Community Characteristics and the Fertility of Refugees in Norway

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Abstract

The study of the fertility of immigrants has received much attention during the last years, particularly in societies with fertility rates below replacement. However, that of refugee populations is understudied, mostly due to poor data and small samples. Refugees coming to Norway are assigned by a government agency to a municipality where they start their integration into the Norwegian society. Using rich register data, we study how their fertility in the years following settlement (both in timing and total number of children) is related to the characteristics of the municipality to which they are assigned and how the role of local conditions varies by education. In particular, we focus, first, on the demographic structure of the municipality (shares of elderly and fertility); second on size of ethnic enclaves and third, on municipality size, population density and housing structure. Preliminary results show that the municipality fertility rate and the share of non-western migrants (particularly for the least educated) positively impacts the likelihood of having a child five years after arrival in Norway.

1   Introduction and research goals

The study of the fertility of immigrants has received much attention during the last years, particularly in societies with fertility rates below replacement. Part of the debate has centered on whether the arrival of new migrants would boost countries total fertility rates (Sobotka 2008). Traditionally, migrants arrived from countries with relatively high fertility compared to those of destination. As a result, a large part of the literature around migrant fertility revolved around the issue of whether it would or not ultimately resemble that of natives (Kulu & Milewski 2007, Kulu and Gonzalez Ferrer 2014). Within this literature the fertility of refugee populations has hardly received any attention. In part, this is related to the small samples of refugees in most countries and to the difficulty of obtaining enough demographic information on this groups. Drawing on population-wide administrative data from multiple sources, this paper focuses on this population group in Norway

Many (not always competing) theories have been put together to explain different aspects of the behavior of migrants (Goldstein and Goldstein 1983, Kulu 2005). Among them, disruption, adaptation, socialization, selection (Kahn 1988) and the interrelatedness of events have been the most prominent (see Adserà and Ferrer 2014b, for an overview). Migrants may experience (anticipated) short-term disruption of fertility at the time of migration (Goldstein and Goldstein 1981; Stephen and Bean 1992). Migration may also separate spouses at least temporarily, and individuals who are planning to move may postpone childbearing until after they are settled in their new home. A large literature also focuses on the processes of adaptation to local norms as opposed to maintaining patterns in which they were socialized-one of the earliest examples is Stephen and Bean (1992). Further, the *selection hypothesis* posits that individuals who migrate may differ systematically from non-migrants in their countries of origin, and this selectivity may explain their subsequent fertility patterns (Blau 1992, Kahn 1988, Sobotka 2008).

Irrespective of whether they are natives or immigrants, the characteristics of the municipalities/regions where people live may have an independent effect on their fertility choices (Brewster 1994, Dribe et al. 2017). Among migrants, the type of community in which they settle in could also influence the speed of adaptation to fertility patterns in the destination country (Hill and Johnson 2004, Kulu and Washbrook 2014, Dribe et al. 2017). Living in a highly migrant municipality close to peers who have been socialized with similar norms may, for instance, reinforce those fertility norms. The main concern in analysis that include this municipal feature as an explanatory variable is that migrants who themselves value the norms

of their country origin may choose to live close to peers. To lessen the concerns of such residential self-selection, Wilson and Kuha (2018) employed the characteristics of the community in which an individual was brought up (rather than the current location) to understand the forces of socialization, They find that in England and Wales, residential segregation during childhood partly explains the stubborn high completed fertility for second-generation women from Pakistan and Bangladesh, while other migrant groups seem to adapt much faster to natives behavior.

Within OECD countries, Norway is not among the countries with the lowest fertility. The generosity of policies that support women's fertility, large public sectors that provide employment and services, and a more balanced share of household tasks within couples, are among the most commonly proposed explanations for this pattern (Goldschneider, Bernhardt and Lappegård 2015; Kravdal 2016). Migrant fertility for the first generation has always been slightly above that of natives in Norway, but overall fertility rates among immigrants have been declining lately (Tønnessen, 2019). No recent analyses look explicitly at the fertility behavior of refugees.

