Universität Zürich[UZH]

Thesis

To obtain the degree of

Master of Advanced Studies in Real Estate

The Rise of the Sharing Economy

Airbnb's Impact on the Hotel Industry in Zurich, Geneva and Basel-Stadt

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Submitted to: Dr. Mihnea Constantinescu

Date of Submission: 03.09.2018

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List of Abbreviations

ADR	Average Daily Rate
Airbnb	Air bed and breakfast
AuG	Ausländergesetz
BFS	Bundesamt für Statistik
HESTA	Beherbergungstatistik
INURA	International Network for Urban Research and Action
MUBA	Mustermesse Basel
RevPAR	Revenue Per Available Room
STR	Smith Travel Research
ZHAW	Zürcher Hochschule für angewandte Wissenschaften

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Executive Summary

The sharing economy is a current phenomenon which is having a disruptive impact on several industry sectors, such as foremost on the hotel industry. The latter was especially affected by Airbnb (founded in 2008), which provided an easier and considerably more reasonable alternative to rent private housing space on a short time basis. This thesis examines and investigates the impact of Airbnb on the hotel industry of the three most populated cities of Switzerland: Zurich, Geneva and Basel-Stadt. It will focus on the imminent correlation between the decline of occupancy rates of hotel rooms in those three cantons and the exponential growth of accommodation offered over the sharing platform Airbnb, as the peer-to-peer platform can be seen as a viable alternative to hotels. With the aid of AirDNA data, the distribution and usage of Airbnb in Zurich, Geneva and Basel-Stadt will be analyzed between the years 2015-2018 (only 2016-2018 for Basel-Stadt due to limited data availability). The results indicate that Airbnb has undergone a high growth in all of the three regions. Regarding demand, the occupancy rates of hotels have decreased in both Zurich and Geneva, whereas the demand for Airbnb grew along with its occupancy rates. In Zurich, Geneva and Basel-Stadt the relative growth for Airbnb is very high, whereas for hotels it slightly decreases. As for the market share, Airbnb currently only possesses a relatively small share in all three cities and therefore cannot be considered as a direct threat for the hotel industry. The range of offerings provided over Airbnb transforms itself more and more into a medium for professionally managed locations. This is contrary to Airbnb's initial idea and might reduce its direct concurrence to the hotel industry. This is due to the fact that the more professionalized an Airbnb accommodation (entire homes) is, the less it can be seen as a direct alternative to hotel rooms. When it comes to seasonality, Airbnb's experiences more fluctuations than hotels. Airbnb has generally lower rates than hotels, although hotels prices are slightly decreasing. As a conclusion, the downward trend of hotel prices cannot be exclusively attributed to the rise of Airbnb. In general, the data substantiates, that the hotel industry in Zurich, Geneva and Basel-Stadt are not solely influenced and competed by Airbnb accommodation, but impacted by various other aspects. For example, the strong Swiss Franc makes it less affordable for tourists to travel to Switzerland. Also, large global hotel chains are entering the Swiss hotel market and force prices to be lowered due to a strong growth of supply. When the price difference is too little, potential guests will most likely choose hotel accommodation over Airbnb.

1. Introduction

1.1 Status Quo

Digitalization changes the marketplace continuously, as it turned the traditional process of owning and using products into a new concept. The idea of temporary sharing arose and through the internet the initial search- and transaction costs could be diminished (Haucap, Theurl, Demary, Priddat, & Paech, 2015, pp. 87-105). An exemplary case of internet-mediated sharing business can be found in Airbnb, which was founded in 2008 by Brian Chesky and Joe Gebbia in San Francisco. Airbnb is an online rental platform, which makes it possible for hosts to rent out their housing to guests that are looking for a place to stay while travelling. Airbnb's idea originated from a simple thought: When all hotels were fully booked, Brian Chesky and Joe Gebbia had the simple idea of blowing up an air mattress in their living room and rent it out over a website. Suddenly, travelling around the world became more affordable and authentic. Despite the initial rejections, Airbnb's concept to 'belonging anywhere' grew rapidly now selling millions of rooms per year (Gallagher L. , 2017, pp. 7-9).

Today, Airbnb quotes 140 Mio of guest arrivals, a market value of 30 billion, 3 million hosts and 2500 employees (Gallagher, 2017, p. 11). It is the most successful and famous of all sharing platforms along with Uber (a car sharing concept). While Airbnb disrupted the traditional accommodation sector such as hotels, hostels etc. (Haucap et al., 2015, pp. 87-105), different problems appeared with its growth. In various cities, short term rental or subletting is or became illegal (Gallagher, 2017, p. 13). The current case law varies between cities and countries, but when Airbnb reached a certain size and impact, the authorities started issuing laws that potentially could impact Airbnb's business.

This trend was further enforced through liberal politics, property advocacy groups, unions and the hotel industry (Gallagher, 2017, pp. 13-14). With the rise of Airbnb, also professional estate agents arose, who buy or rent housing with the sole aim of offering it on Airbnb, which impacts the housing search of a regular tenant and aggravates the crisis of the housing market which is already present in numerous cities. Also, concerns were raised about the impact of such Airbnb-apartments on the other tenants of the apartment buildings. Various cities already have enforced legal legislation initiatives to limit Airbnb-bookings. All in all, the more Airbnb grows, the stronger becomes the resistance (Gallagher, 2017, p. 14).

Airbnb initially underestimated potential security issues and successively introduced several measures to minimize those, e.g. Insurance for the hosts, 24-hour hotline etc. (Gallagher, 2017, pp. 79-85).

Airbnb was, in the beginning, mainly used through Generation Y whilst with its growth made also baby boomers, seniors and celebrities become Airbnb-clients. The growth of the Airbnb community can be differentiated in three phases (Gallagher, 2017, pp. 58-60):

1. Generation Y
2. Igloo-Castle
3. Gwyneth-Paltrow

The Generation Y phase of Airbnb's community was from 2008 until 2012, where the main clients were youngsters with no or limited income, easily satisfied and don't have high requirements. In the beginning of Airbnb's founding their main customer was of generation Y. The Igloo-Castle phase defines the immense growth phase between 2012 and 2016, generated by unique offerings that attracted large numbers of new customers. The last phase was initiated in January 2016, when the famous actress Gwyneth Paltrow stayed overnight in an Airbnb apartment. This meant that Airbnb was no longer a product for Generation Y but expanded its target audience and now offers a suitable option for every age, taste and requirement (Gallagher, 2017, p. 59).

Another milestone of Airbnb's development was the shift from vacation- and country houses to apartments in touristic areas and cities. Their offer does not only include conventional apartments, studios or houses but also more exotic locations such as tree houses, houseboats etc., which makes Airbnb's range so exciting and a menace for the hotel industry (Gallagher, 2017, p. 18).

An interesting fact of the sharing economy is that the intrinsic business ideas are not new. The sole new aspect about Airbnb's business concept is, that the website is user-friendly, inviting and it's simple to rent out accommodation and make bookings. Airbnb focuses strongly on the host to add in the personality of each individual to the customer experience, but also understood the importance of the location on the house/flat itself, where they invested in professional photographers to make their offerings look more appealing to potential customers (Gallagher, 2017, p. 17).

The analysis of Airbnb's customer base reveals that the average age of an Airbnb guests is 35 years and of the host 43 years, whereas the age segment of 60 years is currently growing the most (Gallagher, 2017, p.67). Airbnb is represented in over 191 countries and 'leverages technology to economically empower millions of people around the world to unlock and monetize their spaces, passions and talents to become hospitality entrepreneurs' (Airbnb Inc., 2018).

Today, Airbnb is a company with a net worth of an estimated 30 Billion Dollars and keeps growing; Brian Chesky and his three co-founders have new ideas, tools and products that they are soon planning to introduce to the market. For example, instead of just acting as a broker and mediating an accommodation, they aim to become a 'bargain platform' for individual activities such as ultramarathon trainings, unite tree- and animal lovers that live in the same city, flight bookings, carpooling and restaurant bookings. Airbnb will thus soon enter new business fields and already has generated innovative means of perceiving unfamiliar environments and humans. It changed the means of traveling and opened up a completely new market for alternative accommodation (Gallagher, 2017, p. 42).

1.2 Objectives

The goal of this thesis is to verify or falsify following hypothesis: The rise of Airbnb in Switzerland is responsible for the decreased occupancy rate of hotels in Zurich, Geneva and Basel-Stadt. To this end, the spread and use of Airbnb will be analyzed in those three regions in the time period of the years 2015-2018. The overall objectives of this thesis are:

1. To assess the impact of Airbnb on the hotel industry in Zurich, Geneva and Basel-Stadt
2. To compare and discuss the impact on each city
3. To analyze the changes of the hotel industry in Switzerland with focus on Zurich, Geneva and Basel-Stadt
4. In light of the results, discuss the considered hypothesis to predict possible future developments

1.3 Topic Differentiation

Already existing studies about Airbnb in Switzerland mainly focus on accommodation types, distribution, tenancy law situations, rental and housing market, spatial planning, reactions and effect of Airbnb and regulations. Studies which examine Airbnb's effect on the hotel industry exist for various cities but all located outside of Switzerland. Considering the socio-economic, political and legal peculiarities that characterize the Swiss hotel market, those studies might not be directly applicable, thus requiring specific investigations on Airbnb's impact on the hotel industry for Swiss cities such as Zurich, Geneva and Basel. It has to be noted that in this report Basel is always referred to Basel-Stadt.

1.4 Approach

This paper will compare statistical data through linear regression and further excel tools: An expanded econometric analysis will e.g. compare Airbnb's occupancy to overnight night stays in the traditional hotel industry in Zurich, Geneva and Basel-Stadt. The regression results of various variables will then allow to verify or falsify the hypothesis. The analyzed data exclusively originates from the AirDNA website, the 'Bundesamt für Statistik' and 'Statista'.

2. Literature Review

2.1 The Sharing Economy in Switzerland

The sharing economy is often defined as a 'socio-economic ecosystem' and stands in competition with 'classical' industry sectors (Deloitte, 2015, p. 4). The business model of sharing corporations is a result of supply and demand: to rent out assets that are diminished in its use allowing to share costs and increase flexibility (Deloitte, 2015, p. 4). It includes sharing of physical as well as humane assets and resources: 'Shared creation, production, distribution, trade and consumption of goods and services by different people and organizations' (Ernst & Young, 2015, p. 6).

Sharing in Switzerland has become trendy: numerous people rent and rent out product and services over online platforms rather than simply owning them. This leads to a more efficient allocation of goods, such as cars or housing space and results in a wider range of supply, lower prices and higher quality, and eventually might increase overall consumer welfare. Despite all those positive aspects, there is a rising resistance against the sharing economy, as the success and fast growth of companies like Airbnb pressure the business-models of 'traditional' companies. There is for example an arising urge of legal adjustments that e.g. platform providers of the sharing economy must underlie same regulations as 'traditional' companies (Deloitte, 2015, p. 5).

According to a study of Deloitte and ZHAW[1], Swiss legislators should establish six different measures, which are listed in table 1. These would allow to build a regulatory framework, revise market failure, relieve the traditional economy and ensure legal security (Deloitte , 2016 p. 4).

1. Depletion of existing, non-contemporary regulations
2. Legal legitimacy of self-regulation
3. The advent of minimum requirements
4. Suspension of juridical distinction between industry and private/non-corporate.
5. Collaboration of authorities with platform operators
6. Standardized and digital billing tool for social insurance contributions

Table 1. Possible 6 measures of Swiss legislators (based on Deloitte, 2016, p. 4)

[1] 'Zürcher Hochschule für angewandte Wissenschaften'

The rise of the sharing economy offers the possibility to abolish existing, non-contemporary regulations affecting the 'traditional' economy (see table 1, measure 1). Measure two of table 1 states that self-evaluation and -monitoring systems should be legitimized. This allows a quicker response to reach primary goals (e.g. hygienic cleanliness of accommodation) compared to conventional regulations. Minimum requirements should be introduced: Self-regulation cannot tackle all of the existing problems and thus certain governmental minimal regulations should be applicable for sharing-economy platforms (e.g. reporting obligation for foreign tourists staying overnight).

A confusing aspect of the sharing-economy is, that it is very difficult to distinguish juridical from private. To do so, it is crucial to outline possible aspects of market failure in connection with the sharing-economy. In terms of collaborations of authorities with platform providers, taxes (e.g. visitor's taxes) could be raised directly without significant administrative expense. A similar solution to minimize administrative expense would be a standardized and digital billing tool for social insurance contributions. With the help of such a digital tool, the billing of social contribution rates would be standardized for individuals and likewise for enterprises. The distinction of self-employed and employed would thus be alleviated (Deloitte , 2016, p. 4).

Deloitte has outlined the key indicators of the sharing economy in Switzerland in its study 'Sharing Economy: Teile und Verdiene! Wo steht die Schweiz?' (Deloitte, 2015, p. 3):

- Worldwide investments in sharing economy startups reach a record high: 12 Billion USD (twice as much as social media investments).
- 55% of the Swiss will rent or rent out goods or services via sharing economy platforms within the next 12 months (10% more than in the US; Airbnb arrived much later in Switzerland and thus the growth will only reach its peak in the future).
- In the Romandie, 65% are pro-Airbnb, whereas in the German part of Switzerland there are only 32% of Airbnb supporters found.
- Swiss are more skeptical regarding regulations compared to the USA. In Switzerland, 21% of the consumers demand for more regulations within the sharing economy. 36% of the Swiss consumers want regulations affecting this industry to be loosened up.
- Large corporations can benefit from Airbnb's success with the right corporate strategy. There is an enormous potential of the sharing economy: high investments that are currently made.

In Switzerland, the sharing economy benefits from a rising popularity. The core and most influential companies are foremost Airbnb and Uber. However, Airbnb is not the sole active and successful enterprise in the housing sector/hotel industry, as more and more Swiss startups are entering the market. A prominent example is 'Housetrip': one of the largest platforms to lease and let accommodation across Europe. Further examples of successful Swiss startups in regards to the sharing economy are 'Parku' which focuses on park-sharing and 'Sharoo' for car-sharing (Deloitte, 2016, p. 6).

The reason behind the rising growth in Switzerland is, that the legal situation provides the ideal framework for sharing economy startups. Switzerland, in comparison to other countries did not introduce sanctions or legal bans, but instead waived governmental interference. In addition, Switzerland offers a strong infrastructure, relatively low administrative expenses and a well-educated workforce (Langer, 2014, p. 1).

Besides all positive aspects, there is still space for improvements to facilitate the rise of sharing economy startups. There is, for example, a lack of investment capital in Switzerland: large corporations rarely tend to invest in startups. This is the so-called 'Achilles heel' of the Swiss sharing-economy: 'the funding gap' (Langer, 2014, p. 1). A further aspect that potentially negatively influences sharing economy startup companies, is the relatively small market in combination with high production- and labor costs. Both of those factors can be avoided to a certain degree through international expansion or by outsourcing respectively (Langer, 2014, p. 1).

Five main sharing sectors have evolved in Switzerland, as shown in Figure 1. Besides transport and accommodation, also goods, services and financial services are the main sharing sectors in Switzerland. Since Airbnb arrived later in Switzerland, there is still a significant potential for startups to expand and become successful, whereas in the USA, e.g., the market has been almost worked to capacity (Deloitte, 2016, p.7).

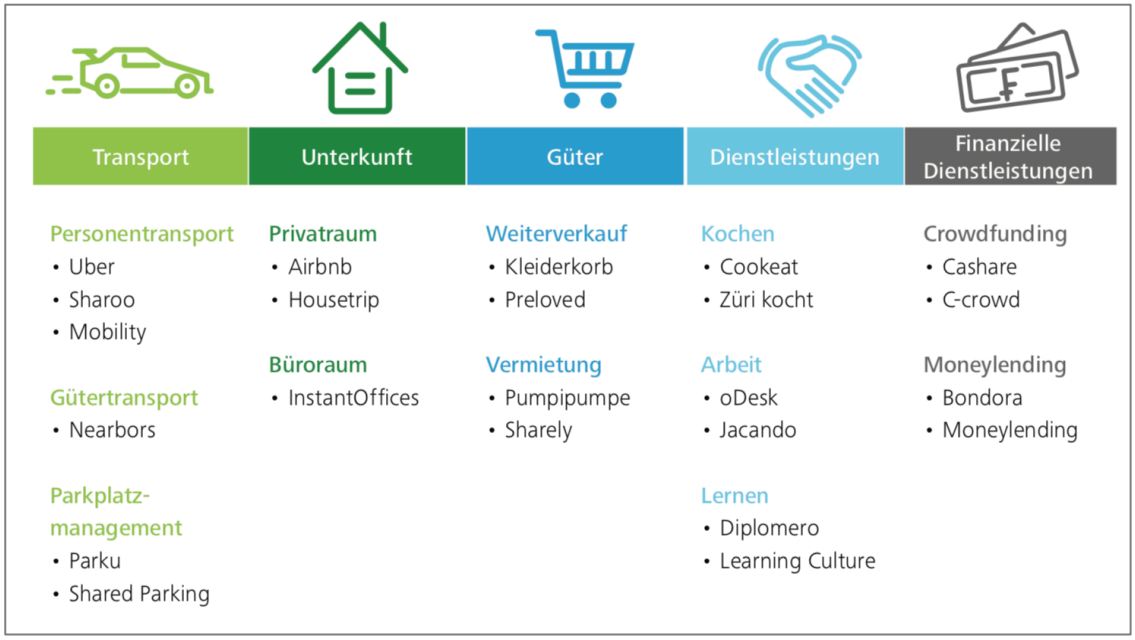

Figure 1. Five main sectors of the sharing economy in Switzerland (Deloitte , 2016, p.7)

As mentioned above, there is a high investment potential for well-established large Swiss corporations. Established companies such as Migros, Mobiliar, Nestle, SBB and Swisscom detected this opportunity and all increasingly invest in startups of the sharing economy (e.g. Migros and Mobiliar both have shares of 'Sharoo'). SBB for example invested in 'Jacando', a Swiss platform that connects people with corporations in order to conciliate part-time jobs. Swisscom invests in various sectors, such as mobility and for example the Startup 'Mila' for customer support. This movement will probably reduce the funding gap of Switzerland in the near future (Deloitte, 2016, p. 7).

2.1.1 Legal Framework and Regulations of Switzerland

The legal framework of Switzerland has been widely discussed in regards to its impact on the sharing economy (Deloitte, 2016, pp. 10-12). Every individual can easily become a provider/supplier, although it seems unclear what kind of new tax or security laws this evolution requires. Legal professionals claim, that problems associated to the sharing economy can be tackled through the application of already existing laws. For example, it is in principle permitted to rent out a private apartment as long as the lessor is informed and agrees. When it comes to commercial letting, taxes or fees may arise.

This also applies in terms of mobility: Uber does not subordinate to taxi regulations in Zurich and thus is not allowed to make use of taxi parking spaces or stripes. All of the other services that Uber offers are seen to be legal with the sole requirement of the driver owning a tachograph and a valid professional passenger transport driver's license (Ingber & Jürgensen, 2014, pp. 1-4).

Another crucial issue of the legal framework is self-regulation. Due to technological advances in the online environment, the sharing economy is under constant exposure and observance of the public. This results in high transparency: e.g. 'two-sided ratings'. An online platform has to look attractive and reputable to a customer otherwise it is not of interest. A host that wants to rent out his flat is dependent on good reviews, otherwise his first tenant will also be the last. Thus, reputation is core to the economic sharing model, effectively promoting self-regulation and self-control (Allen & Berg, 2014, pp. 22-25).

The underlying question is 'Does the sharing economy in Switzerland demand more regulation or liberalization?'. Industries which are affected negatively from the sharing economy, such as the hotel industry, insist on a unified law. As for example hotels need to follow strict hygienic and security guidelines, pay taxes and have guest reporting obligations, while these requirements might not apply to Airbnb hosts. However, the sharing economy mainly consists of private suppliers and thus the application of same laws might be inappropriate because this would alleviate benefits of the environment, consumer and provider that come along with the sharing economy movement. Two main alternatives for the regulation of the sharing economy have been suggested (Deloitte, 2015, p. 11):

1. Critically assess existing regulations and to abolish non-contemporary regulations.
2. Collaborate with sharing platform providers and create a joint concept which includes settlements on taxes etc. Cities such as London and Amsterdam have already started to adapt this solution.

In Switzerland the letting of accommodation over sharing platforms is governed by tax issues, fire safety regulations and reporting obligation of foreign guests. Tax-related aspects are, that commercial as well as private providers of accommodation on Airbnb are required to pay taxes on the respective income and are subject to the value added tax. Some communities also raise visitor taxes or similar charges. In Zurich there is the 'City tax', although the payment of this tax is voluntary (Martel, 2016, p. 1-4).

However, not all providers are aware of those taxation rules. Internet platforms (also Airbnb) do not publish personal data of the hosts, hindering the identification and the correspondent examination of their tax duties. This leads to an increasing lack of fair taxation in Switzerland. For example, the study INURA reports that 30-50% of Airbnb hosts do not pay visitor taxes (Häfliger, 2016, pp. 1-3).

The fire safety regulations in Switzerland are determined by intercantonal bodies. The regulations for tourist accommodation in Switzerland are strict and consider fire alarm systems, fire compartments etc. These regulations however only concern businesses with over 20 beds, thus do not affect Airbnb hosts (Schweizerischer Bundesrat, 2017, p. 99-109).

In accordance with the federal act on foreign nationals (AuG, Art. 16), anyone who hosts foreigners in turn of a fee in Switzerland, is obliged to report foreigners (Schweizerischer Bundesrat, 2018, pp. 107-108). It does not make a difference whether this accommodation is provided by a hotel or a private individual on Airbnb or other operating only free accommodation of foreign nationals is expected from the reporting obligation (Schweizerischer Bundesrat, 2017, p. 107-108).

Some cantons of Switzerland have already issued specific regulations in regards to operating platforms such as Airbnb. Amongst the analyzed three regions, Basel-Stadt intends to introduce a new city tax law by 2018. In compliance with the city tax law, not only conventional businesses such as hotels, but also Airbnb hosts have to raise visitor taxes. Additionally, the tax is elevated by 0.10-1.70 Swiss Francs. There might also be the possibility of compulsory registration duties thus increased administrative work. The half-canton is already authorized to conclude arrangements with operating platforms concerning the respective tax contributions. According to the canton of Basel they are already negotiating with Airbnb (Stünzi, 2016, p.1).

2.1.2 Airbnb in Switzerland

The first Airbnb booking in Switzerland has been made in 2010. The largest distribution of Airbnb supply in terms of number of objects can be found in following Swiss communities: Geneva, Zurich, Basel, Verbier and St.Moritz (Walliser Tourismus Observatorium, 2015). Geneva (Figure 2) had a negligible record of 3 bookings in 2010 and today accounts for cumulative rentals of 8’078 Airbnb bookings (AirDNA, 2018).

