Realization of Similar Norms in Different Environments

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Abstract

This paper explores the strategies of norms realization. It examines fertility patterns of a group of female immigrants, leveraging their quasi-random allocation to the U.S. and Israel in 1989-1991. The question is whether the immigrants in both destinations realize imported norms and how the realization is interacted with labor market outcomes. Findings reveal immigrants target similar childbearing profiles in both countries, consistent with origin-determined norms. However, their paths diverge in labor market engagement. Immigrants in Israel show uniform postnatal labor force participation. Conversely, U.S. immigrants demonstrate segregation: college-educated hard-working mothers versus low-educated less-working mothers. I provide a simple model that interprets this segregation as the effect of economic opportunities difference between the two countries.

JEL codes: J13, J61

Keywords: immigrant fertility, Soviet Jews, norms transmission

1 Introduction

A large body of research investigates transmission of norms but does not explain how norms interact with environment. In particular, the economic mechanisms immigrants employ to

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realize imported norms remain unexplored. To identify these mechanisms, similar immigrants have to be compared in different environments. However, existing studies usually compare different groups or different generations of immigrants in the same host country (Abramitzky et al., 2014, 2020, Alexander et al., 2018, Bandiera et al., 2019, Card, 2001, Tabellini, 2020, Xu and Zhang, 2020). Comparison of different immigrants in the same country, though empirically convenient, does not provide identification of the causal effect of the host country economic environment on the strategies of realization of imported norms. This paper addresses this gap by comparing similar immigrants in different host countries. The study takes advantage of a rare case of a quasi-random allocation of voluntary immigrants to two countries with different economic opportunities. Focusing on childbearing pattern of young female immigrants, the observation of ex-ante similar immigrants in different environments allows the exploration of the country effect in realization of imported norms.

In the labor economics context, this paper contributes to the literature on the relationship between fertility, female education, and female labor force participation (Bhalotra et al., 2023). The study explores how norms interact with labor markets in shaping this relationship. In the background, since the 1980s, the cross-country correlation between fertility and postnatal labor force participation (LFP) has shifted from negative to positive (Doepke et al., 2022). This includes a fertility rebound observed among educated women (Dzhumashev and Tursunalieva, 2023; Hazan and Zoabi, 2015), which challenges the traditional Beckerian model, in which the opportunity cost of childbearing deters educated women from early or even any childbearing. Recent studies suggest that changes in labor markets and gender roles are key mechanisms behind this shift (Doepke et al., 2022; Goldin, 2021). However, the existing literature does not fully explore the role of interaction between norms and labor markets in shaping these outcomes. This study contributes by providing a natural experiment, where the relationship between fertility, education, and postnatal LFP is identified as an interaction effect of norms and economic environment.

The analyzed case is of Soviet Jewish immigrants, quasi-randomly allocated to the U.S.

¹Kramarz et al. (2023) find that norms, captured by family fixed effects, absorb almost all of the association between education and fertility.

and Israel in 1989–1991. The normative background of Soviet Jewish women was an uncommon in the West combination of educational excellence, work ethic, low fertility, and (contrary to the western marriage pattern) low age at marriage and first birth. I explore the persistence of this norm among women who immigrated as children to the U.S. and Israel. The question is whether the norm, inherited from mothers, appears differently in the two host countries and what are the mechanisms of its realization in the two labor markets.²

The key finding is that immigrants to Israel and the U.S. maintain similar childbearing profiles, aligning with their origin-determined norms of early marriage and early first birth, and targeting a total fertility of around 1.6 children at age 35. However, their paths to achieving this target differ significantly in post-natal labor market engagement. Immigrants to Israel manifest only a weak relationship between childbearing, education, and postnatal LFP, resembling native-born Israelis. In contrast, immigrants to the U.S. reveal a sharp deviation from both their Israeli counterparts and native-born Americans. First, they are positively selected into motherhood by potential wage, in a sharp difference from native-born American women. Second, young mothers with an academic degree maintain a high level of postnatal LFP, while those without an academic degree exhibit, differently from low-educated immigrants in Israel, a decrease in LFP on extensive and intensive margins after giving first and second birth, respectively.

The observation that educated immigrants to the U.S. combine early childbearing with high postnatal LFP is away from the standard family-career trade-off. Moreover, it does not support a naive hypothesis that outcomes of immigrants to the U.S. should lie "between" those of similar immigrants to Israel and those of native-born Americans. The findings align with a simple model where fertility norms are interacted with economic opportunities. The model compares immigrants in two countries, where income from each source is higher in

²A few Israeli economists address the integration of Former Soviet Union (FSU) immigrants to Israel (Buchinsky et al., 2014; Cohen-Goldner and Paserman, 2011; Eckstein and Weiss, 2004; Friedberg, 2000). They focus on wages, analyze only short and medium-run perspective, and do not compare the FSU immigrants to Israel and other destinations. Meanwhile, sociologists contributed multiple articles and books dealing with the 1990s Russian immigrants to Israel, the U.S., Germany, and Canada and their integration process (Remennick, 2017, Cohen et al., 2011).

one country than in the other. The set of hypotheses, generated by the model, supports the pattern observed in data: homogeneous post-natal labor force participation in the lowerincome country and a segregation in a higher-income country.

The empirical setting of the study departs from a two-stage natural experiment. In the early 1980s, the Soviet Union allowed almost no emigration. In the first stage of change, with the weakening of the Iron Curtain in the late 1980s, increasing number of Soviet Jews applied for emigration to Israel. Practically, Israeli invitation was almost the only channel to receive the "exit visa" from the Soviet Union. However, there were no diplomatic relationships and no direct transportation between the two countries. After receiving the exit permit, Jewish emigrants went as transit travelers to Europe, where they stayed for some period of time and were assisted by either American Jewish charity or Israeli representatives. Rather than proceeding to their supposed destination, Israel, vast majority of the migrants took advantage of the indiscriminate American refugee policy for escaping Soviet Jews and proceeded to the United States.

In the second stage, on October 1st, 1989, the U.S. changed at short notice its policy and set the American embassy in Moscow as the sole location where Soviet citizens can apply for the refugee status. This change efficiently blocked the American channel for Soviet Jews. While in Moscow, there were not treated as refugees. Following introduction of quotas, only those reunifying with a family in the U.S. were granted American visas. As a result, the share of Israel among destinations rose from a few to 90%, and that of the U.S. dropped to only 3%. The American policy change is the quasi-random treatment that I utilize in this paper.

This event has three features important for causal inference. First, on the receiving side, Israel (always) and the U.S. (until October 1st, 1989) accepted the Soviet Jewish immigrants indiscriminately, regardless of their demographics, education, and resources. Second, on the sending side, many Soviet Jews were highly motivated to emigrate, and the American policy change did not demotivate them. The flow of Jewish emigrants rather continued to strengthen over the following years. Therefore, there is little concern that the policy change

generated self-selection in the short term. Third, even though Israel was not the first choice of most Soviet Jewish emigrants, further migration of those who went to Israel was relatively low. The estimated population of women, who immigrated to Israel as children and teenagers in 1990–1991, decreased by only 7.33% between the censuses of 1995 and 2008. This decrease constitutes attrition rate of 0.58% annually, a very low figure relatively to the usual rate of attrition in field experiments in economics (Ghanem et al., 2021).

Theories explaining how immigration affects demographic behavior include the socialization, assimilation, adaptation, selection, and disruption hypotheses (Adserà and Ferrer, 2015). These suggest that immigrants retain origin-based cultural traits but are also influenced by host-country norms and the disruptive effects of migration. An alternative framing distinguishes "vertical" from "horizontal" transmission (Miho et al., 2023). Empirical studies typically test these hypotheses (Marcén et al., 2018; Mayer and Riphahn, 2000; Impicciatore et al., 2020). In my results, the similarity of immigrants' childbearing profiles in Israel and the U.S. supports the socialization (vertical transmission) view. However, the quasi-experimental design of this study extends the analysis beyond transmission mechanisms to their interaction with labor markets.

The identification in this study departs from the rare case of a random allocation of voluntary migrants. Differently from voluntary migrants, refugees are more likely to be randomly allocated, but they are a relatively disadvantaged group (Brell et al., 2020). For instance, Azlor et al. (2020) focus on the integration of refugees in Denmark who were allocated to different cities. In addition, some studies address exogenous resettlement of internal migrants. This literature includes Derenoncourt (2022) and Fouka et al. (2022), who analyze the Great Migration across the United States. Bazzi et al. (2016) analyze the random allocation of rural-to-rural internal migrants in Indonesia, and a body of papers addresses the forced replacement of Germans after World War II (Bauer et al., 2013; Becker et al., 2020; Becker and Ferrara, 2019; Braun and Dwenger, 2020; Braun and Mahmoud, 2014). Geographic variation of resettlement is used to estimate the effect of local labor markets on employment of immigrants (Azlor et al., 2020; Bauer et al., 2013), but more studies are concerned with the effect of immigrants on the labor markets of natives (Borjas, 2003; Braun and Kvas-

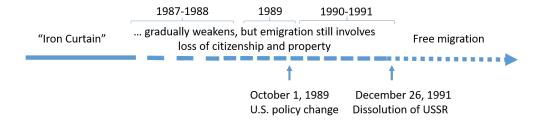


Fig. 1. Historical timeline

Note: The U.S. policy change is the regulation setting the U.S. embassy in Moscow as the sole location for refugee status application.

nicka, 2014; Bryan and Morten, 2019; Card, 2001; Friedberg and Hunt, 1995; Peri, 2016). Unlike previous studies, my paper is the first to identify the interaction between the host country and the imported norms in shaping childbearing patterns and postnatal employment.

