Stockholm Research Reports in Demography | no 2020:47

Multiple-origin and Multiple-destination: the fertility of migrants in Europe

Eleonora Mussino and Stefano Cantalini

ISSN 2002-617X | Department of Sociology

Stockholm University
Demography Unit

Multiple-origin and Multiple-destination: the fertility of migrants in Europe

Eleonora Mussino[1] and Stefano Cantalini[2]

[1]*Stockholm University Demography Unit*

[2] *Università degli studi di Milano, La Statale*

Abstract

Studies on migrant fertility typically compare migrants and natives or different migrant groups at the same destination, but rarely migrants of the same origins in different destination countries. In this paper, we look at migrants from multiple origins in multiple destination countries simultaneously. The idea behind this approach is the notion that migrants' fertility may be affected by the country from which they come ("origin effect"), the country to which they migrate ("destination effect"), and the specific relations between origin and destination ("community effect"). We combine the European Union Labour Force Survey and the European Social Survey to compare immigrants (men and women) from ten areas of origin in 12 destination countries in Europe. Our results confirm a strong origin effect. However, they also suggest that when women and men migrate to a context where the fertility norm is different from that in their origin they adjust their behaviors accordingly, which indicates that policy and normative context play an important role in shaping migrants' fertility. From a policy perspective, this is important because it suggests that the fertility of migrant women and men, even when they maintain their origin fertility, resembles that of the destination.

Keywords: fertility, migration, immigrants, multiple origins, multiple destinations, Europe

Stockholm Research Reports in Demography 2020:47

ISSN 2002-617X

1. Introduction

Immigrant fertility has become an increasingly important issue, not only for demographers but also for policymakers in Europe. This is largely because births to immigrants help to ameliorate population age structures that would otherwise be even more dominated by the impact of aging and the elderly. Immigrant fertility is also important because it can tell us much about the process of integration and how a new social context shapes individuals' lives. Parenthood is a critical step in the transition to adulthood, and can reflect social inequalities as well as reproduce them, with respect to the life course of both mothers and their children. In this way, immigrant fertility is both a determinant and a consequence of integration. Fertility behavior is strongly influenced by social and cultural norms as well as welfare policies. When it comes to immigrant fertility, norms may carry over from the origin country or be reshaped at the destination, while policy influences occur only at the destination.

Studies on migrant fertility typically compare migrants and natives or different migrant groups in the same destination, but rarely migrants of the same origins in different destination countries (Milewski and Mussino 2019). In this paper, we look at migrants from multiple origins in (the same) multiple destination countries simultaneously. A similar approach has been used for outcomes such as labor market participation and unemployment (Van Tubergen et al. 2004), but never on fertility or other demographic events. The idea behind this approach is that immigrants' fertility may be affected by the country from which they come ("origin effect"), the country to which they migrate ("destination effect"), and the specific relations between origin and destination ("community effect"). Thus, we assume that fertility behaviors are the results of the interaction between immigrants' social and cultural norms and the new policy context at the destination.

Additionally, this paper also contributes to the literature describing fertility among migrant men in Europe, a topic that has rarely been studied, despite its importance (Cantalini and Panichella 2019; Kraus 2019). Migration patterns may differ by gender, and different migratory projects may have diverse effects on men's fertility. In other words, when it comes to men, migration and fertility might be not interrelated to the same extent as for women (Lundström and Andersson 2012). Men seem to need more time to settle in their new destination country or may simply have more time to become fathers than women do to become mothers; or, they may react differently to gender norms at the destination.

Thus, this paper aims to describe the fertility of migrants from multiple origins in (the same) multiple European destination countries, for men and women. The different contexts of origin reflect differences in cultural background, which can be maintained after migration and influence fertility patterns (Milewski 2007; Mussino and Strozza 2012), while the country of destination offers new social norms and policy contexts (Milewski 2010; Tonnessen and Mussino 2019).

2. Data, variables, and methods

We use data from the European Labour Force Survey (EU-LFS 2005-2015) and the European Social Survey (ESS 2004-2014). The EU-LFS is the European Union's primary source of data on the labor market at household level, and provides information on employment status and other sociodemographic characteristics for all members of the household. The ESS is a cross-national survey measuring attitudes and behavior patterns of individuals in more than 30 European countries.

Although fertility is not the main aim of these surveys, their cross-national nature allows for the study of the fertility of migrants settled in different European countries. We focused on 12 countries, chosen according to their fertility rate and welfare regime. Eight were selected from the EU-LFS: Belgium (BE), Germany (DE), Spain (ES), France (FR), Ireland (IE), Italy (IT), the Netherlands (NL) and the United Kingdom (UK). Because the EU-LFS data lacks information on family' identification numbers for Scandinavian countries, which are crucial for creating our fertility measure (see below), the remaining four countries, Denmark (DK), Finland (FI), Norway (NO), and Sweden (SE), were selected from the ESS. After leastwise deletion of missing cases, the analytical sample included 2,899,987 males and 3,012,758 females, aged 20 to 44 years.

The dependent variable was the total number of children, born in the host country or abroad, living in the household. Only the ESS included direct information on the number of children in the household, whereas we applied the "own-child method" (Bordone et al. 2009) for EU-LFS data. This procedure links children to their (supposed) mothers (or fathers) in the same household, assuming that minor children recorded in a household comprise all the children born (and still alive) to the parents in that household, even if the relationship is not directly specified. Of course, this technique enables only the detection of those children who are still living at the time of the interview, with at least one parent. By including in our analysis only those individuals aged 20 to 44 years, we could assume that there were no children living outside the household, and were able to reconstruct the actual number of children indirectly.