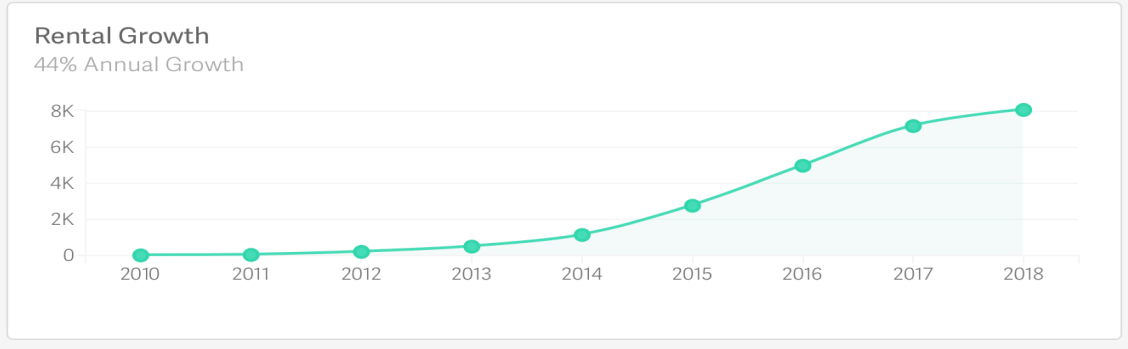

Figure 2. Rental growth of Geneva on the Airbnb platform based on AirDNA data (Airdna, 2018)

While the annual rental growth is around 44% in Geneva, Zurich features an annual growth of 55%. The year of 2010 recorded 6 bookings in Zurich (Figure 3) whereas today there are 10'817 cumulative rental bookings made since Airbnb's introduction to the Swiss market (AirDNA, 2018). In Basel (Figure 4) only 2 bookings were made in 2010 and comparatively low cumulative rentals of 4'585 bookings (AirDNA, 2018).

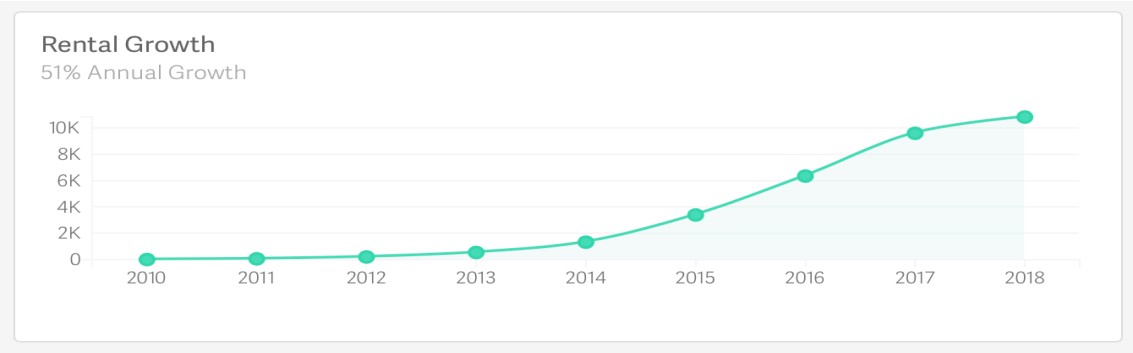

Figure 3. Rental growth of Zurich on the Airbnb platform based on AirDNA data (AirDNA, 2018)

In Basel Airbnb was first treated with suspicion, whereas of today, there is a rental growth rate of 60% per year and thus it currently seems to be the city with the highest growth potential of those three.

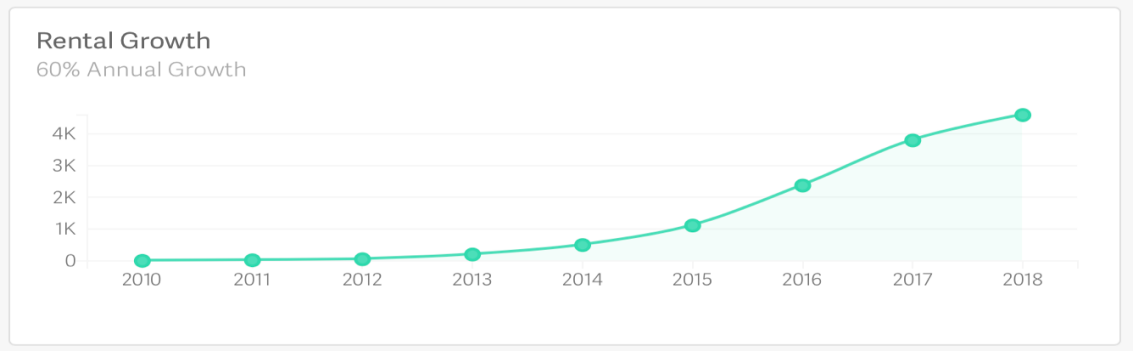

Figure 4. Rental growth of Basel on the Airbnb platform based on AirDNA data (AirDNA, 2018)

2.2 The Hotel Industry in Switzerland

The hotel industry in Switzerland is considered as traditional, i.e. primarily based on small and independent hotel operators, leading their businesses directly. The Swiss hotel industry accounts for a total demand of 45 billion Swiss francs with an annual turnover of 7.6 billion Swiss francs (Hotellerie Suisse, 2017). Producing creative business models to re-attract customers lost to Airbnb is generally perceived as a challenge.

Zurich, Geneva and Basel-Stadt are the main hub cities of Switzerland and this might serve as a valuable prospection for the impact on the occupancy. It has been reported that higher priced hotels suffer less from the rising popularity of Airbnb than lower- and mid-price segments of the hotel industry (Glusac, 2016). Airbnb is seen as more valuable than global hotel chains such as Hyatt, as stated by the Wall Street Journal (Rusli, MacMillan, & Spector, 2014).

2.2.1 Zurich

Zurich lies in the heart of Europe and is an important economic, cultural and social epicenter of Switzerland. Zurich is an attractive city, offering various shopping-, sport- and leisure activities and unique and diverse cultural offerings with a beautiful lake in the heart of the city. In terms of life quality, Zurich is often ranked very high in international studies (Stadt Zürich, 2017). Zurich is the largest city of Switzerland and counts over 400’000 residents. As customary in Switzerland, there is a high degree of autonomy and freedom of choice: citizens can vote for laws and elect government officials and determine the political composition. More than 30% of the citizens have a second nationality, making Zurich a city with a high diversity of cultures and thus cosmopolitan. Zurich is therefore seen as a small and dynamic metropolis. Table 2 lists the most important key figures of Zurich (Stadt Zürich, 2018).

Population	423’310
Number of apartments	222’249
Number of city districts	12
Number of employees	468’635
Rate of unemployment	4,2%
Total surface area incl. waters	91,9 km^2

Table 2. Key figures of Zurich, Switzerland (based on Stadt Zürich, 2018)

2.2.2 Geneva

Geneva is 'the smallest of the biggest metropolitan cities' and is called the 'city of freedom' (Ville de Genève, 2018). The UNO headquarter is in Geneva as well as various multinational corporations and also the international committees of the Red Cross. Geneva's population numbers around 200,000 citizens and is the second largest city of Switzerland. Geneva is a city of art and culture and 'the city of parks' with 20% of green areas, increasing the life quality. Geneva's hosts around 100 foreign banks, and thus its economic system is multinational (Ville de Genève, 2018).

Population	198'072
Number of apartments	107'056
Number of employees	178'316
Total surface area including waters	15,9 km^2

Table 3. Key figures of Geneva, Switzerland (based on Bundesamt für Statistik Genf, 2018)

2.2.3 Basel-Stadt

Basel consists of the two half-cantons Basel-Stadt and Basel-Land. This study is always referring to Basel-Stadt. The half-canton is located on the border triangle between Switzerland, France and Germany. Cross-border contacts thus belong to the city's daily agenda. When it comes to issues around traffic, environment, education and culture, Basel works closely together with its neighboring states. Basel has a central traffic junction and a binational airport. Further, the city is in the interface of railways and highways of France, Germany and Switzerland. It is a dynamic economic region, probably one of the most productive and innovative of the world (Verwaltung des Kantons Basel-Stadt, 2018). Basel hosts BASELWORLD (jeweler and watches exhibition), MUBA[2] (an audience fair) and Art Basel, an important exhibition for art. Leading global companies of pharmaceutics or chemicals such as Novartis, Roche, Syngenta etc. have their corporate headquarters based in Basel (Verwaltung des Kantons Basel-Stadt, 2018).

Population	198'988
Number of apartments	109'490
Total surface area incl. waters	23.91 km^2

Table 4. Key Figures Basel, Switzerland (based on Präsidialdepartement Kanton Basel-Stadt, 2018)

[2] Abbreviation of 'Mustermesse Basel'

2.3 Hotels and Airbnb in Comparison

Hotels and Airbnb accommodation cannot be equated. Airbnb is generally less expensive than hotels and offers the possibility to rent more space (e.g. entire homes). Additionally, Airbnb offers a unique experience: meeting locals, authentic living and new adventures. Hotels, on the other hand, have the unique selling proposition of convenience, service and security. With a hotel, a customer might now what to expect e.g. if by booking a four-star hotel he will most probably receive an according service. Airbnb accommodation offers slightly less certainty than hotels, as a guest can never be sure if the accommodation corresponds to his/her expectations.

2.4 Effects of Airbnb on the Hotel industry

There are various studies that examine the effects of Airbnb on the international hotel industry, such as Smith Travel Research (Haywood & Freitag, 2017). For this thesis, four international cities have been selected to be later compared to the findings results of the analyzed Swiss cities. London has the largest community of Airbnb followers in Europe. New York is the city with the highest number of Airbnb listings in the US. Lastly, Amsterdam is ranked as the 10th in the world in terms of number of listings and serves as a complementary analysis of the European market. Helsinki in Finland has the exact same number of listings as Zurich. With its population of around 630'000 it is slightly larger than the three analyzed Swiss cities but can generally be seen as comparable. A clear research gap is visible on the side of the hotel industry, where data is rarely available (e.g. ADR of hotels not available of most cities).

2.4.1 London, United Kingdom

London is the capital city of England and with 64'086 active rental listings the largest Airbnb community in the world (Richter, 2018). Overnight stays in London grew by approximately 130% to 4.6 Mio in 2016 (Colliers International Group Inc., 2017, p. 1). In London there are 55% multi-listing and 45% single-listing hosts (AirDNA, 2018). ADR of hotels in London are currently are £145 (Statista, 2018). Average daily rates of Airbnb seem to decrease by 8% (Colliers International Group Inc., 2017, p. 1). Currently, the average daily rate of Airbnb is £141 per night per room and thus similar to ADR of hotels. Airbnb's occupancy rate is currently 82% (year 2017). Occupancy rates of Airbnb in London have increased by 27% in the last six months (AirDNA, 2018). Lastly, Airbnb London experiences a relative growth rate of 55% in 2016 and is expected to grow also in 2018 (Colliers International Group Inc., 2017).

2.4.2 New York, United States of America

New York counts 36‘273 active Airbnb listings and thus has the largest Airbnb communities of the United States (AirDNA, 2018). New York’s Airbnb Properties are mainly located outside mid-Manhattan, 70% of hotels are located in Manhattan (Airbnb Inc., 2018). Average daily rates of Airbnb in New York have increased by 5% between 2015 until 2018 to $182 USD with an occupancy rate of 82% (AirDNA, 2018). The occupancy rate has decreased by 30% within the last six months. The city of New York has an annual rental growth of Airbnb listings of 29% (AirDNA, 2018) The supply structure of Airbnb consists of 54% entire homes with 37% multi-listing hosts (AirDNA, 2018). According to the ‘Bureau of labor statistics’ report of the US (Roach, 2018), hotel revenues are suspected to be affected negatively by Airbnb entering the market. Airbnb offers accommodation that varies from a hotel offer in terms of size, service and prices. Thus, they often have increased room availability and consequently lower prices than hotels especially during the high-season. In New York this is not the case, as there is an immensely high demand during peak months and limited supply leads to higher prices (Roach, 2018).

2.4.3 Amsterdam, Netherlands

Amsterdam counts 12‘975 Airbnb listings and has an average daily rate of 157 Euros per night per room. The average occupancy rate of Airbnb in Amsterdam is 87%, whereas it increased by 24% during the last six months. Similarly, during this period, Amsterdam experienced an annual rental growth of 37%. The majority of 73% of the hosts in Amsterdam are single-listing hosts (AirDNA, 2018). Amsterdam is a popular travel destination and thus hotel occupancy is continuously increasing along with its number of overnight stays. In Amsterdam, Airbnb seems to impact the hotel industry, although this cannot be undermined through statistical data (Oskam & Bakker, 2016, pp. 2-3).

2.4.4 Helsinki, Finnland

Helsinki has an average daily rate of 79 Euros on Airbnb with an occupancy rate of 80%. The occupancy rate of Airbnb in Helsinki has decreased by 26% to 64% in the last six months with an average occupancy of 80%. 69% of the hosts offer single-listings (AirDNA, 2018). According to the study of ‘Arcada University of applied Sciences’, even though the increase of the Airbnb occupancy, hotel occupancy increased along with its RevPAR[3].

[3] Revenue per available room

Airbnb is not seen as a threat for hotels, nor a concurrence for hoteliers in Helsinki as overnight stays at hotels have increased equally to Airbnb's. Hotels increasingly use the Airbnb platform to rent out their rooms and trigger revenues (Gissha & Shresta, 2017, p. 24-29).

2.4.5 Other Global Markets

STR conduted a study on 13 global markets: , *Barcelona, Boston, London, Los Angeles, Mexico City, Miami, New Orleans, Paris, San Francisco, Seattle, Sydney, Tokyo and Washington, D.C'* (STR Global, 2017, p. 3). The study reports following main conclusions:

- The higher Airbnb occupancy, the higher hotel occupancy.
- Hotel occupancy is higher than Airbnb occupancy.
- Hotels are more expensive per night and per room (ADR).
- ADR of hotels are increasing, ADR of Airbnb increased in five out of 13.

In some markets, Airbnb is relative new in its presence, thus growth rates do not depict its actual potential. The report states that Airbnb still is growing whereas hotel markets are already saturated.

2.5 Gentrification

Besides the impact of Airbnb on neighborhoods and hotels, a major consequence since the introduction of Airbnb has been gentrification. Three types of gentrification can be identified (Gant, 2016, p.13-17):

1. Direct: displacement through rental terminations
2. Exclusion: through increasing rents
3. Pressure: due to changes in the neighborhoods/quarters because of the high number of tourists

All those changes can be trigger by Airbnb guests due to increased noise emissions, lowered sense of security and well-being, less social contacts/interactions between locals which in turn lowers the sense of a community and belonging.

Higher tourist density in a city quarter, usually comes along with higher rents for shops and apartments, and thus suppressing low- to mid-income locals from city centers or popular quarters (Gurran & Phibbs, 2017, p.85-87).

3. Methodology

3.1 Fundamentals to Data Analysis and Data Sources

The data specific to Airbnb was collected on the AirDNA website (AirDNA, 2014). Airdna.co provides official secondary data and analytics, gathered from the Airbnb website with the help of a web crawler. The database currently accounts and tracks 4 Million Airbnb listings around the world on a daily basis. Those listings are then used to generate raw data reports and subsequently update its market intelligence tool 'Market Minder' (AirDNA, 2018), which provides occupancy rates and revenue data. The tool also shows a market overview: types of accommodation, rental size, rental growth, active hosts and the location of listings in each city.

The Core technology of AirDNA is a custom artificial intelligence that is able to distinguish available from unavailable dates (meaning they are either booked by a guest or have been blocked through the host). This is a crucial distinction because only bookings made by a guest, meaning of the demand side, are relevant for the analysis of Airbnb data (Shatford, AirDNA, 2014). The accuracy of the tool created by AirDNA is constantly increased through feeding training data, allowing to improve and learn over time (Airbnb Inc., 2018).

The data which is made available through the AirDNA website, 'observes behavior, extracts patterns from new information and as a result predicts Airbnb booking information with accuracy' (Airbnb Inc., 2018). The AirDNA website provides data of the region of Zurich, Geneva and Basel-Stadt and not just of the city. This investigation will thus focus on the cantons of Zurich, Geneva and Basel rather than strictly on the respective cities since the data available through 'Bundesamt für Statistik' also considers the cantons.

It can however be assumed that the results reflect the demand/supply of the city, since hotels and Airbnb accommodation are mainly located within the city centers. The data related to the Swiss hotel industry was collected on the website 'Bundesamt für Statistik Schweiz', 'Hotellerie Suisse' and 'Statista' for average daily rates. The participation of all hotels at HESTA[4] is mandatory since 1934 (Bundesamt für Statistik, 2018). They are required to list information regarding number of businesses, rooms and beds, as well as arrival times and overnight stays and lastly from which country the guest origins.

[4] Beherbergungsstatistik

On the BFS website data monthly and yearly overnight stays can be found for the cantons of Zurich, Geneva and Basel-Stadt. Lastly, the data needed to conduct this research, is publicly accessible. It has also to be mentioned that AirDNA data is only secondary data, although it is seen to be the most reliable source of recording Airbnb data (AirDNA, 2018).

3.2 Data provided by AirDNA

In order to gather the utilized AirDNA data, the author had to subscribe and pay a monthly fee of 76 Euros. The AirDNA website provides daily, monthly and yearly reports for each region of where Airbnb is active. Table 5 below, lists the dataset made accessible by AirDNA.

Market overview	Market grade - Rental demand - Revenue growth - Seasonality - Regulation Average daily rate Occupancy rate Revenue Active rentals Rental size Rental activity Rental growth Active hosts Professional hosts Map
Pricing	Entire home Private home Shared room Future supply and available rates Average daily rate ADR range
Occupancy	Occupancy rate (historical) Booking lead time Booked properties (demand growth)
Seasonality	Best month RevPAR (monthly) Weekend RevPAR Full year seasonality
Revenue	Entire home Private room Shared room

	Rental revenue Historical market revenue
Rental analysis	Active listings Average weekly views Average ratings Reviews Amenities Other (cancellation policy, minimum stay)
Top properties	Listings with annual revenue, average daily rates, reviews and map
Guests	Guest arrivals % International Top guest city Guest origins Top domestic and international cities Guest profiles (social media presence, languages spoken)
Rentalizer	Valuation model to predict what property can earn as a vacation rental (revenue forecast, average daily rate forecast, occupancy forecast, comparable Airbnb properties)

Table 5. AirDNA data set per supply entry/region (based on AirDNA, 2018)

This thesis will focus on the following datasets provided by AirDNA:

- Market overview: rental demand, seasonality, occupancy rate, revenue, professional hosts
- Pricing: supply structure
- Occupancy
- Seasonality
- Revenue: historical market revenue (ADR)

AirDNA provides data for the region of each city (meaning the canton/half-canton). This paper takes all of the region of Zurich, Geneva and Basel into account, not solely the city centers.

3.3 Data provided by ‚Bundesamt für Statistik‘

The ‚Bundesamt für Statistik‘ is a federal agency of the Swiss confederation with its main office located in Neuchatel, Switzerland. It is the hub for national monitoring of services and competences and is the most important statistics producer in Switzerland, leading the data pool ‘Statistik Schweiz’. BFS provides information on all thematic realm of public statistic data. On table 6 it is visible which 21 topics are statistically observed by BFS (Bundesamt für Statistik, 2018).

1. Population	12. Banks and insurances
2. Space and environment	13. Social security
3. Labour, aquisitions	14. Health
4. National economy	15. Education, science
5. Prices	16. Culture, media
6. Industry/ services	17. Politics
7. Agriculture	18. Public finance
8. Energy	19. Criminality, criminal law
9. Construction and housing	
10. Tourism	
11. Mobility and traffic	

Table 6. Statistical data available on BFS (based on Bundesamt für Statistik, 2018)

For this paper, solely the statistical data on tourism is relevant: overnight stays, occupancy, supply structure and demand. The main focus lies on the sections ‘Beherbergungs Statistik’ and ‘Parahotellerie Statistik’. The BFS depicts data of demand and supply, occupancy, guest arrivals and nationalities etc.

3.4 Data Processing and Analysis

3.4.1 Determination of Occupancy Rates

To depict the demand growth of hotels, the ‘Bundesamt für Statistik’ provides the data of supply and demand of the hotel industry of each region. This paper only compared the years 2015 -2017 of demand growth, since there is no Airbnb data available before the year 2015 in Switzerland. In the excel sheet[5] the ‘Net room occupancy rate’ has been gathered for the years 2015-17 for the canton of Zurich, Geneva and Basel-Stadt. To compare the conducted Bundesamt für Statistik data with the AirDNA data, the mean has been calculated of each years’ occupancy rate of each canton (since AirDNA data only provides monthly historical data). The ‘Net Room Occupancy Rate’ then has been

[5] ‘Bundesamt für Statistik, Hotellerie: Angebot und Nachfrage der geöffneten Betriebe nach Kanton, Jahresergebnisse 2005-2018

opposed to the yearly average occupancy rate of AirDNA and this for each canton to analyze the growth of occupancy for hotels and Airbnb in the respective cantons.

3.4.2 Determination of the Relative Growth Rate

The relative growth rate has been determined with the 'occupancy rates' of hotels and the 'listing nights booked' of Airbnb, as mentioned in 3.4.1 above. The relative growth rate has been calculated as followed for each month:

Monthly Value / Initial Value = Relative Growth Rate

,where the initial value is the value at the beginning of each monitored interval. The relative growth rate depicts the correlation of the respective growth of Airbnb and how the Hotel industry in the last few years (Zurich and Geneva years 2015-2018, Basel-Stadt years 2016-2018). The change of growth rate will show how Airbnb has decreased/ increased in comparison to the hotel industry in Zurich, Geneva and Basel-Stadt.

3.4.3 Determination of Demand

Since there is a general overcapacity in both the hotel industry and Airbnb offerings (see 3.4.1) the demand can be determined directly through the analysis of overnight stays. The Airbnb data regarding the overnight stays has been read off the AirDNA website[6]. The hotel occupancy data of Zurich, Geneva and Basel can be directly derived from the 'Bundesamt für Statistik' website under 'overnight stays' (Bundesamt für Statistik, 2018). The overnight stays of the three cities will then be compared with the 'listing nights booked' retrieved of the AirDNA website.

3.4.4 Determination of Market Seasonality

The seasonality is also evaluated through the occupancy rates which were found on the AirDNA website[7] (AirDNA, 2018) and the 'overnight stays' from the Bundesamt für Statistik. Seasonality has been evaluated by computing the ratio between the monthly amount of overnight stays with the average value of the monitored time period for hotels and Airbnb respectively.

[6] under the field ‚Occupancy > Demand Growth > Listing nights booked'
[7] under the field 'occupancy > demand growth > listings nights booked'

3.4.5 Determination of Market Share

The market share is calculated through comparing the total overnight stays with the number of Airbnb and hotel overnight stays respectively. It has to be noted that Airbnb offers different types of accommodation and thus might target a different clientele. This factor has been disregarded as the number of shared rooms offered in the respective cities is minimal.

The hotel overnight stays of each region are gathered from the 'Bundesamt für Statistik' website of the respective excel document[8]. First, the sum of the monthly overnight stays is calculated of each canton/half-canton. The number of Airbnb overnight stays is read off the AirDNA[9] which is recorded monthly. The data is raised for the years 2015 to 2018 for Zurich and Geneva and the years 2016 until 2018 for Basel-Stadt. The share of Airbnb and of the hotels is then calculated in percentage and illustrated through a pie chart.

In order to depict the evolution of the market share over time, it has been viewed to be essential to analyze its monthly growth. To this end, the market share has been reported graphically for each month of the analyzed timespan. The change of market share serves as a supporting statement of the growth/decline of Airbnb's market share and conversely of the growth/decline of hotel market share.

3.4.6 Determination of Locational Aspects

A Google maps screenshot of the regions of Zurich, Geneva and Basel-Stadt has been made with the hotels marked in. On the AirDNA website there is a map, that plots all Airbnb housings. The visual comparison of both maps will allow to roughly determine what locational advantages of Airbnb and of hotels are. It has to be noted that this analysis is qualitative and not quantitative and thus might be biased by subjectivity. The data to substantiate this factor is not available and thus the author assumed it to be a crucial contributor for the evaluation of this topic, even though it is of qualitative nature.

