



Federal Ministry  
for Economic Affairs  
and Energy

# Sharing Economy in Germany

*Analysis of the sharing economy in Germany and possible  
courses of action to regulate the accommodation sector*

*Study of the German Economic Institute (IW) in cooperation  
with DICE Consult*

*Summary*



The logo for DICE Consult features a horizontal brown line above the text 'DICE Consult'. To the right of the text is a blue curved line that starts below the 't' and curves upwards and to the right.

**DICE Consult**

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# I. Study design

## Purpose of this study

This study examines the significance of the sharing economy in Germany in the sectors accommodation, mobility, and household items. It identifies possible problem areas of the sharing economy, in particular for the accommodation sector. The study concludes with a set of possible actions in order to alleviate potential problems.

## Core elements of the sharing economy

The sharing economy consists of companies whose business models focus on the web-based temporary provision of goods, sometimes combined with services. This provision happens in a sequential manner to various end consumers. In some of the sharing business models, the sharing company itself is the owner of the goods (e.g. short-term commercial car sharing like DriveNow). In other sharing business models, the sharing company brokers the goods or services that users provide (e.g. procurement of private accommodation via Airbnb).

This study examines the role of the sharing economy in the following three sectors:

- **Mobility:** Mobility solutions through the provision of sharing vehicles (scooters, cars, bicycles). P2P (peer-to-peer, i.e. transactions between end consumers) business models and B2C (business-to-consumer, i.e. transactions between companies and end consumers) business models are taken into consideration.
- **Accommodation:** Short-term rental of rooms, apartments, houses or other accommodation usually inhabited by individuals. Only P2P business models are considered (so-called homesharing).
- **Household items:** Consumer goods that are generally available in a private household but that are not used up. This sector considers both P2P and B2C business models where ownership does not change in the course of the transaction.

The sharing economy as it is defined in this study does not include business models that enable sharing between companies (B2B), business models that can be attributed to traditional rental services (e.g. of vehicles, holiday homes and holiday apartments as well as hotels and guesthouses, also via digital platforms) or the rental of items that are used once, rarely or seasonally.

## Methodology

In order to determine the significance of the sharing economy in Germany, this study uses data from various sources: In addition to secondary data from studies, surveys and reports, primary data from two sources is also included. This primary data either stems from an exclusive survey or is provided by Airbnb. Unfortunately, there is no administrative data on the sharing economy in Germany.

The primary data of the study consists of:

- **Data provided by Airbnb:** The supply of sharing accommodation in Germany is of particular significance for the study. The lack of administrative data as well as the fact that the existing literature oftentimes provides analyses based on data with unknown origin or methodology imply that it is only possible to conduct an appropriate, yet approximate analysis with data that has been generated by the sharing platforms themselves. In order to avoid overestimations of the available accommodations due to multi-homing behaviour of hosts who use several platforms simultaneously, the data that this study is based on stems from the market leader in the accommodation sector of the sharing economy, Airbnb.
- **Data from a survey of users of sharing platforms in the accommodation sector:** In order to determine potential problems of the sharing economy in the accommodation sectors from the guest's point of view, several surveys have been conducted. Potential problems include cleanliness and safety aspects of the accommodation. The main component of the survey is an online survey among 2,097 internet users aged 18 to 75 years. The stratified random sample represents the online population in Germany according to the characteristics age, gender and federal state of residence. The representative online survey has also been used to estimate the domestic demand for sharing accommodation, as there is no respective administrative data available. In addition, further non-representative surveys have been conducted, for example via Twitter and Facebook (so-called additional sample).
- **Survey results from the World Travel Monitor:** The demand of consumers not living in Germany for sharing accommodation in Germany is estimated using survey results from the World Travel Monitor by IPK International. This exclusive survey covers 63 countries, including Germany, and thereby represents around 90 percent of global trips.



## II. Regulatory options for the accommodation sector

Several European and non-European cities have taken measures to regulate short-term accommodation rentals. The specific structure of the regulatory framework is case-dependent and tailored to the respective local circumstances. Despite the differences, one can identify a certain trend towards the introduction of registration requirements and maximum limits regarding the time an apartment can be rented out during the year. The sharing platforms also increasingly act as "regulatory intermediaries" and participate in the design and enforcement of the regulatory requirements, thereby bearing some regulatory responsibility.

The following section outlines options for possible interventions in the identified fields of action:

- real estate market
- consumer protection
- tax collectio
- protection of the urban population.

Subsequently, the empirical findings are presented.

### Field of action: Real estate market

In order to avoid or mitigate a housing shortage, cities where affordable housing is particularly scarce, have implemented regulations concerning short-term rentals. In particular,

the exclusive use of apartments or houses for short-term accommodation (so-called *Zweckentfremdung* in German or misuse) is regulated and shall be forbidden (*Zweckentfremdungsverbot* or ban on misuse). *Zweckentfremdung* occurs when an apartment or house is used to other ends than to live or to create housing for oneself. This is the case when the living space is used for daily or weekly periods in order to accommodate guests in a commercial manner. The application of the ban on misuse is facilitated by legal thresholds based on a maximum number of days or weeks per year. Several federal states and municipalities have already introduced such maximum limits, which, however, differ significantly. The regulations usually differentiate between three different scenarios: (1) short-term rental of single rooms within the main apartment or home, (2) rental of the entire apartment or home during a temporary absence of the host, and (3) short-term rental of secondary apartments. Compliance with the ban on misuse could be facilitated by requiring the indication of a registration number in advertisements (in particular on online platforms), as it is the case in Berlin since August 1, 2018.

Although many cities have implemented maximum limits for defining a misuse of accommodation, the criteria for determining such limits often remain unclear. One way to systematically determine the upper limits is to calculate the indifference point. The indifference point is the number of overnight stays where the host is indifferent between a long-term rental and a short-term rental. Using a theoretical example of a fictional city, the calculation of the indifference point can be seen in Table 1–1. For simplification, all costs of the host in the example are set to zero for both

long-term and short-term rentals. Consequently, the revenue from the rental of the real estate equals the profit that can be realized through renting out this specific apartment or house.

