Extended abstract

The Role of Foreign Mobility in Addressing Regional Depopulation in Europe: A Typology of Regions Across Selected Countries

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The European Union is currently experiencing significant depopulation and ageing, driven by negative natural population change, defined as the difference between births and deaths. This phenomenon has been observed across almost all countries in recent decades, and has become particularly pronounced in Europe since 1993, with occasional spikes around 2010. The depopulation phenomenon manifests most distinctly at the regional level, where regions compete for limited resources (i.e. people) by endeavouring to attract both native and foreign populations into their respective areas. Consequently, population changes become increasingly rapid and less predictable due to the influence of mobility. This competitive environment gives rise to a dichotomy: demographic winners and losers. Demographic winners are regions that achieve population targets in terms of size and structure, while demographic losers are regions experiencing accelerated depopulation and ageing. In recent decades, the role of regions in shaping demographic change has been significantly influenced by a specific type of mobility: internal and international migration of foreigners. The aim of this paper is to evaluate the importance of foreign mobility in population change in European regions and to investigate its evolution over the past two decades.

Figure 1. Percentage of regions with positive growth rates, various EU countries, 2005-2022.

Indicator	Austria	Netherlands	Spain	Denmark	Sweden	5 countries
Population Growth	77.1%	87.5%	66.0%	70.7%	67.2%	70.0%
Natural Growth	45.7%	72.5%	42.0%	41.4%	37.6%	42.0%
Number of regions	35	40	50	99	290	514

Source: own calculations

In the period 2005-2022, an average positive growth rate was observed in approximately 70% of the regions in the countries under consideration (Austria, Denmark, the Netherlands, Spain and Sweden) (360 out of 514)[1] (Fig. 1). Among these regions, 209 demonstrated a positive natural change rate, indicating that mobility was the sole source of growth in 42% of regions (151). It is noteworthy that all of these regions exhibited a positive net mobility rate for foreign populations. However, in only a third of these regions was there an accompanying net mobility growth for the native population (57). This indicates that in 26% of regions, the growth was attributable solely to an influx of foreigners, predominantly in Sweden (71%). It is important to emphasise that during this period, no European region experienced a population decline due to the mobility of foreigners. In regions where there was a decline in population size, i.e. 151 areas, the average net mobility rate of migrants was positive, but the influx was insufficient to reverse the downward trend.

Figure 2. Types of regions by demographic change in chosen countries

Type					Country					Total
PG	NC	MB	NMB	FMB	Austria	Netherlands	Spain	Denmark	Sweden	**5 countries**
+	+	+	-	+	14	28	16	22	56	**136**
+	-	+	-	+	4	3	12	8	67	**94**
-	-	+	-	+	3	4	13	14	53	**87**
+	+	+	+	+	1	1	5	16	49	**72**
+	-	+	+	+	8	3	0	23	23	**57**
-	-	-	-	+	4	1	4	11	34	**54**
-	+	-	-	+	1	0	0	2	4	**7**
-	-	+	+	+	0	0	0	2	4	**6**
+	+	-	-	+	0	0	0	1	0	**1**
Total					35	40	50	99	290	**514**

Source: own calculations

Note: PG – Population growth rate, NC – Natural change rate, MB – Net mobility rate, NMB – Net mobility rate of natives, FMB – Net mobility of foreigners

The analysis revealed a group of regions consisting of 72 areas that exhibited positive components of growth (natural and mobility of natives and foreigners) (Fig. 2). This profile from NUTS-3 regions included Graz (Austria), Veluwe (Netherlands), Balears, Guadalajara, Malaga, Tarragona and Toledo (Spain), as well as 16 municipalities in Denmark and 49 in Sweden. However, the most prevalent profile was identified as a region experiencing population growth due to all positive components of growth, with the exception of native mobility, encompassing 136 regions (26%). Subsequent profiles were identified as those regions that demonstrated growth solely attributable to foreign mobility (94), those

[1] In the regional analysis, we use data on NUTS-3 for Austria, Netherlands and Spain, and LAU (municipality) for Denmark and Sweden.

experiencing depopulation yet exhibiting positive mobility among foreigners (87), and finally, regions demonstrating positive mobility among both natives and foreigners (57). A significant proportion of regions (54) exhibited a combination of depopulation and negative growth factors, excluding mobility of foreigners. These regions are of particular concern due to their high degree of demographic vulnerability within the context of the countries under consideration.