3.4.7 Determination of the Pricing Structure

On the AirDNA website[10] the data of average daily rates (ADR) are listed. ADR is defined as '*A measure of the average rate paid for rooms sold, calculated by dividing room revenue by rooms sold'* (STR Global, 2018). The monthly rate is provided on the AirDNA website for all three regions. In order to compare those rates with the hotel industry, the

[8]Hotellerie: Ankünfte und Logiernächte der geöffneten Betriebe in 100 Gemeinden nach Jahr, Monat, Gemeinde, Herkunftsland und Indikator> Logiernächte
[9] Occupancy > Demand growth > 'Listing nights booked'
[10] Pricing > average daily rate = ADR

data of 'Statista.com' was utilized (Statista, 2018). Regarding the hotel industry, only data of Zurich and Geneva has been recorded/could be gathered. Thus, only the rates of these two cities could be compared. This analysis still has been viewed as an essential contributor to the overall final statement of this paper. The Average daily rate of hotels has been compared to those of AirDNA rates from the years 2015 until 2019 (forecast comparison) for all three regions.

3.4.8 Determination of the Airbnb Supply

The Airbnb supply structure can be directly gathered from the AirDNA website[11]. This allows to comparison of how many entire homes, private rooms and shared rooms are available per month in each region. This will show if Airbnb undermines its original idea of sharing or if it more and more professionalizes and thus stands less in concurrence with the hotel industry because its different set of supply. It has to be noted that the different set of supply targets a different audience, which possibly decreases its concurrence to the hotel industry further.

3.4.9 Determination of Professional Hosts

The professional hosts percentage can be found on Airdna.co[12]. It will underline the investigation about Airbnb's shift away from its original idea of 3.4.8. and demonstrate if Airbnb hosts are rather professionals or private individuals.

[11] Occupancy > demand growth > listing nights booked > entire home/ private room /shared room
[12] Overview > professional hosts > multi-listing hosts/single-listing hosts

4. Empirical Research and Results

4.1 Evolution of Demand and Supply

4.1.1 Occupancy Rates and Demand

In order to depict the occupancy of hotels, the net occupancy rate of booked rooms has been calculated for the years 2015 until 2017 (See Appendix 1 for data of Zurich, Geneva and Basel-Stadt). In terms of Airbnb, the monthly average of booked properties has served as a suitable reference. The results on table 7 evidentiate, that there was a higher demand of hotel rooms in the years 2015-2017 than for Airbnb rooms. Between 2015 to 2017 in Zurich, the occupancy rate of hotels reduced by 3% and the Airbnb occupancy increased by 12%, depicting a change of demand/supply ratio. This might show how awareness for Airbnb is growing and along with that, the demand for alternative housing might lead to a decline of hotel occupancy rates. This statement is relative since it has to be noted that there are various other factors that also come into play, which might also lead to a decrease of hotel occupancy.

		2015	2016	2017
Zurich	Hotel	65.2%	67.3%	62.2%
	Airbnb	59.8%	64.5%	71.8%
Basel	Hotel	62.4%	61.1%	58.2%
	Airbnb	-	42.3%	49.3%
Geneva	Hotel	64.6%	66.3%	64.4%
	Airbnb	57.8%	60.3%	68.2%

Table 7. Occupancy rates of Zurich, Basel-Stadt and Geneva, hotel vs. Airbnb in %

In Geneva, the occupancy rates of hotels seem to be more stable than in Zurich (Table 7). Airbnb on the other side depicts a high growth in its demand/supply ratio by 11.6% in the years 2015 to 2017. Airbnb experiences a faster growth of demand, whilst the hotel industry experiences a supply excess (e.g. if there is a supply excess, demand is too low to cover supply).

In the year of 2015, there was no data available for occupancy rates of Airbnb in Basel-Stadt (table 7), whilst hotels featured an occupancy rate of 62%. In 2016 the demand for Airbnb initiated to grow its occupancy rate by 7% and reached 49%, which is relatively low compared to Zurich and Geneva. The hotel occupancy on the other hand has declined by 4.2% throughout those three years (table 7).

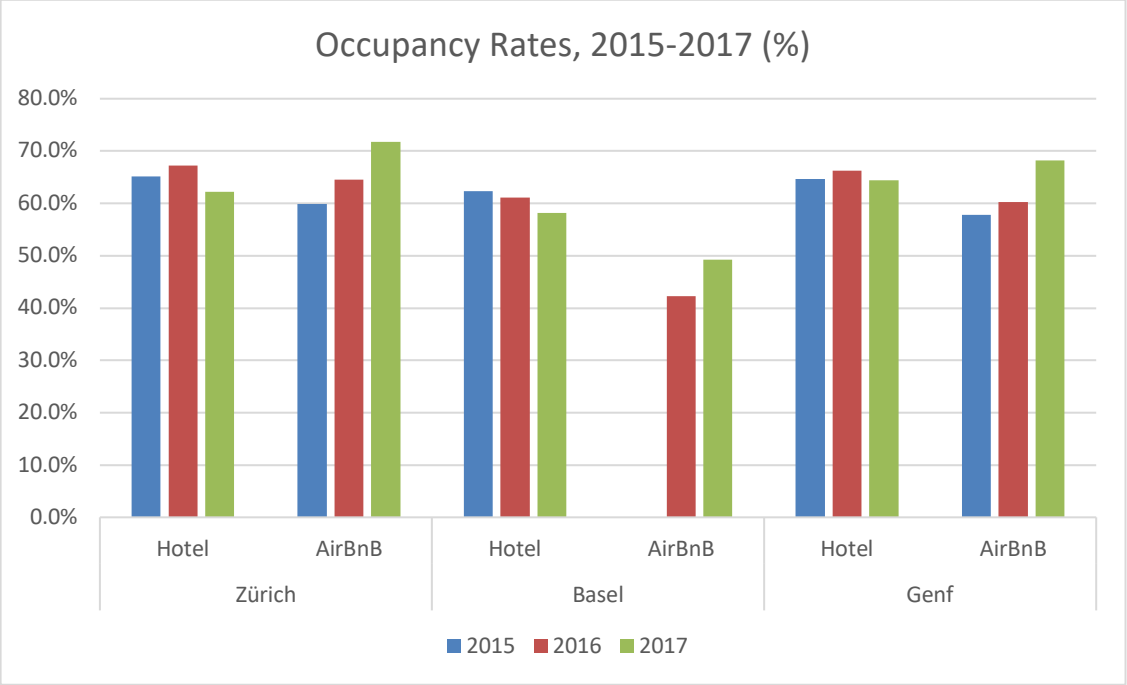

Figure 5. Occupancy rates of Zurich, Basel-Stadt and Geneva, Hotel vs. Airbnb

Figure 5 visualizes the three cantons/half-canton in comparison (see Appendix 2 for separate diagrams of Zurich, Geneva and Basel-Stadt), listing its occupancy rates of hotels versus Airbnb between the years 2015 to 2017. Overall it can be deducted from the data, that Airbnb has an overall higher and growing occupancy in comparison to hotels. Hotel occupancy rates seem to be declining with the exception of Geneva, where occupancy remains stable (table 5). This might be explained through the high influx of business travelers associated with UNO, WFO, Diplomacies etc. Furthermore, occupancy rates of Airbnb in 2017 are higher than the ones of hotels with the exception of Basel-Stadt. A possible reason might be the late introduction of Airbnb in Basel and thus it can be assumed that occupancy rates of Airbnb will be higher than of hotels. The hypothesis of this paper is thus verified, although a causal context is difficult to prove.

4.1.2 Relative Growth

In Zurich, the number of nights booked via Airbnb show a rising tendency from around 4'681 booked nights in July 2015 up to 18'358 nights in May 2018 which corresponds to an increase of 290%, as seen on figure 6. Peaks of Airbnb bookings were reported in December (17'052 nights booked, 2017) and in July/August (21'256/21'496 nights booked, 2017) (figure 6). In contrast, the hotel bookings in Zurich decreased by 5.8% in July 2015 compared to May 2018, reported in figure 6. The relative growth of hotels seems to fluctuate around -0.5 and 1%, remaining stable overall.

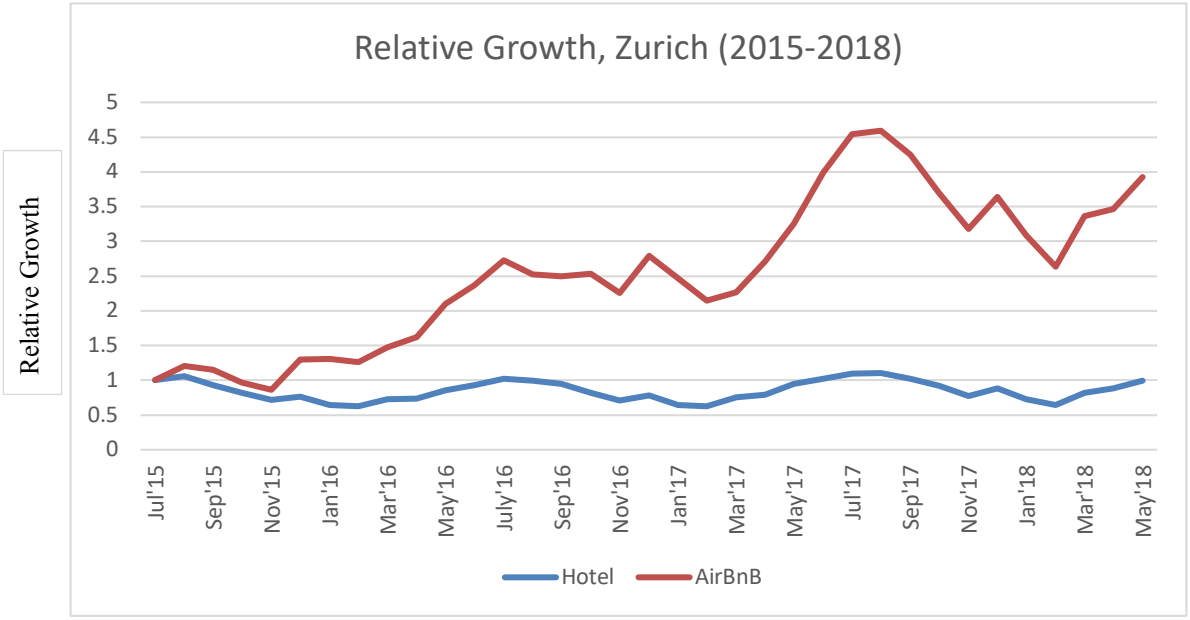

Figure 6. Relative growth in Zurich, Airbnb vs. hotels (2015-2018)

In Basel-Stadt and Geneva, as reported in figures 7 and 8 respectively, there is a rising tendency of nights booked via Airbnb. In Basel (figure 7), extreme peaks of Airbnb bookings can be seen in December (4'315 overnight stays), March (8'880 overnight stays) and June (10'303 overnight stays) which will be further examined in chapter 4.1.3 (figure 7). Airbnb in Basel-Stadt experiences a relative growth of 922% from September 2016 until May 2018 (figure 7), whereas the relative growth of hotels remained stable.

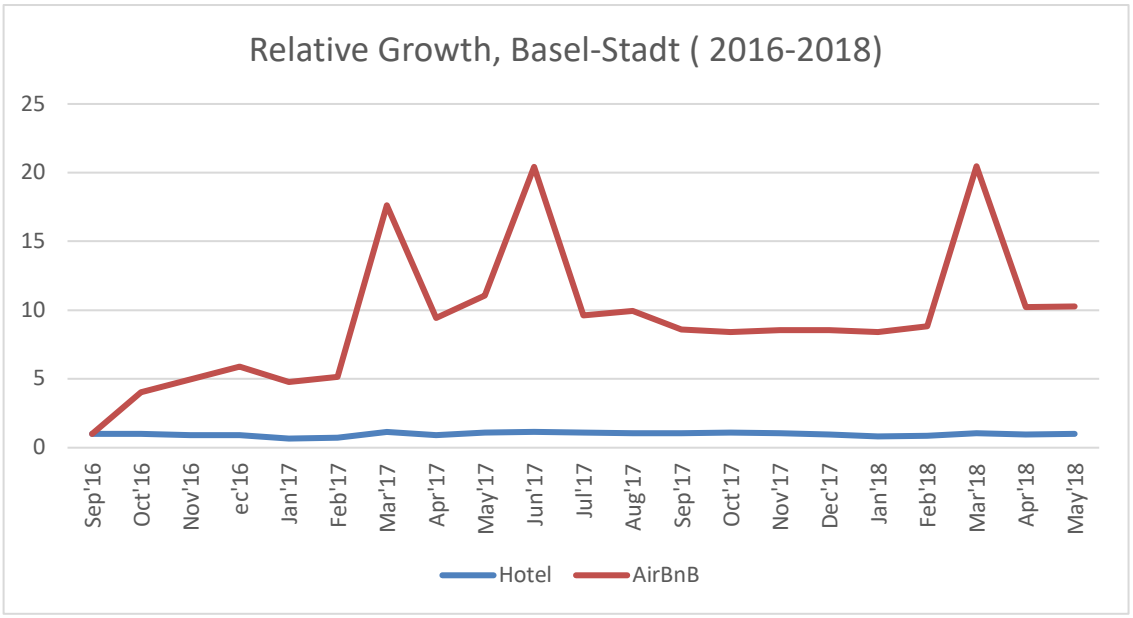

Figure 7. Relative growth in Basel-Stadt, Airbnb vs. hotels (2016-2018)

In Geneva (figure 8), there is an Airbnb booking peak in the month of June 2017 with around 20'000 overnight stays. March is also noting a relatively high number of bookings. Geneva illustrates a relative growth in Airbnb accommodation of 250% (figure 8). The relative hotel growth in Geneva remains constant with slight downward fluctuations (figure 8).

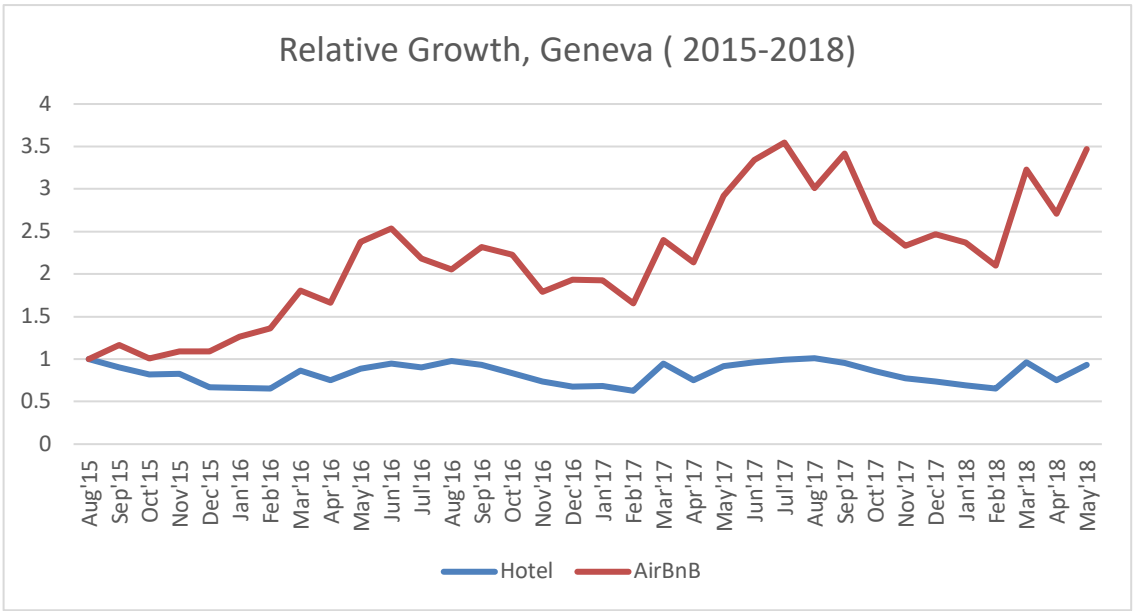

Figure 7. Relative growth in Geneva, Airbnb vs. hotels (2015-2018)

Overall, Zurich experiences the largest relative growth of 290% followed by Geneva (250%) and Basel-Stadt (155%). The analysis leads to the conclusion that the relative growth of Airbnb is constantly and rapidly increasing, while the relative growth of hotels remains stagnant with minimal downward fluctuations in all respective regions (figures 6-8), (See Appendix 3 for relative growth rate data of Zurich, Geneva and Basel-Stadt).

4.1.3 Market Seasonality

As seen in section 4.1.2, profitability and occupancy of hotel and Airbnb bookings are both affected by seasons (See appendix 3 for data). Figure 9 displays the relative seasonal fluctuations in the canton of Zurich for both hotels and Airbnb housings. The fluctuations are similar, although it seems that Airbnb housing is more affected by the magnitude of seasonal fluctuations than hotels. The best months are December and July, which might be explained through the higher influx of tourists during Christmas time and also throughout the summer months respectively (AirDNA, 2018). Concerning the rest of the year, seasonal fluctuation experienced by hotels are less distinctive than the ones affecting Airbnb bookings in the canton of Zurich (figure 9).

This can possibly be attributed to the business character of Zurich: Business travelers are expected to prefer hotels and the experience of the full service, instead of booking an apartment over Airbnb for a short-term stay.

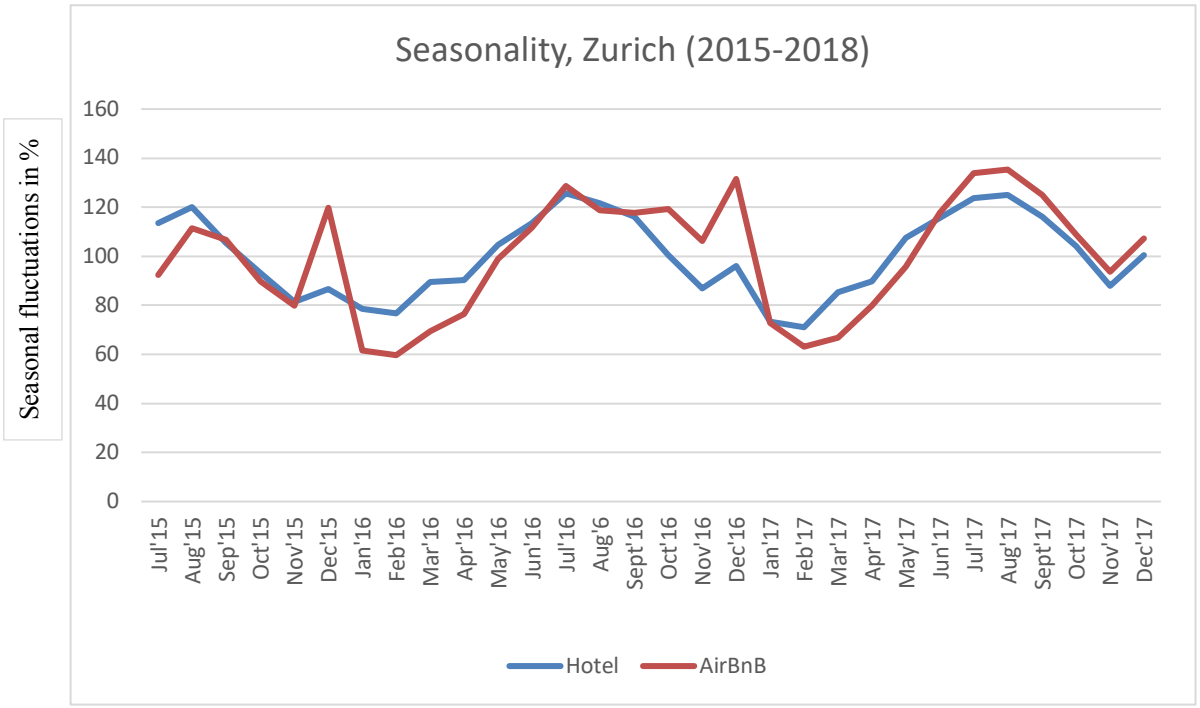

Figure 8. Seasonality of hotels and Airbnb in Zurich, 2015-2018

In Basel-Stadt the fluctuations of Airbnb Bookings seem to be even more prominent than in Zurich. The best months of Basel are March and June (AirDNA, 2018), exactly when BASELWORLD (March) and 'Art Basel'(June) take place.

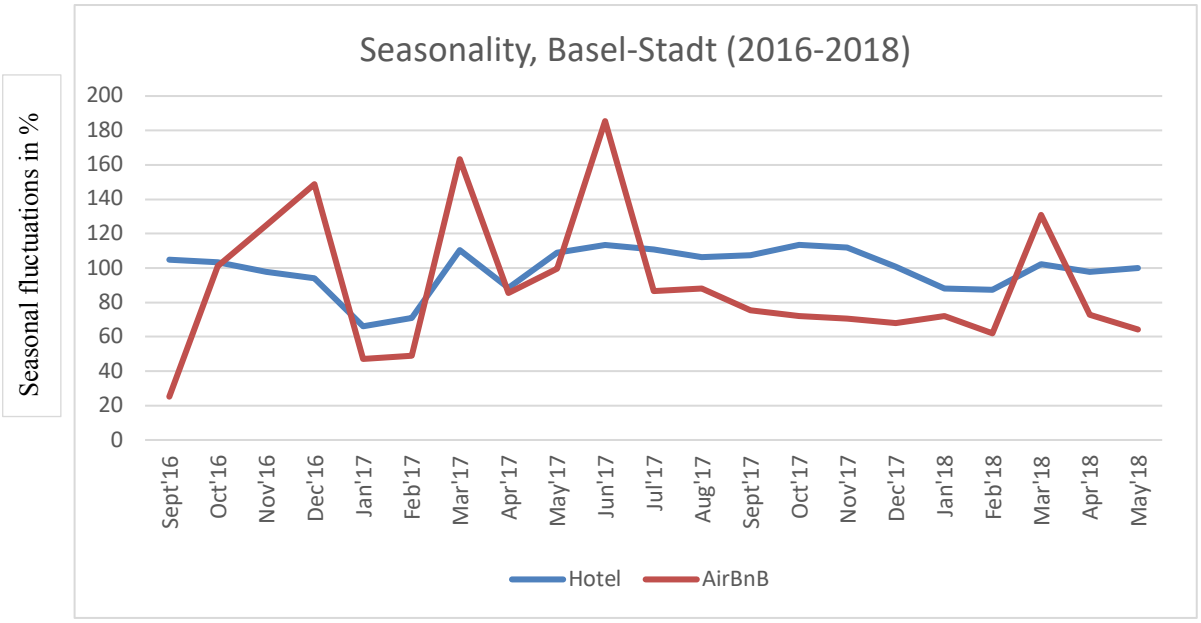

Figure 9. Seasonality of hotels and Airbnb in Basel-Stadt, 2016-2018

Geneva's (figure 11) seasonal fluctuation of Airbnb depicts more resemblance to Zurich (figure 9) than to Basel (figure 10). Geneva and Zurich both have been introduced earlier to Airbnb whilst Basel lags behind and experiences the growth and fluctuations that Zurich and Geneva had few years earlier (figures 9-11).

Geneva's best month on Airbnb is February and the summer months May to September (AirDNA, 2018) (figure 11). Geneva has a large lake and thus is an especially attractive for tourists during Summer months and in February for the famous car show of Geneva.