Refugees constitute a larger proportion of all migrants in Norway than they do in other OECD countries. Looking at the composition of arrival cohorts into Norway, it is easy to envision large political events and conflicts happening in the world during the last decades. Of particular relevance, the Balkan wars in the 1990s, wars and humanitarian crises in several African regions in the early 2000, and most recently, the expansion of the European Union in 2004 and 2007, has shaped the immigration flow. Some immigration is also related to family reunion and family establishment. Taken together these trends mean that the immigrant population in Norway is a heterogenous group with diverse backgrounds and ties to Norwegian society (Brochman and Hagelund 2011; Statistics Norway 2019).

The system for placement of refugees in Norway, where a central agency distributes new refugees to large and small Norwegian municipalities, was adopted in the 1990s. The motivation for implementing this system was not only to limit the concentration of refugees in metropolitan areas and reduce the fiscal burden of integration from some municipalities, but also to use it as an explicit strategy to accelerate integration (Valenta & Bunar, 2010). Using the settlement of refugees into different municipalities as an analytical tool to disentangle the effect of local conditions and how the effect differs between refugee groups, can thus improve our general understanding of the factors that affect migrant fertility patterns, the speed of adaptation and in general boost integration. In the same way as Wilson and Kuha (2018)

employ childhood community, the (close to) random allocation of assigned municipality among refugees offers an opportunity to understand the role of local conditions on the fertility of migrants (and on fertility in general).

In our sample of refugees, the disruption experienced by the migration process is a clear concern. However, their pathways to migration and the extent to what they had or not a planned move (even in terms of timing) are very different from the average international migrant. Selection among refugees is difficult to ascertain without a good representative sample of natives as it may vary by the cause that has expelled them from their countries of birth in the first place. Once they arrive to their destination, the tension between the social norms and fertility ideals they bring with them and those of the receiving society determine the extent to which adaptation occurs. Where they are assigned to live within their country of reception may slow or speed up that process. In this paper we are interested on three main pathways on how the impact of local conditions may mediate/moderate the role of socialization and speed of adaptation of refugee fertility.

First, demographic structure in the municipality may have a bearing on childbearing behavior of refugees. A younger population in the municipality may come together with more services for children and with an environment more conducive for childrearing. Information on services for families with young children may also be more readily available in such municipalities. Of course, in some aging municipalities (particularly some of the most remote ones), policies may be in place to ease out the transition to parenthood among the newcomers. Population age structure and fertility rates at the municipal level may serve as good proxies to analyze these mechanisms. Average fertility rates during the last fifteen years in Norway have moved just under replacement level (Table 1), but there is sizable heterogeneity in fertility rates across municipality (and across years) as shown in Figure 1.

Second, a high concentration of ethnic peers, sometimes referred to as "ethnic enclaves" in the literature (see e.g. Andersson 2018; Damm 2009; Edin, Fredriksson and Åslund 2003), may have positive effects for integration through several channels. Groups of ethnic peers may for instance disseminate useful information in a language that refugees are more familiar with (Bertrand et al. 2000), and they may have knowledge of job vacancies in ethnic businesses or of services to families. Also, living close to peers may strengthen the socialization mechanism and dampen adaptation to childbearing patterns of the destination. Many papers have shown intergenerational continuities of fertility among migrants in general (Andersson 2004, Andersson and Scott 2007, Fernandez and Fogli 2009). Further, ethnic enclaves may

substitute for the extended family and network that refugees lost by leaving their countries and, in that regard, provide support for young mothers. Whether local immigrants come from high-fertility origins or not should affect the speed of adaptation. In municipalities in which refugees are more isolated from other immigrants, natives will be more important role models in childbearing practices and we should expect refugee fertility to resemble more the local fertility rates. In the paper we will explore possible interaction effects of local fertility and peers. Figure 2 and 3 show the heterogeneity in the population shares of immigrants and non-western immigrants across Norwegian municipalities between 2003 and 2014, as well as the rising overall share in the country.

Third, in most fertility surveys across developed countries, access to housing appears in the list of barriers to achieve intended fertility. Housing cost have been found responsible for delayed fertility (Mulder 2006). The diversity of Norwegian municipalities with regard to housing and population density is substantial. Larger and more central municipalities are bound to have larger population densities and relatively more apartment blocks than small and rural places where most families live in single-family houses. Table 1 shows that the average share of dwellings that are apartment blocks in a Norwegian municipality is just 5%, but the range oscillates between none to 75%. The type of housing stock and level of segregation within the municipality is key for how and what type of information interactions about social and economic opportunities take place. Crowded housing is also bound to affect refugees stress. However, more dense places, conditional on segregation, may decrease isolation of newcomers.