The fictional city consists of two districts, district A and district B. In district A, there are three apartments. One measures 40 m<sup>2</sup>, the second 60 m<sup>2</sup> and the third 90 m<sup>2</sup>. The rent for the 40 m<sup>2</sup> apartment amounts to 13 euros per square meter, for the 60 m<sup>2</sup> apartment 10 euros per square meter, and for the 90 m<sup>2</sup> apartment 12 euros per square meter. This implies that the landlords can earn a profit of 6,240 euros, 7,200 euros or 12,960 euros respectively in the context of long-term rentals. By using the apartments for short-term rental, a profit of 50 euros per night, 65 euros per night or 80 euros per night, respectively, can be earned. Consequently, the landlords of the small apartment would be indifferent between a long-term and a short-term rental at a value of 125 days. The landlords of the medium-sized apartment,

however, would be indifferent at a value of 111 days, and the landlords of the large apartment at a value of 162 days.

In district B, there are also three apartments. The sizes of the apartments are the same as in district A. However, the rent is significantly lower. It amounts to 8.50 euros per square meter for a 40 m<sup>2</sup> apartment, 7.50 euros per square meter for a 60 m<sup>2</sup> apartment, and 7.00 euros per square meter for a 90 m<sup>2</sup> apartment. The profit from long-term rentals thus amounts to 4,080 euros per year for the 40 m<sup>2</sup> apartment, to 5,400 euros per year for the 60 m<sup>2</sup> apartment, and to 7,560 euros per year for the 90 m<sup>2</sup> apartment. By using the apartments for short-term rentals, a profit of 50 euros per night, 65 euros per night or 80 euros per night, respectively, can be earned. Consequently, the indifference point for the landlords of the small apartment would be at a value of 102 days. The landlords of the medium-sized apartment, however, would be indifferent at a value of 100 days and the landlords of the large apartment at a value of 108 days.<sup>1</sup>

**Table 1-1: Sample calculation – indifference points**

Fictional example

District A				
	Rent per month for long-term rental (excluding costs such as operating costs, reserves, taxes, etc. <sup>2</sup> )	Annual profit for long-term rental	Price per night for short-term rental (excluding costs such as platform fee, cleaning, operating costs, reserves, taxes etc. <sup>3</sup> )	Indifference points (value at which landlords are indifferent between long-term and short-term rentals of the apartment)
Good residential area	40 m <sup>2</sup> x 13 euros/m <sup>2</sup> = 520 euros/month	6,240 euros/year	50 euros	125 days (6,240 euros/50 euros)
	60 m <sup>2</sup> x 10 euros/m <sup>2</sup> = 600 euros/month	7,200 euros/year	65 euros	111 days (7,200 euros/65 euros)
	90 m <sup>2</sup> x 12 euros/m <sup>2</sup> = 1,080 euros/month	12,960 euros/year	80 euros	162 days (12,960 euros/80 euros)
District B				
Regular residential area	40 m <sup>2</sup> x 8,5 euros/m <sup>2</sup> = 340 euros/month	4,080 euros/year	40 euros	102 days
	60 m <sup>2</sup> x 7,5 euros/m <sup>2</sup> = 450 euros/month	5,400 euros/year	54 euros	100 days
	90 m <sup>2</sup> x 7,0 euros/m <sup>2</sup> = 630 euros/month	7,560 euros/year	70 euros	108 days

Source: authors' calculations

- 1 In this calculation example, it is assumed that the landlords are able to rent out the apartment for at least 100, 102, 108, 111, 125 and 162 days per year as a holiday home.
- 2 As explained above, all costs of the host are set to zero for long-time rentals. Consequently, the revenue from the rental of the real estate equals the profit that can be realized.
- 3 As explained above, all costs of the host are set to zero for short-time rentals. Consequently, the revenue from the rental of the real estate equals the profit that can be realized.

If the fictional city decides, for example, to introduce an upper limit of 180 days, landlords would prefer short-term leases over long-term leases, as this will increase profits. This is because the threshold is above the highest point of indifference of 162 days. If, however, the fictional city decides that the upper limit is 90 days, the short-term rental profits of all landlords will decrease below the profits of long-term rental, as the threshold is below the lowest indifference point of 100 days. Accordingly, the landlord's incentive to move away from the regular housing market declines.

As alternatives to the ban on misuse, a quota for professional accommodation offers or the introduction of a system of tradable licenses can be considered. The implementation of these measures, however, requires the support of the accommodation platforms. Firstly, the platforms would have to ensure that only such landlords are allowed to list an accommodation on the platform who are approval-free occasional landlords with a host-ID assigned to them under compulsory registration, or professional landlords with a corresponding license. Secondly, the online platforms have to ensure compliance with the time limits applying to short-term accommodation. If the upper limit is reached, warning messages could be automatically sent to the hosts or the listing could be deactivated until the end of the year.

### Field of action: Tax collection

In Germany, liability for trade tax and value added tax also applies for private landlords who place listings on online accommodation platforms, provided they fulfill the criteria of the respective tax laws. However, liability for trade tax only applies if the rental activity goes beyond private asset management. This is especially the case when the apartment is offered in a fashion that is comparable to a hotel. It should also be noted that for natural persons and private companies a tax-free allowance of 24,500 euros applies regarding trade tax. In principle, the use of accommodations for short-term rentals is also subject to the value added tax liability. The majority of private landlords, however, should benefit from the so-called small business rule (Kleinunternehmerregelung). According to this rule, small businesses are exempted from liability for value added tax, provided that turnover in the past calendar year did not exceed 17,500 euros and is not expected to exceed 50,000 euros in the current year.

