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Descriptive Findings

Fertility behaviour of recent immigrants to Israel: A comparative analysis of immigrants from Ethiopia and the former Soviet Union

Petra Nahmias

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Descriptive Findings

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Petra Nahmias[1]

Abstract

The fertility practices of immigrants are a particularly interesting field of study for demographers, providing an insight into the fertility behaviour of individuals when both the society and the individual undergo a period of rapid change. This paper describes and compares the fertility behaviour of two large groups of immigrants, from the former Soviet Union (FSU) and from Ethiopia to Israel in the last 20 years. The changes in fertility behaviour undergone in the same society and at the same time by two very different groups are examined. The findings reveal that the fertility behaviour of immigrants is indeed changing. The fertility of FSU immigrants is increasing and that of the Ethiopian immigrants decreasing, with accompanying changes in the proximate determinants of fertility. Although the fertility of immigrants is becoming more similar to that of the receiving society, the methods employed to achieve the fertility change are not necessarily similar, and, in some cases, diverge from the norms of the receiving society.

[1] Department of Demography, Israel Central Bureau of Statistics, 66 Canfei Nesharim, Jerusalem, Israel. E-mail: petrak@census.cbs.gov.il

1. Introduction

Fertility changes of migrants have long provided fertile ground for demographers. The sharp transition from one society to another, with the accompanying changes in individual status as well as the more obvious contextual differences, are of great interest to those studying fertility dynamics. Societies usually change at a slower rate than the changes experienced by migrants, so migrants provide a picture of fertility changes in a rapidly changing context. Israel, as a largely immigrant society, provides a perfect case study of the fertility changes experienced by migrants. In addition to the large numbers of migrants, the registration of vital events is of a high quality, including migration which is notoriously difficult to track. Israel has the added advantage of having received migration waves from countries with vastly differing fertility regimes, both from one another and from that in Israel.

During the last 20 years Israel has absorbed large immigrant waves from both the former Soviet Union (the FSU) and Ethiopia. The immigrant wave from the FSU began at the end of 1989 and carried on throughout the 1990s (about 50,000 from the Asian republics and 770,000 from European republics). The vast majority of immigrants were from urban areas, with nearly half of the immigrants from 1989-1993 coming from Moscow and St. Petersburg alone. (Tolts, 1997). Immigrants from Ethiopia are less numerous than those from the FSU but nonetheless have had a significant impact on Israeli society. They have arrived in Israel in two main waves – one in the mid 1980s and the other in the early 1990s although immigrants have been arriving, albeit in fewer numbers, throughout the last 20 years. The immigrants from Ethiopia from each immigration wave also differ from one another, due to the differences in their absorption, the length of the exposure to Israeli society and also the routes used to arrive in Israel. Many of the immigrants in the 1990s have spent considerable amounts of time in transit in Addis Ababa, with its very different fertility regime, as opposed to earlier immigrants who had had little exposure to a modern lifestyle.

Table 1: *Migration to Israel by country of birth, 1980-2000*

Year	FSU	Ethiopia
1980-89	29,574	16,971
1990	184,602	4,137
1991	147,292	20,014
1992	64,921	3,650
1993	65,996	864
1994	67,956	1,193
1995	64,771	1,319
1996	58,970	1,414
1997	54,586	1,659
1998	45,963	3,109
1999	66,706	2,292
2000	50,776	2,205

Source: Central Bureau of Statistics [Israel], 2001

These immigrants arrived from countries with widely differing fertility regimes to those prevalent amongst the Israeli Jewish population. The paper seeks to document the demographic data available, and to that end presents results on the main trends in fertility of immigrants to Israel from the FSU since 1989 and from Ethiopia since the 1980s, and also on their fertility in the country of origin. The paper hypothesizes, based upon established fertility theories and also the experiences of immigrants to other countries, that the fertility behaviour of immigrants will converge towards the norms prevalent amongst the Israeli Jewish population. It also aims to provide a contextual framework for the fertility behaviour of immigrants based on previous experience and empirical theories developed thereof. It then goes on to discuss these changes in terms of the fertility policy prevalent in Israel and the effect of the absorption process of the immigrants on fertility patterns and to predict future changes. The paper ends with a brief set of conclusions.

2. Fertility changes of migrants

Research has been conducted on the changes in migrant reproductive behaviour, particularly in terms of fertility changes towards the norm. One example is that of ethnic Germans in the Ukraine migrating to Germany in the 1990s (Dinkel and Lebok, 1997). Prior to migration, the population had higher fertility levels than both the average for the German and USSR populations. It is suggested that an assimilatory

process may be at work with a subsequent decrease in fertility to below the prevailing German levels.

Schoenmaeckers, Loedwijckx & Gadeyne (1999) in their research on first and second generation immigrants to Belgium from Morrocco and Turkey found that young women clearly preferred smaller families to older women and that this difference was more pronounced with Moroccan immigrants, who have higher fertility, than with Turkish. Migration to Belgium had a serious impact on contraceptive use with modern methods replacing traditional and overall usage increasing.

Abbasi-Shavazi & MacDonald (2000) gave precedence to cultural factors and the idea of 'cultural maintenance' in their analysis of the changing fertility practices of immigrant women in Australia. Amongst their findings was the increased fertility of immigrants from the Netherlands, both first and second generation, in Australia, which is pertinent for the FSU immigrants to Israel.

Immigrant women to Israel in the 1950s from North African and Asian countries experienced fertility decreases towards the veteran population whereas immigrant women from European countries in the same period experienced an increase in fertility towards the norm. Friedlander & Goldscheider (1978) attribute the changes in the fertility of immigrants mainly to economic conditions and furthermore, Friedlander et al (1980) found that socio-economic status, rather than cultural differences, is the determining factor of fertility decline amongst immigrants from Asia and Africa. Immigrants who were more exposed to elements of socioeconomic change in Israel, those who married after immigration or the more educated controlled their fertility through both spacing and stopping. However, the less educated and those married prior to immigration employed only stopping. In another study, it was found that immigrant women from Asia and Africa desired smaller families than their husbands. However, due to the prevalent gender power relations amongst such immigrants, women are not usually the reproductive decision makers. Thus fertility may be higher than desired or clandestine abortions may be sought (Okun, 1997a). Okun (1997b) asserts that socio-economic factors, or the adaptation approach, alone did not account for the fertility decline of Asia-Africa immigrants but acted in tandem with cultural factors, i.e. the innovation-diffusion approach. It is likely that the absorption of Ethiopian immigrants will resemble the patterns of absorption of these non-European groups (Weinstein, 1985) given the similarities in their original fertility regimes.

Sabatello (1992,1995) examined the fertility and abortion patterns of immigrants from the FSU who immigrated to Israel in the 1970s. The immigrants in their initial phase of immigration did not experience any significant change in their fertility but by the early 1990s their fertility was only 10% lower than that of Israeli Jewish women yet 50% higher than that of Jews in the USSR. Despite this, he found that even after 10 to 15 years exposure to Israeli family planning patterns, immigrants continued to use

abortion as a means to control their fertility. However, although their abortion application rates were 26% higher than the average Israeli Jewish woman, the rates were significantly lower than those prevailing in the Soviet Union at the time. Interestingly, these immigrants preserved the pattern of early childbearing, followed by stopping rather than delaying childbearing. This immigrant group may provide less of a pre-cursor to the behaviour of the current immigration wave due to the heterogeneity of fertility behaviour within the FSU since a large majority of the immigrants of the 1990s, unlike the immigrants of the 1970s, came from the relatively developed European Soviet republics and especially from the large urban centres.

3. Fertility changes in country of origin

3.1. Fertility rates in the FSU

The fertility rates in the FSU are relatively low, even when compared with European countries. Although the fertility in some of the Asian republics is above replacement level, all other republics have fertility levels well below those of replacement level. That being said, childbearing is concentrated at younger ages, with high age specific fertility rates. Together with the low overall fertility rates, the fertility rates of older women will correspondingly be very low. Accordingly, the fertility control of FSU women has been achieved mainly through stopping rather than delaying childbearing.

The concentration of childbearing in younger ages has been increasing in recent years with rates at younger ages increasing along with decreasing overall levels. The decrease in fertility is accounted for by larger decreases in the older age groups, which decreased by more than 50% in the 35 and older age groups between the 1950s and the 1980s (Imbrogno & Imbrogno, 1989). By 1991, the fertility rates of the 15-19 age group exceeded the rates in all age groups above 30 (Zakharov & Ivanova, 1996).

Jewish women, in both the Ukraine and Russia have even lower fertility rates than those prevalent in the general population – in 1979 the Jewish fertility rate was about half that of the general population (Kostantinov, 1991). Between 1988-1989 and 1993-1994, the TFR of Russian Jewish women fell by 46% from 1.5 to 0.8 (lower than the overall urban TFR and lower even than overall TFR of Moscow and St. Petersburg) (Tolts, 1997). The situation is further complicated by the fact that the fertility of the FSU population is in a state of flux, with the FSU experiencing a substantial decline in fertility since the onset of the socio-economic transition in 1989, which of course coincides with the beginning of the mass emigration to Israel (Kohler & Kohler, 2002).

