

Europe and Israel: Understanding the Puzzle of Low Vs. High Fertility in Developed Countries

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Background:

Across much of the developed world, total fertility rates (TFRs), or the average number of children a woman is expected to bear in her life, have declined markedly since the 1960s. Having plateaued in the 1980s, TFRs for these countries currently average 1.6 in Europe and 2.1 in the United States. Particularly concerning to governments and demographers is the fact that TFRs below population replacement level (roughly 2.1) have negative indications for national economic and social wellbeing, as a societal age structure with far fewer young people than old people has serious implications for reduced economic production over time and reduced state-provided benefits whose revenue base is citizen taxes.

Yet, throughout the highly developed, democratic world there is one country whose TFR has consistently remained near 3.0 for the last two decades: Israel (see Figure 1). Relatively speaking, a national TFR of 3.0 makes Israel a remarkable high fertility case among developed countries (Bystrov 2012; Fargues 2000). Yet, prior work does not provide a clear explanation for Israel's high fertility relative to other highly developed countries.

As many nations grapple for policy responses to below-replacement fertility levels, understanding Israel's high fertility puzzle may provide important insights. Very little comparative fertility research has included Israel (e.g. see Rindfuss et al. (2003), for an analysis which includes all highly developed countries but Israel), and little research has cross-nationally looked at the most important fertility indicators net of each other, making it unclear if the most established indicators of fertility operate differently within Israel and within countries across the developed world. Much demographic research assumes that the most established predictors of fertility (value of children (Westoff 1990; Coleman 1996; Bongaarts 2001), religiosity (Berghammer 2009; 2012), religious affiliation (Westoff & Frejka 2007), social networks (Cleland and Wilson 1987; Lavee & Katz 2008), and theorized family-friendly institutional support (McDonald 2000)) operate in a similar fashion across countries (a critique shared by Hakim (2003)), yet little work empirically explores this. Moreover, little work explores if fertility indicators established in a particular country (e.g. nationalist political leanings

for Israel (Anson & Meir 1996)) may also be significant indicators of fertility in other countries. Empirically finding such variation across the developed world would importantly suggest that country-specific factors may condition the size and direction of known fertility indicators, perhaps giving insight for future fertility policy development.

Research Questions:

Some characteristics of Israel, such as its enduring ethno-religious conflicts with Arab nations in the region, make it unique and beg the question if its exceptionally high fertility is tied to a unique explanation. However, many characteristics are shared between Israel and the rest of the democratic, highly developed world, making it an important country to include for answers to important fertility research questions: Do levels of the most established fertility indicators (religiosity, religious affiliation, and social network strength) statistically differ across the developed world? Are the effects of well-established fertility indicators (religious affiliation, religiosity, social network strength) different in Israel than in many Western European countries, Australia, Canada, Japan, and the United States? Can differences in the levels or effects of key correlates of fertility explain Israeli women and men's relatively high level of completed childbearing? Moreover, is the empirically indicated relationship between nationalist political leanings and fertility for Israel (Anson & Meir 1996) a relationship that exists in other developed nations with explicitly nationalist political parties? Finally, if the significance and size of effects vary across countries, can differences in national context help to explain this?

Data and Measures:

Data for this investigation come from the International Social Survey Programme (ISSP), a cross-sectional dataset which is representative of individuals ages 18 and older living in over 15 European countries and select other countries around the world. The 2001 "Social Networks" Module not only includes Israel and asks about total number of children, but contains country-specific data on the respondent's political party affiliation (to measure nationalist leaning), religious affiliation and religiosity. A measure of social network strength, measuring who is the respondent's first and second person that can be relied upon for household errands, is asked in addition to current marital status, educational attainment, and geographic area of residence.

Restricting the sample to highly developed countries which include all of the focal variable questions leaves a final sample of Australia, Denmark, Finland, France, Germany, Israel, Italy, Japan, Spain, Switzerland, and the United States. The sample is further restricted to individuals between the

ages of 40-60 in order to capture completed fertility and to similarly avoid concerns over attrition at older ages due to mortality. Because of the complex sampling design of the ISSP, the analyses are weighted using survey commands in STATA. Thus, for each country, the final sample is representative of individuals ages 40-60 (born between 1941-1961), residing in the country in 2001, who were able to complete the questionnaire in the official language of the country. The total pooled, final sample consists of 1,845 women and 1,644 men, including 164 women and 94 men in the Israeli sample.

Method:

The outcome variable for each model, total number of children, is continuous. Because conditional variance in the measure of number of children for Israel, numerous other countries, and all countries pooled together is greater than the conditional mean number of children (i.e. there is over-dispersion), negative binomial regressions are utilized. Due to small sample sizes for these age ranges, men and women are analyzed together yet sex is controlled for in the models¹.

To first test the significance and direction of the most established fertility indicators net of each other (religious affiliation, religiosity, nationalist political leanings, and network support), individual country models are run. This highlights if the significance and / or the direction of effects may vary across countries in a manner that would be masked by a pooled analysis. To directly test whether the effects of the most strongly established fertility indicators vary across my study countries, the second set of models pools all countries and utilizes interactions: Religious affiliation is operationalized as Catholic, Christian, or Other, and interactions between country and each of the main independent variables is separately tested (while controlling for the other main indicators): religion, religiosity, nationalist political leanings, and network support. For countries which significantly differ from Israel (and from each other) in the levels and or the effects of certain covariates, the predicted number of births for each given country will be calculated when assuming the (i) levels and (ii) effects of specific covariates for Israel (and other countries).