The main independent variable was geographical origin, distinguishing immigrants from the native population according to country of birth; except for Germany, where we used nationality as information on the country of birth was not available. Migrants were divided into ten categories, following the highest level of detail available: 1) Western Europe (EU15); 2) Eastern Europe (NMS13); 3) Outside EU28 (EFTA and residual European countries); 4) North Africa; 5) South and Central Africa; 6) Near and Middle East; 7) East Asia; 8) South and South-East Asia; 9) North America and Oceania; 10) Latin America.

We included the following control variables in the analysis: a) educational attainment (lower-secondary or less, upper-secondary or post-secondary, non-tertiary, and tertiary); b) employment condition (operationalized through the ISCO-08 code at 1 digit of the occupation, also including two additional categories for the unemployed and the inactive); c) marital status (single, married, widowed, or divorced). Models also controlled for the year of the survey and age group (five 5-year dummies).

We estimated OLS regression models separately by gender, applying weights to the data. The main aim of these models was to study the fertility of immigrants from different geographical origins now living in different destination countries. Thus, the following two models were estimated, for the EU-LFS and ESS data respectively:

Model 1 (EU-LFS): $Y_i = \beta_0 + \beta_1(GEO\_ORIGIN \times COUNTRY) + \beta_2(z)$

Model 2 (ESS): $Y_i = \beta_0 + \beta_1(GEO\_ORIGIN) + \beta_2(z) + \beta_3(COUNTRY)$

As for the EU-LFS, geographical origin (GEO_ORIGIN) was interacted with country ($COUNTRY$) in order to study the heterogeneity of fertility patterns among different origin groups at different destinations, controlling for a vector of control variables concerning sociodemographic characteristics (z). As for the ESS, the small sample size did not allow us to

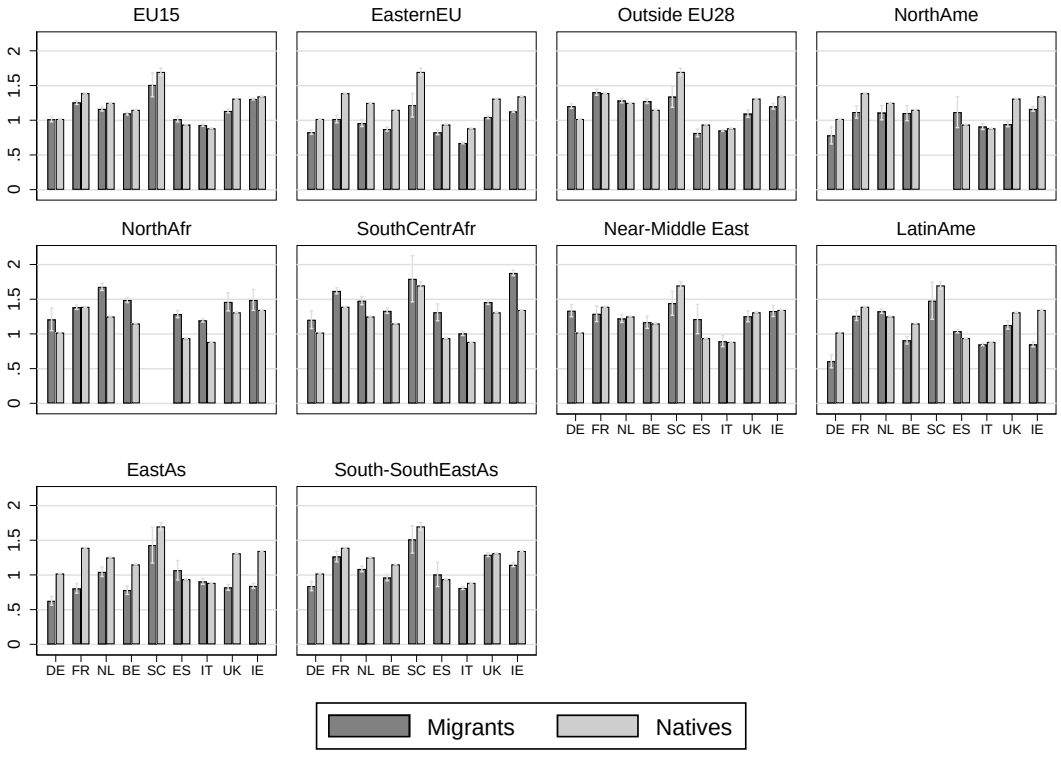
estimate the effect of geographical origin according to country of destination. Thus, the four Scandinavian countries were pooled together, and the model estimated the effect of geographical origin on fertility, net of country fixed-effects and other control variables. This strategy allowed us to study migrants' fertility in Scandinavia as well, which would not have been possible with the EU-LFS data (see above), controlling for *within*-country differences.

We performed a wide range of robustness checks, including estimation of Poisson models; estimation of separate models by country of destination; replication of the analyses considering only those living as a couple at the moment of the interview; and replication of the analyses excluding those migrants who moved at school age (generation 1.5). Results (available on request) substantially confirmed those presented here.

3. Results

Figures 1-2 show the predicted number of children for female and male migrants, respectively, compared to the native population. Each panel refers to a specific origin group, and bars present the predicted number of children of migrants (dark grey bars) and natives (light grey bars) in a specific country of destination. Predicted values are computed at ages 40-44, in order to approximate total fertility.

Fig. 1. Predicted number of children at 40-45 years (with 95% confidence intervals), by origin and destination: females. OLS. Controls: educational attainment, employment condition, marital status, age, year of survey



Source: EU-LFS (2005-2015); ESS (2004-2016)
Notes: Predicted values are presented if the number of observations (combination of origin and destination) is higher than or equal to 30.
DE: Germany; FR: France; NL: the Netherlands; BE: Belgium; SC: Scandinavia; ES: Spain; IT: Italy; UK: United Kingdom; IE: Ireland.