The paper proceeds with the overview of the historical and demographic context in Section 2, while Section 3 draws the theoretical considerations arising from the background story and derives testable hypotheses. Section 4 discusses the identification assumption. Section 5 introduces the data and reports summary statistics. Section 6 presents the findings, while Section 7 discusses the results and concludes.

2 Background

2.1 The 1989 event in the context of Soviet Jewish emigration

Figure 1 outlines the historical timeline that provides context for the 1989 event.³ Since the late 1960s, the growing exodus desire of Soviet Jews, who suffered from antisemitism, latent discrimination, and deprivation of cultural autonomy and freedom of faith, was crashing against the Iron Curtain. The restriction on emigration from the Soviet Union served to consolidate societal identification with the ideological narrative of the USSR as a socialist utopia,

³For the complete chronology of the events related to the exodus of Soviet Jews, as well as the list of sources, see http://kosharovsky.com/chronology/.

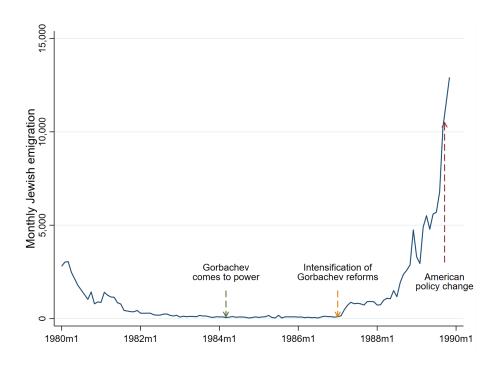


Fig. 2. Monthly Jewish emigration from the Soviet Union in the 1980s

Source of data: Soviet Jewish Affairs, $Chronicle\ of\ Events$ (various years). The American policy change is the October 1st, 1989, regulation setting the U.S. embassy in Moscow as the sole location for refugee status application.

positioned in opposition to the purportedly unjust and unequal capitalist West. Moreover, the Soviet anti-Israeli policy made it ideologically difficult to allow masses of Soviet citizens to emigrate to Israel. In the early 1980s, the situation worsened due to deterioration in the U.S.-Soviet relations, and emigration was limited to around one thousand annually. Many refusniks, Jews who wished but were not allowed to leave the Soviet Union, were either persecuted as "traitors" or were sentenced to imprisonment on fabricated criminal charges. Those who received the desired "exit visa" based on invitation from Israel, were stripped from the Soviet citizenship and lost property. Loss of citizenship and most of the property was part of the emigration experience until the dissolution of the Soviet Union on December 26, 1991.

Figure 2 shows the series of monthly Jewish emigration from the Soviet Union during the 1980s. The numbers are very low during most of the 1980s. In March 1985, Mikhail Gorbachev assumed leadership of the Communist Party and initiated a series of economic reforms that intensified after 1987. These reforms, collectively known as *perestroika*, encompassed not only new economic thinking but also elements of political liberalization. As the reforms deepened, they gradually weakened the Iron Curtain while simultaneously contributing to economic deterioration. Together, these developments motivated a growing number of Jews to emigrate through the Israeli visa channel, with departures rising sharply beginning in 1989.

Since the Israeli route was virtually the only viable option for emigration from the Soviet Union, nearly all Soviet emigrants at the time were Jewish. Initially, Soviet Jews used invitations from relatives in Israel to obtain permission to leave the country—so-called "exit visas"—granted on the basis of family reunification. However, in the absence of diplomatic relations and direct flights between the Soviet Union and Israel, Jewish emigrants—stripped of both citizenship and property—first traveled to Vienna, from where they were expected to continue to Israel.

In practice, however, the vast majority of migrants from 1989 onward took advantage of the U.S. policy of indiscriminately granting refugee status to fleeing Soviet Jews. Assisted by the Hebrew Immigrant Aid Society (HIAS), they followed what became known as the "Vienna-Rome pipeline," applying for refugee visas at the American embassy in Rome.

On October 1st, 1989, the U.S. changed its policy. The new regulation required to apply for the refugee status at the American embassy in Moscow. This policy, announced at Congressional hearings on September 14–15, ended a long debate on the attitude toward "dropouts", Jews who used Israeli visas in order to go the United States (and in much lower numbers to other countries). This debate started in the early 1970s and involved the American Jewish community, the federal government, and Israeli officials (Lazin, 2005). Efficiently, the new policy blocked the American refugee channel for migrants who fled the Soviet Union with Israeli visa, because Jews in Moscow were not treated as refugees. The flow was redirected, and in 1990 as much as 90% of Soviet Jewish migrants arrived to Israel, starting the mass Aliya, which brought until mid 2000s more than one million Jews and their non-Jewish family members from the Former Soviet Union (FSU) to Israel (Tolts, 2009). Rosenberg (2014) provides the following description of this event:

Beginning on October 1, 1989, the administration implemented the policy of processing Soviet refugees in Moscow rather than in Vienna and Rome. In doing so, it intended both to save money in an increasingly expensive process and to inform would-be refugees of their status before they left the Soviet Union. In essence, the measure meant that Soviet Jews, all of whom left with Israeli visas, would not be able to apply for admission to the U.S. as refugees once they were in a third country (i.e., Austria or Italy). As Immigration and Nationalization Service Commissioner Nelson pointed out, the Soviet Jews did have the option of going to Israel: "Elsewhere, and under normal procedures, such 'offers of firm resettlement' are bars against further consideration for the U.S. refugee program."

Table 1 shows the Jewish immigrants to the U.S. and Israel⁵ in 1989–1991. The number

⁴Aliya (Ascent) is the Hebrew term for Jewish immigration to Israel.

 $^{^5}$ The U.S. is 35 times larger than Israel in terms of population and 400 times larger in terms of area. Both countries are economically developed, absorb many immigrants, and are also relatively unequal. However, the U.S. has a 50% higher than Israel level of GDP (PPP) per capita and higher income inequality. The 10% R/P ratio in the U.S. is 18.5 vs 13.4 in Israel, and the 20% R/P ratio is 9.4 vs 8.5. Gini coefficient is 0.395 in the U.S. vs 0.348 in Israel. Source: the R/P ratio figures are from the UN Development Program, Gini figures are from OECD.

Table 1 Soviet Jewish emigration in 1989–1991

Year of immigration	Number of immigrants	% to destination
	A: To the Unites States	
1989	56,000	77%
1990	6,500	3.2%
1990-1991	41,700	10.4%
	B: To Israel	
1989	12,932	18% .
1990	185,227	90.3%
1990-1991	333,066	83%

Source: Tolts (2009) and Israeli Statistical Yearbook. The percents indicate the destination's share from all Soviet Jewish emigrants. Other destinations received the remaining Soviet Jewish immigrants.

of Jews and their family members who immigrated in 1989 to the U.S. is 56,000, constituting 77% of all Soviet Jewish emigrants in that year. The share would be higher if one excludes the post-October 1st period, when the American channel efficiently closed. Overall 54,288 Soviet-born individuals who immigrated to the U.S. in 1989 were naturalized during the 1989–2000 period.⁶ Furthermore, the 2000 Census estimates the population of Soviet-born immigrants of 1989 as 49,434, and the American Community Survey (ACS) of 2002–2010 estimates this population as 44,454. Meanwhile, the number of Soviet immigrants to Israel in 1989 was 12,932 or 18% of the total that year, including the post-October 1st period. However, shortly after the American policy change, in 1990, only 6,500 or 3.2% of all Jews and their family members who escaped the Soviet Union immigrated to the United States. Yet 185,227 or 90.3% immigrated to Israel. Over 1990–1991, Israel received 333,000 or 83% of Soviet Jewish emigrants, compared to only 10.4% received by the United States. The main destination of the remaining was Germany. The Israeli Census of 1995 estimates the Soviet immigrant population of 1990–1991 as 289,500, and the Census of 2008 estimates it as 253,748. Therefore, ACS of 2002–2010 estimates the population of Soviet 1989 immigrants to the U.S. as 79.4% of the initial figure, while the Israeli 2008 Census estimates the population

⁶Source: U.S. Department of Justice, Immigration and Naturalization Service, Immigrants Admitted to the United States.

of Soviet 1990–1991 immigrants as 76.2% of the initial figure.

An important institutional feature of the 1989 Soviet immigration to the United States and the 1990s immigration to Israel is that Soviet immigrants were institutionally supported in both destination countries. In the United States, Jewish organizations provided arriving immigrants with financial assistance and a range of integration services, and most subsequently obtained citizenship within a few years. In Israel, immigrants were granted immediate citizenship and received a comprehensive package of financial aid and other state-provided benefits.