2   Previous studies on integration and settlement policies

In an attempt to understand whether settlement policies work to ease the integration of migrants in their destination countries, a strand of the sociological and economic literature has taken advantage of the "quasi" random character of some settlement policies to study the outcomes of refugees affected. The focus of most papers has been on one of the Scandinavian countries and on labor market outcomes, with a particular attention towards men. All the Scandinavian countries currently have systems for refugee placements, but the design differs from country to country. Overall papers find that local labor market conditions have a significant effect on refugees' employment and earnings (Edin, Fredriksson, & Åslund, 2004, Åslund, Östh, & Zenou, 2010; Åslund & Rooth, 2007; Bevelander & Lundh, 2007, Djuve & Kavli, 2007). In Norway, for example, Godøy (2017) finds that for resettlement refugees,

being placed in a labor market where other non-OECD immigrants do well, increases own labor earnings up to 6 years after immigration.

Further, some papers have exploited the heterogeneity in immigrant concentration at the municipality of residence resulting from the assignment of refugees to study the impact of so-called ethnic enclaves on different outcomes. Research on Sweden, the U.S. and Denmark generally finds that ethnic peers positively influence newly arrived refugees when it comes to earnings (especially when peers in the enclaves are highly educated) (Edin et al., 2003), school achievement (Åslund, Edin, Fredriksson, & Grönqvist, 2011), youth crime (Grönqvist, Niknami, & Robling, 2015), welfare dependency (Åslund & Fredriksson, 2009) and self-employment (Andersson, 2018). Both the composition or quality of the enclave can be decisive for the direction of the effect (Andersson, 2018; Åslund & Fredriksson, 2009; Beaman, 2012, Edin et al., 2003, Damm, 2009, 2014).

Even though the municipality of reception and peers are likely to influence fertility behavior of immigrants, no studies have exploited the variation in these local characteristics resulting from the settlement policy. We believe this is an important contribution of our paper.

3   Research strategy

Characteristics of the place of residence have long been considered important factors determining fertility patterns of individuals; however, the ability to interpret estimates and draw (quasi) causal conclusions from them is hindered by the fact that individuals generally choose (self-select) residential location. In that regard the Norwegian system for refugee settlement, in which a central agency – IMDi – assigns each refugee to a municipality based on an agreement between the government and each municipality, offers a unique research opportunity. The level of coercion in Norway is generally higher than in for instance Sweden, with more limited possibilities for refugees to choose their own municipality (Valenta & Bunar, 2010). The implementation of an income-compensated introductory program for newly arrived immigrants in 2003 also increased the financial incentives to stay in the assigned municipality for the duration of the program (usually about two years). The system is the same for quota/replacement refugees and asylum seekers who have been granted permission to stay. Tønnessen & Andersen (2019) describe the system in detail and show that just a few refugee characteristics correlate with some characteristics of the assigned municipality.

Considering the way in which the policy was implemented and the richness of our data, we argue that we will be relatively close to random assignment with limited remaining systematic

sorting on unobservables once we control for the refugee characteristics used by IDMi in the assignment process. This allows us to analyze the impact of characteristics of the assigned municipality <u>at the time of the allocation</u> on fertility behavior of refugees. Our estimates are *intention to treat* estimates since we focus on the assigned municipality regardless of whether refugees have moved since or not. Compared with the country with most literature on the reform – Sweden – Norway provides a stronger case as compliance with assignment municipality was good. Five years after settlement, 7 out of 10 refugees were still living in the same municipality. This was in part due to the existence of the above-mentioned introductory program financed via the municipality of assignment.

Our analytical strategy is closely related to that of Godøy (2016) in Norway and similar to that of Edin, Fredriksson, and Aslund (2003) and Damm (2009) in Sweden and Denmark.

4   Data and Methods

4.1   Individual and Municipal Characteristics

Norwegian register data allows us to explore many different individual outcomes and include a rich set of demographic characteristics. For each refugee, we have put together a dataset with register data on age and sex, employment and earnings, education, onward migration, marriages/divorce, fertility etc. Our period of observation spans from 2002 to 2015 covering 104,577 including refugees and their children. The analysis in the paper centers around women who arrived to Norway at ages 18 or older.