There are probably significant differences in fertility, as with other variables, between the various republics of the former USSR. It can be expected that immigrants

from European republics will have lower fertility than immigrants from Asian republics, in accordance with the prevailing fertility regimes in those countries. Nonetheless, the overall fertility of the FSU is still significantly lower than the Jewish Israeli norm of about 2.5, with the mostly Jewish immigrants from the FSU to Israel having even lower fertility than the general population. Additionally, fertility has decreased in the FSU during the 1990s (although has been showing signs of recovery in recent years), and thus new immigrants to Israel can also be expected to reflect these trends (at least in terms of tempo).

3.2. The proximate determinants of fertility in the FSU

The low fertility rate of the FSU is surprising given the high marriage rate. Prior to the 1990s, the prevalence of marriage was high and the mean age of marriage was low. During the 1990s, the marriage rates have decreased although the mean age of marriage has remained stable, indicating that people are not simply postponing marriage (Micevska, 2002). However, marriage may no longer play such an important role in childbearing as in the past. In 1993, nearly one in five babies were born out of wedlock (Kingkade, 1997), reaching nearly one in three by the end of the 1990s (Zbarskaya, 2001). Thus the governing proximate determinant is now the age of entry into sexual union, which unfortunately is not registered in vital statistics.

Abortion is of particular importance when discussing the fertility behaviour of FSU immigrants, as the abortion rate in the FSU is particularly high (Paltiel et al, 1997; Popov, 1991). The FSU is the only country to have achieved low fertility with the use of abortion as the main form of birth control, with no analogous developed country (Popov, 1991), apart from those Eastern European countries in the Soviet sphere of influence. The only easily accessible method was induced abortion, the principal means of fertility regulation (Scherbov & van Vianen, 2002). Reliable imported contraceptives were limited and expensive and other contraceptives, Soviet made or imported from East European countries, were unreliable and of poor quality (Amir et al, 1997). On the other hand, abortion was available using local equipment and personnel with no need for imported goods and available without charge (Popov, 1991). Abortion was devoid of the values and the controversy present in other countries (Remmenick, 1993; Amir et al, 1997), being regarded simply as an unpleasant medical procedure and found acceptable by the vast majority of Russian women (Bystydzienski, 1989). Therefore, traditional methods such as withdrawal and rhythm were utilized, with abortion a back up for failure (Amir et al, 1997). Unlike the situation in developed countries, a high proportion of women in the FSU utilized abortion in order to stop childbearing, and not to postpone births or to space births. Young women have been more likely to marry and

bring their first pregnancy to term in Eastern European countries than in other developed countries (Kulczychi, 1999:9). Abortions are thus often obtained by older, married women who want to end childbirth but who use less efficient, traditional contraceptive methods (Kulczychi 1999:9).

Contraceptive use is much harder to measure. In general, the method mix of FSU women is different to women in developed countries, with a heavy reliance on traditional methods. Amongst modern methods, the IUD was the main method employed, with the Pill and condoms featuring very low (Popov, 1991). Russian women (and presumably women from other Republics of the FSU) are increasingly using modern contraceptives to limit their fertility, with two thirds of married women using some form of family planning in 1994 compared with 60% in 1990 (Kingkade, 1997). The decline in fertility since 1988 has not been matched with an increasing abortion rate – in fact, the abortion rate has been decreasing (Zakharov & Ivanova,1996). Although the registration of induced abortions has deteriorated, evidence suggests that Russian women are indeed moving from abortion to efficient methods of contraception (Zakharov & Ivanova,1996; Kingkade 1997). Since these changes have been taking place whilst immigration from the FSU to Israel has been occurring, it is assumed that the fertility patterns of earlier immigrants will differ from those of later immigrants, and we can expect immigrants to arrive with higher levels of contraceptive use.

3.3. Fertility rates in Ethiopia

Ethiopian immigrants arrived from a country with traditionally high fertility rates and low rates of abortion and contraceptive use. Data on Ethiopian fertility rates in general, and that of Ethiopian Jews in particular, is hard to come by. Ethiopia, like many less developed countries, has poor registration of vital events. As many Jewish communities in Ethiopia were in remote areas (most Jews immigrated originally from rural areas, with many coming from the northern and isolated region of Gonder) (note 1), there is no official data on Jewish fertility in Ethiopia. In less developed countries it is usual for the fertility of the urban and educated elite to be lower with higher contraception use. Therefore, given the rural and isolated nature of the Jewish community in Ethiopia, it can be expected that the fertility rates of Jewish Ethiopians are even higher. The DHS surveys provide more recent information.

Table 2: *Fertility Rates by Age and Place of Residence, Ethiopia, 2000*

	Age Specific Fertility Rates							Total
Place of Residence	15-19	20-24	25-29	30-34	35-39	40-44	45-49	Fertility Rate
Urban	50.2	139.3	142	154.7	91.6	17.3	4.8	3.0
Rural	114.4	256.4	277.5	258.7	182.8	98.7	20.8	6.0
Total	100.5	234.8	250.6	243.3	167.8	88.6	18.8	5.5

Source: DHS, 2002

It can be seen that the differences between urban and rural localities are marked. Furthermore, Addis Ababa has particularly low fertility. In 1990, reported fertility in Addis Ababa was 2.6 and in the mid-1990s it had declined further to 1.8 – below replacement level fertility (Ashagrea, 2002).

3.4. The proximate determinants of fertility in Ethiopia

Marriage in Ethiopia is nearly universal and occurs at young ages, with a median age of 16.4 and less than 0.5% of women aged 40 and over never married. (DHS, 2002). The median age of marriage is the same age as the median age of entry into sexual union, indicating that there is little sexual activity and resulting childbirth outside of marriage, with only approximately 1% of Ethiopian women cohabiting. This is in stark contrast to the situation in many other countries of sub-Saharan Africa which are characterized by an informal polygamous mating system.

Fertility in Ethiopia may be lower due to pathological sterility. Mammo and Morgan (1986) state that childlessness in Ethiopia is high due to sexually transmitted diseases, particularly gonorrhoea. It is known that the prevalence of veneral disease resulted in remarkable levels of childlessness in Central Africa. The introduction of antibiotics reduced this phenomenon but fertility levels still remain depressed (Jones, 1992:138). Although it is difficult to gauge how much this affected the Jewish community, it is feasible that the improved health conditions and increased awareness in Israel may lead to a decrease in infertility and possibly a rise in the natural fertility of the population. Additionally there are parts of Ethiopia where malaria is endemic which would lead to higher rates of spontaneous abortion and thus depress fertility.

Breastfeeding is an important proximate determinant in a traditional society, and is often employed in sub-Saharan Africa as a means of child spacing. It can be seen that in urban areas breastfeeding is shortened, leading to a shorter period of postpartum

insusceptibility. In this case, urban women use contraceptives instead of breastfeeding to space their births so there is no overall rise in fertility.

Table 3: *Selected demographic indicators, Demographic and Health Survey, Ethiopia, 2000*

	Desire to limit childbearing (% of currently married women)	Age at 1st marriage (women aged 20-49)	Mean duration of postpartum insusceptibility	Current use of contraceptives (% of currently married women)	
				Any	Modern
Urban	40.3	17.8	10.5	35.6	28.3
Rural	30.9	16.2	20.1	4.3	3.3
Total	32	16.4	19.6	5.9	4.7

Source: Demographic and Health Surveys (2002)

DHS data show that contraceptive use in Ethiopia varies widely between urban and rural localities, and the use of contraceptives by urban women is more than 8 times that of rural women. Amongst rural women, contraceptive use in 2000 is low, but still higher than the negligible 2.6% contraceptive use reported in 1990 (Ashagrea, 2002). The low level of urban fertility was achieved with one of the weakest family planning programmes in the world (Ashagrea, 2002) and even resistance by medical personnel to the introduction of contraceptives (Kebede, 2001).

Abortion data is hard to access since Ethiopia, has poor registration of vital events, let alone abortion, which is subject to restrictive laws and operates clandestinely. Given the remote nature of the Jewish communities in Ethiopia and the concentration of the few medical facilities in cities, the greater part of abortions would be performed using traditional methods. It is assumed that the abortion rate is low due to the high fertility rates and lack of access to safe medical procedures. However, in Ethiopia there is an interesting situation whereby Addis Ababa has very different fertility practices to those prevalent in other areas of the country. Ashagrea (2002) examined the prevalence of induced abortion amongst women in Addis Ababa and found a high level of awareness of the use of abortion. He further found a decreasing use of abortion amongst the youngest cohorts between 1990 and 1995, whereas older cohorts show increased use. This indicated that the youngest age groups are increasingly using contraception to limit their fertility as opposed to abortion. Nonetheless, unsafe illegal abortion is the second killer of young women in Ethiopia, after tuberculosis (Kebede, 2001), indicating that it may have wider prevalence. Abortion rates are likely to be much higher in urban areas,

particularly in Addis Ababa due to lower fertility desires and superior access to health services.