2.2 Jewish demography in the context of Soviet family

According to the 1989 Soviet Census of population, 1,450 thousand Jews lived in the Soviet Union at the time the gates opened for emigration. Following their social evolution over the 20th century under the Communist regime, Soviet Jews were mostly secular and assimilated among urban Soviets. The Soviet society (except of its Muslim population in the periphery of the country) delivered an unusual set of gender attitudes, which shaped the difference between Soviet and American family norms. Differently from the United States, where changes in the status of women followed changes in economic realities and social norms (Goldin, 2006), the Soviet government "played" with gender equality according to the Communist Party's volatile priorities (Lapidus, 1978). The radical theory, promoted by Bolshevik ideologists in the early post-revolutionary period, stated that nuclear family is "bourgeois" and should be abolished. However, in face of the demographic demands of industrialization and the enormous causalities of the Civil War and later WWII, the revolutionary approach was abandoned in favor of the opposite pro-family and pro-natalist concept of the Soviet household. Meanwhile, female labor force participation was an important part of the Soviet effort first to industrialize the country, then to win in WWII, and, finally, to "overtake" the

⁷In the years following the collapse of the Soviet Union, the Jewish community in FSU shrank dramatically due to emigration and assimilation. The estimated Jewish population in FSU in 2020 was only 16% of its 1989 figure. Source: DellaPergola (2022).

⁸An exception were the small conservative communities of Bukhara and Caucasus Jews, accounting together for 5% of the Soviet Jewish population.

American economy in an ideological competition. The result of this conceptual mix was the dual role that the Soviet ideology and policy assigned to women, emphasizing both motherhood and universal labor force participation (Lapidus, 1978). Moreover, the low wages in the Soviet economy made female labor force participation an important contributor to the family budget. In a significant proportion of families, wife's income exceeded the husband's income (Lapidus, 1978).

In the bottom line, Soviet women exercised first marriage and first birth at a low age, but had relatively low complete fertility and high divorce rates with widespread single mother-hood. The fertility rate in the Soviet republics, where vast majority of Jews lived, was very similar in 1989 to the one in the U.S. but much lower than the one in Israel. The total fertility rate (TFR) was 2.01 in the U.S. and similarly 2.01 in Russia, 1.94 in Ukraine, and 2.03 in Belarus, the three republics accounting for 79.3% of the 1989 Soviet Jewish population. By contrast, The TFR in Israel was as high as 2.89.9

The two contradicting effects, i.e., traditionalist patriarchy and socialist feminism, were accompanied among the Soviet Jews by a third effect, special to them: desire for education. Jews desired education both as a result of their millennia-lasting deprivation of land and as a solution to discrimination, which was official in the Tsarist and latent in the Soviet times. The share of academic graduates among Jewish adults was 43% in 1989, a top figure with a large gap from the second place among all Soviet ethnic groups. The figure in Russia was even higher than the average, 54.5%. Moreover, among working Jews, the share of academic graduates was as high as 51.3% and it was 63.8% in Russia. Only 15.7% of Soviet Jews did not complete secondary education. By comparison, the share of academic graduates among all adult Soviets was only 12.1% and among all urban Soviets it was 15.4%. The figure for ethnic Russians (the largest ethnicity in the Soviet Union) was more than three-fold lower than that for Jews, 13.2%, and somewhat higher than that for ethnic Ukrainians and Belorussians. The share of academic graduates among adult Jewish women and men was 39.3% and 49.9%, respectively. The figure was as high as 49.8% among Jewish women in Russia. The share of academic graduates among Soviet, and especially Russian-Soviet

⁹Source: The Wold Bank fertility data.

Jews was similar to the American Jews (53.1% in 1990) but much higher than among Israeli Jews (16.1% in 1990). A combination of these three effects designed a Soviet Jewish model where births are given universally and at early age, but mother's education and investment in children are also important.

Therefore, the Soviet Jewish woman played a "triple" role as an extension to the "dual" role of other urban Soviet women. In addition to being both pro-family (in the sense of early marriage and early first birth) and working, she was also educated. The resulting fertility pattern was of early first birth but relatively low complete fertility. To a certain extent, this pattern corresponds to what DeCicca and Krashinsky (2023) identify as education-led "compression" of fertility distribution, when educated women are likely to have at least one child but are less likely to have multiple children.

The preference of the Soviet Jews to resettle in the United States, revealed before the American policy change, is related to the tendency of educated migrants to be particularly concerned about institutions and economy of the host country (Arif, 2020; Bertocchi and Strozzi, 2008; Geis et al., 2013). The American Dream of high returns to skills and effort attracts high-skilled immigrants despite the relatively low social mobility in countries associated with it (Lumpe, 2019; Grogger and Hanson, 2011).

3 Theory and Hypotheses

In this section, I derive a simple theoretical model, in which the agents are young female immigrants with common childbearing preferences, who are allocated to two countries with different economic opportunities and different norms. The framework accounts for fertility and labor market choices. This "toy" model leads to a set of hypotheses tested in Sections 5 and 6 below.

¹⁰Source of all education figures: Konstantinov (2007). The Soviet figures are for ages 20+. The American figure is for ages 25+. The Israeli figure is for ages 15+.

¹¹Friedman-Sokuler and Senik (2025) find evidence for a narrow gender gap among FSU immigrants in Israel, in line with the Soviet Jewish heritage of widespread education and universal LFP.

Since the agents are immigrants, who are a minority group in their host countries, it is more appealing to model their inherited norms as preferences rather than social expectations, an evolutionary outcome, or a self-enforcing equilibrium. I assume that the preferences of young women are given by

$$U = u_i^i(c, n) \tag{1}$$

where u is a concave function of consumption c and an increasing function of at most one child $n \in \{0,1\}$. Soviet Jewish immigrants, native-born Americans, and native-born Israelis have different functions u, indexed by $i \in \{US, ISR\}$ and $j \in \{immigrant, native - born\}$. The budget constraint is

$$c + wn \leqslant y^i + w\phi^i e \tag{2}$$

where the left-hand side is the expenditure, and the right-hand side is income. y is income from sources other than own work (such as partner's income). w is the woman's working time, $w \in [0, 1]$. The term wn on the expenditure side means that during her working time, a mother purchases market childcare, which costs one unit of consumption per unit of time. Her level of education is e, which is an increasing function of random innate ability and, therefore, is a random variable atomlessly distributed on $[0, \bar{e}]$. Wage educational premium is ϕ . Income from work is $w\phi^i e$.

The first-order conditions lead to three possible outcomes that occur with positive probability. First, for women with children (n = 1), if $e > \frac{1}{\phi^i}$, then w = 1. Second, for women with children (n = 1), if $e < \frac{1}{\phi^i}$, then w = 0. Third, for childless women (n = 0), w = 1. Therefore, there are three groups of agents: high-educated hard-working mothers, low-educated non-working mothers, and childless hard-working women.

I further make an assumption that relates to the childbearing norms. As stated above,

 $^{^{12}}$ An additional outcome is n=1 and in difference between working and non-working. It occurs with probability zero.

norms are modeled as preferences. In line with the patterns described in Section 2, I assume that Soviet immigrants have different from American but similar to Israeli women preferences for early childbearing. In particular, I assume that young women, who immigrated as children, inherit the Soviet norms of early childbearing. It means that they need a higher than native-born Americans (but not higher than native-born Israelis) compensation to give up childbearing at young age. Formally,

Assumption I: In the United States, for each c:

$$0 \leqslant \Delta c_{native-born} \leqslant \Delta c_{immigrant}$$

such that
 $u_j^{US}(c + \Delta c_j, 0) = u_j^{US}(c, 1)$

Finally, the economic opportunities difference between the U.S. and Israel is an empirical fact:

Fact I: Incomes from work and other sources are higher in the U.S. than in Israel:

- (a) $y^{US} > y^{ISR}$
- (b) $\phi^{US} > \phi^{ISR}$

Fact I generates an income effect, driven by y and ϕ , and a substitution effect, driven by ϕ .

Figure 3 exemplifies the model-generated pattern, corresponding to the United States. The figure presents a young woman's consumption as a function of her education. The solid lines show the consumption profiles of women with (n=1) and without (n=0) a child. The dashed indifference curves depict consumption levels that equalize utility between childless individuals and those with a child, with the vertical gap Δc representing the amount that fully compensates for childlessness. The concavity of indifference lines arises from the concavity of the utility function: compensation for childlessness grows as consumption grows, because the marginal utility from consumption decreases. According to Assumption I, the indifference line of American native-born women lies above that of immigrant women. In the example shown in the figure, the selection of native-born women into motherhood is negative with respect to education. Women with $e \in [0, e_0]$ have children and do not work, while those with $e \in [e_0, \bar{e}]$ do not have children and work. However, for immigrant women,

there are two groups of mothers, and both groups are by average more educated than the native-born mothers. Women with $e \in [0, e_1]$ have children but do not work (because their education is below the threshold $\frac{1}{\phi^{US}}$), women with $e \in [e_1, e_2]$ work and do not have children, while the most-educated women, with $e \in [e_2, \bar{e}]$, have children and work. This is the most important result with regard to the immigrants to the United States: differently from native-born Americans (who follow the family-career trade-off), they exercise segregation into low-educated non-working mothers and college-educated hard-working mothers.

I proceed to formulate empirically testable hypotheses consistent with the demographic context and with the pattern illustrated in Figure 3.

The first hypothesis relies on Fact I (b) with regard to higher return to education in the United States:

Hypothesis I: Immigrants in the United States are more likely to obtain an academic degree than immigrants in Israel.

