Af. First Generation	Asia/Af. Second Generation	Europe/ Am. First Generation	Europe/Am. Second Generation	Third Generation	Ultra-Orthodox	Arabs	Immigrants
1979	37	9	31	11	3	4	5	-
1980	35	10	31	11	3	4	6	-
1981	35	10	30	12	3	5	4	-
1982	34	11	30	10	4	6	5	-
1983	-	-	-	-	-	-	-	-
1984	-	-	-	-	-	-	-	-
1985	33	14	29	13	4	-	7	-
1986	-	-	-	-	-	-	-	-
1987	32	17	27	14	5	-	5	-
1988	28	16	25	13	4	6	7	-
1989	27	17	25	13	4	7	7	-
1990	27	17	23	13	4	7	8	2
1991	24	17	20	12	4	7	8	8
1992	23	16	19	12	5	7	8	10
1993	21	18	17	11	5	8	8	13
1994	20	18	17	12	5	7	9	13
1995	17	17	15	10	5	6	16	14
1996	16	17	14	10	5	6	16	15
1997	15	18	14	10	5	6	16	16
1998	15	18	13	11	7	5	18	13
1999	13	19	12	12	7	5	19	13
2000	13	21	10	12	8	5	17	14
2001	12	20	10	11	8	6	17	16
2002	12	20	10	10	8	5	19	16
2003	10	20	9	10	9	6	19	16
2004	10	20	9	11	9	6	19	16
2005	9	20	8	11	10	6	20	16
2006	8	20	8	11	10	7	20	16
2007	8	21	8	10	11	7	20	16
2008	8	21	7	11	11	7	20	15
2009	7	21	7	10	12	7	20	16
2010	7	19	7	11	13	7	21	16
2011	7	20	6	10	13	7	21	15

Notes: First Generation are non-native Israeli Jews (Asia/Africa or Europe/America) who are not immigrants or Ultra-Orthodox. Second Generation are non-Ultra-Orthodox native Israeli Jews, whose father was born abroad (Asia/Africa or Europe/America). Third generation includes non-Ultra-Orthodox, native Israeli Jews whose father was born in Israel. Ultra-Orthodox are Jews who reported that the most recent educational institute in which one of the family members studied was a Talmudic College ("Yeshiva"). Immigrants are individuals who came to Israel from 1990 onward.
SOURCE: Central Bureau of Statistics Income Surveys and special processing, ISDC.

approach, a person who emigrated from Morocco to France or Canada, and afterwards immigrated to Israel would be defined as a European/American immigrant, while his brother who immigrated to Israel directly would be considered an Asian/African immigrant. Here it seems appropriate to touch upon the history of the Jewish migration movement. Until the Middle Ages the majority of the Jewish people settled in the land of Israel, Asia, and Africa. Following the westward Jewish migration, Europe, and later on America, became the primary destinations (Botticini and Eckstein, 2012). While it is true that when the State of Israel was established the majority of the Jewish people resided in Europe/America, their origins were in Asia and Africa.

This definition is seemingly also problematic because of the relatively high incidence of mixed-origin couples (Okun and Khait-Marelly, 2008). In the current study, no distinct social group including native Israelis whose parents originated from different continents can be created, due to the lack of information about the mother's origin in Income Surveys. Defining origin according to the father's continent of birth allocates the mixed-ethnicity group into both ethnic groups. If there is no gender symmetry in mixed-origin couples, this allocation might cause a bias in estimating the wage gap between the two ethnic groups. However, according to Income Survey data, the gender symmetry among couples who participated in the survey was almost perfect. The rate of men of Asian/African descent who marry women of European/American descent is almost identical to the rate of men of European/American descent who marry women of Asian/African descent.

It should be noted that when the population is divided into two homogeneous ethnic groups according to the continent of birth of both parents and a third distinct social group of mixed origin, unions of exchange between couples of mixed origin (where higher education individuals from Asian/African descent marry lower education individuals from European/American descent) create a bias in the education and income gaps. Creating a separate social group of families of mixed origin would have lowered the average education level of the Asian/African group and raised the average education level of the European/American group, and thus unions of exchange would have contributed to the widening of the gap between the two homogeneous ethnic groups. However, defining the ethnic groups only based on the father's continent of birth, as performed in this study, prevents this bias as each ethnic group also includes mixed couples.

The definition of father's continent of origin raises yet another issue. It classifies South African Jews, who generally follow Ashkenazi tradition and might feel culturally closer to those of European or American descent, as Jews of African descent; and classifies Jews from Greece or Bulgaria, who generally follow the Sefardic tradition and might feel closer to Jews originating from Islamic countries, as Jews of European descent. The continent of origin does not necessarily reflect the individual's subjective identity. As mentioned in the introduction, a large part (76%) of both of these ethnic groups does not perceive their identity as primarily Ashkenazi or Mizrahi. Only a small group of those of Asian/African

descent identify themselves primarily as Mizrahi and only a partial group of Jews of European/American descent identify themselves primarily as Ashkenazi.

Defining the groups according to each individual's subjective perception of their cultural identity (instead of using geographically-based criteria) could have solved this problem. However, an identity-based definition would be empirically difficult to implement due to the lack of data on subjective self-definition during a long enough period of time, and due to the possible shifts in social identity that occur over time. Regarding changes in social identity, the ethnic gap according to an identity-based definition might have expanded while the ethnic gap according to the geographically-based definition would have been reduced. Such development becomes possible when, for example, economically- or educationally- successful Mizrahi Jews shed their sense of belonging to the Mizrahi identity and feel closer to the Western identity. For the purposes of this study, what is most important is the way the labor force treats those of Asian/African descent, regardless of their primary identity, be it Israeli or Mizrahi.

Despite the above-mentioned difficulties, the geographically based definition was chosen thanks to its affinity to the central research question and due to its partial affinity to self-identity. The research question in this study might have been replaced with the question of whether or not the parents' or grandparents' continent of origin of Israeli Jews continues to play a role in economic success.

c. Methodology

Three primary indices were used in this study in order to determine the development of economic success among Jews of Asian/African descent during a period of three decades. The first index is the income gap between Jews born in, or whose father was born in, Asia/Africa and Jews born in, or whose father was born in, Europe/America (the gap is calculated as 1 minus the ratio between the income of households of Asian/African descent and the income of households of European/American descent). This gap was also examined for native Israelis of both ethnic groups. This examination is conducted for a household's overall net equivalized income.[15] While the household income provides comprehensive information, it makes it more difficult to identify the reasons for the observed development in the income gap index over time. The household's net income is a still reflection of the bottom line of multiple and varied decisions, including number of children, education level of breadwinners, labor force participation, property received from parents (or others), and the tax and transfer system.

[15] The equivalization table, converting actual persons to standard persons, designed to reflect the consumer advantage of size, is as follows: one actual person = 1.25 standard persons; two actual persons = 2; three actual persons = 2.65; four actual persons = 3.2; five actual persons = 3.75; six actual persons = 4.25; seven actual persons = 4.75; eight actual persons = 5.2; and thereafter an addition of 0.2 standard persons for every actual person.

The second index measuring the success of Jews of Asian/African descent is their degree of representation in each of the net household income deciles for the past three decades. This index is calculated as the ratio between the proportion of a social group such as Mizrahi Jews or Ashkenazi Jews in a given decile and that group's proportion of the general population. When this index equals one, it reflects egalitarian representation. The economic status of a given social group is better when it enjoys over-representation in the upper deciles and under-representation in the lower deciles, and vice-versa.

As opposed to the first index, the representation index reveals valuable information regarding the general income distribution, which the income gap might be concealing, such as the degree of representation of the Asian/African ethnic group in the top income decile. The representation index compares the economic status of Jews of Asian/African descent to all other social groups in Israel. This index was calculated for each of the six social groups defined in this study: Jews of Asian/African descent, Jews of European/American descent, third generation Israeli Jews, Arabs, immigrants and Ultra-Orthodox. This segmentation allows us to examine the representation trends of households of Asian/African descent compared to each of the other five social groups. Here, too, without complementary information, it is difficult to understand the sources of the change in the relative status of households of Asian/African descent.

The third index of the economic success of the melting pot is the gap in gross hourly wage between native Israelis of both ethnic groups. By using this index we can remove income differences stemming directly from differences in the number of children, differences in property (some of which was inherited or received as part of the Reparations Agreement between Israel and West Germany), and redistribution policies. This creates an advantage over the household income gap index. However, differences in hourly wage can also stem from differences in education level which depend, among other things, on all the above mentioned variables: number of children, property, scope of public education, and taxes and allowances.

We shall also study the wage gap between the two ethnic groups after controlling for differences in characteristics such as level of education and work experience (roughly calculated by worker age).

All three indices in this study assess the significance of the continent of origin in the economic arena, based on the gap between the two ethnic groups at two (or more) points in time. This approach was adopted by many researches over the years, from Giora Hanoch and Haim Levi, through Shmuel Amir and Nili Mark and others in the series of studies mentioned in the introduction, to Yinon Cohen and Yitchak Haberfeld who have used it in recent years (Cohen and Haberfeld, 1998; Haberfeld and Cohen, 2007). The above *difference in differences* approach (one difference is between ethnic groups and the other between time points), is not flawless in estimating the influence of a certain factor, especially when the empirical analysis is based on a repeated cross-section of households. This estimate of the continent of origin effect is exposed to possible biases that might stem

from changes in the composition of countries of origin occurring throughout the waves of immigration coming to Israel. The significance of the continent of origin can increase or decrease due to differences in the characteristics of the immigrants arriving in various periods.

The degree of significance of the continent of origin can be estimated in many ways. One may compare the income gap among Israelis of both ethnic groups at different points in time with the income gap between Jews of both ethnic groups in a foreign country (e.g. France) at different points in time, as conducted by Sergio DellaPergola and Doris Bensimon. However, this comparison is also sensitive to biases stemming from selective migration and economic differences in the destination country. These biases are possible even when one is following the incomes of the same households through time.

Had there been longitudinal data in Israel, it would have been possible to learn more about the evolution of the ethnic gap by comparing native Israelis to their parents, when they were their children's age. The Israeli database which is the closest to this is the unified census data from two time points, which allows a comparison of the ethnic income gap between the same two household groups at two points in time, as conducted by Yona Rubinstein and Dror Brenner (Rubinstein and Brenner, 2013). The shortcoming of this database is that the information is limited to two random time points (1983 and 1995). This database does not allow one to characterize trends and identify shifts in the ethnic gap, as the annual data from Income Surveys allow. In addition, this database does not provide insight into the degree of stability of the estimated effect of ethnic origin. We shall later return to this issue.

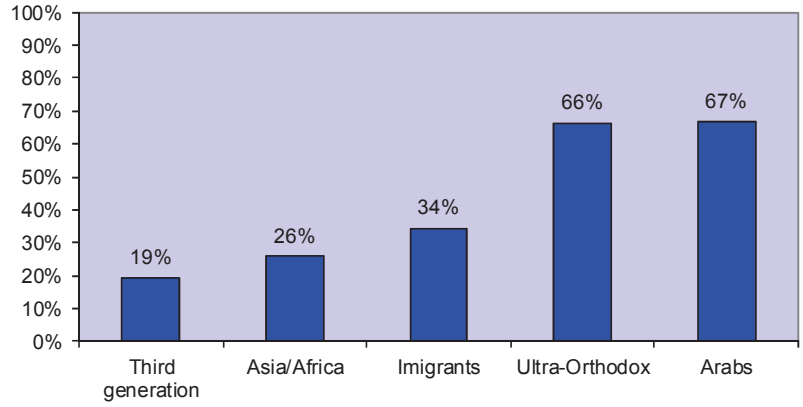
d. Results

Index 1: Income gap between the two ethnic groups

The first index for exploring the success of the melting pot in the studied period is the net (equivalent) income gap for households headed by a native/non-native Israeli of Asian/African descent compared to households headed by a native/non-native Israeli of European/American descent. In 2011 the net income of households of Asian/African descent was 74% percent of the income of households of European/American descent (Figure 1). This difference mostly reflects gaps in household income, due to the similarity in number of persons per household (Table 4). Table 2 shows a similar income gap among native Israelis of both ethnic groups. Put differently, even six decades after the establishment of the State of Israel, a gap of approximately 25% still exists between the two ethnic groups.[16]

[16] A similar result is obtained when the gross income gap between the two ethnic groups is calculated. In 2011 the gross income gap between the two ethnic groups was 29% (first and second generation), compared to a 26% gap in net income.

Figure 1
Economic Hierarchy in Israel, 2011
(Net income gap from those of European/American descent)



* Household net income is measured per equivalent person.
SOURCE: Central Bureau of Statistics Income Surveys and special processing, ISDC.