As for women, immigrants from Eastern Europe have lower fertility than natives in all countries, confirming an origin effect for this group (Fig. 1). However, Eastern European females' fertility is higher – in absolute terms – in Scandinavian countries and the UK than in Italy, suggesting that the country of destination affects their reproductive behaviors. Indeed, their low fertility in Italy may be due to social policies that do not support work-family conciliation. Conversely, their high fertility in Scandinavia might be driven by the generous welfare regime, as well as the high total fertility rate of these countries, which affects the comparison between migrants and natives.

Moreover, the different fertility of this origin group across countries may also depend on the internal composition of Eastern Europeans. For instance, most female Eastern European migrants in Italy are Romanians, who primarily move without family and for work reasons, often finding jobs in the unskilled domestic care of elderly people (Mussino and Strozza 2012). Eastern Europeans moving to the UK and Scandinavia come primarily from Poland. They are usually tied movers migrating for family reunion, and may benefit from generous social policies directed at parents, helping the work-family balance (Andersson and Scott 2005).

The fertility of female immigrants from EU-15 countries and North America is similar to – or even lower than – that of the native population. The migrant-native gap is higher in countries with higher fertility (e.g. France and the UK), still confirming the importance of considering the fertility rate of the native population when studying immigrants' fertility.

The fertility of female migrants from European countries not belonging to the EU28 is more heterogeneous across countries, as a result of the internal composition of this origin group and its relationship with the country of destination. Indeed, this origin group includes migrants from countries with different structural and cultural characteristics as well as different fertility and family norms, such as EFTA countries, the Balkans, Russia, etc.

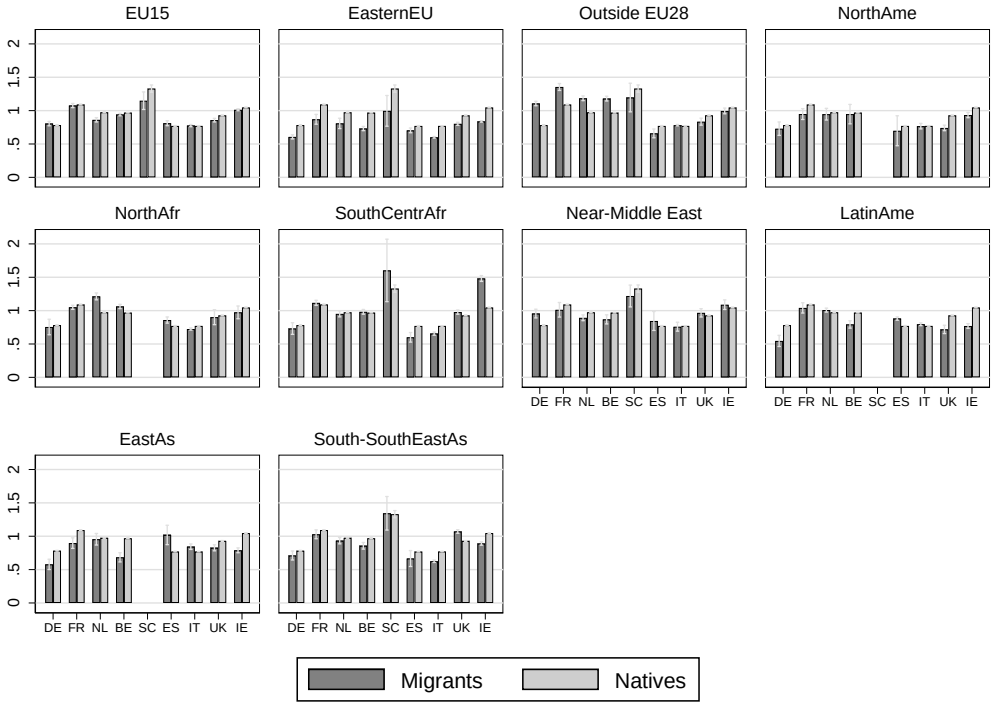
Female immigrants from Africa have substantially higher fertility than natives in all countries, confirming an origin effect for this migrant group. This also confirms previous research on migration and fertility, which has found that female African migrants are likely to maintain – even in the long run – the reproductive preferences transmitted in the country of origin, characterized by early marriage and high fertility (Rosero-Bixby et al. 2011). An origin effect can be found among Eastern Asian immigrants as well, although their fertility is substantially lower compared to women born in the selected countries. Indeed, women from this origin group have been socialized in a context characterized by very low fertility (i.e. China, South Korea, Japan), which affects their fertility preferences in the country of destination.

Compositional effects related to the heterogeneity within origin groups may explain the heterogeneous results concerning female migrants from South-East Asia (e.g. Indians and Pakistani vs. Thai), the Middle East and, especially, Latin America. Specific relations between country of origin and country of destination – which can be defined as community effects (Van Tubergen et al. 2004) – occur for this group. For instance, females from Suriname and other former Dutch colonies are among the most frequent migrant groups in the Netherlands, and they maintain the fertility preferences transmitted in their country of origin after migration (Alders 2000). Moreover, females from Spanish-speaking countries such as Ecuador, Peru, and Argentina frequently migrate to Spain as first movers, and their higher fertility compared to natives is driven by a family reunion effect in the long run (González-Ferrer et al. 2017).

Results for men are similar, although there are some peculiarities distinguishing them from women (Fig. 2). The origin effect found for African immigrants is less clear, pointing to higher fertility than among natives in some countries (e.g. the Netherlands, Ireland, and Scandinavia)

and similar or lower in others (e.g. Germany and Italy). The low fertility might be related to a disruptive effect occurring in the short run for male African migrants in Southern Europe and Germany. They are not only entrapped in low-skilled and low-paying jobs in the labor market of the host country, but are also likely to migrate without their partner, deciding to postpone fertility to a period when most of their migration costs are paid off and their partner can join them, often along with children left in the country of origin (Cantalini and Panichella 2019).