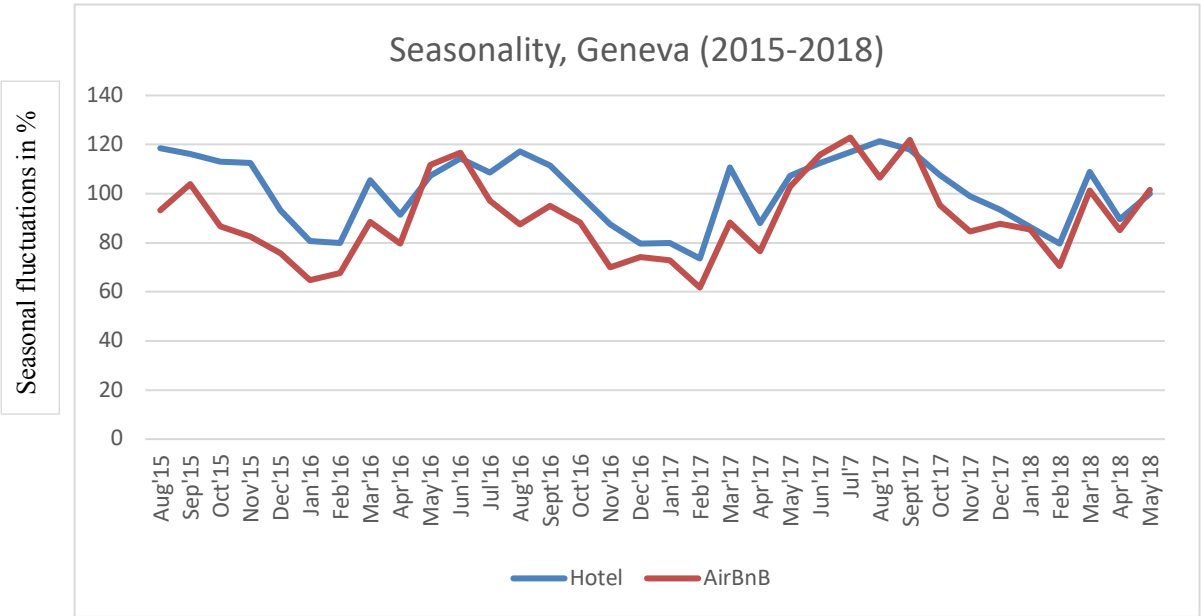

Figure 10. Seasonality of hotels and Airbnb in Geneva, 2015-2018

Overall, the hotel fluctuations are less substantial compared to Airbnb's, suggesting hotels in Zurich, Geneva and Basel-Stadt experience a more stable demand throughout the year whilst Airbnb's demand fluctuations strongly depend on the month (figures 9-11). A major advantage of Airbnb accommodation is, that in comparison to traditional hotel accommodation, it features a certain supply-flexibility, meaning that during low-demand months the accommodation might not be listed on Airbnb and therefore can be used for other purposes such as renovation work, personal use etc. Airbnb accommodations thus is expected to better cover local and seasonal supply than hotels, also because of the different cost structure.

4.1.4 Market Share

For the analyzed time period the total the number of overnight stays booked via hotels in the canton of Zurich counts 8'966'046 and only 417'225 overnight stays are counted for Airbnb. This represents Airbnb's market share of only 4% in Zurich.

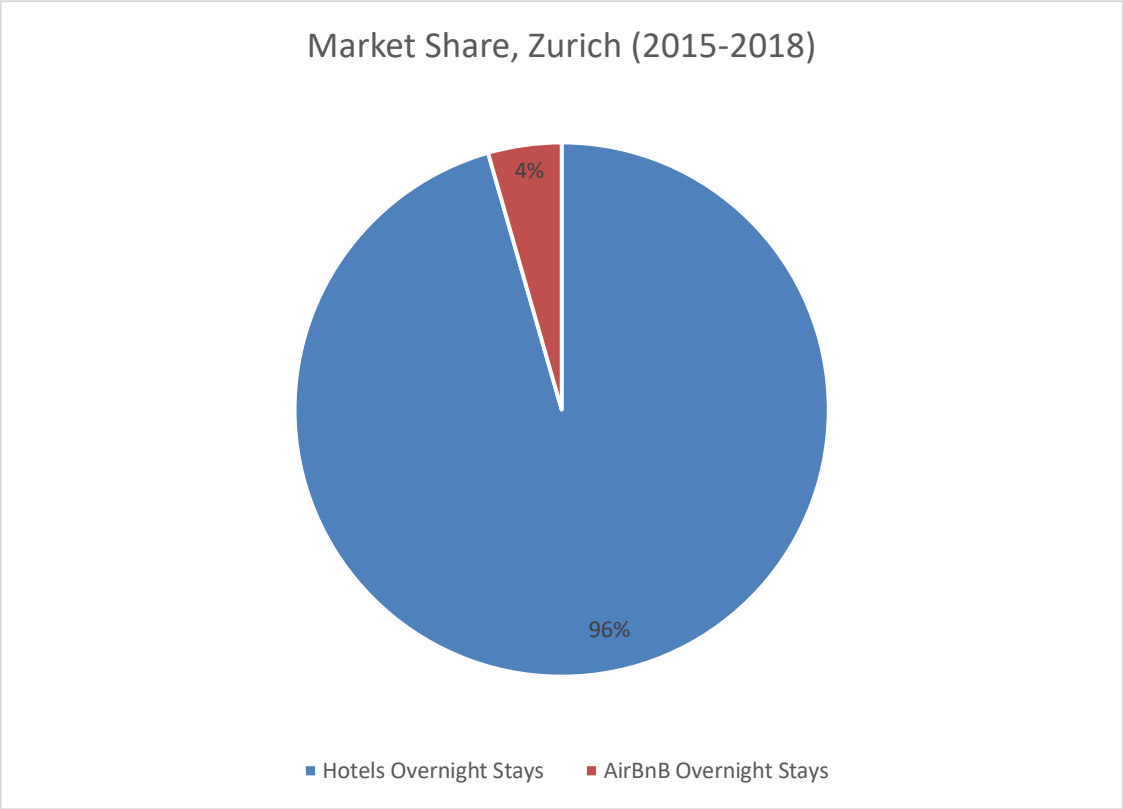

Figure 11. Market share, hotel vs. Airbnb overnight stays, Zurich (2015-2018)

The number of nights between 2015 to 2018 in Geneva, is a total of 5'848'528 hotel overnight stays of whom 421'729 can be accumulated for Airbnb, resulting in a total current Airbnb market share of 7%.

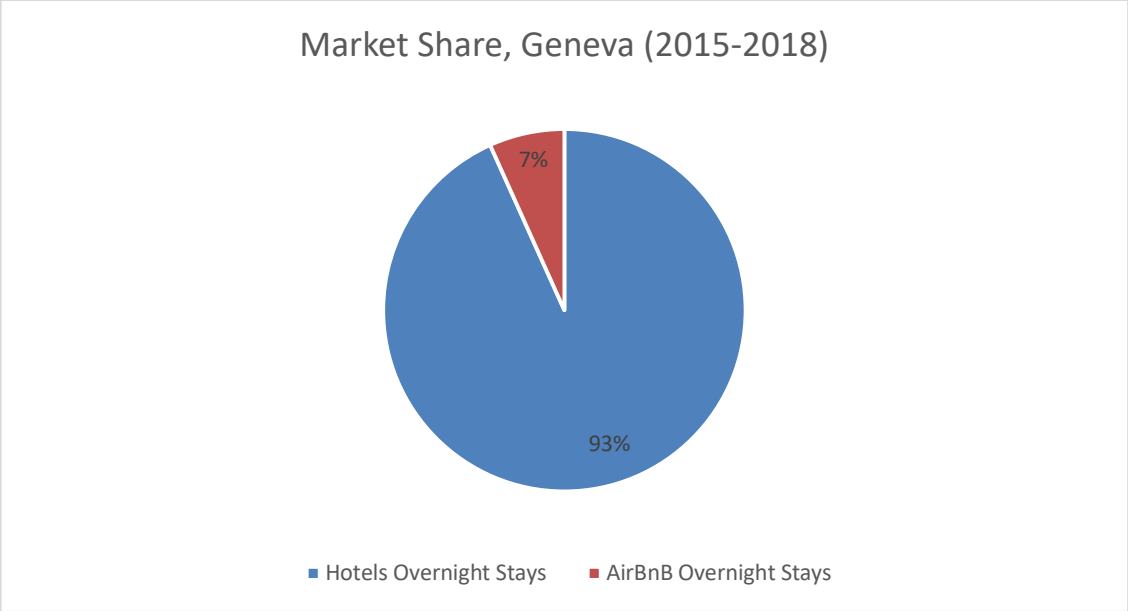

Figure 12. Market share, Geneva, hotel vs. Airbnb overnight stays (2015-2018)

In Basel-Stadt there is a total number of 2'248'901 hotel overnight stays between 2016-2018, of which 98'876 are booked through Airbnb. This results in an Airbnb market share of 4% in Basel-Stadt and therefore are comparable to Zurich.

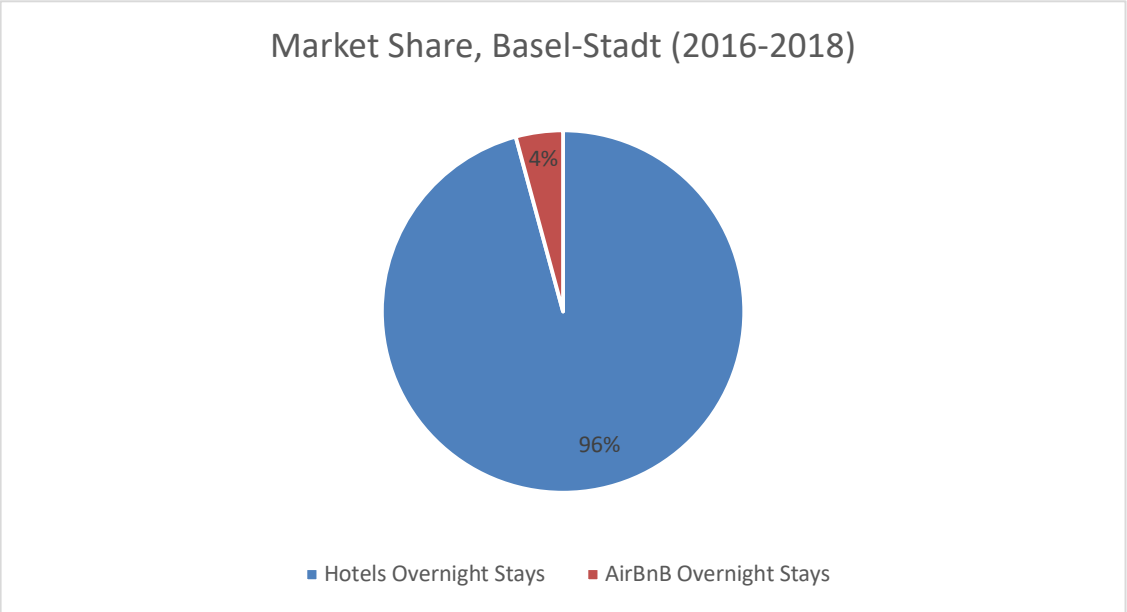

Figure 13. Market Share, Basel-Stadt, hotel vs. Airbnb overnight stays (2016-2018)

The market share of each of those three regions is very low and thus in international comparison propably seen as quite insignificant. The market share thus is minimal, yet it can be presumed that Airbnb is the largest direct provider of accommodation besides hotels. However, this assumption cannot be undermined with statistical data because of the unavailability of such data in Switzerland.

4.1.5 Change of Market Share

The temporal evolution of the market share in Zurich seems to decrease from a rate of 98.5% in July 2015 to 94.2% in May 2018 (figure 15). Airbnb at the same time increases from 1.5% to 5.8% (figure 15). The figure below shows Airbnb's growth in red and the hotel industry's decrease in blue. The increase/decrease is very minimal on both sides and it has to be taken into account that there are several other aspects which influence the change of market share.

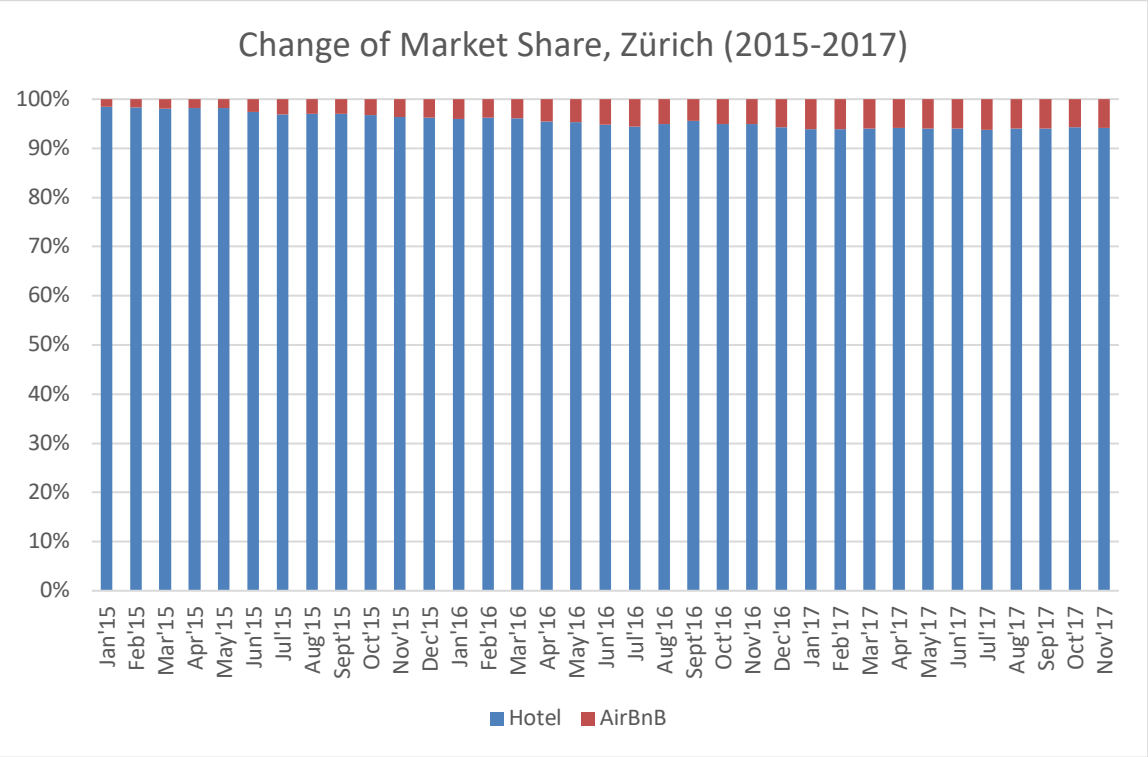

Figure 14. Market share in %, Airbnb vs. hotels, Zurich, 2015-2017

The change of market share in Geneva is higher than in Zurich. The market share of Airbnb was 2.7% in August 2015 and grew to 9.3% in May 2018 (figure 16). Conversely, the hotel's share decreases from 97.3% in 2015 and reduced to 90.7% in 2018 (figure 16). It can be concluded, that Airbnb experiences a fast and constant growth in Geneva, whilst the hotel industry slightly decreases.

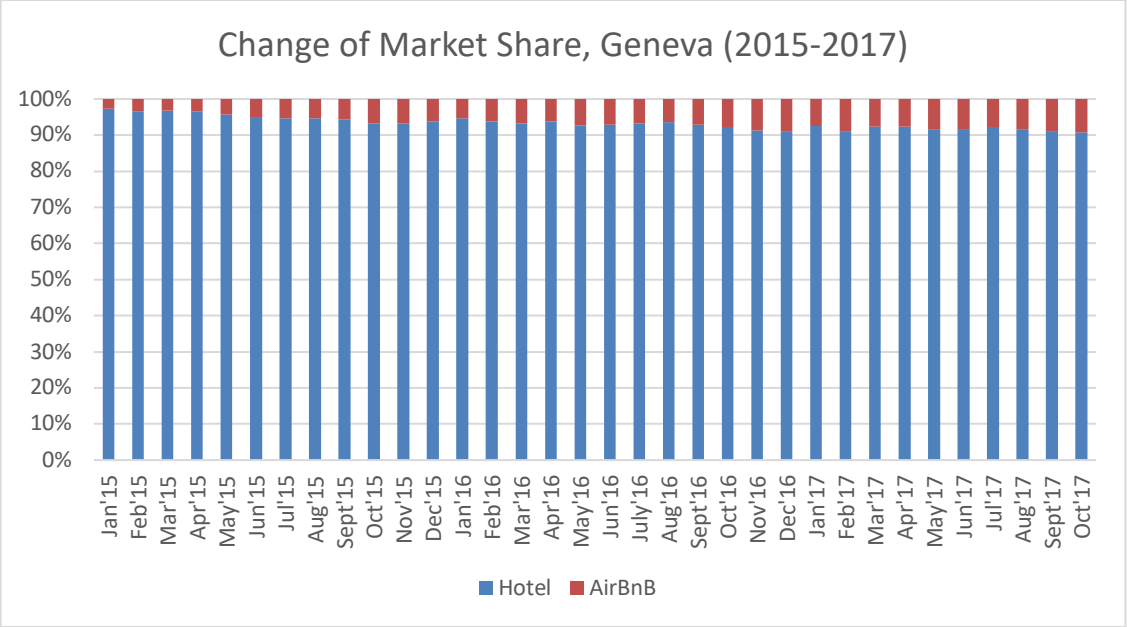

Figure 15. Market Share in %, Airbnb vs. hotels, Geneva (2015-2017)

In Basel-Stadt, besides some anomalies, there is an increase of market share in Airbnb and decrease of the market share of hotels (figure 17). On Figure 17, the data rows for Basel were shorter than for Geneva and Zurich, the growth of Airbnb from 0.5% to 4.4% can be seen in red. Some anomalies can be seen in July and October 2016 and July 2017 (higher occupancy rates) (figure 17). Overall it can be outlined that Airbnb is growing in Basel with a constant, rapid pace whilst hotels seem to have a slightly reduced occupancy rate. Overall Airbnb still numbers a low proportion of the total and thus cannot yet be seen as a threat for the hotel industry in Zurich, Geneva or Basel.

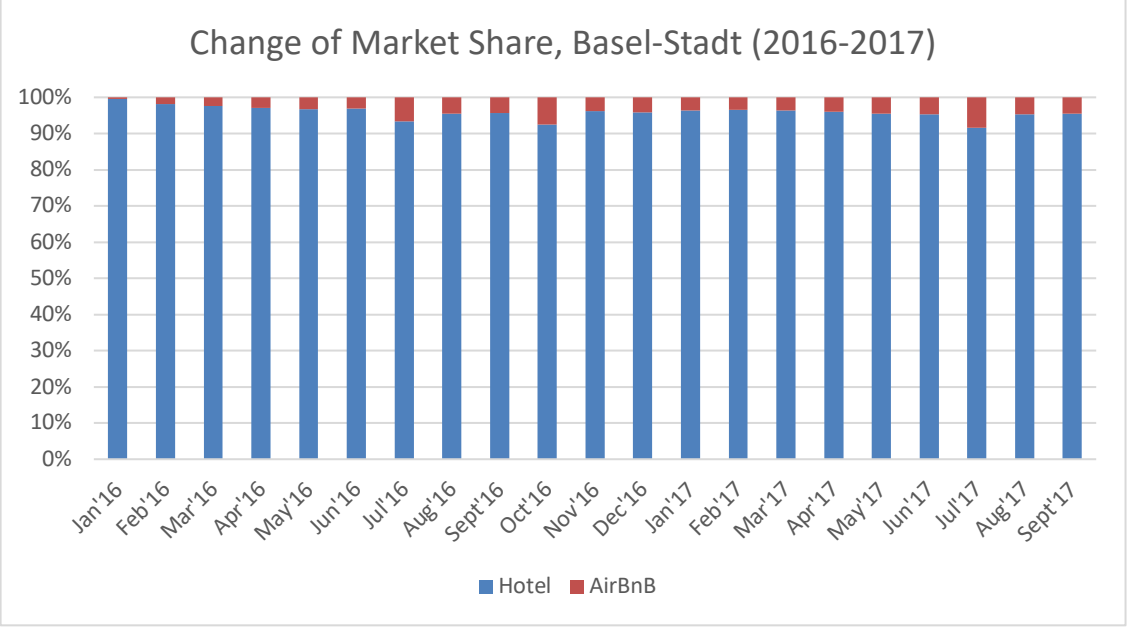

Figure 16. Market share in %, Airbnb vs. hotels, Basel-Stadt (2016-2017)

4.2 Locational Aspects

Locational advantage is, as defined by the author, an advantage in terms of quantity of supply in central locations (e.g. city centers) which means more options are available, thus making it into a more attractive offer for guests. The following maps report locations of Airbnb housings and hotels in the analyzed cantons. In Zurich there are 3,021 active rentals from both very central locations as well as more peripheral locations (AirDNA, 2018). Figure 18, is a live screenshot of Google Maps on the 18th of July 2018 and depicts all the current hotel locations as well as prices for an overnight stay. It can be presumed, that Airbnb in Zurich has a locational advantage in terms of its higher quantity of locations. For example, if a hotel room in district one of Zurich costs too much, a guest can easily evade to numerous other, lower priced Airbnb options. Hotels are located very densely in central locations, which can be seen as a locational advantage too. Proximity and convenience are bonuses of the central locations of hotels.

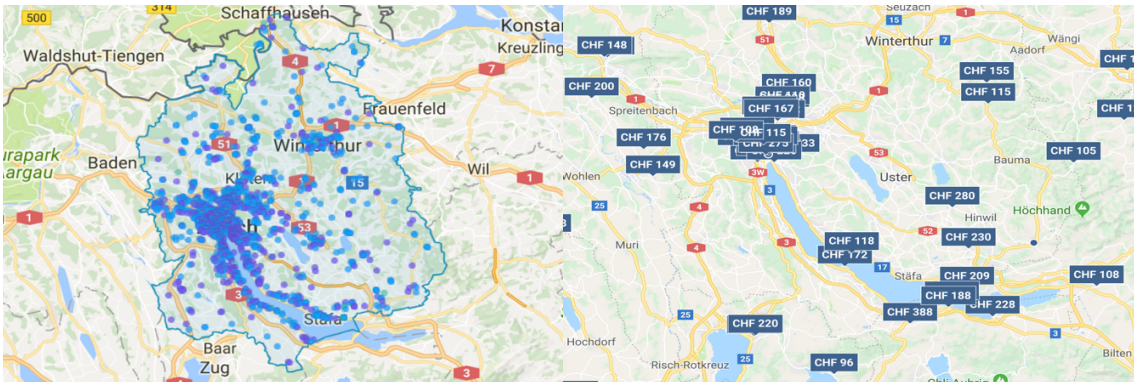

Figure 17. Airbnb map (AirDNA, 2018) and Google map (Google Maps, 2018) of hotel offerings, Zurich

Figure 19 reports the 2,170 active rentals offered by Airbnb of the canton of Geneva can be seen. Again, around 100 rentals less than Zurich. The canton of Geneva almost solely offers central housing locations on Airbnb.

Figure 18. Airbnb map (AirDNA, 2018) and Google map (Google Maps, 2018) of hotel offerings, Geneva

In Basel there are only 1,826 active rentals which is a bit more than half of Zurich's active rentals. It can be derived from the map that the locations of Airbnb housing in the canton of Basel are also mainly in central locations and offers a broader set of options than hotels.