In addition, private landlords are obliged to pay local tourist taxes, irrespective of their obligations regarding trade tax and value added tax, provided that the local authorities have not implemented any de minimis limits or tax exemption limits for private short-term accommodations. Distortion of competition is in this context rather due to an inconsistent enforcement of existing law than to differing regulations. In order to tackle enforcement problems, thresholds for turnover could be introduced which allow for lump sum taxation. Furthermore, a registration requirement for landlords could increase tax compliance, provided that it allows the tax authorities to track the listings. If a registration requirement alone does not guarantee proper tax collection, it must be ensured that online platforms possess the data that is relevant for tax collection, such as the identity of the landlord, the amount of booked overnight stays or the revenue, in order to forward this data, if necessary, to the authorities. Another way to enforce taxes and duties is to entrust the accommodation platforms with the collection and payment. This is especially relevant for the collection of tourist taxes. The accommodation platforms could collect the taxes from the guests and transfer them to the local authorities.

### Field of action: Protection of the urban population

The success of online platforms and hence the increase of short-term rentals can alter the social climate of a housing community or neighborhood. Due to the increased presence of tourists in residential areas, the risk of noise nuisance for neighbors increases. In addition, there may be a shortage of parking spaces. Such negative externalities could, from an economic point of view, justify legal action if they lead to market failure. In order to counteract the possible negative effects of increasing short-term rentals of private apartments on the neighborhood more effectively, various instruments are available that could raise awareness and have a disciplinary effect on guests or hold hosts accountable.

From a legal point of view, zoning law provides a starting point for the protection of the urban population from an excessive number of touristic accommodations, which change the character of the area. In the event of undesirable developments, municipalities have the option of regulatory fine-tuning by means of restrictive stipulations with regard to holiday homes in zoning plans. Additional protection can be provided by trade law.



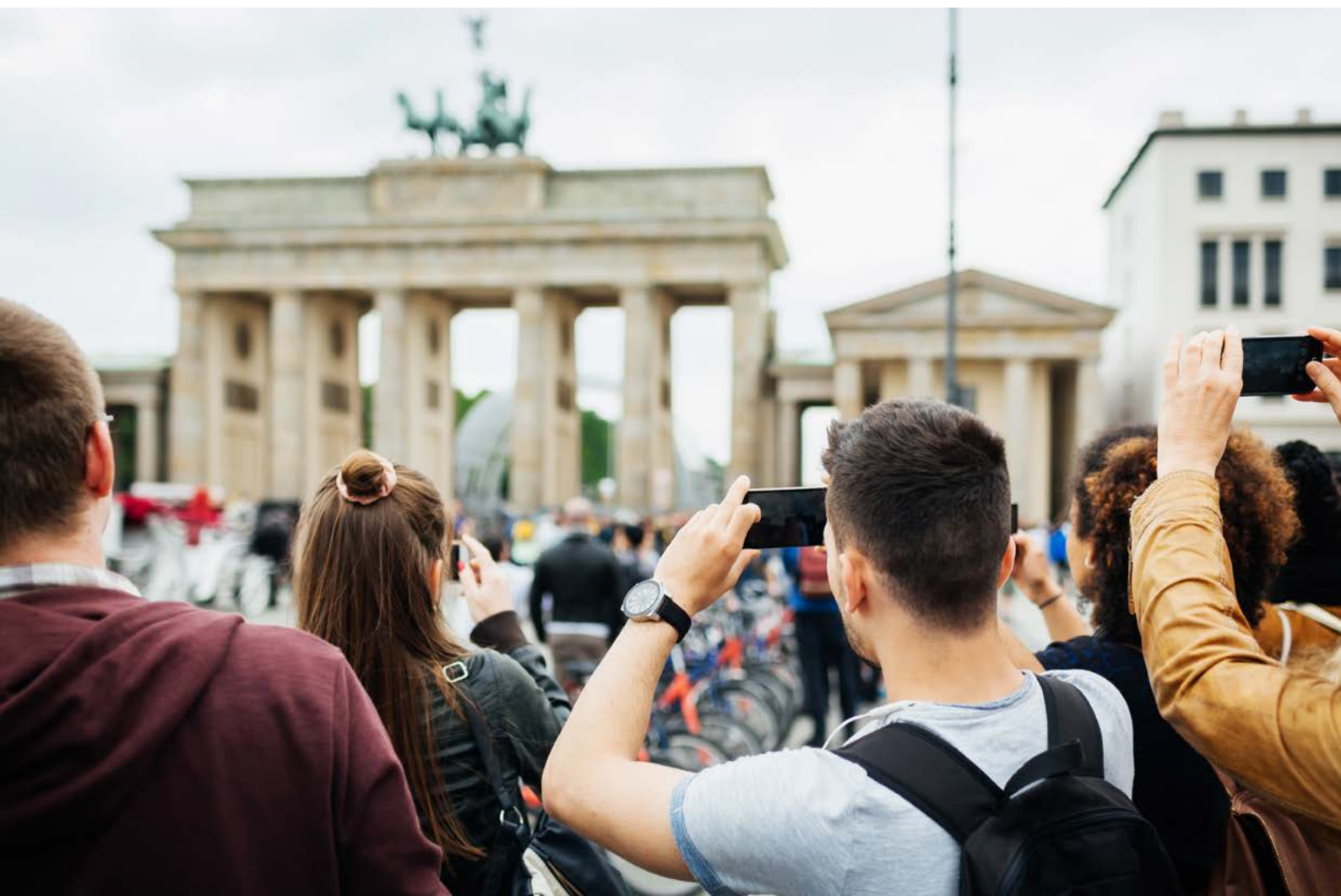
In addition, online platforms could be obliged to inform landlords that their guests have to avoid noise during normal sleeping hours and that they have to comply with the house rules. In order to ensure that landlords prevent disturbances caused by their guests, the landlords could be sanctioned on the basis of general police and public order law in the event of repeated disturbances. In extreme cases, it should be considered whether the landlord could be denied the right to place a listing for accommodation on sharing platforms. A ban on misuse, the system of tradable licenses or the implementation of quotas could also be used, even if these instruments primarily serve to control the housing market.

