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The impact of demographics on the German retail market

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IW-Report 6/2018

The Impact of Demographics on the German Retail Market

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Köln, February 2018

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Summary

In recent years, net migration reached a new peak in Germany. Between 2011 and 2015, net migration amounted to more than 2.7 million people. This influx of people has had an impact on society, on the economy in general, and on most businesses. In this study, the impact on retail property markets is analysed. In order to do so, the net migration to cities in Germany is transformed into a retail consumption potential. By combining statistics on migration, the socio-economic panel and the micro-census, increases of retail consumption for all cities with more than 100,000 inhabitants could be derived.

As it turns out, all cities benefitted from migration. However, besides the biggest cities such as Munich, Berlin or Frankfurt, mid-size cities like Trier, Potsdam or Fürth also gained considerably. Naturally, in this study, only a consumption potential could be derived, since purchases could also be made online, for example. Nonetheless, most goods were purchased locally, thus significantly boosting the attractiveness of retail properties. Given the results of the study, investors are well advised to broaden their investment scope to include cities such as Fürth, Trier or Potsdam, to name but a few.

1 Introduction

Until 2010, net migration to Germany was very low. In 2008 and 2009, net migration was actually negative, i.e. the number of emigrants outnumbered the number of immigrants. However, the situation has since changed dramatically. Between 2011 and 2015, net immigration totalled 2.768 million people, which roughly equals the number of inhabitants in Munich and Hamburg combined. Only a small part of the net migration is made up of refugees, most immigrants came to Germany because of job opportunities and for educational reasons (Geis et al., 2016). The majority of immigrants came from Eastern Europe.

In addition to international net migration, Germany also experienced a strong domestic migration. More and more young households left small cities and rural regions to move to university towns and big cities (Deschermeier et al., 2016). Analogous to foreign immigrants, younger German households want to study and want to get a better job in the big cities. Furthermore, bigger cities promise better transport and cultural infrastructures, as well as a better social life (Voigtländer, 2017).

As a result, the demographic composition within Germany changed considerably in the past few years. Big cities such as Berlin and Hamburg, as well as university towns with an established reputation, gained population, while other regions stagnated or even lost population. This development had an impact on tax revenues, on the housing market, on the labour market, and on the economy in general. Most of these aspects have been studied in great detail – the retail market, however, has been overlooked.

On the whole, the retail market is under pressure. Online retailers such as Amazon or Zalando are gaining a growing share of the market, making it difficult for local retailers to make a profit (Feld et al., 2017). Nevertheless, migration increases local consumption potential in German cities, increasing the market's appeal for investors. Although online retailers are gaining importance, most consumption is still local. More than 93 percent of consumers prefer to purchase food locally, and even clothes are predominantly bought in local stores (Boniversum Consumer Information/bevh, 2018). The aim of this study is to measure the impact on consumption due to migration between 2011 and 2015, for all German cities with over 100,000 inhabitants. Consumption has a positive impact on retail revenues, which are positively related to retail rents. Thus, increasing consumption is the main driver for higher yields in the retail property market (Benjamin et al., 1990).

As it turns out, not only did big cities such as Berlin and Munich gain from migration, but mid-size cities like Potsdam, Offenbach and Regensburg benefitted in particular. Therefore, inves-

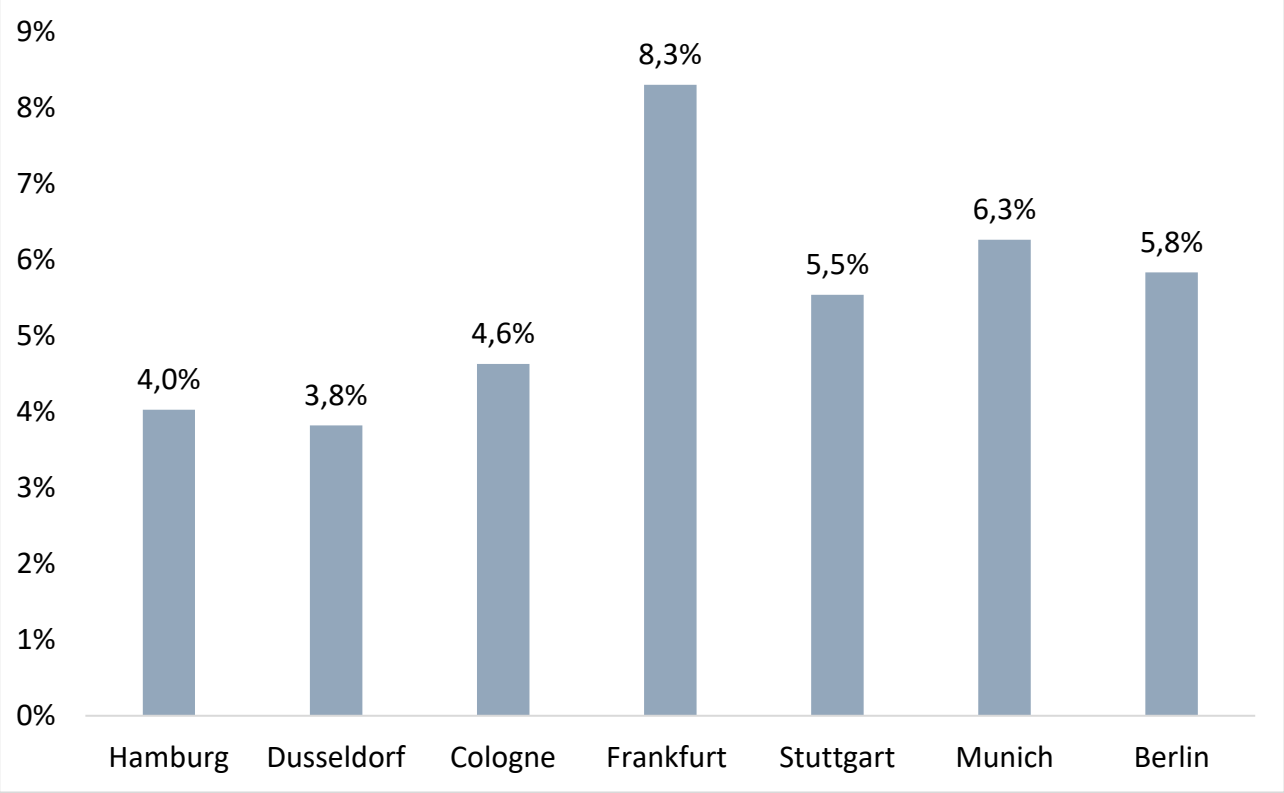
tors are well advised to take into account a large sample of German cities if they plan to invest in German retail markets.

