MAPPING FRAMEWORK CONDITIONS FOR SOCIETAL PARTICIPATION OF IMMIGRANTS - A CLUSTER ANALYSIS OF MEDIUM-SIZED CITIES IN GERMANY

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With 6 figures and 7 tables
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Summary: Immigrants, or people who are read as such, face unequal participation opportunities. This is mainly due to poor host country language skills, inexperience with and barriers within administrative processes. Especially in cities beyond metropolises, scepticism through inexperience regarding immigration reinforces inequality. Although immigration to smaller cities is increasing, studies regarding this remain scarce. The goal of this paper is to examine spatial-structural conditions of participation opportunities for immigrants in medium-sized cities (MSC) and thus develop a basis for further research to address the particular challenges for immigrants in MSC. Therefore, I question the spatial patterns and characteristics of immigrants' participation opportunities in MSC. Cluster analysis and mapping methods are used to analyse data relevant to societal participation at the municipal level with reference to immigration. The data refer to MSC in Germany, a country that plays a significant role for immigration in Europe. Six clusters with different levels of participation opportunities emerge. One of the main results are the regional disparities between the former FRG (West Germany) and the former GDR (East Germany) expected under hypothesis 1. Almost all MSC in the former GDR can be assigned to the cluster with the greatest challenges for immigrants' participation. At the same time, according to hypothesis 2, other regional differences can be identified, which are manifested by political-administrative boundaries, but also extend beyond them. Rural areas do not necessarily offer worse conditions for immigrants' participation than dense regions. However, the mapping shows two participation 'belts' in the southwest between the large cities Frankfurt am Main and Stuttgart and in the central northwest between the Ruhr region and Hanover. The two belts contain a large number of strong MSC with good framework conditions for immigrant's participation. Especially in the 'arrival' belt between Frankfurt am Main and Stuttgart it covers MSC of widely varying sizes. Hypothesis 3 illustrates how local peculiarities also in the former GDR allow contrary developments and show the importance of further research.

Zusammenfassung: Menschen mit Flucht- und Migrationsgeschichte bzw. Menschen, die als solche gelesen werden, haben ungleiche gesellschaftliche Teilhabechancen. Gründe sind u.a. mangelnde Sprachkenntnisse im Aufnahmeland oder Unwissenheit von bzw. unzureichende Kommunikation über Verwaltungsabläufe. Skepsis durch Unerfahrenheit mit Zuwanderung verstärkt die Herausforderungen in Städten jenseits von Metropolen. Obwohl die Zuwanderung in kleinere Städte zunimmt, sind Studien dazu nach wie vor rar. Ziel dieses Beitrags ist, räumlich-strukturelle Rahmenbedingungen der Teilhabechancen für Zuwandernde in Mittelstädten zu untersuchen und damit eine Grundlage für die weiterführende Forschung zu erarbeiten, um den besonderen Herausforderungen in Mittelstädten zu begegnen. Es wird der Frage nachgegangen, welche räumlichen Muster und Besonderheiten sich in Bezug auf die Teilhabechancen von Zuwandernden in Mittelstädten ergeben. Mit Hilfe der Methoden Clusteranalyse und Kartierung werden für die Teilhabe relevante Daten auf Gemeindeebene mit Bezug zur Zuwanderung analysiert. Die Daten beziehen sich auf Mittelstädte Deutschlands, ein Land, das für die Migration in Europa eine bedeutende Rolle spielt. Es entstehen sechs Cluster mit unterschiedlichen Teilhabechancen. Eines der Hauptergebnisse sind die unter Hypothese 1 erwarteten regionalen Disparitäten zwischen der ehemaligen BRD (Westdeutschland) und der ehemaligen DDR (Ostdeutschland). Fast alle Mittelstädte der ehemaligen DDR lassen sich dem Cluster mit den größten Herausforderungen für die Teilhabe von Zuwandernden zuordnen. Gleichzeitig lassen sich gemäß Hypothese 2 auch andere regionale Unterschiede feststellen, die sich durch politisch-administrative Gemarkungen wie Bundesländergrenzen manifestieren und darüber hinaus reichen. Ländliche Regionen bieten nicht zwangsläufig schlechtere Bedingungen für die Teilhabe von Zugewanderten als Agglomerationsräume. Jedoch gibt es im Südwesten zwischen den Großstädten Frankfurt am Main und Stuttgart sowie im mittleren Nordwesten zwischen dem Ruhrgebiet und Hannover zwei Teilhabe-‚Gürtel', die sich aus einer Vielzahl starker Mittelstädte mit guten Teilhabechancen für Zuwandernde zusammensetzen. Insbesondere im ‚Ankunfts'-Gürtel zwischen Frankfurt am Main und Stuttgart betrifft dies Mittelstädte unterschiedlicher Größe. Der Blick auf a-typische Mittelstädte innerhalb der Cluster verdeutlicht mit Hypothese 3, wie lokale Besonderheiten auch in Ostdeutschland gegenteilige Entwicklungen möglich und weiterführende Forschung bedeutend machen.

Keywords: Societal participation, immigrants, medium-sized cities, cluster analysis, mapping, Germany

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1 Increasing immigration to cities beyond metropolises in Germany

Germany has been the European country with the highest immigration rate since 2013 (European Commission 2022). In particular, the number of people fleeing to Germany from their home countries as a result of armed conflicts has increased significantly in recent years. In 2015, almost one million people fled to Germany, mainly arriving from Syria (BAMF 2016). The number of immigrants is even expected to rise in the coming years, not least because of the armed conflict in Ukraine since 24th February 2022. According to UNHCR (2023) 4.32 million people fled from Ukraine, primarily reaching European countries. Since WW2, there has not been such a large movement of European refugees. Until 30th November 2022, over one million Ukrainians have already sought protection in Germany (Destatis 2023). This development raises the question which cities can offer space and opportunities for immigrants' participation in the future. Predictably, not only large cities can take on these tasks. Additionally, cities beyond metropolises or so-called medium-sized cities (MSC) are postulated to become more attractive for immigrants in the future (Khanna 2021). Metropolises face problems concerning affordable housing, ecology, traffic and air quality. In contrast to small towns, MSC (ideally) offer various educational opportunities, cultural activities and mobility options (Schmidt-Lauber 2010a: 23). Considering research, it is above all the global cities (Sassen 1991) and metropolises that seem to attract immigrants. Research concerning immigration in cities beyond metropolises is still developing and currently lacks to focus on quantitative research. However, to find solutions for improving immigrant's participation opportunities in MSC in the future, structural conditions are one of the aspects to look at.

Against this background, the study at hand deals with spatial-structural framework conditions of immigrant's participation opportunities in German MSC. I question the spatial patterns and particularities with regard to immigrant's participation opportunities in MSC, using a cluster analysis. The paper focuses primarily on the application of the method. Therefore, the gain of knowledge can be expected mainly in relation to the cluster analysis. In the following, I look at spatial-structural framework conditions for immigrants to participate in society. I first study the connection of societal participation, space and place before I then focus on cluster analyses to capture and study MSC concerning immigrants' participation opportunities (Section 2). Learning from studies that dealt with cluster analyses in relation to MSC, societal participation and immigration, I describe the method, including the area and cities covered, variables chosen and sub steps made in the clustering process (Section 3). This is followed by the data analysis of cluster analysis and mapping (Section 4), from which I discuss and summarize the findings (Section 5). I critically analyse the methods in a space- and place-based context and discuss what they reveal and what remains hidden.

2 Spatial-structural framework conditions for immigrants' local participation opportunities

To analyse spatial-structural framework conditions for immigrants' participation opportunities and choose variables that represent it, I first need to explain my understanding of societal participation. I show how it is linked to migration, space and place and how it is important for quantitatively approaching the topic. In the last section I explain local peculiarities of immigration in medium-sized German cities and conclude with the hypotheses for the analysis.

2.1 Societal participation and migration in a space and place-based context

As a philosophical approach, societal participation includes the rights and opportunities of the individual that should be available to provide them with the best development options to achieve their personal idea of the quality of life (Nussbaum 2009, Robeyns 2005, Nussbaum & Sen 1993). In contrast to concepts familiar in migration research such as integration and inclusion, societal participation[1] focuses first on the individual rather than society. Successful participation is what is successful from the perspective of the individual. At the same time, the best possible individual development options might also be conducive to urban and spatial development. In this paper, I follow the idea of societal participation that mainly appears within the research field of social work but can be understood as a concept and framework that is used in many disciplines (Schnurr 2018, Bartelheimer et al. 2020). Schnurr (2018: 634, translated from German by the author) offers a defi-

[1] Also called civic (or community) involvement, social (or civic) participation in the research literature.

nition of societal participation according to which it refers to the "use of the resources and opportunities available at a given stage of social development for the realisation of individual life plans and the formation of subjectivity. In this context, the concept of resources is broad and ranges from the natural foundations of life [water, sunlight, ground] to the spheres of economy (labour, consumption) and culture to the collective goods of freedom, security and democracy themselves". Valtonen (1999: 470) points out that participatory areas "(…) are manifest primarily in labour market participation and related activity" because economic participation can basically set the ground for other participation spheres. In terms of operationalization with quantitative methods from a spatial perspective, the literature provides little guidance on ways to distinguish integration, inclusion, and societal participation. However, against the background that the method applied here is intended to serve as a basis for further research on societal participation and thus to focus on the individual level, the concept seems to be reasonable here.

