The impact of migration on the fertility of receiving countries

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How much does immigration really contribute to fertility in more developed regions? Christos Bagavos shows that, between 2009 and 2015, in the United States, Australia and 13 European countries, the impact of migration on the birth rates of the receiving countries was multifaceted. In all cases, migration does not account for significant fertility differences between countries.

Migration and fertility

Between 2009 and 2015, the excess fertility of migrant[1] relative to non-migrant women (Table 1, column a) ranged from a negligible level of 2% in the Netherlands to 73% in France, a share that is twice as high as that in the United States (Bagavos 2019). Notable exceptions are Denmark and Australia, where foreign-born women were less fertile than natives, by 5% and 3% respectively. Geographical heterogeneity is also found in the shares of foreign-born women in the population (column b): in Switzerland, for instance, more than one in three women of reproductive age were born outside the country, compared to just one in ten in Finland.

These differences in fertility and population shares determine the magnitude of the contribution of migration to the overall TFR (total fertility rate). In particular, the so-called *net effect* of foreign-born women on a country's TFR (Basten et al. 2013; Héran and Pison 2007; Sobotka 2008; Volant, Pison and Héran 2019), i.e. how much migration affects the level of the country's TFR in a single year, while negative in Denmark (-2%) and practically negligible in the Netherlands and Finland, reached non-negligible levels of 10% and 9% in France and Belgium respectively, and 8% in Austria and Switzerland (column c). However, due to the relatively low shares of foreign-born women, migration does not greatly affect the level of the overall TFR, even in the countries where immigrant fertility is significantly higher than that of natives.

The limited net effect of migration on the TFR of the host countries contrasts with the significant shares of births to migrant women, which range between 12% in Finland and 46% in Switzerland (column d). This apparent contradiction is related to the large *neutral effect* of migrant births on the country's *TFR* resulting from the fact that when migrants are present, they are "expected" to account for a certain share of total births. If their fertility were identical to that of the "locals", the effect of births generated by foreigners would be entirely "neutral" on the global TFR. In fact, as their fertility is generally higher, a part of these births – but only a part (the "excess" births) – has an impact on the global TFR. The rest, which represents the majority of migrant births, is what column e defines as "neutral".

The percentage of births to foreign-born women having a neutral effect on the overall TFR (column e) ranged from 60% in France to 95% in Spain and 98% in the Netherlands.

Table 1: Indicators of the contribution of foreign-born women to fertility in selected European countries, the United States and Australia, 2015 (all values are in %)

	Excess fertility of foreign to native women	Share of foreign women at reproductive ages	Net effect of foreign women on TFR	(Adjusted) Share of births to foreign mothers[2]	Percent of births to foreign women which is neutral on TFR
	a	b	c[1]	d	e[3]
Denmark	-5	17	-2	20	-
Australia	-3	31	-1	34	-
Netherlands	2	17	0.3	20	98
Norway	14	21	3	28	91
Finland	17	10	1	12	90
Spain	19	19	3	24	95
United Kingdom	20	20	4	26	85
Sweden	21	22	3	28	88
Greece	24	17	3	20	91
Switzerland	29	36	8	46	86
USA	36	19	6	23	74
Austria	38	24	8	33	77
Italy	41	16	5	23	82
Belgium	42	22	9	31	73
France	73	13	10	22	60

(a) = $(TFR_f/TFR_n)-1$, where f=foreigners and n=natives (TFR=Total fertility rate)

(b) = W_f/W_T, where W=women of reproductive age, 15-49, f=foreigners and T=Total

(c) = $(TFR_T-TFR_n)/TFR_n$

(d) = Total effect/TFR_T = $[\Sigma_x ((W_{xf}/W_{xT})*ASFR_{xf})]/[\Sigma_x (B_{xT}/W_{xT})] = [\Sigma_x (B_{xf}/W_{xT})/\Sigma_x (B_{xT}/W_{xT})] \approx \Sigma_x (B_{xf}/B_{xT}) \approx B_f/B_T$, where ASFR=Age specific fertility rate and B=births

(e) = $[\Sigma_x (W_{xf}/W_{xn}*B_{xn})]/B_f$

[1] Column (c) is not the exact product of column (a) and column (b), because of the combination of excess fertility and population shares of migrants across single ages.

2 It is very close to the share of births to foreign women

[3] As a percentage of the total number of births to foreign-born women

Source: Bagavos (2019)

Migration and fertility differences between countries

Migration does not seem to be a significant determinant of the differences in the countries' overall TFRs. Indeed, when these differences between the U.S. and other countries are "decomposed" into the sum of the differences in the TFRs of native women plus the differences in the net effects of foreign-born women (Table 2), we find that the differentials in the overall TFRs between the United States and countries such as Spain, Greece, Italy, Austria and Switzerland are driven more by differences in the TFRs of native-born women than of women born abroad. Note, however, that average fertility remains at similar levels in the

United States and Australia because of the effect of migration on the U.S. TFR.

Table 2: Differences in overall TFRs between the U.S. (standard of reference) and selected countries[a] attributable to the net effect of foreign-born women and to the TFR of native-born women, 2015.

	Differences in TFR:		
	Total	of native women	of foreign women
Spain	0.51	0.44	0.07
Greece	0.51	0.44	0.07
Italy	0.49	0.45	0.04
Austria	0.35	0.36	0.00
Switzerland	0.30	0.30	0.00
Australia	0.03	-0.09	0.12

[a] Only European countries with an overall TFR at least 15% lower than that of the U.S.
Source: Bagavos 2019

Concluding remarks

The effect of migration on fertility seems to be more significant in Europe than in the United States and Australia, mainly because of the generally low fertility levels of the native population. All in all, however, the impact of migration on average fertility in the developed countries examined here is not too high, and probably lower than is commonly believed. This is explained by the relatively low excess (or even no excess) fertility of migrants (e.g., in Denmark and Australia), by the relatively small share of foreign-born women in the population (e.g. Finland and France), or by a combination of the two.

But this should not lead us to disregard the fact that a large share of newborns have a foreign mother and that migration remains a decisive factor in current and, very likely, future population change, both directly through positive net migration flows, and indirectly through the contributions of migrants to natural change in the receiving country.

References

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Note

¹In this paper, "migrants" and "foreigners" are persons born abroad.