Demographic Transformations among Ex-Soviet Migrants in Israel

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Introduction

Between 1989 and 2009, more than 1.6 million Jews and their close relatives emigrated from the former Soviet Union (FSU). Approximately 61% (about 998,000 people) went to Israel. In this study I will compare the demographic characteristics of (post-) Soviet immigrants in Israel with those of the Soviet Jewish population as it existed at the onset of the recent mass emigration. That is, I will analyze the dynamics of marriage, fertility, and mortality and examine how these dynamics were altered among the immigrants, as compared with demographic changes that took place simultaneously among the Jews who remained in the former Soviet Union, mostly in the Russian Federation. In the interest of supplying a more general point of reference, attention will also be paid to the general demographic situation and its development in both the sending and receiving countries.

Age-Sex Structure

We begin with an analysis of age-sex structure. By the end of 2001, when the great majority of the recent FSU immigrants had already arrived in Israel, their median age was 36.2 years, 13.5 years lower than that of Jews in the USSR before the onset of the recent mass migration according to the 1989 census (see Table 1).

FSU emigration has been highly selective by age, as younger people are as a rule more prone to migrate, especially those emigrating to Israel (DellaPergola 1998; Tolts 2003). In 1990-2001 among the FSU immigrants to Israel, those under age fifteen constituted 20.3% (Israel CBS 2007b), whereas among Jews in the USSR the same age group accounted

for only 11.6% in 1989, and their share was even less among Jews residing in the Russian Federation. Moreover, among Jews in the Russian Federation the share of children under fifteen decreased significantly from 8.4% in 1989 to just 4.9% in 2002.

Table 1. Jews in the USSR and the Russian Federation, and the (Post-) Soviet Immigrant Population in Israel,[a] by Age Group (percentages)

Group and year	All ages	0-14	15-29	30-44	45-64	65+	Median age
Jews in the USSR							
1989	100.0	11.6	13.0	20.2	31.6	23.6	49.7
Jews in Russia							
1989	100.0	8.4	11.4	19.5	33.8	26.9	52.3
2002	100.0	4.9	10.7	14.2	33.6	36.6	57.5
(Post-) Soviet immigrant population in Israel							
End of 2001	100.0	18.1	23.3	20.7	23.1	14.8	36.2
End of 2009	100.0	18.3	20.5	20.4	25.0	15.8	37.7

(Source: Compiled on the basis of Tolts 2003: 196; Tolts 2007: 291; Israel CBS data.)

[a] FSU immigrants who arrived in Israel since 1990 and were still living there by the date noted, including children born in Israel to mothers who immigrated from the FSU in this period.

By the end of 2009, the median age of the (post-) Soviet immigrant population in Israel had increased to 37.7 years. However, that was still lower than the median age recorded for the total population in the 2010 Russian census—38.0 years (Rosstat 2012). At this preliminary stage in our discussion, suffice it to suggest that childbirth among the FSU immigrant population in Israel must be considered as one key demographic factor that has altered their population dynamics considerably. By the mid-2000s, over two-thirds of all children under fifteen in this population group were born in Israel.

Among the FSU immigrant population in Israel, females outnumber males starting from age 25, and after age 40 the sex imbalance is still more pronounced: there are 85 or fewer males per 100 females (see Table 2). This imbalance contrasts with to the situation in the FSU where, in the Jewish population in general, and particularly in Russia, males outnumbered

females in the most marriageable age range (i.e., age brackets most prone to marriage). The relative shortage of males among FSU immigrants in Israel is the result of a selective propensity by sex to migrate (Tolts 2009).

Table 2. Sex Ratio among Immigrants from the FSU who Arrived since 1990 and Veteran Israelis, by Age Group, 2001

	Number of males per 100 females in the same age group	
Age group	**Immigrants from the FSU**	**Veteran Israelis[a]**
20-24	100	104
25-29	96	104
30-34	92	101
35-39	90	97
40-44	85	95
45-49	83	94
50-54	83	95
55-59	80	94

(Source: Computation based on Israel CBS data.)

[a] Jews and non-Arab others, excluding the total of those who immigrated since 1990.

FSU immigrants and veteran Israelis are characterized by rather different sex ratios in the age brackets most prone to marriage. Among veteran Israelis, males outnumber females in all age brackets under thirty-five, and even among older people the sex imbalance was much more moderate than among FSU immigrants: 94-97 males per 100 females. These differences imply a potential demographic basis for marriages between these two groups in the Israeli population; at least in theory, female FSU immigrants should show some propensity to choose partners from outside their own group.

