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**FERTILITY PROSPECTS IN ISRAEL: EVER BELOW REPLACEMENT LEVEL? \***

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\* The views expressed in the paper do not imply the expressions of any opinion on the part of the United Nations Secretariat.

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## A. INTRODUCTION

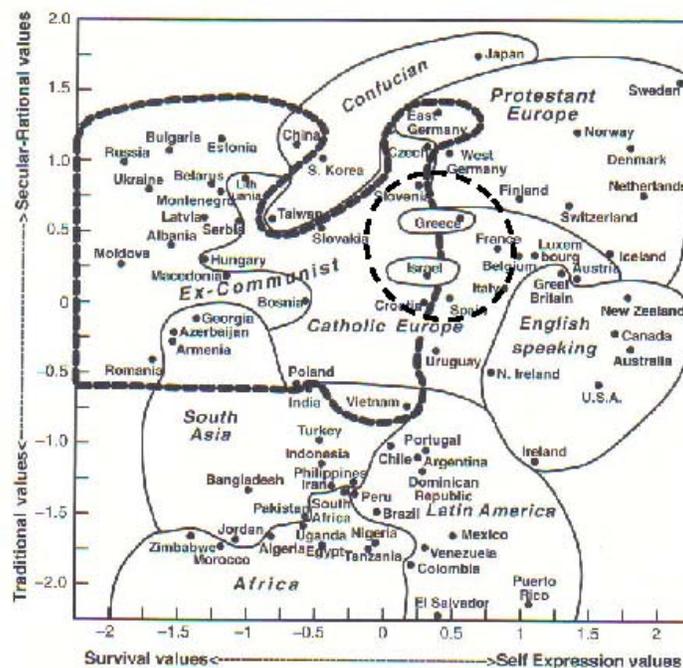
Israel's Total Fertility Rate (TFR) of 2.98 in 2008 was the highest among more developed countries. According to the most recent assessment of the United Nations Development Programme's Human Development Index (HDI), Israel ranked 27<sup>th</sup> out of 182 countries in 2007 (United Nations, 2009). In the same report, Israel's TFR was projected at 2.8 for 2005-2010, less than the actual latest TFR and significantly the highest among the 38 countries with very high human development. The next country with a projected TFR higher than Israel was Oman, ranked 56<sup>th</sup> by HDI. A higher TFR obtained in only five additional countries ranked up to 100<sup>th</sup>: Saudi Arabia, Belize, Samoa, Jordan, and Tonga. These facts give a measure of the exceptionality of Israeli fertility patterns in global perspective and stand behind the lead question: ever below replacement level?

This paper aims at discussing recent fertility trends in Israel and some possible future prospects and implications. One of the crucial analytic issues is whether relatively high levels of fertility essentially reflect the failure to curb the birth rate, or rather stem from wanted children (Pritchett, 1994). By implication, are relatively high fertility rates a transitional stage toward the unavoidable decline toward and below replacement, or a social feature bound to stay in the long run? The present paper, by reviewing a variety of micro- and macro-social materials attempts to introduce a few additional insights in this ongoing debate. It attempts to explain fertility patterns in the past in the light of socio-economic, demographic and cultural determinants that operated both at the individual and at the broader societal level. It analyzes fertility goals through different measures of attainment, intention and appropriateness, and outlines public attitudes towards possible policy interventions aimed at affecting fertility in the future. It also questions whether country population projections relying on a single set of demographic assumptions are appropriate for societies that, like Israel's, encompass several sub-populations with significantly different demographic patterns.

## B. WHERE IS ISRAEL

Population-wise, with a mid-2009 estimated 7.6 million inhabitants, Israel ranked 93rd in size out of 209 countries and territories listed by the Population Reference Bureau (Haub and Medeiros Kent, 2009). Not a big country, Israel has however a very diverse, culturally complex and politically segmented society, including 5.6 million Jews, 1.35 million Muslims, 200,000 Christians (mostly Greek Orthodox), 150,000 Druzes and others, and 300,000 persons with undetermined religious origin (Israel Central Bureau of Statistics [CBS], 2009). An additional 200,000 temporary resident foreign workers (documented or undocumented) might be added as well to the resident population. Because of its multifaceted history and sociology, the country's very continental location may not seem easy to determine. Physically on the Eastern edge of the Mediterranean and on the Western edge of Asia, Israel was significantly affected in the course of its history by large scale international migrations that shaped the size and characteristics of its human capital. In their analysis of World Values Surveys (WVS) data, Inglehart and Welzel (2005) find that Israel is culturally positioned at the dividing edge between European Catholic and ex-Communist countries (see Figure 1). This insight is intriguing because Israel has a dominant Jewish majority, a large Muslim minority, and only a very tiny Catholic presence of several thousands. But the finding possibly reflects a diffuse role of religious norms in society that will be discussed later. Moreover, Israel's economy at least until the late 1960s was largely shaped by a dominant influence of state and trade union investment and therefore could be compared to countries with centrally planned economies.

Figure 1  
Cultural map of the world about 2000



Source: Inglehart and Welzel, 2005, p. 63.

More attentive inspection of the map also shows Israel's cultural proximity to several other European Mediterranean countries, such as Spain, Italy, France, Croatia and Slovenia. This is an important key to the reading of the nature of Israel's society. Involved since its independence in a still unsolved regional political and military conflict, Israel tends to be perceived through the media and other observatories as a case of exceptional and permanent instability, dominated by security concerns and tensions. But in fact the comparative assessment of popular values and norms, as shown by the WVS, culturally positions Israel if not in the Middle East – where it pertains geographically – at least in its other possible referential region, the Mediterranean. This is a symptom of normalcy, not of exceptionalism although, as we shall see, the conflict ridden situation of the Middle East should thoughtfully be considered when examining demography.

Israel's human geography is also pertinently assessed by looking at the origins of its population. According to population updates for mid-2008 (Israel CBS, 2009), out of a total population of 7,308,800, 1,468,800 Arabs were local born (a largely true assumption given the actual lack of data on their birthplace). Out of 5,523,700 Jews, 3,884,600 were local born; 200,900 were born in other Asian countries, 306,000 in Africa, 1,132,100 in Europe or America. The additional 316,300 persons with non classified religion could be assumed to be largely born in Eastern Europe. Summing these numbers, 5,870,600 (80%) of Israeli residents were either born and fully socialized in the country or in another regional-continental context highly influenced by Islamic presence, therefore germane to the place itself, while 1,448,400 (20%) were born in a Christian-Western context.

The purpose of these simple calculations is to convey the sense of a society deeply and genuinely rooted in the territory and in the cultural context of the region. While on many accounts Israel was the

outcome of international migration, it would be a mistake to perceive it as a country of foreigners. Of course, had it not been for the Arab-Israeli conflict and in particular the flight of possibly 650,000 to 750,000 Arabs from Jewish controlled areas in 1948-1949, the resident population of that territory might have had an entirely different demographic and cultural blend and would have been even more rooted in long-term Middle Eastern mores and customs. But it is in any case from the place rootedness of its extant population – with all of its idiosyncrasies – that the analysis of fertility should start. At the same time, one cannot ignore the fact that this rootedness goes along with tens of years of conflict that marked in indelible ways the national, social and cultural identities perceptions of its actors. We shall try to address later the possible impact of these momentous aspects upon fertility levels in Israel.

### C. SOURCES OF DATA AND LITERATURE

Fertility levels in Israel have been documented quite in detail through different and complementary data sources. National population censuses periodically provided retrospective data on the number of children born and family size attained. A national system of vital statistical records provided information on current childbirth patterns and family growth. Further information on public attitudes about services related to family growth was obtained in recent years through the Israel Social Survey (Israel CBS, 2009), and other sources.

Independent large scale surveys of fertility trends and expectations were repeatedly conducted in Israel. In 1974-1975, a study involved 3,000 urban Jewish women and 3,000 rural Arab women in their first marriages and below the age of 55 (Goldscheider and Friedlander, 1986). In 1988, with the support of the United Nations Fund for Population Activities and a team of senior researchers, a survey covered 1,750 Israeli Jewish women married and aged 23 to 39, as well as about 500 Muslim women at reproductive ages (Peritz and Baras, 1992). Another survey conducted by Gallup in 2005 and 2006 provided information on attitudes to childbearing among Jews and Arabs in Israel and among the population of the Palestinian Territory<sup>1</sup> (Saad, 2006). Some additional data on family attitudes could be derived from the International Social Survey Programme, coordinated by the Zentralarchiv für Empirische Sozialforschung at the University of Cologne, Germany (Kalushka, 2006).

In this paper we significantly rely on a survey of Jewish married couples carried out at the end of 2004 and in January 2005, that covered attitudes to fertility, childbearing, and the feasibility of policies regarding family and reproduction. The focus on the Jewish part (79%) of Israel's total population mostly reflected logistical constraints. However, in view of its being the dominant societal referent and the possible target for societal convergence – as will be argued later in this paper – the data's coverage limitation does not detract from their relevance. Demography of the Jews is especially relevant when the focus is on low fertility given the greater structural similarity of Israel's Jews with Western societies. The survey included a representative national sample of about 1000 women aged 25 to 45 and 500 men aged 25 to 50, all married or in stable unions (Machon Dahaf, 2005; DellaPergola, Tzemach, Wiesel, Neuman, 2005).<sup>2</sup> The survey covered demographic, socioeconomic and Jewish identity background variables. The inclusion of male respondents provided innovative insights on gender preferences facing family size and growth, and related topics. Several questions investigated norms about personal socioeconomic fulfillment and aspirations, gender roles, the family, in addition to intended, most appropriate, and ideal family size.

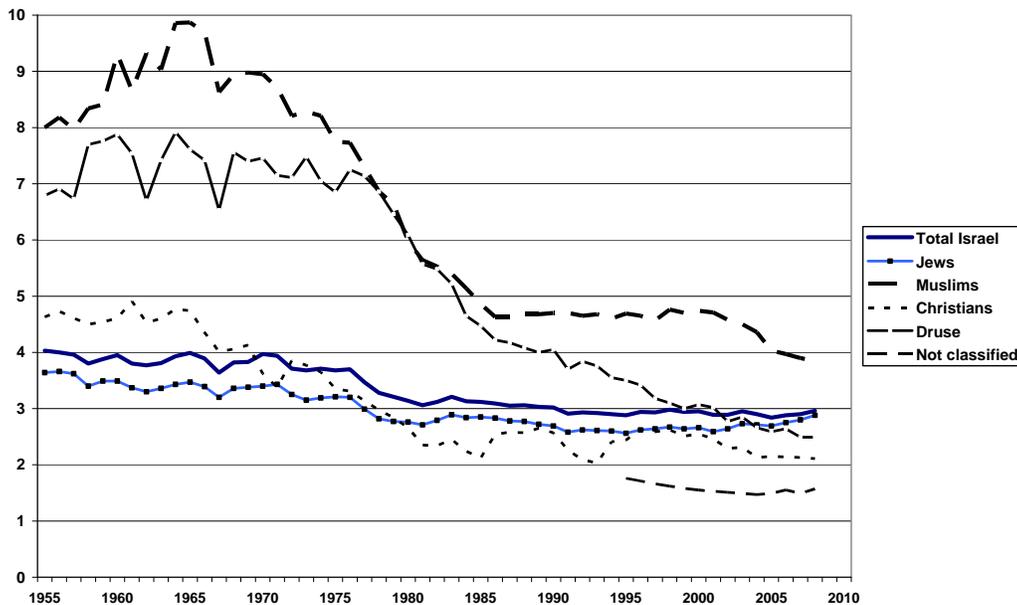
Based on these and other sources, a large amount of scientific literature has turned its attention to fertility levels and variation in Israel with primary reference to the Jewish population (Friedlander and Goldscheider, 1978; Friedlander, Eisenbach and Goldscheider, 1980; DellaPergola, 1988; Schmelz, 1989; Friedlander and Feldmann, 1993; Ziegler, 1995; Okun, 1997; Okun, 2000; Nahmias, 2004; Schellekens and Ophir, 2006; DellaPergola, 2007; Cohen, Rajeev and Romanov, 2007; DellaPergola, 2009); on Israel's Arabs (Eisenbach, 1996; Friedlander, Eisenbach and Goldscheider, 1979; Hill, 1983; Schellekens and Eisenbach, 2002); on the whole of Israel's population (Bachi, 1977; Peritz and Baras, 1992; Fargues, 2000; Friedlander, 2002); and on the whole extension of Israel and the Palestinian Territory (Abu Libdeh, Ovenson and Brunborg, 1993; Palestinian Central Bureau of Statistics, 1997; Courbage, 1999; DellaPergola, 2003; Harvard, 2006).