4. Fertility rates in Israel

Israel is a heterogeneous country in many respects, including the realm of fertility. The various population groups exhibit diverse fertility behaviour. For example, the population group 'Jews and others' had a TFR of 2.59 in 1999 as opposed to a TFR of 4.33 amongst the Arab population (note 2) . Since the immigrants are absorbed into Israeli Jewish society, it is assumed that their fertility will become more like the society into which they are absorbed. It is important to note that fertility in Israel, even Jewish fertility, is still significantly higher than that of other developed countries.

However, even amongst 'Jews and others' fertility behaviour is not homogeneous. Friedlander and Feldman (1993) point out that religiosity and fertility are correlated in Israel. Rough estimates of the TFR of the ultra orthodox are around 7 children per women and those of the national orthodox about 4.5. FSU immigrants are, on the whole, non-religious and therefore it is to be expected that whilst there is an increase in the fertility rate it will not exceed the fertility rate of secular Jewish Israelis, which although higher than the FSU rate is about replacement level fertility. Many of the Ethiopian immigrants identify with more religious and traditional groups within Israeli society. Thus, although their fertility is expected to decrease, they may be more likely to adopt the fertility practices of the religious population rather than the secular population.

Israeli Jewish society is also relatively conservative regarding extra-marital childbearing. In 2000 only 2.8% of all births were to never-married women. Although many Jewish women cohabit prior to marriage, marriage is still the dominant framework within which childbearing occurs. Abortion behaviour amongst Jewish women is similar to Western Europe in terms of the rates (the total abortion rate in 1999 was 0.45 abortions per woman). However, the marital status makeup is more similar to Eastern European countries (Amir & Benjamin, 1997) and the percentage of births aborted is less than other developed countries due to the higher fertility rates. Data on contraceptive use in Israel is very hard to come by. The prevailing fertility rates, along with the abortion and marriage rates, indicate widespread use of contraception, particularly amongst secular Jews. However, it is very hard to quantify the extent and also to estimate the current method-mix being employed (note 3).

5. Hypotheses

As has been demonstrated, immigrants tend to adopt the fertility practices prevalent in the absorbing society. As such, it is expected that the immigrants from the FSU will increase their total fertility rate to the level of secular Israelis, about replacement level. However, they will do so by increasing the fertility rates at older ages and there may even be a decrease in rates at younger ages. Ethiopian immigrants will also converge to the levels of Israeli society, although the society in to which they are absorbed may also include national-religious society. As a result, I expect the fertility of Ethiopian immigrants to decrease to a level slightly higher than secular Israelis – around 2.5 children per women. In both cases, it is hypothesized that the average age of first birth will increase, along with the overall average age of birth amongst FSU immigrants due to the delaying of childbearing amongst both groups, and the increase in fertility in older age groups amongst FSU immigrants.

The methods used to achieve the changes are not necessarily the same as those of the general population. It is known that the methods used by immigrants are not always the same as the receiving society, particularly during times of change. However, I do expect a number of changes to occur. Firstly, the age of first marriage of both Ethiopian and FSU women will increase. In other words, women will delay entering marriage and as a result (or perhaps a result of) delay childbearing. FSU immigrants will replace the use of abortions with the use of modern contraceptives and as a result, abortion rates will decrease. On the other hand, Ethiopian immigrants will increasingly use abortion to control fertility in conjunction with increasing contraceptive use.

6. Data

The data used in this study is mainly based upon the birth files of the Israel Central Bureau of Statistics (ICBS) from 1980 to 2000. Other data has been calculated from ICBS abortion and marriage files. In some cases it has been possible to further supplement the data with data from various publications of the ICBS, with the aim of constructing a time series of changes in rates during the 1990s.

6.1. Births

Birth data is provided from the population register when the birth is registered. By law, births have to be registered by the institution in which the birth took place or by the parents if the birth took place outside of an institution within 10 days of the birth of a

child. Variables recorded include identification details of mother, place of birth, religion, place of birth of parents, year of aliya (immigration), birth history of mother. Since the registration of a birth is necessary in order to obtain various benefits, it is assumed that coverage is nearly complete. The registration of a birth is controlled by the Ministry of the Interior, who, once a month, transfer the file of all births registered in that month to the ICBS. Most of the data is of high quality following record linkage with the national population register to fill in unknown variables, apart from variables which cannot be linked such as schooling and occupation which are of such poor quality that they cannot be reliably used.

6.2. Abortions

The abortion data is supplied by means of a form that applicants fill out when applying to the pregnancy termination board. Some of the variables on the form, particularly those of direct relevance to the outcome of the application such as age and marital status are statistically reliable. Others, such as contraceptive use are unreliable. A problem with estimating abortion rates are illegal abortions. Sabatello (1995) estimated that there are an additional 5,000-6,000 illegal abortions each year in Israel, which represent about a quarter of all legal abortion applications. From conversations conducted with social workers attached to the boards, it is suspected that many FSU immigrants seek an immigrant doctor from the FSU, often those not yet authorized to practice medicine in Israel, to conduct the abortion. This opinion is backed up by Remennick et al (1995). Since the illegal abortion is most often performed under relatively safe and hygienic conditions, it is not possible to estimate the extent of this phenomenon from hospital emergency room admission records. Therefore we use data from applications to the board, but with the knowledge that it is an underestimation.

6.3. Marriage

Marriage in Israel is conducted by the relevant religious authorities. In the case of Jews, this is the Rabbinical authority, which fills out the marriage certificate. Due to the lack of civil marriage in Israel, there are no facilities to allow mixed religion marriages or the marriage of those whose Judaism is in doubt (according to the strict Orthodox definition). However, Israel is committed to recognize such marriages if performed abroad, although they are barred in Israel itself. As a result, in the last few years, many couples, particularly new immigrants from the FSU who are not able to, or prefer not to,

marry in Israel are marrying abroad. On their return to Israel, they register their marriage with the Ministry of the Interior and this data also reaches the ICBS.

7. Fertility of new immigrants

7.1. Fertility changes in Israel

As expected, an increasing fertility rate is seen amongst immigrants from the FSU and a decreasing fertility rate is seen amongst immigrants from Ethiopia. Figure 1 shows the TFR of immigrants from the FSU and from Ethiopia compared with that of the Jewish Israeli population.

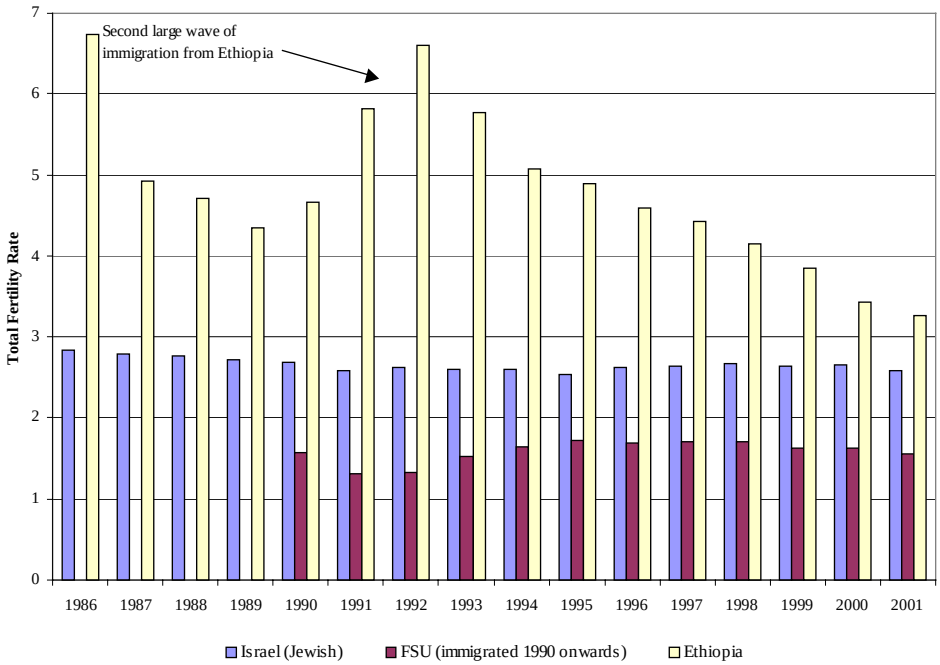

Figure 1: *Total Fertility Rate by country of birth, 1986-2001*

Whilst the Israeli Jewish TFR has remained constant at slightly above 2.5 children, the TFR of immigrants from Ethiopia has decreased from 4.60 in 1996 to 3.85 in 1999 – a decline of over 16% in 4 years. With immigrants from the FSU the picture is less clear and the TFR fluctuates from a low of 1.31 in 1991 to a high of 1.72 in 1995. However, due to the ongoing immigration both from the FSU during the 1990s and from Ethiopia during the 1980s and 1990s, these rates are obviously influenced by the continuous addition of new immigrants. Thus, the picture may be clearer if the population is divided according to immigration cohorts, as shown in table 4.