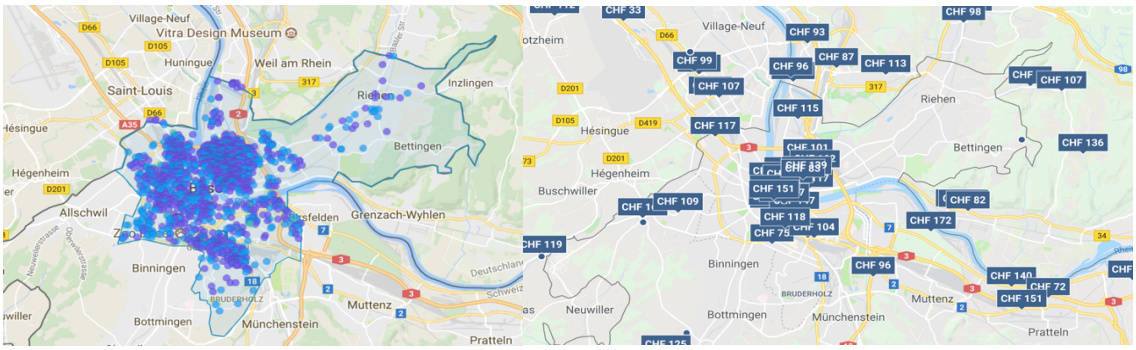

Figure 19. Airbnb map (AirDNA, 2018) and Google map (Google Maps , 2018) of hotel offerings, Basel

As visible on the extracted maps, it can be suggested that Airbnb has a locational advantage in terms of quantity, which makes its supply more flexible and thus elastic. This is because Airbnb offerings cover more geographical space and thus provide a wider set of accommodation than hotels. Hotels benefit from prime locations and thus advantages in terms of short walking distances, increased convenience but also higher prices. However, Hotels are suggested to have a certain locational inflexibility, meaning they do not have numerous locations as Airbnb and thus are suggested to have a rather inelastic supply, meaning locations are strongly represented in the city center but the further its distance the less options are available. Hotels need to consider this aspect and thus it is essential to adapt their pricing according to their location. It has to be stated that Airbnb cannot choose or control their locations, it always depends on which host decides to rent out his flat over Airbnb and on the location (better location = higher prices).

4.3 Pricing

The average daily rates (ADR) for hotels could only be retrieved only for Zurich and Geneva. In Zurich (figure 21), the evaluated time period is from the year 2011 to 2019 (of which 2018 and 2019 are predictions). The total of average daily rates from the years 2011-2017 amounts an average of 233 CHF per day in Zurich (figure 21). In 2011 its average daily rate was 238 CHF and is predicted to sink to 222 CHF in 2019. The regression analysis on figure 21 evidentiates this downward trend .

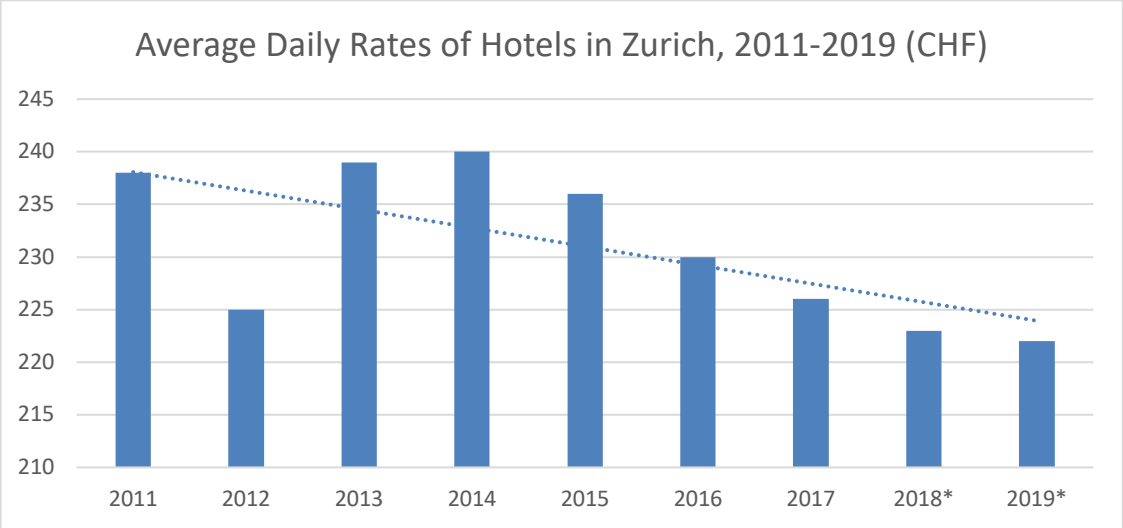

Figure 20. Average daily rates of hotels in Zurich, 2011-2019 (CHF)

The average daily rates in Geneva also experience a downward trend, which is visualized by the regression trend line on figure 22, similarly to Zurich. Rates are predicted to sink from 299 CHF in 2011 to 278 CHF in 2019 (figure 22). The total average of the 2011-2017 ADR rates is 284 CHF, which indicates slightly higher room prices than in Zurich.

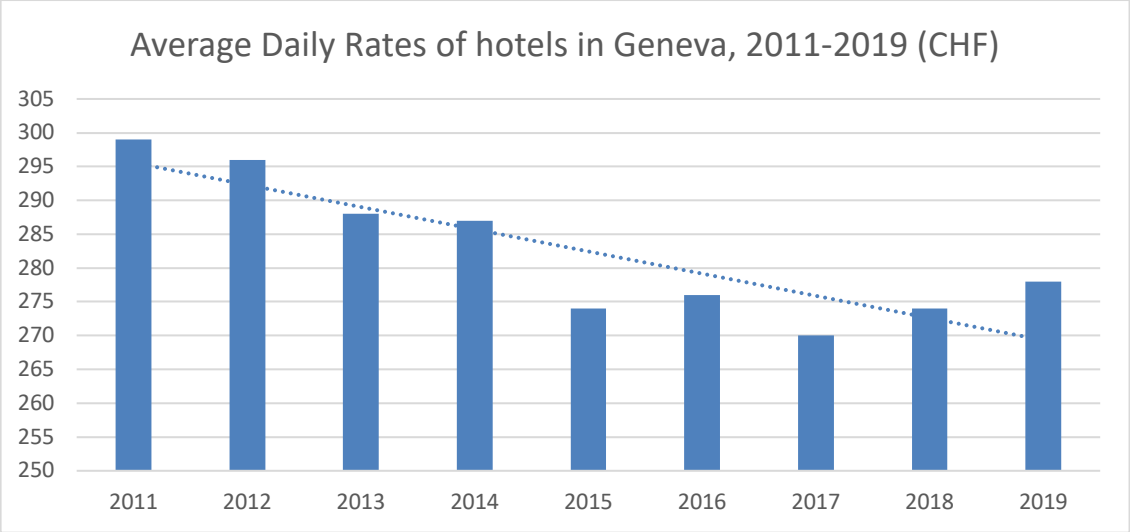

Figure 21. Average daily rates of hotels in Geneva, 2011 -2019 (CHF)

On figure 23, the average daily rates of Zurich and Geneva stand in contrast to each other. It is evident that the ADR of Geneva are slightly higher than in Zurich. This can possibly be explained due to a supply shortage in Geneva, which leads to increased prices. As pointed out before, hotel rates seem to shrink over the years. Several aspects might be responsible for this downturn. In Zurich the 'Motel One' with 400 rooms opened, which is the largest hotel to date of the German-speaking Switzerland. Overall, there is a clear surplus of supply in Zurich, which causes ADR to drop. Furthermore, large low-budget hotel chains (such as 'Motel One') enter the hotel market in Zurich with low prices, forcing other hotels to adapt their rates. More global hotel chains are planning to add Zurich to their collection, which will cause a further increase in supply. The strong growth can possibly in the future lead to overcapacities with too little customers and shrinking occupancy rates.

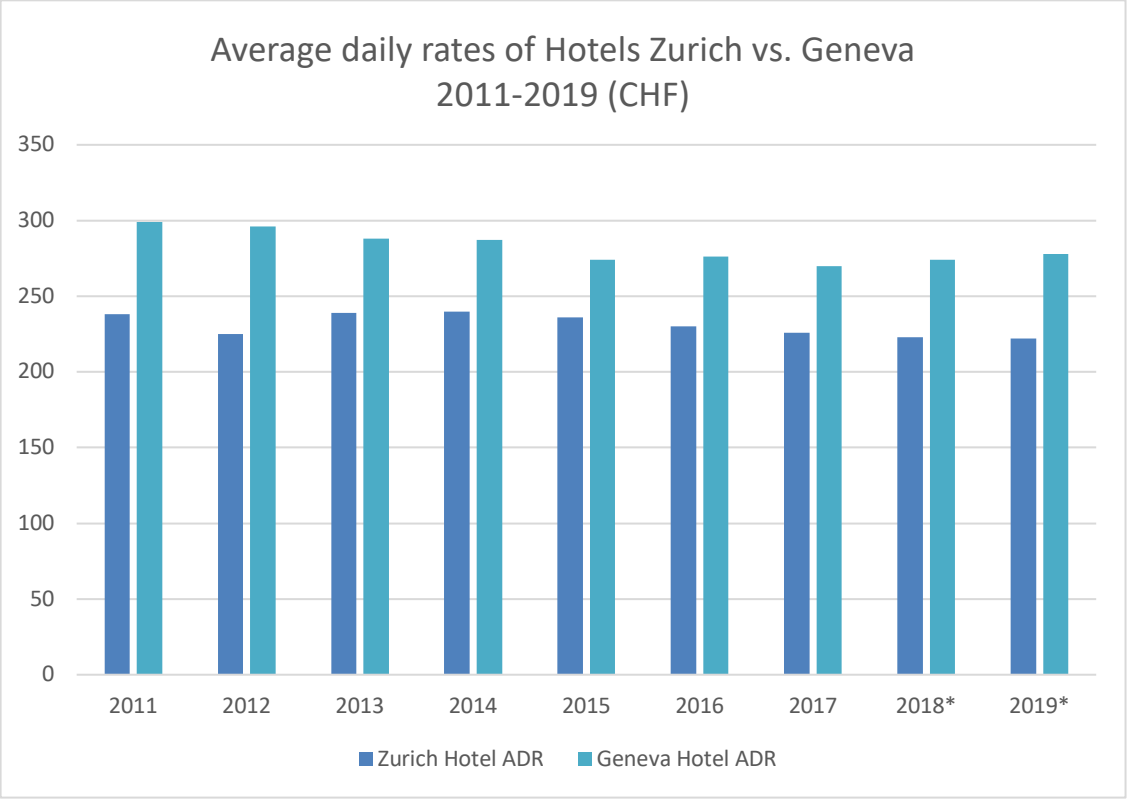

Figure 22. Average daily rates of hotels, Zurich vs. Geneva, 2011-2019 (CHF)

Geneva has, according to its data, more stable prices probably because of diplomats and politicians that house there thanks to UNO and other organizations provide a constant demand. The strong Swiss Franc is a further cause for the price-erosion since less tourists can afford to travel to Switzerland and therefore lowers the demand. Airbnb is further increasing its price competition in Geneva as depicted on the respective figure 22.

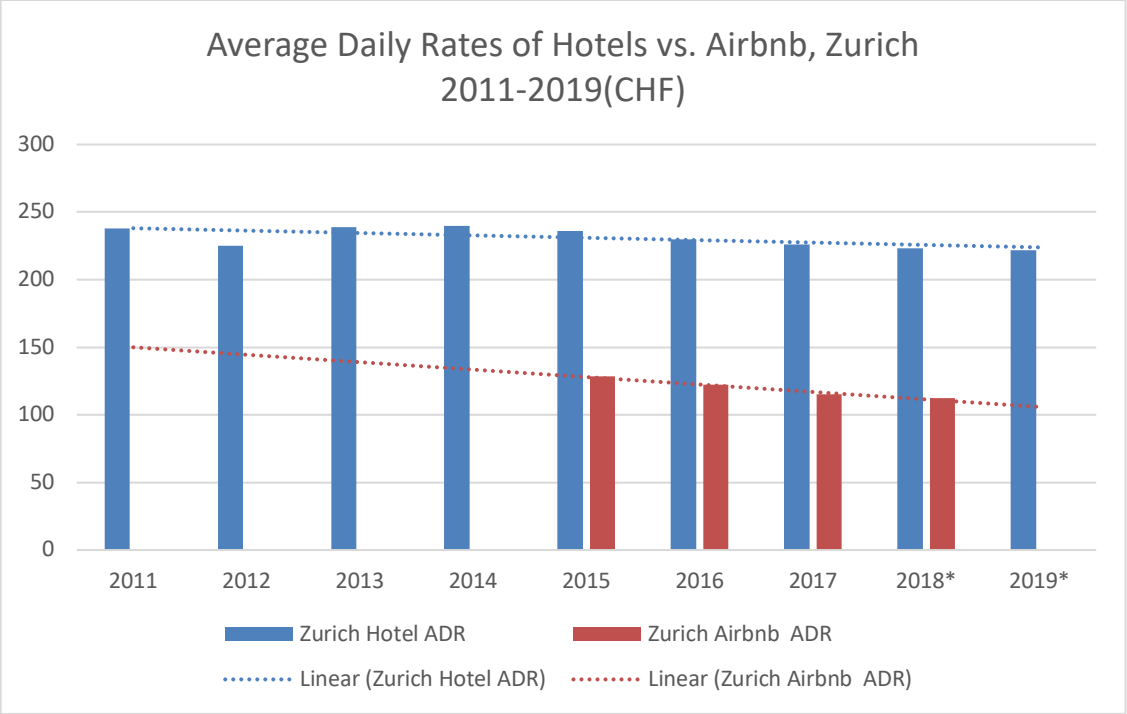

Figure 23. Average daily rates of hotels vs. Airbnb, Zurich, 2011-2019 /2015-2018 (CHF)

Concerning the ADR of Airbnb, the data available on Airdna.co covers the years 2015 until 2018. The comparison of this data with the ADR of hotels (Figure 24) clearly reveals that the average daily rates of Airbnb are lower than the ones of hotels in Zurich.

The ADR specifically of Airbnb amounts 129 CHF in 2015 and is predicted to lower to 113 CHF in 2018. The Airbnb average daily rates are decreasing as well. Lower prices could possibly lead to an increased occupancy rate. The regression analysis in figure 24 also outlines this downward trend. It could be argued that Airbnb-hosts lower the rates further to stand out in competition to hotels by keeping the current 'price gap'. The comparison of the average daily rates of hotels vs. Airbnb in Geneva are reported in figure 25. The average daily rates of Airbnb in Geneva remained almost stable and only decreased slightly from 123 CHF in 2015 to 121 CHF in 2018[13].

Hotel average daily rates in Geneva instead sank from 299 CHF in 2011 to 274 CHF in 2015 (figure 25). In 2017 a slight decrease to 270 CHF has been averaged, although it is forecasted to increase again to 274 CHF in 2018 seen in figure 25. This visualizes how stable average daily rates are in Geneva for both hotels and Airbnb, although Airbnb's prices seem to be even less affected.

[13] Future prediction of 2018*

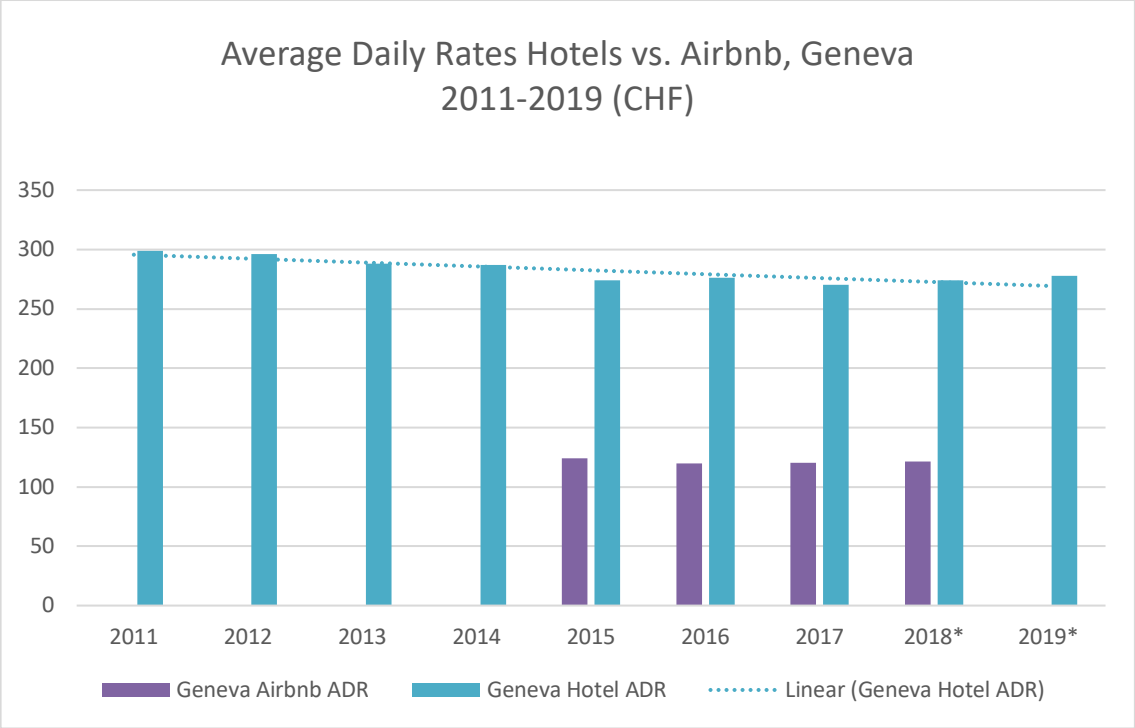

Figure 24. Average daily rates of hotels vs. Airbnb, Geneva, 2011-2019/ 2015-2018 (CHF)

On Figure 26, the comparison of Hotel and Airbnb average daily rates between Zurich and Geneva have been visualized, considering the years 2015 to 2018 (since AirDNA data is only available for this time period). Geneva has much higher hotel prices than Zurich, with a slight downward trend.

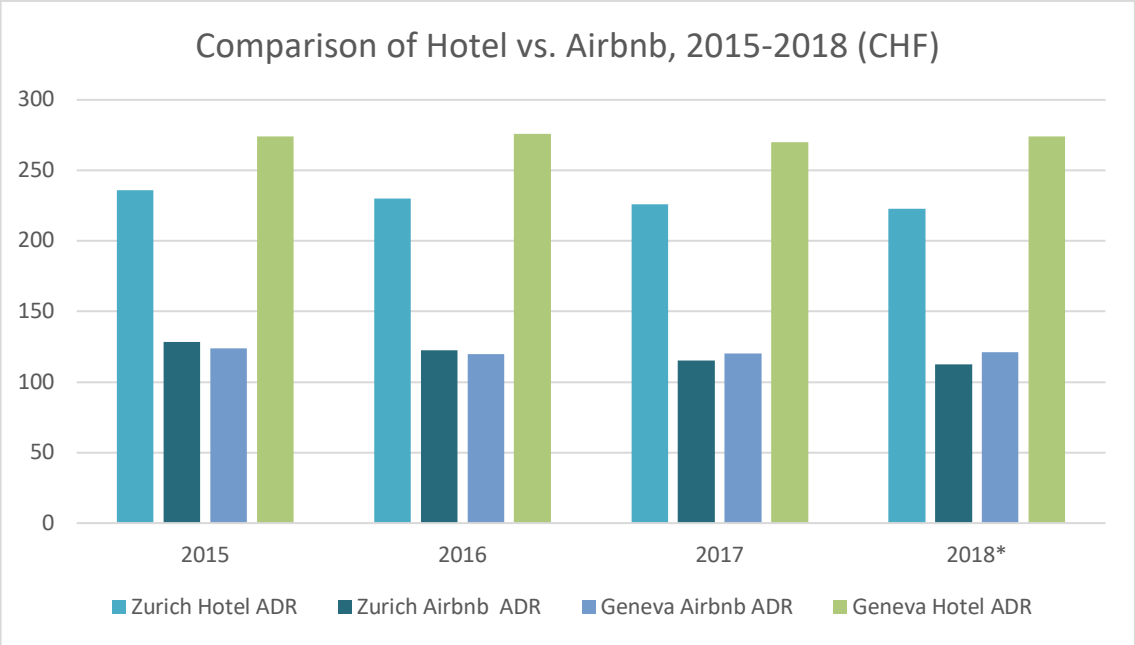

Figure 25. Comparison of hotel vs. Airbnb average daily rates, Zurich vs. Geneva, 2015-2018 (CHF)

Contrary to the hotel rates, the average daily rates of Airbnb data could be gathered for all of the three regions. Figure 27 compares the Airbnb ADR of Zurich, Geneva and Basel-Stadt from the years 2016-2019.

The comparison clearly indicates that ADR rates in Basel for Airbnb are growing significantly, which is in contrast to the other two regions. It briefly has to be stated that the decrease in average daily rate of hotels does not consequently lead to the increase of average daily rates of Airbnb (See Appendix 4 for data considering pricing).

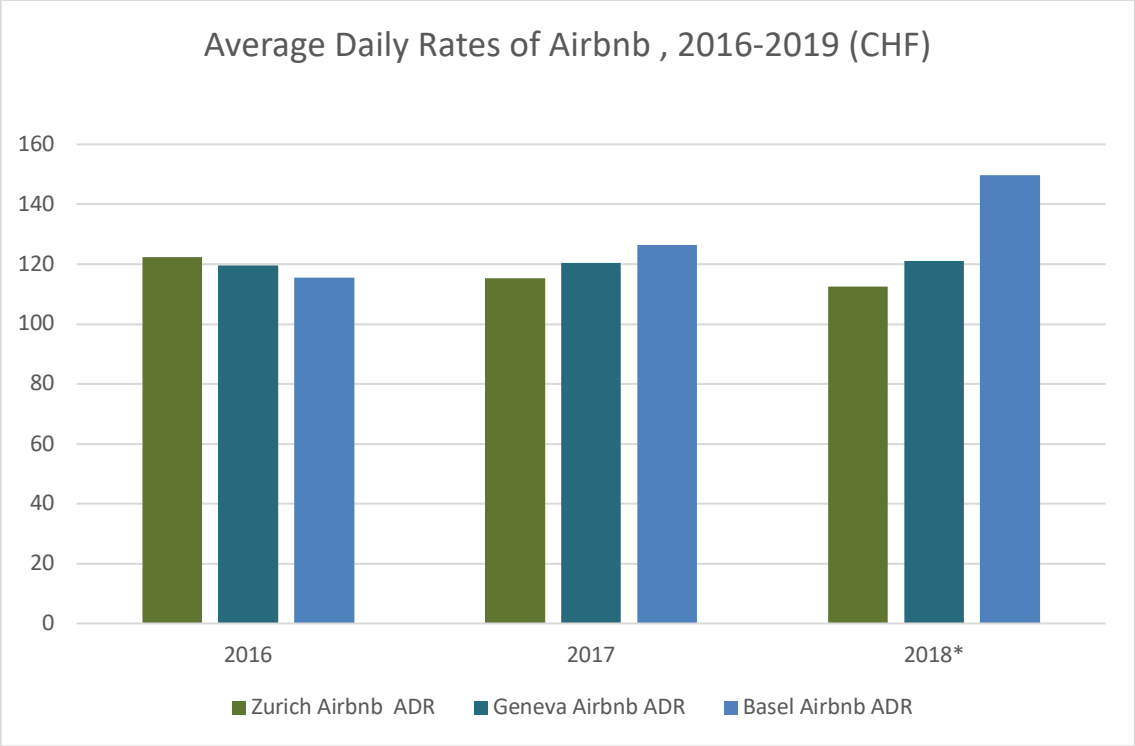

Figure 26. Average daily rates of Airbnb in Zurich, Geneva and Basel-Stadt, 2016-2018 (CHF)

4.4 Structure of the Airbnb Supply

4.4.1 Types of Accommodation

Airbnb offers three classified categories of accommodation (see Appendix 5 for data): entire homes, private- and shared rooms. Figure 28 reports the offering structure of accommodation on Airbnb since July 2015 in Zurich. It can be observed that the amount of 'entire homes' offered on Airbnb increase faster than private rooms/shared rooms suggesting a growth of professional hosts. The regression analysis also underlies this result in figure 28.