Much of this literature deals with immigration, absorption, acculturation, modernization, religion and secularization – among the foundational pillars in the analysis of Israeli society. Some of it deals with various aspects birth control – certainly an important intervening variable but not an explanatory variable as such in fertility research in more developed countries. Still more deals with the political context of demographic trends in relation to the consequences of the conflict for population patterns, as well as the reverse implications of population trends for the conflict to continue to unfold. A further strand touches upon policies that in the past have been concerned with different aspects of childbearing and family size – allegedly on the fertility support side. In spite of this remarkable body of knowledge, the conclusions stemming from Israel fertility analysis leave open a number of unsubstantiated hypotheses and a sense of unexplained variance.

#### D. MAIN FERTILITY TRENDS

Israel's already noted unusually high fertility levels result from the weighted average of the fertility of its various sub-populations, each of which should be looked at separately in the first place. At today's low mortality levels Israel's fertility levels continue to generate substantial rates of population growth. Reviewing recent demographic trends of Israelis and Palestinians, one is struck by two factors: (a) the persistence of high to moderately high fertility levels over time; and (b) an apparent lack of consistency between measures of fertility and other key demographic indicators. Figure 2 reports TFRs of main religion groups between 1955 and 2008.

Figure 2  
Total fertility rates, by religion groups – Israel, 1955-2008



Source: Israel Central Bureau of Statistics.

By the mid-1990s, the TFR among Israeli Jews was 2.6, only moderately down from its highest level of 4 in 1951, and higher than among the total population of any other more developed country. Overall Jewish fertility levels in Israel coalesced from the convergence of a significant lowering of the fertility of immigrants from Asia and Africa, on the one hand, and measurable increases among immigrants from Europe and America, on the other. During the 1990s and the first half of the first decade of the 2000s the Jewish TFR was quite stable, and after 2005 it tended to increase again.

The TFR among Israel's Christians, mostly ethnic Arabs, was initially similar to that of Jewish immigrants from Asia and Africa, but ended quite significantly lower than that of Jews standing at 2.11 in 2008. Israel's Druzes started their fertility transition later, in the second half of the 1970s, but converged to the Jewish fertility in what seemed a more sustained level (2.49 in 2008). Israel's Muslims were the main exception to this pattern of convergence toward the model set by the Jewish mainstream. Their TFR shortly stood above 10 during the 1960s, declined to 4.6-4.7 by the mid-1980s, and remained steady at that level thereafter until past the year 2000, passing from 4.74 in 2000, to 4.03 in 2005, and 3.84 in 2008. Before one can judge whether this is the beginning of a phase of convergence toward the fertility patterns of the majority one needs further evidence (see below).

Interestingly, during the 1990s, Israel's Jews maintained a stable TFR notwithstanding declining propensities to marry, masking rising marital fertility, and Israeli Muslims did the same in spite of rising marriage propensities, thus hiding declining marital fertility. Divorce slowly increased, too, creating an ever growing pool of unmarried in a society in which births out of marriage still constituted a tiny fraction of all births (about 3% in 2005).

A remarkable case of stability – probably unique in global comparative perspective – was provided by the subpopulation of Israel-born Jewish women who constituted the emerging second and higher order generation in a country of significantly heterogeneous immigration. That particular TFR remained virtually flat for 50 years at 2.5-3 children, in spite of tremendous cultural and socioeconomic transformations in Israeli society under the impact of repeated wars, other security problems, millions of new immigrants, speedy technological advances, and a rapidly rising standard of living. Another important indicator that remained surprisingly nearly flat over the years was the Jewish population distribution by major levels of religiousness (Levy, Levinsohn, Katz, 2002), This might have been one of the causes of stable fertility levels although it also might have been construed itself as the result of conservative cultural patterns.

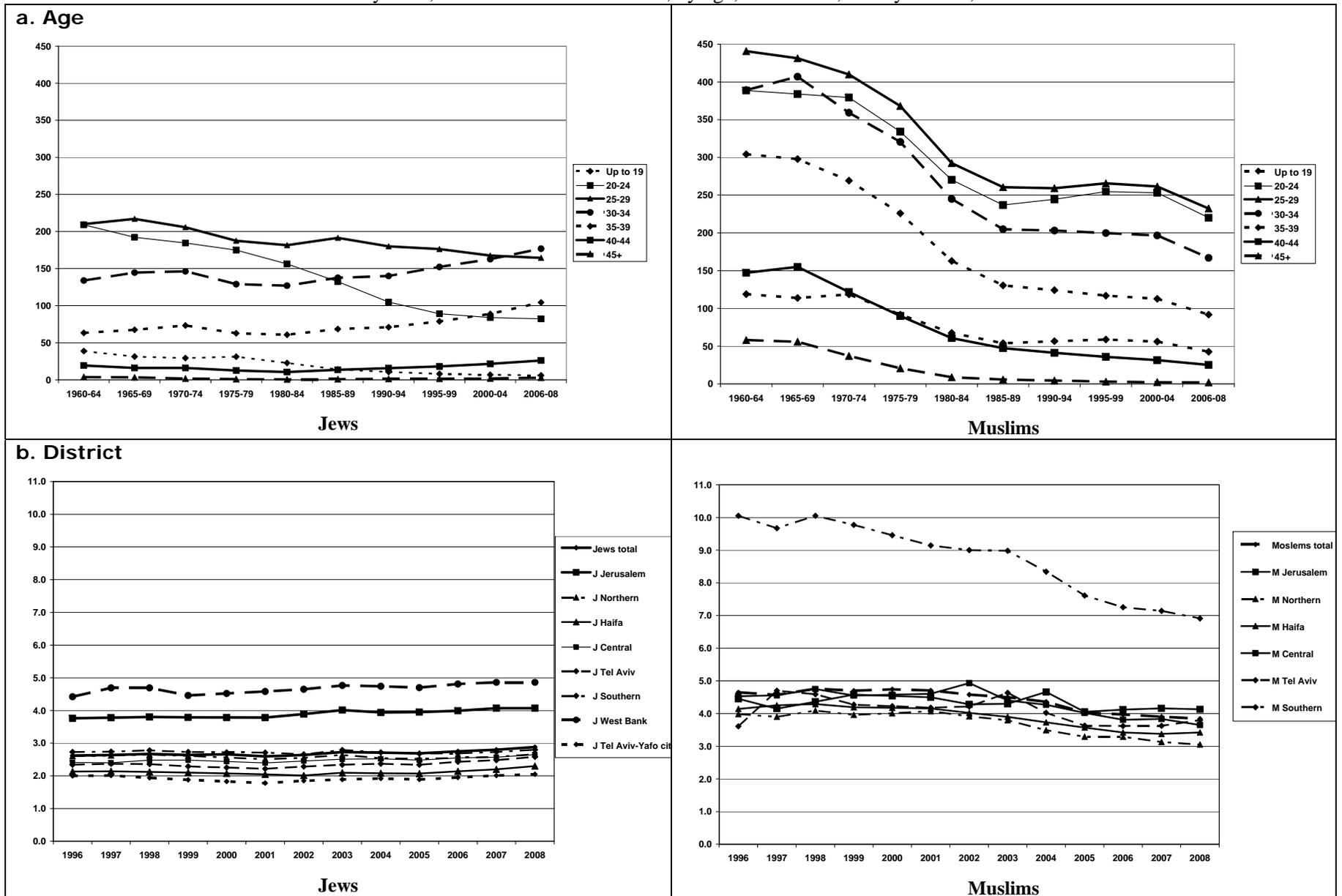
## E. DISAGGREGATING TFR PATTERNS

National data – even when separately examined for the major religion groups – mask considerable cultural differences. These can contribute to generating rather different family formation strategies. By representing TFR at a more detailed level, important patterns emerge that help to understand the broader underlying mechanisms of fertility change. We consider here in some detail first the time schedule of family growth by age of mothers – the underlying structure of TFR – followed by the study of TFR territorial variation inside Israel. We compare the two largest religion groups, Jews – the dominant referent group in the Israeli mainstream convergence pattern – and Muslims – so far the most prominent group not conforming to that mainstream's demographic behaviors.

### *1. Age*

The primary key to understanding the changing dynamics of family formation is by disaggregating the TFR into its age specific components (Figure 3a). Data are examined separately for the two main religion groups, Jews and Muslims, between 1960 and 2008. Among Jews, age-specific fertility rates markedly diminished over time among women aged less than 20 at birth and at 20-24, and also, though less sharply, at 25-29. On the other hand, fertility rates increased significantly at 30-34, and to some extent at 35-39, remained flat at 40-44, and displayed a flat U curve at very low frequencies among women 45 and above. From an earlier pattern where fertility rates peaked at 20-24 followed by 25-29, reproduction among Jewish women shifted to a peak at age 25-29 closely followed by 30-34. Since around 2000 Jewish women had more children at 35-39 than at 20-24. By 2005, 30-34 became their prime age for reproduction.

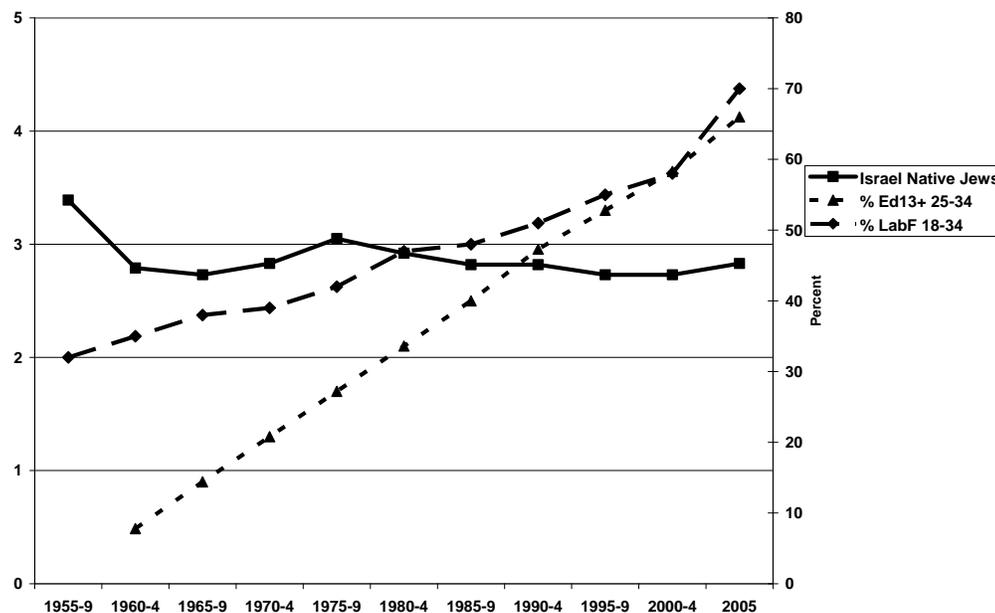
Figure 3  
Total fertility rates, Jews and Muslims – Israel, by age, 1960-2008, and by district, 1996-2008



Source: Israel Central Bureau of Statistics.

Such tendency to postpone childbearing was clearly related to a continuously rising level of education also accompanied by a decrease of labor force participation below age 20. However, Jewish women's overall participation in the labor force at prime reproduction ages sharply increased. The remarkable result was that in a population with overall much higher levels of post-secondary education and much higher rates of employment, the TFR remained remarkably stable through a significant adjustment of the childbearing time schedule. Figure 4 persuasively shows no evidence of a significant interference between education, work and childbearing. The sharply rising involvement of young women in higher education and work singularly contrasts with the flat TFR profile of Israel born Jewish women who constitute the dominant segment of those mobile young adults. Between the 1950s and 2005 a sharp surge occurred in the percent of women 25-34 holding post-secondary education (13 or more years of schooling) from less than 10% in the 1950s to more than 60% in 2005. Women's labor force participation sharply diminished at 14-17, consistently with extended years of schooling, while it significantly increased in the 18-34 age-group from 30% in the 1950s to 70% in 2005. Changing fertility scheduling strategies allowed accommodating for competing family and career needs and aspirations among Jewish women in Israel.

