

Quantifying the Stability of Refugee Populations: A Case Study in Austria



How stable is the Refugee population in their host country?

We take residential movements as a proxy for stability. Intense movement disrupts communities and diminishes bonds among neighbours.

Why Austria?

20% of Austria are migrants, and around 17% of them are Refugees and asylum seekers. We use one year of residential movement data provided by the Austrian federal Ministry of Interior Affairs.

We find that refugees move on average 3.8 times more than non-refugees in one year.

3.8x

This disparity persists even more when looking at gender. On average, males move more than females. In non-refugees populations, males move 1.2 times more than females. Meanwhile, in the refugee population, males move 1.7 times more than females.

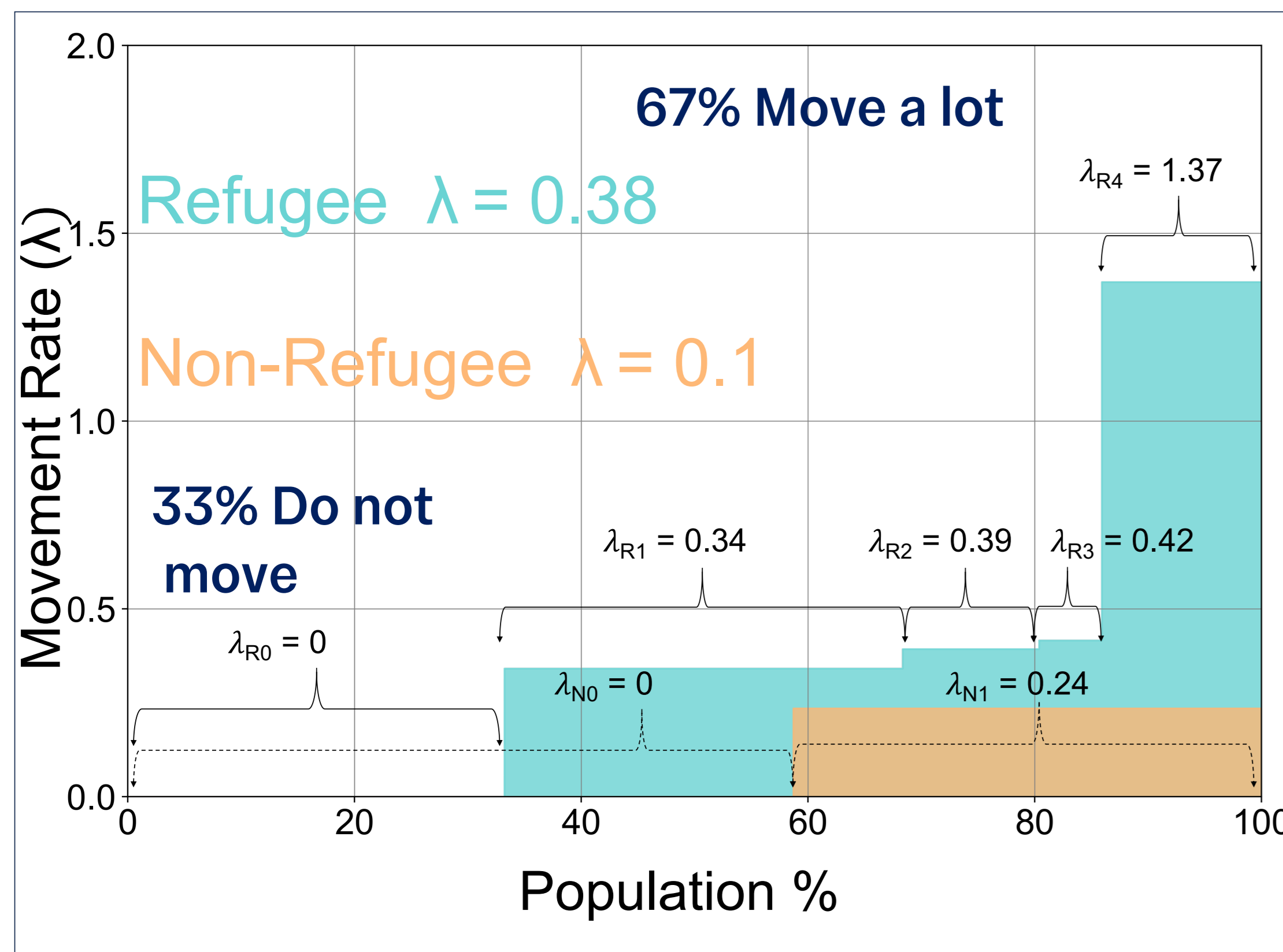
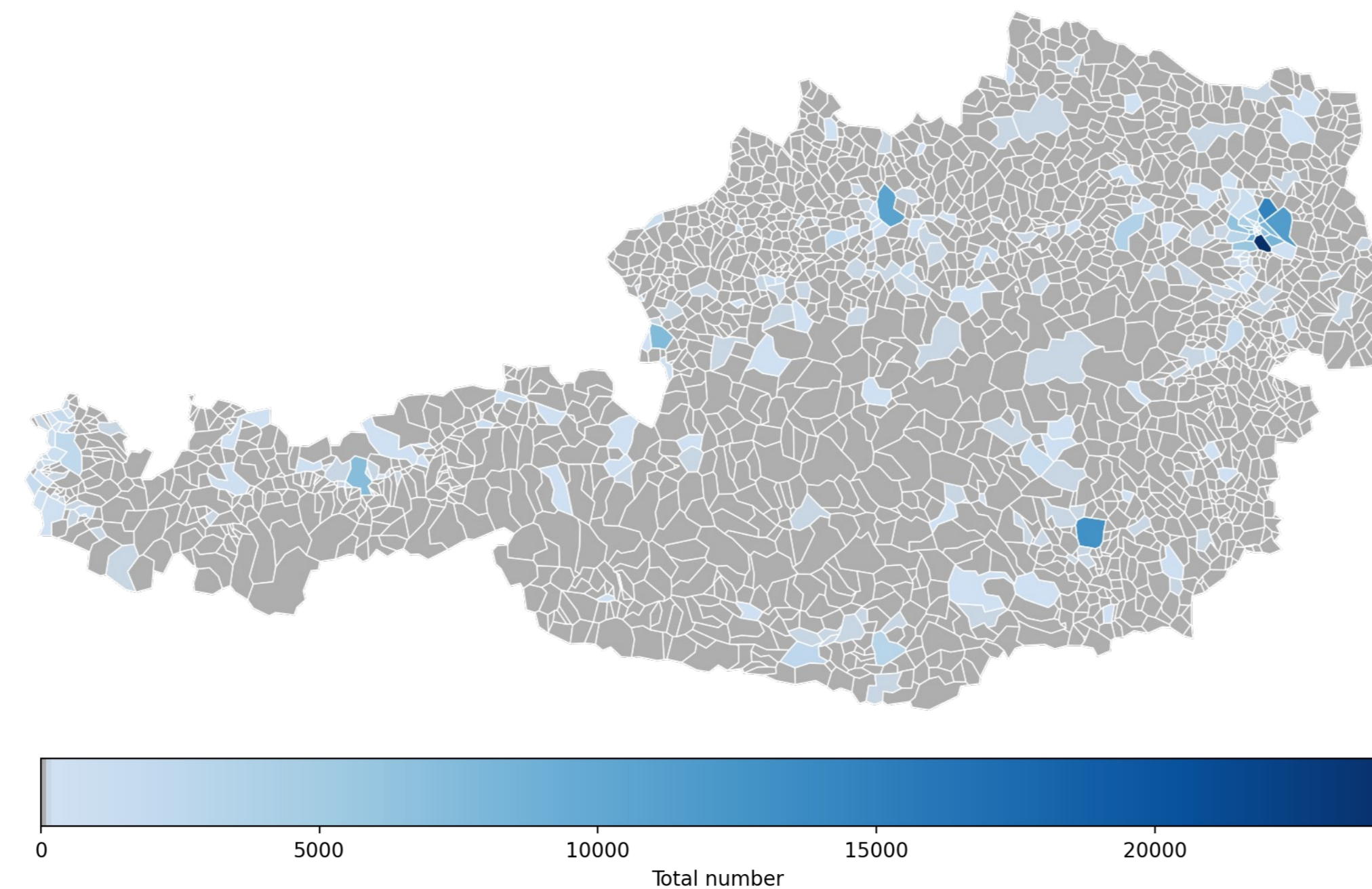


Fig1: On the vertical axis, we have the movement rate within a year, and on the horizontal axis, we show the population percentage following that movement rate.

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Distribution of Refugees in Austria



“Not all Refugees are the Same”

Refugees from Syria move the most. Precisely, they move 1.7 more than refugees from Afghanistan and 2.2 times more than refugees from Ukraine.

Where are they moving?

Most refugees move to big cities. In the case of Austria, most move towards Vienna or within Vienna.

5% of refugees move within the same district.

