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## Fertility intentions under the shock conditions: The case of Russian Exodus

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Leibniz Institute for  
**EAST AND SOUTHEAST  
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Arbeitsbereich Ökonomie

## **IOS Working Papers**

No. 403 December 2023

### **Fertility Intentions under the Shock Conditions: the Case of Russian Exodus**

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## Contents

Abstract .....	v
1 Introduction .....	1
2 Theoretical framework .....	4
3 Data and methods .....	9
4 Results .....	14
5 Discussion .....	22
6 Conclusion .....	24
References .....	25

## List of Tables

Tab. 1 Descriptive statistics of socio-economic characteristics of the migrants and the stayers .....	11
Tab. 2 The results of the regression analysis (odd ratios, OR) for Hypothesis #1 .....	14
Tab. 3 The results of the regression analysis (odd ratios) for Hypothesis #1 extended .....	16
Tab. 4 The results of the regression analysis (odd ratios) for Hypothesis #2 .....	17
Tab. 5 The results of the regression analysis (odd ratios) for Hypothesis #3 .....	19
Tab. 6 The results of the regression analysis (odd ratios). Interaction effects .....	20

## List of Figures

Fig. 1 Host countries for Russian migrants .....	10
Fig. 2 Age of the migrants and the stayers .....	12
Fig. 3 The number of children for the migrants and the stayers .....	12



## **Abstract**

The paper is devoted to the fertility intentions of the migrants from Russia belonging to the recent wave of so called ‘Exodus’ caused by Russia’s invasion in Ukraine in 2022 and its social impact on Russian society. The authors use the disruption hypothesis and predict the drop in the fertility intentions of new-wave Russian migrants in comparison with the old-wave Russian migrants and stayers, matching and controlling for their socio-economic status. Although the new-wave migrants are in the active reproductive age, partnered and in many cases childless, the authors find a strong intention to the fertility postponement and even cancellation among them. The research is based on two on-line surveys organized in April – October 2023 via online social media and by the snowball method. The first survey provided authors with empirical data on old-wave and new-wave migrants, the second one – on stayers, who have close socio-economic characteristics to the migrants. As a result not only the lower birth intentions of the new-wave migrants was observed, but the positive effect on fertility intentions of the subjective income and willingness to stay in the host country. Especially it is obvious for the countries beyond the EU (mainly for post-Soviet and the Balkan ones). On the other hand for the countries of EU (welfare states) the fertility intentions are the highest.

**JEL-Classification:** D10, J13, J15, J18

**Keywords:** Fertility intentions, fertility among migrants, disruption, forced migration, Russian migrants



## **1 Introduction**

The reproductive behavior among refugees and forced migrants has been the object of research in recent years. The effect of the refugees and their fertility on sustainable development, including ecological impact, was also taken into consideration (see Alola et al (2023) for the comparison of the main recipients of refugees Sweden and Lebanon). Scandinavian registers allow to trace the birth histories and integration of the refugees in Sweden (see Carlsson (2023) for the former Yugoslavian refugees) and also the fertility among refugees in Norway (Andersen, Adserà & Tønnessen, 2021; Adserà, Andersen & Tønnessen, 2022). In the USA the research was carried out on the fertility of Indochinese refugees (Rumbaut & Weeks, 1986). Abbasi-Shavazi et al (2015) provided a detailed analysis of fertility differences among the local population and Afghani refugees in Iran based on census sample micro-data.

Extensive migration of the last decade led to even more studies in this field. Firstly, we should highlight the research on Syrian refugees, who were taken into account both in Western Asia and Middle East countries like Jordan, Lebanon or Turkey (Kabakian-Khasholian et al, 2017; Coşkun et al., 2020; Sieverding et al., 2020; Çağatay, Keskin & Ergöçmen, 2020; Skirbekk, 2022; Akyon et al 2023; Van Raemdonck, 2023) and in Europe (Buber-Ennser et al., 2018). Secondly, it is the analysis of reproductive behavior and health observation of Venezuelan displaced people in Colombia (Rivillas-García et al., 2021; Amuedo-Dorantes et al., 2023). Thirdly, we should mention the Hossain & Hossain (2023) work on the fertility intentions of the Rohingya – the Forcibly Displaced Myanmar nation in Bangladesh.

Not only Russia's invasion in Ukraine in 2022 led to the emergence of a huge number of Ukrainian refugees (estimated by UNHCR as almost 6.3 mln. in November 2023), who fled to Europe, Russia, and the Americas, but also forced many Russians, who did not support the aggression, to leave their home country. According to different sources, the number of Russian migrants of 2022–2023 can be assessed from 500 thousand up to 1 mln. Based on 'Re: Russia data' the numbers fluctuate between 800 – 900 thousand, while about 15% returned home. Nevertheless, so far there are no thorough or reliable academic publications regarding the estimation of the Russian migration flows.

The main characteristics, the source regions, and the countries of destination for the Ukrainian refugees of the new wave became a recent object of research (see e.g., Leasure et al. 2023), and some preliminary statistics on their reproductive behavior have already been



obtained. The survey observing the integration of the Ukrainian refugees was held in Germany by the consortium of the research centers (see e.g. Brücker et al (2022, 2023)) and the intentions of the refugees to return home were observed by IFO Institute in Munich; the refugees' traces were found in the Labour Force Sample Survey (LFSS), in Czechia. Several papers are devoted to the integration of Ukrainian refugees into Polish society (see e.g. Długosz (2023), Duszczyk et. al (2023), Kaczmarczyk (2023)).

At the same time, none of such attention is paid to the recent migration wave from Russia. There have been several attempts to estimate the flows and stocks of Russian migrants and the records on their source regions, as well as their social and economic status using big data (Anastasiadou, Volgin & Leasure, 2023), online surveys and qualitative methods (Kamalov et al., 2023; Kuleshova et al, 2023). However, the precise number and the location of Russian migrants remain unclear since they don't get formal support from the host countries, so the official statistics do not exist either.

Russian migrants of 2022–2023 could hardly be described as refugees in their purest sense. According to the UNHCR definition “refugees are people who have fled war, violence, conflict or persecution and have crossed an international border to find safety in another country. They often have to flee with little more than the clothes on their back, leaving behind homes, possessions, jobs and loved ones.” The 1951 Refugee Convention, a key legal document, defines a refugee as: “someone who is unable or unwilling to return to their country of origin owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group, or political opinion.”

Russian migrants of 2022–2023 fit only a part of the characteristics in the mentioned above definitions. Moreover, a significant number (including those married and with children) left the country after their employers had withdrawn their business from the Russian Federation. Thus, it should be taken into account that some of those who left might not have intended to relocate. At the same time, just like in case with refugees in their classical sense, the necessity to flee their country occurred under the shock conditions and many of them are either unable to return due to the risk of being prosecuted or unwilling to be called up for military action. Therefore, we assume that their behavior can generally be comparable to that of refugees.

To fill the gap in data on Russian migrants, this article is devoted to the analysis of fertility intentions among Russian migrants who left Russia after the beginning of the Russian invasion in Ukraine on 24.02.2022.

The key objective was to define the main determinants of the fertility intentions (as it is too early to assess their realization) of the Russian migrants within 1–1.5 years after the burst of Russia’s military activity in Ukraine and subsequent migration. We expect to see the postponement of childbearing for the people who migrated from Russia after the beginning of the armed conflict compared to the respondents with similar socio-economic and demographic status who stayed in Russia, and those Russian migrants who moved abroad slightly earlier.

Talking about the Russians already living abroad before the invasion and pandemics we should claim that their numbers are not that easy to estimate. There have been several attempts to do this, and the figures for 2019 were close to 2 mln., based on the data of the consular office and UN data (Ryazantsev, Pismennaya & Ochirova, 2021) for the countries outside post-Soviet space. The figures for post-Soviet space are much higher mainly due to the fact that people were born or migrated back in the Soviet period (so formally they are the Russian-born citizens of these states). The majority of migrants from Russia living abroad before the invasion left the country within 2019–2021. So they neither had enough time for the adaptation. On the other hand, we assume that their choice to migrate was deliberate and they had time to prepare for the movement, while the post-conflict migrants had to make decisions in rather tight time and resource constraints.