The second hypothesis addresses the general childbearing stylized facts and is nested in the literature that investigates immigrant fertility decisions (Marcén et al., 2018; Mayer and Riphahn, 2000; Impicciatore et al., 2020). In particular, the hypothesis combines the socialization theory, which suggests that immigrants follow their origin norms, with the assimilation theory, which suggests that immigrants adapt to the norms of the host countries (Adserà and Ferrer, 2015). I employ the allocation of similar immigrants to Israel and the U.S. and, taking into account different fertility levels in the two countries and in the Soviet Jewish population, suggest that

Hypothesis II: (a) Fertility of immigrants in the United States is similar or slightly lower than that of native-born American women.

- (b) Fertility of immigrants to Israel is above that of immigrants to the United States.
- (c) Fertility of native-born Israelis is above that of immigrants to Israel.

The third hypothesis arises from Assumption I. It aligns with the pattern exemplified in Figure 3, where the mean level of education of immigrant mothers is higher than that of native-born American mothers:

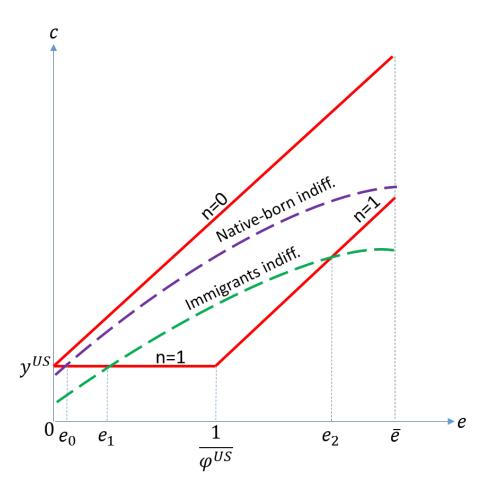


Fig. 3. Scheme of the model for the U.S.

Note: The figure provides the schematic representation of the "toy" model for the United States. The solid lines show the consumption profiles of young women with (n=1) and without (n=0) children. The gap between the n=0 and the broken (indifference) lines is the consumption amount Δc that fully compensates for childlessness. According to the concavity of utility from consumption, the indifference lines are concave. According to Assumption I, the indifference line of native-born women lies above that of immigrant women.

Hypothesis III: The educational selection into early motherhood is more positive among immigrants in the United States than among native-born Americans.

Finally, the fourth hypothesis relates to the relationship between fertility, education, and labor force participation. It states that in Israel, the income effect arising from Fact I forces all mothers to work. In the United States, the income and substitution effects generate segregation: low-educated immigrant mothers work less than college-educated immigrant mothers. The same is not true for the American native-born mothers, who follow the family-career trade-off:

Hypothesis IV: (a) In Israel, all immigrant mothers work regardless of education.

- (b) College-educated immigrant women in the U.S. are more likely to stay in the labor force after giving birth than college-educated native-born women.
- (c) Low-educated immigrant women are less likely to stay in the labor market after giving birth than college-educated immigrant women.

In the remainder of the paper, I present the empirical setting that provides evidence supporting Hypotheses I–IV.

4 Identification

I identify the causal effect of the destination country on later-life outcomes by assuming that Soviet immigrants to the United States in 1989 and to Israel in 1990–1991 were allocated as good as randomly. This identification assumption is grounded in the historical circumstances described in Section 2 and is supported by the data.

First, the U.S. policy change of October 1989 redirected the migration flow of Soviet Jews toward Israel. As shown in Table 1, the share of emigrants heading to the United States declined from 77 percent in 1989 to 10 percent in 1990, while the share migrating to Israel rose to 90 percent. The U.S. share in 1989 would be even higher if only the first nine months of that year—prior to the policy change—were considered.

Second, the institutional mechanism of emigration from the Soviet Union supports the assumption that the policy change was effectively exogenous for those Soviet Jews already in the process of emigration. To leave the Soviet Union, individuals were required to obtain an exit visa in addition to holding an invitation from Israel. Emigrants lost their Soviet citizenship and, in practice, almost never returned as visitors. Because housing was publicly owned and private property could not be retained, emigrants had to liquidate all personal belongings before departure — a process that required time, such that migration decisions had to be taken long in advance of the departure.

News articles from that time confirm that the American policy change on October 1, 1989, was an unpleasant surprise for the emigration-seeking Soviet Jews. American press recognized on the eve of the policy change that the effect would be redirection of the flow toward resettlement in Israel. For instance, on September 7, 1989, *The Washington Post* publishes an article titled "U.S. plans to bar thousands of Soviet Jews," stating that

the U.S. now faces the acutely embarrassing situation of turning away thousands of Soviet Jews who had hoped to begin a new life in this country... within the next few days, the administration is expected to announce tentative new rules that will make large numbers of future Soviet Jewish emigres ineligible to come here as refugees and force them to seek admittance through other immigrant programs that are too expensive or time-consuming for most to pursue... the practical effect of the new policy will be to redirect most of them toward resettlement in Israel – a destination few of the would-be immigrants have sought in recent years... In Rome and Vienna, the number of Soviet Jews stacked up waiting for decisions on their applications for U.S. refugee status has reached scandalous proportions.

Correspondingly, on October 28, 1989, Los Angeles Times writes that

The new U.S. regulations, which went into effect Oct. 1, require that virtually all Soviets allowed to immigrate to the U.S. have a mother, father, brother, sister, son, daughter, wife or husband living there. Those who do not have a close relative there should consider seeking immigration to some other country,

U.S. officials say. ... Officials in Washington ... will be looking solely at the close-relative requirement.

In summary of these arguments, the circumstances of Jewish migration around October 1st, 1989, support the assumption that the policy change generated a quasi-experimental allocation. The flow of Jewish emigrants continued to strengthen after the policy change. While 72,000 Jews and their non-Jewish family members left the Soviet Union in 1989, the number increased to 200,000 in 1990, with 90% going to Israel. Taking into account the revealed preference to go to the United States, only random allocation may explain this figure. Moreover, since the 1989 immigrants used Israeli visas to enter the United States, there is little reason to believe that the 1990 immigrants were more pro-Israel than those of 1989. Naturally, individuals who preferred Israel would have been the first to use Israeli visas to enter Israel. ¹³

In addition to the historical arguments, Table 2 provides some facts in support of the identification assumption. First, although Israel was not the first choice for most Soviet immigrants, further migration from Israel did not generate large attrition. Panel A of Table 2 shows that between 1995 and 2008 (years of successive Israeli censuses of population), the estimated population of immigrant women born in 1971–1985 decreased by only 7.33% or 0.58% annually. This rate of attrition is very small compared to the universe of field experiments (Ghanem et al., 2021). In line with being the U.S. the first choice for most immigrants, the rate of attrition of young women who immigrated as children to the U.S. is close to zero. 15

Second, Panel B shows that the immigrants in the two countries have identical sex ra-

¹³Soviet Jews had little relevant background for migration to Israel: they have never visited Israel before and had no knowledge of Hebrew. The Soviet regime forbade learning Hebrew and persecuted Hebrew teachers as a part of its anti-Israeli agenda. Moreover, the 70 years of the anti-religious and discriminatory Soviet policy forced assimilation and secularization of the Soviet Jews.

¹⁴The analysis in the paper focuses on women born in 1974–1983 and observed in the 2008 Census. However, because of a different grouping of years of birth in the Public Use File of the 1995 Census, the range of years of births in Panel A of Table 2 is slightly different.

¹⁵This figure is $min(0, \beta)$, where β is the regression slope of year on the log of the immigrant female population born in 1974–1983. The data is from 2000 Census and 2002–2020 ACS. They first ACS year 2001 is omitted from the regression because of an abnormally high immigrant population estimate.

Table 2 Attrition, sex ratio, and balance test

A: Mean annual attrition of Soviet immigrants¹

Israel (1995–2008) Unites States (2000–2020) 0.584% 0%

B: Share of males

$Israel^2$		United State	Israel-U.S. difference	
1990–1991 Soviet immigrants	Native-born	1989 Soviet immirants	Native-born	<u>Immigrants</u>
0.520	0.505	0.516	0.498	0.004
(0.007)	(0.002)	(0.029)	(0.000)	(0.029)

$C: Balance \ test^4$

American immigrants vs. I	sraeli immigrants	American native-born women vs	. Israeli native-born women
F. statistics	P-value	F. statistics	P-value
0.550	0.838	11.184	0.000
(9; 1,583)	0.030	(9; 1,047,791)	0.000

Notes: Soviet immigrants are 1989 Soviet immigrants of the U.S. and 1990–1991 immigrants to Israel. (1) Born in 1971–1985 and immigrated from the Soviet Union to Israel in 1990–1991. (2) Figure from the 2008 Israel Census. The immigrants are individuals born in 1974–1983 and immigrated from the Soviet Union to Israel in 1990–1991. (3) Figure from 2002–2010 ACS. Individuals born in 1974–1983 and immigrated from the Soviet Union to the U.S. in 1989. (4) The panel reports F-statistics and, in parentheses, the degrees of freedom from linear probability regressions for survey data, where the dependent variable is a dummy that discriminates between the U.S. and Israel, according to each column's heading. Explanatory variables are dummies for years of birth. The population is women born in 1974–1983. American data is the same as in Panel B, Israeli data is the IPUMS file of Israeli 2008 Census, where year of birth is explicit.

tio.¹⁶ Among the immigrants born in 1974–1983, the share of males is 0.520 in Israel versus 0.516 in the United States. While the difference between the two groups is only 0.004 and statistically indistinguishable from zero, they are different from the native-born populations in their host countries. In both countries the share of males among native-born is close to 0.5. Finally, Panel C reports the results of a balance test of origin-determined demographic moments of women born in 1974–1983. The table shows F-statistics and their p-values from weighted linear regressions, where the dependent variable is a dummy for the U.S. versus Israel. The explanatory side is a set of dummies for years of birth. I estimate the regression separately for immigrant and native-born women. The F-statistic of immigrants is only 0.55 (would be only 0.165 in an OLS regression), or 20 times smaller than that of native-born women. Correspondingly, the p-value of immigrants is 0.84 (would be as high as 0.997 in OLS) but close to zero for native-born women. These figures are evident of persisting similarity in origin-determined demographics of American and Israeli immigrants.