In particular for each woman, we have information of her country of origin, her parity at arrival, whether her spouse is also a refugee as well as whether and when they give birth to a child any year after settling in Norway. In addition, we have some information on whether she was a quota refugee or an asylum seeker, whether she took the introductory program offered by her assigned municipality and on the basic composition of her household when admitted into Norway (incl. whether it includes other relatives).

We combine this dataset with information on all the municipalities in Norway that have received any refugee in this period (this includes the large majority of them). We link each individual to the characteristics of the municipality to which the refugee was assigned in either the year of placement or the year before (for robustness).

Municipality characteristics include geographical characteristics (e.g. area, centrality, municipality economy, density) and demographic characteristics (population size, age

composition, fertility rates etc.), socioeconomic characteristics (e.g. level of education, income per capita, employment structure, share of public employment that opens opportunity for women, , housing stock etc.), degree of social problems (e.g. unemployment, poverty) and integration-related characteristics (e.g. immigrant density and ethnic peers). Further, to understand how native's political preferences may impact reception at the municipal level, we use the share of vote for Progress party in the municipality to capture anti-immigrant sentiment and share of left (parties more willing to spend in welfare provisions). Table 1 offers descriptive statistics of a few selected variables.

In this paper, we focus on a subset of these municipal characteristics to tease out on the main mechanisms outlined in the introduction and use the others as controls. Among these, first, to measure the demographic structure of the municipality we look at shares of elderly on the population and fertility rates (see Figure 1).

Second, to proxy for ethnic or immigrant enclaves, we include information on the share of western and non-western migrants (see Figures 2 and 3) (and separately by continent and/or country of origin) as well as their corresponding employment rates. In addition, we analyze whether the share of recently arrived refugees in the municipality matters independently.

Finally, to capture the type of community environment refugees arrive to as well as access to a broader labor market and information, we measure whether the municipality is located or not in a central location within Norway. We use both Statistics Norway's 2008 classification of centrality[1] that consider travel time from either the regional center or a large settlement as well as a new measure of centrality just released (Høydahl 2017) that takes into account the number of workplaces and service functions that can be reached within 90 minutes of car driving. We combine these measures with indicators for density, housing structure and municipality size as they may matter in other ways than centrality, including for the proximity to neighbors, and the housing structure. Smaller and close-knit societies may facilitate interaction with neighbors. This may be true both in central small municipalities as well as more remote ones.

4.2   Models and Outcomes

To understand the dynamics of fertility we produce two types of analysis.

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[1] https://www.ssb.no/klass/klassifikasjoner/128/versjon/468/koder

1) To have a general picture of the fertility behavior of refugees after settlement, we first study whether differences in residential characteristics explain whether refugees have had a child five years after arrival (for which we already have some basic results that we relate below) as well as the total number of children a woman has.

2) The second part of the paper analyzes annual changes in fertility during the first 8 years after arrival to provide a better understanding of the underlying dynamics of fertility around migration. With new information on parity and age of the children, we will be able to introduce party specific measures in the models. In these models we focus on two main topics.

First, we are interested to see whether the fertility of refugees experiences similar forms of disruption as that of regular international migrants. In particular we will study whether there is an increase in fertility rates after settlement as expected by the disruption hypothesis. The type of model strategy will resemble that employed by Adserà and Ferrer (2014 b) for the case of Canada.

Second, given the existence of an introductory program that increases the exposure of refugee women to Norwegian language and social norms during the first years of settlement, we study whether patterns of fertility are different for those taking the program and whether they change at the end or during the introductory program.

In both analyses, we study the role of the demographic structure in the municipality (including fertility levels) at arrival as well as the presence of a large community immigrants (particularly from high-fertility countries). We follow a similar modeling strategy as Wilson and Kuha (2018) but, instead of using of community level concentration of ethnic peers in childhood as they do to avoid problems of residential self-selection, we employed those in the assigned municipality at the time of arrival. We plan to look at whether the impact of key municipality characteristics, such as the age composition and fertility as well as the share of immigrants and its composition, and also level of unemployment at arrival, impact fertility behavior of newly arrived refugees differentially by the size of municipality.