2 Demographic Development in Germany

In the Noughties, negative population growth was a major issue for German society (Sinn, 2009). With low fertility rates and a decreasing net migration to Germany, a constantly decreasing population seemed inevitable. With a slight recovery in fertility rates and an increase in net migration in particular, the situation has changed significantly (Deschermeier, 2017). While in 2011 about 80.3 million people lived in Germany, this figure rose to 82.2 million at the end of 2015. According to the most recent data for Germany, the country's population totalled 82.5 million at the end of 2016 (Statistisches Bundesamt, 2018). Thus, its population increased by more than 2 million people, or 2.7 percent, in the past 5 years.

Figure 1: Population Growth of Major German Cities

Change in population between 2011 and 2015 in percent



Source: Federal Statistical Office, 2016

With regards to the big cities, the situation is even more striking. The population of Berlin, Munich and Stuttgart increased by more than 5 percent between 2011 and 2015, and in Frank-

furt the increase exceeded 8 percent (Figure 1). This has put a lot of pressure on housing markets (Voigtländer, 2017), but also on commercial real estate markets (Just et al., 2017).

Unfortunately, the demographic data available for cities only covers until the end of 2015. However, recent demographic forecasts by Deschermeier (Deschermeier, 2016) predict that cities such as Munich, Berlin or Frankfurt will grow by more than 10 percent by 2035. The pace of growth will be weaker, but big cities will attract more and more people. The reasons are varied, but one key factor is the clustering of businesses. Knowledge-based industries such as IT, biotechnology and auditing gain particularly from a larger pool of workers and enterprises because of spillover effects (Krugman, 1991). Clusters, however, are typically established in cities. As more and more productivity gains stem from knowledge-based industries, and as their well-paid workers also raise demand for other services and goods, cities gain further workplaces and attract more households (Moretti, 2013).

3 Methodological Remarks

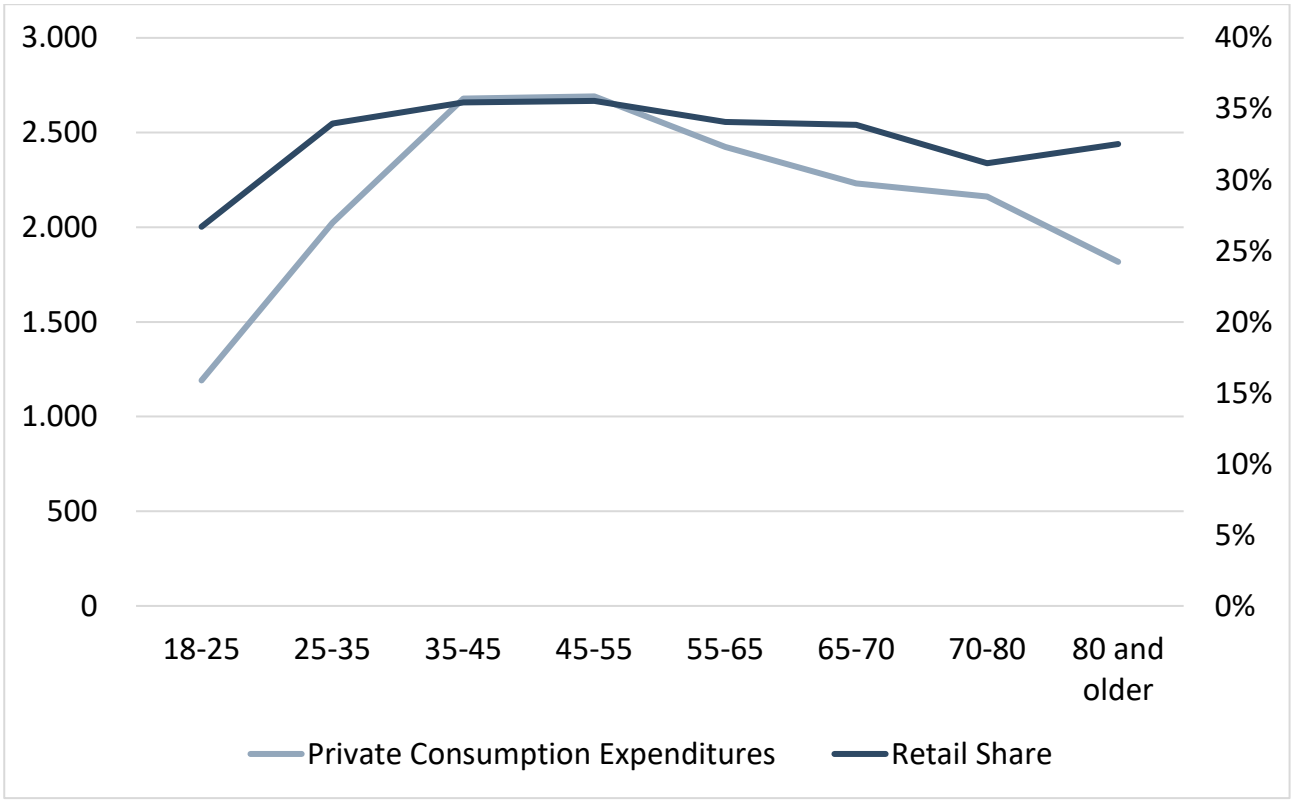
Various steps are involved in deriving the impact of population change on consumption and thus on retail markets. After calculating the total change in population from 2011 to 2015 in a first step, we then need to translate the number of persons into a number of households. Data on consumption profiles is solely available at the household level, and households display a different consumption profile compared to individuals. For example, multi-person households achieve economies of scale in comparison to individuals, such that expenses of a three-person household are lower than three single-person households.