The net income gap reflects differences in the earnings, in income derived from capital (including pension), in income derived from governmental and private allowances, and in tax payments, for the man, the woman, and other breadwinners in the household. Each of these components is in itself influenced by the family background of the spouses and by many other factors. The gross income gap interests people who want to learn about inequality in economic outcomes, but not the reasons leading to it. Indices of income inequality such as the Gini coefficient or Poverty incidence also represent gross gaps that interest the public, although they do not provide any explanations for how gaps or poverty were created. It is possible that public attention is mostly drawn to outcomes due to skepticism regarding our ability to discover the elusive sources of the economic gap.

In the years 1979 to 2011 the net income gap between the two ethnic groups did not widen, and in the last decade one might even point to a narrowing of the gap, whether one includes both native and non-native Israelis in each ethnic group or calculates the gap only among native Israelis.[17] In other words, there is no difference in the net income gap when comparing non-native Israelis or native Israelis (Table 3). This finding alleviates the constrictions stemming from this study's use of cross-sectional data in a population that changes annually.

[17] Similar trends have been found based on gross income. For lack of space these results do not appear in the tables.

Table 2
Net income as a percentage of income of those of European/American descent, by population group (First and second generation)

Year	Asia/Af. First and Second	Third Generation	Ultra-orthodox	Arabs	Immigrants
1979	66	96	55	51	-
1980	66	86	52	41	-
1981	67	99	53	43	-
1982	69	97	55	48	-
1983	-	-	-	-	-
1984	-	-	-	-	-
1985	71	93	-	48	-
1986	-	-	-	-	-
1987	71	84	-	54	-
1988	70	88	44	47	-
1989	71	92	49	50	-
1990	71	88	46	47	37
1991	69	87	45	49	49
1992	66	94	42	44	49
1993	70	92	44	45	58
1994	69	91	38	43	55
1995	68	93	37	44	57
1996	70	86	43	47	60
1997	70	88	38	46	59
1998	68	87	42	40	60
1999	66	88	38	37	59
2000	70	92	36	39	62
2001	70	90	35	41	62
2002	70	89	38	37	62
2003	70	86	37	37	62
2004	70	86	33	36	61
2005	70	87	31	34	60
2006	71	90	33	34	63
2007	70	83	33	34	62
2008	71	85	32	34	64
2009	71	84	32	32	64
2010	73	79	33	33	63
2011	74	81	34	33	66

Notes: Third generation includes non-Ultra-Orthodox, native Israeli Jews whose father was born in Israel. Those of European/American descent are non-immigrant, non-Ultra-Orthodox Jews, who were born or whose father was born in Europe or America. Those of Asian/African descent are non-immigrant, non-Ultra-Orthodox Jews, who were born or whose father was born in Asia/Africa. Ultra-orthodox are Jews who reported that the most recent educational institute in which one of the family members studied was a Talmudic College ("Yeshiva"). Immigrants are individuals who came to Israel from 1990 onward. Net income is measured per equivalent person.

SOURCE: Special processing of Income Surveys conducted by the Central Bureau of Statistics, included in the Hebrew University ISDC Database.

Table 3

Net income gaps as a percentage of income of second generation European/American individuals, by population group

Year	Asia/Af. First and Second	Asia/Af. First Generation	Asia/Af. Second Generation	Europe/Am. First Generation	Third Generation	Ultra-orthodox	Arabs	Immigrants
1979	62	61	65	91	90	52	47	-
1980	63	63	66	95	83	50	39	-
1981	65	63	71	94	95	51	42	-
1982	65	63	68	92	91	52	45	-
1983	-	-	-	-	-	-	-	-
1984	-	-	-	-	-	-	-	-
1985	68	67	68	93	89	-	46	-
1986	-	-	-	-	-	-	-	-
1987	67	67	67	92	80	-	51	-
1988	62	61	64	83	78	39	42	-
1989	67	67	67	90	86	46	46	-
1990	66	66	65	87	81	42	43	34
1991	65	64	66	90	82	42	46	46
1992	61	61	61	87	87	39	40	45
1993	65	65	66	89	86	41	42	54
1994	61	63	59	79	80	33	38	48
1995	61	62	61	84	85	34	40	52
1996	63	62	63	82	77	38	42	54
1997	63	64	63	83	79	35	41	54
1998	64	63	65	90	82	40	38	57
1999	62	62	62	88	83	36	35	55
2000	66	67	65	85	86	34	36	57
2001	65	65	65	85	84	33	38	57
2002	67	67	67	91	85	36	35	59
2003	67	67	68	91	82	35	36	59
2004	66	66	66	88	82	32	34	58
2005	67	68	67	90	83	30	32	57
2006	68	67	68	91	86	32	32	61
2007	68	67	68	91	80	32	32	60
2008	69	68	69	92	82	31	33	62
2009	67	68	67	88	80	31	31	61
2010	70	70	71	91	77	32	32	61
2011	73	72	73	96	80	33	33	65

Notes: First Generation are non-native Israeli Jews (Asia/Africa or Europe/America) who are not immigrants or Ultra-Orthodox. Second Generation individuals are non-Ultra-Orthodox native Israeli Jews, whose father was born abroad (Asia/Africa or Europe/America). Third generation includes non-Ultra-Orthodox, native Israeli Jews whose father was born in Israel. Ultra-orthodox are Jews who reported that the most recent educational institute in which one of the family members studied was a Talmudic College ("Yeshiva"). Immigrants are individuals who came to Israel from 1990 onward. Net income is measured per equivalent person.

SOURCE: Special processing of Income Surveys conducted by the Central Bureau of Statistics, included in the Hebrew University ISDC Database.

Table 4
Household Size, by ethnic group

Year	Asia/Af. First Generation	Asia/Af. Second Generation	Europe/Am. First Generation	Europe/Am. Second Generation	Third Generation	Ultra-orthodox	Arabs	Immigrants
1979	5.3	4.5	3.3	3.9	3.9	5.5	7.4	-
1980	5.0	4.3	3.3	3.8	4.1	5.6	7.6	-
1981	5.1	4.2	3.3	4.0	4.0	5.6	7.1	-
1982	5.0	4.4	3.4	3.9	4.1	5.8	6.7	-
1983	-	-	-	-	-	-	-	-
1984	-	-	-	-	-	-	-	-
1985	4.9	4.4	3.4	4.3	4.5	-	6.7	-
1986	-	-	-	-	-	-	-	-
1987	4.9	4.3	3.3	4.1	4.5	-	6.4	-
1988	4.5	4.3	3.3	3.9	4.0	6.2	6.5	-
1989	4.6	4.4	3.3	4.0	3.7	6.3	6.7	-
1990	4.6	4.3	3.2	4.1	3.6	6.6	6.3	4.0
1991	4.6	4.5	3.4	4.1	3.9	6.9	6.4	4.6
1992	4.7	4.4	3.3	4.1	3.7	6.6	6.6	4.4
1993	4.5	4.4	3.2	4.1	3.8	7.2	6.0	4.0
1994	4.4	4.5	3.3	3.9	3.7	6.8	6.3	4.0
1995	4.4	4.5	3.2	3.9	3.7	7.4	6.2	4.0
1996	4.3	4.5	3.2	4.0	3.8	6.9	6.1	3.9
1997	4.3	4.6	3.4	4.0	3.5	6.6	5.9	3.8
1998	4.3	4.6	3.4	4.0	4.1	6.5	6.2	3.5
1999	4.2	4.6	3.3	4.1	4.0	6.7	6.2	3.5
2000	4.1	4.6	3.2	4.0	4.0	6.9	6.0	3.4
2001	3.9	4.5	3.3	4.0	3.8	6.6	5.8	3.6
2002	3.9	4.6	3.2	4.0	3.9	6.5	6.1	3.7
2003	3.9	4.6	3.2	4.0	3.9	6.5	6.1	3.7
2004	3.8	4.5	3.3	3.9	4.0	6.6	6.1	3.6
2005	3.6	4.5	3.2	3.9	3.9	6.4	6.1	3.6
2006	3.6	4.5	3.2	3.8	3.9	6.6	6.1	3.6
2007	3.5	4.5	3.2	3.8	3.9	6.4	6.0	3.6
2008	3.5	4.5	3.2	3.8	4.0	6.4	5.9	3.5
2009	3.4	4.5	3.1	3.8	4.1	6.7	5.9	3.6
2010	3.5	4.5	3.2	3.8	4.0	6.5	5.8	3.6
2011	3.4	4.5	3.2	3.8	4.1	6.7	5.9	3.6

Notes: First Generation are non-native Israeli Jews (Asia/Africa or Europe/America) who are not immigrants or Ultra-Orthodox. Second Generation are non-Ultra-Orthodox native Israeli Jews, whose father was born abroad (Asia/Africa or Europe/America). Third generation includes non-Ultra-Orthodox, native Israeli Jews whose father was born in Israel. Ultra-Orthodox are Jews who reported that the most recent educational institute in which one of the family members studied was a Talmudic College ("Yeshiva"). Immigrants are individuals who came to Israel from 1990 onward.

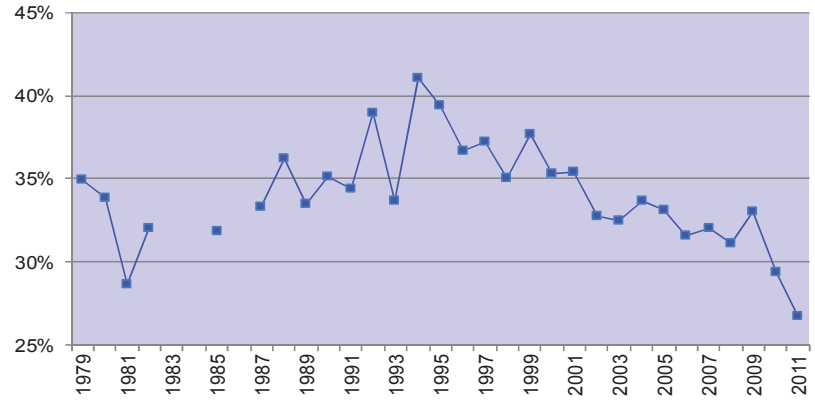
SOURCE: Central Bureau of Statistics Income Surveys and special processing, ISDC.

The partial decline of the net income gap between the two ethnic groups did not stem from changes in allowances. In fact, the decline occurred despite the dramatic change in allowances. From late 1970s to mid-2000s the total of governmental allowances (of all kinds) granted to households of Asian/African descent was approximately 30% higher than that granted to households of European/American descent. However, in recent years, the total allowances of households of Asian/African descent were for the first time lower than that of households of European/American descent. The decline in the net income gap in recent years was also not due to changes in family size. Since the late 1990s, there have been no significant changes in household size in either ethnic group.

Ethnic gap reduction becomes even more significant once we consider the major widening of economic inequality occurring concomitantly. In the beginning of the studied period, the gross income of the top decile was 2.6 times the average income, whereas at the end of that period it was 3 times the average income. Nonetheless, the gap between the two ethnic groups is still large (26 percent) even after the improvement that occurred in the past 15 years, thus challenging researchers to understand its underlying sources.

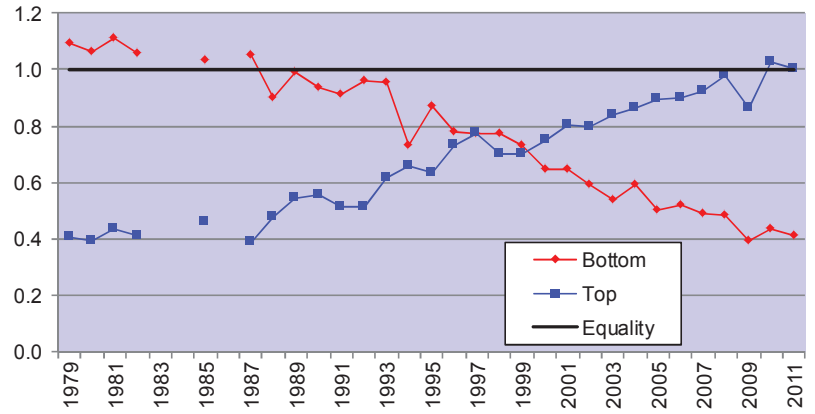
When examining the evolution of the ethnic gap in net income among the second generation, there are two distinct sub-periods that can be identified. During the first period, from the late 1970s to the mid-1990s, the ethnic gap in net income was widening. This is the period covered in the above mentioned studies by Yinon Cohen and Yitchak Haberfeld. During the second sub-period, starting from the mid-1990s, an almost continuous trend of reduction was observed in the gap among the second generation (Figure 2). In 2011 the net income of a native Israeli household of Asian/African descent was 73% of that of a household of European/American descent, whereas in the years 1994/1995 it was approximately 60% (Table 3). This is a dramatic gap reduction (from 40 to 27 percent) in a relatively short period of time. It should be noted that these changes, occurring in such a short period, cannot be fully explained by significant changes in population composition as a result of using cross sectional data in an annually-changing population.