Additional evidence arises from observation of older cohorts of immigrants, whose educational and marital indicators were determined before immigration. Table 3 presents the share of college-educated and ever-married among immigrant females, who are 50–69 and 70+ years old at the time of data collection (2002–2010 in the U.S. and 2008 in Israel). The figures show the stably universal marriage and sharply increasing over cohorts education. Most importantly for identification in this paper, the gaps between immigrants in the U.S. and Israel are negligible and statistically zero.

5 Data and Summary Statistics

I employ American and Israeli public-use census data. For Israel, it is the 2008 Israeli Census of Population Public Use File (PUF), where the immigrants are observed 17–18 years after immigration (the mean is 17.6). Age in the PUF is grouped, and I focus on the group of 25–34 years old women (born in 1974–1983). Therefore, I consider females, who immigrated from the Soviet-Union in 1990–1991 at ages 7–17. There are 2,688 immigrants and 61,648

¹⁶See data details in Section 5.

Table 3 Balance among 50+ years old immigrants

	50–69 years old				70+ years old		
	U.S. Israel Difference		U.S.	Israel	Difference		
	(1)	(2)	(3)	(4)	(5)	(6)	
Ever-married	0.976	0.975	0.0005	0.975	0.979	-0.004	
	(0.008)	(0.002)	(0.008)	(0.012)	(0.002)	(0.012)	
college-educated	0.590	0.591	-0.001	0.452	0.443	0.009	
	(0.029)	(0.007)	(0.030)	(0.049)	(0.009)	(0.049)	

Notes: The table presents summary statistics of 50+ years old immigrant females, as observed in the 2008 Israeli Census and 2002–2010 ACS. Immigrants are women who immigrated from the Soviet Union to the U.S. in 1989 or to Israel in 1990–1991.

corresponding native-born women in the Israeli data. For drawing Figures 4, 5 and 6, where the horizontal axis is age, I use the IPUMS¹⁷ version of the Israeli 2008 Census PUF. The IPUMS file includes explicit age but has only 50% of the observations. Therefore, I use it for the figures but not for statistical inference.

For American immigrant and native-born women, I use the American Community Survey (ACS) from 2002–2010 (Ruggles et al., 2022). This data provides 254 observations of 25–34 years old female Soviet immigrants of 1989. Their mean tenure in the U.S. is 17.7 years, similarly to the immigrants in the Israeli data. The American immigrants population is much smaller than the Israeli one. There are only around 30 observations in each ACS wave. Thus, it would be statistically inefficient to limit the American data to exactly the same range of post-immigration tenure and years of birth as in Israeli data. By employing the 2002–2010 waves, I keep the same range of ages as in the Israeli data, but exploit a slightly wider (and mean-preserving) range of post-immigration tenure and years of birth. In addition to the immigrants, there are 1,033,007 observations of corresponding native-born women in the American data.

 $^{^{17} \}rm Minnesota$ Population Center. Integrated Public Use Microdata Series, International: Version 7.3 [dataset]. Minneapolis, MN: IPUMS, 2020. https://doi.org/10.18128/D020.V7.3.

Beyond the age-grouping limitation of the Israeli Census PUF, two additional considerations motivate restricting the analysis of childbearing to women aged 25–34. First, women aged 25–34 immigrated as children or teenagers, so their entire reproductive history occurred in the host country. Second, the ACS does not record actual births but only the number of a woman's own children residing in the household. For younger women, this serves as a reliable proxy for fertility, as their children are typically still at home. Figure 4 shows a close correspondence between fertility measures in Israel (based on live births) and in the United States (based on co-resident children) up to the mid-thirties. At older ages, the U.S. share declines as children leave the parental home. Thus, for women aged 25–34, fertility measurement error in the U.S. data is likely small.

Additional evidence supporting the use of the number of own children in the household as a proxy for the number of children ever born up to age 34 comes from the June Supplement of the Current Population Survey (CPS), which records both variables. Figure 8 in the Appendix plots the average number of own children in the household and the number of children ever born by mother's age for white women between 1990 and 2020 (Flood et al., 2022). The two series are nearly identical up to age 34.

Columns 1 and 2 of Table 4 present summary statistics for female immigrants aged 25–34 in the U.S. and Israel. For comparison, columns 3 and 4 report the corresponding means for native-born Americans and Israelis. Two main insights emerge. First, young women who immigrated as children are remarkably similar across the two host countries. Second, while immigrant—native gaps are large in the United States, they are minimal in Israel — a somewhat unexpected finding given the cultural and linguistic distance between Soviet Jews and native Israelis.¹⁹

¹⁸Although the CPS includes information on the number of children ever born, it is not suitable for this analysis due to the very small number of observations of 1989 Soviet immigrants.

¹⁹Israeli society comprises roughly 20% Arabs and 80% Jews and their non-Jewish family members. The Jewish population is predominantly Sephardi, culturally distant from Soviet Jews. Among the remaining Ashkenazi Jews, large ultra-Orthodox and Orthodox groups are also culturally distinct from the mostly secular Soviet immigrants, who were generally unfamiliar with Hebrew prior to migration.

Panel A shows that 67.8% of immigrant women in both the United States and Israel live with a partner—a share similar to that of native-born Israelis but about 20 percentage points higher than among native-born Americans. Nevertheless, the share of ever-married native-born women is identical in both countries, indicating that the lower partnership rate among native-born Americans reflects lower marital stability. Immigrants in both host countries are similarly endogamous: 74.4% of partnered immigrants in the United States and 71.8% in Israel have Soviet-born partners.

Panel B indicates that immigrants to the United States are more likely than those to Israel to hold an academic degree (51.3% versus 43.6%), although both groups are substantially more educated than native-born women (33.6% in the U.S. and 36.5% in Israel), consistent with **Hypothesis I**. Despite higher education levels, labor force participation is lower among immigrants in the U.S. (75.3%) than in Israel (89.1%). However, the average wage percentile is higher for immigrants in the U.S. (58.2) than in Israel (50.2), and in both cases exceeds that of native-born women (45.2 and 46.5, respectively). Partners of immigrants have roughly ten percentage points lower rates of academic attainment than the women themselves. The educational spousal gap is larger among immigrants than among native-born Americans but similar to that among native-born Israelis. Mean partner wage percentiles are higher in Israel (71.1) than in the U.S. (67.8), and in both countries exceed those of native-born women's partners (64).

Panel C shows that immigrants in the United States enjoy higher living standards than their counterparts in Israel. Their average dwelling size is five rooms compared to 3.5 in Israel, ²⁰ and 92.6% of U.S. immigrants own a car (63.1% own more than one), compared with 74.6% and 21.2% among immigrants in Israel. Overall, immigrant and native-born women in both countries have comparable living standards, though native-born Americans tend to occupy slightly larger homes—possibly reflecting differences in residential location choices.

Panel D concerns fertility. Among immigrants, 57.9% in the U.S. and 60.6% in Israel

²⁰In the Israeli data, the number of rooms is right-censored at five; no such censoring exists in the U.S. data.

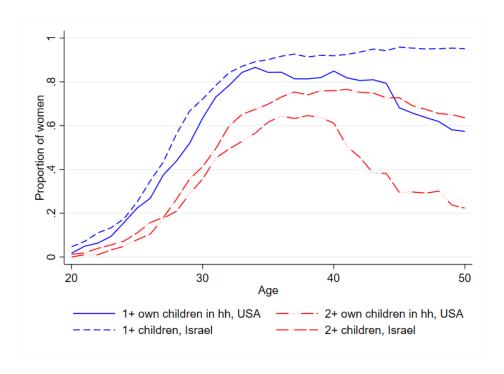


Fig. 4. Childbearing (Israel) and own children in the household (U.S.)

Notes: The figure shows the estimated proportion of women with one child or two and more children. Israeli data refers to live births, while American data refers to the number of own children in the household.

have children, similar to the respective figures for native-born women (55.7% and 61.4%). The share with at least two children is 33.5% in the U.S. and 36.1% in Israel, comparable to native-born Americans but roughly ten percentage points lower than native-born Israelis. The mean number of children is 1.07 for immigrants in the U.S. and 1.09 in Israel—similar to native-born Americans but about 0.4 lower than native-born Israelis. Conditional on having children, the mean number is close to two in both immigrant groups, matching the U.S. native figure but about half a child lower than that of native-born Israelis.