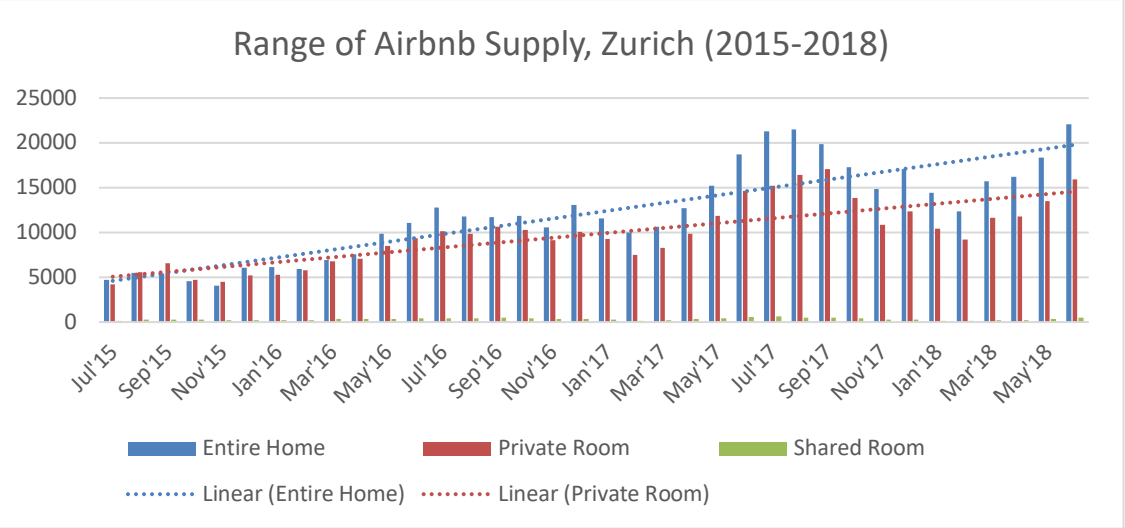

Figure 27. Offering structure Airbnb, Zurich (2015-2018)

In Geneva and Basel similar trends can be observed. The number of entire homes in Basel (figure 30) increased by 370% from July 2015 to May 2018. Geneva initially offered 5'658 entire homes on Airbnb in July 2015 and now 19'024 entire homes, which is an increase of around 230% (figure 29).

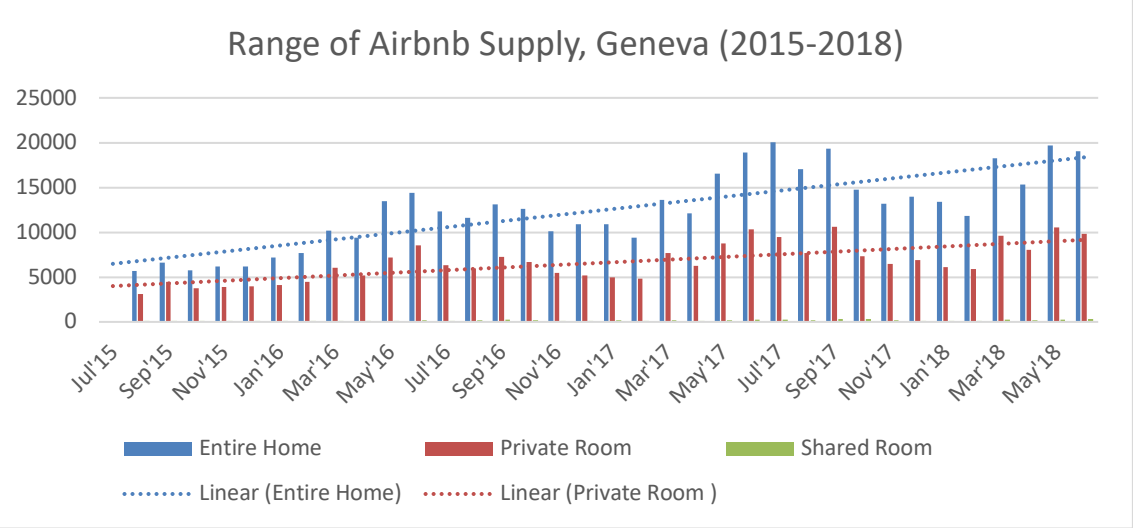

Figure 28. Offering structure Airbnb, Geneva (2015-2018)

Basel (seen on figure 30), equally increased its number of entire homes offered on Airbnb. Looking at the regression line, it can be concluded that Basel has experienced the largest growth of supply and especially of entire homes. Once more, it should be remembered that the data range for Basel is smaller than the data available for Zurich and Geneva which might hinder direct quantitative comparisons. Nevertheless, the fact that in September 2016 Airbnb Basel offered 504 entire homes and 10'892 in June 2018, which is 20 times higher (figure 30). This indicates that Basel is now experiencing the growth spurt that Zurich and Geneva had experienced 1- 2 years earlier.

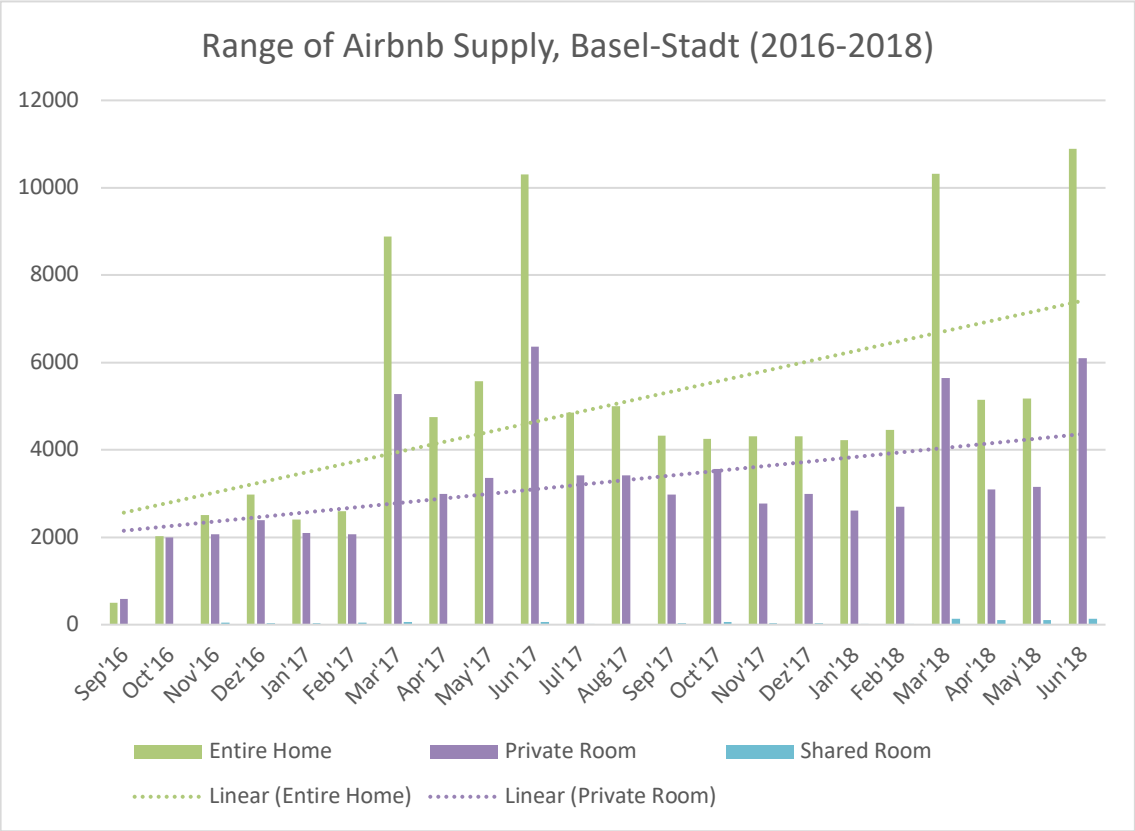

Figure 29. Offering structure Airbnb, Basel-Stadt (2016-2018)

Figure 31 below depicts the growth rate (standardized par October 2016) of each category (entire home, private room, shared room) of Zurich, Geneva and Basel. The Y-axis on the figure below depicts the percentage of the growth rate. Once more, the statement that Basel-Stadt experiences the largest growth can be undermined.

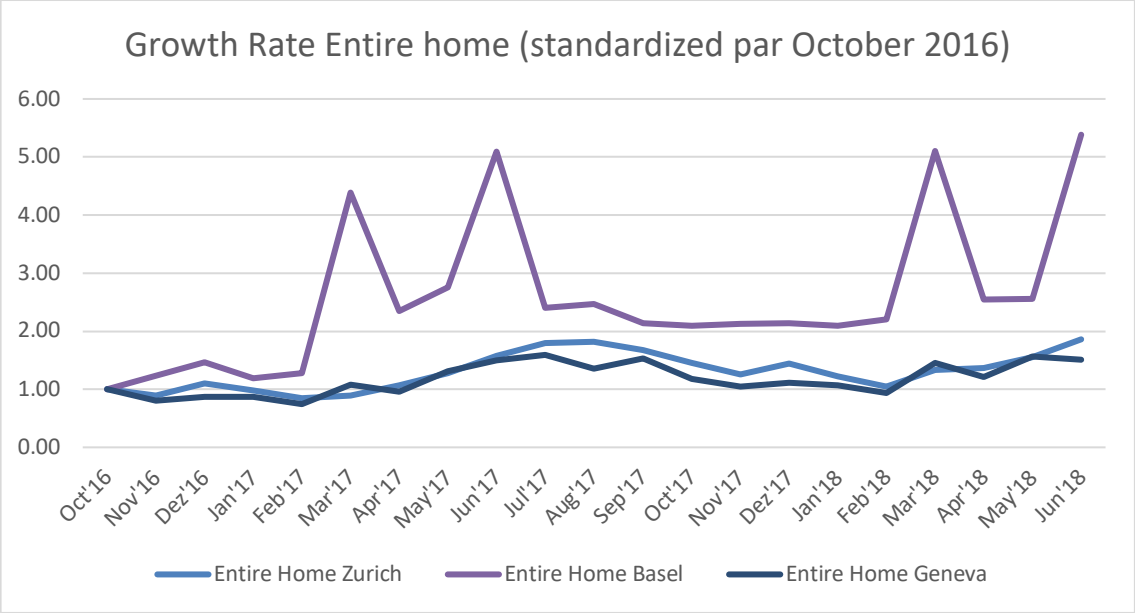

Figure 30. Growth rate of entire home listings, standardized par October 2016, (2016-2018)

Figure 32 gives an overview of all types of accommodation in each canton. Zurich is the most advanced and has the largest supply available in terms of Airbnb compared to Geneva and Basel-Stadt.

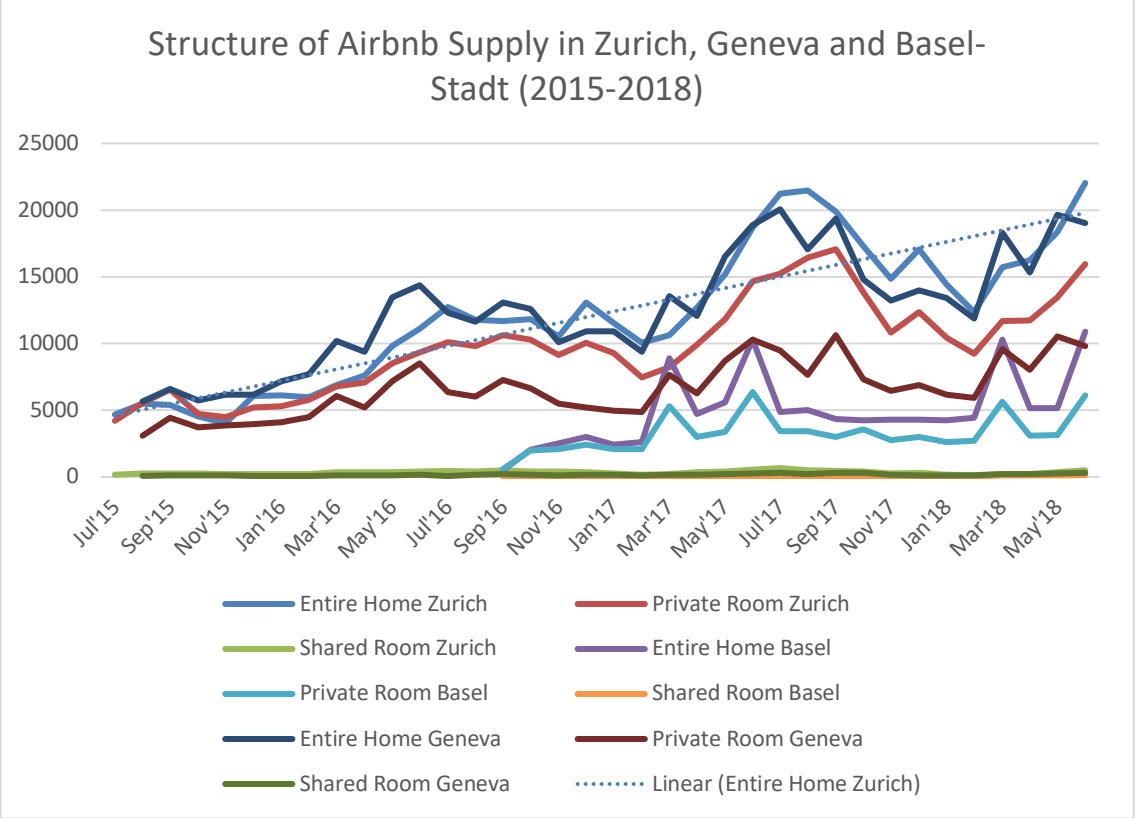

Figure 31. Offering structure Airbnb of Zurich, Geneva and Basel-Stadt (2015-2018)

4.4.2 Professional Hosts

Single-listing hosts are hosts that only bring one accommodation on the market, whereas multi-listing hosts rent out a number of accommodation via Airbnb. Professionalization of the hosts indicates an erosion of Airbnb's original idea of 'sharing'. It is hard to define whether a host operates professionally or not. However, it can be assumed that multi-listing hosts operate professionally, allowing an estimation of the number of professional hosts from this data. Multi-listing hosts also prefer to market 'entire homes' rather than rooms. Professionalization might also be induced by hotels that market their rooms on Airbnb, which could possibly have a positive influence on the hotel industry and would create a more sustainable use of accommodation.

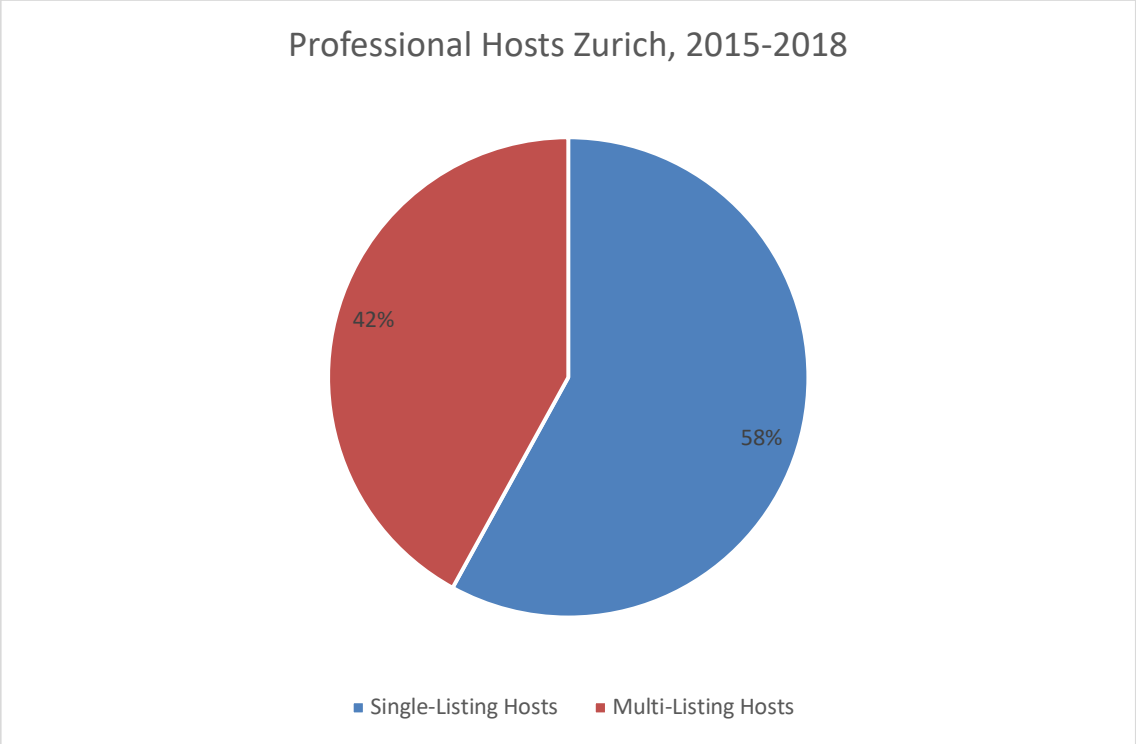

Figure 32. Single-listing vs. multi-listing hosts, Zurich (2015-2018)

Based on the AirDNA data, Figures 33-36 depict the percentage of single- vs multi-listing hosts. Generally, multi-listing hosts market 0.5 times more properties on Airbnb than the single-listing hosts. Thus, there is a very high proportion of multi-listing hosts of 42% there are 1'858 properties by single-listing and 1'341 by multi-listing hosts, which is almost half of all the properties marketed on Airbnb for Zurich (AirDNA, 2018).

Geneva (Figure 34) is also experiencing a trend towards professionalization, where 39% are multi- and 62% are single-listing hosts. The single-listing hosts place approximately the same amount of properties on the market than the multi-listing hosts.

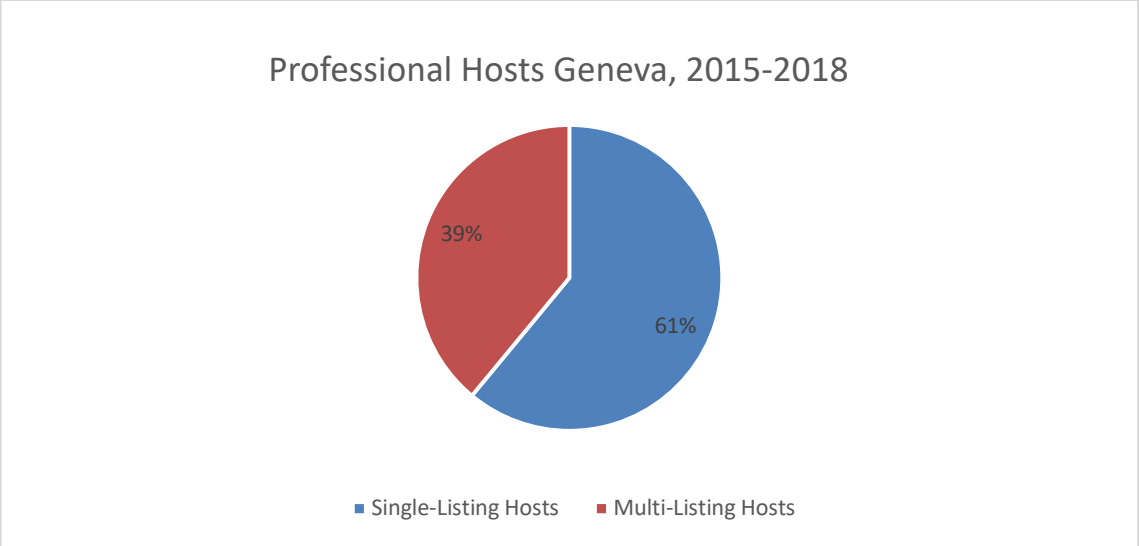

Figure 33. Properties of single-listing vs. multi-listing host, Geneva (2015-2018)

In Basel-Stadt, it resulted in 67% of properties marketed by single-listing and 33% by multi-listing hosts. Again, Basel-Stadt lags behind Geneva and Zurich but it can be expected that Basel-Stadt will follow up the trend of professionalization such as Geneva and Zurich.

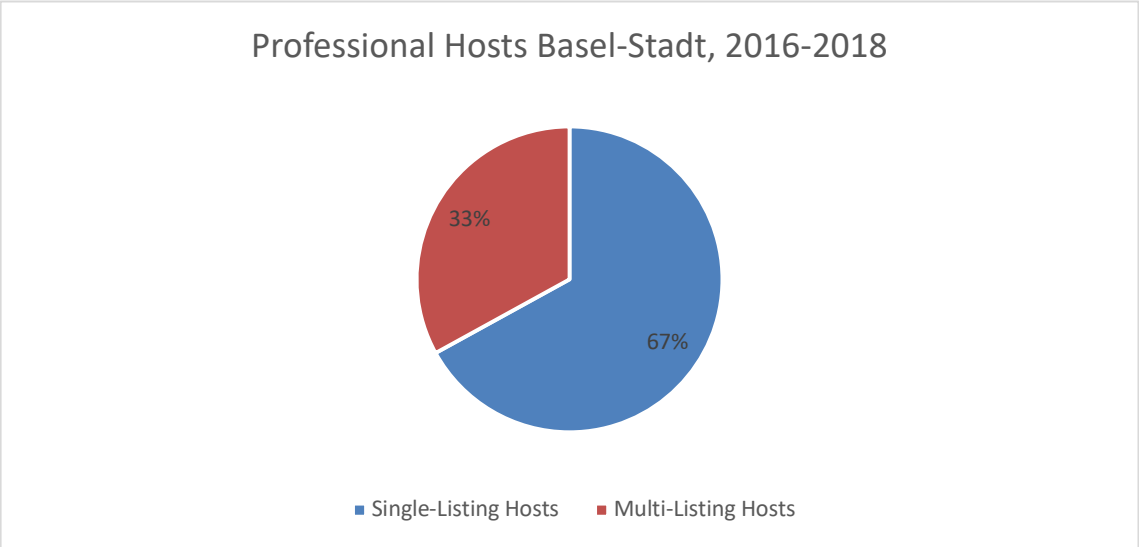

Figure 34. Properties of single-listing vs. multi-listing hosts, Basel-Stadt (2016-2018)

According to CEO Brian Chesky, professional hosts are not supported by Airbnb and individual interaction is promoted (Gallagher, 2017, S. 100-115). The trend of a growing professionalization also depends on the impact of long-term costs on the profitability. Overall, it can be stated that Airbnb is gradually turning into an attractive platform for professional suppliers. Airbnb could possibly, in the future, be used as a sustainable, flexible, well-organized and global distribution system, where administrative fees could be minimized, time could be saved and a wide customer base could be served.