Table 4: *TFR by year of immigration, immigrants from FSU,1990-2000]*

		Years Since Migration										
		1	2	3	4	5	6	7	8	9	10	11
Year of immigration	1990	1.39	1.38	1.59	1.75	1.84	1.79	1.83	1.78	1.76	1.78	1.66
	1991	1.42	1.51	1.62	1.77	1.81	1.87	1.84	1.74	1.72	1.61	
	1992	1.86	1.70	1.77	1.88	1.83	1.90	1.68	1.66	1.65		
	1993	1.79	1.63	1.77	1.80	1.91	1.71	1.78	1.71			
	1994	1.61	1.44	1.68	1.74	1.73	1.74	1.60				
	1995	1.50	1.62	1.81	1.75	1.75	1.83					
	1996	1.20	1.30	1.42	1.48	1.53						
	1997	1.17	1.24	1.31	1.32							
	1998	1.03	1.22	1.28								
	1999	1.07	1.10									
	2000	1.22										

The cohort analysis is important, not only because it enables the amount of time since migration to be analyzed, but also because each cohort has a different socio-demographic make-up. Since some of the numbers are relatively small, particularly in the older age groups, the results were standardized using Jewish Israeli age specific fertility rates. However, the results were not significantly different from those in table 4, indicating that the results are not due to random factors caused by small population groups. Although there is an overall trend of increasing TFR with time in Israel, the immigrants arrive with varying TFR in different years. This may be attributable to the varying composition of the immigrants, such as age, marital status and republic of origin. The years 1992-1994 are unusual in that immigrants arrived with relatively high fertility which peaked 4-6 years after immigration and then dropped. As table 1 shows, the immigration to Israel in those years, although less than in 1990-1991, was still substantial. In no case does the number of annual births to the 1992-1994 immigration cohort fall below 700. Despite the slightly anomalous behaviour by these cohorts, overall each additional year in Israel adds 0.076 to the TFR, if other intervening factors are assumed to be negligible.

With Ethiopian immigrants it is not possible to analyse their behaviour by single year of immigration because their population size is much smaller. They are therefore grouped into two distinct groups by period of immigration – those who immigrated until 1989 and those who immigrated from 1989 and onwards (note 4). Figure 2 shows their TFR according to this division between 1996 and 2001.

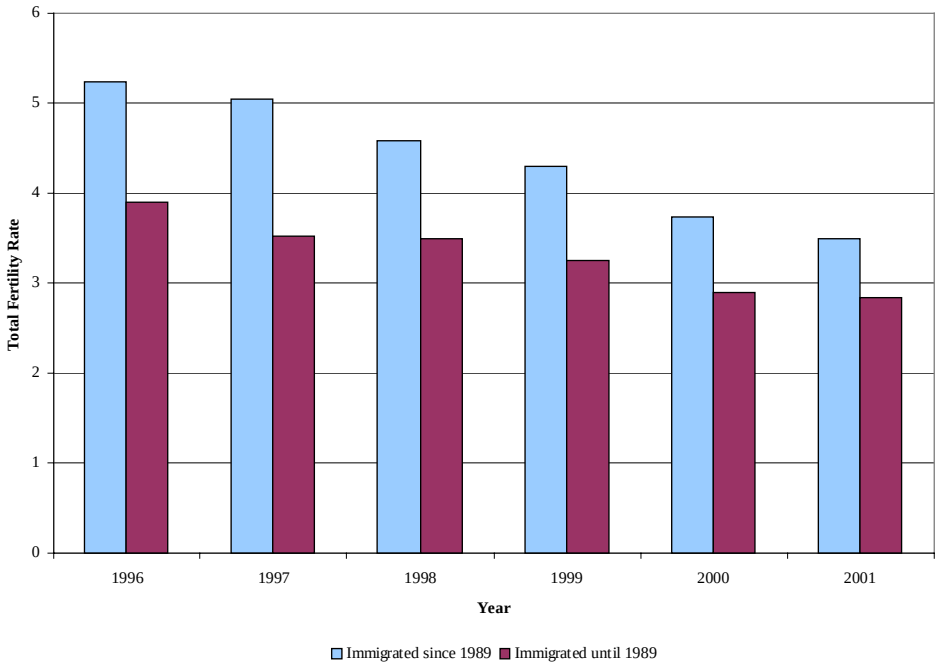

Figure 2: *TFR of immigrants from Ethiopia by period of immigration, 1996-2001*

The data quite clearly show a significant decline in the TFR with time for both groups of immigrants. Although the TFR of both groups is still higher than that of Jewish Israelis, the 2001 TFR of immigrants who immigrated until 1989 is close to the Jewish TFR. The rate of decline of the TFR of new immigrants who immigrated since 1990 is greater and the gap between them and earlier immigrants is narrowing. Each additional year in Israel leads to a drop of 0.37 in TFR for newer immigrants and 0.21 for older immigrants.

Although the age specific fertility rates (ASFR) are the constituents of the TFR, they are also an important indicator of reproductive behaviour in their own right and changes in TFR are not necessarily caused by proportional changes in the ASFRs. Amongst immigrants from the FSU the obvious trend is one of decrease amongst younger women, especially those in the 15-19 age group. This would seem to be contrary to the trend of increasing TFR, but the decrease amongst younger women is compensated for by increased fertility rates at older ages. These changes are in accordance with those expected since the age-fertility function is becoming comparable to that of the Jewish Israeli population.

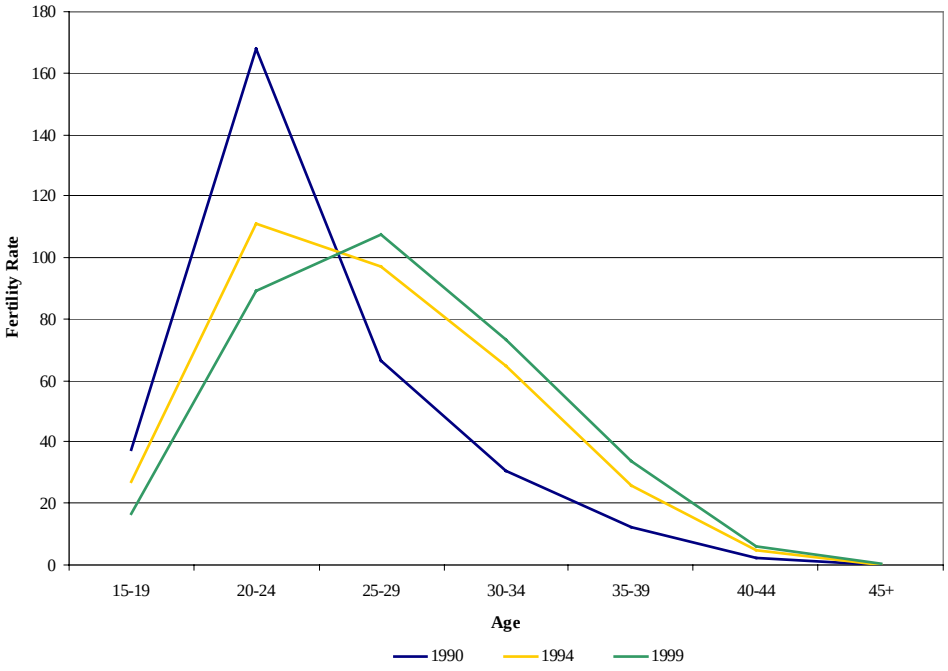

Figure 3: *ASFR selected years, FSU immigrants*

These fertility changes hold true when a cohort analysis is conducted. The changes are greatest amongst the 15-19 age group which is presented in table 5. The 1992

immigration cohort stands out as having arrived with extremely high fertility rates for the 15-19 age group. Within 6 years this rate was more than halved.

Table 5: *15-19 ASFR immigrants from FSU by years since migration, 1991-2001*

		Years since migration										
		1	2	3	4	5	6	7	8	9	10	11
Year of immigration	1990	24.70	18.79	18.48	14.55	15.15	13.33	12.43	12.42	8.79	8.79	8.95
	1991	25.53	21.91	18.51	16.60	17.87	15.32	14.47	12.34	10.64	7.87	
	1992	57.37	30.00	30.00	27.37	27.89	20.00	12.11	14.23	10.00		
	1993	49.13	38.26	34.78	30.87	27.83	20.43	22.25	19.13			
	1994	43.04	29.13	30.00	25.22	26.52	19.57	14.78				
	1995	38.50	36.00	23.50	17.00	20.02	18.50					
	1996	37.37	27.89	15.81	17.92	11.58						
	1997	36.47	27.06	17.06	14.71							
	1998	28.13	18.75	17.50								
	1999	18.28	12.78									
	2000	19.58										

Immigrants from Ethiopia are also undergoing a decrease in the ASFR of young women. However, in this case it is accompanied by a decrease in the fertility of older women, leading to an overall decrease in TFR. The overall age-fertility function remains much the same, with the majority of childbearing concentrated in the 25-29 age group, apart from the 15-19 age group which shows a more marked decline. By 2001 the rates of young women are similar to those of veteran Jewish Israelis (including ultra-orthodox with their elevated fertility levels) but diverge amongst women aged 35 and over who still have higher fertility.