Table 4 Summary Statistics

	Immi	grants	Native-	born		
	U.S.	Israel	U.S.	Israel		
	(1)	(2)	(3)	(4)		
Observations	254	2,668	1,033,007	61,648		
	$A \colon Family$					
Time with a market	0.678	0.678	0.481	0.706		
Lives with a partner	(0.039)	(0.010)	(0.001)	(0.002)		
Even mannied	0.762	0.718	0.723	0.723		
Ever-married	(0.033)	(0.009)	(0.001)	(0.002)		
Ever-divorced	0.078	0.093	0.132	0.044		
Ever-divorced	(0.029)	(0.006)	(0.000)	(0.001)		
ECII have partner	0.744	0.718	0.001	0.014		
FSU-born partner	(0.039)	(0.011)	(0.000)	(0.001)		
		B: Educati	on and work			
Academic degree	0.513	0.436	0.336	0.365		
Academic degree	(0.042)	(0.010)	(0.001)	(0.002)		
Labor force participation	0.753	0.891	0.784	0.739		
Labor force participation	(0.039)	(0.006)	(0.001)	(0.002)		
Wage percentile	58.154	50.170	45.161	46.484		
wage percentile	(2.175)	(0.511)	(0.035)	(0.125)		
Partner has academic degree	0.421	0.344	0.321	0.278		
i arther has academic degree	(0.049)	(0.012)	(0.001)	(0.002)		
Partner's wage percentile	67.821	71.100	63.910	63.587		
i arther's wage percentne	(2.517)	(0.583)	(0.043)	(0.154)		
		C: Living	g $standards$	standards		
Number of rooms	5.031	3.526	5.684	3.568		
Number of fooms	(0.165)	(0.018)	(0.002)	(0.004)		
Household with a car	0.926	0.746	0.934	0.734		
Household with a car	(0.022)	(0.009)	(0.000)	(0.002)		
Household with several cars	0.631	0.212	0.673	0.253		
Household with several cars	(0.040)	(0.009)	(0.001)	(0.002)		
		\underline{D} : C	hildren			
Has children	0.579	0.606	0.557	0.614		
rias cinidren	(0.040)	(0.010)	(0.001)	(0.002)		
Has 2+ children	0.335	0.361	0.356	0.463		
1100 2 Cilitaren	(0.002)	(0.0,001)	(0.010)	(0.040)		
Number of children	1.065	1.088	1.077	1.471		
Number of children	$(0.08\cancel{2})7$	(0.022)	(0.002)	(0.007)		
Number of children	1.838	1.783	1.935	2.378		
(conditional on positive)	(0.098)	(0.022)	(0.002)	(0.007)		

Notes: The table presents summary statistics of 25-34 years old women, as observed in the 2008 Israeli Census and 2002-2010 ACS. Imigrants are women who immigrated from the Soviet Union to the U.S. in 1989 or to Israel in 1990-1991. The method is survey mean.

6 Fertility and Postnatal Labor Market Activity

I turn now to the question addressed in the model in Section 3, i.e., how destination affects the joint outcome of human capital investment, childbearing, and postnatal labor market activity. Hypothesis II is supported by the summary statistics in Table 4, and the purpose of this section is to test Hypotheses II, III, and IV.

The statistical inference consists of a simple comparison of weighted means of immigrants in the U.S. and Israel

$$\bar{D}_{immigrant}(Y) = \bar{Y}_{immigrant}^{US} - \bar{Y}_{immigrant}^{ISR}$$
(3)

where Y is the indicator of interest, and of a difference-in-differences analysis, where the mean difference between native-born American and Israeli women is deducted from the mean difference between immigrants in the U.S. and Israel:

$$\bar{\bar{D}}(Y) = \bar{D}_{immigrant}(Y) - \bar{D}_{native-born}(Y) \tag{4}$$

where

$$\bar{D}_{native-born}(Y) = \bar{Y}_{native-born}^{US} - \bar{Y}_{native-born}^{ISR}$$
(5)

The choice of the universe of 25–34 years old native-born women for the comparison group in each of the countries requires justification. The first reason is that the role of the comparison group is to capture the country effect and it is *not* the control group in the quasi-experimental study. Recall that the random allocation is for immigrants only, and the natives are not a part in the natural experiment. The

Testing Hypothesis II

The hypothesis states that fertility of immigrants to the U.S. and Israel should be affected by common origin-determined norms and by the norms of the host country. In particular, fertility of immigrants in the United States is similar or slightly lower than that of nativeborn American women, while fertility of immigrants to Israel is above that of immigrants to the United States, and fertility of native-born Israelis is above that of immigrants to Israel. Figure 5 and Table 5 test this hypothesis visually and statistically. Figure 5 plots the mean number of children and the propensity of motherhood by age. The "eyeball econometrics" recognizes that the immigrant women in Israel and the U.S. have almost identical childbearing profiles. Moreover, the two groups are much more similar to each other than to the native-born women in their host countries. In particular, immigrants have a higher than the native-born in both countries propensity of motherhood by mid-thirties. The mean number of children in the thirties is higher for immigrants than for native-born Americans but lower than for native-born Israelis. The similar childbearing profiles are evident of persisting influence of the Soviet model, i.e., universal and early childbearing with a mean slightly above 1.5 children by mid-thirties.

Table 5 reports the estimates of $\bar{D}_{immigrant}(fertility)$ and $\bar{D}_{native-born}(fertility)$. Odd columns relate to immigrants, while even columns relate to the native-born women. The U.S-Israel difference in propensity of motherhood is -0.027 for all immigrants, -0.037 for immigrants without an academic degree, and as small as 0.001 for immigrants with an academic degree. These figures are statistically indistinguishable from zero. The U.S.-Israel gap in the mean number of children is also statistically zero. Meanwhile, native-born Americans with academic degree have as much as 14 points (with s.e. 0.4 points) lower propensity to have children than corresponding native-born Israelis. With regard to the mean number of children, native-born Americans have around 0.4 children less than native-born Israelis. The gap is statistically significant and is slightly higher for college-educated than for low-educated.

The persistence of the Soviet Jewish childbearing profile among immigrants is testified by comparison of immigrants' fertility to the Jewish fertility figures from the 1989 Soviet census of population.²¹ Jewish women at age 34 had cumulative fertility of 1.55. The corresponding figure for the Soviet immigrants in Israel is 1.57 in 1990 and 1.59 in 2000 (Konstantinov, 2007;

²¹Note that the economic collapse, associated with the political disintegration of the Soviet Union in the end of 1991 led to a demographic crisis and a sharp decrease in fertility over the 1990s. Therefore, there is no sense to compare the female immigrants to there counterparts in the source countries. The comparison to the 1989 figures, made here, is closer to show the effect of origin norms.

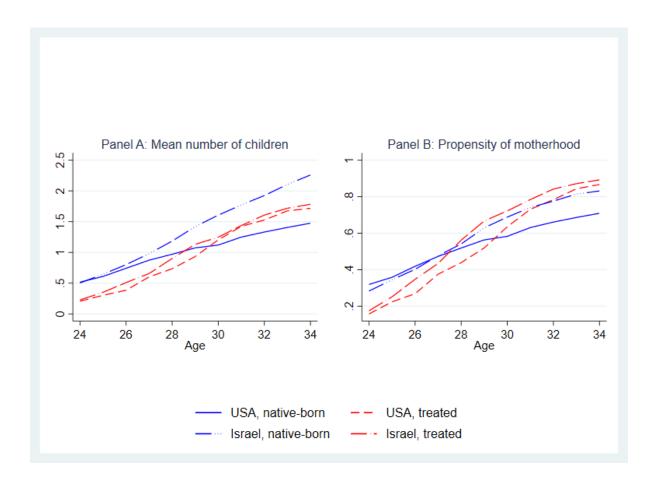


Fig. 5. Fertility profiles

Note: The figure shows the weighted mean number of children (panel A) and propensity of having any children (panel B). In the Israeli data, the number of children is the number of live births. In the American data, the number of children is the number of own children in the household.

Table 5 U.S.-Israel fertility difference

All		Low-educated Academic- ed		<u>Low-educated</u> <u>Academic- educated</u>	
Immigrants	Native-born	Immigrants	Native-born	Immigrants	Native-born
(1)	(2)	(3)	(4)	(5)	(6)
	A: Propensity of motherhood				
-0.027	-0.058***	-0.037	-0.022***	0.001	-0.140***
(0.041)	(0.002)	(0.058)	(0.003)	(0.059)	(0.004)
-0.023	-0.394***	0.049	-0.437***	-0.031	-0.371***
(0.088)	(0.007)	(0.143)	(0.010)	(0.106)	(0.009)

Notes: The table reports first difference between the means in the U.S. and Israel, defined in Equation 5. ***p<0.01, **p<0.05, *p<0.1.

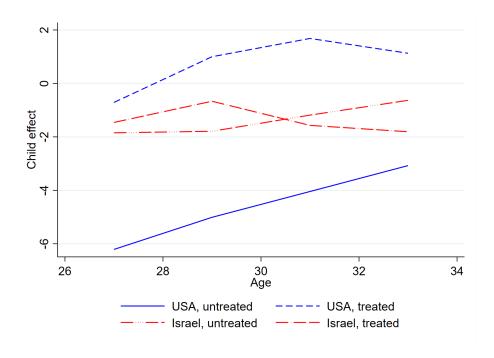


Fig. 6. Selection into motherhood by PWP

Notes: The figure shows the PWP (three-year moving average) gap between women with and without children.