Marriage

According to the 2002 Russian census, the mean age at first marriage reached 24.7 years for Jewish females and 27.6 for Jewish males, a substantial rise of 2.0 years for Jewish females and 2.5 years for Jewish males since the last Soviet census in 1989, at the onset of the recent mass emigration (Tolts 1992; 2006).

Table 3. Percentage of Jews Currently Married in Selected Age Groups in the USSR and the Russian Federation, 1989 and 2002

Sex and age group	USSR, 1989[a]	Russian Federation, 1989[(a)]	Russian Federation, 2002	
			Registered marriage	Unregistered marriage
Males				
20–24	29.6	28.2	14.6	4.2
25–29	68.8	67.3	40.6	6.5
30–34	82.4	81.6	56.6	7.0
35–39	85.8	86.1	66.9	6.4
40–44	86.4	86.5	70.8	5.5
45–49	86.8	87.2	74.7	4.8
Females				
20–24	55.1	48.9	23.9	5.0
25–29	74.4	72.2	50.3	6.1
30–34	77.0	75.3	58.6	5.9
35–39	75.7	74.0	61.0	4.7
40–44	73.4	71.9	64.3	4.2
45–49	71.6	69.8	61.0	3.2

(Source: Tolts 1992: 16; Tolts 2006: 19.)

[a] Including uncertain percentages of unregistered marriages.

It is quite likely, of course, that marriage data per se must be supplemented by referring to the popularity of cohabitation and subsequent births within relatively stable informal unions. Results of a special processing of 2002 birth certificates in Russia show that 15% of all children born to Jewish women in that year were registered by parents who were not formally married, and an additional 7% were registered by the mother alone. Thus, 22% of all births to Jewish mothers occurred outside formal marital arrangements (Tolts 2006). At the same time, this percentage was lower than that in the total urban population of the Russian Federation, where it was 28% (Tolts et al. 2006). In Israel such births are rare among the veteran Jewish population—as low as 3% in this period—and their share among the FSU immigrant population was about 10% in 2000 (Nahmias 2004). This indicator shows that FSU immigrants' marital behavior has distanced itself from that in the sending country.

In the Russian Federation the proportions of currently married Jews decreased between 1989 and 2002 for both males and females aged 20-49 (see Table 3). These proportions dropped especially among Jews under age 30, resulting from the process of marriage postponement. The 1989 Soviet census data include an uncertain percentage of unregistered marriages, whereas Israeli data cover only registered marriages, rendering any comparison between the two difficult. However, we can see that the marriage indicators of the FSU immigrant population in Israel are more favorable for fertility, despite the decrease in the percentage of currently married among them, than are those of the Jews remaining in Russia (see Table 4).

Table 4. Percentage of Currently Married[a] in Selected Age Groups among all (Post-) Soviet Immigrants who Arrived in Israel since 1990

Sex and age group	1991	1994	1997	2001
Males				
20–24	30.5	20.1	20.0	13.4
25–29	70.8	61.4	60.7	50.9
30–34	86.1	80.5	79.6	73.0
35–39	89.9	86.6	86.3	80.3
40–44	91.6	88.0	88.5	83.5
45–49	90.4	88.0	89.3	86.1
Females				
20–24	57.8	46.0	44.1	34.4
25–29	79.9	73.1	70.4	65.7
30–34	83.6	78.4	75.4	70.4
35–39	81.5	77.9	75.7	70.7
40–44	78.6	75.4	73.6	70.8
45–49	73.9	72.6	71.1	69.5

(Source: Compiled on the basis of Israel CBS data.)

[a] Registered marriages only.

The sex imbalance noted above among the FSU immigrant population in Israel has apparently reinforced the tendency toward "mixed" marriages, especially between immigrant females and veteran Israeli males. According to data based on the ongoing Labor Force Survey

carried out by the Israel Central Bureau of Statistics (CBS), among the FSU immigrants who arrived in Israel in 1989-1991 and were then aged 25-35, during 1989-2009 only 10% of the male immigrants married a veteran Israeli, whereas as many as 36% of the female immigrants did so (Cohen Goldner et al. 2012: 263).

At the same time, we are unable to measure the similarity of mostly non-religious FSU immigrant population's marriage patterns to those of the non-religious Jewish veteran population, for whom we do not have the necessary information. However, such a comparison is possible for fertility.