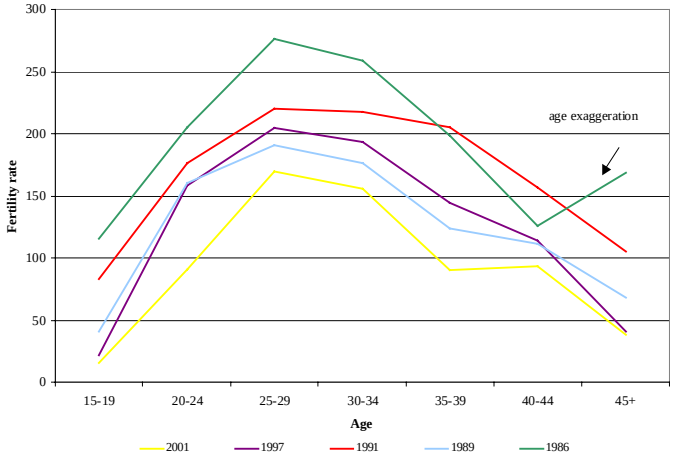

Figure 4: *ASFR immigrants from Ethiopia, selected years 1986-2001*

As with immigrants from the FSU, the amount of time in Israel is an indicator of fertility behaviour. When the immigrants are divided into two groups according to their period of immigration, their behaviour can be seen to be different.

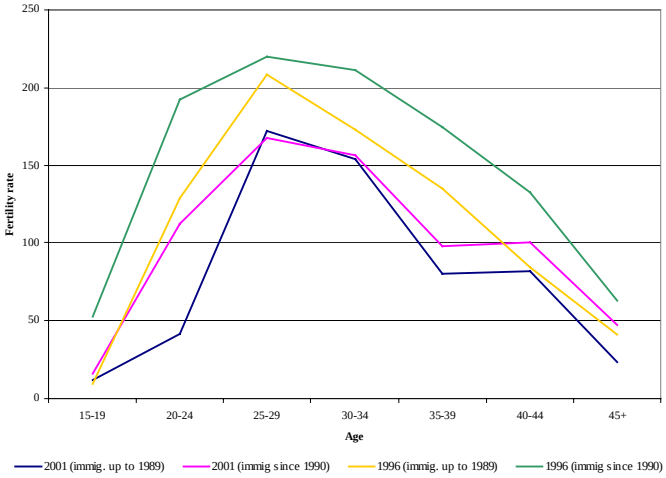

Figure 5: *ASFR by period of immigration, immigrants from Ethiopia, 1996 and 2001*

For both groups of immigrants the age-fertility functions are fairly similar to one another, although the fertility of the new immigrants is higher. Both groups show elevated fertility amongst older women. The fertility of women aged 40-44 is almost the same as that of women aged 35-39, which results in an odd age-fertility function. This does raise suspicions of the misreporting of age but since the function is similar in both groups it is possible that this is an accurate reporting of fertility patterns. Further work needs to be carried out in order to determine the cause of the age-fertility function, which deviates from that usually witnessed in populations.

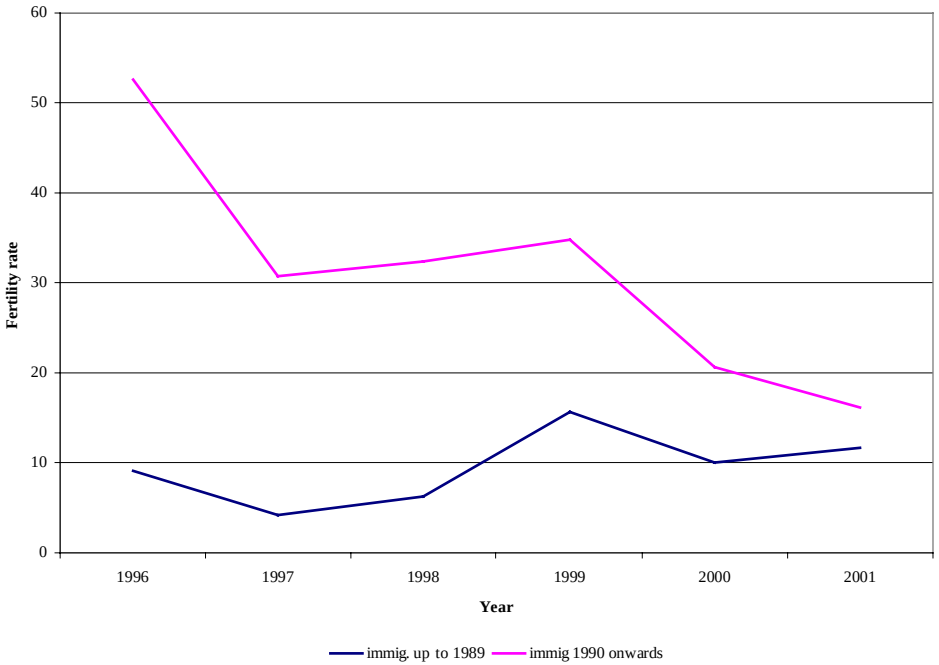

Figure 6: *15-19 ASFR by period of immigration, immigrants from Ethiopia, 1996-2001*

Amongst younger women the process of convergence is apparent. The rates of women aged 15-19 are shown separately in Figure 6. In 1996, the 15-19 ASFR amongst women who immigrated after 1990 was over 50 per thousand, whereas that of veteran immigrants was slightly less than 10. In 2001 the ASFR of immigrants before 1990 had

risen slightly to 11.7 and that of new immigrants had dropped dramatically to 16.1. However, this rate was still much higher than the Jewish Israeli rate in 2001 of 6.9 (which includes in it also the ultra-orthodox population with elevated fertility levels). Thus it can be seen that the immigrant groups are converging with each other in terms of the fertility behaviour of young women and not with secular Jewish Israeli society.

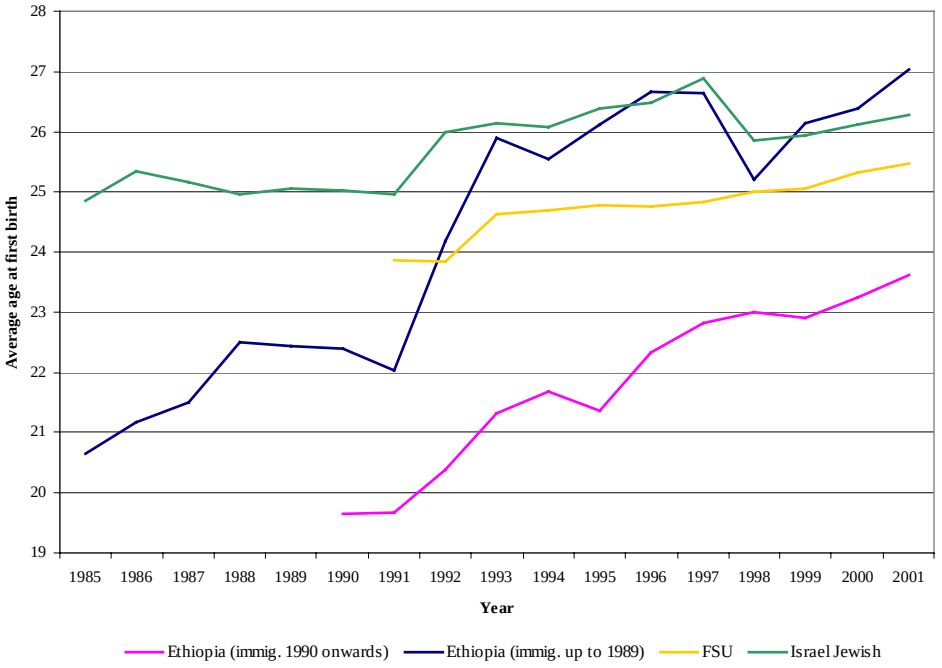

Figure 7: *Average age at first birth, immigrants by country of birth, 1986-2001*

The average age at first birth is another indicator of the changing age-fertility function. All immigrants show an increasing average age at first birth as Figure 7 shows. This demonstrates clearly that young immigrant women are increasingly delaying the commencement of childbearing. Interestingly, the veteran Ethiopian immigrants have overtaken veteran Jewish Israelis in the average age at first birth. Overall, the increase in age at first birth is more marked amongst immigrants from Ethiopia than amongst immigrants from the FSU. Amongst earlier immigrants from Ethiopia, each additional year in Israel adds 0.41 to the average age at first birth, whilst for later immigrants the

figure is 0.37, and for immigrants from the FSU 0.15. In all cases time spent in Israel explains more than 80% of the variance in average age at first birth. A cohort analysis by year of immigration for FSU immigrants reveals similar trends. With the exception of the earliest immigrants (1990 immigration cohort), who arrived with relatively high average ages at first birth, all cohorts increased the average age at first birth. Interestingly, one sees an initial increase followed by a decrease, although not to the previous levels.

Table 6: *Average age at first birth, FSU immigrants by year of immigration and years since migration, 1991-2001*

		Years since migration										
		1	2	3	4	5	6	7	8	9	10	11
Year of immigration	1990	25.10	25.10	25.33	25.44	25.80	25.58	25.94	24.73	24.80	25.11	25.10
	1991	24.56	25.15	25.66	25.75	25.81	26.07	25.34	25.18	25.46	25.52	
	1992	23.63	24.86	25.58	25.54	25.91	24.84	25.07	25.42	25.78		
	1993	23.71	24.53	24.73	25.81	24.20	24.65	24.84	24.63			
	1994	23.81	24.59	25.18	24.12	24.33	24.64	25.09				
	1995	23.98	24.49	24.37	24.64	25.06	25.17					
	1996	24.27	24.16	24.77	25.14	25.59						
	1997	23.84	23.83	24.40	24.93							
	1998	23.52	24.70	24.41								
	1999	23.95	25.05									
	2000	23.85										

7.2. Changes in the proximate determinants of fertility in Israel

Whilst marriage is one of the most important proximate determinants of fertility, due to increasing births outside of marriage, its importance is decreasing. Figure 8 shows the changes in the mother's marital status of immigrants.