Figure 2
Ethnic Gap in Net Income: Second Generation



* Second-generation individuals of Asian/African descent are native Israeli Jews whose father was born in Asia/Afirca (and are not ultra-Orthodox). Net income is measured per equivalent persion.
SOURCE: Central Bureau of Statistics Income Surveys and special processing, ISDC.

Figure 3
Representation of Asia/Africa in the Top and Bottom Income Deciles
(The representation index is calculated as the ratio between proportion of income decile and proportion of population)



* Those of Asian/African descent are non-immigrant, non-Ultra-Orthodox Jews who were born or whose father was born in Asia/Africa. Net income is measured per equivalent person.
SOURCE: Central Bureau of Statistics Income Surveys and special processing, ISDC.

Index 2: Representation in Income Deciles

The income gap index between the two ethnic groups examines the success of the melting pot in terms of the average (average income of households of Asian/African descent versus average income of households of European/American descent), concealing valuable information about general income distribution. For instance, it does not provide information about the degree of representation of the Asian/African ethnic group in the top income decile.

The second index used to assess the integration of households of Asian/African descent in the Israeli economy is the degree of representation in the net household income deciles. This index is calculated as the ratio between the proportion of a social group such as Mizrahi Jews or Ashkenazi Jews in a given decile and that group's proportion in the general population. The economic status of a given social group is better when it enjoys over-representation in the upper deciles and under-representation in the lower deciles, and vice-versa.

It is interesting to note that as early as 1953, sociologist Shmuel Noah Eisenstadt (1953) suggested that the success of immigrant absorption be measured by their distribution along the income ladder, relative to their share in the population.

This work demonstrates that, according to the representation index, there is a significant improvement in the relative status of the Asian/African ethnic group in the past three decades (Figure 3). This improvement is manifest in a sharp decline in the proportion of in their representation in the upper deciles. In 1979, the Asian/African ethnic group comprised 50 percent of the lowest decile, while its relative share of the population was 46 percent (Table 5), resulting in a representation index of 1.09 (Table 6). Three decades later, in 2011, the Asian/African ethnic group comprised only 11 percent of the lowest decile, while its relative share of the population was 27 percent, resulting in a representation index of 0.41.

Table 5
Asia/Africa Group as a Share of each Income Decile (percent)

Year	Lowest	2	3	4	5	6	7	8	9	Top	Share of Population
1979	50	59	68	57	55	52	39	30	28	19	46
1980	48	53	61	63	56	45	45	34	30	18	45
1981	50	56	56	64	54	47	46	30	27	20	45
1982	48	57	56	59	52	49	45	37	31	19	45
1983	-	-	-	-	-	-	-	-	-	-	-
1984	-	-	-	-	-	-	-	-	-	-	-
1985	49	57	56	62	60	43	50	38	33	22	47
1986	-	-	-	-	-	-	-	-	-	-	-
1987	51	55	65	63	62	52	48	37	40	19	49
1988	39	41	60	53	56	50	44	41	32	21	44
1989	44	52	51	52	50	48	46	39	36	24	44
1990	41	40	47	51	55	49	51	44	34	24	44
1991	37	36	44	53	47	50	41	42	36	21	41
1992	37	33	40	47	47	46	46	40	32	20	39
1993	37	36	39	45	41	39	49	41	40	24	39
1994	27	36	41	40	42	42	46	43	35	25	38
1995	30	26	33	39	37	41	41	39	34	22	34
1996	26	27	30	36	39	38	39	41	33	24	33
1997	26	30	29	35	37	40	35	37	39	26	33
1998	26	27	28	35	38	40	41	41	34	23	33
1999	24	23	30	33	39	38	40	37	35	23	32
2000	22	27	32	37	39	41	41	40	34	25	34
2001	20	22	29	35	36	36	40	35	36	25	31
2002	19	23	26	35	35	39	40	38	36	25	32
2003	16	23	25	29	35	37	41	38	35	26	30
2004	18	24	24	30	35	39	36	37	33	26	30
2005	15	18	23	30	36	35	36	36	36	26	29
2006	15	17	25	29	33	35	36	35	35	26	29
2007	14	18	24	28	34	36	37	37	34	27	29
2008	14	19	22	30	34	39	38	35	33	28	29
2009	11	17	21	29	33	35	37	37	35	24	28
2010	11	13	20	27	32	32	33	32	31	26	26
2011	11	14	21	27	30	35	35	35	35	27	27

Notes: The Asia/Africa group includes first generation (born in Asia/Africa) and second generation (father born in Asia/Africa) individuals who are not immigrants or Ultra-Orthodox. Net income is measured per equivalent person.
SOURCE: Central Bureau of Statistics Income Surveys and special processing, ISDC.

Table 6

Representation index of Asian/African Group, by Income Deciles: 1979-2011

(The representation index is calculated as the ratio between proportion of income decile and proportion of population)

Year	Lowest	2	3	4	5	6	7	8	9	Top
1979	1.09	1.29	1.48	1.26	1.20	1.15	0.85	0.65	0.61	0.41
1980	1.06	1.17	1.35	1.39	1.23	0.99	0.99	0.76	0.66	0.39
1981	1.11	1.25	1.24	1.42	1.20	1.05	1.02	0.66	0.61	0.43
1982	1.06	1.26	1.23	1.30	1.16	1.09	1.00	0.81	0.69	0.41
1983	-	-	-	-	-	-	-	-	-	-
1984	-	-	-	-	-	-	-	-	-	-
1985	1.03	1.21	1.19	1.32	1.28	0.92	1.07	0.81	0.70	0.46
1986	-	-	-	-	-	-	-	-	-	-
1987	1.05	1.12	1.32	1.28	1.27	1.07	0.99	0.76	0.81	0.39
1988	0.90	0.95	1.38	1.22	1.29	1.14	1.00	0.93	0.73	0.47
1989	0.99	1.17	1.16	1.19	1.13	1.09	1.05	0.88	0.80	0.54
1990	0.94	0.91	1.07	1.18	1.25	1.13	1.16	1.01	0.79	0.56
1991	0.91	0.89	1.07	1.30	1.16	1.24	1.01	1.03	0.88	0.51
1992	0.96	0.84	1.04	1.22	1.20	1.19	1.19	1.02	0.82	0.51
1993	0.95	0.91	1.00	1.14	1.06	0.99	1.25	1.05	1.03	0.62
1994	0.73	0.95	1.09	1.05	1.13	1.11	1.23	1.14	0.92	0.66
1995	0.87	0.75	0.96	1.15	1.09	1.20	1.19	1.16	0.99	0.63
1996	0.78	0.80	0.92	1.09	1.16	1.14	1.16	1.24	1.00	0.73
1997	0.77	0.90	0.86	1.05	1.11	1.21	1.07	1.12	1.16	0.77
1998	0.77	0.80	0.85	1.05	1.15	1.20	1.23	1.23	1.01	0.70
1999	0.73	0.71	0.95	1.03	1.21	1.18	1.25	1.16	1.08	0.70
2000	0.65	0.79	0.95	1.10	1.17	1.21	1.21	1.17	1.02	0.75
2001	0.65	0.69	0.92	1.10	1.15	1.16	1.27	1.11	1.15	0.80
2002	0.59	0.72	0.83	1.12	1.09	1.24	1.26	1.20	1.14	0.80
2003	0.54	0.77	0.81	0.97	1.14	1.20	1.34	1.23	1.16	0.84
2004	0.59	0.81	0.80	0.99	1.14	1.28	1.20	1.24	1.09	0.86
2005	0.50	0.63	0.80	1.03	1.23	1.22	1.25	1.23	1.22	0.89
2006	0.52	0.60	0.88	1.00	1.16	1.22	1.25	1.24	1.23	0.90
2007	0.49	0.63	0.82	0.97	1.17	1.24	1.29	1.29	1.17	0.92
2008	0.48	0.64	0.75	1.02	1.17	1.33	1.31	1.18	1.15	0.98
2009	0.39	0.61	0.74	1.05	1.19	1.25	1.31	1.33	1.26	0.86
2010	0.44	0.52	0.77	1.05	1.23	1.23	1.29	1.26	1.22	1.03
2011	0.41	0.53	0.78	0.98	1.12	1.30	1.30	1.28	1.29	1.00

Notes: The Asia/Africa group includes first generation (born in Asia or Africa) and second generation (father born in Asia or Africa) individuals who are not immigrants or Ultra-Orthodox. Net income is measured per equivalent person.

SOURCE: Special processing of Income Surveys conducted by the Central Bureau of Statistics, included in the Hebrew University ISDC Database.

An opposite process occurred on the other end of the income ladder. The representation of households of Asian/African descent in the top decile has almost continuously climbed, from 0.41 in 1979 to 1.00 in 2011 (Table 6). In the last two years of the studied period, the Asian/African ethnic group's representation in the upper decile was for the first time proportional to its share of the general population. The relative improvement of the status of the Asian/African ethnic group was also manifested in the significant broadening of its proportion in the upper-middle class of Israeli society. In recent years the Asian/African ethnic group has enjoyed a conspicuous over-representation in the eighth and ninth deciles, as opposed to their under-representation in these deciles in the late 1970s.

As shown by the development of the first index (income gap) concerning the success of the melting pot, the relative improvement in the economic status of households of Asian/African descent occurred mostly due to the regression in relative income among other social groups, such as Arabs and Ultra-Orthodox Jews, and only slightly due to the reduction in the gap between these households and those of European/American descent.[18] The positive trend in the representation of the Asian/African ethnic group in the upper deciles of net income occurred concomitantly with the improvement of the relative status of immigrants coming to Israel after 1990. That is to say, the mass immigration from the former USSR is not "responsible" for the upward movement of the Asian/African ethnic group along the deciles.

The relative improvement also stemmed from the rise in the percentage of Arabs and Ultra-Orthodox Jews in the Income Survey, who joined the lower deciles and pushed individuals of Asian/African descent upwards. The improvement in representation can be partly explained by the broadening coverage of the Arab population in the Income Survey as of 1995. The increase in the representation of a lower income population group promotes the representation of any social group that is located higher on the income ladder, even if no change has occurred in the average income of either group. Nonetheless, the broadening coverage did not include a poorer Arab population. As seen in Table 2, the income of Arab households compared to Jewish households of European/American descent did not change visibly in 1995. In fact, a slight rise in net income of Arab households is seen in the two years that followed the increase of their representation in the Income Survey.

[18] During the past three decades a regression was observed in net income among third generation individuals (native Israelis whose father was born in Israel) relative to the European/American group (see tables in the Appendix). The most obvious hypothesis explaining this is that this development is a result of the rise in number of households where the grandfather was born in Asia/Africa that have lower income compared to the group of households where the grandfather was born in Europe/America.

Index 3: Hourly wage gap between the two ethnic groups

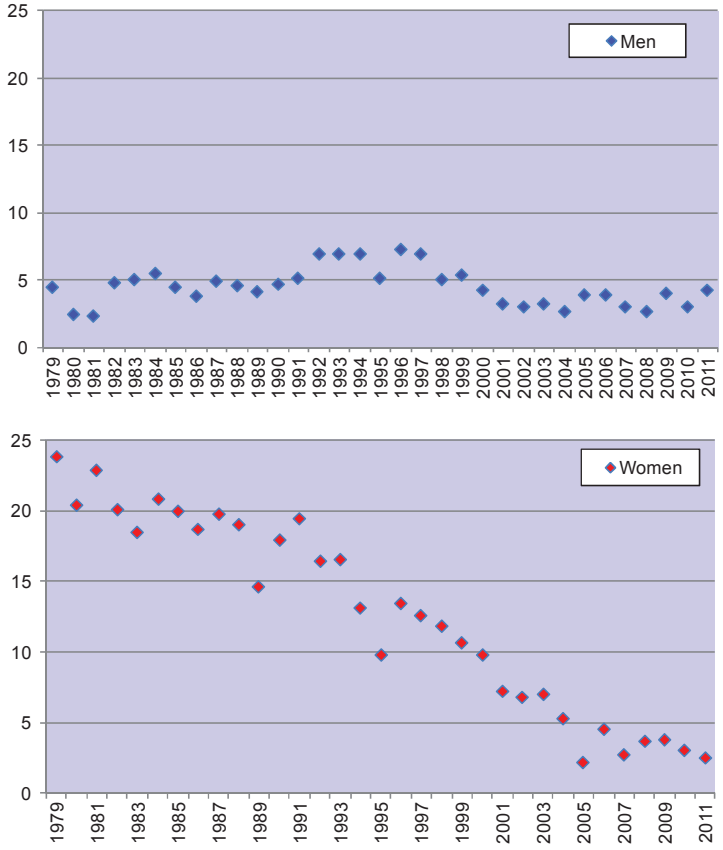
The third index of the economic success of the melting pot is the gap in gross hourly wage between native Israeli Jews whose father was born in Asia/Africa and native Israeli Jews whose father was born in Europe/America. For obvious reasons, we shall present the ethnic wage gap separately for men and women. The analysis of household income composition shows that the trends observed in ethnic gaps in household income were significantly influenced by developments in income from work, and therefore, exploring the factors affecting ethnic wage gaps between workers might promote an understanding of the ethnic gaps between households. The income from paid work for women of Asian/African descent, which in the late 1970s was approximately 50% of the income of women of European/American descent, has significantly increased to over 90% (Table 7). A similar, though less significant, development was also observed in the gap in income from paid labor for men of the two ethnic groups.