Figure 4  
TFR of Israel born, post-secondary education attained, and labor force participation – Jewish women, Israel, 1955-2005



Source: IsraelCentral Bureau of Statistics.

Among Muslim women, age patterns of fertility were characterized by a general decline over time, but there were different stages. Up to the second half of the 1980s fertility decline went down consistently across all age groups. During the years 1960-1964 with a fertility rate of nearly 450 per 1000, women at 25-29 had the virtual certitude to bear one child on average. This was reduced by nearly one half by the second half of the 1980s. During the following fifteen years until 2000-2004 two diverging behavioral profiles can be observed: fertility decline above 30, and fertility increase below age 30. During the latest years on record, 2005-2009, again fertility decline prevailed all across the age spectrum. With nearly no change during nearly fifty years, the ranking of fertility rates by age remained the same, with 25-29 on top, followed by 20-24 and 30-34. But childbearing became much more concentrated over the years over this 15 ages span than it had been at the beginning, displaying a clear tendency to an earlier stoppage of births. While among Muslim women in Israel education levels greatly increased over time, the

frequency of labor force participation remained quite low, hence family and work paths remained quite separated. Age at marriage remained consistently lower than among the Jewish population. In this case it is perhaps possible to speak of interference between these competing alternatives.

Comparing emerging configurations of age specific fertility schedules of Jews and Muslims, toward the end of the first decade of the 21<sup>st</sup> century Muslim women had significantly higher rates below age 30, and Jewish women had higher rates above age 30. This clearly if indirectly points to widespread intervention to control fertility levels among both populations. That the one with the higher educational attainment, the Jews, should turn with a higher fertility above age 30 is plausible evidence of voluntary motherhood at later ages, while the lower fertility of the less educated, the Muslims, hints at effective efforts to limit family growth up to a certain wanted size. Further materials on wanted and achieved family size are discussed later.

## 2. District

Another important analytic key is the disaggregation of Israel's territory into different parts of the territory that differ because of the concentration of specific population groups in certain areas, or cities, or types of settlement. In fact, a high degree of segregation prevails in the country between members of the main religion groups, and between members of sub-groups within each, whether in the form of separate settlements, or of separate neighborhoods within the same locality. Israel has six administrative districts, Jerusalem, Northern, Haifa, Central, Tel Aviv, and Southern, plus a seventh covering the Jewish population in the West Bank, and until August 2005 in the Gaza region, under Israeli administration. Figure 3b shows TFRs for Jews and Muslims by district over the last twelve years period that, as noted, witnessed a variety of significant patterns of stability and change. Each major religion group displayed shared patterns across most districts, along with some significant variance.

Among Jews remarkable co-variation characterized the different regional realities, although at somewhat different levels. In nearly every district TFRs lowered between 1999 and 2002, followed by visible recovery. Chronologically, those years included exposure to the second Palestinian uprising (*intifada*) but also a significant economic recession inducted by global markets circumstances. Since 2004 TFRs went moderately up. No effect resulted from the 2006 Lebanon war. TFRs of 2.5-3 regroup the Southern, Central, Northern and Tel Aviv Districts, the former being the higher of this group. Haifa District is definitely lower. But what is perhaps the more remarkable is that the City of Tel Aviv (part of the Tel Aviv District), considered by some the capital of Israeli hedonism and sometimes also indicated as the gay capital of the Middle East, followed exactly the same patterns and after several years below replacement level re-emerged in 2008 above replacement.

At the higher end of the fertility range stand two Districts. One is Jerusalem, heavily influenced by a share of very religious population around 30% of the total Jewish population (DellaPergola, 2001), with a TFR just above 4 in 2008. The other with the highest fertility profile comprises the settlers' population in the West Bank, or Judea and Samaria in the official Israeli terminology, with a TFR of 4.86 in 2008. It would be easy to explain higher fertility with the ideological militancy of these groups, in the Jerusalem area in terms highly intensive religion, in the West Bank in terms of territorial nationalism. However two important caveats should be added. The first is that the manifest co-variation of all geographical divisions, no matter how accentuated in the outliers with their ideational peculiarities, points to a shared undercurrent that not only cannot be ignored but – if correctly interpreted – probably may provide one of the main explanatory mechanisms to Israel's fertility trends. All – more and less religious, more and less nationally committed – seem to take family related decisions at the same time, the difference being the child parity targets aimed at in those decisions. Therefore ideology must be tempered by some other important determinant. The second caveat is that under the existing circumstances, the settlers in the West Bank constitute a highly subsidized population that enjoys a much higher standard of living in terms of housing space and environment quality at a much lower cost than their peers within the main territorial body of the State of Israel inside the Green Line.<sup>3</sup> The very religious too, while mostly characterized by a low standard of living, enjoy numerous forms of direct (state) and indirect (community related) subsidies

that make them sensitive to economic change. These findings unveil an intriguing package of ideological and socioeconomic incentives that call for further consideration.

Looking at Muslim TFR, according to the same territorial divisions, except the Palestinian West Bank that will be shortly considered later, the picture is again one of basic co-variation with outliers. The Tel Aviv, Central, Haifa and Northern Districts all show stability during the 1990s and the beginning of visible decline between 2002 and 2004 – a decline however that seems to stabilize at a TFR of 3-3.80, or one half to one child more than among the homologous Jewish population of the same district. The Jerusalem District, here mostly constituted by East Jerusalem neighborhoods, is visibly higher, and barely surpasses the Jewish TFR. All in all, most Districts provide a clear pattern of adjustment from a range of 4-5 children until the beginning of the 2000s, to a range of 3-4 since. Such downward one child adjustment does not seem to be part of a significant continuing trend. The case is entirely different in the Southern District mostly composed of Bedouins, partly urbanized, partly semi-nomad. Here something momentous started in 2003 after a long period of 10 TFR (according to some CBS unpublished reports, well above 12 in previous years). In 2008 the TFR fell for the first time below 7, where it had been for Israel's total Muslim population 30 years back in the second half of the 1970s just before a precipitous decline of 3 children in the following ten years. This trend seems bound to continue, among other things thanks to greater care of social and educational institutions regarding the role of women in the Bedouin community.

These differentials once again suggest the interplay of ideological and socioeconomic factors with the emphasis on a fertility transition that seems quite accomplished for the most part of Israel's Muslims and might follow in the near future among the more traditional sectors that still prefer not to adopt conventional urbanization as their way of life. Interestingly, the lowest Muslim TFR appeared in the Northern District which is also the one with the highest percentage of Muslims among the total population – a fact that raises the question to what extent perceptions of minority status may be related to higher or lower fertility levels.

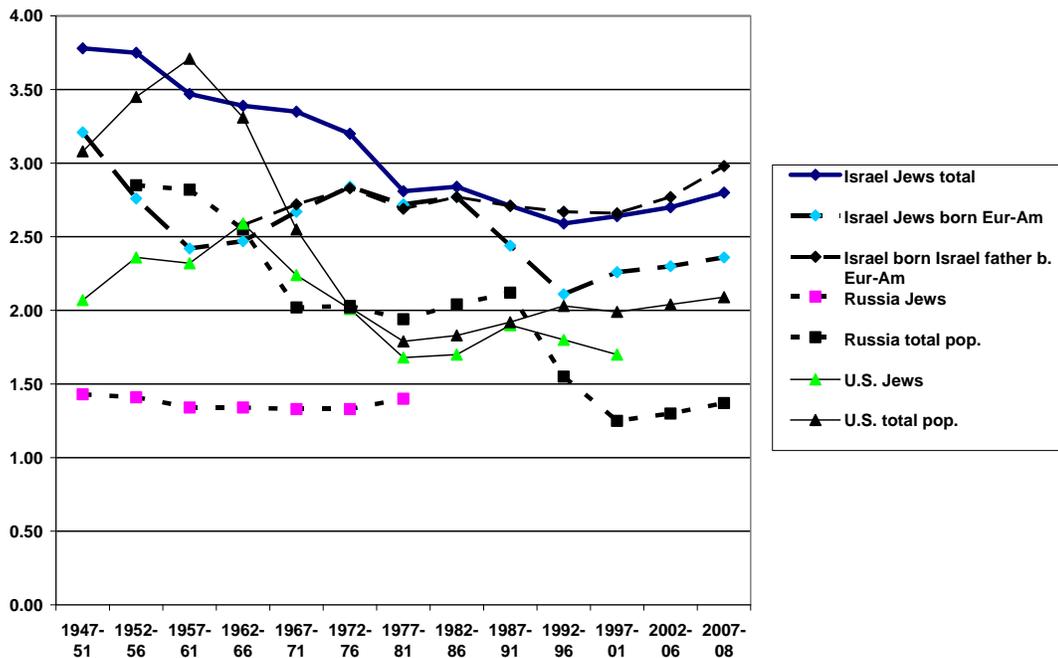
## F. SIGNIFICANT OTHERS

One relevant way to examine the extent of exceptionalism and change in the fertility patterns of major Israeli sub-populations is to compare them with other populations that share with them important cultural backgrounds and characteristics but are located in different countries or regional contexts. Comparing the same religious or national reference groups across different countries provides useful insights.

### 1. Jews

We first look at variations within the framework of different Jewish populations (Figure 5) considering that Israeli society was constructed since the outset by large immigration waves that accumulated over a relatively small pre-existing layer of veterans – the so-called *yishuv*. TFRs are compared for Israel's total Jewish population, Jews in Israel that were born in Europe or America, Jews born in Israel from a parent born in Europe or America, as well as Jews in the United States – the largest community in the world – and in the Russian Republic – long the second largest and at the origin of one of the largest waves of Jewish international migration of the last decades. The rationale for such a comparison is that the histories, family ties, socioeconomic and cultural background of those Jews who migrated to Israel were not distinct from those who lived or remained in the main countries of origin. It is true that international migration usually involved a measure of selectivity, and in this case it might be assumed that there was a larger component of the more religiously involved among the migrants than among the stayers. But the religious segment among the many immigrants from the Former Soviet Union (FSU) was extremely tiny, and in the case of the U.S., it was the overall volume of migration to Israel that was tiny. Israel society developed since the beginning a cultural blend that covered all possible shades of religious commitment, and with a clear predominance of seculars or moderately traditionalist (Levy, Levinsohn, Katz, 2002).

Figure 5  
Total fertility rates among Jews – Israel, Russia and the United States, 1947-2008



Source: Central Bureau of Statistics; United Nations, Population Division (2008); DellaPergola, 2009; Tolts, 2008.

Cultural absorption in Israel occurred at fertility levels that were becoming increasingly homogeneous and adjusted for the initially higher fertility abroad of immigrants from Asia and Africa and lower fertility abroad of immigrants from Europe and America. During the 1950s Israeli Jews born in Europe and America had a TFR lower by about 3 children than their peers born in Asia and Africa, but by the mid-1980s convergence to a common pattern had been nearly completed. With the arrival since the end of the 1980s of the massive wave of immigration from the FSU, fertility of the European born suddenly diminished but later gradually recovered, in any case always remaining above replacement. The Israel-born children of European-American origin had fertility patterns quite identical to those of their parents until the mid 1980s, but since then their TFR remained stable and even increased during the last decade, thus becoming significantly higher than that of their foreign-born contemporaries. The contrast with Jews out of Israel, in the U.S. and in Russia, was significant. At its highest point during the baby boom years, the American Jewish TFR did not reach the lowest point ever recorded among the total Jewish population in Israel. It also was systematically lower than that of the U.S. total population although it followed similar temporal patterns (DellaPergola, 1980; Kotler-Berkowitz, Cohen, Ament, Klaff, Mott and Peckermen-Neuman, 2003).<sup>4</sup> In the Russian Republic, and overall in the FSU, Jewish fertility was low and did not display any sign of a post-war baby-boom (Tolts, 1997). The postwar total Russian population had a TFR lower than Israel and the U.S., and in the 1990s would rejoin the very low level long before anticipated by Jews.