Fertility

The Israeli Jewish population represents a mix of people with very different lifestyles and values (see, e.g.: Levy et al. 2004). Therefore, the demography of its components shows great differentiations (DellaPergola 2004). The total fertility rate (TFR)[1] of Jews in Israel is the highest among contemporary developed countries: in 1985-1989 it was 2.8 and after a slight decline to 2.6 in 1990-1999, it returned to the same level of 2.8 again in 2005-2009. However, that is only an average. At one end of the fertility spectrum are ultra-Orthodox Jews (Haredim) who have a high average fertility (TFR of about 6-7), whereas at the other end is the non-religious segment of the Jewish veteran population with a TFR of 2.0-2.2 (Friedlander 2004; DellaPergola 2009; 2011). The non-religious majority of FSU immigrants is much more similar to the latter in overall lifestyle and outlook on life.

In 1988-1989, the TFR of Russia's Jewish population was 1.49 and that of the Ukrainian Jewish population was 1.52. At that time the TFR of the Jewish population in the Soviet Union as a whole was only slightly higher at 1.56. In this period, the TFR of the total urban population of the USSR was appreciably higher than that of the Jews at 2.0 (see Table 5).

At the onset of the post-1989 emigration wave only two small Jewish groups in the USSR had much higher levels of fertility. Based on the data of the last Soviet census of 1989, the TFR was estimated at 3.1 for

[1] The total fertility rate is the average number of children that a woman would bear in her lifetime if current age-specific fertility rates were to remain stable.

Bukharan Jews in Uzbekistan (Tolts 2008a), and it was probably not much lower among the Mountain Jews in East Caucasus (Tolts 2008b; 2013). However, their estimated numbers among the immigrants were not high: in the 1990s about 40,000 Mountain Jews from East Caucasus and 22,000 Bukharan Jews from former Soviet Central Asia emigrated to Israel (Leshem and Sicron 2004; Kaganovich 2003). A third distinctive Jewish group, Georgian Jews, was much more similar to the Ashkenazic majority of migrants in terms of its demographic characteristics (Tolts 2014).

Table 5. Total Fertility Rate (TFR) for Jews and Total Urban Population in the FSU, on the Eve of and during Jewish Mass Emigration of the 1990s

Area	Jews	Total urban population[a]
	On the eve of Jewish mass emigration, 1988-1989	
Entire USSR	1.56	2.03
Russian Federation	1.49	1.90
Ukraine	1.52	1.89
	During Jewish mass emigration, 1993-1994	
Russian Federation	0.8	1.20
Moscow	...	0.97
St. Petersburg	...	0.91

(Source*:* Andreev et al. 1993: 90; Goskomstat of USSR 1989: 333-334; Interstate Statistical Committee 1995: 245; Piskunov 1997: 102; Tolts 1996: 12; Rosstat data.)

[a] Indicators for 1988 and 1994, respectively.

For 1993-1994, the TFR of Russia's Jewish population was estimated at about 0.8 (see Table 5); that is, from 1988-1989 it had fallen dramatically by 46%. This coincides with a pronounced general fertility reduction in the country (Zakharov 2008). The general fertility reduction in the post-Soviet period was also very pronounced outside Russia (Heleniak 2010; Vishnevsky 1999). For the FSU as a whole, we can conservatively guesstimate the TFR of the Jewish population at 0.9 in the mid-1990s, and we assume that it did not rise before the end of the decade.

Analysis of birth dynamics shows that Jews and their close relatives who emigrated to Israel in the 1990s escaped the dramatic fertility

Table 6. Total Fertility Rate (TFR) among FSU Immigrants who Arrived in Israel since 1990

		Of these:	
Year	**Total**	**Jews**	**Non-Jews[a]**
1990	1.58	...	...
1991	1.31	...	...
1992	1.33	...	...
1993	1.52	...	...
1994	1.65	...	...
1995	1.72	...	...
1996	1.70	...	...
1997	1.71	...	...
1998	1.71	...	...
1999	1.63	1.69	...
2000	1.62	1.73	...
2001	1.56	1.69	...
2002	1.55	1.70	1.27
2003	1.60	1.78	1.27
2004	1.55	1.76	1.15
2005	1.55	1.75	1.20

(Source: Compiled on the basis of Israel CBS data.)

[a] Author's estimate.

reduction that was characteristic of the FSU population as a whole and Jews in particular. By 2001 their TFR was 1.56 (see Table 6); that is, it stood at the same level as that of Jews in the Soviet Union in 1988-1989 and it was higher than that obtaining among the total urban population of the Russian Federation as a whole as well—in particular, the rate among the total population of Moscow and St. Petersburg (see Table 5).