Socially undesirable developments as a consequence of the increasing numbers of tourists are not a problem specific to the rise of new platform services, particularly since most tourists still prefer traditional accommodation such as hotels and guesthouses. Thus, there are other instruments to be considered besides measures focusing solely on the sharing economy accommodation sector, such as instruments aiming at tourism management in general.

### Field of action: Consumer Protection

From a consumer protection perspective, the main goal should be to reduce information asymmetries between hosts and guests. For this purpose, consumer law stipulates information duties which traders have to comply with when concluding a contract with a consumer via means of distance communication. However, in the majority of cases of short-term rentals, the host does not qualify as a trader. This can result in consumer protection gaps.

In addition, consumer protection gaps may arise in the fields of hygiene, safety and fire protection regulations. As a general rule, the relevant legal requirements only apply to commercial providers or are only applicable beyond a certain threshold, which is unlikely to be reached for most private accommodations. In view of the different standards of protection, it should be indicated to the consumer at the time of the conclusion of the contract whether the other party is a commercial or a non-commercial provider of accommodation (vzbv, 2015, 25-29). Legislative proposals to this effect are included in the proposal for a revision of



the Consumer Rights Directive (2011/83/EU), presented in April 2018, as well as the draft for a Directive on Online Intermediary Platforms presented in 2016 by the Research Group on the Law of Digital Services.

Increasing the level of consumer protection in the fields of hygiene, safety and fire protection for private accommodation to the level that applies to commercial accommodation would drive occasional hosts out of the market. Implementing specific requirements that are less far reaching than those for larger accommodation businesses but beyond the level of private housing may be appropriate, provided that short-term residential rentals create higher safety risks than long-term rentals.

A certain degree of protection can also be provided by insurance solutions that are already being offered voluntarily by some online platforms. If the legislator seeks to provide compulsory insurance cover to protect guests, a compulsory insurance for all privately rented accommodation should be considered, regardless of the distribution channel, to avoid distortions of competition. This leaves it to the brokerage platforms whether they offer the necessary insurance cover to their users as a service or whether they require the landlords to prove that they have sufficient insurance coverage.

## Proposal for living labs

Since the effects of a regulatory intervention are often difficult to determine in advance, we suggest the implementation of three living labs. The objective of a living lab is to test a) the collection of taxes and fees by sharing platforms, b) a registration requirement and the issuing of identification numbers per landlord and accommodation and c) the effect of a systematic determination of thresholds in the form of maximum limits for the number of overnight stays in order to distinguish between occasional and professionalized accommodation activity.

## III. Empirical results

### Mobility sector – Strong growth in car-sharing

In the mobility sector of the sharing economy in Germany, car-sharing and ride-sharing are the most popular applications. Ride-sharing a vehicle aims at utilizing idle space by forming and arranging car-sharing networks. In essence, the structure and size of the ride-sharing market in Germany is quite unclear, as listings for searching passengers and travel options can be placed on various (including general) platforms. Ride-sharing is especially popular in rural areas and covers a large part of Germany. The BlaBlaCar platform alone recorded more than 80,000 stops in Germany in May 2016 (BlaBlaCar, 2017b).

In car-sharing, a vehicle is temporarily used without the ownership of it being transferred. A distinction is made between the professional sharing of vehicles (B2C car-sharing), which is more decentralized and designed for shorter periods than traditional hire, and the sharing of private vehicles (P2P car-sharing). Overall, strong growth is observed especially in B2C car-sharing in urban areas, as measured by the number of cars available. In summer 2017, a maxi-

mum of 37,000 vehicles was available. In contrast, there were 45.8 million registered cars at the beginning of 2017 (Kraftfahrtbundesamt, 2017a).

### Household items are only shared to a small extent

The sharing economy in the household item sector is very heterogeneous; there is hardly any quantitative information about the sharing companies and their customers. It is assumed that the segment has little economic significance. In total, 30 sharing companies are identified. The 18 companies with B2C business models represent the majority of companies. Twelve business models are classified as P2P platforms where private individuals rent out their household items. However, on these platforms, not only individuals rent out their items, but also commercial suppliers. The P2P business models also include four companies that organize rental within a community (for example, a neighborhood or a circle of friends).



## Large supply of fee-based sharing accommodation

The market leader in fee-based accommodation in Germany is Airbnb. More than four million accommodations worldwide are listed on this platform, with around two million guests per day using such an accommodation (Airbnb, 2017c). According to Airbnb (2017g), the platform had a total of 94,700 active listings in Germany as of January 1, 2017 (Table 1–2). Most listings are in Berlin (21,100), Bavaria (16,200) and North Rhine-Westphalia (14,100). These listings alone, however, do not allow for any reliable statement about the availability or the actual booking of the accommodations.

In addition to Airbnb, Wimdu (more than 12,000 listings) and 9flats (around 2,000 listings) have a noteworthy supply of sharing accommodations in Germany.

The share of Airbnb-listed sharing accommodations compared to the total number of apartments in Germany is extremely low. Only a negligible part of the total housing stock is potentially affected by homesharing via Airbnb when considering data at the federal state level. At the same time, it is obvious that the removal of living space by the sharing economy is a local issue that cannot be covered by the existing data.