Table 6 Relationship between motherhood and potential wage percentile

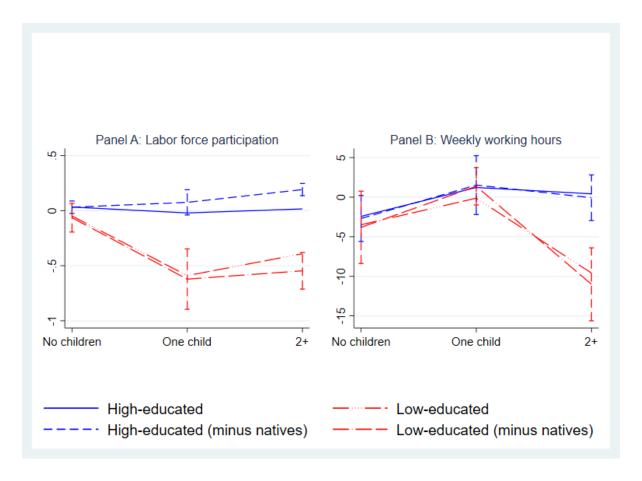
	(1)	(2)
Immigrants×Any children×U.S.	5.567***	
minigrants × Any children × 0.5.	(1.660)	
Immigrants×One Child×U.S.		6.469***
mmigrants vone Ciniu v U.S.		(1.998)
Immigrants×Two and more children×U.S.		4.778**
minigrants × 1 wo and more children × 0.5.		(1.982)
Any children×U.S.	-3.718***	
Any children×∪.S.	(0.082)	
One Child \times U.S.		-3.396***
One Child & O.S.		(0.117)
Two and more children×U.S.		-4.114***
Two and more children Vo.5.		(0.089)
$Immigrants \times U.S.$	1.519	1.519
minigrants > 0.5.	(1.203)	(1.203)
Immigrants×Any children	-0.366	
minigranes / Any children	(0.324)	
$Immigrants \times One child$		-0.712*
minigrants. One child		(0.406)
Immigrants×Two and more children		-0.462
immigrants x 1 wo and more children		(0.367)
Immigrants	0.061	0.061
immigrants	(0.250)	(0.250)
Observations	1,001,981	1,001,981
Population size	14,812,272	14,812,272

Notes: The table presents coefficients of interest from the weighted linear regressions output, where the dependent variable is PWP. The explanatory variables are dummies for immigrants, U.S., motherhood, and all interaction terms (Equation 6). Motherhood is captured by a dummy for any children (column 1) or dummies for one child and at least two children (column 2). ***p<0.01, **p<0.1.

Table 7 Child effect on the house size

	Israel	United States
	(1)	(2)
$Immigrant \times PWP \times Number of children$	0.006*	0.010
immigrant x F W F x Number of children	(0.003)	(0.015)
In a simulation of all large	-0.145	-0.434
Immigrant×Number of children	(0.153)	(0.699)
PWP×Number of children	0.015***	0.019***
PWP×Number of children	(0.001)	(0.000)
I	-0.001	-0.010
$\operatorname{Immigrant} \times \operatorname{PWP}$	(0.005)	(0.021)
Observations	44,185	952,806
Population size	320,021	14,438,812

Notes: The table presents coefficients of interest from the weighted to bit regression output, where the dependent variable is the number of rooms in house. Number of rooms is left-censored at 0, and in Israeli data it is also right-censored at 5. The explanatory variables are dummies for immigrants, PWP, number of children, and all interaction terms (Equation 7). ***p<0.01, **p<0.05, *p<0.1.



L

Fig. 7. U.S.-Israel difference in the market work of immigrants

Note: The figure shows the first difference (Equation 5) and the difference-in-differences (Equation 4) effects, reported columns 1–4 of in Table 8, including the 95% confidence intervals of the difference-in-differences effects.

Table 8 U.S.-Israel difference in women's market work

	$\underline{\text{Low-educated}}$		colle	college-educated		High-low difference	
	Immigrants	Immigrants-natives	nigrants-natives Immigrants Immigrants-natives		Immigrants	Immigrants-natives	
	(1)	(2)	(3)	(4)	(5)	(6)	
			A: Labor	force participation			
Childless	-0.048	-0.064	0.033	0.031	0.081	0.095	
Childless	(0.067)	(0.067)	(0.029)	(0.029)	(0.073)	(0.072)	
O	-0.590***	-0.622***	-0.021	0.075	0.569***	0.697***	
One child	(0.140)	(0.140)	(0.058)	(0.059)	(0.152)	(0.151)	
0 - 1211	-0.39***	-0.546***	0.016	0.191***	0.408***	0.738***	
2+ children	(0.085)	(0.085)	(0.028)	(0.028)	(0.089)	(0.089)	
			<u>B: V</u>	Vorking hours			
CI :1 II	-3.483	-3.810	-2.427	-2.691*	1.056	1.119	
Childless	(2.327)	(2.332)	(1.475)	(1.483)	(2.764)	(2.755)	
0 1:11	-0.128	1.374	1.226	1.529	1.355	0.155	
One child	(1.186)	(1.207)	(1.886)	(1.900)	(2.251)	(2.228)	
2+ children	-9.587***	-11.010***	0.424	-0.069	10.011***	10.941***	
	(2.347)	(2.351)	(1.460)	(1.471)	(2.773)	(2.764)	

Notes: The table presents the U.S.-Israel difference (Equation 5), difference-in-differences (Equation 4) in the labor force participation and working hours (conditional on a positive number), by academic education, and the difference in the estimates between academic- and low-educated. ***p<0.01, **p<0.05, *p<0.1.

Tolts, 2010). In the 2008 Census data, which I use, it is, somewhat higher, 1.78. Yet a small increase is observed also in the 2002–2010 ACS, where it is 1.72. Furthermore, propensity of motherhood of Soviet Jewish women at age 32 was 0.847 in the 1989 Soviet Census. It is identically 0.841 in the 2008 Israeli Census data and similarly 0.783 in the 2002–2010 ACS data.²²

In summary, Figure 5 and Table 5 establish similarity between childbearing profiles of immigrant women in the U.S. and Israel. This similarity, having in background figures from the 1989 Soviet census, is evident of the effect of origin-determined common norms. However, further analysis shows that immigrant women in the two host countries have different paths to the realization of these norms.

Testing Hypothesis III

The hypothesis suggests that immigrants in the United States are more positively than native-born Americans selected into early motherhood in terms of human capital. To assess selection into motherhood, I consider the women's potential wage percentile (PWP). The use of wage percentile overcomes the scaling issue, as American and Israeli levels of income per capita are very different (see footnote 5). Technically, Israeli census only provides wage percentiles. The potential wage percentile is the mean wage percentile of childless native-born 25–29 years old women.²³ The mean wage percentile is estimated with respect to the education (with/without academic degree) and occupation (according to the grouping of occupations in 10 categories in the Israeli census), such that there are overall 20 levels of PWP in each country.

Figure 6 documents the relationship between motherhood and PWP. It shows the PWP

²²Apparently, there might be difference between kids who are below and above the beginning of their formative years. It is possible that kids who are between 7 and 11 years old in the year of migration are more effective in their absorption of local norms relative to the kids who are 13–17 years old in the year of migration. However, my statistical inference uses the 2008 Israeli PUF, where age is grouped and such division is not possible.

²³The reason not to consider the 30–34 years old women for calculation of PWP is that wage percentiles of 30–34 years old childless women are significantly different from those of 25–29 years old, evident of strong selection into childlessness at this age.

gap between women with and without children, by woman's age. The figure reveals that immigrants to Israel are indistinguishable from native-born Israelis by having slightly negative (around minus 2 points) selection into motherhood. immigrants to the U.S. exhibit almost no selection into motherhood (0 to 2 points). By contrast, American native-born women are negatively selected into motherhood, but their selection is positively correlated with age. PWP of native-born Americans who are mothers at age 27 is 6-point lower than that of childless women, and PWP of those who are mothers at age 33 is 3-point lower than that of childless women.

Table 6 summarizes this evidence in a weighted linear regression. I regress PWP on the dummies for immigrants, host country, motherhood, and all interaction terms:

$$PWP = \beta_0 + Ch \times US \times Immigrant \times \gamma + \beta_1 Ch \times US + \beta_2 Ch \times Immigrant + \beta_3 US \times Immigrant + \beta_4 Ch \times Immigrant + \beta_5 Ch + \beta_6 US + \beta_7 Immigrant + u$$
(6)

where PWP is the potential wage percentile, Ch is a variable for any children or a vector of dummies for different levels of fertility (one child, at least two children), T is a dummy for immigrants versus native-born women, and US is a dummy for the U.S. versus Israel. The coefficients of interaction terms appear in Table 6. Column 1 refers to the regression where motherhood appears as a single dummy variable, while column 2 refers to the regression where motherhood is a set of two dummies: one child or at least two children. The table reports the important coefficients from the regressions. The coefficient of a triple interaction $Immigrant \times Any$ children $\times U.S.$ is 5.567 (s.e. 1.66) points. It is lower for women with at least two children than for women with one child but is statistically significant for all motherhood indicators. By contrast, for native-born, the coefficient of Any children $\times U.S.$ is -3.718 (s.e. 0.082). There is no such immigrants-natives gap for childless women: the $Immigrant \times U.S.$ coefficient is only 1.5 with a standard error of 1.2. Finally, and correspondingly to Figure 6, there is no selection into motherhood and no immigrants-natives gap in Israel. The $Immigrant \times Any$ children coefficient is -0.366 (s.e. 0.324), while the simple Immigrant coefficient, showing the immigrants-natives PWP gap among childless in Israel, is statistically zero.