From a spatial and urban perspective, "[societal] participation is a political and social practice and takes place in the social space. It (…) concretizes itself situation-related in physical spaces on different levels of scale" (Meier & Schlenker 2020: 7, translated from German by the author). Opportunities for societal participation vary locally because all cities are influenced globally and locally in some way; however, local circumstances, i.e. history but also current dynamics of the economy and politics coupled with societal approaches to deal with them mean that not all cities are in the same position or offer the same framework conditions (Glick Schiller & Çağlar 2011: 5). Even neighbouring cities can develop in diverse ways and offer different opportunities for the individual. "Hence, in addition to people who are socialized in global networks seemingly detached from any spatial ties, we find in the same places people who are 'thrown back' precisely to the conditions existing on the local level. For their social and economic situation, the place is a structural condition, their social situation is thus predominantly spatially determined." (Barlösius & Neu 2008: 22, translated from German by the author). Spatial inequalities of participation opportunities can therefore manifest themselves in a wide variety of ways. For immigrants, space can become a structural burden if their societal participation is linked to rules and limitations. This applies in particular for economic participation opportunities, for instance when immigrants are denied access to the labour market.

2.2 Quantitatively studying societal participation

Social processes are still less frequently studied quantitatively. Sometimes it entails the risk of drawing false conclusions (or deep discussions) from the data and depicting them (visually) (O'Brien & Aliabadi 2020). However, "(…) spatial analysis is (…) empirically relevant to the broader understanding of social processes." (Rucks-Ahidiana & Bierbaum 2015: 100). The quantitative approach in this paper refers to one specific aspect of societal participation, namely the collective 'resources' in space and place (Schnurr 2018). The collective resources can be defined as societal framework conditions to measure the level of individuals' participation opportunities (Robeyns 2005). It must be emphasized that, in addition to these framework conditions, there are other factors that determine the societal participation of individuals, such as broader local conditions and individual preferences, developments and networks. However, these cannot be examined in this context and require further research. However, collective resources as framework conditions set the ground for societal participation. I study the collective resources on a local level in space, looking at all medium-sized cities (MSC) within a country. Since the number of cities studied is high, a systematization is needed to analyse the cities' particular conditions for individual's participation. In addition, the goal is to give regions and cities an orientation as to where they stand with regard to the framework conditions for societal participation. Thus, a statistical method revealing the structure and dealing with a high number of objects is helpful, such as a cluster analysis. Cluster analysis is a quantitative approach, the goal of which is to discover initially unknown relationships between variables or objects (cities) (Backhaus et al. 2018: 13). Hierarchical cluster analyses in spatial and urban research are able to identify cities that develop similarly or differently in relation to the variables used (e.g. number of inhabitants) (ibid.). A maximum of homogeneity within one cluster (group of cities) and a maximum of heterogeneity to all other clusters (groups of cities) is desired (Bacher et al. 2010: 16). Cluster analyses in spatial and urban research are usually applied to uncover spatial disparities in terms of socioeconomic development but also mobility patterns or landscape metrics on different scales (regions, cities and neighbourhoods) (Grove & Roberts 1980, Schwarz 2010, Klinger et al. 2013). MSC have been part of cluster anal-

yses for years, even though they have not always been defined or distinguished as such, looking at the number of inhabitants from a German perspective (ESPON 2006, Fig. 1). For example, Grove & Roberts (1980) refer to the socioeconomic development of large cities, studying cities in Great Britain from 50,000 inhabitants and above. Schwarz (2010) studies indicators to characterize European cities of a medium size (50,000–250,000 inhabitants) and a large size (above 250,000 inhabitants). Senetra & Szarek-Iwaniuk (2020) focused on the Polish cittaslow network and clustered small- and medium-sized towns with 5,000–100,000 inhabitants. Some studies, such as those by Fink et al. (2020) or Bertelsmann Stiftung (2018a), do not refer to cities by the number of inhabitants at all (Tab. 1), and some scholars focus on clustering single case studies including large cities but also MSC (ibid.).

Focusing on immigration through spatial cluster analysis is a rather difficult purpose. "Not long ago it was considered (…) that one cannot infer processes that occur at the level of individuals from information about relationships at the level of places or other social contexts" (Logan 2012: 521). Therefore, space and immigration are closely connected but bear the risk of generalizing. Referring to the urban turn in migration studies, recent cluster analyses focusing on migration topics rather choose to analyse the local perspective such as urban neighbourhoods (Cornwall 2002, Prakash 2002, Elordui-Zapaterietxe & Roca Cladera 2006, Kurtenbach 2018). However, Meier & Schlenker (2020: 10-11, translated from German by the author) postulate "(…) the significance of space for the reproduction of social and societal structures of inequality in the context of globalisation". The female researchers (ibid; translated from German by the author) define "space as a network, [because] (…) connections [are] made by people in space". Accordingly, space and place are not, per se, open to all people and can have exclusionary effects that lead to inequalities in space and place (ibid.). This can be especially pertinent for marginalised groups of people who already face processes of exclusion through oppression and discrimination such as immigrants or people who are read as such (Wu 2012, Schreyer & Bauer 2014). However, inequality studies that view immigrants as a marginalised group may ignore differentiations that have positive impacts on societal participation. For example, differentiations occur due to individuals' origin (EU-citizen who immigrate into another EU country have more rights than international immigrants) and resources (education, childhood). These aspects in turn can, for example, result in differentiations concerning their residence status and can cause limitations. Simultaneously, a spatial perspective helps to give an impression of possible structural differences, opportunities and challenges for immigrants' participation. Table 1 gives an overview of studies that deal with cluster analyses and include relevant aspects concerning immigration and societal participation in MSC. The order of the presentation does not refer to the studies' year of origin but to their degree of relevance. The first study thus has the greatest relevance for the study at hand.

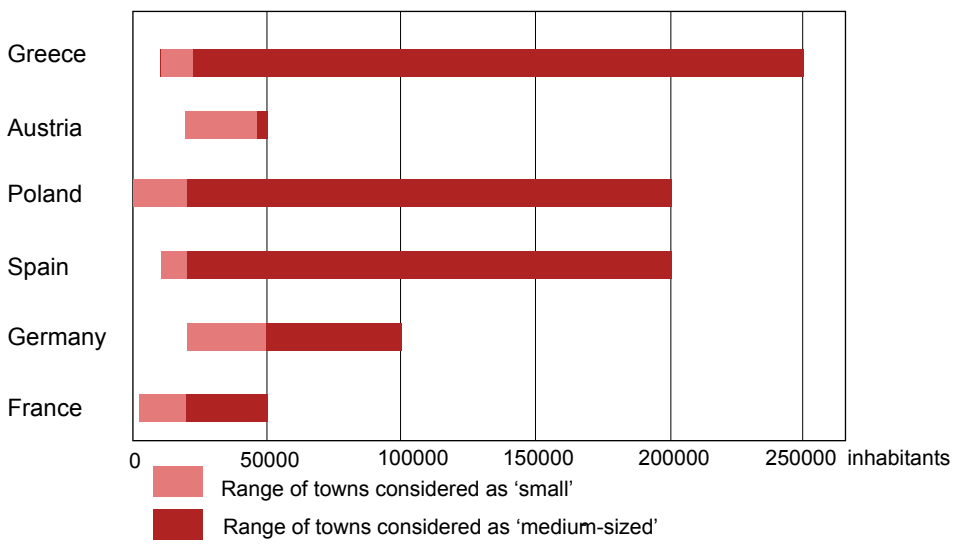


Fig. 1: European countries' approaches to measuring small- and medium-sized towns by the 'number of inhabitants'. Source: Own elaboration after ESPON (2006)

Tab. 1: Studies or reports that conduct cluster analyses on one or more aspects relevant to this study (MSC, societal participation and immigration)

No.	Study/Report (Author(s), Title)	Year	Country of Analysis	Area Covered, Number of Inhabitants	Topics, Data
1	Fink et al.: Unequal Germany, Socioeconomic Disparities Report 2019, Friedrich-Ebert Stiftung	2020	Germany	All independent cities and districts	Socioeconomics (employment, well-being, health, migration and politics)
2	Bertelsmann Stiftung: Demographic typification 2020	2018a	Germany	2,945 municipalities and independent cities	Demography and socioeconomics (urbanity, economy)
3	Meili & Meier: Small and Medium-Sized Towns in Switzerland: Economic Heterogeneity, Socioeconomic Performance and Linkages	2017	Switzerland	All cities between 5,000 and 50,000 inhabitants (category from ESPON 2006)	Socioeconomics
4	Lüttich: Perspectives of German Cities: A Cluster Analysis	2017	Germany	All cities above 10,000 inhabitants	34 indicators, mainly referring to demography, socioeconomics and education
5	Elordui-Zapaterietxe & Roca Cladera: Residential Mobility and Foreign Immigration Settlement in the Metropolitan Area of Barcelona	2006	Spain, Barcelona	Large city (single case, quantitative study)	Immigration
6	Kurtenbach: Exclusion of Refugees: An empirical Study Using the Example of Bautzen	2018	Germany, Bautzen	Medium-sized city (single case, quantitative study)	Immigration

None of the studies in Table 1 combines all three perspectives, MSC, societal participation and immigration. Study 1 shows best the connection of space, spatial-structural conditions and exclusion risks but remains general in terms of urban distinctions and spatial peculiarities (Fink et al. 2019: 9).