Fig. 2. Predicted number of children at 40-45 years (with 95% confidence intervals), by origin and destination: males. OLS. Controls: educational attainment, employment condition, marital status, age, year of survey



Source: EU-LFS (2005-2015); ESS (2004-2016)
Notes: Predicted values are presented if the number of observations (combination of origin and destination) is higher than or equal to 30.
DE: Germany; FR: France; NL: the Netherlands; BE: Belgium; SC: Scandinavia; ES: Spain; IT: Italy; UK: United Kingdom; IE: Ireland.

For those coming from Eastern Europe, male immigrants' fertility is systematically lower than that of the native population. Destination effects occur as well, as migrants' fertility is high in absolute terms in countries with high fertility rates; however, the fertility gap between migrants and natives is the highest in these countries as well.

Migrants' fertility is lower compared to that of natives for Eastern Asians – with the exception of Mediterranean destination countries, especially Spain – as well as for those from South-East Asia, with the sole exception of the UK as the destination country, where the majority of this group includes Indians and Pakistani, who are likely to maintain high fertility levels after migration (Coleman and Dubuc 2010).

Finally, as with women, results for male immigrants from the EU15 and North America confirm a similar or lower fertility compared to natives, whereas more heterogeneity occurs when Middle Eastern and Latin American migrants are considered.

4. Conclusion

We have presented innovative knowledge on the relative impact of cultural and social norms, in comparison to institutional and policy context, on immigrants' fertility. Our results confirm a strong *origin effect*, such as in the case of African women, having higher fertility than natives at all destinations. However, the results also suggest that when women and men migrate to a context where fertility norms are different from those of their origin they adjust their behaviors accordingly, indicating that policy and normative context play an important role in shaping immigrant fertility. It would not have been possible to reach the same conclusion regarding *destination effect* if we had used a single-destination approach.

From a policy perspective, this is important because it suggests that migrants' fertility, even when they maintain their origin fertility, resembles that of the destination. An example of this is migrant women from Eastern Europe having lower fertility than natives at all destinations, but comparably higher fertility in Scandinavian countries. However, in this respect we could not rule out the possible selection effect of migrants who are interested in starting a family and tend to migrate to family-friendly countries.

We also found evidence of *community effects*, i.e. interrelations between specific origin and destination. An example of this is women from Asia having lower fertility than natives in all destinations, except in Southern Europe. Previous studies have in fact shown that Chinese women who migrate to Italy have a higher number of children compared to the norms at both the origin and the destination (Mussino et al. 2009).

In general, differences among natives and migrants were greater among women than men, but this might be due to our age restriction, focusing only on those aged 44 or younger. In general, our predicted values are still lower than period total fertility rates as a result of the methods used. Moreover, the own-child method might underestimate the total number of children due to the higher likelihood of a child living with his/her mother in cases of parental separation, especially among men. However, we argue that our empirical strategy is the best available for approximating total fertility given our data. In addition, it is worth mentioning that our analysis controlled for selection on observed characteristics only, and could not account for unobserved characteristics that might affect both migration and fertility behaviors. Because of the large aggregation of categories by country of origin, we could not easily differentiate between community and compositional effects, which is a rich area for future research.

Despite these limitations, by indicating different fertility patterns for migrants from different countries in different destination countries, our findings contribute to facilitating population forecasts while accounting for the possible assumptions regarding migrants' fertility. This snapshot of the European panorama shows that the current debate on migrants' fertility is obsolete, as most literature still focuses on multiple origins in a single destination country, and the fertility at the destination is usually comparably lower than that in the migrants' origin country (Milewski and Mussino 2019; Lindström et al. 2019). This paper, simultaneously looking at several origins and destination countries that reflect several combinations of fertility norms, offers a broader picture of the phenomenon that can stimulate further research.

Acknowledgments

This research was supported by the Swedish Research Council for Health, Working Life and Welfare (FORTE), grant number 2018-00310. We are grateful for the valuable comments and input from Gunnar Andersson, Marianne Tønnessen, and the participants at a SUDA Colloquium.

References

Alders, M. (2000). *Cohort fertility of migrant women in the Netherlands: developments in fertility of women born in Turkey, Morocco, Suriname, and the Netherlands Antilles and Aruba*. Department of Population Division, statistics Netherlands, paper for the BSPS-NVD-URU conference, Utrecht, 31 August–1 September, 2000.

Andersson, G. and Scott, K. (2005). Labour-market status and first-time parenthood: The experience of immigrant women in Sweden, 1981-97. *Population Studies* 59, 21-38.

Bordone, V., Billari, F. C. and Dalla Zuanna, G. (2009). The Italian labour force survey to estimate fertility, *Statistical Methods and Applications* 18(3): 445–51.

Cantalini, S. and Panichella, N. (2019). The fertility of male immigrants: a comparative study on six Western European countries. *European Societies*, 21(1), 101-129.

Coleman, D. A. and Dubuc, S. (2010). The fertility of ethnic minorities in the UK, 1960s–2006. *Population Studies*, 64(1), 19–41.

González-Ferrer, A., Castro-Martín, T., Kraus, E. and Eremenko, T. (2017). Childbearing patterns among immigrant women and their daughters in Spain. Over-adaptation or structural constraints? *Demographic Research* 37(19): 599–634.

Kraus, E. (2019). Family formation trajectories across borders: A sequence analysis approach to Senegalese migrants in Europe. *Advances in Life Course Research* Volume 42, December 2019.

Lindström, J., Mussino, E. and Oláh, L. (2020). *Childbearing among Women with Polish Migrant Background in Sweden: A Combined Origin-Destination Country Approach* SRRD 2020:35.

Lundström, K. and Andersson, G. (2012). Labor market status, migrant status, and first childbearing in Sweden. *Demographic Research* 27(25): 719-742.