Table 7
Income Composition in Households headed by Native Israelis, according to Ethnic Origin (monthly income for household, 2011 rates)

	Net Income		Man's Income from Paid Work		Woman's Income from Paid Work	
	Asia/ Africa	Europe/ America	Asia/ Africa	Europe/ America	Asia/ Africa	Europe/ America
1979	4,642	6,444	3,929	5,941	1,103	2,168
1980	3,838	5,259	2,939	4,900	1,048	1,777
1981	4,530	6,216	3,622	5,753	1,247	2,057
1982	4,530	5,967	3,500	5,524	1,147	2,009
1983	-	-	-	-	-	-
1984	-	-	-	-	-	-
1985	6,499	9,204	4,918	8,268	1,623	3,008
1986	-	-	-	-	-	-
1987	7,252	10,343	4,992	8,309	1,919	3,005
1988	8,449	12,091	5,995	9,793	1,878	3,853
1989	8,217	11,736	5,688	9,423	2,044	3,729
1990	7,983	11,498	5,418	9,152	1,975	3,137
1991	8,325	11,583	5,833	8,861	2,120	3,440
1992	8,317	12,442	5,756	9,337	2,071	3,901
1993	8,653	11,893	5,777	8,890	2,110	3,576
1994	9,094	13,542	6,115	9,560	2,349	4,143
1995	9,534	14,085	6,411	11,195	2,845	4,638
1996	10,000	13,713	6,804	10,886	3,140	4,677
1997	10,346	14,374	6,835	10,712	3,114	5,588
1998	10,705	14,576	5,794	8,936	2,919	4,653
1999	11,467	16,322	6,579	10,229	3,548	5,003
2000	11,897	16,205	6,683	9,711	3,650	5,612
2001	12,136	16,438	6,769	9,837	3,805	5,242
2002	11,697	14,856	6,313	9,605	3,648	4,810
2003	11,789	15,207	6,457	9,268	3,600	4,834
2004	11,991	15,795	6,418	8,914	3,602	5,240
2005	12,627	16,467	6,720	8,693	4,070	5,329
2006	13,279	16,492	6,560	8,415	3,981	4,820
2007	13,955	17,493	7,251	9,330	4,334	5,273
2008	13,807	17,193	6,989	9,231	4,265	5,198
2009	13,631	17,731	6,554	8,753	4,278	5,071
2010	14,603	17,916	6,858	8,823	4,333	5,024
2011	14,684	16,945	6,885	7,949	4,556	5,032

Notes: In this table, incomes are calculated per household (not per capita).
Before discussing the wage gaps, it is worth looking at the dramatic development in the participation of women of Asian/African descent in the labor force, due to its influence on total household income from paid work. In the late 1970s there was a gap of almost 25% between native Israeli women of the two ethnic groups (Figure 4). In the following three decades the ethnic gap in labor force participation among women has almost been wiped out (Table 8). This seems even more dramatic as during this period, the educational gap, affecting the tendency to participate in the labor force, has not diminished between women of the two ethnic groups. On the other hand, as early as the late 1970s, the ethnic gap in labor force participation among native Israeli men was insignificant.
SOURCE: Special processing of Labor Force Surveys conducted by the Central Bureau of Statistics, included in the Hebrew University ISDC Database.

Figure 4
Ethnic Gap in Labor Force Participation
(Gap in labor force participation between second-generation individuals of Asian/African descent and of European/American descent, percent)



* Second-generation individuals of European/American descent are non-Ultra-Orthodox, non-immigrant, native Israeli Jews whose father was born in Europe/America (or Australia). Second-generation individuals of Asian/African descent are non-immigrant, non-Ultra-Orthodox Jews, whose father was born in Asia/Africa.

SOURCE: Central Bureau of Statistics Income Surveys and special processing, ISDC.

Table 8

Ethnic Gap in Labor Force Participation, Wage, and Years of Schooling

(The ratio between native Israelis of Asian/African descent and native Israelis of European/American descent)

	Participation		Wage		Years of Schooling	
Year	Men	Women	Men	Women	Men	Women
1979	96	76	67	72	77	82
1980	98	80	63	66	77	82
1981	98	77	69	68	78	84
1982	95	80	66	68	79	84
1983	95	82	-	-	79	84
1984	95	79	-	-	80	84
1985	96	80	59	70	79	85
1986	96	81	-	-	80	85
1987	95	80	63	72	80	85
1988	95	81	64	70	82	86
1989	96	85	63	66	83	86
1990	95	82	63	75	82	85
1991	95	81	65	68	82	86
1992	93	84	67	73	82	87
1993	93	84	66	69	84	87
1994	93	87	64	73	84	87
1995	95	90	63	73	84	87
1996	93	87	64	76	85	87
1997	93	87	61	74	84	88
1998	95	88	62	71	85	87
1999	95	89	66	76	85	88
2000	96	90	69	75	86	88
2001	97	93	66	76	86	89
2002	97	93	67	71	86	88
2003	97	93	68	79	88	89
2004	97	95	68	72	88	89
2005	96	98	72	77	88	89
2006	96	95	76	77	88	90
2007	97	97	74	82	87	90
2008	97	96	70	76	88	90
2009	96	96	70	80	88	90
2010	97	97	76	78	89	90
2011	96	98	76	80	90	90

Notes: Participation rate calculated for individuals between the ages of 25 and 54. The wage is hourly, and was calculated for individuals who reported a wage higher than zero. Years of Schooling calculated for all persons.

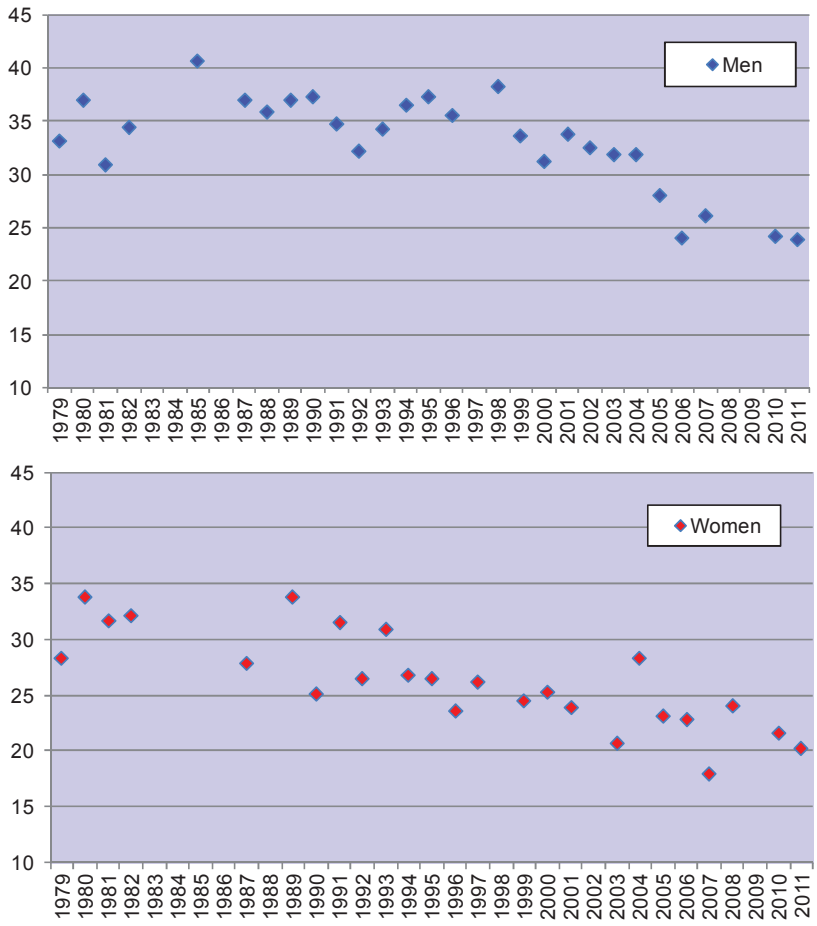
SOURCE: Special processing of Labor Force Surveys conducted by the Central Bureau of Statistics, included in the Hebrew University ISDC Database.

The gross wage gap between native Israeli Jewish men whose father was born in Asia/Africa and native Israelis whose father was born in Europe/America ranges with no clear trend between 30 and 40 percent from the late 1970s to the early 2000s (Table 8). This finding calls for caution in coming to conclusions based on data from random years, as has been done by Rubinstein and Brenner (2013). However, there is a conspicuous trend from the mid-1990s to 2011, where the ethnic gap has indeed been reduced. In 2011 the wage gap declined to 24 percent, coincidentally similar to the net income gap as measured by the first index. In other words, the reduction in income gaps between the two ethnic groups is quite a new phenomenon that studies drawing on data up to the mid-1990s—including the 1995 Census data—could not have identified.

As opposed to the development of the gross income gap among men, the gap among women diminished continuously in the past three decades, ranging slightly around this general trend (Figure 5). The gross income gap among women, which was approximately 35 percent in the early 1980s, has diminished and in recent years was nearing 20 percent (Table 8). It is interesting to note that the ethnic gap in gross wage is lower among women than it is among men. This interesting phenomenon deserves a separate study.

One of the reasons for the narrowing of the ethnic gap in hourly wage is the increase in years of schooling among native Israelis of Asian/African descent, which was faster than the increase among native Israelis of European/American descent (Figure 6). The reduction of the gap in years of schooling according to ethnic origin was more prominent among men. Nonetheless, even in 2011 the gap in education level between the two ethnic groups is substantial.

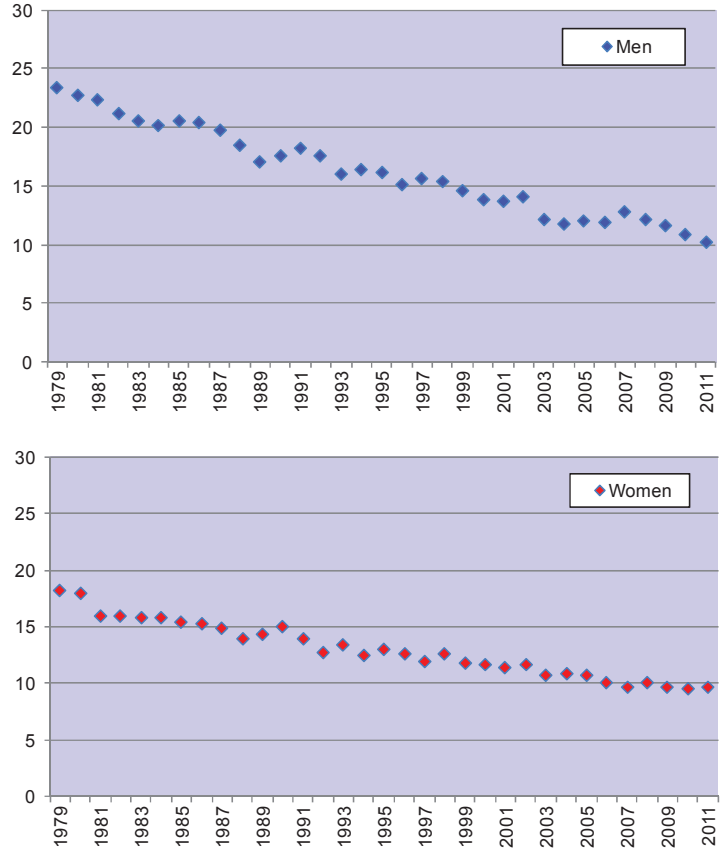
Figure 5
Ethnic Gap in Hourly Wage
(Gap in hourly wage between second-generation individuals of Asian/African descent and of European/American descent, percent)



* Second-generation individuals of European/American descent are non-Ultra-Orthodox, non-immigrant, native Israeli Jews whose father was born in Europe/America (or Australia). Second-generation individuals of Asian/African descent are non-immigrant, non-Ultra-Orthodox Jews, whose father was born in Asia/Africa.

SOURCE: Central Bureau of Statistics Income Surveys and special processing, ISDC.

Figure 6
Ethnic Gap in Years of Schooling
(Gap in years of schooling between second generation individuals of Asian/African descent and of European/American descent, percent)



* Second-generation individuals of European/American descent are non-Ultra-Orthodox, non-immigrant, native Israeli Jews whose father was born in Europe/America (or Australia). Second-generation individuals of Asian/African descent are non-immigrant, non-Ultra-Orthodox Jews, whose father was born in Asia/Africa.

SOURCE: Central Bureau of Statistics Income Surveys and special processing, ISDC.