In order to translate the number of persons into households, we derive the number of additional persons per city and per age group and link it to data from the Socio-economic Panel (SOEP v33), a regular survey on German households. Based on the SOEP we can derive the share of one-, two-, three-person and larger households per age group. With this pattern, we can allocate individuals of different ages to households. For instance, younger and older individuals typically live in a single- or two-person household, while middle-age individuals typically live in larger households.

In a next step, we combine the number of households per age group (using the age of the head of household as a basis) with the age-dependent consumption profile provided by the micro-census. The micro-census is a detailed analysis of consumption, employment and other socio-economic aspects involving one percent of the population. Figure 2 illustrates the age-dependent consumption profile. As we are particularly interested in the effects on the retail market, we also display consumption excluding services.

Figure 2: Age-Dependent Consumption Expenditure of German Households

Age based on age of head of household



Source: Federal Statistical Office, 2015

By combining the consumption profile and the number of households per age group, we obtain the consumption potential for each city. However, consumption expenditure differs between cities given that income levels differ. Usually, employees in Munich achieve higher salaries than their counterparts in Görlitz. Therefore, we have adjusted the derived values with disposable income statistics provided by the Federal Statistical Office. However, as housing accounts for a significant share of consumption, i.e. roughly 30 percent (Statistisches Bundesamt, 2018), we adjusted the disposable income for differences in housing costs. Data for housing was provided by F+B, a market researcher.

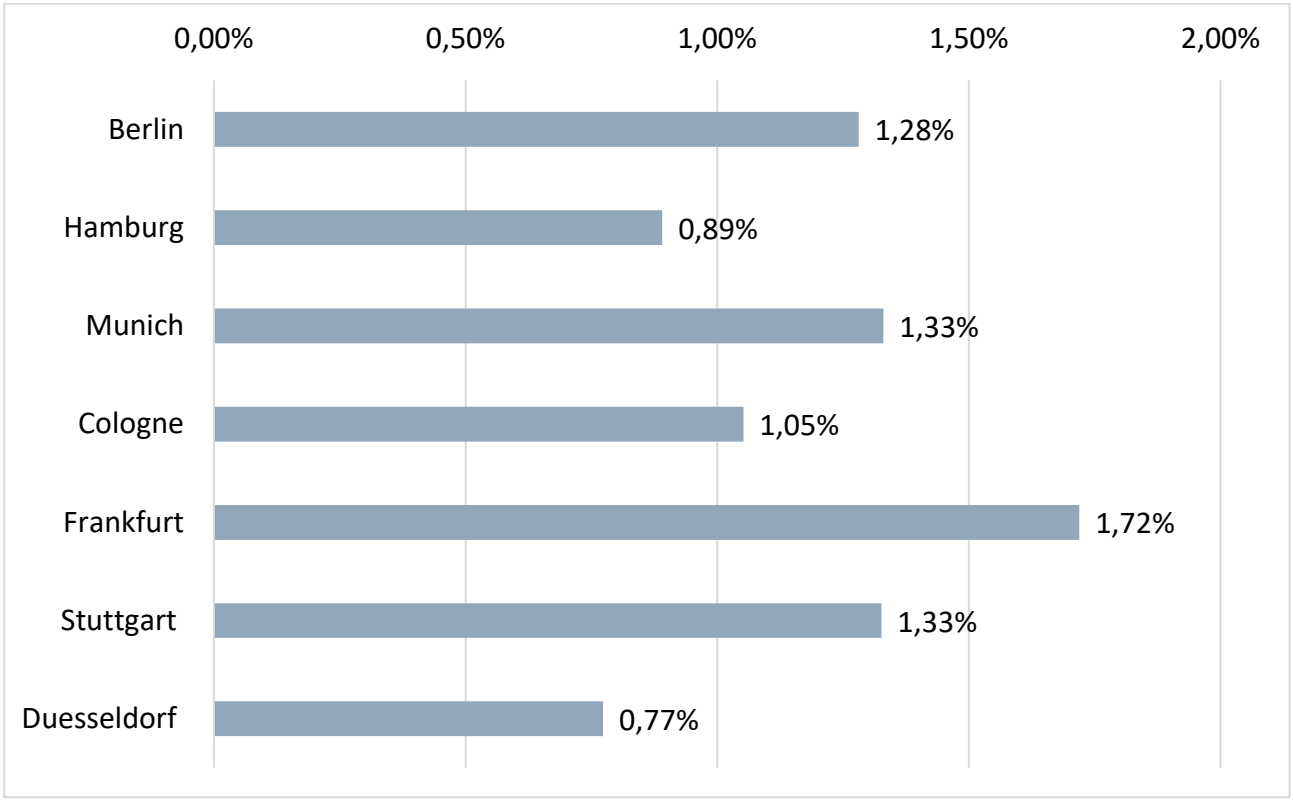
The derived figures reflect the potential extra consumption for local retail goods as a result of demographic changes in the respective city. Of course, it is uncertain whether or not consumption really increases proportionally for local goods. For instance, a larger share of consumption potential might be absorbed by online retailers, by services or by retailers located in other cities or smaller municipalities. Nevertheless, since this method measures the consumption of households that recently moved to the city, it is plausible to assume that their consumption pattern resembles that of other households in the city. Therefore, the assumption of proportionally increasing consumption for retail goods seems to be justified.