To get the results, we held two online surveys. One was offered to Russian migrants, another – to those who stay in Russia. We used the snowball method together with the posted link to the survey on social media to find respondents in online chats.

We took into consideration not only women’s fertility intentions as it is generally done in the majority of the studies, but also those of men. The choice is due to the fact that the migration after the beginning of the conflict in Ukraine involved more men than women (the distortion is not as high as in the case of Syrian refugees, but, nevertheless, visible). The hypotheses were tested with the binary logistic regressions.

## **2 Theoretical framework**

Fertility intentions are traditionally associated with numerous socio-economic factors including employment status (Alderotti et al., 2021), housing conditions (Vignoli et al., 2013), financial support (Hanappi et al., 2017), and others. One can find a systematic literature review of fertility intentions and its determinants at micro-, meso-, and macro-levels (Balbo et al., 2013). At the micro-system or individual level fertility is influenced by age, education (Berrington and Pattaro, 2014), financial situation, health, happiness, and childbirth desire. Marital status, partnership satisfaction, and gender role attitude have a significant role in the realization of fertility intentions at the meso level, as well as cultural and political settings at the macro level. One of the latter reviews additionally provides exeo-level with job characteristics, urban residents' status, and housing conditions factors (Hashemzadeh et al., 2021). The uncertainty of these primarily economic factors on the exeo-level, which are not subject to direct individual control, for instance, losing a job, reductions in income, or unstable work, may negatively affect fertility. At the same time, the influence of fixed-term job contracts and precarious jobs on fertility intentions is controversial and channeled by subjective well-being (Vignoli et al., 2020). Moreover, according to Vignoli et al. (2022), negative narratives of the future are more crucial factors in fertility intentions than the actual economic condition. It is not clear whether these subjective well-being narratives can channel both uncertainty and shock conditions such as 'shock mobility' (Xiang, 2021). Thus, migration caused by armed conflicts and other factors threatening security along with other basic needs does not simply strengthen the overall uncertainty of the modern VUCA World for individuals but represents a shock condition, as well as situations caused by the necessity of migration. Fertility in such highly distressing circumstances requires special consideration and migrant fertility as a special type of fertility under shock conditions has its theoretical frameworks.

Based on the existing literature the following (mainly overlapping) theories behind migrant fertility can be indicated (one of the classifications, by Mussino & Cantalini, 2022). First of all, the socialization theory shows that the main fertility preferences of migrants are formed back in childhood, and in this case, the first generation demonstrates patterns close to the ones in their country of origin (Andersson, 2004; Milewski, 2010; Mussino & Strozza, 2012b; Impicciatore et al., 2020).

Secondly, the selectivity hypothesis argues that the values and preferences of migrants might be the factors that lead to the migration. The absolute majority of migrants tend to have certain values and preferences, according to which they migrate, and do not stay in the country of origin. These values are more in line with the values of the country they are moving to. (Van Tubergen et al., 2004; Bagavos et al., 2008; FitzGerald, 2012). In this case, a fast convergence to the fertility levels of the country of destination among the migrants could be expected due to the preselection process.

Thirdly, the adaptation hypothesis explains the long-term differences, as well as the gradual convergence of migrants to the local population fertility (Goldstein & Goldstein, 1981; Andersson, 2004; Milewski, 2007; Tønnessen & Mussino, 2020). However, Hwang & Saenz (1997) conclude that, to distinguish between the selection and adaptation theories, stayers from the countries of origin should be taken into consideration.

Fourthly, the interrelation or the life course hypothesis observes migration and childbearing as synchronized parallel careers and in this case highlights that migration is often driven by motives related to family formation (Mulder & Wagner, 1993; Andersson, 2004; Milewski, 2007, Mussino & Strozza, 2012a). These effects work in various directions for the different countries: when migrants come from higher-fertility countries, both the adaptation and interrelation hypotheses decrease fertility after a certain period of stay in the country of destination; if migrants move from lower-fertility countries the process will develop in one of these two directions (Mussino & Cantalini, 2022; Tønnessen & Mussino, 2020).

Finally, the disruption theory views the migration process as stressful and that has a direct negative impact on childbearing in the short term perspective before and after migration (Hervitz, 1985; Ford, 1990; Milewski, 2010). However, regarding groups of people who made the decision under the shock conditions, we expect a longer period of childbearing postponement after migration and a shorter postponement before it.

In our research, we refer to the disruption theory as the main explanatory one, and therefore our *hypothesis #1 is: fertility intentions among migrants from Russia who left the country soon after the beginning of the armed invasion in Ukraine are lower than those of the stayers and the migrants who left Russia earlier.*

Traditionally, researchers deal with the actual fertility. In our case, we cannot deal with actual fertility, as the time between the survey and the migration of the majority of the respondents is about one year. Therefore, we appeal to the analysis of short-term fertility intentions that is also used in the literature (see, for example, Mussino et al, 2023). Fertility intentions are essential in the framework of the Theory of Planned Behaviour (Ajzen and Fishbein 2005). Other works have revealed the complexity of the concept of fertility preferences (Ajzen and Klobas 2013).

The individual socio-economic situation can be important for fertility intentions as well. For example, the results of the research could be influenced by the economic crisis as a macroeconomic shock, when there is a strong negative effect of the bad economic conjuncture on fertility intentions (Blossfeld and Hofmeister 2007; Busetta et al. 2019; Mussino et al, 2023). At the microeconomic level, Alderotti, Mussino & Comolli (2023) also suggest that, during the initial phase of the recent economic and financial crisis, the probability of having a child decreases for migrants with unstable careers or low-skilled occupations more than for natives, at least for Italy and Sweden.

Literature shows the existence of a “refugee entry effect”, or a gap in employment, during the first years after arrival, when refugees are compared to other groups of migrants (Bakker et al., 2017; Bevelander & Pendakur, 2014; Brell et al., 2020; Chin & Cortes, 2015; Adserà, Andersen & Tønnessen, 2022). Okun & Kagya (2012) explain the low fertility rates of immigrants from the post-Soviet countries in Israel due to the economic uncertainty and hardship experienced during an unexpectedly long and difficult transition period. The long-term effects of these hard times are discussed in the literature and in the long run lead to different effects, e.g. higher investments in human capital for several generations ahead (Becker et. al, 2020).

In this case, as Russian migrants are more or less homogeneous in their educational status, and too little time has passed since they arrived to make any long-term conclusions, we also formulate our second hypothesis about the positive impact of stability on fertility intentions. Therefore, hypothesis #2 is: *high subjective income as well as the stability of the migration status (legalization, documents and intention to stay in the host country) have a positive impact on the fertility intentions of Russian migrants.*

We should also keep in mind, that we deal with migrants who came from the country with a generally low fertility (Russia had a fertility 1.42 in 2022, and for 2021 it was 1.5) to the countries with different levels of fertility, sometimes relatively higher one, and the country with the developed social and family policy, but not the typical welfare state to the countries with the generous in one hand family policy, or almost without it. The literature on fertility demonstrates mainly the effect of convergence of migrants to the level and patterns of the host countries. Nevertheless, taking into consideration the papers on Russian migrants and their descendants, the process of convergence is observed, but still, the number of births is lower and the reproductive model works not as exactly as for the host country. This effect is observed for the migrants, sourced from Russia, for Sweden (Mussino, Wilson & Andersson, 2021), Norway (Tønnessen & Mussino, 2020), and Israel (Nahmias 2004; Okun & Kagya 2012). Also, the analysis of the recent Serbian Census 2022 demonstrates lower completed fertility among Russians in comparison with the Serbs (<https://popis2022.stat.gov.rs/en-US>).

Within the post-Soviet Baltic States, where it is possible to observe the fertility of several generations of former Russian migrants, the situation is also close to European, as there is partial integration in countries like Estonia. Puur et al. (2017, 2018) in the analysis of both fertility intentions and actual fertility of Russian migrants and their descendants in Estonia, comparing non-migrants in Estonia and Russia, show that Russian migrants and their descendants have fertility intentions and patterns more similar to those of their counterparts in Russia than to those of the Estonians. Nevertheless, aspects strictly related to integration, such as language proficiency and having a local partner are linked to higher chances of adopting typical host country fertility intention patterns and their realization among migrants and their descendants. These findings indicate that cultural embeddedness matters when shaping fertility intentions.