The reduction of the ethnic gap in education is also observed when education is measured by certificates and diplomas (such as matriculation certificate or BA) instead of years of schooling. However, the reduction in ethnic gap in education, measured by certificates and diplomas, became clearly marked only as of the mid-1990s (Table 9). The gap in the rate of students in institutes of higher education remained steady (and even widened slightly) from the 1960s to the mid-1990s (Table 9). As of the mid-1990s there has been a shift manifested in a rapid rise in the rate of native Israelis of Asian/African descent enrolling in institutes of higher education, from 6.8 percent in 1995/6 to 13.7 percent in 2006/7, compared to a rise from 17.7 percent to 20.7 percent among native Israelis of European/American descent during these years. The continuous reduction of the ethnic gap is also observed when examining student rates in universities alone (excluding colleges). The data also show that ethnic gaps in student rates in colleges are smaller than in universities.

Table 9
Share of Native Israeli Students in Higher Education Institutes, according to Father's Continent of Birth (percent of 20 to 29 age group)

	All Higher Education Institutes			Universities Only		
Year	Native Israelis Europe/ America	Native Israelis Asia/Africa	Gap	Native Israelis Europe/ America	Native Israelis Asia/Africa	Gap
1964/65	10.7	1.6	9.1	10.7	1.6	9.1
1969/70	12.6	2.5	10.1	12.6	2.5	10.1
1974/75	14.0	3.0	11.0	14.0	3.0	11.0
1978/79*	12.7	2.6	10.1	12.7	2.6	10.1
1984/85	14.9	3.7	11.2	14.9	3.7	11.2
1989/90	14.2	3.9	10.3	14.2	3.9	10.3
1995/96	17.7	6.8	10.9	15.1	5.8	9.3
1998/99	21.0	10.3	10.7	15.1	6.5	8.6
1999/00	20.3	10.4	9.9	14.1	6.2	7.9
2000/01	18.1	11.0	7.1	13.9	6.4	7.5
2001/02	20.5	11.7	8.8	13.8	6.7	7.1
2002/03	20.0	12.9	7.1	13.4	7.8	5.6
2004/05	20.4	12.2	8.2	13.4	6.7	6.7
2003/04	20.2	12.5	7.7	13.3	6.8	6.5
2005/06	20.6	13.3	7.3	12.6	6.7	5.9
2006/07	20.7	13.7	7.0	12.1	6.5	5.6

***** Average of years 1977/8–1978/9.
Notes: Native Israeli whose father was born in Europe/America and native Israeli whose father was born in Asia/Africa.
SOURCE: Central Bureau of Statistics Annuals.

The finding that the wage gap was reduced concomitantly with the reduction in the education gap is far from self-evident. Reduction of education gaps necessarily leads to a reduction of wage gaps only when the return on education remains unchanged. But when the return on education does change, as occurred in Israel, the wage gaps might be reduced

or widened according to the relative significance of the reduction of education gaps versus the changes in return on education. Analyzing the years 1975 to 2001, Yinon Cohen and Yitchak Haberfeld found that the wage gaps between the two ethnic groups have widened despite the reduction in education gaps. They explained this by the rise in return on education (Haberfeld and Cohen, 2007). The current study finds, for the first time, a reduction of ethnic wage gaps concomitant with a reduction in education gaps.

Tables 10 and 11 show the wage gaps between the two ethnic groups after controlling for differences in education level and years of work experience for native Israelis (men and women separately) throughout the past three decades, in order to test whether or not the continent of origin plays a role in explaining the differences in the hourly wage. A standard wage regression is estimated, with hourly wage as the dependent variable (in logs) and years of schooling, age (including square age), and continent of origin as the explanatory variables.[19]

The choice to use only two variables related to worker production (education and experience) is deliberate. The list of explanatory variables did not include occupation, as this is a less exogenous decision variable. Without occupation, the gap is less vulnerable to possible biases that might arise when workers of a certain group are forced to choose an occupation that does not match their education due to discrimination in the labor force.

The coefficients presented in Table 10 represent the percentage of wage increment on the basis of estimated characteristics of native Israeli Jewish men. Thus, for example, the age coefficient in 1979 means that one additional year of experience increases the wage by 13.2 percent (ignoring the influence of square age). Table 10 shows that the return on education rose significantly during the past three decades, as opposed to the return on experience, which has been eroded during that same time. The central finding in Table 10 indicates that the continent of origin of the worker's father influences the hourly wage even after controlling for the worker's education and experience.

In 2011, the wage of a native Israeli worker whose father was born in Asia/Africa was approximately 3.8 percent lower than the wage of a native Israeli worker whose father was born in Europe/America, when both had the same level of education and the same estimated number of years of experience. Nonetheless, this coefficient has suffered great fluctuation over the years. While it is true that in most years the ethnic coefficient was found to be significant, its magnitude has fluctuated substantially during the studied period—between a maximum wage gap of 16.9 percent (in 1985) due to continent of origin and no effect of continent of origin (1992). It should be noted that an empirical test based on a sub-sample is vulnerable to higher sampling errors, which might explain at least some of this fluctuation.

[19] The ethnic coefficient is not significantly affected by including marital status in the wage regression. The effect of the periphery was also tested, but the ethnic coefficient was found not to be affected by the periphery index. For lack of space, these results were not included in the Table.

Table 10
Wage Regressions for Native Israelis – Men

Year	Constant	Education	Age	Square Age	Asian/African Ethnic Coefficient	Adj R-Sq	No. of Observations
1979	**0.911***** (0.26)	**0.111***** (0.02)	**0.132***** (0.01)	**-0.001***** (0.00)	**-0.088*** (0.05)	0.3550	679
1980	**2.313***** (0.21)	**0.140***** (0.01)	**0.090***** (0.01)	**-0.001***** (0.00)	**-0.128***** (0.04)	0.3435	777
1981	0.040 (0.25)	**0.169***** (0.02)	**0.123***** (0.01)	**-0.001***** (0.00)	-0.017 (0.04)	0.3761	747
1982	**1.654***** (0.22)	**0.134***** (0.02)	**0.083***** (0.01)	**-0.001***** (0.00)	**-0.080*** (0.04)	0.3193	746
1985	**-1.328***** (0.18)	**0.149***** (0.01)	**0.104***** (0.01)	**-0.001***** (0.00)	**-0.169***** (0.04)	0.3565	1112
1987	**-0.297*** (0.16)	**0.166***** (0.01)	**0.074***** (0.01)	**-0.001***** (0.00)	**-0.136***** (0.04)	0.3550	994
1988	**-0.395**** (0.16)	**0.142***** (0.01)	**0.095***** (0.01)	**-0.001***** (0.00)	**-0.134***** (0.04)	0.3539	1131
1989	-0.102 (0.17)	**0.183***** (0.01)	**0.078***** (0.01)	**-0.001***** (0.00)	**-0.156***** (0.03)	0.3434	1276
1990	0.209 (0.15)	**0.136***** (0.01)	**0.078***** (0.01)	**-0.001***** (0.00)	**-0.143***** (0.03)	0.3437	1329
1991	0.103 (0.14)	**0.165***** (0.01)	**0.082***** (0.01)	**-0.001***** (0.00)	**-0.084***** (0.03)	0.3914	1416
1992	-0.104 (0.17)	**0.203***** (0.01)	**0.08947***** (0.01)	**-0.001***** (0.00)	-0.008 (0.03)	0.3798	1266
1993	**0.261*** (0.14)	**0.187***** (0.01)	**0.078***** (0.01)	**-0.001***** (0.00)	**-0.059*** (0.03)	0.3919	1191
1994	0.034 (0.15)	**0.193***** (0.01)	**0.101***** (0.01)	**-0.001***** (0.00)	**-0.101***** (0.03)	0.3809	1354
1995	**0.443***** (0.14)	**0.219***** (0.01)	**0.079***** (0.01)	**-0.001***** (0.00)	**-0.092***** (0.03)	0.3968	1378
1996	**0.564***** (0.14)	**0.219***** (0.01)	**0.077***** (0.01)	**-0.001***** (0.00)	**-0.103***** (0.03)	0.4331	1421
1997	**0.752***** (0.11)	**0.240***** (0.01)	**0.068***** (0.01)	**-0.001***** (0.00)	**-0.097***** (0.02)	0.3949	2551
1998	**0.660***** (0.11)	**0.238***** (0.01)	**0.075***** (0.01)	**-0.001***** (0.00)	**-0.069***** (0.02)	0.4003	2609
1999	**0.774***** (0.12)	**0.217***** (0.01)	**0.082***** (0.01)	**-0.001***** (0.00)	**-0.117***** (0.02)	0.3411	2603

Table 10 (continued)

2000	**0.991*** **	**0.233*** **	**0.068*** **	**-0.001*** **	**-0.112*** **	**0.3738**	**2598**
	(0.11)	(0.01)	(0.01)	(0.00)	(0.02)		
2001	**0.912*** **	**0.255*** **	**0.074*** **	**-0.001*** **	**-0.143*** **	**0.3641**	**2573**
	(0.12)	(0.01)	(0.01)	(0.00)	(0.02)		
2002	**1.014****	**0.229****	**0.072****	**-0.001****	**-0.122****	0.3167	2636
	(0.13)	(0.01)	(0.01)	(0.00)	(0.02)		
2003	**1.384****	**0.230****	**0.054****	**-0.000****	**-0.114****	0.2628	2670
	(0.13)	(0.01)	(0.01)	(0.00)	(0.02)		
2004	**1.362****	**0.248****	**0.049****	**-0.000****	**-0.101****	0.3008	2754
	(0.12)	(0.01)	(0.01)	(0.00)	(0.02)		
2005	**1.037****	**0.250****	**0.065****	**-0.001****	**-0.073****	0.3021	2688
	(0.12)	(0.01)	(0.01)	(0.00)	(0.02)		
2006	**0.797****	**0.271****	**0.071****	**-0.001****	-0.040	0.3003	2746
	(0.13)	(0.01)	(0.01)	(0.00)	(0.02)		
2007	**1.025****	**0.269****	**0.062****	**-0.001****	**-0.097****	0.3195	2604
	(0.13)	(0.01)	(0.01)	(0.00)	(0.02)		
2008	**1.143****	**0.275****	**0.056****	**-0.000****	**-0.078****	0.3055	2749
	(0.12)	(0.01)	(0.01)	(0.00)	(0.02)		
2009	**1.107****	**0.267****	**0.062****	**-0.001****	**-0.133****	0.3321	2765
	(0.12)	(0.01)	(0.01)	(0.00)	(0.02)		
2010	**0.892****	**0.250****	**0.075****	**-0.001****	**-0.091****	0.3062	2602
	(0.13)	(0.01)	(0.01)	(0.00)	(0.02)		
2011	**1.072****	**0.283****	**0.058****	**-0.000****	**-0.038***	0.3026	2806
	(0.12)	(0.01)	(0.01)	(0.00)	(0.02)		

Notes: The regression was estimated for native Israelis whose parents were not born in Israel and reported a wage >0. The explanatory variable is the log of hourly wage. The education variable equals 0 for 0 years of schooling; 1 for 1–4 years; 2 for 5–8 years; 3 for 9–10 years; 4 for 11–12 years; 5 for 13–15 years; and 6 for 16 years or more.

One asterisk represents a 10% significance level, two asterisks represent a 5% significance level, and three asterisks represent a 1% significance level.

SOURCE: Special processing of Income Surveys conducted by the Central Bureau of Statistics, included in the Hebrew University ISDC Database.

The ethnic coefficient in the women's wage regression is similar in sign to that found among men, but in many of the earlier years of the studied period it was not significant (Table 11). Furthermore, one can see that the women's ethnic coefficient is substantially lower than that of men during a large part of the studied period. With this regard, 2011 is almost exceptional in that the ethnic coefficient found among women was higher than that found among men.