We run our analysis separately by education.[2] Further, we look at whether results are similar across types of refugees, whether quota refugees arriving directly from outside Norway or asylum seekers, assigned after their arrival and regularization.

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[2] Missing education is a usual problem when dealing with refugee data. In our sample the percentage of missing is particularly large for a few countries, for which educational attainment is traditionally low (i.e. Eritrea (around

Finally, in both analysis we want to focus more on the role of age at arrival and whether the degree of adaptation (controlling for years in the country) is faster for those who arrive at younger ages. We only include women who arrived at age 18 or after and thus we will not expect to see the same patterns as those observed in for childhood migrants in many countries (Adserà et al. 2012). However, younger women may take differential advantage of the introductory program and responsive to local conditions and opportunities that those who had to flee their countries at an older age or lived in refugee camps for more years.

5   **Preliminary Results and Additional Analysis**

Preliminary analyses have focused on the likelihood of having had at least one child five years after assignment. This is meant to be an exploratory analysis at this point. Since we just finalized putting together the complete dataset, in these exploratory analyses we were unable to control for parity of women at arrival or for whether the partner was a refugee himself, as these data have just recently been added. However, we have some general categories of family structure (including whether the woman lives as a couple with children or whether she is part of an extended family) that we include in our preliminary models. These are drawn from the IMDi data as these were used in the assignment process.

Below we summarize a few suggestive patterns.

1. In a sample that includes all refugee women (both asylum seekers and quota refugees), women are more likely to have a child in the first five years after settlement in municipalities that displayed higher fertility at their time of settlement.

2. Local fertility rates are not significant for high educated refugees (who are in any case a relatively small part of the sample) and for low educated refugees (on their own). However, given the large share of refugees with missing education (particularly form East African countries that suffered from endemic wars), we pool together low educated and missing to find again that local fertility seems to matter. The coefficient is not significant in the subsample of quota refugees who arrived directly from the camps. Since we were unable to control for parity until now and quota refugees

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25%), Ethiopia (around 25%), Somalia (40%), Afghanistan (35%)). Not to lose those observations we will first, pool them together with low educated (as shown in sample tables at the end) and further conduct some multiple imputation analysis.

typically arrive with larger families, we are unsure whether local fertility will become relevant once we control for existing number of children at arrival.

3. Women are more likely to have had at least one child if they were assigned to small municipalities.

4. The share of non-western immigrants in the municipality boosts fertility in the whole sample but not for the highly educated.

6 Preliminary discussion and conclusions

The results of this study will shed light on several strands of research. On the one end, it will provide important information on the fertility behavior of refugees. This is an understudied subject, mostly because of data limitations that researchers face when analyzing behavior of this group of migrants. The fact that we have access to registry data and that Norway has one of the longest traditions in the world of receiving refugees facilitate the analysis in this country. Second, the Norwegian settlement policy provides a unique opportunity to analyze the impact of local conditions on fertility behavior and it reduces the concerns for residential self-selection that plague that literature. Finally, the study will advance an understanding of the mechanisms for integration for different groups of refugee women and generally for immigrants.