For the Post-Soviet countries with higher fertility and reliable statistics (Kazakhstan and Kyrgyzstan), the fertility of Russians is considered to be much lower than that of the local population, even after the control of the socio-economic status, but in comparison with the fertility in Russia, the results could be different (Agadjanian, Dommaraju & Nedoluzhko, 2013; Spoorenberg, 2015; Nedoluzhko, 2021).

However the effect of convergence is observed after certain adaptations, and the differences in the social policy and expected social benefits of the countries are likely to be more important for the desired fertility.

We check the smoothing effect of socio-economic wellness on the shock conditions and fertility intentions. In this case, our hypothesis #3 is: *the welfare regime and the level of the country's socio-economic development can increase fertility intentions of Russian migrants.* In this case, we can claim that in popular among Russian migrants Balkan and post-Soviet countries of destination, where the family and social policy isn't so strong, the fertility intentions of Russian migrants will be significantly lower than in EU countries. For the same reason the lower intentions could be specific for the post-Soviet countries, while the higher can be observed among the developed and developing (there aren't many) countries outside the EU.

### **3 Data and methods**

The empirical analysis is based on the data drawn from two similar online surveys carried out by the authors in May–September 2023. The first survey sampled those Russian citizens, who left Russia either before the invasion in Ukraine, or after it had started (“the migrants”). The second survey sampled those who stay in Russia (“the stayers”) – the control group of respondents.

Both surveys used the snowball method to find respondents. Additionally, the survey for migrants was shared in Telegram channels for Russian migrants (Kovcheg, Scholars Without Borders, etc.) and Facebook and Telegram channels for Russians abroad (including channels for parents). The survey for stayers also was distributed in city-district and parental groups in V Kontakte (Russia’s biggest online social network).

The survey did not include any questions related to respondent’s attitude toward politics or military activity in Ukraine. This was done on purpose to survey those who don’t show interest in politics and/or any type of activism. Most respondents from the migrant sample were those Russians, who “voted by feet” in response to the shock conditions, avoiding any form of activism. The control group – *the stayers* – are those who didn’t react at the beginning of the armed conflict in Ukraine, and stayed in their home country, so, according to the disruption theory, we don’t assume them to be under the shock conditions.

To obtain data for explanatory and control variables, both groups of respondents were asked to answer questions related to their socio-economic and demographic characteristics.

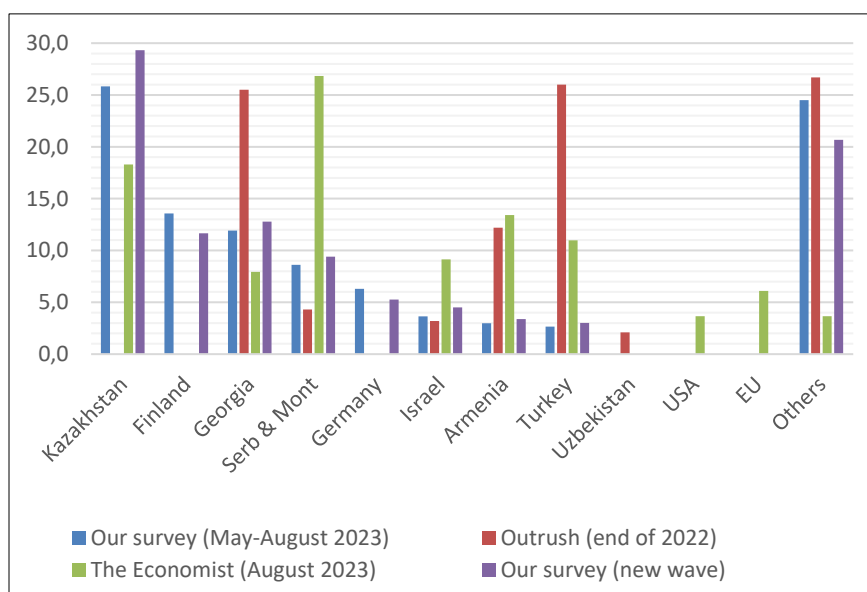
The dependent variable (fertility intentions) is based on the answer to the question about the reproductive plans of the respondent. The first one is “an intention to have more children”. This is a binary variable that is assigned as 1 – if the respondent answers they want to give birth to the first or/another child, as 0 – if the respondent does not want to have children. In some models we will additionally use the dependent variable demonstrating a stronger shock of the migrants “intention not to have children that was made by the respondent due to migration” (that is also a binary variable).

Additionally, migrants were asked questions concerning their life in the host country and changes in their socio-economic and demographic characteristics after migration: date of migration, current host country, legal status, employment, changes in subjective income, desire and opportunity to stay in the host country, etc.



Both surveys provided us with a total sample of 491 respondents: 188 (38.3%) **stayers**, and 303 (61.7%) **migrants**. Among the migrants, we can derive two sub-samples 266 (54.2%) respondents who left Russia after the beginning of the war (**the new-wave migrants**), and 37 (7.5% of the total sample or 12.2% of migrants) respondents who migrated before the beginning of the war (**the old-wave migrants**). For the purpose of the analysis, we tend to analyze the **new-wave migrants** and the **old-wave migrants** together.

According to the obtained data, Russian migrants currently live in different host countries. Our sample doesn't show the existing distribution of Russian migrants across host countries, nor does it coincide with the results of other studies of Russian migrants (see Figure 1), Nevertheless, we assume that our results are representative since there is still vigorous movement of Russian new wave migrants from one host country to another.



**Figure 1: Host countries for Russian migrants**

Note: The Economist and Outrush collected data only on the new-wave migrants.

Sources: (1) authors' survey; (2) <https://outrush.io/eng/>; (3) <https://www.economist.com/graphic-detail/2023/08/23/russians-have-emigrated-in-huge-numbers-since-the-war-in-ukraine>.

The inter-country distribution of the new-wave and the old-wave migrants is different, e.g. about 2/3 of the old-wave migrants are now in Europe (the majority (62% of them) – in EU countries) in contrast to the new-wave migrants – 36% of them live Europe now (and only 26% are in EU countries).

To compare the socio-economic characteristics of the migrants and the stayers, we use descriptive statistics (see Table 1). The statistical significance in difference between migrants and non-migrants is assessed by the Mann-Whitney U-test for the continuous variables and by Chi-square in the case of the binary variables.

**Table 1: Descriptive statistics of socio-economic characteristics of the migrants and the stayers**

	Mean		Median		p
	Migrants	Stayers	Migrants	Stayers	
Children (for all)	0.85	1.3	0	1	<0.001*
Children (for respondents with children)	1.71	1.71	2	2	0.866
Age	36.3	37.1	35	36.5	0.146
Income (subjective)	4.37	3.83	5	4	<0.001**
Higher education (university: bachelor, specialist or master; or degree)	92.70%	84%			0.002**
Marital status (married or partnered)	76.60%	74.20%			0.55
Lives in capital	70.90%	68.10%			0.52
Fertility intention (desire to have at least one more child)	34%	33.30%			0.877
Gender (women)	50.80%	88.30%			<0.001**
<b>For women only:</b>					
Children	0.92	1.33	1	1	<0.001*
Age	36.1	36.7	35	36	0.289
Fertility intention (desire to have at least one more child)	29.70%	31.10%			0.79
<b>The mean age of the 1st child born:</b>					
Both sexes	28.84	26.81	29	26	0.001*
Male	29.63	27.57	29	27.5	0.301
Female	28.31	26.73	28	26	0.02*

\* Mann-Whitney, \*\* Chi square

We found no difference between the migrants and the stayers on mean and median age (see Figure 2), marital status, source city (share of the respondents from the capital cities: Moscow and Saint Petersburg with the suburbs), fertility intentions, average number of children for the respondents with children, and the age of 1st childbirth (for men). However, the share of childless stayers is lower (see Figure 3), and the subjective income and age of birth of the 1<sup>st</sup> child (for females) are higher for the migrants.