5. Conclusions

5.1 Summary of Results

Hotel occupancy rates in Zurich declined by 3% between years 2015-2018 whilst Airbnb's occupancy rate grew by 12%. Geneva features more a stable hotel occupancy rate with no decreases and an Airbnb occupancy increase of 11.6%. Basel's hotel occupancy rate decreased by 4%, whilst Airbnb's increased by 7% (years 2016-2018). Hotel occupancy rates in Zurich and Basel thus seem to be decreasing whilst Airbnb occupancy rates grow rapidly. Geneva is an exemption of the stated case and does not experience a decline of hotel occupancy, which might be due to it headquartering international humanitarian organizations such as UNO and the red cross and the associated request for hotel rooms. There are other factors that might have caused occupancy of hotels to decrease , although it can be assumed that nowadays the major alternative option to hotels is Airbnb accommodation.

The Airbnb demand in Zurich increased by 350% in the analyzed time period. Basel's and Geneva's demand for Airbnb also depicts a rising tendency. The demand has been equated to the number of overnight stays which points out seasonal and event-related abnormalities. The demand for hotels remains stagnant or depicts minimal downward decreases whilst demand for Airbnb undergoes a constant growth. The large growth of nights booked over Airbnb is associated only with a small increase of the occupancy rate, which leads to the conclusion that the supply (i.e. the number of objects on Airbnb) also must have experienced a large growth.

To further evidentiate seasonal interdependencies, the market seasonality of Airbnb and hotels has been analyzed. Airbnb in Zurich is more affected by seasons (high number of bookings during summer and winter) whereas hotels remain more stable. This stability might be attributed to the business character of Zurich. In Basel the best months are March and June during the internationally renowned events Art Basel and BASELWORLD.

In Geneva seasonal fluctuations are similar to Zurich: high number of bookings during summer and winter on Airbnb with February as the best month, probably due to the Geneva Car Show. Overall, Hotels are less affected by seasonal fluctuations than Airbnb where bookings strongly depend on the month or event. Airbnb additionally has the advantage of taking an accommodation off the market during low-demand months and use it differently. Airbnb accommodation can thus better cover local and seasonal supply offers.

If hotels would start to market their rooms more on Airbnb they could possibly profit of this advantage as well. It can be argued that private Airbnb hosts provide an elastic supply because of their cost structure (i.e. they do not depend on renting out the room). This clearly does not apply to hotels, even if they would market their room on Airbnb.

Airbnb's market share in Zurich, Geneva and Basel-Stadt is very minimal (4%,7%,4%) thus cannot be seen as a threat for the hotel industry at the moment even though Airbnb is the largest direct provider of accommodation. The market share is very low and thus seen insignificant compared the hotel's total market share.

Considering the change of market share, Airbnb has experienced a constant and rapid growth whilst hotels slightly decrease in Zurich, Geneva and Basel. This further emphasizes how Airbnb grows and thus its market share and simultaneously the market share of hotels slowly diminishes.

In terms of location, Zurich offers the highest quantity of active Airbnb rentals followed by Geneva and Basel-Stadt. Zurich is the largest and most populated city of those three, this might explain the high number of active rentals. The locational advantage of Airbnb and of hotels has been examined qualitatively since data on hotel listings was not available. The comparison of Map Screenshots suggests that Airbnb has a locational advantage in terms of quantity and distribution of supply. This might result in a more flexible supply of Airbnb and thus increased price elasticity. The locational advantages of hotels are they benefit from prime locations and thus higher prices per night and per room. Hotels in peripheral areas of the city are rare and this adds to Airbnb's locational advantages.

The pricing of Hotels is generally significantly higher than of Airbnb accommodation in Zurich and Geneva. This is suggested to be due to expensive hotels in Switzerland compared globally. In Zurich average daily rates are 233 CHF and in Geneva 284 CHF. Geneva has higher ADR for hotels than Zurich, which might be explained through its limited availability of supply and its stable customer base. In Zurich, large budget-hotel chains are entering the market and thus lead to a decrease of hotel ADR due to the supply surplus and increased price competition.

ADR of Airbnb also depict a downward trend in Zurich and Geneva. The average daily rates of Airbnb in Zurich and for Geneva are in currently 120 CHF. In Basel the ADR of Airbnb are slightly lower with 110 CHF. In Basel on the other hand, ADR of Airbnb seem to be increasing. This could be due to the fact that Airbnb entered the market of Basel later and thus is still in its initial phase.

Airbnb offers different types of accommodation than hotels, and thus it can be argued that typical Airbnb customer does not overlap with the customer base of the hotel industry. This strongly applies to the supply type ‘shared rooms’ offered by Airbnb, which however is very low (Zurich 2%, Geneva 1%, Basel-Stadt 1%) and Airbnb might be the sole alternative to hotel rooms (AirDNA, 2018).

Again, the large growth of Airbnb supply can be observed in all cities with an interesting shift of offering more ‘entire homes’ on Airbnb rather than single rooms indicating an increasing professionalization. The more professionalized Airbnb becomes, the less it can be seen as a direct threat to the hotel industry, since the supply structure (more ‘entire homes’ and ‘multi-listing’ hosts) is diverse and it attracts a different target audience and is not an exact substitute for hotel accommodation. Professionalization further means an estrangement to the original idea of Airbnb, based on sharing of free private space (Gallagher, 2017). Basel exhibits the highest growth rate and Zurich has the largest supply of all three cities. Airbnb depicts a growth of multi-listing hosts and decline of single-listing (private) hosts in all three cities. In general, it can be assumed that Airbnb does less stand in direct concurrence with the hotel industry. A possible evolution however is that hotels market their rooms on Airbnb, which would create a more sustainable use of rooms and allowing them to access the customer base of Airbnb.

As a result, it can be presumed that Airbnb does not stand in direct concurrence with the hotel industry since the supply does not completely overlap. As for example for Business Travelers, private accommodation does less come into question; they only travel abroad for a short time and need a fast, easy and convenient service. Lastly, average daily rates of Hotels have a declining tendency. This might have several causes such as, e.g. the strong Swiss Franc, which makes it less affordable and attractive for tourists to travel to Switzerland. Also, more concurrence is entering the Swiss hotel market in the shape of large, international budget hotel chains with an aggressively low pricing strategy.

This will cause a strong growth of supply and insufficient demand to cover it, which will eventually lead to lower prices thus lower ADR. Geneva has an increased price stability thanks to being the UNO headquarter town and along with that lead many diplomats and politicians to Geneva, which either way will choose the service and convenience of hotels over Airbnb accommodation. Beyond that, Airbnb is steadily growing and might also lead to price pressures to remain globally attractive. Future trends of the hotel industry in Zurich Geneva and Basel thus are lowered hotel rates, lowered occupancy and increased supply.

5.2 Discussion

The aim of this study was to examine Airbnb's impact in Switzerland, as this is a yet pristine field. The number of studies investigating its rise in Switzerland is in fact rather limited, nonetheless Airbnb being one of the most prominent examples of the sharing economy. More specifically, the present thesis aimed at the verification of the research hypothesis 'The rise of Airbnb in Switzerland is responsible for the decreased occupancy rate of hotels in Zurich, Geneva and Basel-Stadt'. The presented results indicate a fast growth of Airbnb during the last years in all three cities, associated with a gradual erosion of the Hotel's market share in favor of Airbnb. While Airbnb accommodations effectively featured increasing occupancy rates and hotel experienced decreasing rates during the analyzed period, the causal relation needed to validate the research hypothesis could not be unequivocally be established from the available data. Nevertheless, some minor conclusions can be made, allowing at least a partial assessment of Airbnb's impact on the hotel industry in Switzerland.

Considering the evolution of the demand, which is characterized by a rather stable demand for hotel rooms and a strongly growing demand for Airbnb accommodations suggests that Airbnb might have created a new type of tourism and thus initiated the increasing demand. It could be argued that this new tourism does not directly impact the hotel industry, because it would not exist without Airbnb. This probably holds for the current situation, where Airbnb's market share in the analyzed cities is still very small (4-7%). While Hotels and Airbnb theoretically offer a different type of supply and therefore serve a different customer basis, they might be related closer to each other as expected since the results indicate similar correlative behaviors in relation with different aspects, such as seasonal fluctuations or ARD evolution. Together with the fast growth experienced by Airbnb, the latter aspects open the question of whether in a near future it will start to erode substantially the customer base of conventional hotels and therefore impact visibly their occupancy rates.

Further aspects that might have an influence on hotel occupancy rates are the presence of the strong currency in Switzerland and the fact that its hotel landscape is rather individual and not standardized. Those three cities are mainly the destination for professionals; business travelers, politicians, diplomats etc. which do not take Airbnb accommodation into consideration. Airbnb is growing at a rapid pace because it is , in some markets relatively new, whereas hotels have an already established and mostly oversaturated market.

Large hotel chains are entering the Swiss hotel market and as a result, Hotels are lowering their prices and thus reducing the 'price gap' offered by Airbnb hosts.

The author initially predicted that Airbnb's impact on the Swiss Hotel industry would be minimal, thus expectations of this study have been met. A new insight that this study brought with it, is how Airbnb can become a commercial medium for triggering hotel room rentals, and not as a threat. This demonstrates how Airbnb mainly grows and becomes a threat in highly touristic cities such as e.g. New York. Switzerland does not yet have to fear its' presence. New findings of this paper are, that Airbnb expansion in Zurich, Geneva and Basel seem to follow similar patterns throughout the years 2015-2018.

There are no other studies that analyze Swiss cities, and even though Airbnb offer is relatively small compared internationally, its immense growth is undeniable. Hotel occupancy seems to decrease whilst Airbnb occupancy is increasing. It can be debated that the only alternative option to elude hotels is Airbnb. Furthermore, hotels have started to market their rooms over Airbnb to have an additional and more favorable distribution channel. Likewise, other guest types can be targeted, thus alleviating the differential accommodation types of Airbnb (INURA Zürich Institut, 2017).

Limitations in regards to this research are mainly given by the limited data availability. Airbnb data for this report was gathered from the secondary data source AirDNA. Data on AirDNA is to 96.2% accurate and is thus seen as a reliable short-term data source (AirDNA, 2018). Regarding the Swiss Hotel Industry, the 'Bundesamt für Statistik' data is made available from the respective cities and thus a primary data with supposedly high accuracy. Revenue data is not published by hotels and thus not available. ADR rates were accessible through the secondary data source 'Statista'. In terms of locational analysis of Airbnb and Hotels, data was not available to quantitatively prove Airbnb's locational advantage, thus has been done qualitatively. It has to stated that those result might be biased by subjectivity. The types of accommodation that Airbnb offers are versatile and thus might target a different audience. Since shared rooms are very low in the respective cities this limitation has been disregarded. Future studies might have access to detailed data and can quantitatively segment the different types of accommodation and then compare its relative impact to hotel occupancy.

Possible causes and effects for the results of this study are that e.g. seasonal fluctuations leads to higher occupancy and rates during summer and winter as well as whilst international events. This study shows how Airbnb is distributed and present in the three

respective regions of Switzerland. Hotels might use information of this study to adapt their selling proposition to digital means such as marketing their rooms on a sharing platform like Airbnb.

Similar studies in regards to this topic is from the 'INURA Zürich Institut' on behalf of the Swiss tenant's association (INURA Zürich Institut, 2017) and the STR report of 13 global markets (STR Global, 2018). The INURA study examines the spread of Airbnb, tenancy laws, fiscal aspects, taxation and previous reaction to Airbnb in Switzerland. The study examines the effects and possible measures of various cities on the housing/rental market.

The study also confirms that in 14 international cities higher Airbnb occupancy correlate with a decrease of hotel occupancy, in line with the results presented in this study. Interestingly, also to higher revenues and daily rates of hotels or Airbnb. The results of the latter cannot directly be compared to the ones of this study as they did not examine the effect on hotel markets but only on the housing markets. STR on the other hand, researched the impact of Airbnb on the hotel industry in 13 global markets. It states that the higher occupancy rates of Airbnb are, the higher are hotel occupancy rates. This is not reflected by the results of this study: in Zurich and Basel occupancy rates of hotels are decreasing whilst the ones of Airbnb are increasing. Geneva's hotel occupancy remains stable, whilst Airbnb's occupancy is growing.

The study of STR further states that hotel occupancy is always higher than Airbnb occupancy. The results of this paper depicted higher hotel occupancy rates in the respective regions until 2016. In the year 2017, however, Zurich and Geneva depict higher Airbnb occupancy than hotel occupancy with the exception of Basel-Stadt, where occupancy of Airbnb is still lower, although could be expected to strike hotel occupancy rates in the future. The study of STR claims that hotels have higher ADR than Airbnb accommodation per night/per room. This is true for Zurich and Geneva. For Basel (New York, Amsterdam and Helsinki) there was no data available on ADR of hotels. For Geneva the ADR ratio of hotels and Airbnb is 225%, in Zurich 190% and in London 100%. This indicates that the price gap between hotels and ADR in Switzerland are very high, also in comparison to an international city. Also, Hotel prices in Switzerland seem to be very high compared globally.

STR argues in its study, that hotels prices per night/per room are increasing in the future whilst it is uncertain whether ADR of Airbnb will decrease or increase in the future. The results of this thesis indicate that ADR of hotels are decreasing and of Airbnb decreasing in Zurich and Geneva and increasing in Basel-Stadt. Comparing New York and London, Amsterdam and Helsinki to the respective cities, some trends are identical whereas other develop differently. ADR of Airbnb in New York are increasing by 5% whilst ADR of Airbnb in London are decreasing by 8%.

Furthermore, in terms of professionalization, all cities depict a high number of multi-listing hosts, especially London with 55% multi-listing hosts. Amsterdam depicts the lowest number of multi-listing hosts with 27%. This is most likely due to Amsterdam being a 'student city', thus providing the ideal base for Airbnb to grow in its original means. Professionalization thus is relative, depending on the city and its offering. Though overall, it can be suggested that increasingly hotels use Airbnb as a medium to rent out their rooms as well as commercials and professionals.

5.3 Outlook

The results of this study highlight the rapid growth of Airbnb in the three major cities of Switzerland, in line with the global and social trend to privately offer and use rooms. Apart from private providers, a shift is occurring to commercial providers that increasingly offer rooms of the traditional hotel industry over Airbnb, based on the saying 'If you cannot beat them join them' (Hotellerie Suisse, 2016, p. 1-2). A hotelier has to decide whether it is of interest to market their hotel rooms via Airbnb since it's standard customers might vary from Airbnb's target audience. Thus, to market their hotel rooms over Airbnb can bring both advantages and disadvantages. Advantages are that through entering Airbnb, hoteliers access a market with high potential and transparency. Hotels might offer a unique selling proposition on Airbnb with their service, facilities and security. However, it can be very difficult for a hotel to position itself on the Airbnb market as accommodation types are not strictly separated. The different clientele of Airbnb makes it an issue for hotels since the primary customer segment on Airbnb is not in search of a hotel room.

It arises the need of hotels to adjust their prices due to oversupply. Hotels in Switzerland should reconsider their concepts to remain an attractive option considering the rising concurrence in the hotel market in Zurich, Geneva, and Basel. Switzerland in general reveals stable developments, which this study indicates by the hotel industry.

Geneva has an advantage being the hub for UNO, diplomacies and the red cross. As well Basel benefits from being the host of internationally popular events. Zurich is a metropolitan city and remains an attractive locality for leisure travelers as well as business travelers that are drawn by the many banks and other businesses. It remains an unclear how the Swiss hotel industry might develop in the long-term future, on the other hand Airbnb is promised to be continuously growing.

Additionally, this study manifests the undeniable opportunity for future adaptions and trends within the Swiss hotel industry in three representative cities. Hotels could possibly use Airbnb to trigger hotel room sales and attractiveness. Airbnb is capable of fueling tourism in Switzerland and thus leading to an overall beneficial influence on the Swiss economy. Further legal limits might arise in Switzerland to influence Airbnb's impact, although it is still unclear which and whether they even might be introduced. An immense supply increase of around 2300 hotel rooms is predicted in Switzerland until 2019. The increased supply of hotels and Airbnb, as underlined in this study, might aggravate price wars and lead to reduced quality and declining revenues.

Future opportunities for the Swiss hotel industry are that new brands (such as Motel One) might revive new and old markets. Also, there is a need of hotels to remain globally attractive and follow up with the future trends of urban design and lifestyle (Hotellerie Suisse, 2016, p. 1-2).

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Appendix

Appendix 1. Occupancy Rates Data for Zurich (2015-2018), Geneva (2015-2018) and Basel-Stadt (2016-2018)

Hotellerie: Ankünfte und Logiernächte der geöffneten Betriebe in 100 Gemeinden nach Jahr, Monat, Gemeinde, Herkunftsland und Indikator

						Herkunftsland - Total Logiernächte						
2015	2015	1	Januar	261	Zürich	193872						
		2	Februar	261	Zürich	181422						
		3	März	261	Zürich	218325						
		4	April	261	Zürich	213508						
		5	Mai	261	Zürich	263833						
		6	Juni	261	Zürich	281238	Total Overnight Stays	AirBnB O	Hotel	AirBnB	Hotel	AirBnB
		7	Juli	261	Zürich	301724	306405	4681	1	1	98.5%	1.5%
		8	August	261	Zürich	319037	324678	5641	1.05738	1.205084	98.3%	1.7%
		9	September	261	Zürich	280515	285918	5403	0.929707	1.154241	98.1%	1.9%
		10	Oktober	261	Zürich	247906	252442	4536	0.821632	0.969024	98.2%	1.8%
		11	November	261	Zürich	216172	220209	4037	0.716456	0.862423	98.2%	1.8%
		12	Dezember	261	Zürich	230204	236271	6067	0.762962	1.296091	97.4%	2.6%
2016	2016	1	Januar	261	Zürich	192879	198993	6114	0.639256	1.306131	96.9%	3.1%
		2	Februar	261	Zürich	188916	194841	5925	0.626122	1.265755	97.0%	3.0%
		3	März	261	Zürich	220174	227072	6898	0.72972	1.473617	97.0%	3.0%
		4	April	261	Zürich	222111	229698	7587	0.73614	1.620808	96.7%	3.3%
		5	Mai	261	Zürich	257198	267027	9829	0.852428	2.099765	96.3%	3.7%
		6	Juni	261	Zürich	279258	290358	11100	0.925541	2.371288	96.2%	3.8%
		7	Juli	261	Zürich	308928	321692	12764	1.023876	2.726768	96.0%	4.0%
		8	August	261	Zürich	299004	310798	11794	0.990985	2.519547	96.2%	3.8%
		9	September	261	Zürich	285234	296932	11698	0.945347	2.499039	96.1%	3.9%
		10	Oktober	261	Zürich	247185	259033	11848	0.819242	2.531083	95.4%	4.6%
		11	November	261	Zürich	213844	224386	10542	0.70874	2.252083	95.3%	4.7%
		12	Dezember	261	Zürich	235997	249061	13064	0.782162	2.790857	94.8%	5.2%
2017	2017	1	Januar	261	Zürich	195213	206760	11547	0.646992	2.466781	94.4%	5.6%
		2	Februar	261	Zürich	189153	199184	10031	0.626907	2.142918	95.0%	5.0%
		3	März	261	Zürich	227325	237945	10620	0.75342	2.268746	95.5%	4.5%
		4	April	261	Zürich	238650	251332	12682	0.790955	2.70925	95.0%	5.0%
		5	Mai	261	Zürich	286078	301282	15204	0.948145	3.248024	95.0%	5.0%
		6	Juni	261	Zürich	307413	326096	18683	1.018855	3.991241	94.3%	5.7%
		7	Juli	261	Zürich	329554	350810	21256	1.092237	4.54091	93.9%	6.1%
		8	August	261	Zürich	333040	354536	21496	1.10379	4.592181	93.9%	6.1%
		9	September	261	Zürich	309224	329095	19871	1.024857	4.245033	94.0%	6.0%
		10	Oktober	261	Zürich	277139	294428	17289	0.918518	3.693442	94.1%	5.9%
		11	November	261	Zürich	234157	249015	14858	0.776064	3.174108	94.0%	6.0%
		12	Dezember	261	Zürich	267652	284704	17052	0.887076	3.642811	94.0%	6.0%
2018	2018	1	Januar	261	Zürich	218177	232618	14441	0.723101	3.085025	93.8%	6.2%
		2	Februar	261	Zürich	194659	207000	12341	0.645156	2.636402	94.0%	6.0%
		3	März	261	Zürich	247557	263296	15739	0.820475	3.362316	94.0%	6.0%
		4	April	261	Zürich	265975	282204	16229	0.881518	3.466994	94.2%	5.8%
		5	Mai	261	Zürich	298794	317152	18358	0.990289	3.921812	94.2%	5.8%
		6	Juni	261	Zürich	...		22041				
		7	Juli	261	Zürich	...						
		8	August	261	Zürich	...						
		9	September	261	Zürich	...						
		10	Oktober	261	Zürich	...						
		11	November	261	Zürich	...						
		12	Dezember	261	Zürich	...						

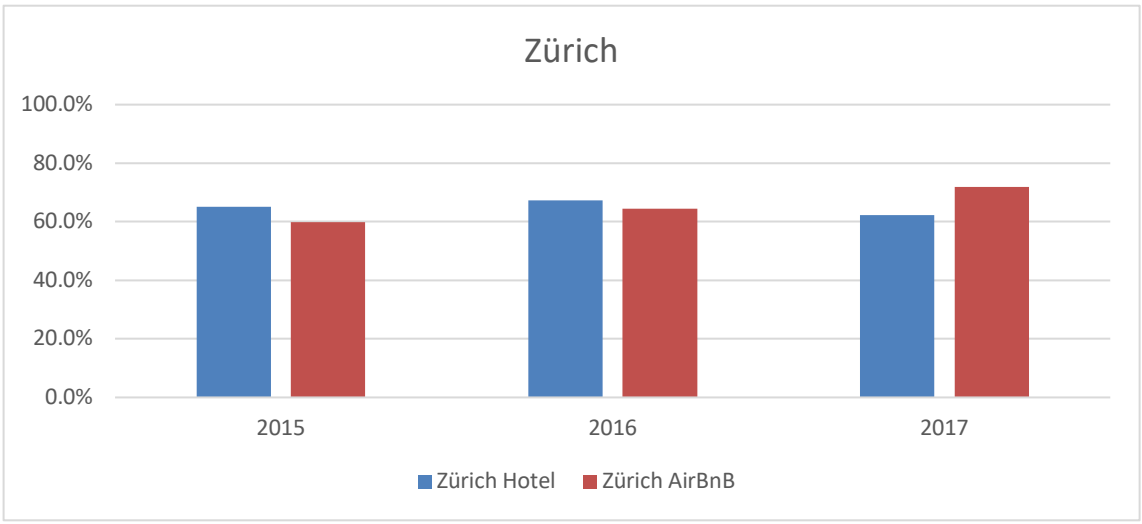
	Herkunftsland - Total Logiernächte
Basel	71017
Basel	92267
Basel	109352
Basel	88940
Basel	96669
Basel	119442
Basel	114028
Basel	101512
Basel	108087
Basel	105765
Basel	97531
Basel	85048
Basel	78683
Basel	85163
Basel	101576
Basel	93245
Basel	102322
Basel	119751
Basel	107208
Basel	100375
Basel	109435
Basel	107947
Basel	102061
Basel	98024
Basel	72610
Basel	78777
Basel	124124
Basel	98733
Basel	122152
Basel	125957
Basel	121667
Basel	115566
Basel	116060
Basel	121363
Basel	117315
Basel	103541
Basel	90600
Basel	92277
Basel	112869
Basel	106468
Basel	111355
Basel	...