2.3 Unequal migration experiences in medium-sized German cities and its spatial impacts

Medium-sized cities (MSC) are anchor points when it comes to migration (Egger 2018: 41). Together with small cities, they represent two-thirds of all cities in Germany (BBSR 2017). Differences mainly arise due to their size, regional embeddedness, socioeconomics, and migration experience. MSC are both places of emigration and immigration. Young people often move to metropolises to study or work, have families, and sometimes never return. Adding to demographic change, emigration is a key factor that drives regional and urban differences and contributes to shrinkage. The majority of MSC in the former GDR[2)] have faced this issue. Some cities have lost one-third of their population since the 1990s (Fröhlich & Liebmann 2009: 59). Accordingly, some MSC have developed monofunctional structures and only serve as dormitory towns, commuter cities or retirement homes such as in the Berlin region (Hamdouch et al. 2017). Other MSC offer economic stability and grow constantly. For example, in the Frankfurt am Main region or the Ruhr region, MSC compete for skilled workers and tax revenues. There, soft location-related factors can be decisive in attracting immigrants or not (Giffinger et al. 2007: 4).

[2)] The former GDR (German Democratic Republic), also called East Germany

Immigrants' support networks and their consideration in politics, urban planning, and society can differ due to the cities' immigration experiences (Bertelsmann Stiftung 2018b: 73f.). In contrast to metropolises, MSC can therefore lack adequate support and planning instruments to foster immigrants' participation (Glorius & Schondelmayer 2018: 76f.). For example, in the former GDR, international immigration was restricted and only occurred from socialist countries such as Vietnam, Mozambique and Poland. Personal networks between the resident society and immigrants were inhibited (Glorius 2020). The needs and requirements of immigrants remained unrecognized or were not considered (ibid.). MSC in the former FRG[3] are more experienced because of active recruitment policies such as guest worker immigration from Southeast and Southwest Europe after WW2, reception of the so-called 'boat people' (refugees) from Vietnam as well as late ethnic German immigrants from former Eastern Bloc countries (Oltmer 2003, Kocatürk-Schuster et al. 2017). However, researchers have argued that immigrants' participation is vulnerable in the former FRG, too (Kogan 2011: 91ff.). Integration policies in the past have merely focused on one-sided efforts of immigrants to integrate into German society (Nghi Ha 2010, Öztürk 2015: 63). Thus, MSC in respective regions face different challenges in promoting immigrants' participation.

According to the previous discussion, I formulate hypotheses for the cluster analysis of MSC with regard to their spatial-structural conditions for immigrant's participation opportunities: Following the results of the studies 1 and 2 in Table 1 and the results of Section 2.3, *hypothesis 1* is that spatial disparities will arise especially between MSC in the former FRG and GDR, because socioeconomic conditions, independent of the immigration context, are extremely different between the two regions. With *hypothesis 2* and according to Kogan (2011) I presume that there are further regional differences that can lead to different local participation opportunities and barriers. According to Fink et al. (2019: 4), I hypothesize that MSC in rural areas are likely to offer poorer participation opportunities due to less experience with immigration and the corresponding development of policies and networks. Following Barlösius & Neu (2008) but also Glick Schiller & Çağlar (2011) who state that even neighbouring cities can develop differently due to many influencing factors, I assume with *hypothesis 3*, that local peculiarities will emerge through the cluster analysis. I hope to support my hypotheses through the mapping.

3 Methods

The cluster analysis, as a quantitative approach of multivariate analysis, serves to determine spatial patterns of immigrants' participation opportunities in MSC. In contrast to other methods of multivariate analysis, it has an exploratory character, as it is unknown beforehand how the number, size and expression of the clusters will turn out (Romesburg 2004: 2). In Germany, cities develop polycentric which supports the emergence of many MSC that compete in terms of size, functions, and services (Portz 2011). Consequently, German MSC can be further divided into large (at least 50,000 inhabitants) and small (up to 50,000 inhabitants) MSC. However, there are different discipline-specific perspectives on MSC. For example, spatial research refers to MSC with 50,000–250,000 inhabitants in the former FRG. In the former GDR, most MSC are smaller and are referred to as having 20,000–100,000 inhabitants (Lindner 2010). I consider all German cities with city law and cities that have 15,000–250,000 inhabitants (Fig. 2). Three reasons explain this decision:

- Spatial discipline-specific perspective on MSC;
- International context with wider range, especially on the upper scale of MSC;
- Exploring the diversity of MSC. Therefore, the variable 'number of inhabitants' was not included in the cluster analysis. It only served for the selection of cases.

Figure 2 maps all 849 MSC. Cities with 15,000–250,000 inhabitants distributed rather evenly on the map. In contrast to other studies arguing that rural areas mainly appear in the former GDR, I also identified larger contiguous rural areas in the former FRG (Bavaria, Rhineland-Palatinate) (Fink et al. 2019: 9, ellipses in Fig. 2). However, cities with fewer than 15,000 inhabitants were not mapped and could change this impression.

3.1 Background

The goal of the cluster analysis is to uncover similarities between data and thus combine cities with similar data into a group. Through the map-

[3] The former FRG (Federal Republic Germany), also called West Germany

ping and analysis of these groupings, I expect to draw conclusions about spatial patterns. Before conducting the cluster analysis, I made several considerations (Bacher et al. 2010: 40ff., Backhaus et al. 2018: 493ff.):

- Data origin and selection (Tab. 2);
- Type and age of the data (static or dynamic);
- Selection of the tool to perform the cluster analysis;
- Selection of the tool to visualise the mapping.