4 Results

All of Germany's biggest cities could have increased their consumption potential considerably over the past few years. In relation to total consumption potential, consumption increased from between 0.77 percent in Dusseldorf and 1.72 percent in Frankfurt due to net migration (Figure 3). In comparison to the population increase, the surplus in consumption is lower, as mainly younger households with less income moved to the cities. Nevertheless, even with regard to Dusseldorf, the 0.77 percent increase translates into additional consumption of retail goods of 80.9 million Euro annually. Due to its absolute size, Berlin exhibits by far the largest growth in consumption potential, with 610.5 million Euro annually. The absolute growth in consumption potential equals a 1.28 percent growth in relative terms.

Figure 3: Demography-Related Growth of Retail Consumption Potential in Major German Cities

Growth rates are related to the total disposable income and its respective share for consumption

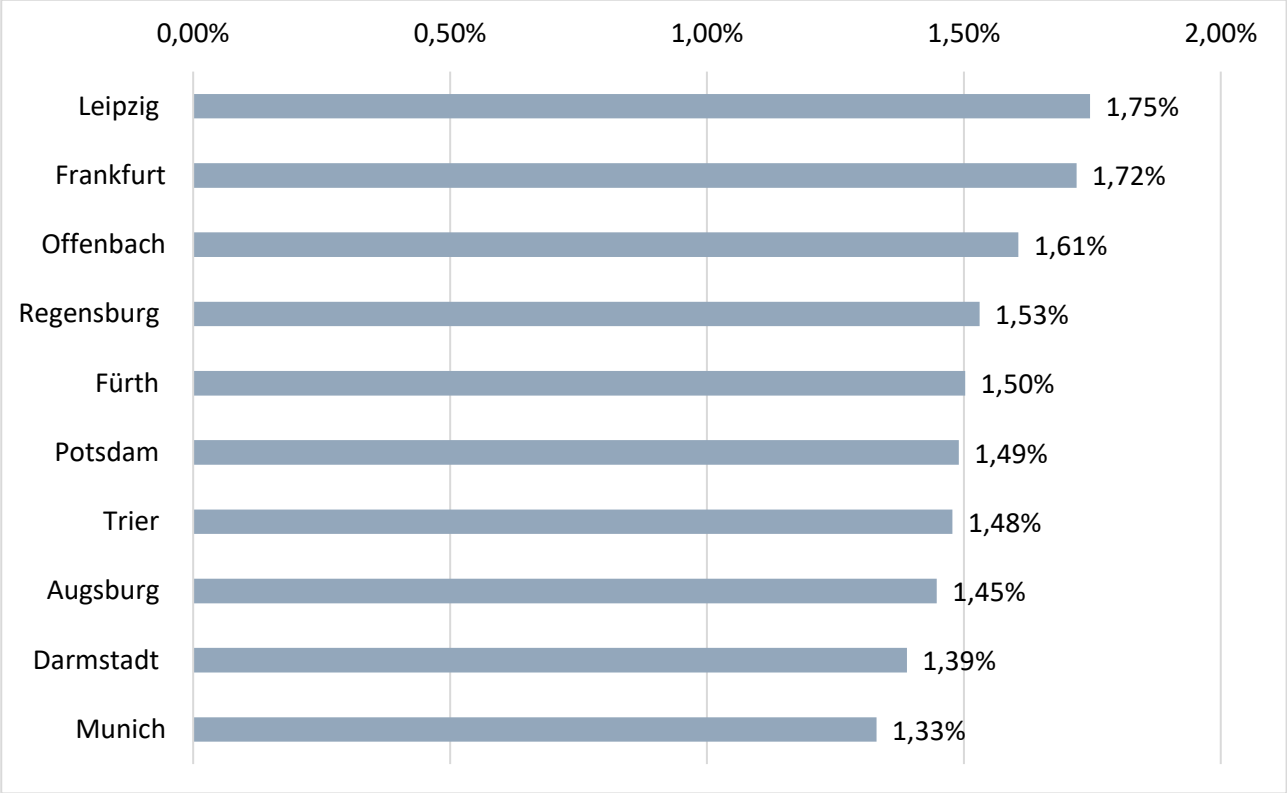


Source: German Economic Institute, 2018

Although Frankfurt's gain is remarkable, the German banking capital is ranked only second overall. Leipzig gained even more consumption potential for retail goods, with an increase of 1.75 percent. This equals additional consumption of 125.3 million Euro per year. In third place is Offenbach, followed by Regensburg, Fürth, and Potsdam. In the top ten, one can also find Trier, Augsburg, and Darmstadt (Figure 4).