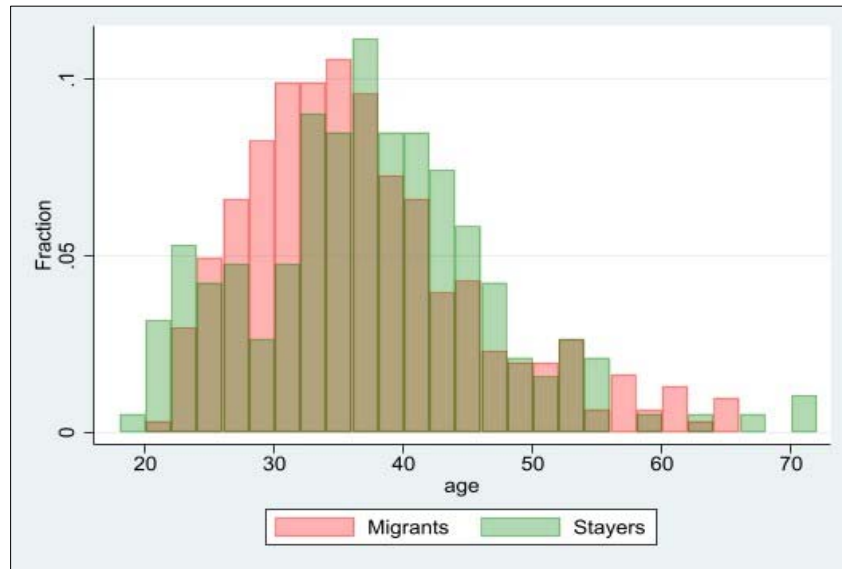


Figure 2: Age of the migrants and the stayers

Figure 2 demonstrates that, despite similar mean and median age of the migrants and the stayers (see Table 1), the migrants have a larger representation of the age group 24–32 and 55–65. We assume that it can be connected to the desire and ability to migrate for people with children.

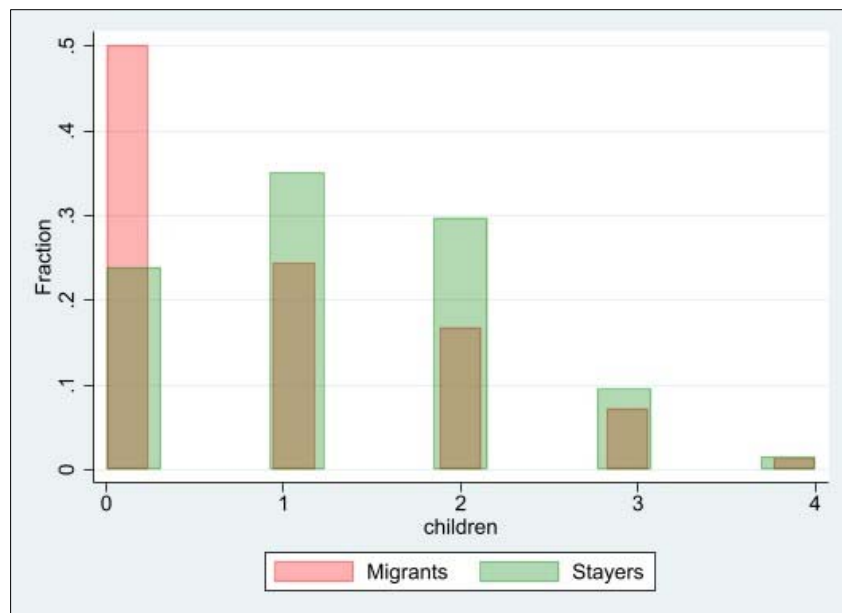


Figure 3: The number of children for the migrants and the stayers

The mean number of children among the stayers is higher due to the much lower childlessness, as the mean number of children among the respondents with at least one child is almost the same. The relatively high share of childless migrants might point out difficulties with migration with children.

About 50% of our total sample report the desire to have children. At the same time about 2% of all respondents were pregnant at the time the survey was held, and did not report their further reproductive plans (so we withdrew them from our sample).

To test hypotheses, we use logistic regressions with fertility intentions as a dependent variable mentioned above. It is a binary variable, which equals 1 when the respondent answers positively whether he/she desires to have (more) children, and 0 otherwise.

The independent (explanatory) variables for the models are migration status, subjective income, willingness to stay in the host country, the received legal status (contrary to the situation when the legal status is either absent or in process), and the host country.

We assessed subjective income as a categorical variable, asking our respondents to assess their income on a five-step scale (starting with “I even cannot buy enough food”, and ending with “I can buy anything I want, including expensive vacations and luxury goods”). We observe the subjective income at the moment the survey was held, and thus can compare the subjective income for the stayers and the migrants.

In all models, we use the battery of the basic control variables, which are commonly used while explaining fertility intentions. Those are age, gender (dummy variable, where female = 1, and male = 0), living in a partnership or official marriage, and number of children.

Also, we use the extended battery of the control variables: higher education and source city (whether the person lived in the federal city before migration – Moscow or Saint Petersburg with their agglomerations).

## 4 Results

In the first step, we test hypothesis #1, directly related to disruption theory: *fertility intentions of the new-wave Russian migrants are lower than those of the stayers and the old-wave migrants.*

**Table 2: The results of the regression analysis (odd ratios, OR) for Hypothesis #1**

Equations (models)	1	2	3	4	5
children	0.505*** (0.0786)	0.491*** (0.0781)	0.490*** (0.0780)	0.490*** (0.0779)	0.499*** (0.0799)
couple	1.451 (0.377)	1.352 (0.362)	1.313 (0.354)	1.300 (0.349)	1.347 (0.365)
age	0.953*** (0.0147)	0.949*** (0.0152)	0.949*** (0.0153)	0.949*** (0.0153)	0.945*** (0.0157)
female	0.575** (0.141)	0.549** (0.137)	0.540** (0.135)	0.540** (0.135)	0.513*** (0.130)
capital		0.785 (0.186)	0.797 (0.190)	0.807 (0.191)	0.789 (0.187)
education_higher		1.743 (0.647)	1.739 (0.646)	1.746 (0.647)	1.777 (0.663)
Subjective income (highest)			1		
lowest			0.553 (0.778)		
lower			0.378** (0.179)		
middle			0.375*** (0.129)		
higher			0.806 (0.223)		
migrant	0.614* (0.154)	0.570** (0.147)	0.606* (0.161)	0.629* (0.163)	
Subjective income		1.476*** (0.190)			
Subjective income (middle, lower and lowest)				0.436*** (0.113)	0.456*** (0.119)
Status (In Russia)					1
Post-conflict migration					0.567** (0.153)
Pre-conflict migration					1.068 (0.462)
Constant	7.288*** (4.294)	1.559 (1.198)	10.22*** (7.359)	8.486*** (5.712)	10.04*** (6.910)
Observations	467	467	467	467	467

Notes: Hereinafter seEform in parentheses \*\*\* p<0.01, \*\* p<0.05, \* p<0.1; The numbers of the models (equations) are given in the first row of each table

The results are presented in Table 2. To test the hypothesis hereinafter we use not one but several models with different combinations of the control variables.

The table shows that with the basic control variables, the migration status is significant at the 10% level, and demonstrates the lower fertility intentions (OR = about 0.6) of the migrants in comparison with the stayers. The extended control variables are strengthening this effect (OR = 0.57 with 5% significance).

Additionally, we can see the positive effect of subjective income: the basic difference is observed between the high and the highest groups, and the middle and lower groups (the number of respondents who belong to the lowest group is neglectable). If we recode the subjective income variable into the dichotomic one (0 – higher and highest income, and 1 – middle, lower and lowest) we get the results close to the 1<sup>st</sup> equation.

The last equation (5) is even more interesting, as it gives us evidence that post-conflict migration is the main driver of lower fertility intentions. There is no difference between the migrants who left the country before the armed conflict and those who stayed in Russia (taking the stayers as a reference group the OR for the coefficient for the new wave migrants is 0.57 with 5% significance, while for the previous wave it is close by magnitude and non-significant effect).