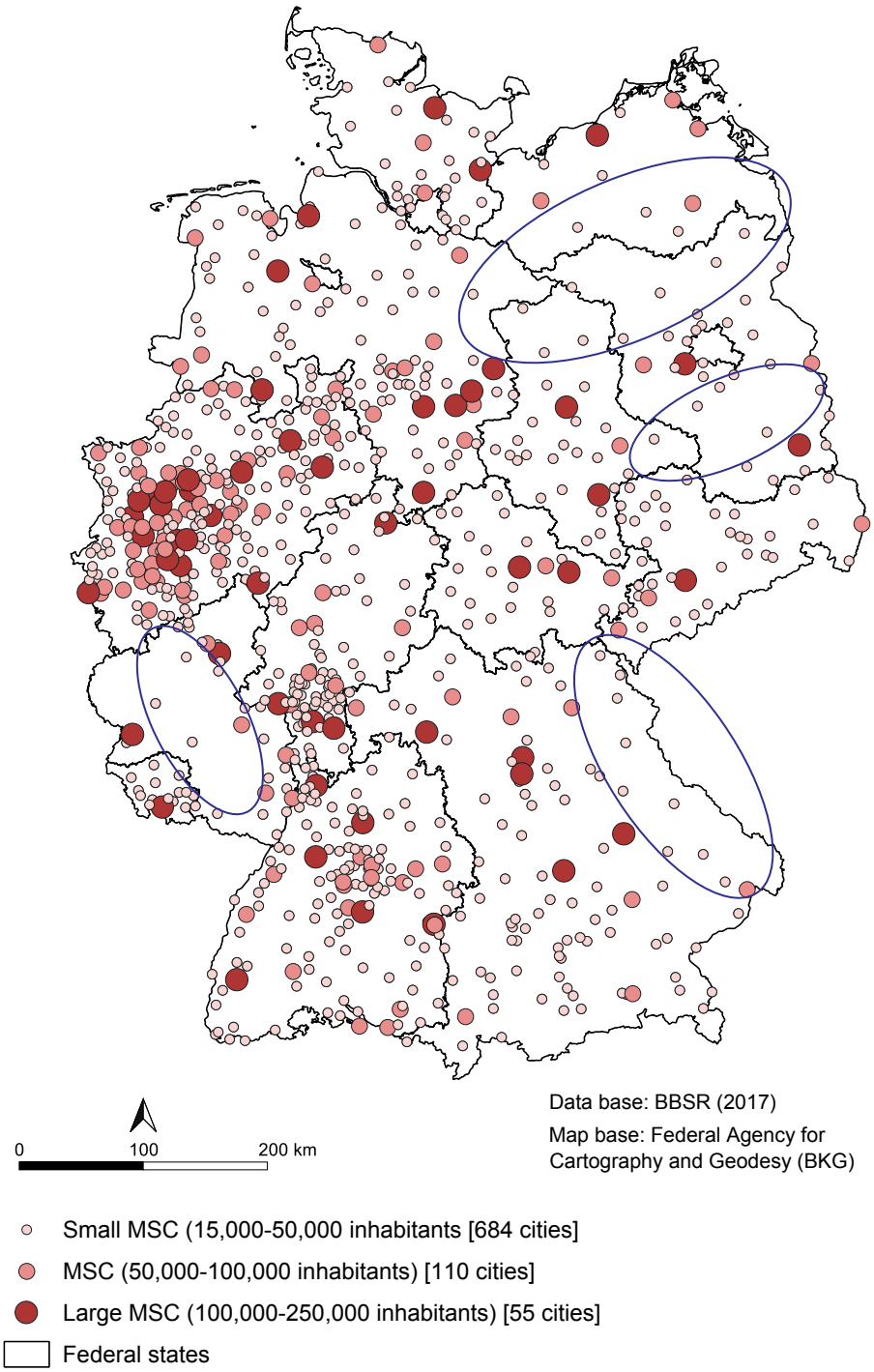


Fig. 2: Mapping German MSC with city law and 15,000–250,000 inhabitants (ellipses mark larger, contiguous rural areas)

Tab. 2: Variables found due to the literature review concerning data on societal participation and immigration, including generalisations

Inequalities in space and place		Inequalities and group marginalisation	
Societal participation	→ *Generalisation*	*Immigration*	→ *Generalisation*
Proportion of highly qualified workers, Old-age and child poverty, life expectancy, accessibility of GPs (general practitioners/ doctors), gross pay, municipal debts, election turnout and broad-band access (Fink et al. 2019: 7)	Labour market, age, municipal finances, digitalisation, politics/elections	Annual average migration balance and non-EU foreigners (Elordui-Zapaterietxe & Roca Cladera 2006)	Net migration, differentiation of foreigners
Population development, natural balance rate, share of under 18s, median age, highly qualified persons, population density, single-person households, purchasing power and rate of social security for job-seekers according to Social Law Book II (Bertelsmann Stiftung 2020)	Age, labour market, number of inhabitants, density, trade and unemployment	Share of foreigners, net migration (Kurtenbach 2018)	Net migration, share of foreigners

In terms of data selection and origin, Section 2 served to inform about the data typically used in the context of mapping societal participation, immigration and MSC. Table 2 illustrates the data found through the literature review. It also contains generalizing terms of the data, because some variables were highly specialised and mostly not connected with immigration. Therefore, the generalisation of reviewed data helped to rethink the link between both topics.

Following this, I scanned national databases to find municipal data. In terms of type and age of the data, Backhaus et al. (2018: 494) recommend a homogeneous selection of variables to generate the most homogeneous clusters, which is the major goal of cluster analyses (Backhaus et al. 2018: 495). Therefore, I decided to include only static variables, for example because I wanted to include AfD ('Alternative for Germany', German right-wing party, founded in 2013) voting rates in the cluster analysis; however, the AfD had only participated in one election in 2017 at the time of data selection. Choosing only static variables meant exclusion of certainly interesting variables. For example, net migration was not considered, because the variable can just be meaningfully used as a dynamic variable. Net migration can vary widely from one year to the next, leading to large distortions and unrealistic mappings in the clusters. Furthermore, immigrants' educational participation was neglected, because education is governed by the German federal states and thus produces different approaches, which are reflected in heterogeneous data that are difficult to compare. In terms of age, I selected the most recent data, falling within the period of the 2015 refugee reception crisis or shortly thereafter (Bevelander & Hellström 2019). Refugees were assigned to different regions, also highly rural areas. Thus, all regions had higher refugee numbers at the time of data collection. However, it is unclear how this affects, for example, the data on unemployed foreigners, because the recognition of refugees and the possibility to take up employment is difficult to put in time and varies individually. I recommend further monitoring of the data using dynamic variables clustering and comparison.

3.2 Data and proceedings

Table 3 shows the selected variables that help to analyse spatial-structural conditions as 'resources' for immigrants' participation (Schnurr 2018). As Valtonen (1999: 470) mentioned, the majority of the variables refers to economic participation. However, economic participation can support other forms of societal participation as the different areas are overlapping (ibid.).

Average age 2018. This variable shows which cities are comparably younger or older, i.e., their inhabitants. Older cities indicate demographic change. It may also indicate increased emigration and a higher

Tab. 3: Selected variables for cluster analysis of MSC concerning societal participation and immigration

No.	Variable	Origin
1	Number of inhabitants 2018 *	Regional database of the federal and state governments
2	Average age 2018 in years	Ibid.
3	Proportion of valid AfD ** second votes, 2017 Federal Elections in %	Ibid.
4	Business tax revenue 2015 in Euro	Ibid.
5	Share of unemployed foreigners of the total number of unemployed persons 2018 in %	Ibid.
6	Share of employed foreigners covered by social insurance of the total number of employed persons covered by social insurance 2019 in %	Ibid.
7	Broadband coverage in 50 mbit/s 2020 in %	Federal Ministry of Transport and Digital Infrastructure

* Not part of the cluster analysis, only for selection of cases; **AfD: German right-wing party.

number of small households. Emigration can occur when there are few participation opportunities for young people in the labour market. This may be due to the general lack of jobs or a biased supply structure that cannot serve certain industries and skill opportunities. Cities can also lack attractivity for young people because of location, high price levels or other lack (or quality) of life opportunities (Nussbaum & Sen 1993). In contrast, cities can be particularly attractive for older people, for example, because of the cultural offerings.

Proportion of valid AfD second votes, 2017 Federal Elections[4]. The variable points to Schnurrs (2018) idea of the 'collective goods of freedom, security and democracy' that set the socio-political framework conditions for individuals' participation opportunities. This variable indicates how many people voted for the AfD at the federal level and how much there is conflicting potential concerning immigrants and their societal participation. It was the party's first appearance after foundation. The election was influenced by the refugee reception crisis and the AfD won many votes, strongly using xenophobic statements. Research analysing voter surveys indicate a link between voting for the AfD and xenophobia (Gorinas & Pytliková 2015, Martin 2019: 3, Heinrich-Böll-Stiftung e.V. 2017: 11). Hildebrandt & Truedinger (2021: 159) state that "factors related to regional identity also affect the likelihood to vote for the radical right-wing party AfD." Regional identity is "accentuating regions, personality and the harmony/unity between a region and its inhabitants" (Paasi 2003: 476). Its traditional, conservative character does not necessarily lead to xenophobia but has the potential to socially exclude the interpreted otherness. This applies especially, if collective identity leads to regional nativism (Betz & Habersack 2019). It should be pointed out that the AfD does not only stand for a critical immigration policy. But even if the case of protest voting applies, this can be interpreted as socio-political challenge that does not exactly facilitate immigrants' participation.

Business tax revenue 2015. The variable refers to Valtonen's idea (1999) that economic participation is important to participate in other areas, too. It allows conclusions about a municipality's financial resources generated through taxes of local businesses and therefore resources to support societal participation. The tax level is determined by each municipality, so that different levels can be generated although of the same number, orientation and size of companies. However, different tax levels may also occur due to the diversity and quantity of companies (IHK Nürnberg für Mittelfranken 2021: 5). The tax level tends to be higher in larger than in smaller cities and indicates how appealing a city is to attract companies and therefore also immigrants.

[4] In a German federal election, voters have two votes. The first vote is used to elect individuals who, if they receive a majority of the votes, will enter the Bundestag via their constituency. The second vote is important for the majority in the Bundestag. It determines how many of the 598 seats in the Bundestag are allocated to each party. Despite its name, the second vote is therefore more important than the first vote. With the second vote, voters do not decide for a person but for the federal state list of a party (The Federal Government 2022).

Share of unemployed foreigners of the total number of unemployed persons 2018 and *Share of employed foreigners covered by social insurance of the total number of employed persons covered by social insurance 2019*.[5] Both variables are again referring to economic participation and allow to assume how many immigrants do or do not participate in the labour market.