Table 11
Wage Regressions for Native Israelis – Women

Year	Constant	Years of Schooling	Age	Square Age	Asian/African Ethnic Coefficient	Adj R-Sq	No. of Observations
1979	**1.397***** (0.29)	**0.170***** (0.02)	**0.080***** (0.02)	**-0.001***** (0.00)	-0.036 (0.05)	0.2935	569
1980	**2.304***** (0.27)	**0.250***** (0.02)	**0.053***** (0.02)	**-0.001**** (0.00)	-0.003 (0.04)	0.3118	689
1981	**0.924***** (0.25)	**0.209***** (0.02)	**0.060***** (0.01)	**-0.001***** (0.00)	-0.060 (0.04)	0.3183	681
1982	**0.833***** (0.27)	**0.187***** (0.02)	**0.121***** (0.01)	**-0.001***** (0.00)	**-0.104**** (0.04)	0.3178	646
1987	**-0.705***** (0.23)	**0.189***** (0.02)	**0.079***** (0.01)	**-0.001***** (0.00)	-0.055 (0.04)	0.2372	926
1988	-0.134 (0.19)	**0.198***** (0.02)	**0.056***** (0.01)	**-0.001***** (0.00)	**-0.066*** (0.04)	0.2738	1021
1989	-0.039 (0.20)	**0.220***** (0.02)	**0.059***** (0.01)	**-0.001***** (0.00)	**-0.078**** (0.04)	0.2433	1205
1990	0.216 (0.16)	**0.182***** (0.01)	**0.061***** (0.01)	**-0.001***** (0.00)	-0.039 (0.03)	0.2777	1217
1991	0.216 (0.16)	**0.210***** (0.01)	**0.060***** (0.01)	**-0.001***** (0.00)	-0.026 (0.03)	0.3178	1250
1992	0.047 (0.16)	**0.200***** (0.01)	**0.076***** (0.01)	**-0.001***** (0.00)	-0.038 (0.03)	0.3125	1296
1993	**0.414**** (0.16)	**0.213***** (0.02)	**0.060***** (0.01)	**-0.001***** (0.00)	**-0.059*** (0.03)	0.2951	1130
1994	-0.001 (0.17)	**0.204***** (0.02)	**0.087***** (0.01)	**-0.001***** (0.00)	-0.013 (0.03)	0.2989	1365
1985	**-1.911***** (0.23)	**0.223***** (0.02)	**0.103***** (0.01)	**-0.001***** (0.00)	-0.028 (0.04)	0.2978	990
1996	0.203 (0.16)	**0.251***** (0.01)	**0.078***** (0.01)	**-0.001***** (0.00)	-0.014 (0.03)	0.3464	1474
1997	**0.581***** (0.12)	**0.276***** (0.01)	**0.060***** (0.01)	**-0.001***** (0.00)	-0.029 (0.02)	0.3424	2580
1998	**0.593***** (0.12)	**0.261***** (0.01)	**0.067***** (0.01)	**-0.001***** (0.00)	**-0.048**** (0.02)	0.328	2611
1999	**0.998***** (0.12)	**0.242***** (0.01)	**0.055***** (0.01)	**-0.000***** (0.00)	**-0.067***** (0.02)	0.3018	2644
2000	**0.943***** (0.12)	**0.248***** (0.01)	**0.064***** (0.01)	**-0.001***** (0.00)	**-0.103***** (0.02)	0.2926	2687

Table 11 (continued)

2001	1.051***	0.246***	0.057***	-0.001***	-0.064***	0.2934	2712
	(0.11)	(0.01)	(0.01)	(0.00)	(0.02)		
2002	1.207	0.259***	0.048***	-0.000***	-0.054**	0.2767	2692
	(0.12)	(0.01)	(0.01)	(0.00)	(0.02)		
2003	**1.170***** (0.12)	**0.246***** (0.01)	**0.050***** (0.01)	**-0.000***** (0.00)	**-0.051**** (0.02)	0.2557	2800
2004	**1.003***** (0.12)	**0.232***** (0.01)	**0.061***** (0.01)	**-0.001***** (0.00)	**-0.055**** (0.02)	0.2734	2856
2005	**0.939***** (0.12)	**0.268***** (0.01)	**0.056***** (0.01)	**-0.000***** (0.00)	**-0.064***** (0.02)	0.3011	2884
2006	**0.977***** (0.11)	**0.263***** (0.01)	**0.054***** (0.01)	**-0.000***** (0.00)	-0.030 (0.02)	0.3158	2879
2007	**0.873***** (0.12)	**0.264***** (0.01)	**0.064***** (0.01)	**-0.001***** (0.00)	**-0.053**** (0.02)	0.2954	2763
2008	**1.129***** (0.11)	**0.249***** (0.01)	**0.055***** (0.01)	**-0.000***** (0.00)	**-0.069***** (0.02)	0.2749	2875
2009	**1.004***** (0.11)	**0.269***** (0.01)	**0.057***** (0.01)	**-0.001***** (0.00)	**-0.070***** (0.02)	0.3081	2986
2010	**1.011***** (0.11)	**0.258***** (0.01)	**0.059***** (0.01)	**-0.001***** (0.00)	**-0.089***** (0.02)	0.3044	2812
2011	**0.837***** (0.11)	**0.281***** (0.01)	**0.063***** (0.01)	**-0.001***** (0.00)	**-0.065***** (0.02)	0.3173	3079

Notes: The regression was estimated for native Israelis whose parents were not born in Israel. The explanatory variable is the log of hourly wage. The years of schooling variable equals 0 for 0 years of schooling; 1 for 1–4 years; 2 for 5–8 years; 3 for 9–10 years; 4 for 11–12 years; 5 for 13–15 years; and 6 for 16 years or more.

One asterisk represents a 10% significance level, two asterisks represent a 5% significance level, and three asterisks represent a 1% significance level.

SOURCE: Special processing of Income Surveys conducted by the Central Bureau of Statistics, included in the Hebrew University ISDC Database.

The findings regarding the ethnic coefficient raise three questions: What are the possible roots of the ethnic coefficient? Why has the ethnic coefficient suffered such fluctuation? How can one explain the (almost) double ethnic coefficient among men versus women? I shall suggest a number of hypotheses concerning the first question, and leave the other two open for future research.

Various types of explanations have been suggested in order to explain why the wage gap between the two ethnic groups is wider than expected due to differences in worker characteristics. One type of explanation argues that the ethnic coefficient reflects discrimination in the workforce towards native Israelis whose father comes from Asia/Africa. The study by Yona Rubinstein and Dror Brenner supports this claim by

showing that workers of mixed origin in which the father is of Asian/African descent earn 7 percent less than workers of mixed origin whose father is of European/American descent (Rubinstein and Brenner, 2013). Rubinstein and Brenner attribute this to the differences in surname, which expose workers of Asian/African descent to discrimination. However, there is mixed evidence regarding ethnic discrimination in the hiring process. On the one hand, Dorit Sasson's study shows that individuals with an Ashkenazi surname who applied for a job had a 34% higher chance to get a call back from the employer than individuals with a Mizrahi surname at the time of the survey: August–November 2005 (Sasson, 2006). On the other hand, Ben Hador et al. (2006) found no difference in employer call-back according to surname.

However, the ethnic coefficient might reflect cultural differences that affect wage negotiation with employers. This could possibly be explained by saying that workers of European/American descent do not refrain from demanding a wage raise when appropriate, whereas workers of Asian/African descent might hesitate to ask for a raise in similar circumstances. Another suggestion is that the Asian/African ethnic group is characterized by unique leisure and risk preferences that direct its members towards less financially rewarding occupations.

Another possible interpretation of the ethnic coefficient is that the gaps in education levels do not fully explain the wage gaps between the two ethnic groups since education is not properly measured. According to this hypothesis, the differences in education are in fact greater since measuring education by years of schooling does not sufficiently refer to the quality of education.

This hypothesis can be tested only with regard to recent years, as only since 2006 do Income Surveys include information about education certificates, such as BA or MA. Table 12 shows that by adding this information about education certificates, the continent of origin coefficient is reduced, thus indicating that education gaps between ethnic groups are larger than those estimated by years of schooling. However, the continent of origin coefficient remains significant even after including education certificates. Wage gaps that are larger than expected according to education gaps were found in all of the years for which data on education certificates exist (for lack of space, regressions for previous years are not presented).

Table 12
Wage Regressions With Education Quality - Men

Variable	2008		2009		2010		2011	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
Constant	**1.143***** (0.12)	**1.462***** (0.13)	**1.107***** (0.12)	**1.446***** (0.13)	**0.892***** (0.13)	**1.338***** (0.14)	**1.072***** (0.12)	**1.421***** (0.13)
Education	**0.275***** (0.01)	**0.183***** (0.01)	**0.267***** (0.01)	**0.184***** (0.01)	**0.250***** (0.01)	**0.146***** (0.02)	**0.283***** (0.01)	**0.179***** (0.01)
Matriculation Certificate		**0.093***** (0.03)		**0.080***** (0.03)		0.030 (0.03)		**0.115***** (0.03)
BA		**0.270***** (0.03)		**0.247***** (0.03)		**0.285***** (0.04)		**0.257***** (0.03)
MA		**0.361***** (0.05)		**0.339***** (0.04)		**0.385***** (0.05)		**0.434***** (0.04)
Ph.D.		**0.480***** (0.08)		**0.391***** (0.08)		**0.402***** (0.08)		**0.557***** (0.08)
Age	**0.056***** (0.01)	**0.056***** (0.01)	**0.062***** (0.01)	**0.060***** (0.01)	**0.075***** (0.01)	**0.072***** (0.01)	**0.058***** (0.01)	**0.059***** (0.01)
Square Age	**-0.000***** (0.00)	**-0.000***** (0.00)	**-0.001***** (0.00)	**-0.001***** (0.00)	**-0.001***** (0.00)	**-0.001***** (0.00)	**-0.000***** (0.00)	**-0.000***** (0.00)
Asia/Af. Ethnic Coefficient	**-0.078***** (0.02)	**-0.050**** (0.02)	**-0.133***** (0.02)	**-0.109***** (0.02)	**-0.091***** (0.02)	**-0.068***** (0.02)	**-0.038*** (0.02)	-0.017 (0.02)
Adj R-Sq	0.306	0.329	0.332	0.351	0.306	0.330	0.303	0.333
Observations	2749	2749	2765	2765	2602	2602	2806	2806

Notes: The regression was estimated for native Israelis whose parents were not born in Israel and reported a wage > 0. The explanatory variable is the log of hourly wage. The years of schooling variable equals 0 for 0 years of schooling; 1 for 1–4 years; 2 for 5–8 years; 3 for 9–10 years; 4 for 11–12 years; 5 for 13–15 years; and 6 for 16 years or more. The variables of matriculation certificate/BA/MA/PhD are dummy variables that receive a value of 1 if the individual has such a certificate, and 0 if otherwise.
One asterisk represents a 10% significance level, two asterisks represent a 5% significance level, and three asterisks represent a 1% significance level.
SOURCE: Special processing of Income Surveys conducted by the Central Bureau of Statistics, included in the Hebrew University ISDC Database.

3. SUMMARY OF FINDINGS

This work finds for the very first time an almost continuous trend, from the middle of the 1990s, in which the income gap between households of the two ethnic groups (European/American versus Asian/African descent) has been reduced. In 2011 the net income gap was 27 percent, whereas in the mid 1990s it was around 40 percent. The reduction of the wage gap among both men and women has lead to a reduction in the

income gaps between households. The ethnic wage gap among native Israeli Jewish men ranged with no clear trend between 30 and 40 percent, from the late 1970s to the early 2000s. However, from the mid-1990s it declined continuously, to approximately 25 percent in 2011. As opposed to the development of the income gap among men, the gap between women of both ethnic groups diminished continuously in the past three decades, with slight variances around this general trend. The gap among women, which was approximately 35 percent in the early 1980s, has declined to near 20 percent in recent years.

One of the reasons for the narrowing gap in wages between the two ethnic groups is the rise in education level among native Israelis of Asian/African descent, which was faster than the rise among native Israelis of European/American descent. The reduction of the gap in years of schooling according to ethnic origin was more prominent among men. Nonetheless, even in 2011 the gap in education level between the two ethnic groups is substantial.

Despite the encouraging change, the income and wage gaps remain significant (approximately 25 percent), especially considering the time that has passed since the absorption of the mass immigration that followed the establishment of the State of Israel. Furthermore, this study reveals that the wage gap between employees of the two ethnic groups is larger than the measured differences in education level. The continent of origin can explain approximately 10 percent of the wage gap among men and 5 percent among women. However, these two estimates have fluctuated sharply over the years.

This work also reveals significant progress in income representation of the Asian/African ethnic group in the past three decades. This improvement is manifest in a sharp decline in the proportion of households of Asian/African descent in the two bottom deciles, as well as a significant rise in their representation in the upper deciles. In the last two years of the studied period, the share of the Asian/African ethnic group in the upper decile was for the first time proportional to its share in the general population, which in 2011 was 27 percent. The relative improvement of the status of the Asian/African ethnic group was also manifested in the significant broadening of its representation in the upper-middle class of Israeli society.

The improvement in the relative status of the Asian/African ethnic group is rooted, among other things, in the elimination of the gap between ethnic groups in women's participation in the labor force, which was approximately 25 percentage points three decades ago. The participation rate of women of Asian/African descent has risen from 54 percent in 1979 to 85 percent in 2011.

4. DISCUSSION OF FINDINGS: WHY HAS THE GAP BEEN REDUCED?

This study documents the development of the economic gap between the two main ethnic groups in Israeli society in the past three decades, and finds for the first time a reduction in the income gaps between those of Asian/African descent and those of European/American descent. Previous studies have all found that the economic gap between native Israelis of these two ethnic groups has remained stable or even widened. The reduction in income gaps between the two ethnic groups found in this study becomes even more dramatic considering the increase in general inequality that occurred in the studied period.