At the same time, the age pattern of fertility (i.e., distribution of births by age) in Israel changed noticeably: age-specific birth rates among FSU immigrants under twenty and at ages 20-24 decreased appreciably, whereas among those aged 30-45 they increased considerably, when compared with the same indicators for Jews in the Soviet Union in 1988-1989. Among (post-) Soviet immigrants in Israel, the interval of 25-29 instead of 20-24 became the highest intensity childbearing age (see Table 7 and Figure 1).

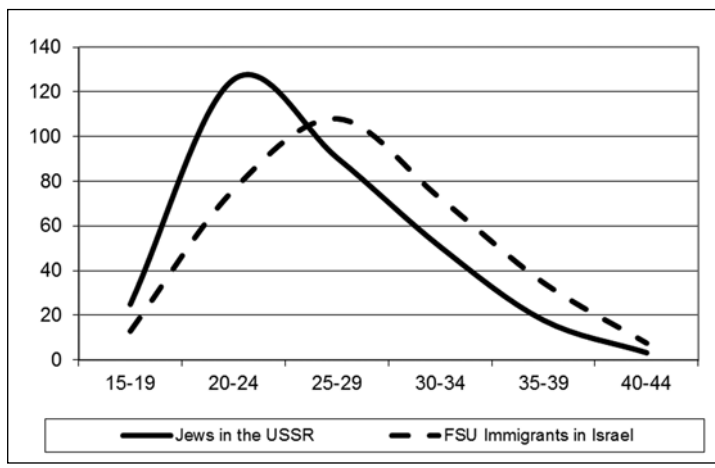
Table 7. Age-specific Birth Rates of the Jewish Population in the Soviet Union in 1988-1989, and all (Post-) Soviet Immigrants who Arrived in Israel since 1990, per 1,000 Females

Year in Israel	Age							TFR
	Under 20	20-24	25-29	30-34	35-39	40-44	45-49[a]	
	Jewish Population in the Soviet Union, 1988-1989							
X	24.9	125.6	90.6	50.7	17.8	3.2	0.1	1.56
	All (post-) Soviet immigrants who arrived in Israel since 1990							
1990	37.5	167.8	66.3	30,6	12.3	2.1	0.0	1.58
1991	32.9	119.0	65.2	29.6	11.0	3.4	0.2	1.31
1992	27.6	108.2	73.9	38.9	14.6	2.5	0.3	1.33
1993	30.9	105.0	92.3	52.3	19.9	3.6	0.4	1.52
1994	26.9	111.0	96.8	64.5	25.8	5.0	0.0	1.65
1995	25.9	105.6	112.3	66.5	27.8	5.0	0.0	1.72
1996	24.1	102.3	108.9	71.8	28.4	5.2	0.2	1.70
1997	22.8	98.7	107.4	73.9	32.6	6.5	0.3	1.71
1998	19.9	96.7	112.3	73.0	33.9	6.2	0.3	1.71
1999	16.3	88.7	107.0	72.9	33.3	5.8	0.4	1.63
2000	15.3	83.9	108.0	75.2	34.4	6.7	0.3	1.62
2001	12.9	76.2	108.0	72.4	34.6	7.5	0.1	1.56

(Source*:* Compiled on the basis of Darsky 2005: Appendix, Table 1; Israel CBS data)

[a] Computation based on a low number of births.

Figure 1. Age-specific Birth Rates of Jews in the USSR in 1988-1989, and FSU Immigrants in Israel in 2001, per 1,000 Females



In 1999-2005, the TFR among (post-) Soviet immigrants registered as Jews was rather stable, remaining at about 1.7-1.8 (see Table 6); that is, it was almost double the post-Soviet level of Jewish fertility in the FSU and approached the TFR level of Israeli non-religious veteran Jews (2.0-2.2), as noted above. At the same time, according to our estimate, this indicator for (post-) Soviet immigrants registered as non-Jews in 2002-2005 was also steady, but lower: approximately 1.2-1.3 (see Table 6); thus, it was similar to the low level of post-Soviet Slavic populations in their home countries.[2] In that sense, Jewish immigrants appear to have adapted more readily to overall fertility norms of the Israeli

Table 8. Age-specific Birth Rates of Jewish and Non-Jewish (Post-) Soviet Immigrants who Arrived in Israel since 1990, per 1,000 Females