Figure 4: German Cities with Largest Demography-Related Growth of Retail Consumption Potential

Growth rates are related to the total disposable income and its respective share for consumption

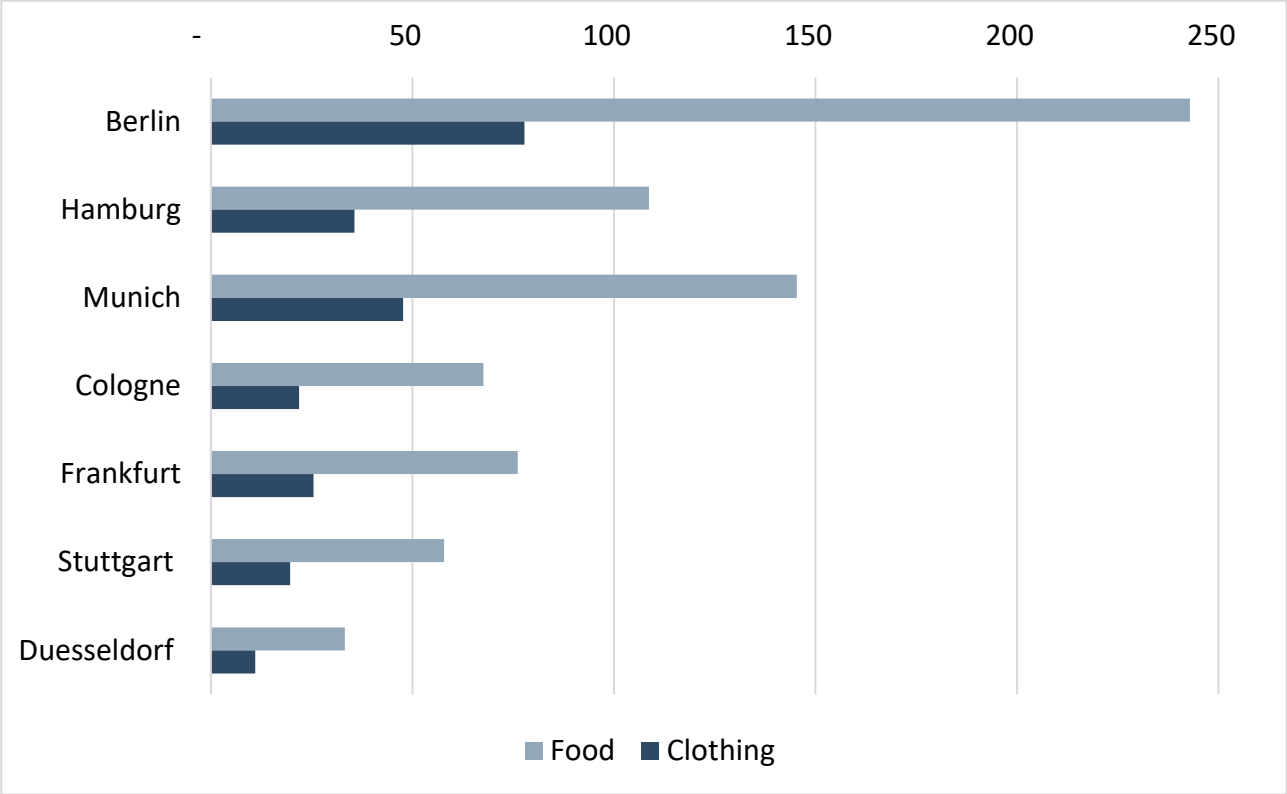


Source: German Economic Institute, 2018

Hence, the top ten is dominated by mid-sized cities, often in the backyard of big cities. For example, Offenbach and Darmstadt are close to Frankfurt, Augsburg is next to Munich, and Potsdam is in the vicinity of Berlin. As housing costs have soared remarkably in big cities, closely connected places such as Offenbach or Potsdam were able to attract inhabitants by offering a good infrastructure and especially a good public transport system, enabling cheap and fast commuting to the big cities. At the bottom of the ranking, we find Remscheid, Hagen, Bochum and other cities located in or close to the Ruhr area. Hit hard on a structural level by slashes in coal mining, leading to more unemployment and underfinanced municipalities, these cities attracted fewer migrants compared to other cities in recent years. Nonetheless, even in these cities the consumption potential increased. The results for all cities can be found in the Appendix.

Figure 5: Absolute Demography-Related Growth in Retail Consumption Potential for Food and Clothing of Major German Cities

Absolute Growth presented in Millions of Euros



Source: German Economic Institute, 2018

As shops for food and clothing are prevalent in German inner Cities, the development in these segments is of special interest to retail developers. Of their total private consumption expenditure, households spend about 18.3 percent exclusively on food and clothing. Owing to the sheer size of the city, Berlin has the largest growth in retail consumption potential in both categories (Figure 5). The influx of people to the German capital resulted in additional clothing consumption potential of 77.8 million Euro annually. Even though the total population of Munich is considerably smaller than that of Hamburg, its development in terms of population has brought an additional consumption potential for both categories of 193.1 million Euro per year to the Bavarian capital. The total breaks down into 145.7 million Euro for food and 47.7 million Euro for clothing. Leipzig, as well as smaller cities such as Offenbach, Potsdam, or Augsburg, which are in close proximity to metropolitan areas, made gains in consumption potential for food and clothing comparable to the gains made by Munich. In total, the smaller cities boosted their consumption potential in the respective categories by 195.7 million Euro annually. For detailed results, see Figure 6 in the Appendix.

5 Conclusion

The strong net migration in recent years has had an enormous impact on German real estate markets. Obviously, housing demand increased, but office demand also rose as the labour force grew. As this brief study points out, retail markets benefitted as well. Of course, retail markets are under pressure as consumption shifts to online retailers, whose market share is constantly growing. Nevertheless, most purchases are still local, especially for everyday commodities, but also for clothes and toys. Consequently, consumption potential in all bigger cities in Germany increased. Besides the top 7 cities, mid-sized cities in particular experienced a major increase. In Leipzig, consumption potential for retail goods increased by 1.75 percent. In cities such as Trier, Fürth or Potsdam, the increase amounted to more than 1.4 percent. In absolute terms, this translates into an increase of expenditure on food of more than 10 million Euro per year in Trier, 13 million Euro in Potsdam, 23 million Euro in Augsburg, and 50 million Euro in Leipzig.