The advancement in the relative status of native Israelis whose father was born in Asia/Africa is especially conspicuous when judged according to the representation index in each income decile. Individuals of Asian/African descent, who in the late 1970s suffered from over-representation in the lower deciles and under-representation in the upper deciles, have climbed the income ladder in the past three decades. At the end of the studied period, their representation in the top decile was proportionate to their share of the population, and in addition they enjoyed under-representation in the lower deciles.

The development of the gap between the two ethnic groups in the past three decades can be related to **economic, political and social** processes occurring during this period. In the following section, I shall suggest a number of hypotheses of which only some are consistent with the findings presented in this study. Additional studies are needed in order to establish or refute some of these hypotheses.

I shall suggest two **economic** explanations for the reduction in the economic gap between the two ethnic groups. First, individuals of Asian/African descent understood the signals coming from the labor market regarding the high return on education and increased their investment in human capital. The higher return on education promoted the erosion of credit limits that might have previously prevented their entrance into higher education. This hypothesis is in keeping with the increase of the education level among those of Asian/African descent, which was faster than the increase among native Israelis of European/American descent, and with the increase in the return on education.

Individuals of Asian/African descent reduced the ethnic gaps in universities, and even more so in colleges. The emergence of new colleges in the 1990s increased accessibility for candidates who perhaps otherwise would not have attained higher education, either due to supply limits or due to high entrance requirements. Thus, the colleges allowed a specific population to increase its appeal to the labor market and climb up the income ladder. In the 1998/99 academic year, 3.8 percent of native Israelis aged 20–29 whose father was born in Asia/Africa pursued higher education, as opposed to 5.9 percent of native Israelis of the same age whose father was born in Europe/America. One decade later (2006/07) the rate rose to 7.2 percent for native Israelis of Asian/African descent, and to 8.6 percent for those of European/American descent.

The structural change in the Israeli economy is the second economic explanation for the reduction of the gap between the two ethnic groups. According to this explanation, the shift of the Israeli market from a centrally planned economy to a market economy was relatively beneficial to individuals of Asian/African descent, who did not comprise a significant part of the favoritist economic circle in the socialist age. In a market economy, merits and effort have a greater influence on a worker's wages than connections to governmental officials who play a central role in determining wages in a centrally planned economy. The shift to a market economy was expected to increase the return on education among (formerly) unprivileged individuals, thereby promoting investment in human capital. The rapid rise in education among those of Asian/African descent, found in this study, is consistent with this hypothesis.

The decline in the power of the state following the Economic Stabilization Program of 1985 was expected to lead to a reduction of the relative wage of privileged individuals (of European/American descent) compared to unprivileged individuals (of Asian/African descent). If such a process indeed occurs, one may expect to observe an increase in long-term correspondence between wage level and the characteristics of workers, such as education and experience, for instance due to greater correlation between education level and occupation. However, this study did not find any trace of that, since no clear and significant reduction in the ethnic coefficient was found in the wage regression.

On the other hand, reduced governmental intervention was also manifested in the outsourcing of some public services. Unskilled workers, such as cleaning staff and security guards, who were previously employed directly by the government, donned the uniforms of private companies and continued to work for the government for less. This phenomenon should have expanded the income gap due to the education gaps, but only to a limited extent due to the decrease in especially low-educated native Israeli individuals of Asian/African descent. Other groups, such as Arabs and immigrants, were expected to sustain the greatest blow due to this outsourcing process.

Theoretically, one may argue that the reduction in education gaps between the two ethnic groups is a result of the public education provided in Israel, reducing the intergenerational gap. The great education gaps that prevailed when the parent generation immigrated to Israel from their countries of origin has diminished among their children thanks to public education. However, this claim is not consistent with the patterns of the economic gap between the two ethnic groups. Public education started many years before the gap between the groups was reduced. In fact, education gaps between native Israelis remained, or even widened, over a very long period, despite the public education given to all native Israeli individuals. Alternatively, we may speculate that the reduction in education gaps in the past decades is a result of a greater education budget given to children of lower socioeconomic backgrounds, and enjoyed by more native Israelis of Asian/African descent. This hypothesis, however, requires further study.

An alternative or complementary **sociopolitical** hypothesis was raised by Uri Cohen and Nissim Leon (2014), who claimed that Mizrahi Jews entered a new circle of favoritist economy by entering the Likud central committee. Mizrahi Jews did not only work their way into the Likud central committee, but also into Shas (*Shomrei Sfarad*) institutions and labor unions in order to reap the economic fruits of relations with new government centers. The wage of a privileged individual should be higher than that of an unprivileged individual with the same qualifications (education or other characteristics), but, as mentioned above, the current study did not find a clear downward trend in the ethnic coefficient.

Three **social** explanations just might be consistent with the reduction of the gap between the two ethnic groups. According to the first explanation, as time passed, discrimination against members of the Asian/African ethnic group in the labor market began to subside. Surprisingly, the wage regression findings regarding the ethnic coefficient do not support this hypothesis. The second explanation would be that lower expectations from Mizrahi Jews especially in the field of education, which were prevalent in the early years of the state, have become less legitimate with time. The subsidence of these expectations, if they indeed existed, should have strongly promoted Mizrahi Jews to invest in education and succeed economically. The rapid rise in education level among native Israeli men and women of Asian/African descent, found in this study, is in line with this hypothesis.

A third possible explanation is that the adoption of a Western way of life, which includes later marriage, fewer children, education for women and participation of married women in the labor force, is responsible for the reduction in the economic gap between the two ethnic groups. This study finds clear indications supporting this hypothesis, the most prominent of which is the significant rise in the rate of participation of native Israeli women whose father originates from Asia/Africa, alongside a reduction in the education gap relative to native Israeli women whose father originates from Europe/America.

Appendix
Table 1
Europe/America Group as a Share of each Income Decile (percent)

Year	Lowest	2	3	4	5	6	7	8	9	Top	Share of Population
1979	26	21	19	30	35	38	52	62	63	74	42
1980	18	27	20	25	36	46	46	58	64	77	42
1981	18	29	31	25	33	42	49	62	65	72	43
1982	17	26	28	26	34	39	46	53	60	74	40
1983	-	-	-	-	-	-	-	-	-	-	-
1984	-	-	-	-	-	-	-	-	-	-	-
1985	23	29	29	31	31	49	44	54	62	70	42
1986	-	-	-	-	-	-	-	-	-	-	-
1987	26	31	27	29	29	38	45	55	55	73	41
1988	13	27	22	27	31	36	45	52	59	72	38
1989	16	22	24	25	34	40	42	53	56	67	38
1990	12	20	24	28	30	34	40	46	56	70	36
1991	9	19	16	19	24	30	42	47	52	69	33
1992	8	19	15	18	25	29	33	45	55	69	31
1993	10	16	12	18	21	27	29	38	45	64	28
1994	8	17	13	20	23	26	32	39	50	64	29
1995	8	12	10	13	15	18	29	36	50	62	25
1996	10	10	11	16	17	19	23	31	44	59	24
1997	10	11	11	14	16	17	26	33	43	59	24
1998	7	11	11	14	15	21	25	31	43	57	24
1999	8	8	9	12	17	20	26	35	43	56	23
2000	7	8	11	13	17	22	23	32	42	53	23
2001	6	10	11	13	17	21	24	29	37	51	22
2002	6	6	8	11	16	18	22	28	36	49	20
2003	5	7	9	10	14	19	21	28	35	47	19
2004	5	6	9	10	14	18	23	29	37	48	20
2005	5	6	9	10	14	19	23	28	34	46	19
2006	4	6	9	9	15	19	23	26	33	47	19
2007	4	6	7	11	13	16	22	25	29	45	18
2008	5	5	8	11	12	17	21	24	30	43	18
2009	5	5	7	9	13	16	19	26	28	43	17
2010	4	6	7	12	13	16	19	25	31	42	17
2011	3	5	8	10	12	16	17	24	30	40	16

Notes: The Europe/America group includes first generation (born in Europe or America) and second generation (father born in Europe/America) individuals who are not immigrants or Ultra-Orthodox. Net income is measured per equivalent person.

SOURCE: Central Bureau of Statistics Income Surveys and special processing, ISDC.

Appendix
Table 2
Third Generation Israelis as a Share of each Income Decile (percent)

Year	Lowest	2	3	4	5	6	7	8	9	Top	Share of Population
1979	2	1	2	2	3	4	4	5	6	5	3
1980	2	2	4	2	3	4	4	4	5	3	3
1981	2	2	1	2	4	6	2	4	5	7	3
1982	2	2	2	3	3	3	5	6	7	5	4
1983	-	-	-	-	-	-	-	-	-	-	-
1984	-	-	-	-	-	-	-	-	-	-	-
1985	6	3	4	3	4	4	3	5	4	7	4
1986	-	-	-	-	-	-	-	-	-	-	-
1987	8	3	3	3	5	6	4	5	4	6	5
1988	3	2	3	5	3	7	6	4	6	6	4
1989	3	2	2	4	4	3	6	4	5	6	4
1990	3	2	3	4	4	3	4	5	6	4	4
1991	4	2	2	4	5	4	4	4	6	7	4
1992	2	3	3	4	4	3	5	6	8	9	5
1993	1	3	4	4	4	4	4	5	8	9	5
1994	3	1	3	3	4	4	6	7	6	8	5
1995	2	1	3	3	2	6	4	6	9	10	5
1996	4	3	3	4	3	4	6	5	9	8	5
1997	3	2	3	4	3	5	6	10	6	9	5
1998	6	3	4	5	5	7	9	8	9	13	7
1999	4	2	5	4	5	7	9	9	10	15	7
2000	4	3	5	4	7	8	8	10	13	14	8
2001	4	3	4	7	7	7	7	11	14	14	8
2002	5	3	5	4	7	8	9	12	12	16	8
2003	6	4	4	6	8	8	9	12	13	16	9
2004	5	5	6	7	7	8	10	12	15	16	9
2005	4	5	5	6	7	10	11	14	15	18	10
2006	4	3	4	8	8	11	12	15	15	18	10
2007	4	5	6	9	9	13	13	16	18	16	11
2008	5	6	5	7	11	11	15	16	18	18	11
2009	6	7	7	9	10	13	15	15	18	22	12
2010	8	6	8	10	13	15	18	18	20	20	13
2011	6	7	9	10	14	14	17	18	19	20	13

Notes: Third generation includes non-Ultra-Orthodox, native Israeli Jews whose father was born in Israel. Net income is measured per equivalent person.

SOURCE: Central Bureau of Statistics Income Surveys and special processing, ISDC.

Appendix
Table 3
Ultra-Orthodox Jews as a Share of each Income Decile (percent)

Year	Lowest	2	3	4	5	6	7	8	9	Top	Share of Population
1979	12	7	5	4	3	4	3	2	2	1	4
1980	11	6	6	4	3	5	3	3	1	1	4
1981	14	6	7	7	7	3	1	2	2	1	5
1982	17	7	8	6	7	5	4	3	2	2	6
1983	-	-	-	-	-	-	-	-	-	-	-
1984	-	-	-	-	-	-	-	-	-	-	-
1985	-	-	-	-	-	-	-	-	-	-	-
1986	-	-	-	-	-	-	-	-	-	-	-
1987	-	-	-	-	-	-	-	-	-	-	-
1988	26	11	5	8	5	2	2	1	3	1	6
1989	23	10	9	6	6	3	3	2	2	2	7
1990	21	14	9	7	4	6	2	1	2	2	7
1991	23	13	11	6	6	3	3	2	2	1	7
1992	20	15	10	6	4	3	2	3	2	1	7
1993	17	19	12	7	6	5	4	2	2	0	8
1994	22	15	14	8	3	4	2	1	1	0	7
1995	20	13	9	6	5	4	2	2	0	0	6
1996	22	12	8	6	3	3	4	2	1	2	6
1997	20	10	8	7	3	4	2	2	0	1	6
1998	12	9	11	6	5	4	2	1	1	1	5
1999	15	8	8	7	3	2	2	1	1	1	5
2000	17	9	8	7	3	1	2	2	1	0	5
2001	20	12	10	5	4	3	2	1	0	0	6
2002	15	11	9	6	5	2	2	1	1	1	5
2003	16	12	10	8	5	5	2	2	1	1	6
2004	17	12	12	6	4	2	2	1	1	1	6
2005	20	12	11	6	3	4	2	1	1	1	6
2006	20	16	10	9	6	4	2	2	2	0	7
2007	22	13	13	9	5	3	3	2	2	0	7
2008	23	13	12	7	5	2	1	1	1	1	7
2009	20	18	9	10	5	4	2	2	1	1	7
2010	19	14	11	8	6	5	2	1	1	1	7
2011	19	15	12	10	5	3	2	2	1	1	7

Notes: Ultra-Orthodox are Jews who reported that the most recent educational institute in which they studied was a Talmudic College ("Yeshiva"). Net income is measured per equivalent person.
SOURCE: Central Bureau of Statistics Income Surveys and special processing, ISDC.