Broadband coverage in 50 mbit/s 2020. This variable shows whether there are cities that are less digitised and is an indicator for digital participation. According to Van Dijk (2004), the variable is only able to refer to the technical resources rather than the individual abilities to deal with digital devices and contexts. Digitalisation plays a crucial role not only but especially for immigration, as immigrants' networks increasingly develop digitally. Interestingly, a good broadband coverage does not necessarily mean that a city is economically wealthy. Since 2015, cities get funding to access good broadband coverages to attract businesses and people and even cities that are economically weaker can offer strong broadband coverages. At the time of data collection, the broadband coverage per city was given on a voluntary basis, so there may be deviations. This information has recently become mandatory and is therefore of interest for further analyses. The variable did not show high correlations with other variables.

The cluster analysis was performed with IBM SPSS Statistics 25, while the mapping was visualised with QGIS 3.18.3.1. Table 4 shows the clustering steps (Backhaus et al. 2018: 493). A pre-test of German MSC with 20,000–100,000 inhabitants was elaborated. The idea was to see whether city size had a relevant effect on the number and characteristics of clusters. However, the outcome was the same number of clusters as well as the same characteristics. This means that the 'number of inhabitants' was not as relevant to apply other or more clusters.

Eight steps were part of the clustering process. In the first step, I eliminated the missing values to ensure the data quality (Bacher et al. 2010: 228). There was only the city of Aue (Saxony) out of all 849 MSC that did not contain the variable 'employed foreigners', which is why the city was eliminated (looking at Aue's other variables after seeing the cluster results, the city could have possibly been assigned to cluster 6). In the second step, I standardized the data to be able to compare it and to determine the Pearson correlation coefficient in a third step (Backhaus et al. 2018: 24). The correlation coefficient measures the relationship between two variables and helps to eliminate variables with very high correlations because otherwise, results are biased (Bacher 1989: 28). The variables 'unemployed foreigners' and 'employed foreigners' had a high but not very high correlation (Pearson $r = 0.832$, $p < 0.001$). The pre-test showed that some MSC develop different concerning the two variables. Moreover, both variables together can give an idea about the share of immigrants per city. Therefore, I included both variables. The fourth step comprised the determination of similarities between variables. The step helps to identify and eliminate outliers that are extreme concerning one or more variables compared to other objects and, therefore, can confuse the data. The city Ludwigshafen am Rhein was identified as an outlier and was eliminated so that 847 MSC were finally included in the cluster analysis (in the results it turned out, that Ludwigshafen am Rhein stood between the two clusters 1 (according 'business tax revenue') and 4 (according to 'employed foreigners' and 'unemployed foreigners'). To bring the objects (cities) together, I selected the fusion algorithm called Ward method, referring to hierarchical methods in the 5th step. That left open the number of clusters which is favoured (Romesburg 2004: 129). To determine the optimal cluster number, I applied the elbow criterion as the 6th step using Excel and identified six clusters (Backhaus et al. 2018: 528). In the 7th step, I investigated the quality of the classification and figured how each variable contributed to it (discriminant analysis); 85.7 % of the cases (MSC) were correctly classified, which corresponded to a good assignment of the cases (MSC) to the clusters. The best classification was found in clusters 1 and 2 with 95.2 % each, and the worst classification with 75.4 % in cluster 5. For cluster 5, it meant that 24.6 % of the cases (almost every 4th MSC) could have been assigned to another cluster. In the 8th step, I conducted a mapping of all cities according to their cluster affiliation. The mapping helped to reveal spatial patterns that the cluster analysis could not show at first glance.

[5] Foreigners "include all persons who are not Germans within the meaning of Article 116 (1) of the basic law, i.e., who do not have German citizenship. They also include stateless persons and persons with unclear nationality [means also refugees and EU citizen, except they have two nationalities and the first nationality is German]. (…)" (Federal Employment Agency 2023: 11). The Federal Employment Agency (2023: 6) further states: "For unemployed foreigners, the definition of unemployed persons applies. The only special feature is that foreigners cannot be recorded as unemployed if they are not allowed to perform any employee activity in Germany. A lack of German language skills is not a fact that prevents them from being available and thus unemployed. Stateless persons and persons with unclear nationality are reported under 'no information' for the nationality characteristic."

Tab. 4: Number of steps and descriptions of the clustering process

Step No.	Description of the clustering process with IBM SPSS Statistics 25
1	Clean-up (missing values)
2	Standardisation
3	Frequency and correlation analysis (Pearson)
4	Determination of similarities (single linkage method, proximity measure: the distance measure squared Euclidean distance, outlier/extreme value distance)
5	Selection of fusion algorithm (hierarchical method, agglomerative, Ward method)
6	Determination of the optimal cluster number (Elbow criterion)
7	Discriminant analysis
8	Mapping (QGIS 3.18.3.1)

Sources: Romesburg 2004: 115ff., Bacher et al. 2010, Backhaus et al. 2018: 494ff.

4 Results

This part presents the results of the cluster analysis (Section 4.1) and the mapping (Section 4.2).

4.1 Cluster Analysis

Table 5 displays the number of clusters and how they can be described concerning the clustered variables. In view of their description, each cluster was named to summarize the findings.

Figure 3 illustrates the share of MSC in each cluster. Clusters 2 (solid MSC) and 3 (ambivalent MSC) accounted for more than half of the cities. Clusters 1 (multiple opportunity MSC) and 5 (analogue MSC) were the smallest clusters regarding the number of cities. Cluster 1 was characterised by the largest cities, while cluster 5 consisted of the smallest cities (Tab. 6). Nevertheless, cluster 1 contained almost one-third of the cities with fewer than 100,000 inhabitants; the smallest city was Walldorf in Baden-Württemberg with 15,534 inhabitants. This reinforces the impression of MSC' diversity. In cluster 5, over one-third of the cities had fewer than 20,000 inhabitants; the largest city was Melle in Lower Saxony with 46,493 inhabitants. Clusters 4 (arrival MSC) and 6 (multiple challenge MSC) represented just over one-third of all MSC. The clusters show significant differences concerning immigrants on the labour market, but had the highest shares of 'AfD second votes' (Tab. 6).

Table 6 gives an overview of all clusters in terms of average or median values of the variables. In comparison to the third largest German city Munich (1,5 million inhabitants), the data of MSC differs mostly concerning business tax revenue (2,1 million Euro), 'unemployed foreigners' (44.39 %) and 'employed foreigners' (29.71 %). In terms of size (median and average number of inhabitants 2018), clusters 1 and 2 appear as the clusters with the largest of clustered cities. Interestingly, except for cluster 5, all other clusters included cities with fewer than 20,000 inhabitants as well as more than 100,000 inhabitants. This

Tab. 5: Cluster characteristics

Cluster No.	Description	***Cluster name = summary of immigrants' participation opportunities and challenges***
1	Large, young, wealthy, diverse	*Multiple opportunity MSC*
2	Medium-sized, solid, diverse	*Solid MSC*
3	Limited, neutral	*Ambivalent MSC*
4	Young, solid, hyper diverse, conflictual	*Arrival MSC*
5	Small, limited, analogue	*Analogue MSC*
6	Old, limited, hyper conflictual	*Multiple challenge MSC*

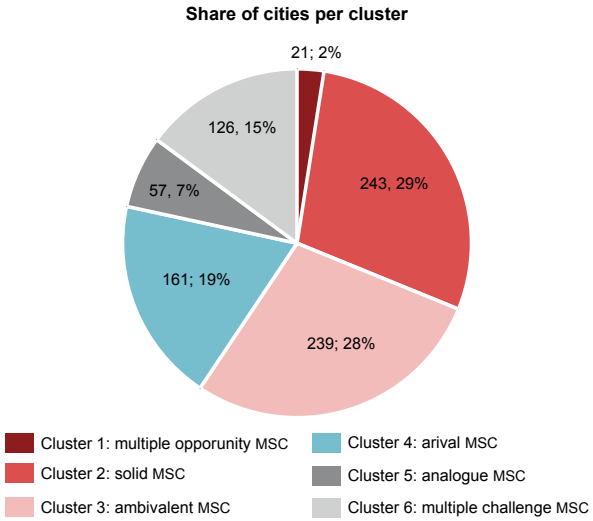


Fig. 3: Share of MSC per cluster (in total and percent)

indicates that MSC can hardly be defined in view of the 'number of inhabitants' in this study. For cluster 5, the variable 'broadband coverage' was the decisive factor, because broadband availability was only at risk in the smaller MSC below 50,000 inhabitants. This variable can, therefore, be used to determine a threshold for demarcating larger MSC. Nevertheless, cluster 5 also contained cities with more than 20,000 inhabitants, which means that it remains difficult to distinguish small towns from small MSC in quantitative terms.