Year in Israel	Age							TFR
	Under 20	20-24	25-29	30-34	35-39	40-44	45-49[a]	
	All (post-) Soviet Immigrants							
2002	11.9	71.9	108.1	76.6	33.6	6.7	0.4	1.55
2003	10.3	67.7	115.4	78.6	38.8	8.5	0.3	1.60
2004	10.2	61.9	111.1	79.8	38.2	7.8	0.6	1.55
2005	9.9	57.9	112.0	83.2	37.8	8.7	0.6	1.55
	(Post-) Soviet immigrants registered as Jews							
2002	11.1	78.4	122.7	83.5	36.5	6.9	0.6	1.70
2003	10.4	75.1	130.6	88.8	41.8	8.6	0.4	1.78
2004	9.8	70.3	129.9	91.2	41.9	8.6	0.6	1.76
2005	10.5	65.5	126.9	95.6	40.9	9.7	0.5	1.75
	(Post-) Soviet immigrants registered as non- Jews[b]							
2002	13.6	57.6	82.9	65.0	27.6	6.3	0.3	1.27
2003	10.2	51.7	88.8	61.9	33.1	8.1	0.1	1.27
2004	11.0	43.9	76.4	61.5	31.7	5.9	0.3	1.15
2005	8.6	41.3	82.9	64.5	35.2	6.7	0.8	1.20

(Source: Compiled on the basis of Israel CBS data.)

[a] Computation based on a low number of births.

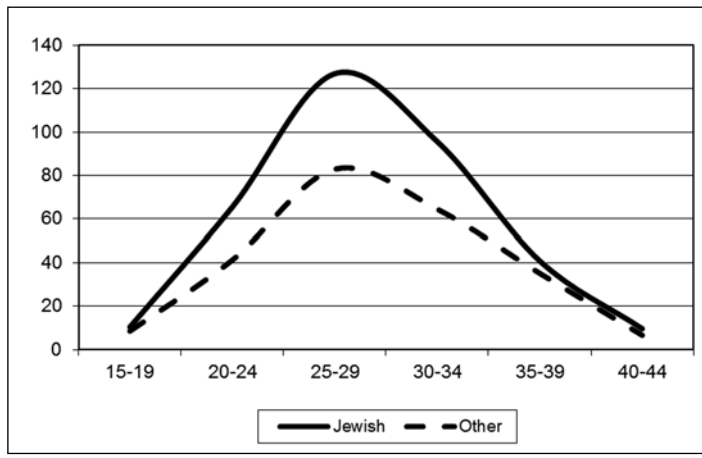
[b] Author's estimate.

[2] In 2005, TFR was 1.21 in Ukraine, 1.25 in Belarus, and 1.29 in Russia.

non-religious Jewish population, while non-Jewish immigrants did not follow the same path. However, the data also clearly show a similarity in age-specific fertility schedules for both segments of (post-) Soviet immigrants. In 2002-2005, not only was the age of the highest intensity of childbearing 25-29 for both groups, but the birth rates at ages 30-34 were higher than those for ages 20-24 (see Table 8 and Figure 2).

These similarities between FSU immigrants—Jews and non-Jews alike—show the usual peculiarities of the of non-religious female life cycle in Israel, dictated inter alia by army service between ages 18 and 20, which strongly and identically influence the postponement of marriage and childbearing.

Figure 2. Age-specific Birth Rates of Jewish and Other Immigrants from the FSU in Israel in 2005, per 1,000



Mortality

At the onset of the post-1989 emigration wave, Jewish males had a much higher life expectancy than the average for total Soviet males, whereas Jewish females in the USSR had no such advantage. Life expectancy at birth for Soviet Jews in 1988-1989 was 70.1 for males and 73.7 for females, and these indicators were very similar to those in the two republics where most of them were concentrated—the Russian Federation and Ukraine (see Table 9). At the same time, in Soviet Central Asia, life

expectancy for both Jewish males and females was lower than that of the total Jewish population in the USSR.

The most acute demographic problem in most of the contemporary FSU countries, especially in Russia, is mortality; the total Russian population has exhibited in recent years the lowest life expectancy for males among all the developed countries (see e.g.: Shkolnikov et al. 2004b). Between 1988 and 1994 the life expectancy of males in the total Russian urban population fell precipitously by 7.7 years from 65.4 to 57.7, and was 59.0 in 2003 (Rosstat 2005). However, the life expectancy of Russian male Jews has been estimated for 1993-1994 at 69.6, which is about the same level as at the end of the 1980s (69.7 years). Thus, there was a great gap of about twelve years between the life expectancies of Jewish and non-Jewish urban males in Russia. Given the demographic situation of contemporary Russia, the life expectancy of Jewish males appears relatively very good.