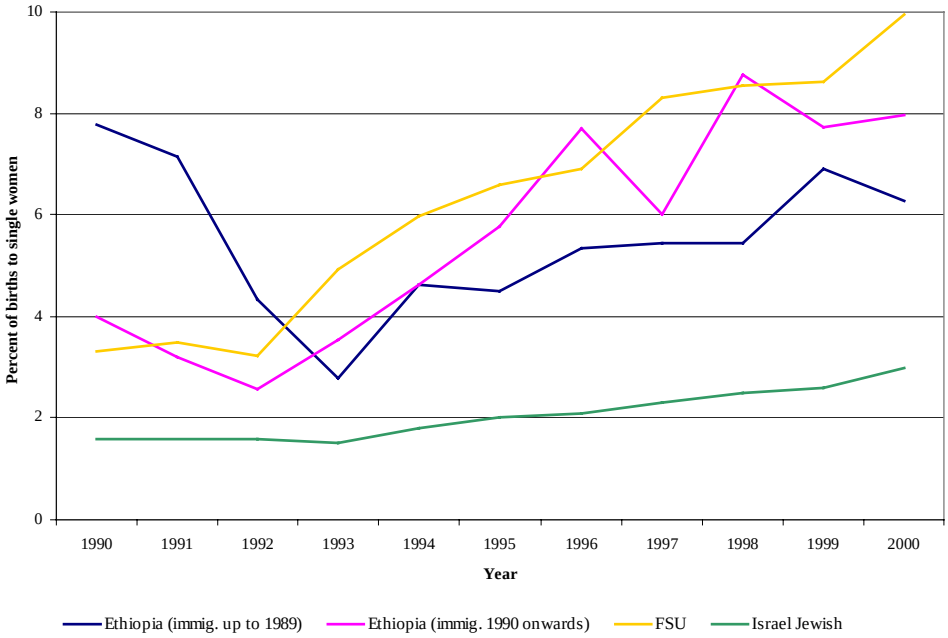

Figure 8: *Percentage of births to single women, by country of birth, 1990-2000*

Overall, extra-martial childbearing is much less prevalent in Israel than in other developed countries, although the phenomenon is on the increase. Immigrants from the FSU show an increase in the percentage of unmarried mothers between 1990 and 2000 from 3.3% of all births in 1990 to nearly 10% in 2000, compared with only 3% of all births for veteran Jewish women. Although there is an overall trend amongst the veteran Jewish population of increasing births to unmarried mothers, the proportional increase amongst immigrants from the FSU is greater. Ethiopian immigrants who immigrated since 1990 show a similar trend although the rise is more moderate and fluctuates, increasing from 4% to 8% between 1990 and 2000. Amongst Ethiopian immigrants who immigrated up to 1989, there is no clear trend, with a decrease between 1990 and 1993, an increasing rate until 1998 when it reached a high of 8.7%, and a small decrease since then. In all cases the percentage of unmarried mothers is higher than in the overall Jewish population and there is no obvious narrowing of the differentials. Unfortunately, we do not have data on cohabitation at the time of birth, in other words we do not know if the mother is indeed a single parent or living in a household with the

father of the newborn. Nonetheless, marriage cannot be ignored, even if only for the simple fact that we do not have accurate data on the age of entry into sexual union and it still forms the framework within which majority of births take place.

As expected, veteran and new immigrants from Ethiopia and immigrants from the FSU have an increasing median age of first marriage, as shown in Figure 9. Although the median age of marriage of Israeli Jewish women has also been increasing, the proportional increase of all the immigrants is greater. Additionally, the median age of marriage of veteran Ethiopian immigrants has overtaken that of veteran Israelis, indicating that veteran Ethiopian women are delaying marriage to the same extent that they are delaying childbearing. The increase in median age of first marriage is particularly impressive for new Ethiopian immigrants, which increased by 6 years between 1990 and 2000.

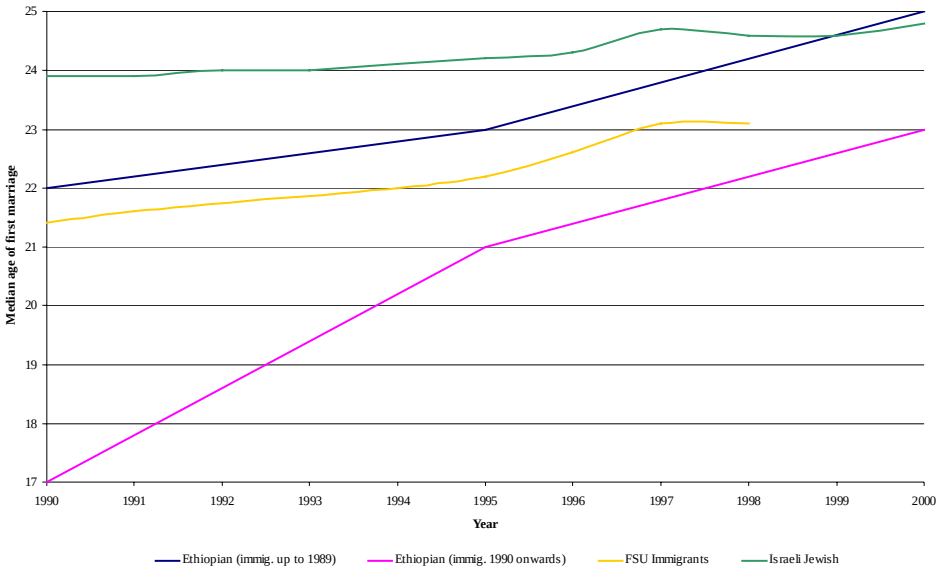

Figure 9: *Median age at first marriage, immigrants by country of birth, 1990-2000*

Abortion behaviour is also showing signs of change, although the years available are more limited than with births (1994-2001). While abortion rates (abortions per thousand women of childbearing age) are interesting in their own right, the abortion ratio (percent

of known pregnancies aborted) is more appropriate in this case, as it provides more information on the role of abortion as a proximate determinant. Amongst Israeli Jewish women, the percent of pregnancies aborted is declining slowly, from 11.3% in 1994 to 10.1% in 2001. The trend amongst all immigrant women is the opposite, with new Ethiopian immigrants clearly showing the greatest increase in the percentage of pregnancies aborted (from 10.5% in 1994 it nearly tripled to 29.2% in 2001).

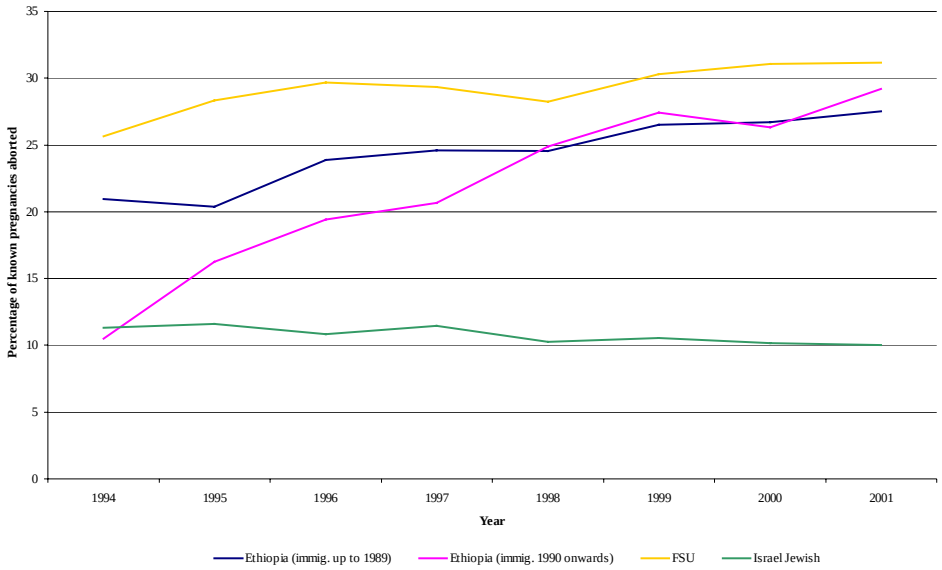

Figure 10: *Abortion ratios, immigrants by country of birth, 1994-2001*

In addition to the total abortion ratio, the age distribution of the abortion ratio also differs. Israeli Jewish women display a U-shaped curve, with the highest percentages of pregnancies aborted at the extremities of the fertility range, whereas immigrant women do not show this pattern. Ethiopian women have an l-shaped function. The percentage of pregnancies aborted amongst young women are extremely high and, especially amongst new immigrants, showing no signs of decreasing. The ratios are particularly high amongst veteran immigrants – in 1997 the percentage of pregnancies aborted amongst women under 19 was over 90% (compared with around 30-40% for all Israeli Jewish women). FSU immigrants also have a unique age function. In this case it

resembles a J-shaped function. There is a slight peak amongst younger women, but the percentages increase rapidly amongst older women. The function is slowly becoming similar to the Israeli Jewish function. However, this is through an increase in the percentage of pregnancies aborted amongst younger women rather than a decrease amongst older women, which fluctuates but shows no clear signs of change.