Concerning the 'average age of the population' (Tab. 6), cluster 6 (multiple challenge MSC) included the cities with the oldest inhabitants with a significant gap to all other clusters. As stated in Section 3, this points to demographic change and emigration of young people. Clusters 1 (multiple opportunity MSC) and 4 (arrival MSC) contained the cities with the youngest inhabitants by a slight margin from clusters 2, 3, and 5. Given that the average age of the German population 2019 was 44.5 years (Federal Institute for Population Research 2019), one can expect that cities in clusters 1 and 2 benefit from immigration and higher birth rates as young fertile people settle here. Compared to that, the variable 'AfD second votes' showed similar outcomes for the clusters. Cities in cluster 6 (multiple challenge MSC) had by far the highest share of 'AfD second votes'. Cluster 1 (multiple opportunity MSC) had the lowest share of 'AfD second votes'. In contrast, cluster 4 (arrival MSC) presented the second highest share. According to Döring & Kurtenbach (2020), immigration often leads to prejudices against the supposed 'other, unknown'. This is not exclusively detectable in smaller cities, although larger MSC showed lower AfD vote shares than smaller MSC in the cluster analysis. Furthermore, the cluster analysis displayed lower shares of AfD votes in the Ruhr region. One can question whether immigration leads to decreasing immigration-related conflicts over time. This could be examined, for example, based on integration successes of foreigners in the Ruhr region since the 1960s. However, the discourse also shows that people who immigrated long ago and have experienced discrimination and racism in the host country, can sometimes be more critical towards 'new' immigrants themselves (Golova 2006, Scherr & Yüksel 2019). The variable 'business tax revenue' drew a reverse picture. The highest rate level by far held cities in cluster 1 (multiple opportunity MSC). As it was mentioned in Section 3, larger cities can usually demand higher business tax revenues, because they tend to be more attractive for businesses to settle, for example, in terms of business networks and work-life balance. Cities in clusters 5 (analogue MSC) and 6 (multiple challenge MSC) displayed the lowest rate levels. Compared to the results of the other variables, cities in cluster 6 probably hold a lower number of businesses and/or they generate less profit. In terms of 'average share of unemployed foreigners', three clusters took the front row: clusters 1 (multiple opportunity MSC), 2 (solid MSC) and 4 (arrival MSC). Cities in cluster 4 showed that, on average, almost 40 % of unemployed persons were foreigners. That means that cluster 4 had a high share of immigrants but also holds the potential for conflicts concerning immigrants' participation conditions in the labour market. Cities in cluster 6 (multiple challenge MSC) showed the lowest 'share of unemployed foreigners', which was probably due to the low share of immigrants. Concerning 'average broadband coverage', there was a large gap between cluster 5 (analogue MSC) and all other clusters. For most MSC, broadband coverage seemed to be a minor issue. Looking at the overall outcomes, clusters 1 and 6 seemed to offer the most contrary participation opportunities for immigrants which is probably due to socioeconomic contradictions as well as different immigration experiences. The best participation conditions probably offer cities in clusters 1 (multiple opportunity MSC), 2 (solid MSC) and 4 (arrival MSC). MSC in these clusters seemed to be economically solid. Looking at foreigners in the labour market, immigrants seemed to participate and the share of immigrants seemed to be relatively high. Societal challenges seemed to play a minor role in clusters 1 and 2, but cluster 4 indicated potential conflicts. Participation challenges for immigrants seemed to appear mostly in cities of the

Tab. 6: Overview of all variables' average or median values

Variable with average/median values / *cluster*	***1 Multiple opportunity MSC***	***2 Solid MSC***	***3 Ambivalent MSC***	***4 Arrival MSC***	***5 Analogue MSC***	***6 Multiple challenge MSC***
Median number of inhabitants 2018	160,355	35,047	26,011	27,435	22,456	24,329
Average number of inhabitants 2018	149,745	52,955	30,436	36,002	22,136	29,818
Average age of the population 2018 in years	42.8	44.4	45.6	43.4	44.6	48.0
Average proportion of valid AfD second votes, 2017 Federal Elections in %	8.83	11.66	9.62	13.81	10.35	24.04
Average business tax revenue 2015 in Euro	121,587	23,383	11,228	21,303	8,801	8,347
Average share of unemployed foreigners in the total number unemployed persons 2018 in %	32.31	30.2	23.65	38.39	24.03	10.78
Average share of employed foreigners covered by social insurance of the total number of employed persons covered by social insurance 2019 in %	14.66	12.95	8.42	20.85	8.99	4.61
Average broadband coverage, 50 mbit/s 2020 in %	98	96	93	96	68	88

clusters 3 (ambivalent MSC), 5 (analogue MSC) and 6 (multiple challenge MSC). These clusters were characterised by economic deficits but also weaknesses in terms of digitalisation and potential societal conflicts. In cluster 6, the share of immigrants seemed to be rather low but potential societal conflicts were the most pronounced among all MSC. To illustrate typical findings, a network diagram (Fig. 4) shows typical MSC of each cluster. Some cities illustrate how different they developed concerning some variables compared to other cities.

If, like in this study, more than 800 MSC "are divided into a few the result is correspondingly rough. Even within a cluster, there are still significant differences between the cities (…)" (Lüttich 2017: 7; translated from German by the author). Also referring to Glick Schiller & Çağlar (2011), cities develop differently according to global and regional impacts. For that reasons, Figure 5 focuses on non-typical cities that developed differently or more extreme than other cities in the same cluster.

For example, the city Walldorf is home to the globally operating software company SAP, which employs many highly qualified immigrants and therefore achieves high business tax revenues for a small MSC. The city Weißenfels in cluster 6 (multiple challenge MSC) had significantly higher shares of employed foreigners in contrast to other cities in the cluster. Weißenfels has region-wise a relatively high proportion of immigrants from for example Poland and Romania, due to the settlement of specific sectors in the food industry (Tönnies GmbH, butchering of animals and processing). Meanwhile, Weißenfels' share of valid 'AfD second votes' reached no more than the median value of this variable in cluster 6, at about 24 % (whereas Meißen in the same cluster had over 34 %, see Fig. 4). The same applies for Offenbach am Main in cluster 4 (arrival MSC). This city had a significantly higher share of employed foreigners than the city of Backnang in the same cluster (Fig. 4) and markedly lower 'AfD second votes'. This supports the idea that increasing immigration contributes to decreasing resentments, however, other studies lead to controversial results (Golova 2006, Weber 2015, Scherr & Yüksel 2019).

4.2 Mapping

In addition to the cluster analysis, a mapping helped to identify spatial patterns and locational peculiarities. Figure 6 shows a map of Germany's federal states, displaying all clusters. The ellipses of Figure 2 are included in Figure 6 to see how MSC

Fig. 4: Typical cities of each cluster. Note: Typical cities` inhabitants and associated federal states: Koblenz: 114,024 inhabitants, Rhineland-Palatinate; Frechen: 52,473 inh., North Rhine-Westphalia; Merzig: 29,745 inh., Saarland; Backnang: 37,253 inh., Baden-Württemberg; Westerstede: 22,778 inh., Lower Saxony; Meißen: 28,044 inh., Saxony.

emerged in rural areas. MSC within the ellipses mainly resemble. Comparing cities among the different ellipses reveals fundamental differences. This shows that rural areas did not necessarily develop the same way just because they were rural but because of their regional or local context.

Looking at the clusters assigned to offer better participation opportunities (1, 2 and 4), it strikes that the clusters have a higher share of large MSC than other clusters. Larger MSC in cluster 2 (solid MSC) are mainly located in the centre of Germany and further north; however, some offshoots also appear in Northern Bavaria. This shows that locality matters regarding immigrants' participation opportunities in terms of city size. Except the city-states Berlin, Hamburg and Bremen that are not mapped here there is at least one city of cluster 1 (multiple opportunity MSC) in every federal state of the former FRG but none in the former GDR. Looking at the clusters assigned to offer more participation challenges (3, 5 and 6), the high number of smaller MSC stands out. However, the total number of cities with better participation opportunities (424 cities) almost matches the total number of cities with participation challenges (422 cities). Cities in cluster 3 (ambivalent MSC) are well distributed across Germany, except in the former GDR, where there are only few, and in Saxony even none, cities in this cluster. Cluster 6 (multiple challenge MSC) is located almost exclusively in the area of the former GDR, with only four exceptions located in Bavaria (1), Lower Saxony (1) and Schleswig Holstein (2). However, almost all large MSC in the former GDR can be assigned to cluster 2 with Cottbus located in Brandenburg as the only exception being part of cluster 6. Similarly, cluster 4 (arrival MSC) centres and appears particularly in South Hesse, Baden-Württemberg and Bavaria.