Table 9. Life Expectancy at Birth for Jews and Total Urban Population in the FSU, on the Eve of and during Jewish Mass Emigration of the 1990s

	Males		Females	
Area	**Jews**	**Total urban population[a]**	**Jews**	**Total urban population[a]**
	On the eve of Jewish mass emigration, 1988-1989			
Entire USSR	70.1	65.6	73.7	73.9
Russian Federation	69.7	65.4	73.5[b]	74.2
Ukraine	70.3	67.1	73.5	74.7
Central Asia	65.7	...	71.6	...
	During Jewish mass emigration, mid-1990s[c]			
Russian Federation	69.6	57.7	73.2	71.2
Moscow	72.2	57.7	76.0	71.5

(Source: Compiled on the basis of Andreev et al. 1993: 102; Goskomstat of USSR 1989: 495; Interstate Statistical Committee 1995: 256-257; Piskunov 1996: 115; Shkolnikov et al. 2004a: 320; Tolts 1996: 12; Tolts 2001: 126; Rosstat data.)

[a] Indicators for 1988 and 1994, respectively.

[b] According to alternative estimate: 73.3 (Bogoyavlensky et al. 2000: 53).

[c] For Jews in the Russian Federation and Moscow, indicators for 1993-1994 and 1993-1995, respectively.

From these figures we see that the Jewish population—the most highly educated ethnic group—has adapted better than the rest of the population to the recent economic transition in Russia. Nor were the dynamics of Jewish life expectancy adversely affected by the selective character of mass emigration as one might have supposed. Although people who are unwell usually have a lower tendency to migrate and this could have been expected to raise Jewish mortality somewhat, this factor was offset by successful Jewish socioeconomic adaptation in post-Soviet Russia. At the same time, the life expectancy for both Jewish males and females was higher in Moscow than the country averages for Jews. Thus, we can conclude that by the mid-1990s the life expectancy for both Jewish males and females was lower outside Moscow. However, we do not know when this discrepancy arose within Russian Jewry, or how it was linked to the recent mass emigration.

A comparison of Jewish life expectancy at age 15 in the Soviet Union (56.8 years for males and 60.1 years for females) and Israel (60.1 years for males and 63.6 years for females) at the onset of the post-1989 emigration shows a sizable differentiation between them: the discrepancy for both males and females was more than three years (see Table 10). However, in 1990-1994 in Israel the standardized rates of female mortality were lower for the new immigrants from the FSU than for the veteran Jewish population of Israel, while the indicators for males of both groups were rather close (Rotem 1998).

Table 10. Life Expectancy at Age 15 for Jews in the USSR and Israel, and all (post-) Soviet Immigrants who Arrived in Israel since 1990

Group and period	Males	Females
On the eve of (post-) Soviet Jewish mass emigration		
Jews in the USSR, 1988-1989	56.8	60.1
Jews in Israel, 1985-1989	60.1	63.6
On arrival in Israel (post-) Soviet mass emigration of the 1990s		
All (post-) Soviet immigrants, 2000-2003	61.0	67.0
Jews in Israel, 2000-2004[a]	63.5	67.4

(Source: Compiled on the basis of Goskomstat of USSR data; Israel CBS data; Ott et al. 2009: 24.)

[a] Including immigrants.

In 2000-2003, life expectancy at the same age for FSU immigrants in Israel reached 61.0 for males and 67.0 for females (see Table 10). This indicator for FSU immigrant females was very close to all Jewish females in the country (67.4 years in 2000-2004). However, for FSU immigrant males, despite the pronounced increase, it was still considerably lower than for all Jewish males (63.5 years in the same period).

The great majority of all deaths occur at age 45 and over. By the end of the 1990s, the decline of death rates for FSU immigrants in Israel was very pronounced for both sexes over age 45 in comparison with the indicators for Jews in the USSR on the eve of (post-) Soviet Jewish mass emigration (see Table 11).

Table 11. Age-specific Death Rates of the Jews in the USSR in 1988-1989, and FSU Immigrants in 1998-1999, by Age Group for Ages 45 and Over, per 1,000 Males and Females

	Jews in the USSR, 1988-1989		FSU immigrants in Israel,[a] 1998-1999	
Age group	**Males**	**Females**	**Males**	**Females**
45-49	5.3	3.2	4.3	1.8
50-54	7.9	5.4	5.7	3.1
55-59	15.1	9.6	9.9	5.2
60-64	23.4	15.3	13.8	7.8
65-69	35.6	25.5	23.7	13.3
70-74	57.6	44.2	36.1	22.5
75-79	90.2	74.2	51.9	38.5
80-84	134.3	122.8	85.5	69.4
85+	219.7	220.7	176.7	153.3

(Source: Compiled on the basis of Goskomstat of USSR data; Israel CBS data.)

[a] Who arrived in Israel since 1990.