So, Hypothesis #1, formulated within the disruption theory, is approved, and the decline in fertility intentions is observed for those respondents who made their decision to migrate spontaneously.

Hypothesis #1 is tested additionally for the migrants only and used as a dependent variable answer to the question if the respondent made a decision not to have children after the migration. This variable is used to explain the factors influencing the strong shock among the migrants. The research strategy will be close to the previous one, apart from the 5th equation observation (the results are in Table 3). As we work with the migrants only, we use the dummy variable distinguishing the new and old wave migrants – “post-conflict migration” (see Table 3). In the last equation, we use standard errors clustered by the country of destination, as the variation of the countries is quite high.

**Table 3: The results of the regression analysis (odd ratios) for Hypothesis #1 extended**

Equations (models)	1	2	3	4	5
children	1.018	1.059	0.990	1.033	1.033
	(0.266)	(0.285)	(0.277)	(0.276)	(0.276)
couple	2.004	2.249	2.364	2.210	2.210
	(1.102)	(1.302)	(1.402)	(1.259)	(1.259)
age	0.939*	0.927**	0.925**	0.932**	0.932**
	(0.0323)	(0.0332)	(0.0347)	(0.0331)	(0.0331)
female	0.660	0.628	0.641	0.662	0.662
	(0.270)	(0.265)	(0.275)	(0.276)	(0.276)
capital		1.895	1.953	1.739	1.739
		(0.907)	(0.947)	(0.822)	(0.822)
education_higher		1.411	1.686	1.274	1.274
		(1.189)	(1.530)	(1.053)	(1.053)
Subjective income (highest)			1		
lowest			96.72***		
			(161.2)		
lower			3.808		
			(3.362)		
middle			5.049**		
			(3.494)		
higher			3.258*		
			(2.201)		
<i>Post-conflict migration</i>	<i>2.840</i>	<i>2.349</i>	<i>2.439</i>	<i>2.710</i>	<i>2.710</i>
	<i>(3.004)</i>	<i>(2.514)</i>	<i>(2.630)</i>	<i>(2.886)</i>	<i>(2.886)</i>
<i>Subjective income</i>		<i>0.581**</i>			
		<i>(0.124)</i>			
<i>Subjective income (lower and lowest)</i>				<i>2.226**</i>	<i>2.226**</i>
				<i>(0.903)</i>	<i>(0.903)</i>
Constant	0.269	1.503	0.0564	0.127	0.127
	(0.437)	(2.865)	(0.102)	(0.219)	(0.219)
Observations	286	286	286	286	286

As a result, we see that the new-wave migrants have higher chances to cancel (or postpone) their childbearing, but this result is not significant (maybe the limited number of observations is the problem). However, we also find, that the subjective income at the middle and lower levels could be a strong predictor of the cancellation (recorded into the binary variable, where 1 is a subjective income at the level middle, lower, and lowest, and 0 – at the level higher and highest) demonstrating the significant OR=2.2. The clustered standard errors (last model) do not change

the significance. The Hypothesis #1 is only partly approved if we make the assumption about the strong decision to cancel the childbearing due to the conflict. We do not see that the observed difference between the migrants of the new and old waves is somewhat significant. Apart from that there is a strong effect of the lower income influencing this decision.

**Table 4: The results of the regression analysis (odd ratios) for Hypothesis #2**

Equations (models)	1	2	3	4	5	6
children	0.572*** (0.113)	0.571*** (0.112)	0.571*** (0.0802)	0.589*** (0.116)	0.590*** (0.115)	0.590*** (0.0881)
couple	1.159 (0.404)	1.091 (0.382)	1.091 (0.279)	1.028 (0.362)	0.966 (0.342)	0.966 (0.248)
age	0.953** (0.0196)	0.953** (0.0195)	0.953*** (0.0146)	0.960** (0.0192)	0.959** (0.0192)	0.959*** (0.0154)
female	0.579* (0.166)	0.565** (0.163)	0.565* (0.186)	0.642 (0.181)	0.625* (0.177)	0.625 (0.208)
capital	0.685 (0.210)	0.712 (0.217)	0.712 (0.222)	0.737 (0.224)	0.764 (0.231)	0.764 (0.222)
education_higher	1.953 (1.100)	2.021 (1.133)	2.021 (1.182)	1.815 (1.034)	1.887 (1.077)	1.887 (1.140)
Subjective income	1.593*** (0.252)			1.620*** (0.254)		
<i>Willingness to stay</i>	<i>1.840*</i> <i>(0.604)</i>	<i>1.824*</i> <i>(0.596)</i>	<i>1.824**</i> <i>(0.492)</i>			
<i>Subjective income (lower and lowest)</i>		<i>0.380***</i> <i>(0.121)</i>	<i>0.380***</i> <i>(0.105)</i>		<i>0.366***</i> <i>(0.115)</i>	<i>0.366***</i> <i>(0.0977)</i>
<i>Legal status received</i>				<i>1.580</i> <i>(0.561)</i>	<i>1.613</i> <i>(0.571)</i>	<i>1.613</i> <i>(0.492)</i>
Constant	0.483 (0.486)	4.032 (3.433)	4.032** (2.625)	0.307 (0.317)	2.734 (2.438)	2.734 (2.008)
Observations	277	277	277	277	277	277

Now we move on to the mechanisms explaining the possible differences in desired fertility among the migrants. The Hypothesis #2 looks deeper into the disruption theory in detail. We check the assumption that the possible cause of the lower fertility intentions is unpredictable. As a proxy of predictability of the future, we use the willingness to stay in the current country and already obtained legal status (the results are in Table 4). We look at the extended battery of



the control variables for all models, but in the 1<sup>st</sup> equation we use subjective income as a continuous variable without comparing the categories, and after the 2<sup>nd</sup> one, as a dummy variable, the 6<sup>th</sup> model observes the clustered by countries standard errors.

From Table 4 we see that willingness (or opportunity) to stay in the host country has a positive and significant role in the intention to have one more child, and after clustering the standard errors by the countries the significance becomes stronger, as p comes from 10% to 5% (OR is around 1.8). The legal status also has a positive, but insignificant effect (OR about 1.6). Therefore, we partly confirm the Hypotheses #2, the willingness to stay in the country has a positive and significant effect on the desired fertility, while the legal status has a positive, but not significant effect.

Next, we test Hypothesis #3: *the welfare regime and the level of the country's socio-economic development have a positive impact on the fertility intentions of Russian migrants* (see Table 5). Now we include the variables devoted to the countries of destination directly into the models. First of all we take EU as a reference category and for the others we use the clusterisations to other developed, other developing, Europe non-EU, Post-Soviet non-EU.

The results in Table 5 show that there is no significant difference in fertility intentions for the respondent between the EU and other developed and developing countries (as the majority of the developing countries are not the least-developed), but even being not significant, the OR are lower for the above mentioned countries in comparison with the EU. However, for those who moved to the post-Soviet non-EU countries as well as European non-EU countries (mainly the Balkans) the expressed fertility intentions are lower. Therefore, we see that Hypothesis #3 is approved.

Now, after testing and approving Hypotheses #2 and #3, we look at the possible differences in the effects of stability among the different welfare countries. In other words we consider the influence of the respondent's characteristics on desired fertility in different welfare environments. To test it, the interaction effect of the subjective income and the willingness to stay in the host countries (dummies belonging to Post-Soviet and non-EU Europe) on the fertility intentions should be taken into consideration. We assume that the effect of the security assets (like subjective income and legal status) could work stronger for the non-welfare countries. In all the cases, the standard errors are clustered in the countries. The results are given in Table 6.