**Table 1–2: Airbnb listings by federal states**

Number of active listings on Airbnb (in total and only “entire accommodation”) on 1 January 2017; share of entire accommodation as measured by all listings and the housing stock as at 31.12.2016

Federal state	All active listings	Active listings “entire accommodation”	Share of active listings “entire accommodation” as measured by all listings	Share of active listings “entire accommodation” as measured by the housing stock
Baden-Württemberg	7,800	4,700	60.3%	0.09%
Bavaria	16,200	9,300	57.4%	0.15%
Berlin	21,100	11,100	52.6%	0.58%
Brandenburg <sup>4</sup>	1,300	900	69.2%	0.07%
Bremen	800	500	62.5%	0.14%
Hamburg	6,900	4,200	60.9%	0.45%
Hesse <sup>4</sup>	5,200	2,800	53.8%	0.09%
Mecklenburg-Western Pomerania	2,900	2,500	86.2%	0.28%
Lower Saxony	6,300	4,100	65.1%	0.10%
North Rhine-Westphalia <sup>4</sup>	14,100	8,900	63.1%	0.10%
Rhineland-Palatinate <sup>4</sup>	2,600	1,900 <sup>4</sup>	73.1%	0.09%
Saarland	300	200	66.7%	0.04%
Saxony	4,200	2,600	61.9%	0.11%
Saxony-Anhalt	600	400	66.7%	0.03%
Schleswig-Holstein	3,500	2,700	77.1%	0.18%
Thuringia <sup>4</sup>	900	600	66.7%	0.05%
<b>Germany</b>	<b>94,700</b>	<b>57,400</b>	<b>60.6%</b>	<b>0.14%</b>

Source: Airbnb, 2017g; German Federal Statistical Office, 2018; authors’ calculations

4 Cf. According to the tourism network of Rhineland-Palatinate (2017), there were 3,521 active Airbnb listings of all types of accommodation in Rhineland-Palatinate on 14.11.2017; 1,192 offers in Thuringia, 1,878 offers in Brandenburg, 7,550 offers in Hesse and 16,183 offers in North Rhine-Westphalia. Differences may arise from different target dates. The share of total accommodation for Rhineland-Palatinate is 73 percent.

### Few providers with more than one listing on Airbnb

On sharing platforms in the accommodation sector, occasional offerings by private providers (homesharing) mixes with the more professionalized, continuous rental for profits. Professional providers are those who do not use spare capacity in their own apartment for rentals, but have explicitly converted living space in order to rent it out in a continuous manner. An unambiguous identification of these more professionalized hosts through the platform is not possible. However, in order to estimate the extent of professional rentals, it is assumed that hosts with more than one active accommodation on Airbnb are much more likely to be professional providers.

For the ten cities with the highest number of active entire accommodation Airbnb listings, the maximum number of possibly, but by no means proven professional providers is very small. Even in the Airbnb stronghold Berlin, only 3 percent of the hosts have more than two active entire accommodation listings. 93 percent have one active entire accommodation listing. The highest share of hosts with more than two active accommodation listings is found for Dresden (6 percent). Overall, 88 percent of the hosts in Germany have one active listing of an entire accommodation, 8 percent have two of these listings (Figure 1-1).

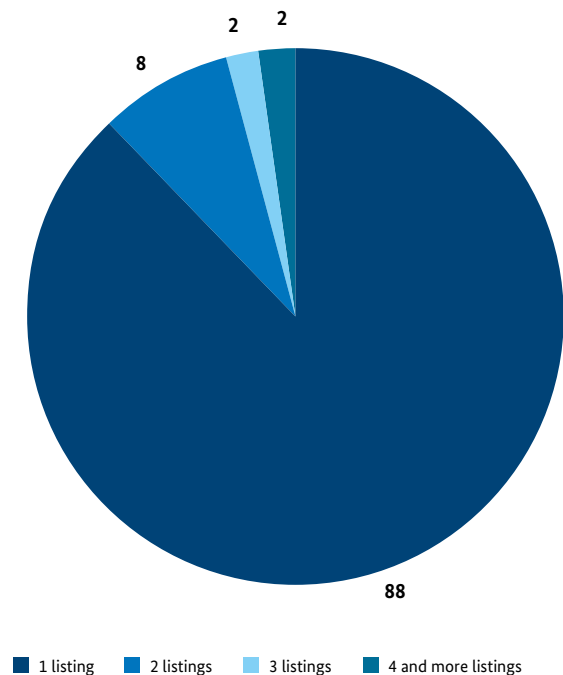
### Continuous rentals are rare

The amount of nights that a listing can be booked can also help to determine whether the corresponding hosts does homesharing or rents out apartments in a rather professional manner. However, the available data does not provide meaningful insights regarding this issue. Due to a lack of alternative data, continuous rental is assumed if the accommodation was booked for more than 182 nights in 2016, i.e. if the host used his or her own apartment or house less than half of the year. The value of 182 days is an arbitrary threshold based on data availability.

Only 2,420 entire accommodations throughout Germany were booked on more than 182 nights in 2016. This corresponds to 0.04 percent of the German housing stock. 1,050 of these accommodations are located in Berlin. Hence,

**Figure 1-1: Airbnb listings per host**

Active listings in the category “entire accommodation” per host in Germany on 1 January 2017, in percent



Source: Airbnb, 2017g; authors' calculations

based on the available data, a professionalization is most likely in Berlin. However, according to a different study, 63 percent of the listings in Berlin are rented out for up to 30 days; for 20 percent the occupancy rate amounts to more than 60 days (GEWOS, 2016). Airbnb (2017e) reports an average occupancy rate of a “typical accommodation” in Berlin of 28 nights in 2016. In addition, the 1,050 apartments booked in 2016 for more than 182 nights correspond to a mere 0.05 percent of all apartments in Berlin. This refutes an extensive professionalization of listings on Airbnb. However, conclusions about the micro-local situation in individual neighborhoods or streets are not viable based on the available data. In general, it is also possible that apartments that are booked on less than 182 nights per year contribute to a withdrawal of housing space, if they are not part of the regular housing market in the remaining, Airbnb-idle time.

## No systematic removal of living space by the sharing economy

In addition to the primary data, secondary data can be used to gain insights into the sharing economy's effects on housing availability. The housing market would be negatively affected by the sharing economy if regular apartments were offered to tourists for short-term accommodation instead of renting them out in the long term. This would result in an increase in housing prices where living space is scarce. At present, however, overcapacities exist in many rural regions (Deschermeier et al., 2017a). Between 2011 and 2015, 20 percent more apartments were built than were actually needed due to demographic change and emigration. Sharing economy accommodation, but also traditional holiday rentals, could address the resulting vacancy rates.