¹ Because ISSP does not ask the years in which children were born nor the years in which one married or started cohabiting (or year in which it dissolved), correlations calculated will be between total number of children born by age 40 and characteristics of the respondent *at the time of interview*. It is understood that the conclusions drawn will focus on correlations, but that causation and causal ordering will not be possible to deduce.

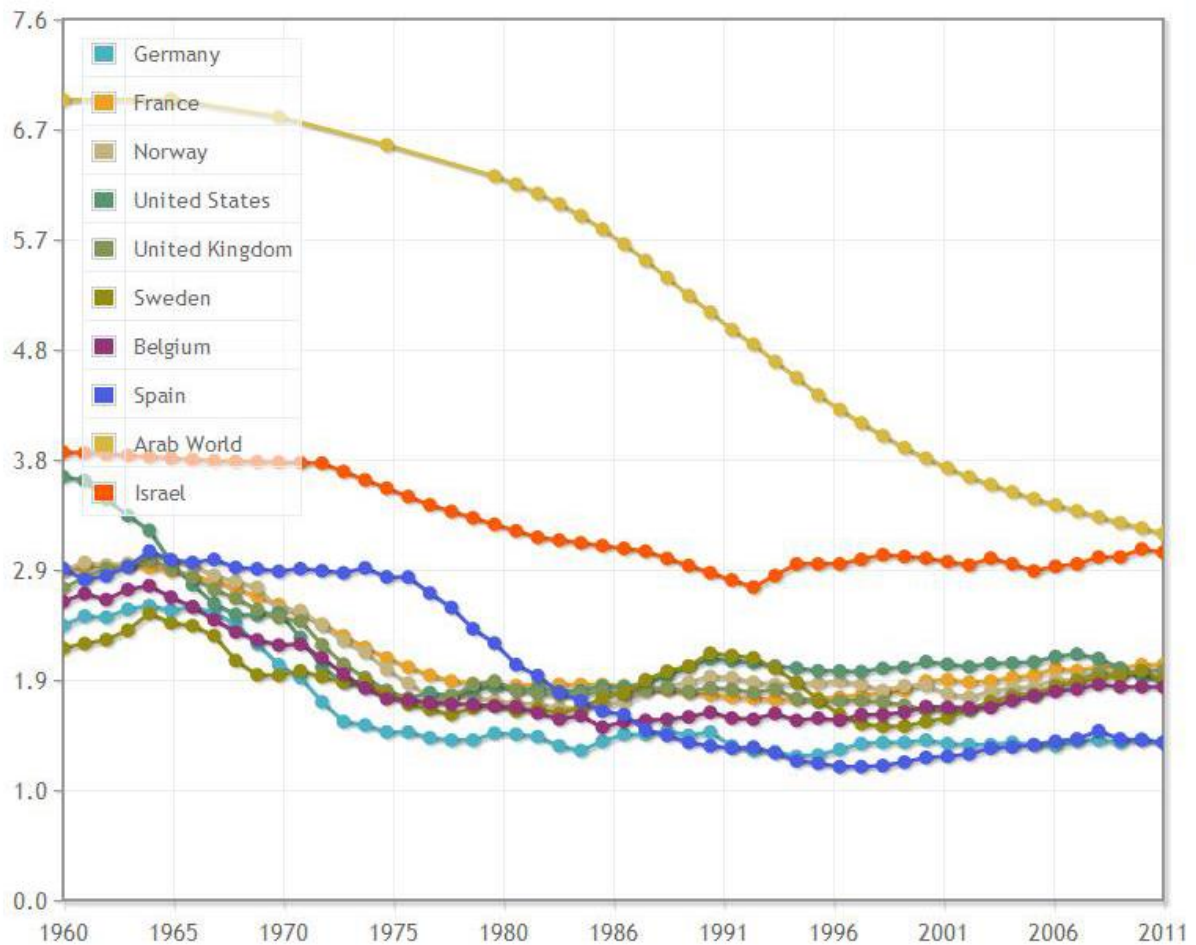
Preliminary Results:

Initial results for the separate country models, presented as incidence rate ratios, suggest that religious affiliation, religiosity, network support, and political affiliation, net of each other, are all significant indicators of completed fertility in Israel. Moreover, other countries outside of Israel demonstrate that political party affiliation and religiosity are significant indicators of fertility net of other variables. In directly testing variation in effects across countries, the effects of religiosity and social network support do significantly vary across countries.

Figure 1:

Fertility rate, total (births per woman)

Total fertility rate represents the number of children that would be born to a woman if she were to live to the end of her childbearing years and bear children in accordance with current age-specific fertility rates. [More info »](#)



Data source: [World Bank, World Development Indicators](#) - Last updated April 23, 2013
See also: [Thematic map](#), [Health Indicators](#), [Reproductive health](#)

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