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Figure 1: Total Fertility rates (Box plots across Norwegian municipalities by year).
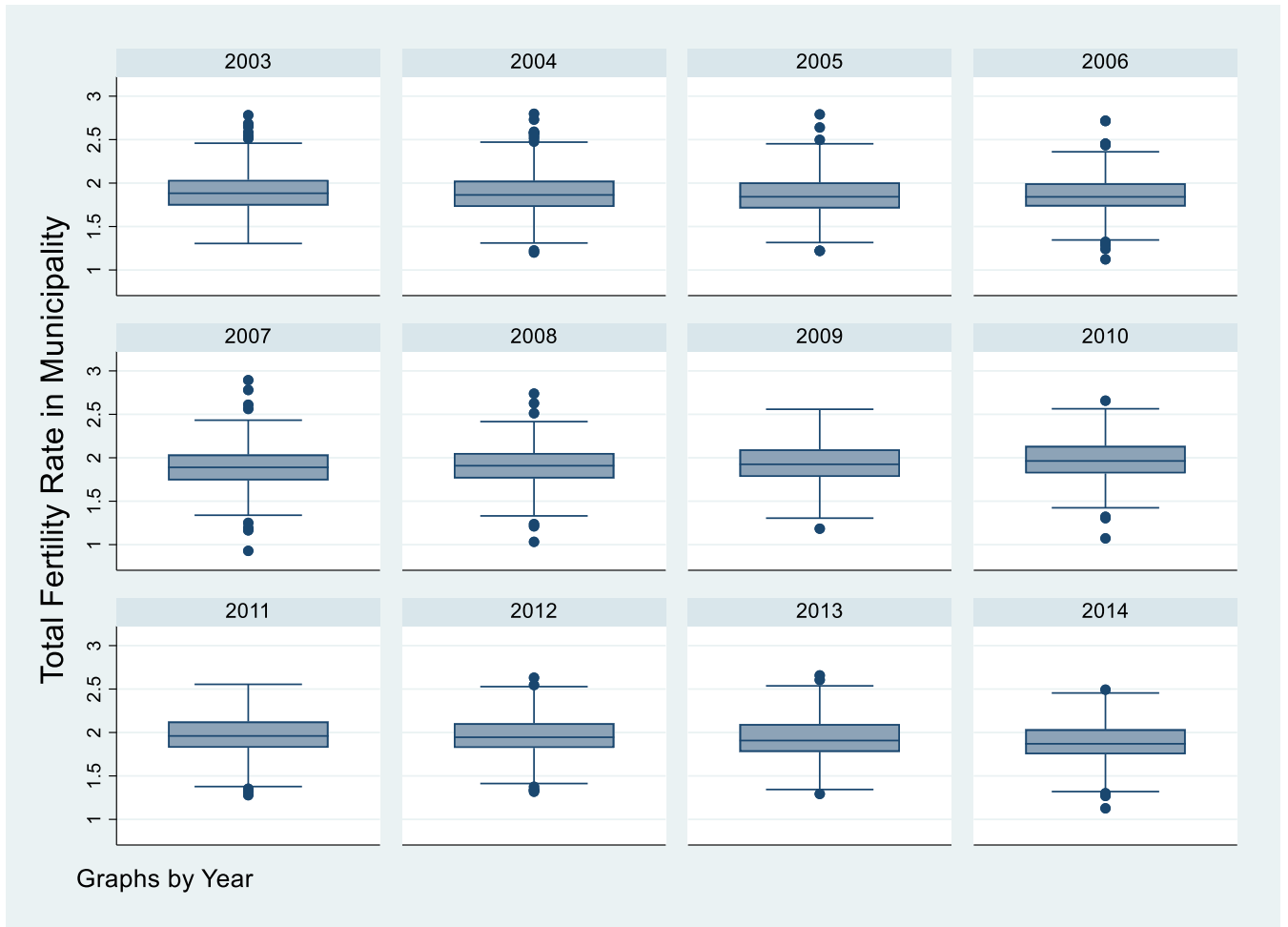