By contrast, in the seven largest German cities, much less housing space was created between 2011 and 2015 than was actually needed (Deschermeier et al., 2017a). A removal of living space by the sharing economy could worsen the shortage. As rents have increased particularly sharply in Berlin (Deschermeier et al., 2017b) and Airbnb listings are most frequent there (Table 1-2), this problem seems pressing in the capital.

Regarding the entire city of Berlin, however, studies suggest that there are no housing space shortages caused by professionalized short-term rentals through sharing platforms. The amount of listings is marginal compared to the number of apartments. For example, Chaves et al. (2017) estimate that the number of apartments listed on Airbnb by professionalized providers declined from 2,000 to 1,000 due to the Berlin ban on the misuse (Zweckentfremdungsverbot). According to the senate administration for housing in Berlin, up to 4,000 apartments, which had previously been rented out to tourists, have been returned to the housing market in Berlin since the effective date of the ban on the misuse in 2014 (Lehmann/Loy, 2018). Against the backdrop of the lack of living space in Berlin of up to 200,000 residential units (Wimdu, 2017c), the extent of the effect is relatively small. This notion could differ in different parts of the city. The available data does not allow further insights on this issue. Potential effects on housing prices have not been estimated.

## Sharing accommodation popular among users from abroad

The demand for sharing accommodation in Germany is divided into domestic and foreign demand. The representative online survey suggests that in 2016, 5.4 million sharing trips were undertaken in Germany. On average, domestic sharing guests stayed for 4.3 nights. Consequently, the 2016 demand for sharing accommodation in Germany amounts to around 23.2 million nights (Table 1-3). Tourists from abroad (62 countries) accounted for 61 million trips to Germany in 2016. For around 3.5 million of these trips (5.7 percent), sharing accommodation was used. According to the World Travel Monitor, the average length of stay was 7.3 nights. In total, tourists booked around 25.6 million nights through sharing platforms in 2016.

Hence, domestic tourists or users account for 48 percent of the total demand for sharing accommodation in Germany, whereas foreign consumers account for 52 percent. Based on the entire tourism sector, domestic tourists account for 82 percent and foreign tourists for 18 percent of overnight stays (Statistisches Bundesamt, 2016b). Compared to traditional accommodation establishments like hotels, sharing accommodation seems to be rather an option for foreign tourists traveling to Germany than for German tourists. It can be assumed that the demand for sharing accommodation will continue to increase in the future. This is, among other things, due to the increasing online activity of the population, the increasing popularity of the sharing platforms in the accommodation sector, and the increasing variety of listings on these platforms, for example regarding business travel.

## Sharing economy at 9 percent market share

The accommodation sector as a whole consists of hotels, guest houses, holiday homes and holiday apartments, campgrounds, sharing accommodation and others. The 48.8 million overnight stays in shared accommodation imply a market share of 8.6 percent (Table 1-3) of the sharing economy, compared to the traditional sector volume of 447.2 million (accommodation statistics, Statistisches Bundesamt, 2017b) and an estimated 71.4 million overnight stays in accommodation facilities that are not captured by the accommodation statistics (dwif-Consulting, 2015, 20).

However, sharing accommodation is relatively more popular among guests from abroad than among those from Germany. Accordingly, separate analyses of domestic and foreign market shares are useful. The 2016 market share of sharing platforms among domestic guests amounts to 5.2 percent. The market share among foreign guests amounts to 21.5 percent.

### Little need for regulation according to sharing users

A point that is oftentimes raised in discussions about the need for regulation in the sharing economy are potential risks for sharing users arising from lacking statutory requirements. For the guests in the sharing economy, cleanliness and safety aspects were identified as potentially problematic. In the representative online survey, 195 individuals who stated that they had been guests in a domestic sharing accommodation in 2016, were surveyed on this issue. In addition, 230 individuals from the additional sample, who also used sharing accommodation, were asked.

The conducted surveys on cleanliness and hygiene, electrics, structure of the real estate, fire protection, problems with neighbors and accidents do not lead to any results that would point to a clear, pressing need for regulation of the sharing economy in the accommodation sector. A clear need would have been detectable if a majority of the respondents had complained about a certain safety aspect. This is, however, not the case. For example, more than 80 percent of the respondents agree with the statement “the booked accommodations were clean and hygienic”. The safety aspect that shows the highest (but still low) need for action is electricity – however, the need for certain electricity standards applies to all apartments and not only to those offered on sharing platforms. Several respondents voiced safety concerns in this area: More than 9 percent disagreed with the statement “the electrical installation and the electrical devices in the accommodation seemed safe to me”. There is nonetheless no market failure that would require legal action in this regard. The accommodation market regulates itself in this sense: Dissatisfied guests can publicly sanction the host through the rating system of the platforms and thereby even force them out of the market eventually.

**Table 1–3: Market shares of the sharing economy in the German accommodation sector**

As of 2016

Type of accommodation	Total guests		Domestic guests		Guests from abroad		
	Number of nights in millions	Share (%)	Number of nights in millions	Share (%)	Number of nights in millions	Share (%)	
Traditional accommodation sector	Accommodation services with more than nine beds	447.2	78.8	366.4	81.8	80.8	67.7
	Holiday homes & holiday apartments <sup>5</sup>	71.4	12.6	58.5 <sup>6</sup>	13.1	12.9 <sup>6</sup>	10.8
	Other accommodation services with less than ten beds	No information	–	No information	–	No information	–
<b>Sharing economy</b>		<b>48.8</b>	<b>8.6</b>	<b>23.2</b>	<b>5.2</b>	<b>25.6</b>	<b>21.5</b>
<b>Total</b>		<b>567.4</b>	<b>100.0</b>	<b>448.1</b>	<b>100.0</b>	<b>119.3</b>	<b>100.0</b>

Source: dwif-Consulting, 2015; German Federal Statistical Office, 2017e, 22; authors' calculations

5 Information for 2014.

6 Calculated based on the assumption that the share of domestic guests is the same as according to administrative data.

Regarding potential issues for sharing hosts, the picture remains the same: According to the analysis of the representative online survey and the respondents' answers from the additional sample (606 respondents in total), no pressing problems can be detected that would indicate a clear and unambiguous need for action.