These figures are valuable for investors in the retail market as this market is typically non-transparent and characterised by a lack of data on retail property. Unfortunately, demographic data at municipality level is outdated and currently only covers until the end of 2015. On the other hand, demographic developments usually do not exhibit a high degree of volatility. As it was outlined, migration to cities has structural causes, making it probable that, in general, all bigger cities and mid-size cities will gain further inhabitants. Therefore, it is plausible to assume that the results also reflect the current development in retail demand.

Thus, investors are well advised to broaden their investment scope. It was not only German metropolises such as Berlin, Frankfurt and Munich that benefitted from migration, but internationally not-so-well-known cities like Potsdam, Trier and Fürth are also top-ranked. In these cities, rental prices for retail property is often lower, but as retail demand has increased strongly, future rent increases might be higher than in bigger cities such as Dusseldorf.

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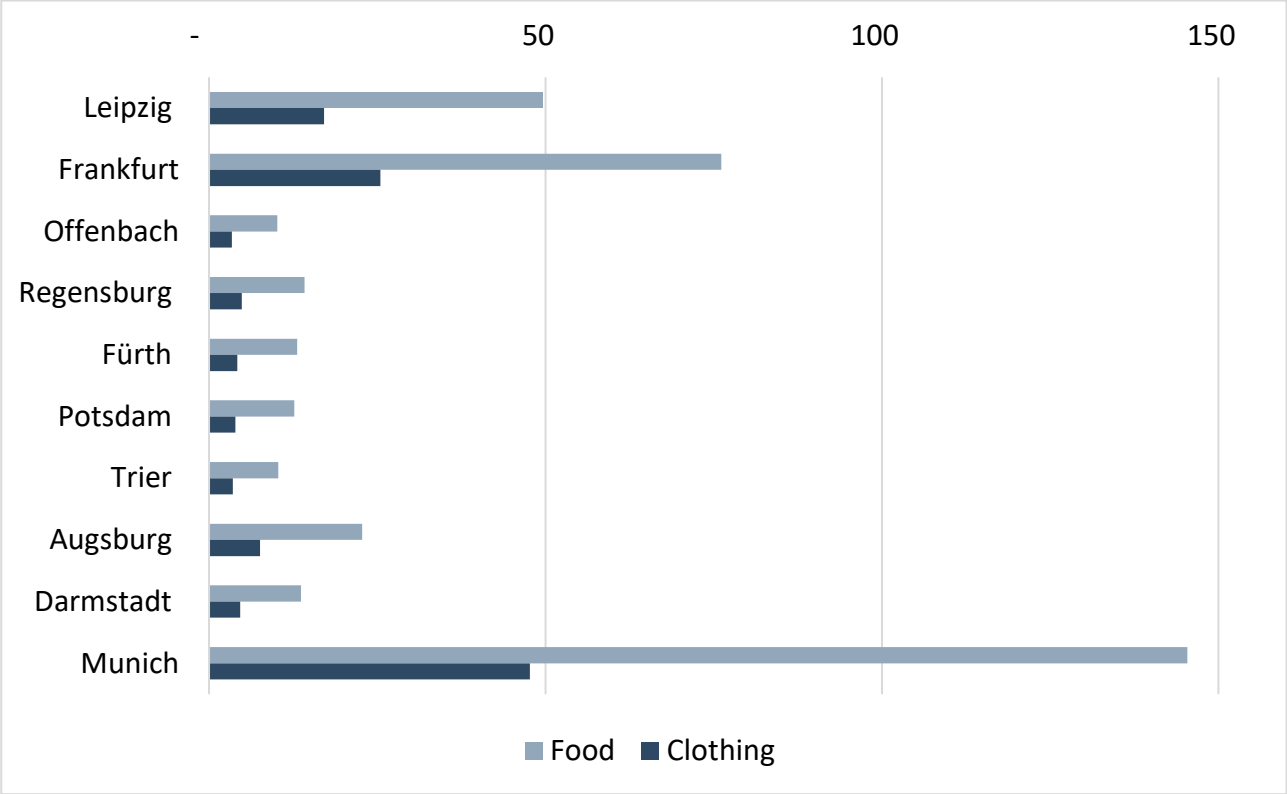
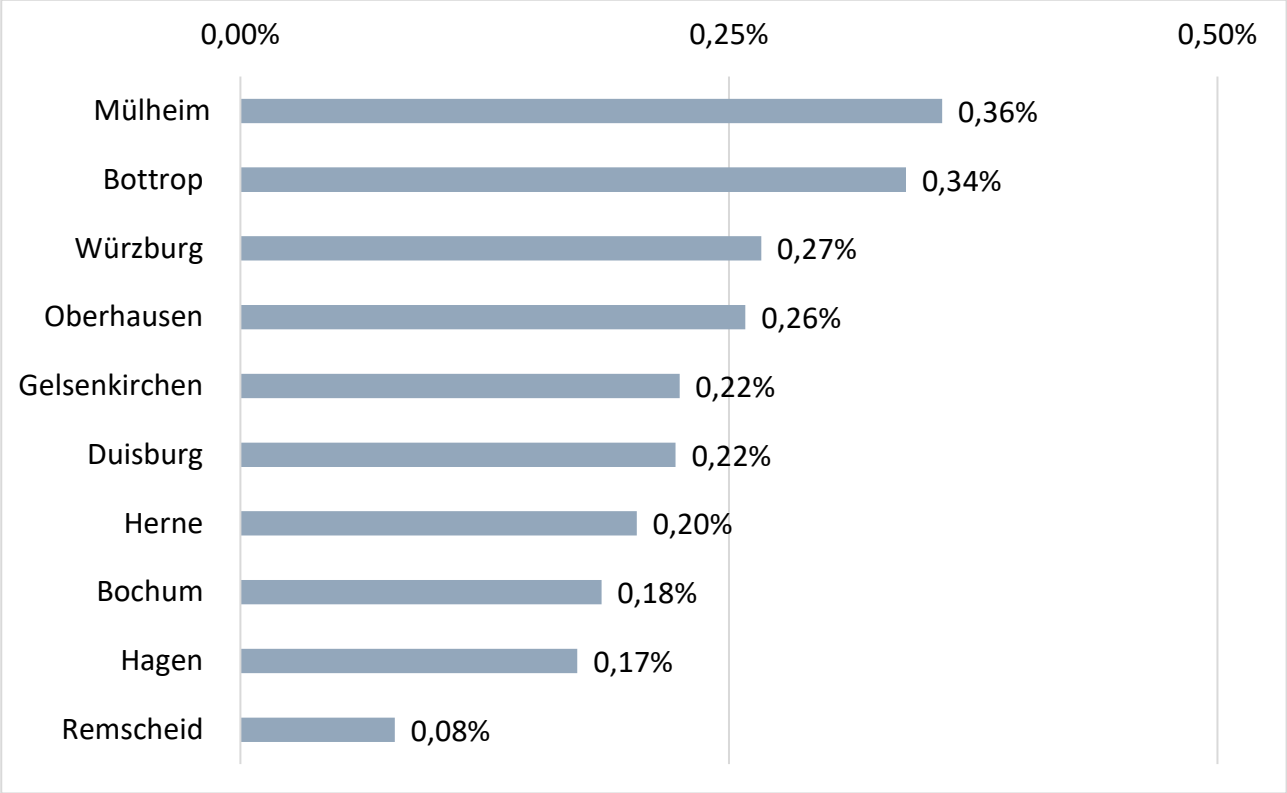
Figure 6: German Cities with Largest Absolute Demography-Related Growth in Retail Consumption Potential for Food and Clothing