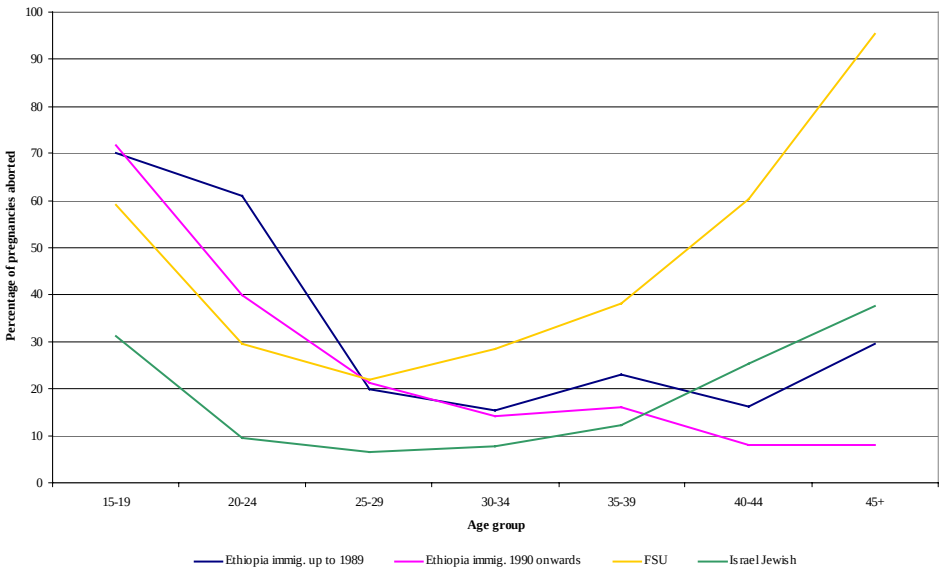

Figure 11: *Abortion ratios by age, immigrants by country of birth, 2001*

Another interesting feature of abortion applications is the marital status of the applicant. Throughout the 1990s, Ethiopian immigrants were much more likely to be never-married women than either Israeli Jewish women or FSU immigrants, with new Ethiopian immigrants having the highest percentage (72.% of all applicants were never married in 2001). On the other hand, FSU immigrants were less likely than Israeli Jewish to be never-married. This perhaps indicates the use of abortion by Ethiopian immigrants to delay the commencement of childbearing and by FSU immigrants to cease childbearing. By 2001, all groups (including Israeli Jewish women) had seen an increase in the percentage of never-married women amongst applicants.

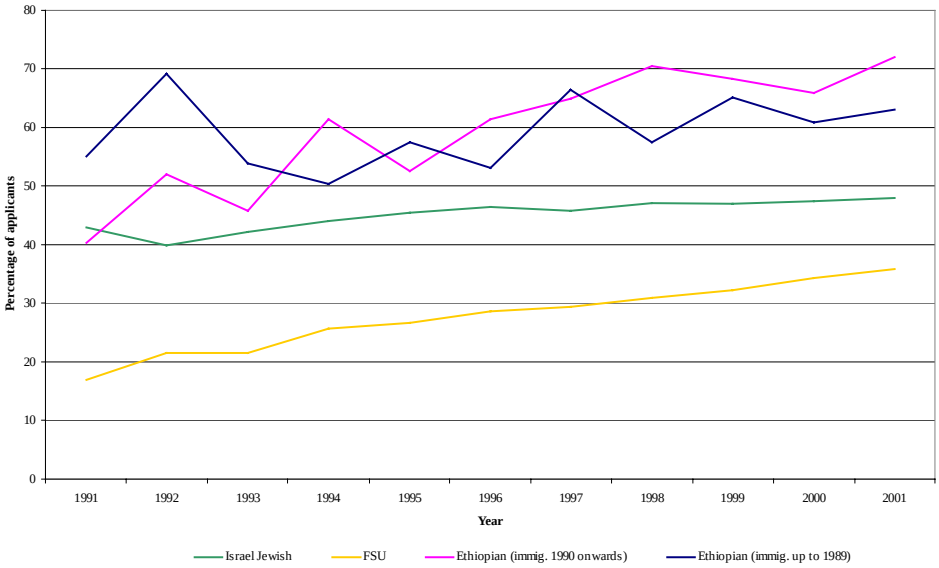

Figure 12: *Percentage of never-married women amongst abortion applicants, immigrants by country of birth, 1991-2001*

Data on contraceptive use are particularly hard to come by. No nation-wide fertility surveys were conducted during the 1990s with the most recent nation-wide survey being conducted in 1987/1988. Unfortunately the data available do not include information on contraceptive use. However, we do have information on contraceptive use for women applying to pregnancy termination committees. Obviously women applying for pregnancy terminations are not representative of the whole population, and a higher representation of less reliable types of contraception is expected. Additionally, there are problems with the quality of responses to the questions on contraceptive use but, since information on contraceptive use is so sparse, it does at least allow us to compare respondents by their country of birth. Chi-square tests on use of contraceptives (whether contraceptives were used since the last period and which type of contraceptives) show no significant differences according to country of birth. In other words, there was no difference according to immigration group on the overall use of all kinds of contraceptives (both modern and traditional). Nonetheless, there are significant differences in the method mix amongst those reporting contraceptive use in 2001. Ethiopian applicants have high rates of Pill use (over 50%) and FSU applicants low

usage rates (28.8%) compared with the Israel Jewish average (35.1%). Condom use for both FSU and Ethiopian applicants was lower than the Israel Jewish average (39.6%, 40.3% and 44.5% respectively). The I.U.D. was more popular amongst FSU immigrants (23.7%) than for Jewish women (10.8%) and its use was very low amongst Ethiopian women (less than 1%). Given that I.U.D. use is not user dependent, its failure rate tends to be low. Thus the fact that nearly a quarter of FSU applicants for an abortion reported I.U.D. use seems particularly high.

8. Discussion and conclusions

Israel has an unusual fertility regime. On the one hand, it is a developed country with high levels of education and female labour force participation amongst secular Jewish women, but on the other hand fertility remains higher than countries of comparable status. The situation in Israel is unique since there are sub-populations with persistent high fertility cultures and there is also an emphasis on the demographic outcomes, in political and ethnic terms, of differences in fertility (Yishai, 1978). Additionally, Israel is a reproductively paternalistic country with those in the establishment determining, to a large extent, what is correct reproductive behaviour for women (Amir & Benjamin, 1997). Within this framework, it is expected that Russian women cease using abortions as a means of birth control, now that they have the option of effective contraceptives and that Ethiopian women limit their family size to that prevalent in the absorbing society. Basker (1980) shows that the expected norm in Israel was (and is still maybe today) to have as many children as one could afford to have. In that context, Ethiopian women would be expected to reduce their fertility to a level that they could support in a modern economy.

As hypothesized, FSU immigrants are indeed increasing their fertility, although the increase is small and less than I would have predicted. However, there is no doubt that the age-fertility function has become much more similar to that of Israeli Jews. The decrease in the 15-19 age group is clearly seen. The changes in the age distribution of the births probably account for the lack of a clear trend in the TFR. I expect that in the future, as young women who delayed childbearing enter the peak childbearing ages, there will be an increase in overall fertility.

The reasons for this increase in fertility are not immediately clear. The classic debate of culture as opposed to socio-economic conditions is apparent; but the two are not mutually exclusive, and the complex interacting reasons behind the increase in fertility are most likely a mixture of both cultural and socio-economic factors. In some ways the economic conditions in Israel allowed couples to have more children, assuming that the desire for more children existed previously and fertility was

depressed due to the prevailing conditions in the FSU. For example, the shortage of housing in the FSU may have had a limiting effect on fertility rates, particularly in the big cities. However, many immigrants experienced a decrease in their relative standard of living and their status, which would probably lead to a desire to control fertility. It is unlikely that the child allowances (see appendix) in Israel had much effect on the fertility of FSU immigrants. The child allowances are graduated by parity of the child, with the percentage of the average net household income rising from less than 2% for the first child to 15% and above for the fourth and higher parity children. Since so few FSU families have four or more children, this is unlikely to provide an incentive. In 2001, only about 5% of FSU immigrants had 4 or more children, compared with 22.5% for Israeli Jewish mothers. Admittedly, there is an increase in higher parity births with time amongst FSU immigrants, but the increase is small. If anything, the child allowances would act as a support to the high fertility of the Ethiopian immigrants, both due to the larger families and also their relatively low income levels, which has not been the case.