### **Empirical conclusions not possible on a local level**

The data available for the three sectors accommodation, mobility and household items illustrate the significance of the sharing economy in Germany. However, there are many things that remain unclear. This is especially true for the accommodation sector. In fact, the data at hand is not detailed enough to derive clear conclusions regarding legal actions. The data shows several limitations: Aggregation and averaging prevent a micro-local investigation; the use of multiple accounts by one host cannot be identified; the number of actual bookings cannot be observed. The available data suggests that the majority of the active listings on Airbnb can be attributed to non-commercial, private homesharing. There is no data-based, empirical evidence of professionalized, permanent short-term renting and hence significant removal of living space, neither at the level of the federal states, nor at the level of the cities with the highest numbers of Airbnb listings. Particularly on lower geographical levels such as certain districts, which are supposedly affected most by the sharing economy according to the media, no empirical conclusions can be derived based on the data. This lack of empirical evidence does not imply that there are no problems at the micro level. In fact, web-scraping projects like Skowronnek et al. (2015) and Cox (2017) show that there can be sharing-induced crowding-out effects on the micro-local level.

Eventually, the identification and analysis of potential issues based on the increasingly important sharing economy in the accommodation sector remains a micro-local task. A micro-local analysis is the prerequisite for regulatory interventions to mitigate, prevent or eliminate these problems. Municipalities and cities have to analyze the situation on the ground in detail and based on relevant and reliable local data. Only if empirical evidence for a regulatory need on the micro-local level is found, regulation should be considered for the affected areas. Otherwise, corresponding measures could be neither proportionate nor necessary.



## IV. Tables

The numbering of tables – in contrast to the procedure in the previous sections – refers to the numbering used in the extended version of this study.

### Mobilität

**Table 2-2: Companies in the free-floating car-sharing sector in Germany**

As of 2017

Providers of free-floating car-sharing			
Name	City / Region	Number of vehicles	
DriveNow	Berlin, Düsseldorf, Hamburg, Cologne, Munich	3,200	
car2go	Berlin, Düsseldorf, Frankfurt am Main, Hamburg, Cologne, Munich, Stuttgart	3,860	
Multicity <sup>7</sup>	Berlin	350	
Yourcar	Göttingen	32 <sup>8</sup>	
drive by	Berlin	25 <sup>9</sup>	
<b>Total free-floating</b>		<b>7,500<sup>7,8</sup></b>	
Providers of a combination of free-floating and station-based car-sharing			
Name	City / Region	Total number of vehicles	Free-floating vehicles
stadtmobil	Berlin, Hannover, Karlsruhe, Rhein-Main, Rhein-Neckar, Rhein-Ruhr, Stuttgart, Trier	2,000 <sup>8</sup>	135 <sup>8</sup> (100 JoeCar, around 35 stadtfliitzer Hannover)
book-n-drive	Darmstadt, Frankfurt am Main, Mainz, Oberursel, Offenbach, Rüsselsheim, Wiesbaden	884	271
Stadtteilauto e.V. (Stadtwerke Osnabrück)	Osnabrück	63 <sup>8</sup>	18 <sup>8</sup>
StattAuto Carsharing	Kiel, Lübeck	150	12
<b>Total combination</b>		<b>3,100<sup>8</sup></b>	<b>400<sup>8</sup></b>

Total rounded to hundreds.

Sources: bcs, 2017c; book-n-drive, 2017; car2go, 2017a; DriveNow, 2017; HNA, 2015; Multicity, 2017a; myScotty, 2017; stadtmobil, 2017a; stadtmobil Hannover, 2017; Stadtteilauto, 2017; StattAuto, 2017

<sup>7</sup> Stopped business operations on October 29, 2017

<sup>8</sup> Estimates or approximate data

<sup>9</sup> By the end of 2017, 120 vehicles will be available

**Table 2–3: The five largest providers of station-based car-sharing in Germany**

As of 2017

Name	Locations	Costumers	Vehicles
stadtmobil	180 <sup>10</sup>	52,000 <sup>10</sup>	1,900 <sup>10</sup> station-based and 135 <sup>10</sup> Free-Floating
Cambio Carsharing	21	61,400	1,400
book-n-drive	13	>30,000 <sup>11</sup>	884, 271 of these are free-floating
teilAuto	17	30,000 <sup>11</sup>	850
DB Carsharing (Flinkster)	300 <sup>12</sup>	314,100 <sup>12</sup>	630 <sup>13</sup>
<b>Total station-based car-sharing top 5</b>		<b>457,500<sup>10</sup></b>	<b>5,800<sup>10</sup></b>

Total rounded to hundreds.