Milewski, N. (2007). First child of immigrant workers and their descendants in WestGermany: Interrelation of events, disruption, or adaptation? *Demographic Research* 17(29): 859–896.

Milewski, N. (2010). Immigrant fertility in West Germany: Is there a socialization effect in transitions to second and third births? *European Journal of Population* 26(1): 297–323.

Milewski, N. and Mussino, E. (2019). New aspects in fertility of migrant and minority populations in Europe: Norms, attitudes, and intentions in fertility and family planning. *Collection in Comparative Population Studies* (CPoS) Vol. 43 (2018): 371-398.

Mussino, E., Iaccarino, C., Prati, S. and Strozza, S. (2010). Short-term reproductive behaviour of foreign women who became mothers between 2002-2006 in Italy, *Vienna Yearbook of Population Research* 2009, 63-82.

Mussino, E. and Strozza, S. (2012). The fertility of foreign immigrants after their arrival: The Italian case. *Demographic Research* 26(4), 99-130.

Rosero-Bixby, L., Castro Martín, T., Reher, D., Sánchez-Domínguez, M. (2011). Estimating the Number of Immigrants in Spain: An Indirect Method Based on Births and Fertility Rates. *Population* 66(3-4), 543-560.

Tonnessen, M. and Mussino, E. (2020). Fertility patterns of migrants from low-fertility countries in Norway. *Demographic Research* 42(31): 859–874.

van Tubergen, F., Maas, I. and Flap, H. (2004). The Economic Incorporation of Immigrants in 18 Western Societies: Origin, Destination, and Community Effects. *American Sociological Review* 69(5): 704-727.

Tab. 1. Composition of the sample, by origin and destination: men and women

	BE Belgium	DE Germany	ES Spain	FR France	IE Ireland	IT Italy	NL Netherlands	UK United Kingdom	SC Scandinavia	*Total*
						Men				
Natives	156,829	371,217	248,944	207,200	312,268	914,282	205,143	128,697	7,707	2,552,287
Western Europe	9,592	6,419	3,754	4,516	23,785	10,935	3,470	3,639	210	66,320
Eastern Europe	2,740	6,295	3,365	722	26,861	22,618	575	4,655	87	67,918
Outside EU28	4,815	12,300	1,096	2,579	2,098	32,468	3,983	970	98	60,407
North Africa	6,091	964	4,002	8,633	596	17,267	2,717	341	14	40,627
South-Centre Africa	3,776	1,022	1,155	4,169	4,301	7,331	1,762	3,853	41	27,408
Near and Middle East	985	2,567	164	594	780	789	1,516	1,068	134	8,597
East Asia	497	1,018	257	408	1,843	2,990	370	947	20	8,350
South and South-East	1,537	1,939	408	1,582	5,830	12,435	1,804	6,839	65	32,439
North America-Oceania	303	677	159	349	2,592	1,823	442	1,560	20	7,925
Latin America	908	587	9,717	942	1,654	9,110	3,963	803	25	27,709
Total	*188,073*	*405,005*	*273,021*	*231,694*	*382,608*	*1,032,048*	*225,745*	*153,372*	*8,421*	*2,899,987*
						Women				
Natives	155,829	366,664	250,241	217,172	329,628	920,940	208,828	144,126	7,121	2,600,549
Western Europe	10,946	5,742	4,125	5,194	27,669	15,233	4,478	4,577	168	78,132
Eastern Europe	3,868	9,065	3,949	1,281	26,394	34,659	1,635	5,465	116	86,432
Outside EU28	5,502	14,663	1,500	2,987	2,217	39,582	4,723	1,198	137	72,509
North Africa	5,919	686	3,379	9,220	355	14,466	2,963	288	6	37,283
South-Centr Africa	4,844	1,095	736	5,645	5,453	6,857	1,861	4,942	40	31,472
Near and Middle East	739	2,198	142	603	734	1,003	1,506	925	107	7,957
East Asia	822	1,397	299	755	2,093	3,293	706	1,311	32	10,708
South and South-East	2,058	2,919	379	1,859	5,973	10,870	2,948	7,670	95	34,771
North America-Oceania	381	622	160	493	3,445	2,398	613	1,849	23	9,984
Latin America	1,472	1,214	13,359	1,677	1,954	15,986	6,083	1,171	45	42,961
Total	*192,380*	*406,265*	*278,269*	*246,886*	*405,915*	*1,065,287*	*236,344*	*173,522*	*7,890*	*3,012,758*

Source: EU-LFS (2005-2015); ESS (2004-2016)

Supplementary materials

Tab. A1. Effect of geographical origin and country on number of children, by gender. OLS models on EU-LFS data