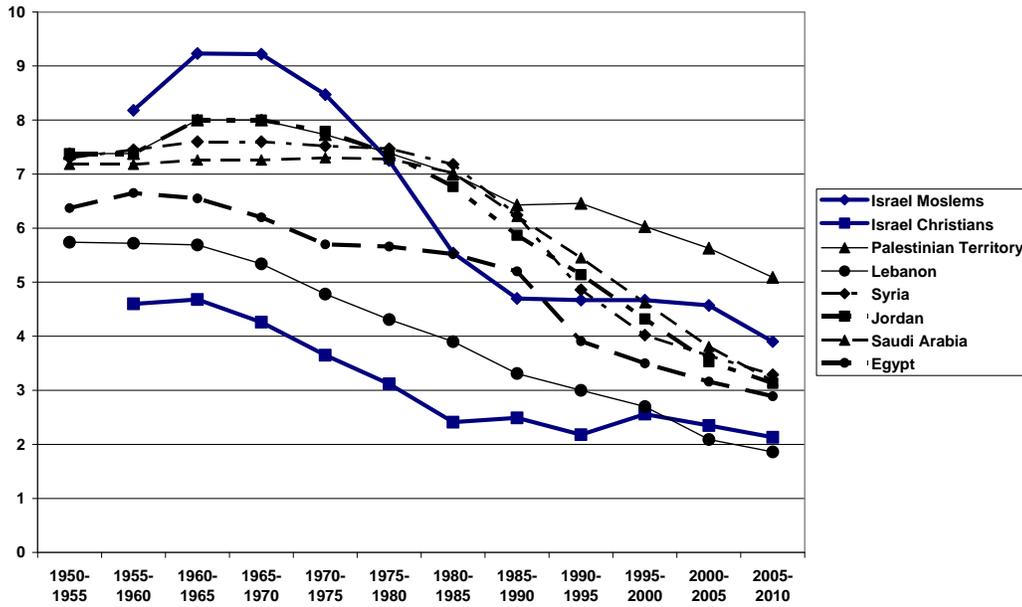
In sum, fertility of Jewish immigrants from Europe-America in Israel was significantly higher than in the countries of origin, where Jews had a longstanding record of very low fertility, and among the second generation in Israel it became higher than among the first generation of immigrants.

## 2. Christians

Regarding Israel's Arab population, relevant comparisons can be attempted with a number of neighboring countries which share a mostly Islamic context, in some cases along with visible Christian

minorities. Figure 6 shows TFRs of Israel's Christians and Muslims, in comparison with Lebanon, Syria, Jordan, Saudi Arabia,<sup>5</sup> Egypt, as well as the Palestinian Territory (United Nations, 2008). Here again the Israeli case emerged as quite exceptional.

Figure 6  
Total fertility rates among Muslims and Christians in Israel, Palestinian Territory and neighboring countries – 1955-2010



Source: Israel Central Bureau of Statistics; United Nations, Population Division (2008).

Looking first at the Christian component which is strongest on Lebanon (although Lebanon does not have a Christian majority), we can see the steady Christian fertility decline in Israel, in part explained by much lower marriage propensities than among the Jewish and Muslim sectors, partly reflecting classic processes of urbanization, socio-economic mobility, and perhaps also some psycho-social insecurity being the smallest element faced by the vastly superior critical mass and manpower of the two major population groups – Jews and Muslims. The Israeli Christian TFR, however, stabilized since the 1990s slightly above replacement while in Lebanon fertility continued to diminish to well below replacement. Remarkably, there is today not a single country with a Christian background in Western Europe, Eastern Europe or the Balkans, namely in Eastern Orthodox Christian societies, where fertility stands above replacement. Christians in Israel are the exception.

### 3. Muslims

Nearly all other, predominantly Muslim societies featured rising or at least stable and very high TFRs at some point between the late 1950s and the late 1970s, in what can be defined a pre-decline fertility increase (Schellekens and Eisenbach, 2002). Later, all countries featured steady fertility declines at different levels and with different speeds. No country however ever reached as high a TFR as initially did Israeli Muslims – quite an exceptional feature that will have to be explained. Moreover their fertility transition suddenly stopped in the mid 1980s only to resume after 2005. Something similar happened in Egypt between 1970 and 1990 at a far lower TFR level, and something similar but far shorter lived occurred in the Palestinian Territory between 1990 and 1995 at a far higher TFR level. The final result was a significantly higher TFR among Muslims in Israel than among neighboring countries, with the highest on record in the Palestinian territory.

No simple correlation with human development would explain these intriguing differences. Egypt with the lower TFR also was the country with the lowest HDI. Palestine with an HDI slightly behind Syria ended up with a far higher fertility. Israel's Muslims with allegedly by far the highest HDI vis-à-vis the neighboring countries had initially the highest and finally the second highest TFR.<sup>6</sup> The conclusion of these comparisons is the emerging and consolidation over time of fertility levels in Israel not only generally high in international comparison, but also significantly higher than might be expected among cognate populations. A significant raising factor was at work, to be explained by exploring macro- and micro-social determinants.

## G. MACRO-SOCIAL CORRELATES OF FERTILITY LEVELS

### *1. Public motives for childbearing*

The first association that comes to mind when trying to explain high fertility levels in Israel relates to the possible direct influence of the conflict with the Palestinians. One well-known hypothesis is the so called insurance effect. Knowing in advance that some of their children might be the victim of deadly accident, adults would plan the sizes of their families so to accommodate beforehand for such unwanted event. If this were true, asked on the likely effect of a prolonged situation of security tensions, potential parents would answer that it would generate larger families. Perhaps the first effective test of this tenet came from the 2005 national Jewish family survey in which such a question was included. The survey, as already noted, included women and men married or in permanent unions aged 25 to 50. Asked about the effect of security on their family size plans, 7% of women and 9% of men answered it would cause them to wish more children, 27% of women and 15% of men answered fewer children, and 66% of women and 76% of men reported no change (DellaPergola, 2007). On the face of these findings, the insurance hypothesis probably should be rejected, although it cannot be absolutely excluded that unconsciously people do act keeping in mind the imponderables of security.

The doubts about the relation between war and children strengthen in the light of the findings of the Gallup poll of 2006 (Saad, 2006). Here a question was asked about the ideal number of children according to the preferred approach to achieving national goals, including self-determination and security for their people. Among Israelis, those who preferred "non-violent forms of resistance and negotiation" opted for 3.7 children and those who preferred "armed struggle and military solutions" opted for 3.6; among Palestinians the preferences were 4.7 and 4.8, respectively. These differences are too small to be considered significant.

A further testimony of a relatively less significant impact of ideologies on fertility that usually believed comes from another question in the 2005 Jewish family survey: If intending to have another child, what would be the main factor for supporting that additional child? The question was pre-coded with several private and public options and was followed by a request to freely indicate any further answer. The response rate, masking a possibly favorable attitude to further children (see below) was 60% among women and 46% among men. After collapsing several similar answers together, the overwhelming majority – 72% of women and 66% of men – reported family and child related motives, such as strengthening the couple, personal and couple gratification, child gratification, good to already existing brothers and sisters, that the home should not be empty, and the like. On the other hand, 17% of women and 21% of men reported religious, ideological or broader societal reasons, such as God commandment, religious motive, strengthening the Jewish people, country's security, and the like. These types of response were more visible only among families planning family sizes significantly above the average (see below). Finally, 11% of women and 14% of men gave a variety of other answers, including social acceptance and similar. The private, individual, household oriented character of family size decisions clearly emerged from these data over the possible alternative of decisions significantly motivated by public policy considerations in a context of persisting conflict.

## *2. Life satisfaction*

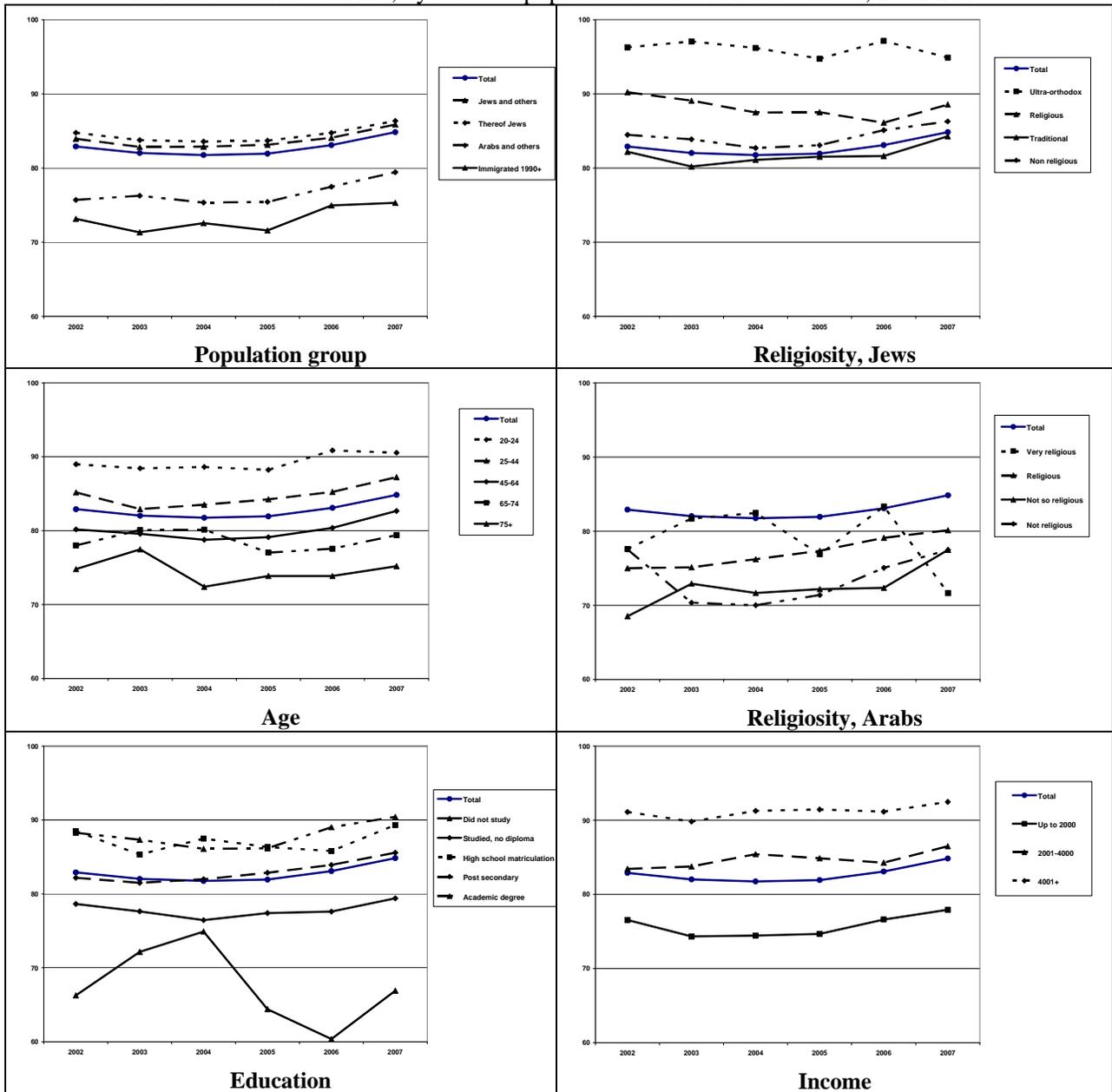
Having thus established the widespread prevalence of childbearing norms rooted in quite conventional perceptions of the nuclear family as a central goal in the human lifecycle, one further important clue to understanding fertility patterns in Israel comes from the national Social Survey undertaken yearly by the CBS since 2002. The study routinely asks about feelings of satisfaction with life, and optimism about the near future. Figure 7 summarizes the findings between 2002 and 2007 for a selection of population characteristics.

The first thing to be noted is the high general level of satisfaction with life in Israeli society. During the survey period, it started at 82.9% in 2002, diminished somewhat to 81.8% in 2004, and since increased constantly to 84.8% in 2007. It comes natural to associate the slight initial decline to the years of economic recession and rising unemployment, and the subsequent increase to the recovery of the Israeli economy. What may seem surprising is that the data do not even hint at the security crisis of the summer of 2006, when thousands of rockets were fired over the northern regions of Israel, killing over 100 persons. Warfare was followed by extensive investigations and accusations against the military and political top echelons and ended up into a significant reshuffling of leading personnel through fierce public criticism and discontent. All of this seems totally bypassed by the data.