To summarize evidence in Figure 6 and Table 6, young immigrant mothers in the U.S. are

much more positively than the native-born American women self-selected into motherhood. In Israel, there is no selection neither among immigrants nor among native-born women. This difference between the U.S. and Israel is an opposite of what could be explained by income effect. Given their lower income, immigrants to Israel would be expected to have stronger than immigrants to the U.S. elasticity of childbearing with respect to income.

Moreover, I execute an additional test for the argument that income effect does not explain the results in Figure 6 and Table 6. To this end, I utilize the inquiry of American and Israeli censuses about the size of the respondent's house. Using the size of the house as a measure of standards of living, I test whether presence of children changes the relationship between mother's PWP and standards of living differently for immigrants than for native-born women. I estimate weighted Tobit regressions, where the dependent variable is the number of rooms in house. The number of rooms is the most appropriate (from available alternatives) indicator to account for life quality. Other relevant census indicators, such as having a car or specific appliances, have little variation, especially in the American data. The model includes a dummy for immigrants, PWP, number of children (Ch), and all interaction terms:

$$Rooms = \beta_0 + \beta_1 Ch \times PWP \times Immigrant \times \gamma + \beta_2 Ch \times PWP + \beta_3 Ch \times Immigrant + \beta_4 PWP \times Immigrant + \beta_5 Ch \times Immigrant + \beta_6 Ch + \beta_7 PWP + \beta_8 Immigrant + u$$

$$(7)$$

Table 7 reports the coefficients of the important interaction terms. Because houses are larger in the United States, and the number of rooms is differently censored in the American and Israeli data, I estimate separate regressions for Israel (column 1) and the U.S. (column 2). The results show that PWP interacted with number of children is associated with larger houses in both countries, but the relationship for immigrants is not different from that for native-born women. The term $Ch \times PWP \times Immigrant$ is statistically zero in both countries. These results support the argument that income effect cannot explain the different selection of immigrants to the U.S. and native-born women into motherhood.

²⁴Number of rooms cannot be lower than 0, and in Israeli data it is also right-censored at 5.

Testing Hypothesis IV

I further analyze the relationship between childbearing and women's labor market outcomes on extensive and intensive margins. This corresponding hypothesis declares that in Israel, all immigrant mothers work regardless of education, while in the United States, collegeeducated immigrant mothers are more likely to stay in the labor force than college-educated native-born mothers, and low-educated immigrant mothers are less likely to stay in the labor market than college-educated ones. Table 8 reports $\bar{D}_{immigrants}$ and $\bar{\bar{D}}$ for LFP and work hours. Panel A of reports the U.S.-Israel difference in labor force participation (LFP) by number of children and education. Columns 1 and 3 show the mean difference estimators $(\bar{D}_{immigrants})$ for immigrants without and with academic degree, respectively. Columns 2 and 4 are corresponding difference-in-differences estimators (\bar{D}) , where the native-born means are deducted from the immigrants means. Columns 5 and 6 show the differences between columns 3 and 1 and between columns 4 and 2, respectively. Panel A of Figure 7 shows the effects graphically. The U.S.-Israel gap is statistically indistinguishable from zero for childless immigrants. However, low-educated immigrants with one child are 59 points (s.e. 14 points) less likely to be in the labor force in the U.S. than in Israel. This effect is even stronger (62.2 points, s.e. 14 points) after controlling for host country effect. By contrast, LFP of college-educated immigrants is similarly affected by the first child in both countries, and the U.S.-Israel gap is statistically zero.

For low-educated immigrants with at least two children, the U.S.-Israel gap is minus 39 points (s.e. 8.5 points) without and minus 54.6 points (s.e. 8.5 points) with host country effect. Meanwhile, for college-educated immigrants, the U.S.-Israel gap is close to zero. However, controlling for the host country effect in column 4, the U.S.-Israel gap for college-educated is positive and constitutes 19.1 points (s.e. 2.8 points). It means that college-educated immigrant mothers in the U.S. remain in the labor force similarly to college-educated immigrant mothers in Israel and in much higher proportion than college-educated native-born American mothers. The resulting triple-difference estimator in column 6 (the by-education difference between difference-in-differences estimators) is similar for mothers with one and mothers with at least two children, 69.7 (s.e. 15.1 points) and 73.9 points (s.e.

8.9 points), respectively.

Panel B of Table 8 reports, and Panel B of Figure 7 shows graphically, the U.S.-Israel gap in the weekly working hours for those women who work a positive number of hours. For childless women and women with one child, the differences are statistically indistinguishable from zero. However, for women with at least two children, low-educated immigrants work 10 hours less in the U.S. than in Israel, and the gap is 11 hours controlling for host country effect. These coefficients are statistically significant at 0.01 level.

7 Discussion

In this paper, I show that young women who immigrated as children and teenagers and were quasi-randomly allocated to the U.S. and Israel follow similar childbearing profiles, complying to the Soviet model of early childbearing. They target giving birth to just above 1.5 children by mid-thirties. Immigrants to Israel show weak correlation between realization of this model and other outcomes. In particular, they are similar to native-born Israelis in not conditioning childbearing on academic education and postnatal LFP on extensive and intensive margins. However, immigrants to the U.S. deviate from native-born American women in their realization of the origin-determined fertility profile. Put together, evidence in Tables 5–8 and Figures 5–7 suggests that immigrants to the U.S. link their childbearing profile to investment in human capital and postnatal labor market activity. However, they do it differently from native-born Americans. The majority earn an academic degree, give birth, and stay in the labor force on extensive and intensive margins. The alternative and less common path is to earn no academic degree and to quit the labor market after the first birth or to drop working hours by 10 after the second birth.

In summary, Soviet Jewish women who immigrated as children to the U.S. and Israel target the same or very similar childbearing profiles, revealing the importance of origin-determined norms. However, they are different in the correlation between childbearing and labor market outcomes. One could try to explain the differences between immigrants in the two countries and between immigrants and native-born women in the U.S. by arguing that

childcare costs are higher in the U.S. than in Israel, and childrearing requires either high income or exiting the labor force and spending own time with children. One could also argue that native-born American women do not face the same childcare prices as immigrants. For instance, they may rely on help from grandparents, less available for immigrants. While that might be true, such a standard model should also predict that immigrants to the U.S. trade off children against standards of living in order to meet their fertility target. However, they do not. Therefore, estimates in Table 7, which examines the relationship between PWP, children, and standards of living, are important for understanding this paper's message. Soviet Jewish immigrants to the U.S. do not "purchase" targeted fertility by compromising on standards of living. They rather attempt to realize simultaneously their origin-determined fertility preferences and their American Dream of high standards of living, away from the family-career trade-off.

To conclude, this paper's findings show that the behavior of female immigrants to the U.S. is complex. Family size preferences, designed by the country of origin, lead to close-to-zero selection into motherhood by PWP, strong education-LFP correlation, and segregation into college-educated working mothers and low-educated non-working mothers. By contrast, young native-born American women follow the family-career trade-off. They negatively select themselves into motherhood by PWP. In addition, college-educated native women are much less likely than immigrants to stay in the labor force after second birth. The difference in the immigrants' behavior in Israel and the U.S. is not explained by income effect. Income and standards of living are higher in the U.S. than in Israel. Moreover, the correlation between PWP and standards of living is similarly conditioned on children for immigrant and native-born women in both countries.

Soviet Jewish immigrants are an exceptionally educated group that also exercises early childbearing. They are tenacious in realizing their American Dream without compromising on origin-determined family model. However, by trying to optimize the multi-dimensional outcome of career and family, immigrants develop segregation into college-educated working mothers and low-educated non-working mothers. This segregation is not observed neither among similar immigrants to an alternative destination nor among native-born Americans.

It prevents some human capital investment and decreases postnatal labor force participation.

Conflict of Interest

The authors declare that they have no conflict of interest.

Data Availability Statement

The American Community Survey data is available on IPUMS-USA (Ruggles et al., 2022). The Current Population Survey data, used in Figure 8, is available on IPUMS-CPS (Flood et al., 2022).

The 2008 Israeli Census of Population Public Use File was received from the Central Bureau of Statistics of Israel via the Israel Social Sciences Data Center (https://en.isdc.huji.ac.il/).

Israeli 2008 Census data used in Figure 4 and Israeli 1995 Census data used in Table 2 is available on IPUMS-International: https://doi.org/10.18128/D020.V7.3.

Figures of education in the Soviet Union are from Konstantinov (2007).

Figures of fertility in the Soviet Union in the 1989 Soviet Census of Population are from Konstantinov (2007) and Tolts (2010).

Section 2 mentions the figure of 1989 Soviet immigrants in the U.S. from the U.S. Department of Justice, Immigration and Naturalization Service, Immigrants Admitted to the United States.

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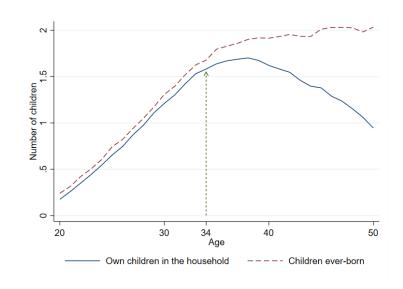
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Appendix

Fig. 8. Number of children ever-born and number of own children in the household



Note: The figure presents the weighted mean number of children ever-born and children in the household by mother's age. The sample includes white women. Source of data: Current Population Survey June Supplement of 1990–2020 (Flood et al., 2022).