	Females	Males
Geographical origin*country (ref. Natives - BE)		
Natives - DE	-0.13***	-0.19***
	(-0.14 - -0.13)	(-0.19 - -0.18)
Natives - ES	-0.21***	-0.20***
	(-0.22 - -0.21)	(-0.20 - -0.19)
Natives - ES	0.24***	0.12***
	(0.23 - 0.25)	(0.12 - 0.13)
Natives - IE	0.19***	0.08***
	(0.19 - 0.20)	(0.07 - 0.08)
Natives - IT	-0.27***	-0.20***
	(-0.27 - -0.26)	(-0.20 - -0.19)
Natives - NL	0.10***	0.01*
	(0.09 - 0.11)	(-0.00 - 0.01)
Natives - UK	0.16***	-0.04***
	(0.15 - 0.17)	(-0.05 - -0.03)
EU15 - BE	-0.06***	-0.03***
	(-0.07 - -0.04)	(-0.05 - -0.01)
EU15 - DE	-0.13***	-0.16***
	(-0.17 - -0.10)	(-0.20 - -0.13)
EU15 - ES	-0.13***	-0.16***
	(-0.18 - -0.09)	(-0.20 - -0.12)
EU15 - ES	0.11***	0.11***
	(0.08 - 0.14)	(0.08 - 0.14)
EU15 - IE	0.16***	0.04***
	(0.14 - 0.17)	(0.03 - 0.06)
EU15 - IT	-0.22***	-0.19***
	(-0.24 - -0.20)	(-0.21 - -0.18)
EU15 - NL	0.02	-0.11***
	(-0.02 - 0.05)	(-0.14 - -0.08)
EU15 - UK	-0.02	-0.11***
	(-0.04 - 0.01)	(-0.14 - -0.09)
Eastern Europe - BE	-0.28***	-0.24***
	(-0.31 - -0.25)	(-0.27 - -0.21)
Eastern Europe - DE	-0.32***	-0.36***
	(-0.35 - -0.29)	(-0.39 - -0.33)
Eastern Europe - ES	-0.32***	-0.27***
	(-0.36 - -0.29)	(-0.30 - -0.23)
Eastern Europe - ES	-0.13***	-0.10***
	(-0.19 - -0.08)	(-0.17 - -0.03)
Eastern Europe - IE	-0.02***	-0.13***
	(-0.04 - -0.01)	(-0.14 - -0.12)
Eastern Europe - IT	-0.48***	-0.37***
	(-0.49 - -0.47)	(-0.38 - -0.36)
Eastern Europe - NL	-0.19***	-0.16***
	(-0.24 - -0.14)	(-0.24 - -0.08)
Eastern Europe - UK	-0.10***	-0.17***
	(-0.13 - -0.08)	(-0.19 - -0.14)

Outside EU28 – BE	0.12***	0.21***
	(0.09 - 0.16)	(0.17 - 0.25)
Outside EU28 – DE	0.05***	0.14***
	(0.02 - 0.08)	(0.10 - 0.17)
Outside EU28 – ES	-0.33***	-0.31***
	(-0.39 - -0.28)	(-0.38 - -0.25)
Outside EU28 – FR	0.25***	0.38***
	(0.21 - 0.30)	(0.33 - 0.44)
Outside EU28 – IE	0.05**	0.03
	(0.01 - 0.09)	(-0.02 - 0.07)
Outside EU28 – IT	-0.30***	-0.19***
	(-0.31 - -0.29)	(-0.20 - -0.18)
Outside EU28 – NL	0.13***	0.21***
	(0.10 - 0.17)	(0.18 - 0.25)
Outside EU28 – UK	-0.06**	-0.14***
	(-0.11 - -0.00)	(-0.19 - -0.08)
North Africa – BE	0.34***	0.09***
	(0.30 - 0.38)	(0.06 - 0.12)
North Africa – DE	0.06	-0.21***
	(-0.10 - 0.22)	(-0.33 - -0.10)
North Africa – ES	0.13***	-0.11***
	(0.08 - 0.19)	(-0.16 - -0.06)
North Africa – ES	0.23***	0.08***
	(0.20 - 0.26)	(0.05 - 0.11)
North Africa – IE	0.34***	0.00
	(0.19 - 0.49)	(-0.09 - 0.10)
North Africa – IT	0.04***	-0.25***
	(0.02 - 0.07)	(-0.26 - -0.23)
North Africa – NL	0.53***	0.24***
	(0.47 - 0.58)	(0.19 - 0.29)
North Africa – UK	0.31***	-0.07
	(0.18 - 0.44)	(-0.18 - 0.04)
South-Central Africa - BE	0.18***	0.01
	(0.14 - 0.22)	(-0.02 - 0.05)
South-Central Africa - DE	0.05	-0.24***
	(-0.07 - 0.18)	(-0.33 - -0.15)
South-Central Africa - ES	0.16***	-0.37***
	(0.04 - 0.28)	(-0.44 - -0.30)
South-Central Africa - ES	0.47***	0.15***
	(0.43 - 0.51)	(0.11 - 0.19)
South-Central Africa - IE	0.73***	0.51***
	(0.69 - 0.77)	(0.47 - 0.55)
South-Central Africa - IT	-0.14***	-0.31***
	(-0.17 - -0.12)	(-0.34 - -0.29)
South-Central Africa - NL	0.33***	-0.02
	(0.27 - 0.39)	(-0.06 - 0.03)
South-Central Africa – UK	0.31***	0.01
	(0.27 - 0.34)	(-0.02 - 0.04)
Near and Middle East – BE	0.02	-0.10***
	(-0.07 - 0.10)	(-0.17 - -0.03)
Near and Middle East – DE	0.18***	-0.01
	(0.10 - 0.27)	(-0.08 - 0.05)
Near and Middle East – ES	0.06	-0.12*