Differentials in personal satisfaction by population characteristics provide important clues as to the underlying mechanisms. Thus it is not surprising to find a higher level of satisfaction in Israel among Jews versus Arabs, but what is perhaps more remarkable is the high level, rising tendency, and diminishing gap of Arab satisfaction: in 2008 79.4% against 86.4% among Jews. The least satisfied among major population groups were the more recent immigrants, most of whom from the FSU. Satisfaction was clearly and inversely related to age, with high levels above 90% among young adults below 25. Satisfaction was also significantly and positively related to educational attainment, the least educated being the only group with a notable temporary fall in 2006. Satisfaction was also positively related, quite expectedly, to income. The most impressive relationship was with the degree of religiosity. Among Jews the most religious group was steadily around or above 95% of satisfaction, with gradually lower levels among the more secular. Among Arabs the patterns were quite similar, although somewhat less stable over time.

These analyses are highly suggestive of an increasingly positive mood in the country, shared by all through variance across population strata, and perhaps surprisingly indifferent to the periodical ups and downs in the realms of security and the economy. If one reflects again on fertility and relates the expected future birth of children to a sense of confidence that those children will find a better environment or at least one worthy of living in, the public mood just described plausibly correlates with the observed fertility increase among the Jewish sector, and with its stabilization after decline among the Arab sector (with the prominent exception of the least modernized and most economically vulnerable strata). The spread and variation of such optimistic attitudes across sub-populations holding different characteristics also anticipates the attitudinal contexts in which different individuals form their predominant social interactions. In turn this may help to predict what might be expected when turning to an examination of fertility patterns at the micro-social level.

Figure 7  
 Percent satisfied with life, by selected population characteristics – Israel, 2002-2007



Source: Israel Central Bureau of Statistics.

## H. MICRO-SOCIAL CORRELATES: FERTILITY PROJECTS AND ACHIEVING THEM

### 1. Fertility attitudes and intentions

We turn now to an examination of the personal relationship to past and future fertility. This section mostly, though not exclusively, refers to Jewish adults married or in permanent unions and at reproductive ages. The 2005 fertility survey addressed personal demographic and socioeconomic

variables, religiosity, norms about self-fulfillment and optimism, gender roles, and *intended, most appropriate, and ideal* family sizes. We also investigated the desirability and feasibility of policies about family and reproduction (DellaPergola, 2007; 2009).

In 2005 the average number of children attained among families with still several years available for further potential growth was about 2.5 (Table 1). Married women above 40 had 3.7 children. Levels of expected, appropriate and ideal fertility in 2005 were quite similar to those found in two previous surveys in 1974-1975 and in 1988. Intended family size actually was 3.8 in 1975, declined to 3.5 in 1988 and grew again to 4.1 in 2005. The most appropriate family size for a family of the respondents' same socioeconomic status increased from 3.4 to 4.0. Excluding the more intensely religious sector – the *Haredim* from the Hebrew *hared*, fearful – the most appropriate family size still was 3.8 in 2005. Therefore, diffuse gaps existed between ideal perceptions (3-4 children) and actual performances (2-3 children).

Table 1  
Family Size Preferences of Married Jewish Women - Israel, 1974-2005

Number of children	1974-75 <sup>a</sup>	1988 <sup>b</sup>	2005 <sup>c</sup>	
	Total	Total	Total	Without Haredim <sup>d</sup>
Currently born		2.5	2.5	2.3
Personally intended	3.8	3.5	4.1	3.5
Most appropriate for an Israeli family of social status same as respondent's		3.4	4.0	3.8
Ideal for an Israeli family	4.3	3.7	4.1	3.6

a Source: Goldscheider and Friedlander (1986).

b Source: Kupinsky (1992b).

c Source: *Survey of Attitudes and Behaviors Concerning Family Size among Israel's Jewish Population, 2005*.

d Very religious, residentially concentrated.

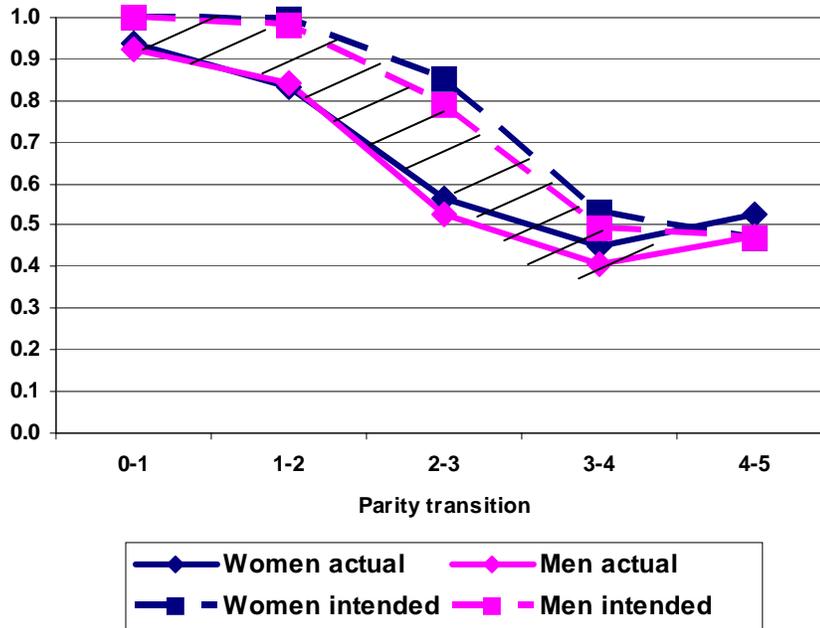
The 2006 Gallup survey asked somewhat similar questions (though different question wording and sampling coverage could be quite significant) and indicated a wanted family size of 3.7 for both Jews and Arabs in Israel, and 4.7 for Palestinians in the West Bank and Gaza (Saad, 2006). This would point to continuing convergence in fertility expectations in Israel, the difference being that the Jewish TFR is lower by one child versus perceptions of wanted children, while the Israeli Arab TFR would be quite on target. Without attributing too much importance to these comparisons, they nevertheless all systematically point to sustained demand for children in the foreseeable future. On the other hand Palestinians in refugee camps in the West Bank and Gaza expressed significantly higher desires for children, 5.6 on the average. This confirmed previous observations about larger families wanted and actually achieved among Palestinians in refugee camps in different locations (Khawaja, Assaf, Jarallah, 2009).

The several successive surveys of preferred family size among the Jewish population unveiled that, inasmuch as married people were concerned, those predictions were quite accurate when verified against the actual accomplishments several years later. The 2006 Gallup data were instructive, too, because they clearly outlined a widespread element of personal choice in having children and found strong evidence that people's preferred family size had a strong bearing on actual fertility rates. The trend lines for preferred number of children and the actual TFR were quite parallel within each major religion group.

While in 2005 among Israeli Jewish couples the first two children were nearly universally attained, transitions from the 2<sup>nd</sup> to the 3<sup>rd</sup>, and from the 3<sup>rd</sup> to the 4<sup>th</sup> child crucially shaped the current patterns and are likely to determine those of the future. Parity progression ratios of respectively, *actual* and *intended* performances were overall quite high – slightly more so for women than for men (Figure 8). Most notably, these actual and intended parity transitions were shown to be quite indifferent to current parity, pointing to a robust design of family size quite early in the reproduction cycle. The gap between the

actual and intended performances provided an important analytic tool of the overall family formation strategy and of the pace of its actual implementation, to be further investigated.

Figure 8  
Actual and intended parity transition ratios – Currently married<sup>a</sup> Jews, Israel, 2005



a. Including non-married persons in stable couple relations.  
Source: *Survey of Attitudes and Behaviors Concerning Family Size among Israel's Jewish Population, 2005*

Comparing *intended* vs. *appropriate* children, 63% of respondents indicated the same preference (Table 2). The most preferred was 3 children, followed by 5 or more for women, and by 2 or less for men. The latter group was largely dominated by parity 2. Among inconsistent answers about intended and appropriate children, 28% of women and 22% of men intended to have *more* children than appropriate, while 8% of women and 15% of men intend to have *fewer* children than they deemed appropriate. Women reported inconsistent preferences more than any consistently specified parity. Men more clearly preferred 3 children, followed by those intending to have more children than they deemed appropriate.

Table 2  
Number of intended<sup>a</sup> vs. appropriate<sup>b</sup> children – Currently married<sup>c</sup> Jews, Israel, 2005

Gender and age	Number of Intended vs. Appropriate Children						Total	N
	Same				Different			
	0-2 <sup>d</sup>	3 <sup>d</sup>	4 <sup>d</sup>	5+ <sup>d</sup>	I<A <sup>e</sup>	I>A <sup>f</sup>		
Women, 25-45	12	25	11	16	8	28	100	975
Men, 25-50	14	26	11	11	15	22	100	481
Women % difference	-14	-4	=	+45	-47	+27	=	

b. Sum of total number of children born so far plus total additional children expected.  
c. Number of children most appropriate for family with standard of living same as respondent's.  
d. Including non-married persons in stable couple relations.  
e. Same number of children Intended and Appropriate.  
f. Number of children Appropriate 3, 4, or 5, and fewer children Intended.  
g. Number of children Appropriate 2, 3, or 4, and more children Intended.  
Source: *Survey of Attitudes and Behaviors Concerning Family Size among Israel's Jewish Population, 2005*

## 2. Determinants of intended and appropriate family size

Historically, a central feature of fertility in Israel concerned the amount of consolidation across subpopulations displaying different socio-demographic characteristics. We already noted that in a society deeply affected by immigration, significant convergence of fertility patterns occurred between Jewish women immigrated from Asia and Africa and from Europe and America. Jewish women born in Israel – themselves the product of growing intermarriage of immigrants from different continents (Okun, 2004) – reached family sizes consistently intermediate between immigrants of the main origins. The geography of origin thus lost its predictive power regarding family size.

In the relationship of fertility to socioeconomic status – observed in terms of the mothers' level of education attained and labor force participation – as already noted, significant accommodation of reproduction levels and schedules to changing patterns of training, entering the labor market, and actually being employed, without however the overall TFR outcome being affected. *Prima facie*, a combination of rapid and deep modernization expressed by more complex social and economic roles for women seems to go hand in hand with more conservative and stable fertility behaviors.

Stable time patterns in fertility levels in turn imply scarce variation of completed fertility across successive cohorts. Gallup, too, found no difference in preferred number of children by age in Israel, but did among Palestinians where those aged 50 and older preferred more than five children per family, compared with about 4.5 children preferred by those under 50.

As against the diminishing relevance of age geographical origin, educational attainment and labor force participation as co-variates of fertility levels, patterns of religiosity continued to be prominently associated with family size. Table 3 reports current and intended children among Jewish married women and men based on a measure of self-assessed religiosity. We constructed a scale of religiosity based on the joint processing of two questions, each rated on a four category scale: (a) *How do you assess the intensity of your Jewish religiosity?* (b) *How intensely you observe Jewish traditional practices?* (Levy, Levinson and Katz, 2002). The resulting cross-classification was reorganized into a seven-ladder scale covering the continuum between a most religious and a most secular end.

Family size directly related to self-assessed religiosity. Among women the number of children already born in 2005 grew from 1.7 at the secular end of the distribution, to 4.7 at the religious end. Among men, the number was lower at the religious end (4.2), and higher at all other levels of religiosity, down to 2 at the lowest religiosity level. The highest religiosity end had had 2.7 times as many children than the lowest religiosity end among women, and 2.1 times among men. Regarding intended family size, it ranged between 8.8 children at the most religious end and 2.8 at the most secular end among women, and between 8.8 and 2.7, respectively, among men. The sub-set of most religious Jewish women self-defining as *Haredi* expressed a preference for 9.8 children. The very high actual and intended family sizes among the most religious – 9% of respondent women and 5% of men – were quite unique in international perspective. But family norms at the secular end – 13% of women and 17% of men – were no less unique and perhaps more surprising since this group might be thought to be far less family oriented. Preferences for 2.7-2.8 children among the most secular appear unusually high in comparison to prevailing norms in more developed societies.

