The location choice of refugees at different stages of the integration process

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Economic theory suggests that people migrate between regions in the light of wage differentials and employment opportunities. Some studies find this assumed positive association between local employment prospects and in-migration (Aslund 2005, Fasani et al. 2021) for migrants in Europe. However, recent studies find different moving patterns: immigrants in Europe do not migrate to regions with better job prospects, but to locations with higher shares of co-ethnics and to places with reasonable access to housing (Damm 2009, 2014, Damm and Rosholm 2010, Stewart 2021). This 'puzzle' is particularly visible for a special, but relevant (Brell et al. 2020) group of immigrants in Germany: refugees (Baba et al. 2023, Weber 2023, Wiedner and Schaeffer 2023). Between 2015 and 2021 more than 1,7 million refugees applied for asylum in Germany, but so far, the causes of their puzzling migration patterns are not known.

In this paper, we study the location choices of refugees in greater depth. We argue that *random* dispersion could be one explanation for the observed migration patterns. As other European countries, Germany has enacted a strict *random* dispersal policy for refugees. The (adverse) effects of random dispersal policies on labor market integration are already well documented (Damm 2009, Beaman 2012, Fasani et al. 2022). We aim to uncover a related effect of random dispersion that arises in cases where refugees are initially allocated to places that do not match their most basic needs (most notably: housing). In such constellations, moves shortly after the start of the integration process primarily ensure that basic needs are met. Later moves may follow different migration patterns that are more consistent with economic theory. Since the vast majority of moves of refugees in Germany occurs shortly after asylum was granted (Baba et al. 2023), these early (basic-need induced) moves may dominate the overall migration patterns and thereby lead to the observed puzzle.

To motivate our argument, we propose a model for the sequential decision of housing and job search, where refugees receive utility from housing consumption and employment

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possibilities. A possible connection between job search and the utility received by the place of residency (e.g. due to a large number of co-ethnics) is long recognized (Damm and Rosholm 2010). Our theoretical model is based on the theory of housing demand (Mayo 1981, Megbolugbe et al. 1991). We use an (intertemporal) utility maximization framework, where we assume a Stone-Geary utility function with housing as a necessity. In our theoretical framework, housing needs must be satisfied first, and wage maximization only becomes relevant once this basic need is fulfilled. It can therefore well be the case that a large fraction of refugees moves to labor markets with poor employment prospects early on, but only because housing provision is not ensured in their initial places of residency. Given these theoretical considerations, it is imperative to study changes in the migration patterns of refugees at different stages of the integration process.

To test our hypothesis, we use a unique and novel administrative data set that covers the legal status, demographic information, and most importantly, the individual mobility histories of a random 20% subset of all refugees that applied for asylum in Germany (BAMF-Forschungsdatenzentrum 2023). Most importantly, the data set also reports the month of every move. Our comprehensive data set contains more than 70.000 moves of refugees in the first years after arrival in Germany. Regional information on the origin and destination of each move is provided on the level of 394 regional immigration authorities that are almost always identical to the 400 German districts. Based on this information we merge a rich set of additional indicators to the data and can thereby separately study the determinants of in- and out-migration at the district level.

We test our hypothesis using discrete choice models to model decisions of in and out-migration in the spirit of Aslund (2005). We can go further than previous studies, because our rich data set allows us to analyze migration patterns at different stages of the integration process. We separately model the (individual and local) reasons for in- and out-migration for monthly/quarterly intervals after arrival. We can thereby study how the determinants of migration decisions change during the integration process.

We also study the location choice under different legal conditions. One major change of the legal conditions in Germany occurred in August 2016, when the so-called 'Wohnsitzregelung' was introduced (Baba et al. 2023). Since the reform, moves of refugees with newly- granted residence permits were limited for the first three years to either the federal state, local district,

or municipality. Refugees can only move if they can prove to have a job offer in the destination district or in case of hardship, i.e. the location choice set for refugees that were granted asylum after august 2016 was heavily reduced. The effect of the reform has already been analyzed in several studies with very different econometric approaches and results (Schikora, 2019, Brücker et al., 2020, Khalil et al., 2022, Hilbig and Riaz, 2022, Baba et al. 2023). Since the reform fundamentally changed the moving possibilities of refugees, we distinguish three study periods: before, during the introduction, and after the reform. We can show that although moving patterns changed substantially (i.e. refugees complied to the reform), the reasons for cross-district moves at different stages of the integration process essentially remained the same.

Our paper consists of four parts. We first review the literature and discuss the legal framework and stylized facts about refugee migration in Germany. Second, we introduce our theoretical framework. Third, we describe our novel dataset and discuss the observed migration patterns based on this data. We then introduce our modelling approach and discuss the econometric results.

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