By 2007-2009, death rates for female FSU immigrants in Israel between ages 45 and 85 were closely approaching the averages of the group labeled "Jews and others" (i.e., not including Arabs). However, despite the continued decline of death rates for male FSU immigrants in Israel these indicators between ages 45 and 70 were still sizably higher than the averages of "Jews and others" (see Table 12). However, over two decades the improvement in mortality rates among FSU immigrants in

Israel had been very pronounced for both sexes in comparison with the situation of Jews in the USSR on the eve of the (post-) Soviet Jewish mass emigration (see Figures 3-4).

Table 12. Age-specific Death Rates of FSU Immigrants, and Jews and Others in Israel Aged 45 and Over in 2007-2009, by Age Group, per 1,000 Males and Females

	FSU Immigrants[a]		Jews and others[b]	
Age group	**Males**	**Females**	**Males**	**Females**
45-49	3.8	1.6	2.8	1.6
50-54	5.4	2.4	4.3	2.3
55-59	7.5	4.1	6.5	3.9
60-64	10.9	5.9	9.7	5.9
65-69	18.7	9.5	17.0	9.8
70-74	27.4	16.7	27.3	17.1
75-79	46.0	31.6	46.2	32.4
80-84	73.9	58.0	75.5	59.6
85+	158.5	139.5	157.5	148.3

(Source: Compiled on the basis of Israel CBS data.

[a] Who arrived in Israel since 1990.

[b] —— Including immigrants.

Figure 3. Age-specific Death Rates of Jews in the USSR in 1988-1989, and FSU Immigrants in Israel in 2007-2009, per 1,000 Males

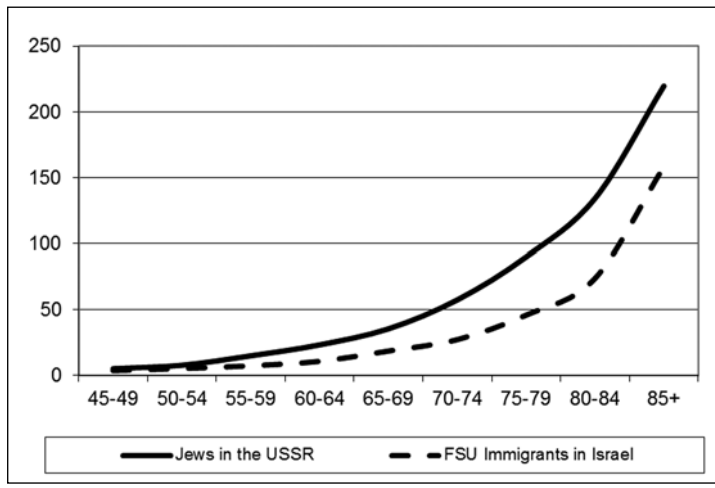
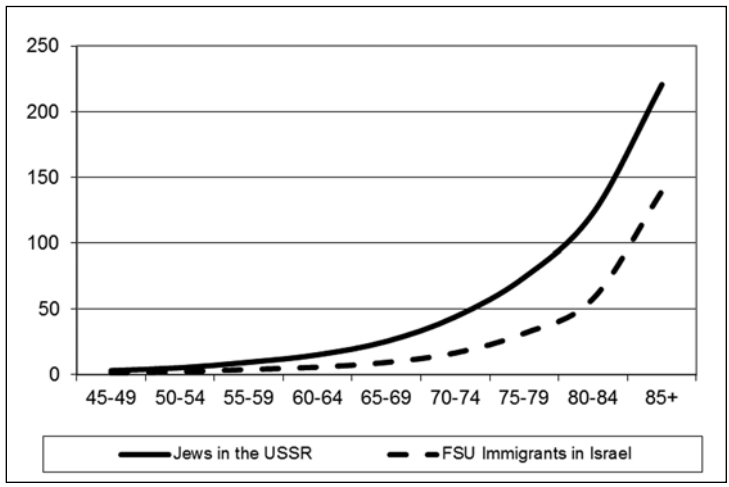


Figure 4. Age-specific Death Rates of Jews in the USSR in 1988-1989, and FSU Immigrants in Israel in 2007-2009, per 1,000 Females



It is interesting to note that (post-) Soviet immigrants constitute a very sizable portion of the medical profession in contemporary Israel: according to the data for the first part of the 2000s, almost half of all doctors under age 45 and one-quarter of those between 45 and 65 were from the FSU (Remennick 2007). We suppose that the existence of this huge pool of Russian-speakers (including nurses) renders the Israeli health system unusually user-friendly for FSU immigrants.