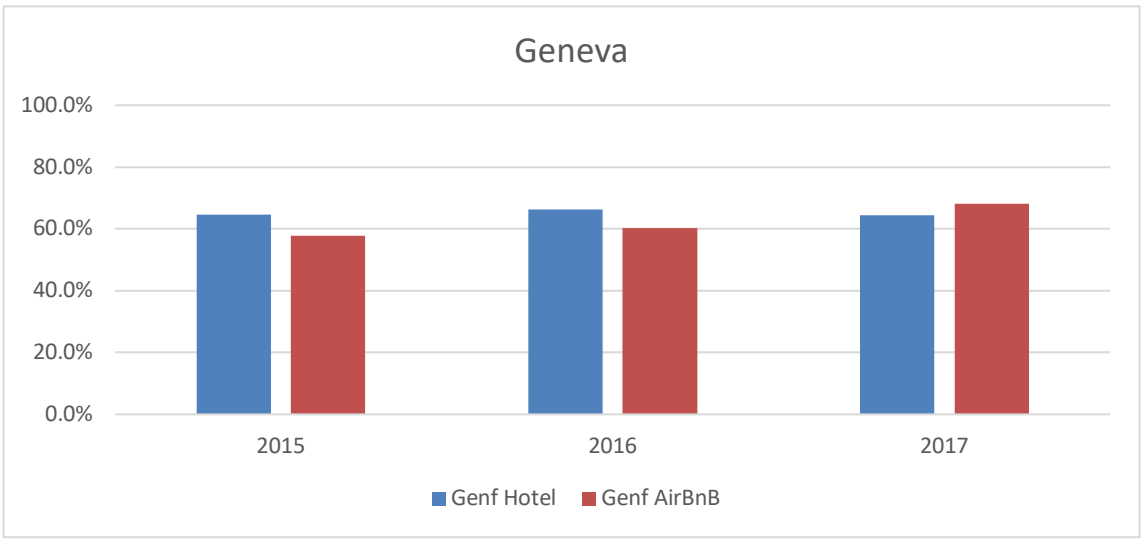
			Hotel	AirBnB	Hotel	AirBnB
504	Sep'16	1	1	99.5%	0.5%
2023	Oct'16	0.986403	4.013889	98.2%	1.8%
2503	Nov'16	0.932618	4.96627	97.6%	2.4%
2974	ec'16	0.895728	5.900794	97.1%	2.9%
2413	Jan'17	0.663499	4.787698	96.8%	3.2%
2591	Feb'17	0.719852	5.140873	96.8%	3.2%
8880	Mar'17	1.134226	17.61905	93.3%	6.7%
4744	Apr'17	0.902207	9.412698	95.4%	4.6%
5567	May'17	1.116206	11.04563	95.6%	4.4%
10303	Jun'17	1.150975	20.44246	92.4%	7.6%
4853	Jul'17	1.111774	9.628968	96.2%	3.8%
5003	Aug'17	1.056024	9.926587	95.9%	4.1%
4329	Sep'17	1.060538	8.589286	96.4%	3.6%
4246	Oct'17	1.108996	8.424603	96.6%	3.4%
4308	Nov'17	1.072006	8.547619	96.5%	3.5%
4315	Dec'17	0.946142	8.561508	96.0%	4.0%
4230	Jan'18	0.827889	8.392857	95.5%	4.5%
4456	Feb'18	0.843213	8.84127	95.4%	4.6%
10316	Mar'18	1.031379	20.46825	91.6%	8.4%
5149	Apr'18	0.972888	10.21627	95.4%	4.6%
5169	May'18	1.017545	10.25595	95.6%	4.4%
10892					

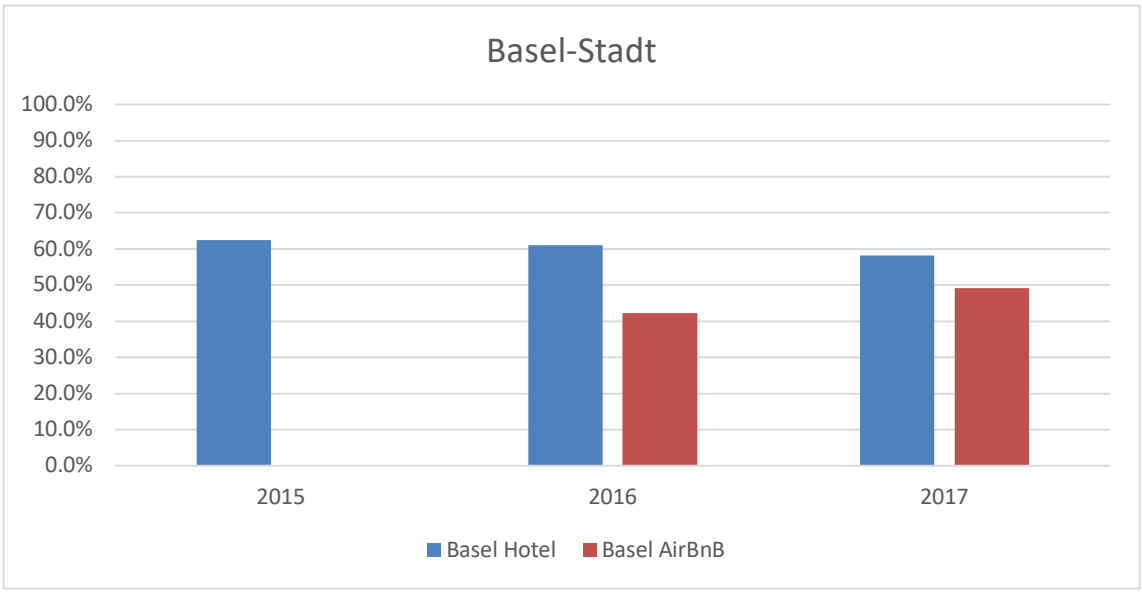
	Herkunftsland - Total Logiernächte
Genève	138664
Genève	132558
Genève	183371
Genève	142288
Genève	180182
Genève	193021
Genève	193891
Genève	206990
Genève	186683
Genève	169989
Genève	171313
Genève	138946
Genève	136758
Genève	135801
Genève	178411
Genève	155962
Genève	183237
Genève	195738
Genève	186313
Genève	202933
Genève	193486
Genève	173115
Genève	152812
Genève	139648
Genève	140857
Genève	129812
Genève	195915
Genève	156016
Genève	190040
Genève	199345
Genève	205213
Genève	209175
Genève	198459
Genève	176860
Genève	160792
Genève	152309
Genève	142761
Genève	135748
Genève	198585
Genève	155901
Genève	192605

		Hotel	AirBnB	Hotel	AirBnB
5658	1	1	97.3%	2.7%
6615	0.901894	1.169141	96.6%	3.4%
5719	0.821243	1.010781	96.7%	3.3%
6187	0.827639	1.093496	96.5%	3.5%
6164	0.671269	1.089431	95.8%	4.2%
7167	0.660699	1.266702	95.0%	5.0%
7719	0.656075	1.364263	94.6%	5.4%
10197	0.861931	1.802227	94.6%	5.4%
9401	0.753476	1.661541	94.3%	5.7%
13444	0.885246	2.376105	93.2%	6.8%
14364	0.94564	2.538706	93.2%	6.8%
12328	0.900106	2.178862	93.8%	6.2%
11640	0.9804	2.057264	94.6%	5.4%
13096	0.93476	2.314599	93.7%	6.3%
12603	0.836345	2.227466	93.2%	6.8%
10122	0.738258	1.788971	93.8%	6.2%
10933	0.674661	1.932308	92.7%	7.3%
10920	0.680501	1.930011	92.8%	7.2%
9383	0.627141	1.65836	93.3%	6.7%
13579	0.946495	2.399965	93.5%	6.5%
12081	0.753737	2.135207	92.8%	7.2%
16541	0.918112	2.923471	92.0%	8.0%
18906	0.963066	3.341463	91.3%	8.7%
20068	0.991415	3.546836	91.1%	8.9%
17041	1.010556	3.011842	92.5%	7.5%
19356	0.958785	3.420997	91.1%	8.9%
14791	0.854437	2.614175	92.3%	7.7%
13198	0.77681	2.332626	92.4%	7.6%
13983	0.735828	2.471368	91.6%	8.4%
13405	0.6897	2.369212	91.4%	8.6%
11860	0.655819	2.096147	92.0%	8.0%
18290	0.959394	3.232591	91.6%	8.4%
15318	0.753181	2.707317	91.1%	8.9%
19652	0.930504	3.473312	90.7%	9.3%
19024				

Appendix 2. Occupancy Rates of Hotels vs. Airbnb in Zurich (2015-2017) Geneva (2015-2017) and Basel-Stadt (2016-2018)







Appendix 3. Relative Growth Data for Zurich, Geneva and Basel-Stadt

Hotellerie: Ankünfte und Logiernächte der geöffneten Betriebe in 100 Gemeinden nach Jahr, Monat, Gemeinde, Herkunftsland und Indikator																
						Herkunftsland - Total										
						Logiernächte										
2015	2015	1	Januar	261	Zürich	193872										
		2	Februar	261	Zürich	181422										
		3	März	261	Zürich	218325										
		4	April	261	Zürich	213508										
		5	Mai	261	Zürich	263833										
		6	Juni	261	Zürich	281238	Total Overnight Stays	AirBnB O	Hotel	AirBnB	Hotel	AirBnB				
		7	Juli	261	Zürich	301724	306405	4681	1	1	98.5%	1.5%				
		8	August	261	Zürich	319037	324678	5641	1.05738	1.205084	98.3%	1.7%				
		9	September	261	Zürich	280515	285918	5403	0.929707	1.154241	98.1%	1.9%				
		10	Oktober	261	Zürich	247906	252442	4536	0.821632	0.969024	98.2%	1.8%				
		11	November	261	Zürich	216172	220209	4037	0.716456	0.862423	98.2%	1.8%				
		12	Dezember	261	Zürich	230204	236271	6067	0.762962	1.296091	97.4%	2.6%				
2016	2016	1	Januar	261	Zürich	192879	198993	6114	0.639256	1.306131	96.9%	3.1%				
		2	Februar	261	Zürich	188916	194841	5925	0.626122	1.265755	97.0%	3.0%				
		3	März	261	Zürich	220174	227072	6898	0.72972	1.473617	97.0%	3.0%				
		4	April	261	Zürich	222111	229698	7587	0.73614	1.620808	96.7%	3.3%				
		5	Mai	261	Zürich	257198	267027	9829	0.852428	2.099765	96.3%	3.7%				
		6	Juni	261	Zürich	279258	290358	11100	0.925541	2.371288	96.2%	3.8%				
		7	Juli	261	Zürich	308928	321692	12764	1.023876	2.726768	96.0%	4.0%				
		8	August	261	Zürich	299004	310798	11794	0.990985	2.519547	96.2%	3.8%				
		9	September	261	Zürich	285234	296932	11698	0.945347	2.499039	96.1%	3.9%				
		10	Oktober	261	Zürich	247185	259033	11848	0.819242	2.531083	95.4%	4.6%				
		11	November	261	Zürich	213844	224386	10542	0.70874	2.252083	95.3%	4.7%				
		12	Dezember	261	Zürich	235997	249061	13064	0.782162	2.790857	94.8%	5.2%				
2017	2017	1	Januar	261	Zürich	195213	206760	11547	0.646992	2.466781	94.4%	5.6%				
		2	Februar	261	Zürich	189153	199184	10031	0.626907	2.142918	95.0%	5.0%				
		3	März	261	Zürich	227325	237945	10620	0.75342	2.268746	95.5%	4.5%				
		4	April	261	Zürich	238650	251332	12682	0.790955	2.70925	95.0%	5.0%				
		5	Mai	261	Zürich	286078	301282	15204	0.948145	3.248024	95.0%	5.0%				
		6	Juni	261	Zürich	307413	326096	18683	1.018855	3.991241	94.3%	5.7%				
		7	Juli	261	Zürich	329554	350810	21256	1.092237	4.54091	93.9%	6.1%				
		8	August	261	Zürich	333040	354536	21496	1.10379	4.592181	93.9%	6.1%				
		9	September	261	Zürich	309224	329095	19871	1.024857	4.245033	94.0%	6.0%				
		10	Oktober	261	Zürich	277139	294428	17289	0.918518	3.693442	94.1%	5.9%				
		11	November	261	Zürich	234157	249015	14858	0.776064	3.174108	94.0%	6.0%				
		12	Dezember	261	Zürich	267652	284704	17052	0.887076	3.642811	94.0%	6.0%				
2018	2018	1	Januar	261	Zürich	218177	232618	14441	0.723101	3.085025	93.8%	6.2%				
		2	Februar	261	Zürich	194659	207000	12341	0.645156	2.636402	94.0%	6.0%				
		3	März	261	Zürich	247557	263296	15739	0.820475	3.362316	94.0%	6.0%				
		4	April	261	Zürich	265975	282204	16229	0.881518	3.466994	94.2%	5.8%				
		5	Mai	261	Zürich	298794	317152	18358	0.990289	3.921812	94.2%	5.8%				
		6	Juni	261	Zürich	...		22041								
		7	Juli	261	Zürich	...										
		8	August	261	Zürich	...										
		9	September	261	Zürich	...										
		10	Oktober	261	Zürich	...										
		11	November	261	Zürich	...										

	Herkunftsland - Total															
	Logiernächte															
Basel	71017										Genève	138664				
Basel	92267										Genève	132558				
Basel	109352										Genève	183371				
Basel	88940										Genève	142288				
Basel	96669										Genève	180182				
Basel	119442										Genève	193021				
Basel	114028										Genève	193891		Hotel	AirBnB	Hotel	AirBnB
Basel	101512										Genève	206990	5658	1	1	97.3%	2.7%
Basel	108087										Genève	186683	6615	0.901894	1.169141	96.6%	3.4%
Basel	105765										Genève	169989	5719	0.821243	1.010781	96.7%	3.3%
Basel	97531										Genève	171313	6187	0.827639	1.093496	96.5%	3.5%
Basel	85048										Genève	138946	6164	0.671269	1.089431	95.8%	4.2%
Basel	78683										Genève	136758	7167	0.660699	1.266702	95.0%	5.0%
Basel	85163										Genève	135801	7719	0.656075	1.364263	94.6%	5.4%
Basel	101576										Genève	178411	10197	0.861931	1.802227	94.6%	5.4%
Basel	93245										Genève	155962	9401	0.753476	1.661541	94.3%	5.7%
Basel	102322										Genève	183237	13444	0.885246	2.376105	93.2%	6.8%
Basel	119751										Genève	195738	14364	0.94564	2.538706	93.2%	6.8%
Basel	107208										Genève	186313	12328	0.900106	2.178862	93.8%	6.2%
Basel	100375					Hotel	AirBnB	Hotel	AirBnB		Genève	202933	11640	0.9804	2.057264	94.6%	5.4%
Basel	109435		504	Sep'16	1	1	99.5%	0.5%			Genève	193486	13096	0.93476	2.314599	93.7%	6.3%
Basel	107947		2023	Oct'16	0.986403	4.013889	98.2%	1.8%			Genève	173115	12603	0.836345	2.227466	93.2%	6.8%
Basel	102061		2503	Nov'16	0.932618	4.96627	97.6%	2.4%			Genève	152812	10122	0.738258	1.788971	93.8%	6.2%
Basel	98024		2974	ec'16	0.895728	5.900794	97.1%	2.9%			Genève	139648	10933	0.674661	1.932308	92.7%	7.3%
Basel	72610		2413	Jan'17	0.663499	4.787698	96.8%	3.2%			Genève	140857	10920	0.680501	1.930011	92.8%	7.2%
Basel	78777		2591	Feb'17	0.719852	5.140873	96.8%	3.2%			Genève	129812	9383	0.627141	1.65836	93.3%	6.7%
Basel	124124		8880	Mar'17	1.134226	17.61905	93.3%	6.7%			Genève	195915	13579	0.946495	2.399965	93.5%	6.5%
Basel	98733		4744	Apr'17	0.902207	9.412698	95.4%	4.6%			Genève	156016	12081	0.753737	2.135207	92.8%	7.2%
Basel	122152		5567	May'17	1.116206	11.04563	95.6%	4.4%			Genève	190040	16541	0.918112	2.923471	92.0%	8.0%
Basel	125957		10303	Jun'17	1.150975	20.44246	92.4%	7.6%			Genève	199345	18906	0.963066	3.341463	91.3%	8.7%
Basel	121667		4853	Jul'17	1.111774	9.628968	96.2%	3.8%			Genève	205213	20068	0.991415	3.546836	91.1%	8.9%
Basel	115566		5003	Aug'17	1.056024	9.926587	95.9%	4.1%			Genève	209175	17041	1.010556	3.011842	92.5%	7.5%
Basel	116060		4329	Sep'17	1.060538	8.589286	96.4%	3.6%			Genève	198459	19356	0.958785	3.420997	91.1%	8.9%
Basel	121363		4246	Oct'17	1.108996	8.424603	96.6%	3.4%			Genève	176860	14791	0.854437	2.614175	92.3%	7.7%
Basel	117315		4308	Nov'17	1.072006	8.547619	96.5%	3.5%			Genève	160792	13198	0.77681	2.332626	92.4%	7.6%
Basel	103541		4315	Dec'17	0.946142	8.561508	96.0%	4.0%			Genève	152309	13983	0.735828	2.471368	91.6%	8.4%
Basel	90600		4230	Jan'18	0.827889	8.392857	95.5%	4.5%			Genève	142761	13405	0.6897	2.369212	91.4%	8.6%
Basel	92277		4456	Feb'18	0.843213	8.84127	95.4%	4.6%			Genève	135748	11860	0.655819	2.096147	92.0%	8.0%
Basel	112869		10316	Mar'18	1.031379	20.46825	91.6%	8.4%			Genève	198585	18290	0.959394	3.232591	91.6%	8.4%
Basel	106468		5149	Apr'18	0.972888	10.21627	95.4%	4.6%			Genève	155901	15318	0.753181	2.707317	91.1%	8.9%
Basel	111355		5169	May'18	1.017545	10.25595	95.6%	4.4%			Genève	192605	19652	0.930504	3.473312	90.7%	9.3%
Basel	...		10892										19024				

Appendix 4. Pricing Data for Zurich, Geneva and Basel-Stadt (2011-2019)

Average daily hotel rates in CHF, 2011-2019		
Average daily rate of hotels in Zurich from 2011 to 2019 (in CHF)	Zurich	
Years	Zurich Hotel ADR	Zurich Airbnb ADR
2011	238	
2012	225	
2013	239	
2014	240	
2015	236	129
2016	230	122
2017	226	115
2018*	223	113
2019*	222	
average years 2011-2017	**233**	

	Geneva			Basel		
years	Geneva Airbnb ADR	Geneva Hotel ADR	years	Basel Airbnb	Basel Hotel ADR	
2011		299	2011			
2012		296	2012			
2013		288	2013			
2014		287	2014			
2015	123.8	274	2015			
2016	119.58	276	2016	115.5		
2017	120.33	270	2017	126.5		
2018	121.16	274	2018	149.83		
2019		278	2019			
	average years 2011-2017	**284**				

Appendix 5. Airbnb Supply Data for Zurich, Geneva and Basel-Stadt

Zürich						Basel			
	Entire Home	Private Room	Shared Room			Entire Home	Private Room	Shared Room	
Jul'15	4681	4206	154		Jul'15				
Aug'15	5473	5534	264		Aug'15				
Sep'15	5403	6562	270		Sep'15				
Oct'15	4536	4742	259		Oct'15				
Nov'15	4037	4486	212		Nov'15				
Dez'15	6067	5204	205		Dez'15				
Jan'16	6114	5298	214		Jan'16				
Feb'16	5952	5790	229		Feb'16				
Mar'16	6898	6779	377		Mar'16				
Apr'16	7587	7057	357		Apr'16				
May'16	9829	8523	335		May'16				
Jun'16	11100	9342	404		Jun'16				
Jul'16	12764	10124	449		Jul'16				
Aug'16	11794	9830	425		Aug'16				
Sep'16	11698	10609	504		Sep'16	504	588	0	
Oct'16	11848	10269	403		Oct'16	2023	1996	8	
Nov'16	10542	9160	383		Nov'16	2503	2067	44	
Dez'16	13064	10063	342		Dez'16	2974	2397	36	
Jan'17	11547	9277	274		Jan'17	2413	2092	31	
Feb'17	10031	7482	143		Feb'17	2591	2069	50	
Mar'17	10620	8246	188		Mar'17	8880	5277	59	
Apr'17	12682	9885	352		Apr'17	4744	2993	11	
May'17	15204	11827	391		May'17	5567	3356	3	
Jun'17	18683	14646	535		Jun'17	10303	6366	61	
Jul'17	21256	15227	662		Jul'17	4853	3413	21	
Aug'17	21496	16447	494		Aug'17	5003	3415	6	
Sep'17	19871	17069	474		Sep'17	4329	2985	27	
Oct'17	17289	13852	408		Oct'17	4246	3565	59	
Nov'17	14858	10830	262		Nov'17	4308	2779	30	
Dez'17	17052	12376	297		Dez'17	4315	2988	32	
Jan'18	14441	10442	172		Jan'18	4230	2609	21	
Feb'18	12341	9220	136		Feb'18	4456	2701	18	
Mar'18	15736	11673	205		Mar'18	10316	5638	131	
Apr'18	16229	11754	208		Apr'18	5149	3095	100	
May'18	18358	13480	356		May'18	5169	3160	112	
Jun'18	22041	15944	477		Jun'18	10892	6104	134	

Appendix 5. Airbnb Supply Data for Zurich, Geneva and Basel-Stadt (cont.)

	Geneva		
	Entire Home	Private Room	Shared Room
Jul'15			
Aug'15	5658	3088	75
Sep'15	6615	4459	134
Oct'15	5719	3728	100
Nov'15	6187	3873	108
Dez'15	6164	3938	83
Jan'16	7167	4079	78
Feb'16	7719	4503	83
Mar'16	10197	6047	125
Apr'16	9401	5203	112
May'16	13444	7196	97
Jun'16	14364	8508	165
Jul'16	12328	6352	86
Aug'16	11640	5998	178
Sep'16	13096	7257	219
Oct'16	12603	6667	169
Nov'16	10122	5485	120
Dez'16	10933	5184	143
Jan'17	10920	4963	167
Feb'17	9383	4855	135
Mar'17	13579	7674	168
Apr'17	12081	6251	143
May'17	16541	8729	201
Jun'17	18906	10296	267
Jul'17	20068	9479	286
Aug'17	17041	7660	196
Sep'17	19356	10626	291
Oct'17	14791	7318	296
Nov'17	13198	6434	181
Dez'17	13983	6863	117
Jan'18	13405	6141	127
Feb'18	11860	5919	132
Mar'18	18290	9592	233
Apr'18	15318	8043	209
May'18	19652	10515	280
Jun'18	19024	9815	307

Declaration of Authorship

I hereby that I have written the presented thesis on the Topic "The Rise of the Sharing Economy Airbnb's Impact on the Hotel Industry in Zurich, Geneva and Basel-Stadt" without any further auxiliary means than the ones cited in this thesis. Every part of this thesis has been cited literally or analogously and has been clearly indicated in every single case through the indication of its source (including secondary literature).
This thesis has not been presented in this or any similar form of other examination committee and has not been published so far.

Zürich, den 03.09.2018

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