Figure 2. Share of Population who are Immigrants across Norwegian Municipalities by year (Box plots)
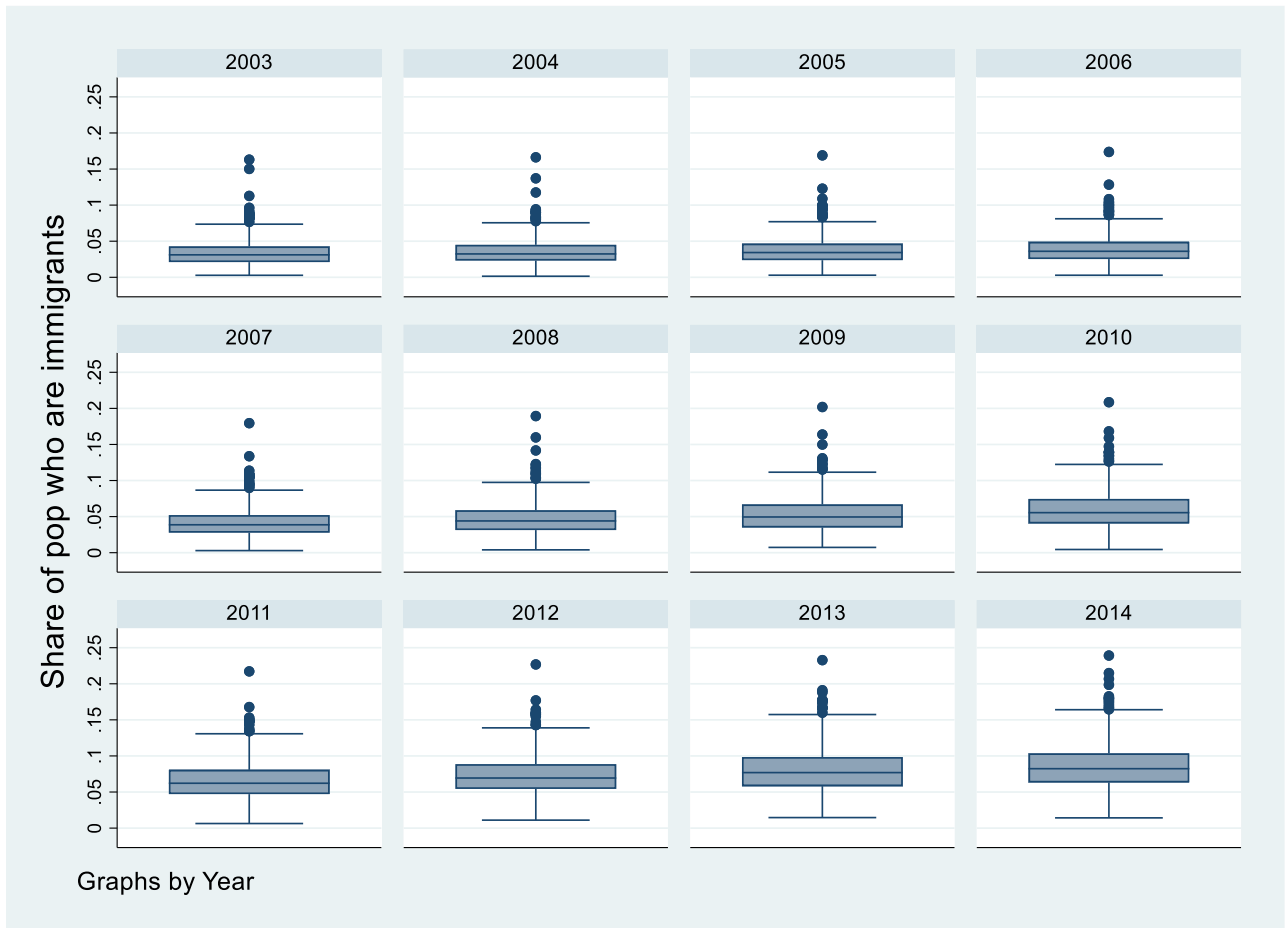