**Table 5: The results of the regression analysis (odd ratios) for Hypothesis #3**

Equation (models)	1	2	3	4	5	6	7	8	9
children	0.573***	0.565***	0.565***	0.560***	0.556***	0.556***	0.569***	0.563***	0.563***
	(0.114)	(0.112)	(0.0845)	(0.111)	(0.110)	(0.0830)	(0.112)	(0.111)	(0.0807)
couple	1.163	1.093	1.093	1.128	1.058	1.058	1.164	1.094	1.094
	(0.414)	(0.391)	(0.287)	(0.398)	(0.375)	(0.278)	(0.415)	(0.391)	(0.295)
age	0.951**	0.950**	0.950***	0.955**	0.955**	0.955***	0.951**	0.950**	0.950***
	(0.0196)	(0.0195)	(0.0158)	(0.0194)	(0.0193)	(0.0154)	(0.0196)	(0.0195)	(0.0161)
female	0.596*	0.578*	0.578	0.588*	0.569**	0.569*	0.606*	0.586*	0.586*
	(0.175)	(0.170)	(0.194)	(0.169)	(0.164)	(0.187)	(0.174)	(0.169)	(0.188)
capital	0.585	0.595	0.595	0.566*	0.576*	0.576*	0.561*	0.573*	0.573
	(0.193)	(0.196)	(0.208)	(0.184)	(0.187)	(0.190)	(0.180)	(0.183)	(0.200)
education_higher	1.761	1.821	1.821	1.939	2.026	2.026	1.787	1.844	1.844
	(1.020)	(1.054)	(1.139)	(1.109)	(1.157)	(1.200)	(1.026)	(1.056)	(1.175)
Subjective income	1.588***			1.612***			1.603***		
	(0.254)			(0.255)			(0.255)		
<i>EU</i>	<i>1</i>	<i>1</i>	<i>1</i>						
<i>Post-Soviet non_EU</i>	<i>0.401**</i>	<i>0.383***</i>	<i>0.383***</i>						
	<i>(0.143)</i>	<i>(0.136)</i>	<i>(0.132)</i>						
<i>Other developed</i>	<i>0.734</i>	<i>0.756</i>	<i>0.756</i>						
	<i>(0.378)</i>	<i>(0.389)</i>	<i>(0.355)</i>						
<i>Other developing</i>	<i>0.814</i>	<i>0.754</i>	<i>0.754</i>						
	<i>(0.583)</i>	<i>(0.542)</i>	<i>(0.558)</i>						
<i>Europe non-EU</i>	<i>0.314**</i>	<i>0.304**</i>	<i>0.304*</i>						
	<i>(0.183)</i>	<i>(0.178)</i>	<i>(0.210)</i>						
Subjective income (lower and lowest)		0.366***	0.366***		0.360***	0.360***		0.359***	0.359***
		(0.119)	(0.101)		(0.115)	(0.0968)		(0.116)	(0.0985)
<i>Post-Soviet non_EU</i>				<i>0.515**</i>	<i>0.493**</i>	<i>0.493***</i>			
				<i>(0.161)</i>	<i>(0.154)</i>	<i>(0.118)</i>			
<i>Post-Soviet and European non_EU</i>							<i>0.417***</i>	<i>0.399***</i>	<i>0.399***</i>
							<i>(0.127)</i>	<i>(0.123)</i>	<i>(0.110)</i>
Constant	1.348	11.94***	11.94***	0.812	7.530**	7.530***	1.211	11.16**	11.16***
	(1.508)	(11.42)	(11.29)	(0.870)	(6.879)	(5.867)	(1.326)	(10.54)	(9.911)
Observations	277	277	277	277	277	277	277	277	277

**Table 6: The results of the regression analysis (odd ratios). Interaction effects**

	1	2	3	4
children	0.579***	0.575***	0.559***	0.555***
	(0.0792)	(0.0790)	(0.0858)	(0.0807)
couple	1.124	1.150	1.249	1.151
	(0.308)	(0.315)	(0.327)	(0.304)
age	0.952***	0.950***	0.950***	0.948***
	(0.0158)	(0.0161)	(0.0166)	(0.0165)
female	0.565	0.545*	0.584*	0.563*
	(0.197)	(0.189)	(0.179)	(0.179)
capital	0.605	0.614	0.639	0.574
	(0.232)	(0.233)	(0.244)	(0.208)
education_higher	1.853	1.919	1.697	1.797
	(1.121)	(1.154)	(1.097)	(1.140)
Willingness to stay		1.329	1.119	0.934
		(0.333)	(0.286)	(0.261)
Subjective income (lower and lowest)	0.732	0.782		0.362***
	(0.290)	(0.307)		(0.105)
<i>Post-Soviet and European non_EU</i>	<i>0.585*</i>	<i>0.666</i>	<i>0.368***</i>	<i>0.348***</i>
	<i>(0.174)</i>	<i>(0.189)</i>	<i>(0.0952)</i>	<i>(0.0930)</i>
<i>Subjective income (lower and lowest)##</i>	<i>0.256*</i>	<i>0.241**</i>		
	<i>(0.183)</i>	<i>(0.171)</i>		
<i>Willingness to stay ##</i>			<i>2.609*</i>	<i>2.826**</i>
			<i>(1.504)</i>	<i>(1.491)</i>
Constant	8.078**	7.200**	7.401***	12.74***
	(6.864)	(5.946)	(5.726)	(11.21)
Observations	277	277	277	277

As a result, we see that for the respondents who are expecting to stay in the post-Soviet non-EU countries the effect of the lower income decreases the willingness to childbearing and at the same the willingness to stay increases the chances of the positive intention, especially after controlling for the income. To sum up, not only living in the countries with the lower welfare is decreasing the desired fertility, but, for the respondents living there, the lower income as well. This sounds logical, as in case of the lack of the social benefits the only possible source

of support for the children is the private income. On the other hand the respondents willing to stay in these countries demonstrate the chances for the higher desired fertility. It could be the result of self-selection, as the people able to stay in the countries without strong welfare are prepared for the possible difficulties, or have stable positions, so they are still more confident and can plan the childbearing.

We have approved our disruption effect approach, as the migrants who escaped Russia after the beginning of the conflict demonstrated lower fertility intentions in comparison with both those who stayed and those who migrated earlier. The income as an ‘insurance’ factor and the willingness to stay (as a positive signal of the integration) also increase the desired fertility. The respondents in the welfare state more likely desire to have children, while in the countries with the lower social policy level, higher income or readiness for these conditions positively influence the desired fertility.

## **5 Discussion**

Several issues should be taken into consideration. Firstly, only preliminary data was obtained due to the small sample and short period of residence in host countries for the migrated groups, which means that at the moment samples' structure most likely doesn't fully reflect the structure of the general sample. Secondly, the upcoming panel results are supposed to show casualties which aroused questions at the current stage of the research.

It should also be mentioned that the obtained results might change (and unexpectedly quickly). Fertility intentions expressed during the survey show the current decision of the respondent and reflect their pessimism or optimism at the time of the survey. In other words, we deal with an emotional component that is labile and can change radically at any moment. As mentioned above (see Theoretic framework) fertility intentions are affected by several factors and conditions at different levels. Taking into consideration the traumatic effects of migration under the shock conditions, the role of these factors can become even more significant. In addition to this, one shouldn't forget that migrants' expectations and stereotypes regarding the host community can either not be justified (in rare cases, exceed expectations) which, in turn, can provide results radically opposite to those obtained.

Thus, when moving to a new country, at micro- and meso levels migrants can experience unexpected inconveniences in housing conditions, dissatisfying local healthcare system, reduction or loss of income, divorce, the inability to realize a personal and professional life in a new place, which, in turn, can affect emotional and physical health.

At the macro level changes can happen both on the global political and state levels, for example, in the case when a migrant expects to obtain a legal status, and the migration legislation of the host country is suddenly reshaped. A curious case is obtaining citizenship of another country by birth/family reunification, e.g., South American countries). According to preliminary data from qualitative interviews, a chance to get citizenship is a fertility incentive. An important factor should also be considered the cultural characteristics of the host community and the ability/willingness to adapt to them. The latter is often quite a painful and stressful process and depends on a whole range of factors, including the cultural sensitivity and the adaptability of the migrants themselves.

Last but not the least. Often the choice of a new country is made under the influence of the media, social networks, etc. In this case, the migrant doesn't always understand the realities of the chosen country. Facing facts also affects the vector of fertility intentions. We also used the proxies for the social policy and social capital, but those variables did not work properly, so the mechanisms of disruption and adaptation were not properly understood yet. The same is true with the welfare regimes, maybe the migrants did not spend enough time there, and the results could be changed with the upcoming waves.