Table 3

Measures of fertility by self-assessed religiosity – Currently married Jews, Israel, 2005

Religiosity self-assessment <sup>a</sup>	Current children		Intended children	
	Women	Men	Women	Men
Total	2.54	2.45	4.11	3.74
Religious end	4.69	4.24	8.76	8.77
Religious	3.78	(3.05) <sup>b</sup>	7.08	6.94
Religious orientation	3.21	3.74	5.37	5.04
Intermediate	2.77	2.94	3.99	4.23
Secular orientation	2.27	2.36	3.53	3.64
Secular	1.98	2.05	3.07	3.04
Secular end	1.72	2.00	2.82	2.66

a. Cross-classification of normative and behavioral self assessments (reduction of 4 x 4 table).

b. Less than 20 cases.

Source: *Survey of Attitudes and Behaviors Concerning Family Size among Israel's Jewish Population, 2005*.

In the following we assumed that individuals who preferred different final parities constituted distinct subpopulations, rather than viewing parity preferences as a continuum. Systematic examinations of the 2005 survey data were performed through binary logistic regressions with odds ratios for all the main consistently intended and appropriate parities: 0-2, 3, 4, and 5+ (DellaPergola, 2007). A summary of the main findings is reported in Appendix 1. Respondents indicating each specific parity or type of inconsistency between intended and appropriate parity were contrasted to the rest of the whole sample. Pseudo R squares, as expected, varied according to parity preferences and were highest at both ends of the parity range. The lowest R square – pointing to a sort of statistical multivariate consensus – obtained for parity 4. We examine first the net effects of selected variables on clearly specified parities, derived from the full models. Odds ratios from separate logistic regressions on specified parities are jointly displayed as if coming from cross-tabs of odds ratios by the stated parities (Figure 9).

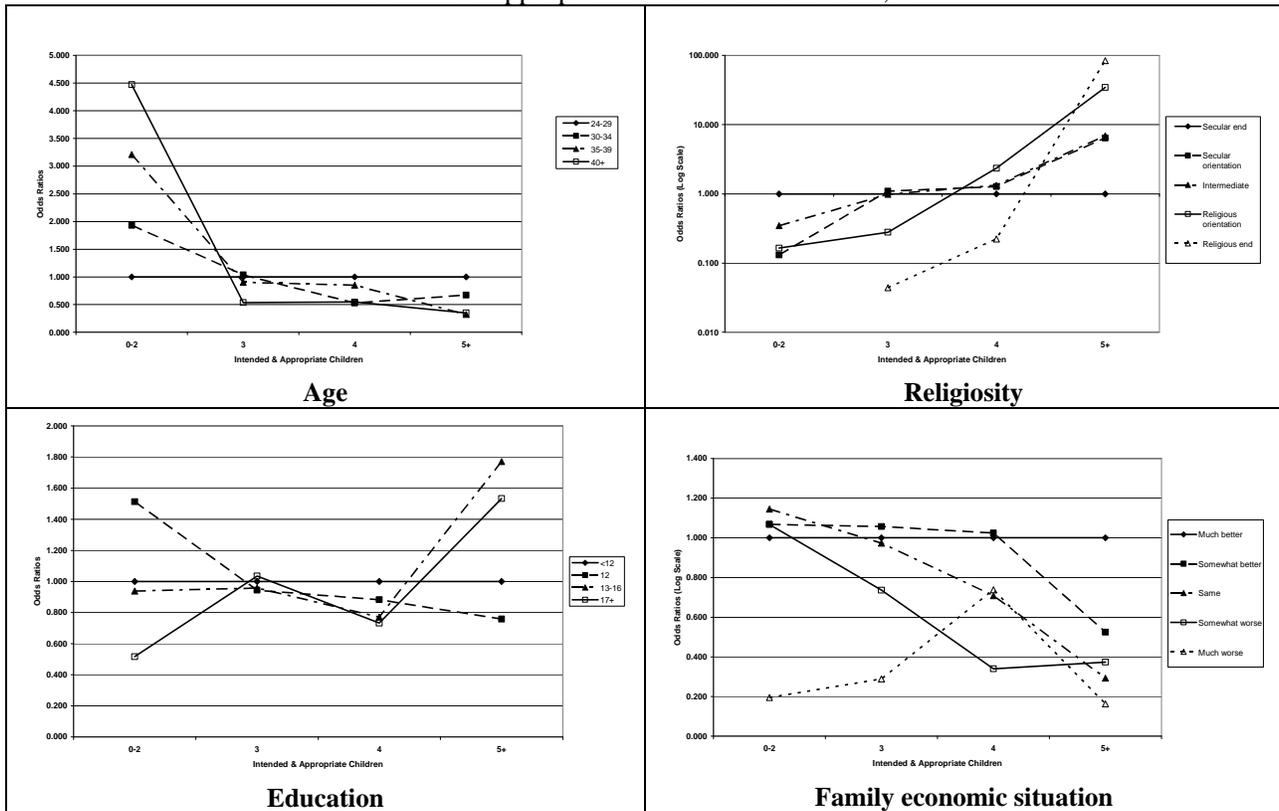
The relationship of *age* and parity was quite flat, correctly reflecting the long term lack of variation in period fertility measures, and also outlining an intended continuation of such stability. If anything, all age groups older than the reference group (25-29) had lower odds for parities 3-5, meaning **higher** fertility propensities among the younger. The only exception obtained at the lowest parity group where there appeared a powerful effect of older age on preferring that parity.

Quite importantly, an overall **positive** relationship emerged between years of *education* and preferred parity (reference group: less than 12 years). The relationship with higher education (17 or more years of study) was negative at lower parities (0-2), and became positive at higher parities (5+).

Perceptions of *relative economic situation* at the household level were **directly** related to preferred parity (reference group: personal status much better than average). The evidence was of a deterrent effect of scarcity of means on fertility, and of a positive relationship of household economic resources to parity.

The relationship of self-assessed *religiosity* to preferred parity was quite expectedly clearly **positive** (reference group: secular end of a five-ladder scale). The visible effect on the more religious end of the distribution actually appeared only at parity 5 and above.

Figure 9  
 Logistic regression odd ratios for selected characteristics of Jewish couples with consistent intended and appropriate n. of children – Israel, 2005



Source: Survey of Attitudes and Behaviors Concerning Family Size among Israel's Jewish Population, 2005

The gist of this synthetic overview is the reversal of the classic negative relationship between socioeconomic status and fertility into a positive one, and this occurred under the impetus of the youngest cohorts that were the better educated and the most satisfied with their life environment. Motivational factors related to religiosity were not extraneous to this whole attitudinal complex, but as already noted, the more religious were also found to be the more satisfied.

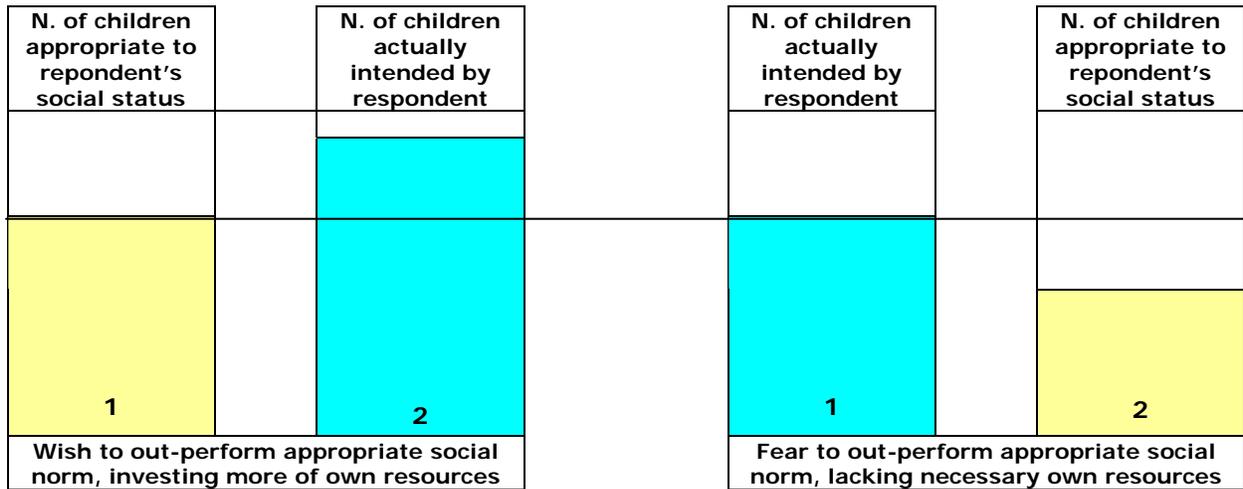
### 3. Discrepancies between intended and appropriate family size

A significant finding for cognitive, projection and policy purposes was the presence of a large share of actual and potential parents whose preferred intended family size differed from their own perceived most appropriate family size. How can we reconcile these inconsistencies?

When the intention was expressed to have a family smaller than appropriate, this was often related to relatively late age and to health motives, as well as women's socioeconomic motives. None of this can cause surprise.

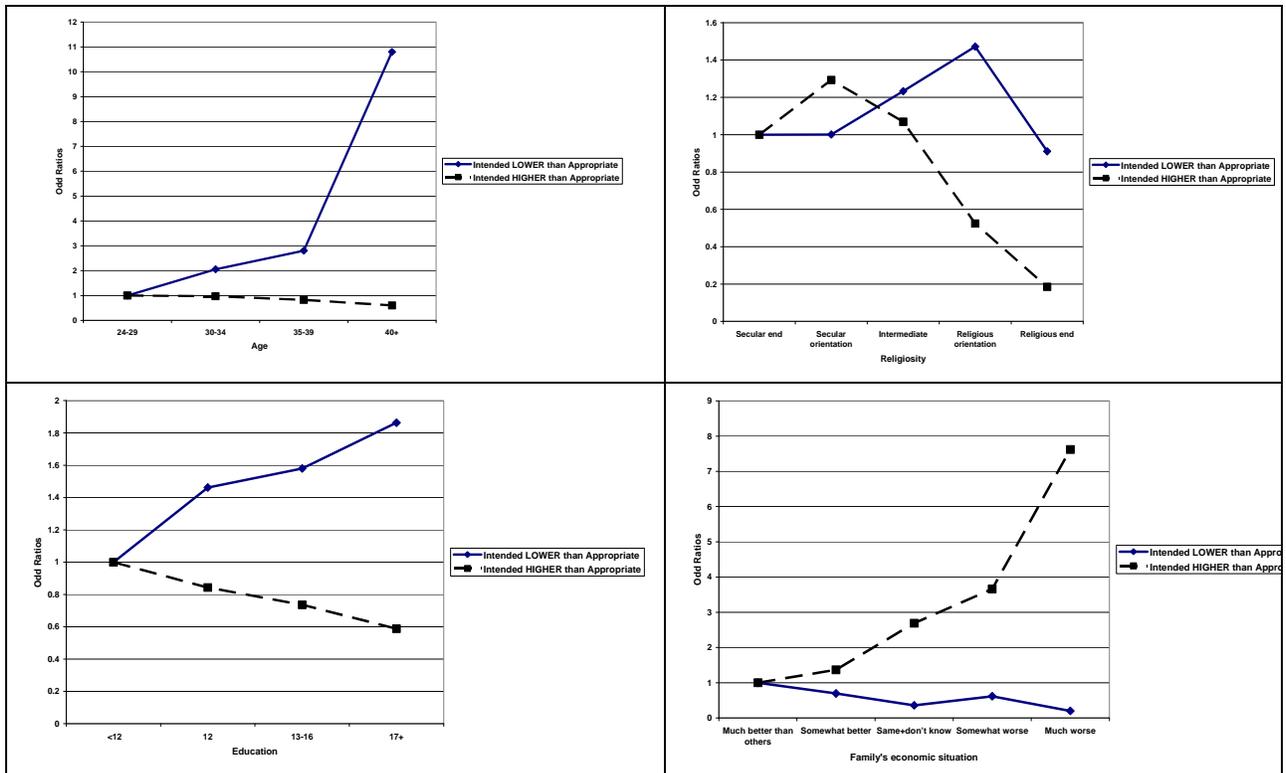
But when, as in fact it occurred more often, intentions were higher than one's own feelings of appropriateness, explanations were more complex and ambivalent (Figure 10). A first explanation could be that people, first, determine a family size most appropriate to their own social environment, and at a later stage they choose to out-perform that norm. This would imply investing more personal resources than usual among others among their peers to achieve that ideal parity goal. A reverse explanation would be that, first, people determine their expected performance in terms of final parity, and subsequently feel that their performance would exceed the appropriate family size given the resources available to them. Two opposed meanings therefore apply to apparently similar inconsistent parity answers.