Sources: book-n-drive, 2017; Cambio, 2017; Carsharing-News, 2017; Deutsche Bahn, 2017; Flinkster, 2017a; stadtmobil, 2017a; stadtmobil, 2017b; teilAuto, 2017; authors' calculations

10 Estimates

11 Part of the Flinkster network

12 Information for the entire Flinkster network

13 Information of Deutsche Bahn upon request

## Household items

**Table 2–13: B2C providers in the household item sector in Germany**

As of 2017

Name	Category	Number of products
Bauduu	Lego	100 <sup>14</sup>
Chic by Choice	Women's fashion	150 (entire Europe)
Ciluna	Toys	47
CottonbudBaby	Baby Clothing (first equipment packages)	No information
dresscoded	Women's fashion	1,800
Grover	Electronics (computers, mobile phones, etc.)	At least 300
kilenda	Children's fashion, toys, fashion for mothers	4,500
kindoo	Children's fashion	No information
Kleiderei	Women's fashion	3,000
Leihbar	Projector, Gadgets, Tools	At least 713
LifeThek	Children & family, leisure, house & garden, tools, technology, Lego	500
MeineSpielzeugkiste	Toys	500
mein-Spielzeug-mieten	Toys, furniture	36 <sup>15</sup>
myonbelle	Women's fashion	14,500
OTTO NOW	Technology, household, sports	140
Räubersachen	Clothing for babies and toddlers	373 <sup>15</sup>
Spiele-Offensive	Parlour games	6 rental packages with 6 games each
TEMPORARY WARDROBE	Women's fashion	No information

Sources: Bauduu, 2014; Chic by Choice, 2017; Ciluna, 2017; dresscoded, 2017; Grover, 2017a; kilenda, 2017; Leihbar, 2016; LifeThek, 2017; MeineSpielzeugkiste, 2017; mein-Spielzeug-mieten, 2017; neuhan-deln.de, 2017; Räubersachen, 2017; Spiegel, 2016; Spiele-Offensive, 2017; Stern, 2015; TEMPORARY WARDROBE, 2017

14 As at 21.04.2014

15 Selection on the web page

**Table 2–14: B2P providers in the household item sector in Germany**

As of 2017

Name	Most important categories	Number of products
Basario	Electronics, tools, sports & leisure, construction machines, computers, furniture, clothing	31 <sup>16</sup>
fairleihen.de	Books, DVD, electronics, photo & audio & video, garden, household, children & baby, clothing, kitchen, toys, tools	2,226 <sup>16</sup>
Frents	Audio & hifi, baby & child, books, office & stationery, computers, movies, photo & video, games, garden, suitcases, creative design, kitchen & furniture & household, fashion, CD & vinyl, musical instruments, navigator & MP3 & mobile phone, shoes & stockings, games & toys, bags, watches & jewellery, tools	20,384 <sup>16</sup>
Leihdirwas	Books, house & garden, movies & television, photo & audio & video, games, electronics, costumes & clothing, children & baby	9,094 <sup>16</sup>
leih-ein-buch	Books	669 <sup>16</sup>
miet24	Construction machines, DVDs & games, electronics, leisure & culture, climate & heating technology	132,185 <sup>16</sup>
Mietmeile	Construction machines, office, electronics, leisure, costumes, tools	19,278 <sup>16</sup>
Utiluru	Electronics, tools, books, children's toys	No information

Sources: Basario, 2017; fairleihen.de, 2017a; frents, 2017; leihdirwas, 2017; leih-ein-buch, 2017; miet24, 2017a, 2017b; Mietmeile, 2017a, 2017b; Utiluru, 2017

16 Selection on the web page

## Accommodation

**Table 2–11: Mediators of fee-based private accommodation in Germany**

As of 2017

Name	Number of countries	Number of listings worldwide	Number of listings in Germany
9flats	140	>200,000	2,065
Airbnb	>191	4,000,000	>100,000
BedyCasa	185	50,000	30
Gloveler	80	75,000	No information
Nightswapping	160	5,767	221
Wimdu	>150	350,000	12,156
<b>Total fee-based overnight</b>		<b>At least 4.68 million</b>	<b>At least 114,500<sup>17</sup></b>

Total rounded to hundreds.

Sources: 9flats, 2017a, 2017b; Airbnb, 2017a, 2017b, 2017c; BedyCasa, 2017a, 2017b; Gloveler, 2016; Nightswapping 2017a, 2017b; Wimdu, 2017a

17 The calculation is based on the assumption that no multi-homing (simultaneous use of multiple platforms) exists.

**Table 3–3: Top 10 Airbnb cities**

Top 10 cities in terms of active listings in the “entire accommodation” category per host in Germany on 1 January 2017; Share in the total housing stock, shares of hosts with 1, 2 or more active entire accommodations, in percent

	All active listings	Active listings “entire accommodation”	Share of active listings “entire accommodation” in the total housing stock	Share of hosts with ... active listings “entire accommodation”		
				1	2	More than 2
1. Berlin <sup>19</sup>	21,100	11,100	0.58 %	93 %	4 %	3 %
2. Munich <sup>19</sup>	8,800	4,600	0.59 %	95 %	4 %	1 %
3. Hamburg <sup>19</sup>	6,900	4,200	0.45 %	96 %	3 %	1 %
4. Cologne <sup>18, 19</sup>	5,300	3,100	0.56 %	94 %	4 %	2 %
5. Düsseldorf <sup>18, 19</sup>	2,500	1,700	0.50 %	87 %	8 %	5 %
6. Frankfurt a. M. <sup>19</sup>	2,300	1,000	0.26 %	93 %	4 %	3 %
7. Hannover	2,100	1,200	0.41 %	92 %	5 %	3 %
8. Leipzig <sup>19</sup>	2,100	1,100	0.36 %	92 %	5 %	3 %
9. Dresden <sup>19</sup>	1,200	800	0.24 %	87 %	7 %	6 %
10. Nuremberg <sup>19</sup>	1,200	600	0.22 %	89 %	6 %	5 %

Sources: Airbnb, 2017g; Statistisches Bundesamt, 2018; authors' calculations

18 Cf. The DEHOGA NRW (2016) counted 2,244 listings of all types of accommodations and 1,437 entire accommodations in Cologne and 1,467 (959) in Düsseldorf on 29.06.2016. Differences may be due to different cut-off dates.

19 Cf. German business newspaper Handelsblatt (2018) reports 18,600 listings in Berlin in 2017, 6,500 in Munich, 7,000 in Hamburg, 6,300 in Cologne, 2,700 in Düsseldorf, 2,000 in Frankfurt, 1,100 in Dresden and 1,200 in Nuremberg. Thus, there are upward and downward deviations and no evidence of systematic distortions.

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