All these suggest that under several changes postponed fertility intentions might convert into canceled and vice versa. Further research is needed, involving the data of qualitative interviews, control surveys of focus groups at certain time intervals, as well as the inclusion of additional variables for the phenomenon analysis.

## **6 Conclusion**

The main research question was to define the effect of the shock conditions on the desired fertility of women from the recent wave of Russian migrants and compare it to those who left the country earlier or stayed in Russia. That is the first step in the more ambitious idea to look at the adaptation of women with children in the different societies of the countries of origin.

We see that the disruption hypothesis works within the period of about 1 year after migration. Nevertheless, we expect that after the following adaptation and self-selectivity of the migrants in the countries they integrate, the results could change. Currently the desired fertility is higher for the migrants in more secure positions – for those staying in Welfare states, getting higher incomes, to some extent with the legal status, and assuming the current location to be where they would like to stay.

## References

- Abbasi-Shavazi, M. J., Hugo, G., Sadeghi, R., & Mahmoudian, H. (2015). Immigrant-native fertility differentials: The Afghans in Iran. *Asian and Pacific Migration Journal*, 24(3), 273–297.
- Adserà, A., Andersen, S., & Tønnessen, M. (2022). Does One Municipality Fit All? The Employment of Refugees in Norway Across Municipalities of Different Centrality and Size. *European Journal of Population*, 38(3), 547–575.
- Agadjanian, V., Dommaraju, P., & Nedoluzhko, L. (2013). Economic fortunes, ethnic divides, and marriage and fertility in Central Asia: Kazakhstan and Kyrgyzstan compared. *Journal of Population Research*, 30, 197–211.
- Ajzen, I., & Fishbein, M. (2005). The influence of attitudes on behavior. In D. Albarracín, B. T. Johnson, & M. P. Zanna (Eds.), *The Handbook of Attitudes* (pp. 173–221). Mahwah: Lawrence Erlbaum Associates Publishers.
- Ajzen, I., & Klobas, J. (2013). Fertility intentions: An approach based on the theory of planned behavior. *Demographic Research*, 29, 203–232.
- Akyon, S. H., Yilmaz, T. E., Sahin, B., & Ozkara, A. (2023). Fertility rates of Syrian migrants in Turkey, baby boom, and possible factors related to them. *Ankara Medical Journal*, 23(1).
- Alderotti, G., Mussino, E., & Comolli, C. L. (2023). Natives' and migrants' employment uncertainty and childbearing during the great recession: A comparison between Italy and Sweden. *European Societies*, 25(4), 539–573.
- Alderotti G, Vignoli D, Baccini M, Matysiak A. Employment Instability and Fertility in Europe: A Meta-Analysis. *Demography*. 2021;58(3):871–900.  
doi: 10.1215/00703370-916473
- Alola, A. A., Aliyev, A., Obekpa, H. O., & Olagunju, I. (2023). Refugee Population and Environmental Quality in Sweden and Lebanon: Is Fertility Rate Changing the Dynamics? *Social Sciences*, 12(4), 243.
- Amuedo-Dorantes, C., Ibanez, A. M., Roza, S. V., & Traettino, S. (2023). Impact of Facilitating Integration in Migrant's Fertility Decisions.
- Anastasiadou, A., Volgin, A., & Leasure, D. R. (2023). War and Migration: Quantifying the Russian exodus through Yandex search trends.
- Andersson, G. (2004). Childbearing after migration: Fertility patterns of foreign-born women in Sweden. *International Migration Review*, 38, 747–774.
- Andersen, S., Adserà, A., & Tønnessen, M. (2021). Municipality characteristics and the fertility of refugees in Norway. *Journal of International Migration and Integration*, 1–44.
- Bagavos, C., Tsimbos, C., & Verropoulou, G. (2008). Native and migrant fertility patterns in Greece: A cohort approach. *European Journal of Population*, 24, 245–263.
- Bakker L, Dagevos J, Engbersen G. Explaining the refugee gap: A longitudinal study on labor market participation of refugees in the Netherlands. *Journal of Ethnic and Migration Studies*. 2017;43(11):1775–1791.
- Balbo, N., Billari, F. C., & Mills, M. (2013). Fertility in advanced societies: A review of research. *European Journal of Population/Revue Européenne de Démographie*, 29(1), 1–38.  
<https://doi.org/10.1007/s10680-012-9277-y>



- Becker, S. O., Grosfeld, I., Grosjean, P., Voigtländer, N., & Zhuravskaya, E. (2020). Forced migration and human capital: Evidence from post-WWII population transfers. *American Economic Review*, 110(5), 1430–1463.
- Bevelander P, Pendakur R. The Labour market integration of refugee and family reunion immigrants: a comparison of outcomes in Canada and Sweden. *Journal of Ethnic and Migration Studies*. 2014;40(5):689–709.
- Berrington Ann, Pattaro Serena (2014) Educational differences in fertility desires, intentions and behavior: A life course perspective, *Advances in Life Course Research*, Volume 21, 2014, pp. 10–27, ISSN 1040-2608.  
<https://doi.org/10.1016/j.alcr.2013.12.003>.
- Blossfeld, H. P., & Hofmeister, H. (Eds.). (2007). *Globalization, uncertainty, and women's careers: An international comparison*. Cheltenham: Edward Elgar Publishing.
- Brell C, Dustmann C, Preston I. The Labor Market integration of refugee migrants in high-income countries. *Journal of Economic Perspectives*. 2020;34(1):94–121.  
doi: 10.1257/jep.34.1.94.
- Brücker, H., A. Ette, M. Grabka, Y. Kosyakova, W. Niehues, N. Rother, C. Spieß, S. Zinn, M. Bujard, A. Cardozo, J. Decieux, A. Maddox, N. Milewski, R. Naderi, L. Sauer, S. Schmitz, S. Schwanhauser, M. Siegert, H. Steinhauer, and K. Tanis (2023): “Ukrainian Refugees in Germany: Evidence from a Large Representative Survey,” *Comparative Population Studies*, accepted on June 16, 2023.
- Brücker, H., L. Goßner, A. Hauptmann, P. Jaschke, K. Kassam, Y. Kosyakova, and I. Stepanok (2022): “Die Folgen des Ukraine-Kriegs für Migration: Eine erste Einschätzung,” *Tech. rep., IAB Forschungsbericht*.
- Buber-Ennsner, I., Goujon, A., Kohlenberger, J., & Rengs, B. (2018). Multi-layered roles of religion among refugees arriving in Austria around 2015. *Religions*, 9(5), 154.
- Busetta, A., Mendola, D., & Vignoli, D. (2019). Persistent joblessness and fertility intentions. *Demographic Research*, 40, 185–218.
- Çağatay, P., Keskin, F., & Ergöçmen, B. (2020). Fertility behavior of Syrian women in Turkey: The crosscut of intention and regulation. In *Syrian Refugees in Turkey* (pp. 86–102). Routledge.
- Carlsson, E. (2023). Ethnic fertility differentials among Yugoslavian-born immigrants in Sweden.
- Chin A, Cortes KE. The refugee/asylum Seeker. In: Chiswick BR, Miller PW, editors. *Handbook of the economics of international migration*. Elsevier; 2015. pp. 585–658.
- Coşkun, A. M., Özerdoğan, N., Karakaya, E., & Yakıt, E. (2020). Fertility characteristics and related factors impacting Syrian refugee women living in Istanbul. *African Health Sciences*, 20(2), 682–689.
- Długosz, P. (2023). War trauma and strategies for coping with stress among Ukrainian refugees staying in Poland. *Journal of migration and health*, 8, 100196.
- Duszczuk, M., Górny, A., Kaczmarczyk, P., & Kubisiak, A. (2023). War refugees from Ukraine in Poland—one year after the Russian aggression. *Socioeconomic consequences and challenges. Regional Science Policy & Practice*, 15(1), 181–199.
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Reading: Addison-Wesley.