The significance of mobility can be assessed by employing an indicator, namely the proportion of mobility in the population turnover rate. The population turnover rate is defined as:

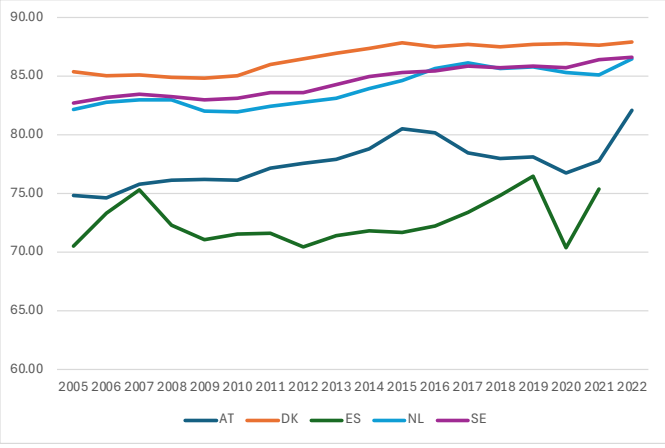
$$PTR(0,t) = b_j(0,t) + d_j(0,t) + i_j(0,t) + e_j(0,t)$$

And an indicator of the speed of population dynamics in region j. The migration share is given as:

$$MST_j(0,t) = \frac{i_j(0,t) + e_j(0,t)}{PTR_j(0,t)}$$

From 2005 to 2022, there was an upward trend in the importance of mobility in population turnover. Generally, at the regional level, the contribution of mobility was higher than 70% (see Figure 1). However, there is a significant difference between the Scandinavian countries and the Netherlands, which form one group, and Austria and Spain, which form the other, in terms of the level and trajectory of change. The former group exhibits a mobility contribution level that exceeds 80% of turnover, accompanied by a more stable trend. In contrast, the latter group demonstrates a lower mobility contribution level, yet exhibits higher variability in its trends.

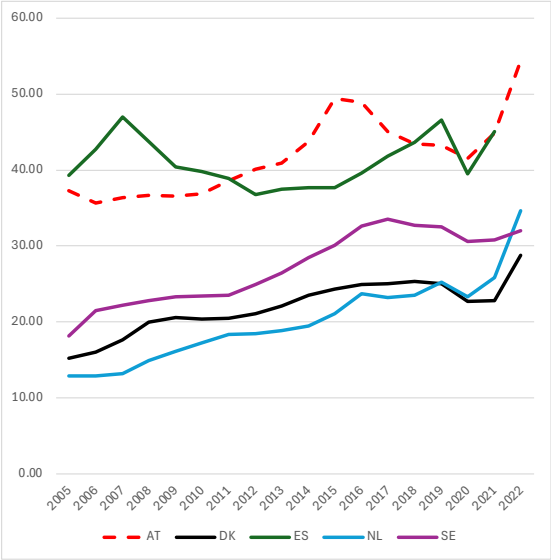
Figure 1. Share of Mobility in PTR in chosen countries in 2005-2022



Source: own calculations.

Despite the higher levels of regional mobility observed in Denmark, Sweden and the Netherlands, the contribution of foreign mobility to population turnover in these countries is significantly lower than in Austria and Spain. This is attributable to the higher mobility of the native population in these countries, who are more likely to change their residency across regional borders.

Figure 2. Contribution of Foreign Mobility to PTR in chosen countries in 2005-2022



Source: own calculations.

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