Direction	Refugees	Non-Refugees
To Vienna	16.39%	4.78%
Out of Vienna	4.73%	5.78%
Inside of Vienna	33.94%	52.93%
Outside of Vienna	44.94%	36.51%

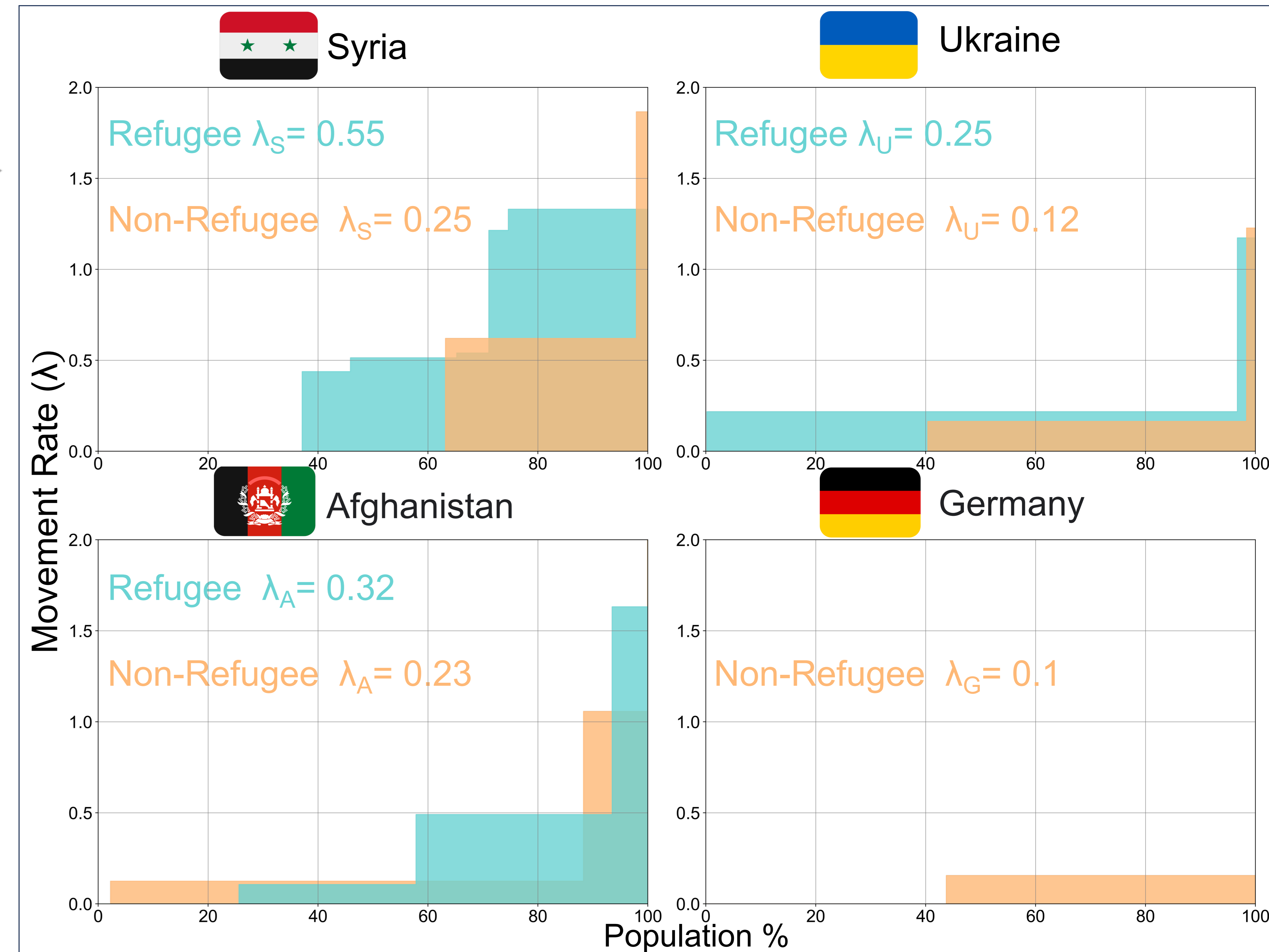


Fig2: Country comparison of the Movement profiles of the top three refugee countries of origin (Syria, Ukraine and Afghanistan) and the top non-refugee country of origin (Germany). The vertical axis indicates the movement rate (λ) while the horizontal axis indicates the population % following a movement rate. The average movement rate of each country and classification is added.

How did we measure it?

1. We assume each person moves with rate λ (that follows a Poisson distribution).
2. We assume that within a year, the number of residential movements occurs at a constant rate and independently of the time since the last movement.
3. We combine individuals of different average movement rates using a mixture model and get a population of k groups such that each group has a unique movement rate, and size.