	(-0.15 - 0.27)	(-0.27 - 0.02)
Near and Middle East – ES	0.14**	0.04
	(0.03 - 0.25)	(-0.07 - 0.15)
Near and Middle East – IE	0.18***	0.12***
	(0.10 - 0.26)	(0.05 - 0.19)
Near and Middle East – IT	-0.26***	-0.21***
	(-0.34 - -0.18)	(-0.28 - -0.14)
Near and Middle East – NL	0.07**	-0.08***
	(0.01 - 0.13)	(-0.12 - -0.03)
Near and Middle East – UK	0.10**	-0.00
	(0.02 - 0.18)	(-0.07 - 0.06)
East Asia – BE	-0.37***	-0.29***
	(-0.43 - -0.31)	(-0.36 - -0.22)
East Asia – DE	-0.52***	-0.39***
	(-0.59 - -0.46)	(-0.47 - -0.31)
East Asia – ES	-0.08	0.05
	(-0.22 - 0.06)	(-0.10 - 0.20)
East Asia – ES	-0.35***	-0.07*
	(-0.41 - -0.28)	(-0.15 - 0.01)
East Asia – IE	-0.31***	-0.18***
	(-0.35 - -0.27)	(-0.22 - -0.14)
East Asia – IT	-0.25***	-0.13***
	(-0.29 - -0.20)	(-0.17 - -0.09)
East Asia – NL	-0.11***	-0.01
	(-0.18 - -0.04)	(-0.10 - 0.07)
East Asia – UK	-0.33***	-0.14***
	(-0.37 - -0.29)	(-0.19 - -0.10)
South and South East Asia - BE	-0.19***	-0.11***
	(-0.24 - -0.14)	(-0.16 - -0.06)
South and South East Asia - DE	-0.31***	-0.26***
	(-0.38 - -0.24)	(-0.33 - -0.19)
South and South East Asia - ES	-0.15*	-0.30***
	(-0.32 - 0.03)	(-0.42 - -0.18)
South and South East Asia - ES	0.11***	0.06*
	(0.04 - 0.19)	(-0.01 - 0.13)
South and South East Asia - IE	-0.00	-0.08***
	(-0.03 - 0.02)	(-0.10 - -0.05)
South and South East Asia - IT	-0.34***	-0.35***
	(-0.36 - -0.32)	(-0.36 - -0.33)
South and South East Asia – NL	-0.06***	-0.04
	(-0.11 - -0.02)	(-0.08 - 0.01)
South and South East Asia – UK	0.14***	0.10***
	(0.11 - 0.17)	(0.08 - 0.13)
North America and Oceania - BE	-0.05	-0.02
	(-0.16 - 0.06)	(-0.17 - 0.12)
North America and Oceania - DE	-0.37***	-0.24***
	(-0.49 - -0.24)	(-0.34 - -0.14)
North America and Oceania - ES	-0.03	-0.27**
	(-0.26 - 0.19)	(-0.50 - -0.05)
North America and Oceania - ES	-0.03	-0.02
	(-0.12 - 0.06)	(-0.10 - 0.06)
North America and Oceania - IE	0.01	-0.04*
	(-0.02 - 0.05)	(-0.08 - 0.00)

North America and Oceania - IT	-0.24***	-0.20***
	(-0.28 - -0.20)	(-0.24 - -0.16)
North America and Oceania – NL	-0.04	-0.02
	(-0.14 - 0.06)	(-0.11 - 0.06)
North America and Oceania – UK	-0.21***	-0.23***
	(-0.24 - -0.17)	(-0.27 - -0.19)
Latin America – BE	-0.24***	-0.18***
	(-0.30 - -0.19)	(-0.23 - -0.12)
Latin America – DE	-0.54***	-0.42***
	(-0.64 - -0.45)	(-0.51 - -0.34)
Latin America – ES	-0.11***	-0.09***
	(-0.14 - -0.09)	(-0.11 - -0.06)
Latin America – FR	0.11***	0.07*
	(0.04 - 0.18)	(-0.01 - 0.15)
Latin America – IE	-0.30***	-0.20***
	(-0.34 - -0.26)	(-0.24 - -0.16)
Latin America – IT	-0.30***	-0.17***
	(-0.32 - -0.29)	(-0.19 - -0.15)
Latin America – NL	0.18***	0.04**
	(0.14 - 0.21)	(0.01 - 0.07)
Latin America – UK	-0.02	-0.25***
	(-0.08 - 0.04)	(-0.31 - -0.19)
Year of survey (ref. 2005)		
2006	0.02***	0.01*
	(0.02 - 0.03)	(-0.00 - 0.01)
2007	0.03***	0.01***
	(0.02 - 0.04)	(0.00 - 0.02)
2008	0.03***	0.01**
	(0.02 - 0.04)	(0.00 - 0.01)
2009	0.05***	0.03***
	(0.04 - 0.05)	(0.02 - 0.03)
2010	0.05***	0.02***
	(0.05 - 0.06)	(0.02 - 0.03)
2011	0.07***	0.04***
	(0.06 - 0.07)	(0.03 - 0.05)
2012	0.07***	0.04***
	(0.07 - 0.08)	(0.04 - 0.05)
2013	0.08***	0.04***
	(0.07 - 0.09)	(0.04 - 0.05)
2014	0.09***	0.05***
	(0.08 - 0.10)	(0.05 - 0.06)
2015	0.10***	0.06***
	(0.09 - 0.11)	(0.06 - 0.07)
Age (ref. 20-24)		
25-29	0.27***	0.04***
	(0.26 - 0.27)	(0.04 - 0.04)
30-34	0.58***	0.19***
	(0.58 - 0.59)	(0.18 - 0.19)
35-39	0.82***	0.42***
	(0.82 - 0.83)	(0.41 - 0.42)
40-44	0.70***	0.47***
	(0.69 - 0.70)	(0.47 - 0.48)

Education (ref. Low secondary or less)		
Upper secondary	-0.13***	-0.06***
	(-0.14 - -0.13)	(-0.07 - -0.06)
Tertiary	-0.26***	-0.12***
	(-0.27 - -0.25)	(-0.12 - -0.11)
Employment condition (ref. Inactive)		
ISCO 0	-0.50***	0.04***
	(-0.54 - -0.46)	(0.03 - 0.06)
ISCO 1	-0.49***	0.11***
	(-0.50 - -0.48)	(0.10 - 0.11)
ISCO 2	-0.39***	0.03***
	(-0.40 - -0.39)	(0.02 - 0.03)
ISCO 3	-0.39***	0.02***
	(-0.39 - -0.38)	(0.02 - 0.03)
ISCO 4	-0.40***	-0.02***
	(-0.41 - -0.40)	(-0.03 - -0.01)
ISCO 5	-0.33***	0.01***
	(-0.34 - -0.33)	(0.00 - 0.02)
ISCO 6	-0.26***	0.09***
	(-0.29 - -0.24)	(0.08 - 0.10)
ISCO 7	-0.43***	0.08***
	(-0.44 - -0.42)	(0.07 - 0.08)
ISCO 8	-0.46***	0.08***
	(-0.47 - -0.44)	(0.07 - 0.09)
ISCO 9	-0.33***	0.03***
	(-0.34 - -0.32)	(0.02 - 0.04)
Unemployed	-0.25***	0.02***
	(-0.26 - -0.24)	(0.02 - 0.03)
Marital status (ref. Single)		
Widowed/divorced	0.50***	-0.06***
	(0.49 - 0.51)	(-0.07 - -0.05)
Married	0.84***	1.03***
	(0.84 - 0.85)	(1.03 - 1.03)
Constant	0.40***	0.10***
	(0.40 - 0.41)	(0.09 - 0.11)
Observations	3,004,868	2,891,566
R-squared	0.37	0.42