The Israeli cultural milieu can contribute much to our understanding of the fertility changes of FSU immigrants. Higher fertility is both accepted and encouraged in Israel. Even amongst secular Jews, fertility rates are still above replacement level, with few one child families. Much of the conflict in Israel is represented in demographic terms, with an emphasis on the need to increase the fertility of Jews in order to preserve the numerical majority. Additionally, Israel may be perceived as a more dangerous country, due to army service for young people and the threat of terrorist attacks. Thus parents may feel the need for an additional child to 'insure' that their desired number reach mature adulthood.

In contrast to the situation in the former USSR, abortion in Israel is a value laden process, with access controlled by committees effectively acting as gate keepers and determining, according to certain criteria, those who may abort their pregnancies (Basker, 1980). Goldenberg & Saxe (1996) found that Russian immigrants to the US remain much more pro-abortion than their American counterparts. Thus, there may be a conflict of values here with the Israeli establishment being anti-abortion but the Russian immigrants still holding on to pro-abortion views. Nonetheless, the data point to a marked decline in abortion rates amongst Russian women and in contrast to that predicted by Sabatello (1992). Based on a survey by Remennick et al (1995) there has been a clear reduction in the use of all traditional methods of contraception i.e. withdrawal and rhythm method by FSU immigrants in Israel. Although there has been an increase in the use of condoms and oral pills, this has not been enough to account for the decrease in traditional methods. A much more positive attitude towards oral contraceptives has been noted amongst Russian immigrants. However, it is possible that sexual activity has decreased which may also partly account for the fact that overall

contraceptive use has appeared to decrease (Remmenick 1995). This would also account for the extremely low known pregnancy rate (abortions and live births) amongst Russian immigrants, rather than illegal abortion being the main cause of the low rate.

The changes amongst Ethiopian immigrants are surprising, although the fact that the data are of poorer quality and the population smaller than immigrants from the FSU needs to be taken into account. A decrease in fertility is indeed being witnessed. This decrease is mainly accounted for by decreases in fertility at older ages, particularly 40 and over. The proportional decrease in births amongst younger women is much less. As with FSU immigrants, the same issue of culture versus socio-economic conditions arises. However, in this case, the same environment is being used to explain a decrease in fertility. Ethiopian immigrants arrived from a rural, less developed country, where traditionally children have an important economic role to play. Obviously, within a developed urban economy, children are a net economic burden upon the parents until early adulthood and there is an emphasis on the future returns to investment in the education of children. Thus the economic incentive to reduce fertility exists. Additionally, infant and child mortality rates are low in Israel especially in comparison with Ethiopia (7 and 179 deaths of children under 5 per thousand live births in Israel and Ethiopia, respectively (World Bank, 2003)). Thus couples need to give birth to less children as 'insurance' for death in early childhood. However, in addition to factors encouraging fertility decline, there are also incentives to preserve the high fertility rates. In the case of Ethiopian immigrants, where large families are common (in 2001, 45% of births to Ethiopian immigrants were parity 4 or greater), child allowances may provide a greater support to high fertility, than they do an incentive to FSU immigrants. Additionally, assuming that the prevailing cultural values in Israel are pro-natalistic, then we would expect further supports to the high fertility of Ethiopian immigrants. In fact, the opposite is true, with Ethiopian immigrants undergoing a rapid fertility decline. It is possible that, in the absence of the supports to high fertility, the fertility decline would be even faster.

It would appear that abortions are being increasingly relied upon as a form of pregnancy control, especially amongst younger Ethiopian women. The application rates for abortions are much higher than for veteran Jewish Israelis, and even higher than the FSU rates at all age groups but particularly amongst younger age groups. Young Ethiopian women may not possess the knowledge of, or access to, contraception especially considering their young age. Data shows that younger women (under 19) apply for abortions at significantly more advanced stages of pregnancy than older women. This is probably due to lack of awareness of the pregnancy or delay in applying for an abortion which results in more costly procedures with higher risks to the woman. This evidence points to deficient knowledge amongst younger women

regarding sexual issues that seems to be exacerbated amongst young Ethiopian women. It must be remembered, however, that Ethiopian women arrived from a country with extremely low contraceptive prevalence, and even lower modern contraceptive usage (UNFPA, 2001). Henshaw et al (1999) point out that it is common during periods of rapid fertility decline for populations to increase their use of abortion and contraceptives to meet the desire for smaller families and to time births more exactly. Thus, for a substantial period of time, as fertility is declining, both the abortion rate and contraceptive prevalence may increase. This would indeed seem to be the case with immigrants from Ethiopia. Fertility is rapidly declining and this can be accounted for by both increasing abortion rates, but accompanied also by increasing use of contraceptives. Ethiopian immigrants are turning to abortion to regulate fertility, most likely in conjunction with contraceptive use. The declining fertility indicates an adaptation to the prevailing fertility regime in Israel with the Ethiopian immigrant population undergoing a transition from natural to controlled fertility. Many populations are thought to pass through a period of increased recourse to abortion during their demographic transition (Kulczychi, 1999:7). This same trend was also witnessed in the decline to below-replacement fertility in Addis Ababa, in conditions where abortion is less accessible and more risky than in Israel (Ashagrea,2002) and in the transition of immigrants from Asia and Africa in the 1950s and 1960s (Friedlander et al, 1997) . It is most likely that with increased contraceptive use, the abortion rate will eventually decline as witnessed in other populations that underwent a rapid fertility decline such as in South Korea. Taking the fertility and abortion rates of young Ethiopian women together, the known pregnancy rate is elevated, indicating a high level of sexual ignorance amongst young women.

Overall, both immigrant groups are undergoing significant changes in their fertility behaviour. Russian immigrants are indeed behaving as would be expected in the hypothesis. Their fertility is increasing towards the Israeli norm, especially if one takes the Jewish secular fertility rate as the standard and not the average rate. On the other hand, the abortion rate is surprisingly low. This could indeed be a result of decreased sexual activity or the increased use of modern contraceptives. Migration is a traumatic event and the change in living conditions, the difficulties of adjustment and even the drop in status and/or prestige could all lead to a decrease in sexual activity. On the other hand, there is also the question of the extent of illegal abortions. Although this phenomenon is known to exist, by its very clandestine nature it is very difficult to estimate. Therefore it is impossible to tell whether the sharp decrease in legal abortions is due to a true decrease in abortion rates or the use of illegal abortions. The increased use of abortion by Ethiopians was predicted but the increase far exceeded expectations. However, this does concord with the experiences of other populations undergoing a rapid fertility decline. Finally, the fertility of Ethiopian immigrants is decreasing as

expected. That being said, the age specific analysis shows that the majority of this decrease is accounted for by decreasing fertility amongst older age groups with the fertility of younger age groups high.

To conclude, the fertility of immigrants is changing towards the Israeli Jewish norm, although it is currently in a state of flux and it will still take some time until rates stabilize and converge with Israeli Jewish rates (if at all). Immigrants from the FSU seem to be fast approaching Israeli Jewish norms with increasing fertility rates at older ages and postponement of childbearing until older ages. This is being achieved by postponement of marriage and despite decreasing abortion rates. The fertility of Ethiopian immigrants is declining rapidly towards the Israeli Jewish norm. Although abortion rates are higher than expected, it is likely that the abortion rate will decline in the future as contraceptive use increases and the fertility rate stabilizes. It is important to emphasize that the fertility changes are not yet complete and are still ongoing. Due to the continuing changes in the fertility rates and in the proximate determinants, it is important to keep track of the changes in order to categorically determine whether the immigrants have indeed adopted the fertility patterns of the absorbing society.

Notes

1. The majority of Jews in Ethiopia lived in the Gonder and Tigray regions of Northwest Ethiopia (Hobart, 1995).
2. The population group Jews and Others includes Jews, non-Arab Christians and those not classified by religion and the population group Arabs includes Moslems, Arab Christians, Druze and Lebanese citizens who arrived in Israel in May 2000.
3. Both Basker (1980) and Portuguese (1998:125) have noted the difficulty in obtaining official statistics on the contraceptive use in Israel.
4. Unfortunately, the population data available do not allow a breakdown of the Ethiopian immigrants by year of immigration prior to 1996.

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Appendix: National insurance child allowances

The table below shows the national insurance payments according to number of children in Israel. It should be noted that these payments have undergone a number of changes during the 1990s, although they have been fairly stable since 1992 until recently. Between 1989 and 1992 child allowances for the first two children were cancelled unless a family had at least three children. The allowances were reinstated in 1992, regardless of size. However, the graduated increase in the allowance for each child with increasing number of children remained. Only recently, with the economic downturn, have child allowances been cut, particularly those for larger families. Considering that the average monthly household income (from all sources) was nearly $2000 in 2000, the child allowance represents a large percentage of household income, particularly for families in the lower income deciles (Central Bureau of Statistics, 2001). For example, the child allowances represented more than 100% of the average household income of a 6 child or more family in the bottom 3 income deciles.

Table A1: *National Insurance Child Allowances, by Number of Children, 2000*

Number of children	Child Allowance (US$) per month	Percent of average monthly net household income
1	36.5	1.8
2	73.0	3.6
3	145.3	7.3
4	292.0	14.8
5	473.1	23.9
6	654.2	33.1
Each additional child	181.1	9.2

Source: National Insurance Institute (2003), Central Bureau of Statistics [Israel], (2001)