Figure 10  
Alternative explanations of inconsistent intended > appropriate n. of children



Returning to the results of the 2005 survey of Jewish families, we again jointly display odd ratios from separate full-scale binary logistic regressions for the two types of inconsistent intended and appropriate parity (Figure 11).

Figure 11  
Logistic regression odd ratios for selected characteristics of Jewish couples with inconsistent intended and appropriate n. of children – Israel, 2005



Source: Survey of Attitudes and Behaviors Concerning Family Size among Israel's Jewish Population, 2005

*Age* appeared to be powerfully and **directly** related to planning fewer children than appropriate. It had a very weak **negative** relation with planning more children than appropriate, meaning that the concern would be greater among the younger cohorts.

*Education* clearly displayed a **positive** relation to intending to have *fewer* children than appropriate, and a **negative** relation to intending to have *more* children than appropriate. In simpler words, among those giving inconsistent answers on intended and appropriate children, higher education ended up with feelings that smaller families were more appropriate. Those who felt the inconsistency on the higher side were the less educated.

Similarly, the family's *economic situation relative to others* was clearly and **directly** related to intending to have *fewer* children than deemed appropriate, and produced a **reverse** relation to intending to have *more* children than appropriate. Here again, persons of lower economic status or at least feeling a dearth of economic resources were those intending to have larger families than appropriate.

Regarding *religiosity*, the relation with intending to have *more* children than appropriate was overall **negative**. This probably intended to convey the notion that among the more religious under any circumstances there could be too many children which would be tantamount to imposing an upper boundary to Divine Providence.

In sum, conflicting evidence emerged for those who consistently perceived the number of children they intended to have and deemed most appropriate socially, no matter what the parity, and those who inconsistently perceived their intended and most appropriate final parity. Among the former, higher socioeconomic status measured through both education and family resources promoted more children; among the latter, more intended children associated with lack of socioeconomic security and a perception of insufficient family resources.

## I. POLICY DEMAND AND SUPPLY

Demographic trends significantly impacted on Israel's regional and global political relations and long constituted a topic for policy planning debate (Friedlander, 1974; Bachi, 1977; DellaPergola and Cohen, 1992; Jewish People Policy Planning Institute, 2005). In particular the differential rate of growth among different sub-populations involved on opposite sides of the ongoing conflict was allegedly bound to alter the demographic balance among those groups with significant implications for the balance of power and governance in the region (DellaPergola, 2003).

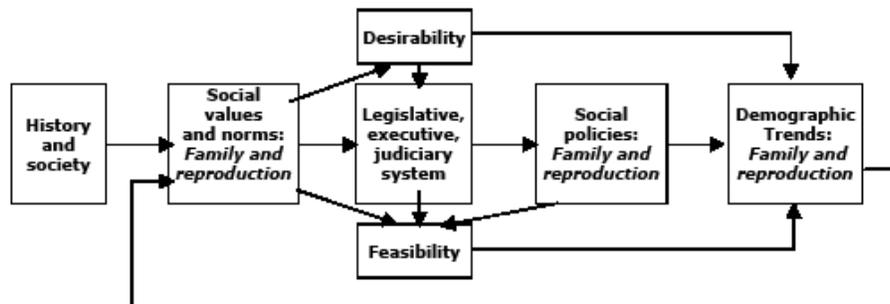
Important issues for policy consideration concerned the translation of fertility norms and ideals into practice, the predictive value of declared fertility intentions, and the matching up of *desirability* with *feasibility*. Questions for policy discourse in Israel included the following:

1. Can *actual* children be brought up to match *intended* children?
2. Can *intended* children be brought up to match *appropriate* children?
3. Can child *desirability* be affected?
4. How do large-scale immigration and ethnic diversity affect fertility?
5. How does the *majority-minority* dialectics affect fertility, especially under tense political circumstances?

While research often stressed the micro-social level, in the Israeli context macro-social identities and projects played important roles. The final outcome of reproduction indeed tended to reflect, among other things, policies enacted by national legislative, executive and judiciary systems that tended to enhance child *feasibility*. It also reflected norms and values prevailing in society about child *desirability* (Figure 12). Institutional decisions and processes unavoidably reflected social norms that prevailed in society and also at the same time affected the thinking of those public officers that were involved at the legislative, executive and judiciary level of responsibility. Population policies, as all other policies, in Israel tended to reflect the negotiations and compromises inherent in a much fragmented proportionally representative parliamentary system that produced coalition governments in which small parties garnered a substantial share of power. Since these parties tended to represent specific population groups in terms of

religiosity, ethnic origin, socioeconomic status, their effect on policies could remarkably promote the interests of the respective constituencies. However the alternance of government coalitions conspicuously detracted from the continuity and coherence of policy planning. Thus, typically in the area of family allowances, the Israeli Treasury historically moved back and forth between more generous and less generous. Particular interests usually prevailed over a general understanding of the relationship between demography and society.

Figure 12  
Direct and indirect societal effects of values and norms affecting family and reproduction in Israel



Public perceptions of incentives, constraints, and negotiations with family size provided the cognitive background to different policy options that might become available, and provided further important clues as to the possible direction of future fertility trends. As already noted, our survey data clearly indicated that personal and household needs prevailed over public motives as the main determinant for family growth. Moreover about 60% of the couples supported public interventions that might *encourage* larger families, with another 27% in favor of letting families do what they wish, and only 4% in favor of smaller families.

Quite intriguingly nearly 80% of women and 70% of men were ready to reconsider their final fertility targets by adding one child – were the appropriate circumstances to emerge (Table 4). Attainment of such intentions, if at all feasible, involves a quest for an improved infrastructure of services and facilities grounded on enhanced quality of childrearing, equitable and more flexible conditions for working women, and access to more suitable housing – rather than money transfers or tax benefits.

The prime factor likely to bring a parent (in this case a woman parent) to reconsider previous family targets was provisions for early childhood care (28% of respondents). This implies strengthening an infrastructure that to some extent exists in the State of Israel but in the minds of the respondents should be further developed. The costs of education beyond early childhood also constituted a child-related concern (10%) – more visible among those intending to have more children than appropriate. The next most significant concern related to women employment (18%) such as more flexible working hours, having a longer interval between having a child and returning to work, and not being discriminated against in career development because of the time devoted to the family. Housing followed (14%), more so among 4 child families and among those intending to have more children than deemed appropriate. Interestingly very little emphasis emerged on money transfers (5%), namely child allowances, or tax exemptions (5%). Child allowances have constituted the paramount tool in the Israeli government’s family policies and even more so a bone of contention in public debate. Only families envisaging 5 or more children stressed the importance of money transfers. This is significant in view of the ideological background of decisions among the larger family size group. Fertility treatment was a further factor for having more children than intended (3%), evidently not only confined to those in need but stressed among larger families.

Finally, a significant minority (17%) went back to pure family norms, by declaring that more children are good to children. Here again families aiming at 5 or more children were prominent. It is intriguing to find that one in six women, after resolutely establishing their family size targets, were ready to consider one more child on purely normative grounds.

Table 4  
Main factor affecting having one additional child above number intended –  
Currently married Jewish women, Israel, 2005

Factors	Number of Intended vs. Appropriate Children						Total
	Same				Different		
	0-2	3	4	5+	I<A	I>A	
<b>Response rate, %</b>	<b>47</b>	<b>82</b>	<b>80</b>	<b>70</b>	<b>70</b>	<b>83</b>	<b>78</b>
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
Early childhood care	44	27	24	11	33	31	28
Child education	10	9	8	7	10	14	10
Woman employment	17	22	16	14	19	15	18
Housing	10	13	19	11	10	18	14
Money transfers	2	3	2	16	2	6	5
Tax exemptions	7	6	7	5	0	4	5
Fertility treatment	1	1	4	6	4	2	3
Good to children	8	19	20	30	23	10	17

Source: *Survey of Attitudes and Behaviors Concerning Family Size among Israel's Jewish Population, 2005*

Separate data for men, not shown here, unveiled greater sensitivity to some of the monetary aspects. Men were embarrassingly less attentive to child education and early child care – something that needs to be dealt at a deeper educational level.

Taken together, these findings are likely to somewhat affect public discourse on population trends in Israel and carry broader implications for expectations regarding future fertility trends. The dilemma also emerges of a conflict of interests between universal and selective policy provisions. Those more likely to respond to policy incentives – shown by their inconsistent stance on intended and appropriate family size – often belonged to lower socioeconomic strata. Additional births that might result from policy interventions would thus primarily reinforce those who were in quest for economic support. On the other hand, trying to enhance the unexploited potentials of wanted fertility among the socio-economically stronger risked infringing rules of equal opportunity and social justice. All in all, our study unveiled a continuing demand for children in Israel and a quest that public policies would supply the support needed to achieve them.

#### J. DISCUSSION: SOME LESSONS AND PROSPECTS

While in the general context of demographic transitions levels of mortality, fertility, and socioeconomic development tend to form one coherent cluster, we clearly documented that this was not necessarily the case for Israel's population, either in its complex or for its Jewish, Christian and Muslim components. Israeli society displayed social and demographic patterns unlike other populations that roughly shared the same fertility levels. If one views fertility levels as a product or at least a correlate of several other variables – such as health patterns and socioeconomic development – recent TFRs in Israel among both Jews and Arabs were definitely out of the range of behaviors observed among other populations with similar characteristics. Such intriguing difference can be described as *a bonus fertility* over the average fertility level of countries whose other demographic characteristics were comparable. Countries with a matching TFR usually had much higher infant mortality rates, and much lower GNP per capita.

The apparently anomalous fertility patterns of Israelis can be explained by an unusual combination of factors that counteracted the trends toward smaller family size characteristic of many modernizing societies (van de Kaa, 1996). First, fertility supporting attitudes are rooted in, or derived from, religious and cultural traditions shared by the vast majority of the population, within either the Jewish or the Arab sector (DellaPergola, 1988; Haydar, 2006). Traditional moral imperatives, widespread conventions, and extended family networks encouraged families to have more children. Under the influence of these traditionalist tenets, some of the more traditional sectors of the Jewish population were discouraged from seeking employment and career rewards and pushed toward early marriage and reproduction (Berman and Klinov, 1997). This was true also among the more traditionalist Muslims. But in spite of some high profile declarations such as Arafat's "war of the cradles" (Steinberg, 1999), the evidence about the actual impact of security awareness and nationalist militancy on fertility seemed inconclusive.

Israel's relative high and improving economic well-being provided the means for both Jews and Arabs to afford more children, and national policies in part encouraged this through some public incentives and constraints (Israel Ministry of Labour and Social Affairs, 1992; DellaPergola, forthcoming). The Israeli household's comparatively favorable economic situation enabled accumulation of income, durable goods, and other resources, thus allowing Israelis to "purchase" larger families. Among Arabs, the already noted stoppage for twenty years of the process of fertility decline that had begun in the 1960s probably reflected too a situation of relative prosperity (though still at much lower income levels than among Jews) at a time when the respective social structure was radically transforming from rural to urbanized, and from agriculture to industry, construction and services, occupational tertiarization was slowly emerging, possibly a favorable conjuncture prevailed in the marriage market, and changes in breastfeeding practices were occurring (Nahmias and Stecklov 2007). At the same time there is at least anecdotal evidence of some efforts that were invested by the religious and political leadership to mobilize the Palestinian street against modernization. In broader terms, the Israeli-Arab conflict did thus play a role as a catalyst enhancing group identity, hence family norms.