Source: EU-LFS (2005-2015)
*** p<0.01, ** p<0.05, * p<0.1

Tab. A2. Effect of geographical origin and country on number of children, by gender. OLS models on ESS data

	Females	Males
Geographical origin (ref. Natives)		
EU15	-0.18***	-0.19**
	(-0.31 - -0.06)	(-0.36 - -0.02)
Eastern Europe	-0.33***	-0.48***
	(-0.56 - -0.11)	(-0.64 - -0.32)
Outside EU28	-0.13	-0.36***
	(-0.34 - 0.07)	(-0.50 - -0.21)
North Africa	0.16	-0.05
	(-0.47 - 0.78)	(-0.53 - 0.44)
South-Central Africa	0.27	0.10
	(-0.19 - 0.73)	(-0.23 - 0.42)
Near and Middle East	-0.11	-0.26***
	(-0.27 - 0.05)	(-0.42 - -0.09)
East Asia	0.18	-0.27**
	(-0.51 - 0.86)	(-0.52 - -0.01)
South and South East Asia	0.01	-0.19*
	(-0.23 - 0.26)	(-0.38 - 0.00)
North America and Oceania	-0.39**	0.05
	(-0.74 - -0.04)	(-0.28 - 0.39)
Latin America	0.14	-0.22
	(-0.19 - 0.47)	(-0.48 - 0.04)
Year of the survey (ref. 2004)		
2006	-0.03	0.01
	(-0.10 - 0.04)	(-0.06 - 0.08)
2008	-0.03	0.03
	(-0.10 - 0.04)	(-0.04 - 0.10)
2010	0.00	-0.00
	(-0.08 - 0.08)	(-0.09 - 0.08)
2012	0.04	0.01
	(-0.02 - 0.11)	(-0.06 - 0.09)
2014	-0.01	-0.02
	(-0.08 - 0.06)	(-0.09 - 0.06)
2016	-0.02	-0.00
	(-0.09 - 0.06)	(-0.09 - 0.08)
Age (ref. 20-24)		
25-29	0.09***	0.31***
	(0.05 - 0.13)	(0.26 - 0.36)
30-34	0.41***	0.83***
	(0.35 - 0.46)	(0.76 - 0.90)
35-39	0.82***	1.29***
	(0.76 - 0.89)	(1.21 - 1.36)
40-44	0.89***	1.31***
	(0.82 - 0.96)	(1.23 - 1.39)
Education (ref. Low secondary or less)		
Upper secondary	0.01	-0.20***
	(-0.05 - 0.08)	(-0.29 - -0.10)
Tertiary	-0.09**	-0.30***
	(-0.16 - -0.02)	(-0.40 - -0.20)

Employment condition (ref. Inactive)		
ISCO 0	0.20**	0.10
	(0.02 - 0.38)	(-0.55 - 0.76)
ISCO 1	0.23***	-0.32***
	(0.14 - 0.32)	(-0.44 - -0.19)
ISCO 2	0.10***	-0.22***
	(0.04 - 0.17)	(-0.29 - -0.15)
ISCO 3	0.19***	-0.18***
	(0.12 - 0.26)	(-0.25 - -0.11)
ISCO 4	0.03	-0.22***
	(-0.08 - 0.13)	(-0.31 - -0.14)
ISCO 5	0.09**	-0.10***
	(0.01 - 0.17)	(-0.17 - -0.03)
ISCO 6	0.35***	-0.28**
	(0.16 - 0.54)	(-0.54 - -0.01)
ISCO 7	0.20***	-0.26***
	(0.13 - 0.26)	(-0.45 - -0.07)
ISCO 8	0.18***	-0.20**
	(0.10 - 0.26)	(-0.38 - -0.02)
ISCO 9	0.05	-0.13*
	(-0.07 - 0.17)	(-0.28 - 0.01)
Unemployed	-0.09**	-0.21***
	(-0.16 - -0.02)	(-0.31 - -0.11)
Marital status (ref. Single)		
Widowed/divorced	0.24***	0.52***
	(0.13 - 0.35)	(0.42 - 0.62)
Married	1.07***	0.87***
	(1.02 - 1.13)	(0.81 - 0.92)
Country (ref. DK Denmark)		
FI Finland	-0.01	-0.01
	(-0.07 - 0.05)	(-0.07 - 0.06)
NO Norway	0.06**	0.11***
	(0.00 - 0.11)	(0.05 - 0.17)
SE Sweden	0.10***	0.11***
	(0.05 - 0.16)	(0.05 - 0.16)
Constant	-0.08*	0.29***
	(-0.16 - 0.00)	(0.18 - 0.40)
Observations	8,421	7,890
R-squared	0.44	0.42

Source: ESS (2004-2014)
*** p<0.01, ** p<0.05, * p<0.1

Stockholm Research Reports in Demography
Stockholm University,
106 91 Stockholm,
Sweden
www.su.se | info@su.se | ISSN 2002-617X

Stockholm University

Demography Unit