- FitzGerald, D. (2012). A comparativist manifesto for international migration studies. *Ethnic and Racial Studies*, 35, 1725–1740
- Ford, K. (1990). Duration of residence in the United States and the fertility of U.S. immigrants. *International Migration Review*, 24, 34–68.
- Goldstein, S., & Goldstein, A. (1981). The impact of migration on fertility: An ‘own children’ analysis for Thailand. *Population Studies*, 35(2), 265–284.
- Hanappi, D., Ryser, V. A., Bernardi, L., & Le Goff, J. M. (2017). Changes in employment uncertainty and the fertility intention–realization link: An analysis based on the Swiss household panel. *European Journal of Population*, 33(3), 381–407.  
<https://doi.org/10.1007/s10680-016-9408-y>
- Hashemzadeh, M, Shariati, M, Mohammad Nazari, A., Keramat, A. Childbearing intention and its associated factors: A systematic review. *Nurs Open*. 2021; 8: 2354–2368.  
<https://doi.org/10.1002/nop2.849>
- Hervitz, H. M. (1985). Selectivity, adaptation, or disruption? A comparison of alternative hypotheses on the effects of migration on fertility: The case of Brazil. *International Migration Review*, 19(2), 293–317.
- Hossain, M. A., & Hossain, M. B. (2023). Understanding fertility behavior of the Forcibly Displaced Myanmar Nationals in Bangladesh: A qualitative study. *Plos one*, 18(5), e0285675.
- Hwang, S.-S., & Saenz, R. (1997). Fertility of Chinese immigrants in the U. S.: Testing a fertility emancipation hypothesis. *Journal of Marriage and the Family*, 59, 50–61.
- Impicciatore, R., Gabrielli, G., & Paterno, A. (2020). Migrants’ fertility in Italy: A comparison between origin and destination. *European Journal of Population*, 36, 1–27.
- Kabakian-Khasholian, T., Mourtada, R., Bashour, H., Kak, F. E., & Zurayk, H. (2017). Perspectives of displaced Syrian women and service providers on fertility behavior and available services in West Bekaa, Lebanon. *Reproductive health matters*, 25(sup1), 75–86.
- Kamalov, E., Sergeeva, I., Zavadskaya, M., Kostenko, V. (2023). Six Months in Exile: A New Life of Russian Emigrants.
- Kaczmarczyk, P. (2023). Ukrainian migrants in Poland during the war: the state of the art and key challenges. *Social Insurance. Theory and Practice*, 155(4), 1–28.
- Kuleshova, A., Chigaleichik, E., Podolsky, V., & Baranova, V. (2023). Russian migration to Armenia and Georgia in 2022: Enclave Economy and Local Employment. *Caucasus Edition: Journal of Conflict Transformation*.
- Leasure, D. R., Kashyap, R., Rampazzo, F., Dooley, C. A., Elbers, B., Bondarenko, M., Mills, M. C. (2023). Nowcasting daily population displacement in Ukraine through social media advertising data. *Population and Development Review*.
- Milewski, N. (2007). First child of immigrant workers and their descendants in West Germany: Interrelation of events, disruption, or adaptation? *Demographic Research*, 17, 859–896.
- Milewski, N. (2010). Fertility of immigrants: A two-generational approach in Germany. Springer
- Mulder, C. H., & Wagner, M. (1993). Migration and marriage in the life course: A method for studying synchronized events. *European Journal of Population*, 9(1), 55–76.
- Mussino, E., & Strozza, S. (2012a). The fertility of immigrants after arrival: The Italian case. *Demographic Research*, 26, 99–130.

- Mussino, E., & Strozza, S. (2012b). Does citizenship still matter? Second birth risks of migrants from Albania, Morocco, and Romania in Italy. *European Journal of Population*, 28, 269–302.
- Mussino, E., Wilson, B., & Andersson, G. (2021). The fertility of immigrants from low-fertility settings: Adaptation in the quantum and tempo of childbearing? *Demography*, 58(6), 2169–2191.
- Mussino, E., & Cantalini, S. (2022). Influences of origin and destination on migrant fertility in Europe. *Population, Space and Place*, 28(7), e2567.
- Mussino, E., Gabrielli, G., Ortensi, L. E., & Strozza, S. (2023). Fertility intentions within a 3-Year time frame: A comparison between migrant and native Italian women. *Journal of International Migration and Integration*, 24(Suppl 1), 233–260.
- Nahmias, P. (2004). Fertility behavior of recent immigrants to Israel: A comparative analysis of immigrants from Ethiopia and the former Soviet Union. *Demographic Research*, 10, 83–120.
- Nedoluzhko, L. (2021). Achieved fertility and fertility intentions among ethnic groups in Central Asia: Kyrgyzstan, Tajikistan, and Uzbekistan compared.
- Okun, B. S., & Kagya, S. (2012). Fertility change among post-1989 immigrants to Israel from the former Soviet Union. *International Migration Review*, 46(4), 792–827.
- Puur, A., Rahnu, L., Abuladze, L., Sakkeus, L., & Zakharov, S. (2017). Childbearing among first- and second-generation Russians in Estonia against the background of the sending and host countries. *Demographic Research*, 36, 1209–1254.
- Puur, A., Vseviiov, H., & Abuladze, L. (2018). Fertility intentions and views on gender roles: Russian women in Estonia from an origin-destination perspective. *Comparative Population Studies*, 43.
- Rivillas-García, J. C., Cifuentes-Avellaneda, Á., Ariza-Abril, J. S., Sánchez-Molano, M., & Rivera-Montero, D. (2021). Venezuelan migrants and access to contraception in Colombia: a mixed research approach towards understanding patterns of inequality. *Journal of Migration and Health*, 3, 100027.
- Rumbaut, R. G., & Weeks, J. R. (1986). Fertility and adaptation: Indochinese refugees in the United States. *International Migration Review*, 20(2), 428–466.
- Ryazantsev, S. V., Pismennaya, E. E., & Ochirova, G. N. (2021). Russian-speaking population in far-abroad countries. *MGIMO Review of International Relations*, 14(5), 81–100.
- Sieverding, M., Krafft, C., Berri, N., & Keo, C. (2020). Persistence and change in marriage practices among Syrian refugees in Jordan. *Studies in Family Planning*, 51(3), 225–249.
- Spoorenberg, T. (2015). Explaining recent fertility increase in Central Asia. *Asian Population Studies*, 11(2), 115–133.
- Skirbekk, V. (2022). Fertility in the Aftermath of Disaster. In *Decline and Prosper! Changing Global Birth Rates and the Advantages of Fewer Children* (pp. 265–284). Cham: Springer International Publishing.
- Tønnessen, M., & Mussino, E. (2020). Fertility patterns of migrants from low-fertility countries in Norway. *Demographic Research*, 42, 859–874.
- Van Raemdonck, A. (2023, July). Early marriage/pregnancy among Syrian refugees in Jordan in light of reproductive governance and justice. In *Women’s Studies International Forum* (Vol. 99, p. 102779). Pergamon.

- Van Tubergen, F., Maas, I., & Flap, H. (2004). The Economic Incorporation of immigrants in 18 western societies: Origin, destination, and community effects. *American Sociological Review*, 69, 701–724.
- Vignoli, D., Rinesi, F., & Mussino, E. (2013). A home to plan the first child? Fertility intentions and housing conditions in Italy. *Population, Space and Place*, 19(1), 60–71.  
<https://doi.org/10.1002/psp.1716>
- Vignoli Daniele, Mencarini Letizia, Alderotti Giammarco (2020) Is the effect of job uncertainty on fertility intentions channeled by subjective well-being?, *Advances in Life Course Research*, Volume 46, 2020, 100343, ISSN 1040-2608.  
<https://doi.org/10.1016/j.alcr.2020.100343>
- Vignoli D, Minello A, Bazzani G, Matera C, Rapallini C. Narratives of the Future Affect Fertility: Evidence from a Laboratory Experiment. *Eur J Popul.* 2022 Feb 7;38(1):93–124.  
doi: 10.1007/s10680-021-09602-3. PMID: 35370526; PMCID: PMC8924345.
- Xiang, Biao. 2021. Shock mobility: convulsions in human migration are having large impacts. *MoLab Inventory of Mobilities and Socioeconomic Changes*. Department ‘Anthropology of Economic Experimentation’. Halle/Saale: Max Planck Institute for Social Anthropology.  
doi: 10.48509/MoLab.3577