Source: German Economic Institute, 2018

Figure 7: German Cities with Lowest Demography-Related Growth of Retail Consumption Potential

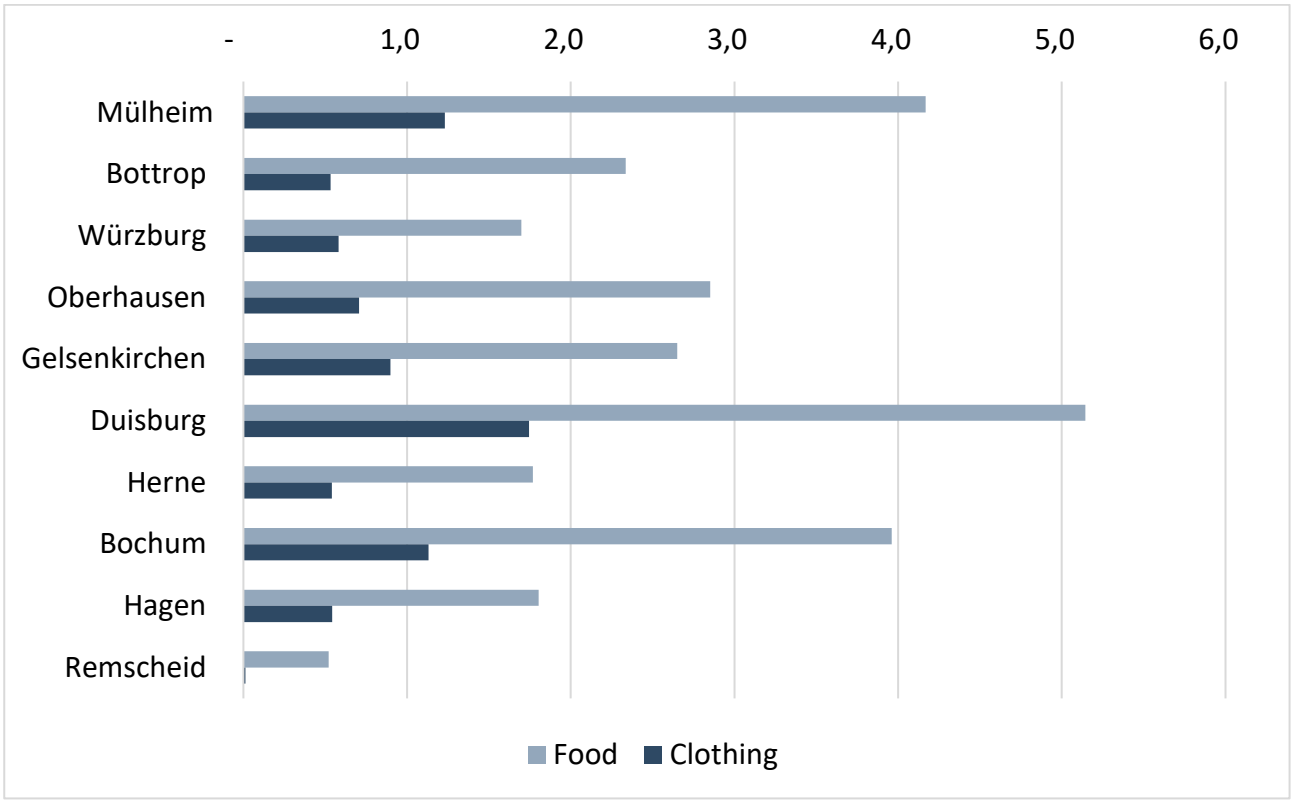
Growth rates are related to the total disposable income and its respective share for consumption