Table 7 provides an overview of MSC per federal state and shows in which clusters they are distributed proportionally. On the one hand, this overview confirms the dominance of MSC in the former GDR in cluster 6 (multiple challenges MSC). On the other hand, new aspects emerged: Baden-Württemberg had the most cities both in its own state, and, in comparison with all other states in cluster 4 (arrival MSC). Rhineland-Palatinate had the most cities in percent in cluster 1 (multiple opportunity MSC) compared with all other federal states.

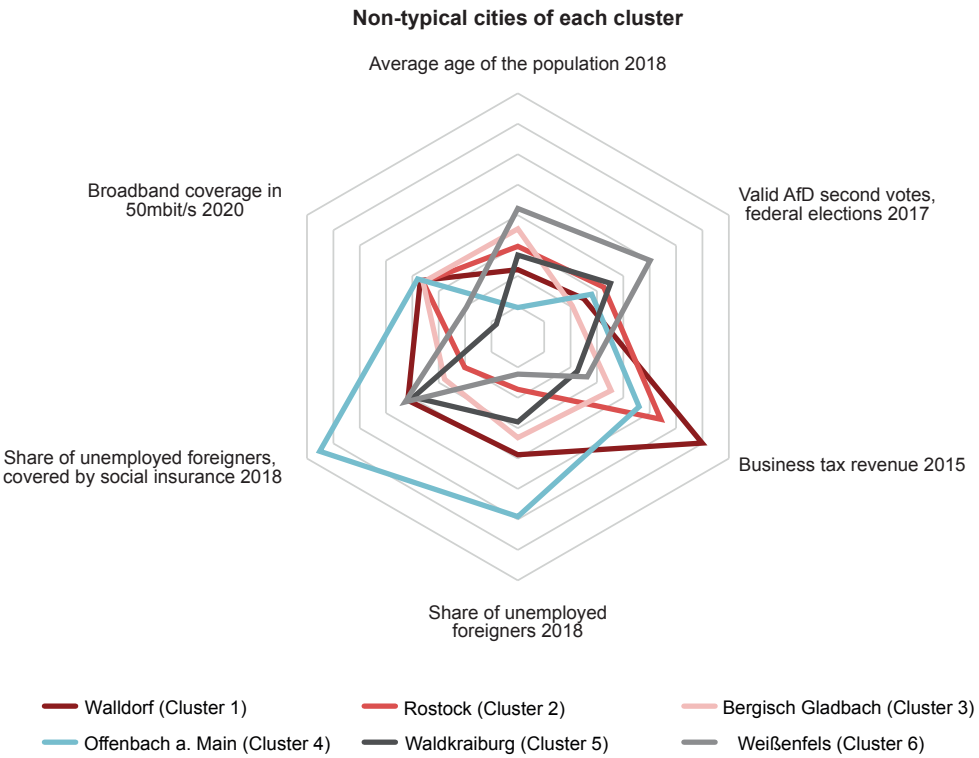


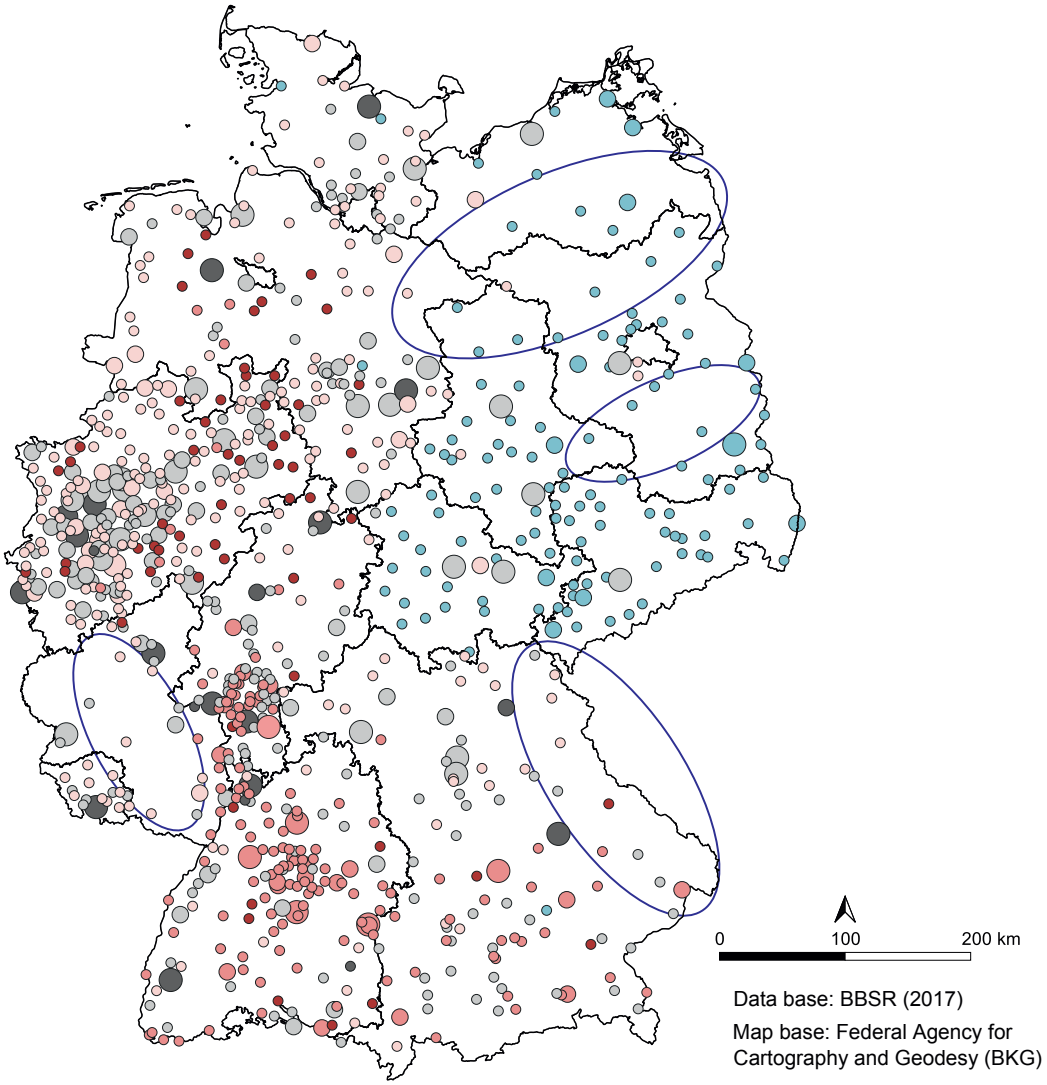
Fig. 5: Non-typical cities that developed extreme in at least one variable than other cities in the same cluster. Note: Non-typical cities` inhabitants and associated federal states: Walldorf: 15,534 inhabitants, Baden-Württemberg; Rostock: 208,886 inh., Mecklenburg-Western Pomerania; Bergisch Gladbach: 111,966 inh., North Rhine-Westphalia; Offenbach am Main: 128,744 inh., Hesse; Waldkraiburg: 23,442 inh., Bavaria; Weißenfels: 40,409 inh., Saxony-Anhalt.

There were some local peculiarities when it came to cities' cluster affiliation in the former GDR. Weimar (Thuringia), Quedlinburg (Saxony-Anhalt), Ludwigsfelde, Teltow and Wittenberge (Brandenburg), and Schwerin (Mecklenburg-Vorpommern) were the only cities apart from large MSC that did not affiliate in cluster 6 but cluster 3. However, they still possessed some challenges for immigrants' participation. In the former FRG, the four cities, Moosburg an der Isar (Bavaria), Burgdorf (Lower Saxony), Husum and Preetz (Schleswig-Holstein), belonged to cluster 6 and possessed multiple challenges and only Bergisch Gladbach (North Rhine-Westphalia), as a large medium-sized city, possessed some challenges, belonging to cluster 3.