Graphs by Year

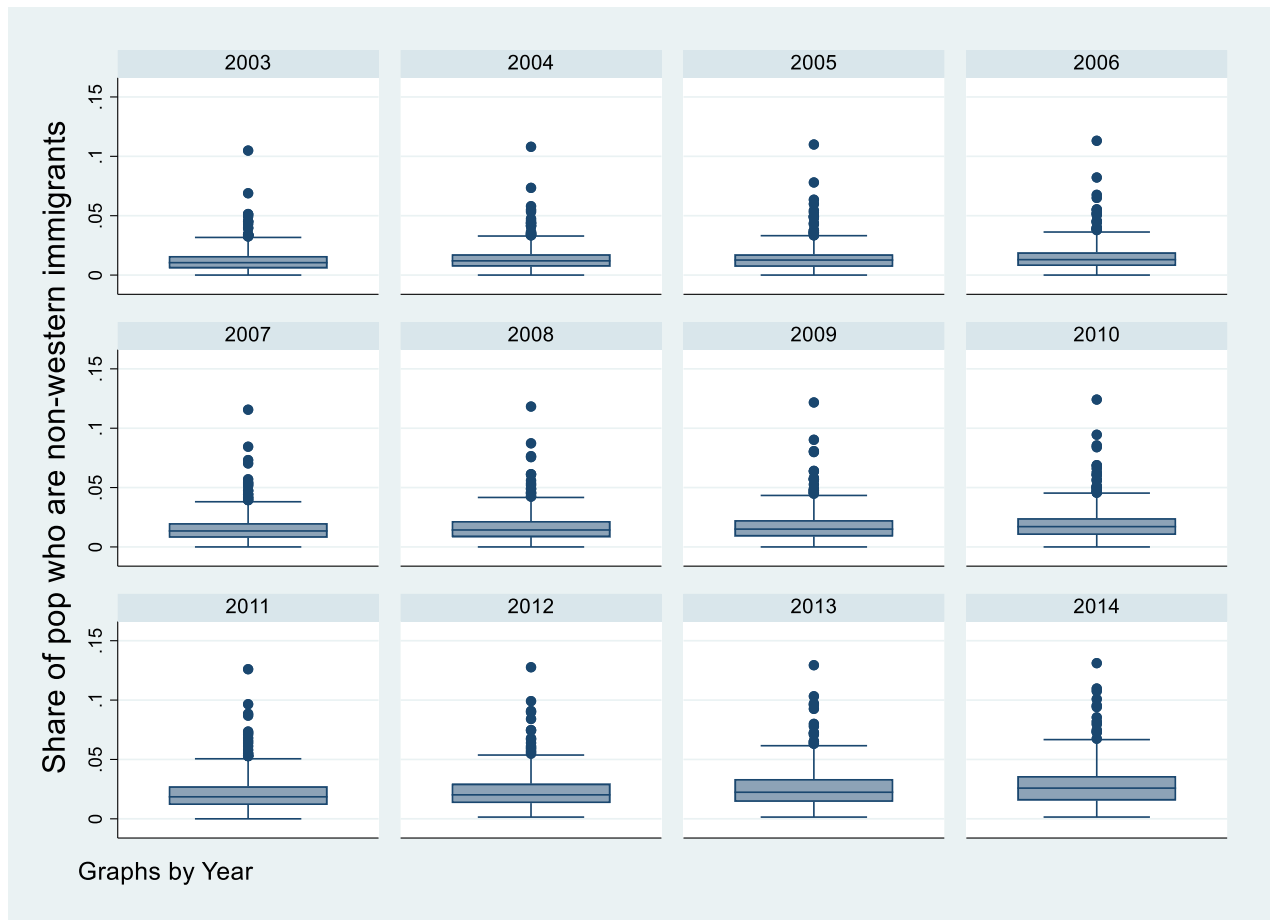Figure 3. Share of Population who are Non-Western Immigrants across Norwegian
Municipalities by year (Box plots)

Graphs by Year

Table 1. Summary of selected municipal characteristics

Variable	Mean	Std. Dev	Min	Max
Unmployment rate, total	2.43	1.28	0	14.60
Unemployment rate, non-western immigrants	6.30	5.79	0	41.30
% pop who are immigrants	6	4	0	28
% pop who are non-western immigrants	2	2	0	14
Total Fertility Rate	1.89	0.24	0.87	2.89
% female employed	65.59	4.48	48.70	82.50
Size Km2	575	846	0	9707
% 50+ over 18-74 population	39	5	23	59
% residential dwellings, apartments	5	8	0	73
% employed working in private sector	67	6	33	85

Table 2. Likelihood of having had a child within the first five years in Norway

	All Refugees	Education (low and missing)
Municipal variables (at assignment)		
Total fertility rate	0.039	0.045
	(1.99)	(2.02)
Share of non-western migrants	0.236	0.170
	(2.13)	(1.49)
Unemployment rate	0.003	0.005
	(0.61)	(0.94)
Centrality (highest)	0.020	0.030
	(1.42)	(2.04)
Small size (population 10-20k)	0.025	0.022
	(1.75)	(1.27)
Medium (population 20k-60k)	0.012	0.016
	(0.92)	(1.2)
Large city (population >60k)	-0.018	-0.027
	(-1.21)	(-1.76)
Central*Medium	-0.027	-0.038
	(-1.29)	(-1.68)
Central*Small	-0.031	-0.033
	(-1.52	(-1.41)
N. Observations	15,518	12,054

Note: OLS models include demographic characteristics of each woman (age and age square, education level, family structure, country/area of origin, indicators for quota refugee and for participation in introductory program) year and month of settlement in Norway. Errors are clustered at the municipality level. t-stat in parenthesis.