Vital Balance

Even before the first stage of large-scale Soviet Jewish emigration, which took place in the 1970s, the balance of births to at least one Jewish parent and Jewish deaths had become negative in Russia and Ukraine. By the end of the 1980s, this balance was decidedly unfavorable in all the republics of the European part of the Soviet Union (Tolts 2003).

In the 1990s, as a result of the mass emigration and the above-noted reduction in the fertility rate, the number of births in the Jewish population of the FSU dropped dramatically. In the FSU as a whole the

estimated number of births to at least one Jewish parent fell from 21,100 in 1988 to 3,000 in 2001. In the Russian Federation, between 1988 and 1998, the decline in the number of births to at least one Jewish parent was much faster than that of Jewish deaths, and as a result the estimated negative balance of these vital events increased by 1,100, from about 5,800 to 6,900 (Table 13).

Table 13. Balance of Births and Deaths among Jews in the FSU and the Russian Federation, 1988-2001, Thousands

Year	Births[a]	Deaths	Balance
FSU			
1988	21.1	31.7	-10.6
1998	3.9	...	...
2001	3.0[b]	...	...
Russian Federation			
1988	8.0	13.8	-5.8
1998	2.2	9.1	-6.9
2001	1.8[c]	...	...

(Source: Tolts 2001: 138; Tolts 2007: 299, 301.)

[a] Children born to at least one Jewish parent, assuming the (unknown) number of children born to non-Jewish mothers and Jewish fathers was twice the (known) number of children born to Jewish mothers and non-Jewish fathers.

[b] Guesstimate corresponding to the percentage of Jews in the Russian Federation among the entire FSU Jewish population.

[c] The percentage of children born to non-Jewish fathers and the rate of children born to Jewish mothers per 1,000 "core" Jews as in 1998 were applied to this estimate.

Positive fertility and mortality dynamics coupled with the favorable age structure of the FSU immigrants to Israel (see above) led to a decisively positive balance of births and deaths. Among all FSU immigrants who arrived in Israel since 1990, 166,400 births and 113,300 deaths were recorded, which resulted in a positive balance of 53,100 in 1990-2009. By 2009, the last year for which we have data, the positive annual balance of births and deaths among them was as high as 4,100 (see Table 14).

Table 14. Balance of Births and Deaths among FSU Immigrants who Arrived in Israel since 1990, Thousands

Year	Births	Deaths	Balance
1990	0.7	0.4	0.3
1991	2.4	1.85	0.55
1992	3.4	2.7	0.7
1993	4.6	3.3	1.3
1994	5.8	4.0	1.8
1995	6.75	4.6	2.15
1996	7.5	5.0	2.5
1997	8.2	5.4	2.8
1998	8.9	5.9	3.0
1999	9.3	6.3	3.0
2000	10.1	6.7	3.4
2001	10.3	6.9	3.4
2002	10.6	7.2	3.4
2003	11.1	7.25	3.85
2004	10.9	7.4	3.5
2005	11.0	7.6	3.4
2006	11.2	7.6	3.6
2007	10.3	7.8	2.5
2008	11.6	7.8	3.8
2009	11.7	7.6	4.1
1990-2009	166.4	113.3	53.1

(Source: Compiled on the basis of Israel CBS data.)

Final Remark

Our study demonstrates demographic revitalization of ex-Soviet Jews in Israel. Despite initial adaptation difficulties among FSU immigrants,[3] who had originated from a segment of Soviet society with long-time low fertility, they avoided post-Soviet fertility reduction and approached the higher level of fertility of the non-religious sector of Israel's veteran

[3] Socio-economic adaptation of FSU immigrants in Israel is generally successful; see e.g.: Cohen Goldner et al. 2012; Leshem 2008; Remennick 2007, especially chapter 2; Sicron 2007.

Jewish population. The life expectancy of post-Soviet immigrants in Israel increased rapidly and noticeably. The post-Soviet mass exodus led to many additional births among those Jews who immigrated to Israel, and the deaths of many FSU immigrants have been postponed. By inference, had they not moved to Israel when they did, they would have had a decisively negative balance of births and deaths.

Our findings concerning the demographic changes among FSU immigrants in Israel are important also for the evaluation of the demographic situation in the post-Soviet countries. The analysis of demographic transformation of the Jews who migrated to Israel shows that the long-time low fertility trend could be substantially reversed. At the same time, as noted above the life expectancy of (post-) Soviet immigrants in Israel also increased rapidly and noticeably. Therefore, we may suppose based on the results of our study that the severe FSU mortality problems are not caused mostly by people or by their behavior, but rather by their place of residence and the level of medical service available.

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