Furthermore, Israel's policies included a package of mother-child allowances, extensive public-educational facilities (including tax-supported preschool), and provisions to ease the situation of working women. This was part of a broader system of transfer payments appropriate to a modern welfare state that was not usually available to comparable populations in neighboring countries, neither sometimes in some western countries. The objective of such policies was much more explicitly to ease poverty than to act as fertility incentives or general regulators of demographic trends and population structure. Concern with aging was often part of public discourse, but never the connection between the birth rate and long term age composition was made explicit or perhaps understood.

Israel also developed a well-articulated and universally accessible public-health system. Other things being equal, good healthcare for adults and children allowed for longer and more fecund reproductive spans, translating into more children. The health system also took care of the demand for children through voluntary fertility treatment, one characteristic symptom of which was the uniquely high frequency in Israel of multiple births (Zach, Pramanik and Ford, 2007).

The Israeli national commitment – at least nominally – to support larger families operated across the board, devoid of ethno-religious bias that might promote differential growth of specific population groups. For example, under the pressure of Jewish religious political parties legislation enacted in Israel in 2000 strongly increased child allowances for the fifth child and above. By that provision, about 40 percent of child-allowance benefits went to the families of Israeli Arab newborns at a time when Israeli Arabs constituted only about 20 percent of the Israeli population (not including the Palestinian territories) (DellaPergola, 2009). A package of economic reforms approved by the Israeli Knesset in May 2003 included a significant cut in child allowances and a provision for gradual downward equalization of the amounts paid to each successive child (Zarhiah, 2003). Another mechanism indirectly affecting fertility was a system of public subventions for education and housing channeled through particular ethno-religious communities rather than directly to individuals. By lowering the cost of childrearing for designated subpopulations, these provisions tended to support the birthrates and higher fertility of these groups.

The combined impact of these fertility-supportive factors apparently outweighed the effects of the considerable improvement in educational attainment of both Jewish and Arab women, a trend that in the first place ought to have exerted a rationalizing influence toward smaller families. One can also conjecture that prolonged years of religious education for many men and women in Israel and Palestine reinforced the religio-cultural influences supportive of larger families among the more educated. But more importantly it now clearly appears that even the secular education by providing women with better opportunities for employment and careers, hence better income and empowerment, promoted fertility by creating the conditions that made larger families more affordable. This was part of a transformative change in the relations between socioeconomic status and family size that from historically negative tended to become positive. Achievement and upward social mobility generated optimism which in turn provided the bases for wishing and actually attaining the children that would ensure generational continuity.

#### K. IMPLICATIONS FOR POPULATION PROJECTIONS AND CONCLUSIONS

Two main conclusions emerge from our survey of fertility trends in Israel, one of method and one of substance. One of the peculiar traits of Israeli society was the constantly active presence on the front of family formation of population groups that did not seem prone to social change, whose fertility tended to be high, and whose share of total population consequently tended to grow. These groups tended to swallow the overall weighted average of national fertility levels, and when a tendency to fertility decline would start developing, they would retard it.

The analytic imperative arises not to consider Israel society as one demographic bloc but rather as a conglomerate of quite different sub-populations. Facing population projections, after disaggregating society into its various components, separate paths of change need to be considered. This requires developing separate schedules for the different sub-populations, reconstituting the total from these at a second stage. Indeed population projections carried out with such an approach for a highly heterogeneous city like Jerusalem produced quite highly accurate results that hold steady against the real data as time goes by (DellaPergola, 2001; 2008).

In this respect, one intriguing question concerns the possible extent of passages from one sub-population to another that might significantly affect the final outcome. In the Israeli case, passages between religion and ethnicity groups and categories were extremely rare and unlikely. They could occur more often from a status of non-classified to a more definite group status. Within each major religion group, passages across the behavioral spectrum more or less tied to traditional ideational models were possible, did occur with some frequency, and constituted one of the factors to be analyzed in professional population projections.

All the diverse evidence reviewed here points to a very conservative pattern of fertility change, in spite of substantial societal change at both the micro- and the macro-level. While for observers from the outside the Israeli societal system often looked quite unstable under stress, and while this also was sometimes the perception of the local population, society overall and its major sub-populations displayed significant resilience reserves. It is nevertheless sensitive to warn that under extreme circumstances the whole somewhat fragile equilibrium that prevailed in the past might be disrupted beyond recognition. The threat of nuclear interventions that has been raised so often in recent public discourse is a reminder of an eventuality that would produce catastrophic consequences for the whole societal fabric – of which fertility levels are but a sensitive barometer. Under the hopefully more realistic assumption that no major disruption is bound to occur, the unique interplay of ideational and social structural options and constraints in Israel society seems likely to lead to continuing of the present relatively high and stable fertility levels into the foreseeable future.

Appendix 1  
 Logistic regressions for number of intended/appropriate children: full model odds ratios (Total n.  
 = 1454) – Israel, 2005

Explanatory variables	Number of Intended vs. Appropriate Children					
	Same				Different	
	0-2	3	4	5+	I<A	I>A
<b>1. Background variables: a. Basic</b>						
<b>V1. Sex: ref. Female</b>						
Male	.741	1.196	1.237	1.177	.861	.806
<b>V3. Age: ref. 24-29</b>						
30-34	1.932**	1.036	.528**	.670	2.054*	.968
35-39	3.210***	.902	.851	.322***	2.802**	.823
40+	4.473***	.536**	.545	.351**	10.780***	.599*
<b>V126. Country of birth: ref. Israel</b>						
FSU	3.596***	.705*	.421**	.190**	1.189	.682*
Other	1.247	1.049	1.015	.741	1.351	1.062
<b>V137A. Education: ref. &lt;12</b>						
12	1.513	.944	.882	.758	1.462	.843
13-16	.938	.958	.771	1.771	1.580	.736
17+	.517	1.035	.733	1.553	1.863	.588
<b>V113. Employment status: ref. No work, does not seek</b>						
Does not work, seek	1.187	1.496	.617	.703	2.120	1.333
Work part time	1.220	1.139	.771	.760	2.120	1.299
Work fulltime	1.188	1.278	.733	.591	1.810	1.256
<b>b. Socioeconomic</b>						
<b>V123. Family's relative economic situation: ref. Much better than others</b>						
Somewhat better	1.068	1.057	1.024	.525	.697	1.368
Same+don't know	1.145	.973	.708	.293**	.359***	2.689***
Somewhat worse	1.067	.736	.340*	.374	.616	3.660***
Much worse	.195	.289	.738	.163**	.202	7.624***
<b>V122. Sources of economic help: ref. Parents</b>						
Others	.787	.997	.768	.804	1.187	1.189
None	1.065	.953	.677*	1.061	1.116	1.179
<b>V120. Family economic status next year: ref. Much better</b>						
Somewhat better	1.627	.721	1.354	.588	1.219	.977
Same	1.610	.821	1.293	.457**	.924	.942
Somewhat worse	1.811	.653	1.239	.114***	1.639	1.093
Much worse	2.004	.725	.300	.181**	.535	1.499
<b>c. Social norms</b>						
<b>V80. Attitudes about children: ref. Most important thing in life completely agree</b>						
Moderately agree	.708	1.388**	.867	.721	1.128	.991
Moderately disagree	.934	.946	.798	.507	1.050	1.351
Completely disagree	1.278	.720	.536	1.398	1.678	.907
<b>V124. Career orientation: ref. Not at all</b>						
Moderately	.942	1.788***	1.436	.993	1.017	.615**
Somewhat	1.015	1.178	1.512	1.072	1.330	.967
Very much	.657	1.310	1.787*	.794	1.073	1.023
<b>d. Religiosity</b>						
<b>ZEHUT. Religiosity: ref. Secular end</b>						
Secular orientation	.131***	1.092	1.274	6.403***	1.001	1.293
Intermediate	.346***	.982	1.332	6.899***	1.233	1.069
Religious orientation	.165**	.278***	2.345***	34.580***	1.472	.524**
Religious end	-	.044***	.222***	83.610***	.911	.185***
<b>2. V84A. Current children: ref. 0</b>						
1	.944	.579**	.987	1.610	1.440	1.557
2	.389	.517**	1.432	1.273	1.881	1.875**
3	-	1.532	1.680	3.732*	1.171	1.662
4	-	-	7.051***	6.621***	.743	2.750***
5+	-	-	-	41.770***	-	1.439
<b>3. V59B. Preferred policy options: Factors supporting having one additional child above currently intended ref: None</b>						
Early childhood care	.816	.850	1.092	.726	1.020	1.432*
Child education	.720	.794	1.510	1.858	.932	1.592*
Woman employment	.711	.1356	1.128	1.163	.770	1.215
Housing	.453**	.705	1.800*	1.057	.656	2.060***
Money transfers	.663	.878	.810	1.246	.612	1.558
Tax exemptions	.656	1.263	1.195	1.226	.281**	1.687
Fertility treatment	.084**	.545	1.886	4.557**	1.602	2.319*
Good to children	.313***	1.156	1.430	1.595	1.414	.985
<b>Constant</b>	.235	.570	.125***	.039***	.013***	.110***
<b>Pseudo R<sup>2</sup></b>	.456	.279	.189	.679	.216	.169
<b>N</b>	<b>187</b>	<b>371</b>	<b>161</b>	<b>209</b>	<b>145</b>	<b>381</b>

\*\*\* p < 0.01\*\* p < 0.05 \* p < 0.1 Source: Survey of Attitudes and Behaviors Concerning Family Size among Israel's Jewish Population, 2005

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#### NOTES

<sup>1</sup>While it is UN practice to refer to Occupied Palestinian Territories, we use here the definition Palestinian Territory as adopted by the Palestinian Central Bureau of Statistics (PCBS).

<sup>2</sup>The study was made possible thanks to the support of the Jewish Agency for Israel (JAFI), an Israel-based organization mainly concerned with welfare and public advocacy among Jewish communities worldwide and among the Jewish constituency within Israel's society. The survey was part of JAFI's Demographic Initiative – a research program aimed at Jewish populations globally. Singles and single parent households were not included. In 2007 the latter accounted for 15% of all one family households of all ages with children at home (Israel, CBS, 2008, table 5.3). Sample stratification reflected actual population composition estimates by Israel's Central Bureau of Statistics on age, geographical region, type of locality, and population sector: immigrants from the FSU, residents in very religious (*Haredi*) neighborhoods, and others. Women and men were

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separately interviewed by telephone based on nearly identical questionnaires. Recent immigrants from the FSU were interviewed in Russian. Reflecting great public interest on the topic investigated, a 95% response rate obtained among the target population actually reached. Although independently drawn, the female and male samples provided highly consistent answers inasmuch as characteristics of respondents and the respective spouses could be matched – such as labor force characteristics or religiosity. When the answer to questions on number of children was "as pleases Providence" and similar, a number was coded equivalent to the average for the self-defined very religious group in the given question.

<sup>3</sup>The 1949 armistice lines, superseded by the 1967 war, were printed in green on many standard geographical maps.

<sup>4</sup>The data series for U.S. Jews was created using for earlier years TFRs retrospectively estimated from surveys, and for later years cross-sectional data on completed fertility assuming an average age at motherhood of 30.

<sup>5</sup>Unlike the other countries mentioned, Saudi Arabia does not have a common border with Israel, but is visible without need of binoculars from Israel's southern shore on the Red Sea.

<sup>6</sup>A separate HDI can be roughly estimated for Israel's Arab population following a number of assumptions. With a life expectancy of 75.9 for males and 79.7 for females, and an average of 77.8 in 2008, Israel Arabs fell in between Kuwait (77.5) and Slovenia (78.2), obtaining a partial index of .880. With a school enrollment rate of 99.1%, Israel Arabs equaled Israel's total, obtaining a partial index of .947. Income distribution data allow for a rough estimate of the Arab sector's income at 60% of Israel's total average income (\$26,000), hence \$15,600. Israel Arabs fell between Poland (\$16,000 with a partial index of .847) and Russia (\$14,700 with a partial index of .833), obtaining a partial index of .840. The Israeli Arabs' HDI would be .889, in between those of Bahrain (.895) and Estonia (.883), and would thus rank between 39<sup>th</sup> and 40<sup>th</sup> in the world as against 27<sup>th</sup> for Israel (including its Arab component). It would thus rank far higher than each of the countries here compared on fertility: Saudi Arabia (59), Lebanon (83), Jordan (96), Syria (107), Palestinian Territory (110), Egypt (123).