Appendix

Table 4

Arabs as a Share of each Income Decile (percent)

Year	Lowest	2	3	4	5	6	7	8	9	Top	Share of Population
1979	10	12	7	6	4	2	2	1	1	1	5
1980	22	12	9	7	3	0	1	1	0	1	6
1981	16	7	6	2	3	1	1	2	1	0	4
1982	16	8	7	6	4	4	1	1	1	1	5
1983											
1984											
1985	23	11	11	4	6	4	2	3	0	1	7
1986											
1987	14	11	5	5	5	4	3	3	1	2	5
1988	19	18	10	7	5	6	4	2	2	1	7
1989	14	14	13	13	7	6	2	2	1	1	7
1990	16	21	14	7	6	7	3	4	1	0	8
1991	9	15	17	10	9	4	5	3	1	1	8
1992	17	15	15	13	6	7	4	2	1	1	8
1993	20	13	17	9	9	7	2	4	1	1	8
1994	22	16	14	11	7	6	5	3	2	2	9
1995	28	32	30	20	16	11	8	6	3	1	16
1996	22	34	34	18	17	16	9	5	4	2	16
1997	25	35	33	18	18	17	8	5	3	2	16
1998	41	38	33	23	18	12	8	5	4	2	18
1999	40	46	34	25	17	12	7	4	2	1	19
2000	40	40	30	19	15	10	6	3	2	2	17
2001	40	38	30	19	16	11	9	5	3	2	17
2002	46	44	33	22	15	12	9	5	3	1	19
2003	47	41	34	24	16	11	8	5	3	2	19
2004	46	40	33	25	16	11	8	4	3	2	19
2005	47	46	34	25	18	9	7	6	2	2	20
2006	51	47	34	24	16	10	7	5	1	2	20
2007	49	46	33	23	18	13	6	4	3	2	20
2008	45	48	35	25	19	10	7	6	3	1	20
2009	52	43	37	23	18	12	7	4	3	1	20
2010	50	51	35	26	18	11	8	5	3	2	21
2011	54	49	32	24	18	11	9	4	2	2	21

Notes: Net income is measured per equivalent person.

SOURCE: Central Bureau of Statistics Income Surveys and special processing, ISDC.

Appendix
Table 5
Immigrants as a Share of each Income Decile (percent)

Year	Lowest	2	3	4	5	6	7	8	9	Top	Share of Population
1990	7	4	2	3	2	0	1	0	0	0	2
1991	18	15	9	8	9	8	4	2	4	1	8
1992	16	16	17	12	14	12	10	6	2	0	10
1993	14	14	16	18	19	18	12	11	4	2	13
1994	17	15	15	19	21	20	9	7	7	1	13
1995	12	16	14	18	25	20	16	11	5	4	14
1996	17	15	14	20	20	21	19	16	8	5	15
1997	16	13	17	21	24	17	23	14	8	4	16
1998	8	13	13	16	18	16	15	14	10	4	13
1999	9	12	14	18	18	20	16	14	9	5	13
2000	11	13	15	19	19	18	20	13	9	6	14
2001	9	16	17	22	20	22	18	18	10	7	16
2002	8	12	18	21	23	21	18	15	11	8	16
2003	9	13	18	22	22	21	19	15	13	9	16
2004	9	12	16	22	23	21	22	16	12	7	16
2005	9	12	18	22	22	23	20	16	13	8	16
2006	6	10	18	21	21	21	21	17	14	8	16
2007	8	11	17	20	21	20	19	16	14	10	16
2008	8	9	18	21	19	20	18	19	14	9	15
2009	6	11	19	19	22	20	20	16	15	9	16
2010	8	9	20	18	19	22	20	18	13	10	16
2011	7	9	18	20	21	20	19	18	13	11	15

Notes: Immigrants are individuals who came to Israel in 1990 or later. Net income is measured per equivalent person.

SOURCE: Central Bureau of Statistics Income Surveys and special processing, ISDC.

REFERENCES

Amir, S. (1975), "Earned Income of Male Employees in Israel, 1968/69." Research Papers Series No. 42, Jerusalem: The Maurice Falk Institute for Economic Research in Israel. (Hebrew)

Amir, S. (1976), "The First Native Born Generation: The Income Gap." Research Papers Series 53, Jerusalem: The Maurice Falk Institute for Economic Research in Israel. (Hebrew)

Amir, S. (1980), "The Wage Function of Jewish Males in Israel, Between the Years 1968/69 and 1975/76." *Bank of Israel Review,* 52 (1980), 3–14. (Hebrew)

Amir, S. (1987), "Trends in Earnings Gaps Among Jewish Men During the 1970s by Country of Origin." *Bank of Israel Review*, 63 (1987), 43–64. (Hebrew)

Barak, O. and E. Tsur (2012), "Continuity and Change in the Social Background of Israel's Military Elite", *The Middle East Journal,* 66(2), 211–230.

Ben Hador, Cohen, et al. (2006), "Identifying Work Discrimination in Compliance Studies", *Avoda, Chevra Umishpat,* 11, 381–407. (Hebrew)

Ben Porat, Y. (1986), "Differences and Gaps in Population and Labor Force", Y. Ben Porat (Ed.), *The Israeli Economy: Maturing Through Crises*. Harvard University Press.

Bensimon, D. and S. DellaPergola (1984), *La population juive de France: socio-démographie et identité*, Vol. 17, Jerusalem.

Bitton ,Y. (2012), "Mizrahi Jews in Law: Absence as Presence", *Mishpatim,* 41, 315–377. (Hebrew)

Botticini, M. and T. Eckstein (2012), *The Chosen Few: How Education Shaped Jewish History, 70–1492*. Princeton University Press.

Brichta, A. (2001), *Political Reform in Israel: The Quest for a Stable and Effective Government*, Sussex.

Cohen, U. and N. Leon (2014), "The Mahapach and Yitzhak Shamir's Quiet Revolution: Mizrahim and the Herut Movement." *Israel Studies Review,* 29.1, 18–40.

Cohen, Y. and Y. Haberfeld (1998), "Second-Generation Jewish Immigrants in Israel: Have the Ethnic Gaps in Schooling and Earnings Declined?", *Ethnic and Racial Studies,* 21(3), 507–528.

Dahan, M. (1996), "The Effect of Macroeconomic Variables on Income Distribution in Israel", *Bank of Israel Review,* 69. (Hebrew)

Dahan, M. (2002), "The Rise of Earning Inequality", in *The Israeli Economy, 1985–1998: From Government Intervention to Market Economics*, Edited by Avi Ben-Bassat, MIT Press, Cambridge Massachusetts, 485–517.

Dahan, M. (1998), *The Ultra-Orthodox Jews and Municipal Authority, Part 1 – The Budgetary Effect of Jerusalem's Demographic Composition*, The Jerusalem Institute for Israel Studies. (Hebrew)

Dahan, M., E Dvir, N. Mironichev and S. Shye (2003), "Have Educational Gaps Narrowed?" *Israel Economic Review*, Vol 1(2), November, 37–69.

DellaPergola, S. (2007), "'Sephardic and Oriental' Jews in Israel and Western Countries: Migration, Social Changes, and Identification", *Sephardic Jewry and Mizrahi Jews*, Unpublished manuscript.

Eisenstadt, S.N. (1953), "Analysis of Patterns of Immigration and Absorption of Immigrants", *Population Studies,* 7(2), 167–180.

Friedman, I. et al. (2011), Measuring and Estimating the Size of Ultra-Orthodox Population in Israel", The Central Bureau of Statistics.

Gilboa, Y. (2009), Are the Education Gaps Diminishing?", Van Leer Institute, Jerusalem.

Haas, H. (1998), "The Israeli Leisure Culture", *Panim,* 10, 107–139.

Haberfeld, Y. and Y. Cohen (2007), "Gender, Ethnic, and National Earnings Gaps in Israel: The Role of Rising Inequality", *Social Science Research*,, 36(2), 654–672.

Hanoch, G. (1961), *Income Differences in Israel, Fifth Report, 1959 and 1960*, Jerusalem, The Morris Falk Institute for Economic Research in Israel.

Khazzoom, A. (1999), "Western Culture, Ethnic Labeling and Social Closedness: The Background for Ethnic Inequality in Israel", *Sotziologia Yisraelit,* A(2), 385–423. (Hebrew)

Levi, H. (1968), *Wage Gaps between Hired Worker Groups in Israel, 1957/8–1963/4*, Bank of Israel, Jerusalem.

Levin, H. and R. Hacohen (2010), "Methods of Identification and Quantitative Characterization of the Ultra-Orthodox Sector", The National Economic Council.

Manor, O. et al. (1999), "Mortality Differentials Among Israeli Men", *American Journal of Public Health,* 89(12), 1807–1813.

Manor, O. et al. (2000), "Mortality Differentials Among Women: The Israel Longitudinal Mortality Study", *Social Science & Medicine,* 51(8), 1175–1188.

Mark, N. (1994), "Inter-Sectoral Gaps in Israel, Income and Consumption", Israel Economic Quarterly, 41(1), 55–77. (Hebrew)

Mark, N. (2000), "The Contribution of Education to Inter-Sectoral Gaps in Israel", The Sapir Center of Development, Tel Aviv University, Discussion Sheet No. 7.

Okun, B.S. (2001), "The Effects of Ethnicity and Educational Attainment on Jewish Marriage Patterns: Changes in Israel, 1957–1995", *Population Studies,* 55(1), 49–64.

Okun, B.S. and O. Khait-Marelly (2008), "Demographic Behaviour of Adults of Mixed Ethnic Ancestry: Jews in Israel", *Ethnic and Racial Studies,* 31(8), 1357–1380.

Peres, Y. and R. Katz (1981), "Stability and Centrality: The Nuclear Family in Modern Israel", *Social Forces,* 59(3), 687–704.

Peres, Y., E. Ben Rafael and A. Fischler (2006), "Between Mizrahi and Ashkenazi Jews - Repressed Sectoral Discrimination?", in Y. Peres and E. Ben Rafael (eds.), *Kinship and Dispute: Splits in Israeli Society*, Tel Aviv, 138–162. (Hebrew)

Rahat, G. and M. R. Itzkovitch (2012), "Political Representation in Israel: Minority Sectors vs. Women", *Representation,* 48(3), 307–319.

Rubinstein, Y. and D. Brenner (2013), "Pride and Prejudice: Using Ethnic-Sounding Names and Inter-Ethnic Marriages to Identify Labour Market Discrimination", *The Review of Economic Studies*, 81:1, 389–425.

Sagiv, T. (2014), *On the Fault Line: Israelis of Mixed Ethnicity.* (Hebrew)

Sasson, D. (2006), "Are Grinberg and Bernstein More Employable than Buzaglo and Abuksis? A Field Experiment on Labor Market Discrimination by Origin and Gender", The Maurice Falk Institute for Economic Research in Israel, Student Paper 26, Hebrew University of Jerusalem. (Hebrew)

Schmelz, U.O., U. Avnery and S. DellaPergola (1991), *Ethnic Differences Among Israeli Jews: A New Look*, No. 22. Institute of Contemporary Jewry, Hebrew University of Jerusalem. Unpublished manuscript.

Semyonov, M. and T. Lerenthal (1991), "Country of Origin, Gender, and the Attainment of Socioeconomic Status: A Study of Stratification in the Jewish Population of Israel", *Research in Social Stratification and Mobility,* 10, 327–345.

Semyonov, M. and A. Tyree (1981), "Community Segregation and the Costs of Ethnic Subordination", *Social Forces,* 59(3), 649–666.

Shenhav, Y. (2006), *The Arab Jews: A Postcolonial Reading of Nationalism, Religion, and Ethnicity*. Stanford University Press.

Stier, H. and Y. Shavit (1994), "Age at Marriage, Sex-ratios, and Ethnic Heterogamy", *European Sociological Review,* 10(1), 79–87.

Stier, H. and T. Shavit (2003), "Two Decades of Educational Intermarriage in Israel", in Hans-Peter Blossfeld and Andreas Timm (eds.) *Who Maries Whom*, Springer Netherlands, 315–330.

Weiss ,Y., N. Mark and G. Fishelson (1978), "Income Gaps Between Men by Continent of Origin: Israel, 1969–76." The Foerder Economic Research Institute, Tel-Aviv University.

Yiftachel, O. and S. Kedar (2000), "Landed Power: The Making of the Israeli Land Regime." *Theory and Criticism,* 16. Spring: 67–100.

Yitzhaki, Sh. and E. Schechtman (2009), "The 'Melting Pot': A Success Story?", *Journal of Economic Inequality,* 7(2), 137–151.

Yuchtman-Yaar, E. (2005), "Continuity and Change in Israeli Society: The Test of the Melting Pot", *Israel studies,* 10(2), 91–128.