Source: German Economic Institute, 2018

Figure 8: German Cities with Lowest Absolute Demography-Related Growth in Retail Consumption Potential for Food and Clothing

Absolute Growth presented in Millions of Euros



Source: German Economic Institute, 2018

Table 1: Demography-Related Growth in Retail Consumption Potential for German Cities

Table includes cities with more than 100,000 inhabitants; Absolute Values are presented in Millions of Euros annually

City-Code	City	Total Consumption Growth	Food Consumption Growth	Clothing Consumption Growth	Relative Consumption Growth
Schleswig-Holstein					
01002	Kiel	30.0	12.2	3.9	0.91%
01003	Lübeck	21.2	8.7	2.7	0.72%
Hamburg					
02000	Hamburg	268.3	108.7	35.6	0.89%
Niedersachsen					
03101	Braunschweig	29.2	12.0	4.0	0.80%
03102	Salzgitter	7.8	3.3	1.1	0.55%
03103	Wolfsburg	11.9	4.5	1.6	0.58%
03152	Göttingen	29.5	12.4	3.7	0.80%
03403	Oldenburg	24.6	10.2	3.1	1.09%
03404	Osnabrück	25.2	10.9	3.7	1.06%
Bremen					
04011	Bremen	50.5	20.2	6.2	0.62%
04012	Bremerhaven	13.4	5.5	1.8	0.95%
Nordrhein-Westfalen					
05111	Düsseldorf	80.9	33.2	11.0	0.77%
05112	Duisburg	13.6	5.1	1.7	0.22%
05113	Essen	53.3	21.9	7.4	0.63%
05114	Krefeld	16.3	6.8	2.0	0.48%
05116	Mönchengladbach	25.8	10.5	3.2	0.66%
05117	Mülheim an der Ruhr	10.1	4.2	1.2	0.36%
05119	Oberhausen	7.3	2.9	0.7	0.26%
05120	Remscheid	1.4	0.5	0.0	0.08%
05122	Solingen	18.0	7.4	2.3	0.66%
05124	Wuppertal	27.3	11.1	3.6	0.51%
05314	Bonn	40.4	17.2	5.2	0.79%
05315	Cologne	164.1	67.6	21.9	1.05%
05316	Leverkusen	14.3	5.8	1.8	0.58%
05512	Bottrop	5.8	2.3	0.5	0.34%
05513	Gelsenkirchen	7.2	2.7	0.9	0.22%
05515	Münster	63.7	26.7	8.6	1.28%
05711	Bielefeld	25.8	10.4	3.3	0.49%
05911	Bochum	9.7	4.0	1.1	0.18%
05913	Dortmund	45.6	18.9	6.1	0.58%
05914	Hagen	4.8	1.8	0.5	0.17%
05915	Hamm	12.3	5.1	1.5	0.52%

City-Code	City	Consumption Growth	Food Consumption Growth	Clothing Consumption Growth	Relative Consumption Growth
05916	Herne	4.1	1.8	0.5	0.20%
Hessen					
06411	Darmstadt	32.9	13.7	4.6	1.39%
06412	Frankfurt	186.4	76.1	25.5	1.72%
06413	Offenbach	24.7	10.2	3.4	1.61%
06414	Wiesbaden	16.9	7.1	1.9	0.38%
06611	Kassel	21.5	8.7	2.9	0.77%
Rheinland-Pfalz					
07111	Koblenz	16.1	6.9	2.3	0.94%
07211	Trier	24.9	10.3	3.5	1.48%
07314	Ludwigshafen am Rhein	19.1	7.7	2.5	0.85%
07315	Mainz	34.7	14.0	4.6	1.09%
Baden-Württemberg					
08111	Stuttgart	143.5	57.9	19.7	1.33%
08121	Heilbronn	41.2	17.2	5.7	1.12%
08212	Karlsruhe	58.7	24.2	8.1	1.21%
08221	Heidelberg	34.2	13.9	4.6	1.24%
08222	Mannheim	47.6	19.8	6.7	1.10%
08231	Pforzheim	25.1	10.4	3.4	1.30%
08311	Freiburg im Breisgau	43.6	17.7	5.8	1.31%
08421	Ulm	22.7	9.4	3.0	0.98%
Bayern					
09161	Ingolstadt	27.3	11.0	3.6	1.29%
09162	Munich	357.4	145.4	47.7	1.33%
09362	Regensburg	35.2	14.2	4.9	1.53%
09562	Erlangen	16.3	6.8	2.2	0.86%
09563	Fürth	31.8	13.1	4.2	1.50%
09564	Nuremberg	68.0	27.8	9.3	0.85%
09663	Würzburg	5.8	1.7	0.6	0.27%
09761	Augsburg	56.2	22.7	7.6	1.45%
Berlin					
11000	Berlin	610.5	242.9	77.8	1.28%
Brandenburg					
12054	Potsdam	33.2	12.7	3.9	1.49%
Mecklenburg-Vorpommern					
13003	Rostock	15.7	5.1	1.5	0.63%
Sachsen					
14511	Chemnitz	17.0	6.3	2.0	0.47%
14612	Dresden	69.0	25.9	8.5	0.93%
14713	Leipzig	125.3	49.6	17.1	1.75%

City-Code	City	Consumption Growth	Food Consumption Growth	Clothing Consumption Growth	Relative Consumption Growth
Sachsen-Anhalt					
15002	Halle an der Saale	12.3	4.4	1.4	0.42%
15003	Magdeburg	17.8	6.6	2.0	0.59%
Thüringen					
16051	Erfurt	24.4	9.1	2.8	0.88%
16053	Jena	9.6	3.3	1.0	0.67%

Source: German Economic Institute, 2018