5 Discussion and conclusion

The outcomes of the cluster analysis and the mapping are summarised in the following ten essential points:

1. Immigrants' participation opportunities are estimated best in cluster 1 (multiple opportunity MSC), 2 (solid MSC) and 4 (arrival MSC), whereas participation challenges are estimated most in cluster 3 (ambivalent MSC), 5 (analogue MSC) and 6 (multiple challenge MSC).
2. Cities in cluster 6 are almost only located in the former GDR;
3. The great majority of MSC in the former GDR are cities in cluster 6;
4. Large MSC (100,000-250,000 inhabitants) in the former GDR can be assigned to cluster 2 with only one exception, the city of Cottbus, which also appears in cluster 6;
5. Almost all large MSC occur in clusters 1 and 2. They appear in all clusters except cluster 5;
6. Correlations in terms of cluster assignment between larger, contiguous rural areas are hardly noticeable. MSC there assign to other clusters which reinforces the assumption that the regional/local correlation is stronger than the connection between different rural areas;
7. Cluster 4 mainly appears in South Germany (Baden-Württemberg, Bavaria, South Hesse), offering better participation opportunities, revealing potential societal conflicts (AfD votes);



MSC with 15,000-250,000 inhabitants [847 cities]

- Cluster 1: multiple opportunity MSC [4 cities]
- [2 cities]
- [15 cities]
- Cluster 2: solid MSC [156 cities]
- [56 cities]
- [31 cities]
- Cluster 5: analogue MSC [57 cities]
- Federal states
- Cluster 3: ambivalent MSC [215 cities]
- [23 cities]
- [1 city]
- Cluster 4: arrival MSC [136 cities]
- [19 cities]
- [6 cities]
- Cluster 6: multiple challenge MSC [115 cities]
- [10 cities]
- [1 city]

Fig. 6: Spatial-structural conditions of immigrants' participation opportunities in medium-sized German cities – spatial distribution of all clusters

Tab. 7: MSC per federal state per cluster in percent and total (federal states of the former GDR are marked grey)

No.	MSC per federal state per cluster (percent)	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Cluster 6	Number of MSC (total)
1	North Rhine-Westphalia	2.28 %	31.96 %	50.23 %	1.83 %	13.7 %	0	219
2	Baden-Württemberg	3.05 %	20.61 %	8.4 %	62.6 %	5.34 %	0	131
3	Bavaria	1.96 %	42.16 %	20.59 %	31.37 %	2.94 %	0.98 %	102
4	Lower Saxony	2.13 %	29.79 %	52.13 %	3.19 %	11.7 %	1.06 %	94
5	Hesse	3.45 %	42.53 %	9.2 %	39.08 %	5.75 %	0	87
6	Saxony	0	2.63 %	0	0	0	97.37 %	38
7	Brandenburg	0	3.13 %	9.38 %	0	0	87.5 %	32
8	Rhineland-Palatinate	9.68 %	38.71 %	29.03 %	19.35 %	3.23 %	0	31
9	Schleswig-Holstein	3.23 %	38.71 %	51.61 %	0	0	6.45 %	31
10	Saxony-Anhalt	0	6.9 %	3.45 %	0	0	89.66 %	29
11	Thuringia	0	11.54 %	3.85 %	0	0	84.62 %	26
12	Saarland	6.67 %	33.33 %	60 %	0	0	0	15
13	Mecklenburg-Western Pomerania	0	9.09 %	9.09 %	0	0	81.82 %	11
14	Bremen (Bremerhaven)	0	100	0	0	0	0	1
								847

8. City size matters (not only), regarding MSC. This expresses through large MSC mostly appearing in clusters that offer better opportunities for immigrants' participation;
9. Region matters. The mapping reveals disparities between the former FRG and GDR, but also peculiarities of certain federal states (analogue cities mainly in North-Rhine Palatinate and Lower Saxony; agglomeration regions as participation 'belts' between Ruhr region and Hanover and between Frankfurt am Main and Stuttgart);
10. Location and global context matter: every cluster and almost every federal state contain non-typical cities that develop extremely in at least one of the variables compared to other cities of the assigned cluster. In some of the cases, this is due to company settlements that attract immigrants and support their economic participation.

In the following, I discuss the results in view to my hypotheses in the study:

- *Hypothesis 1:* Significant spatial disparities between MSC in the former FRG and GDR.

When looking at the socioeconomic data, the regional disparities between the former FRG and GDR are still of great importance, also when adding immigration data. At first glance, the former GDR, in contrast to the former FRG, develops almost uniformly. The methods could not show it, but the heavily controlled and restrictive immigration of 'contract workers' in the former GDR caused the cities there to catch up in dealing with international immigration and structural integration measures (Glorius 2020). Post-transition experiences, such as deteriorating transport connectivity and economic decline, can be summarized as economic and social deprivation experiences that "already challenge the resident population" (Khalafyan 2018; Integration coordinator of Stendal district at the symposium '(New) Immigration Moves - Social Cohesion in Urban Society', 10/12/2018; translated from German by the author). This explains, at least in part, a critical attitude towards and acceptance of immigration. However, the idea of decreasing resentments with increasing immigration is discussed controversially by existing surveys (Weber 2015, Scherr & Yüksel 2019). This show the results for cluster 4, the arrival MSC, that on the one hand offer good structural conditions for societal participa-

tion but on the other hand disclose potential conflicts that can be assumed through relatively high shares of AfD votes in this study. The focus on East German specifics regarding immigration cannot hide the fact that there are challenges for the participation opportunities of immigrants in all German federal states (Kogan 2011, Mullis 2021).

- *Hypothesis 2:* According to Kogan (2011), further regional differences illustrate different local participation opportunities and barriers and according to Fink et al. (2019: 4) rural areas are likely to have poorer participation opportunities.

Historically, there are typical immigration regions in Germany that, as expected, have a high number of immigrants due to the settlement of guest workers and are correspondingly 'prepared' for immigration. The two participation 'belts' are located between the Ruhr region and Hanover and between Frankfurt am Main in Hesse and Stuttgart in Baden-Württemberg. However, differences can also be found here. The Ruhr region, which recruited immigrants for the massive mining of coal and ore, especially in the 1950s and 1960s, shows differences in terms of participation opportunities in MSC, which can be observed in particular in the cities' sizes. Thus, participation opportunities in larger MSC can be assessed as better than in smaller MSC. In the region between Frankfurt am Main and Stuttgart, on the other hand, the participation opportunities can be estimated as good, regardless of the city size of the MSC. In this region, even small MSC offer good structural conditions for the societal participation of immigrants. I assume that this is due in particular to the economic situation in Baden-Württemberg, especially the strong SME sector even in smaller MSC, offering good participation opportunities. However, high AfD vote-shares also reveal potential societal conflicts in the 'arrival' belt (Mullis 2021). The density of MSC is not necessarily decisive for the assessment of participation opportunities, although the map (see ellipses) shows that rural areas offer slightly worse participation conditions than dense regions. But in the former FRG this is mainly true because federal states like Saarland or Rhineland-Palatinate barely contain any larger MSC, which are more common in other regions and generally offer better participation conditions.

- *Hypothesis 3:* Following Barlösius & Neu (2008) but also Glick Schiller & Çağlar (2011) local differences even within the former GDR will emerge.

The analysis shows that local peculiarities remain, especially when looking at non-typical MSC of each cluster (Fig. 5). Therefore, it is recommended to apply further cluster analyses and mappings. One opportunity is to solely look at MSC in the former GDR, another one is to add qualitative methods. This can be helpful to reveal more differences within the regions (Fröhlich & Liebmann 2009). For example, clustering East German MSC may reveal more diversity, such as between MSC in agglomeration spaces or rural areas but also within administrative boundaries. A closer interpretation would certainly show how disconnected most old industrial MSC still are, even in the East German context. When it comes to the East German context, there are increasing scholarly studies that (re)focus on this space (Foroutan et al. 2019; Glorius 2020). Scientific activities such as an open working group on specifics of East German urban and migration development show how previously neglected topics are discussed in an East German-specific way (VGDH 2022).

Opportunities and limitations of the cluster analysis become visible. Focussing on immigrants in the labour market helps on the one hand to indicate the role of immigration played in different regions. On the other hand, no distinction can be drawn according to the origin of immigrants (EU migrants, origin of refugees). This could have possibly explained the reference to existing social or ethnic networks and thus the subsequent immigration to already 'known' regions. It would also confirm that it is not necessarily purely economic reasons for migration, although this plays a considerable role and can be a door opener for other areas of societal participation (Valtonen 1999, Van Dijk 2004). In addition, there is no municipal data on qualification (highly-skilled) or differentiation of age groups by origin, which would help to describe potentials for the regions. Contributing to spatial-structural framework conditions as 'resources' to pursue immigrants' participation opportunities in this study cannot solely explain the concept of societal participation but it illustrates important aspects of it (Schnurr 2018, Bartelheimer et al. 2020). The interpretation of the results against the theoretical background of societal participation allows the conclusion that poorer framework conditions for societal participation do not necessarily reduce chances to participate for individuals, but very much increase the probability of doing so. The individual's quality of life in a city that offers poorer framework conditions can still be high, for example due to their local social network (Sen & Nussbaum 1993). It is

emphasized that this analysis offers a framework for assessing the societal participation opportunities of immigrants. Therefore, further studies on the basis of the analysed data should be conducted that focus on the local and individual level (Logan 2012: 521, Schmidt-Lauber 2010b). Additionally, further observation of the data would be promising, since dynamic variables were left out in this study. Especially in terms of 'AfD second votes' in the 2021 Federal Elections that were not under the influence of the refugee reception crisis, an interpretation of the data would be interesting. How these findings can be compared on a European or international level still remains uncertain. Perhaps it is more a matter of getting used to the fact that MSC cannot be universally compared in quantitative terms, but also of not neglecting any city that will potentially have to deal in more depth with the issue of immigration in the future.

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