REGULATING THE PLATFORM ECONOMY

Assessing to what extent digital platforms in the EU need to be regulated considering competition law and data protection issues – a comparative case study of ***Airbnb and Uber***

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I hereby affirm that I have independently written the present Master's thesis on the topic:

REGULATING THE PLATFORM ECONOMY

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The Hague, 23 July 2020

PREFACE

Oops…! I did it again. After writing a Bachelor's thesis on Compliance with EU Directives, my Master's thesis on platform regulation marks the end of an intense 2-year Master's programme, filled with all the highs and lows one could imagine. When I left Amsterdam in September of 2018 for Konstanz, I could not have dreamt of the astonishing academic year that would await me. From the first month at University which was entirely dedicated to brushing up my German, to our Master's Introduction Camp in the Black Forest, to endless coffee breaks at the Mensa overlooking Lake Constance, I can assuredly say I have had the time of my life in Konstanz as a *Powalter*, with graduating summa cum laude as the icing on the cake. And most importantly of all, the many amazing people I have met during my time there. My life has been enriched with so many beautiful souls that I have gotten to know in a relatively short time – and with friends now all over Europe, the States, Brazil, China, and many more places, I am sure there will always be a couch to crash on for me anywhere in the world. Thank you, Tobias, Torbjørn, Charles, Simone, Marco, Jan, Anna, Sarah, Johannes, Fritz, Tim, Hannah, Jesper, Clara, Klara, Charlotte, Franziska, Dana, Pauline, Simon, Mohamed, Miroslava, Pavla, Maria, Vitória, Matthew, my German teacher Michael, Werner Palz, and so many more. Thank you for all the parties by the lake, at our student dorm, and Kantine of course. Thank you for allowing me to be me.

It would be odd to not mention that this thesis has been written almost entirely during the ongoing Covid-19 pandemic. For someone who always writes dissertations and research papers in a library, it has been at times difficult and challenging to write from home and adapt accordingly. On top of that, I have struggled for some time with my mental health following the corona restrictions mid-March onwards. I could no longer work hard, play hard and compensate thesis life with festivals and going out on the weekends. If someone had told me in April I would be finished by mid-July, I would have simply not believed it. I am therefore all the more thankful that I am in a good place mentally again.

As such, this thesis could not have been written without the support of many. I would first like to express my gratitude to my best friends Tobias and Torbjørn who have read my thesis in full and helped me with comments and final corrections. To Marco, Simone, Tom, and Simone for double-checking the details – it is not easy to write with a (sometimes exceptionally) lazy eye. From Utrecht University, I would like to thank my supervisor Kris De Jaegher for his considerate feedback, particularly with the economic concept of two-sided markets. From the University of Konstanz, I would like to thank my professor and second supervisor Steffen Eckhard, with whom I have had the pleasure to take two courses. Our research seminar with a field trip to Ukraine is beyond any doubt the most interesting and educational course I took in my six years as a Public Administration student. What happened in Kyiv, will stay in Kyiv. Most indebted though, I am to my parents Michel and Irene. Their continuous support, be it emotional, financial, or time-wise, has allowed me to focus on writing my thesis. Thank you mum for fixing me soup and tea. Thank you dad for helping me move to Vienna and Konstanz. And last but not least, I would like to dedicate my thesis to my two favourite "gone girls": Frau Benzmann and Frau Werner. Seeing Sophia and Jip work simultaneously on their theses in Berlin and Amsterdam via Skype has not only led to productive study sessions, but also been extremely and utterly assuring. We will celebrate our achievements in Berlin with ice-cold beers, jokes galore, and Britney Spears.

Ruud
The Hague, 23 July 2020

ABSTRACT

Digital platforms operating in two-sided markets have seen a swift rise and development over the past decade, disrupting traditional business models and circumventing existing regulatory frameworks. Technological advancements, smart technology, the collection and storage of big data, and increasing digitalisation have enabled platforms to rigidly enter (digital) markets and severely challenge traditional service providers. In particular with the introduction and mass adoption of the smartphone, the lives of many have been significantly altered; almost any service can now be accessed by using a digital platform. Besides efficiencies brought about by these platforms such as sparking innovation, platforms also cause negative externalities. Examples hereof include social exclusion and/or inactivity, data protection failure, abuse of a dominant market position (market control), and information asymmetries. The European Union (EU), member states, and local authorities each struggle with combating these types of market failure convincingly, in part due to inept regulatory measures deemed unfit for the digital age. This raises the question of how and why platforms (in the EU) should be regulated. By focusing on competition law and data protection issues, the present thesis demonstrates that two of today's most dominant digital platforms (Airbnb and Uber) tend to be in tension with existing regulatory frameworks. Both public interests under scrutiny remain regulatory challenges to date. As such, this thesis contributes to ongoing academic and societal debates on how digital markets ought to be regulated from a multi-level governance perspective. The results suggest regulatory measures are best undertaken at the local level to address and combat negative externalities, whilst at the same time indicating a substantial role for the EU, and individual member states to a lesser extent. The findings also highlight to account for sector-specific legislation. Further research should look at the presumption that legislation initiated at the local level could perhaps best solve dilemmas that digital platforms bring about – as a growing body of literature hints at the importance of local regulation in terms of effectively regulating the platform economy.

Keywords: digital platforms; platform economy; two-sided markets; regulation; negative externalities; multi-level governance; European Union

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1. INTRODUCTION

1.1 TECHNOLOGICAL INNOVATION AND THE PLATFORM ECONOMY: AN INTRODUCTION

Over the past decade, digital platforms such as Airbnb, Facebook, YouTube, Spotify, Uber, Instagram, WhatsApp, TaskRabbit, BlaBlaCar, and Helpling have significantly altered the lives of many.[1] Fuelled by the introduction and mass adoption of the smartphone, big data, artificial intelligence, automation processes, and further digitalisation, the sharing economy has grown exponentially and seen an unparalleled, almost unmatched development in but a few years (Kenney & Zysman, 2016; Nash, Bright, Margetts, & Lehdonvirta, 2017; Gawer, 2014; Li, Liu, & Bandyopadhyay, 2010, p. 315).[2] At the core of platforms' business models are peer-to-peer (P2P) transactions that platforms can utilise at a much larger scale than before due to mass digitisation (Katz, 2015, p. 1067). As such, digital platforms have been coined innovation ecosystems (Adner & Kapoor, 2010; Nambisan & Sawhney, 2011; Dougherty & Dunne, 2011).[3] Characterised by fast dynamics and an innovative nature by design, platform operators have managed to severely challenge outdated economic rationales, business models, and regulated markets in many sectors (Van Gorp & Batura, 2015, p. 64). And with the law slowly adapting to address potential negative effects of digital platform services, there has been a vast expansion of various digital markets in less than a decade. The platform economy, thus, offers a variety of services such as short-term rentals and collaborative finance that are now fully digitally available and accessible (Katz, 2015, pp. 1067–8).

In addition to this, digital platforms and the subsequent digital markets they operate in differ substantially from traditional service providers, particularly given their rapid rise and development in almost any market imaginable. As Stucke and Ezrachi (2017, p. 3) note, digital platforms distinguish themselves from the incumbents due to the speed and scale at which their peer-to-peer business models, together with the development of high-speed Internet and smart technology, have made a vast array of services common practice to anybody willing to share (privately-owned) equity. An example of this is Airbnb, which has made it possible for millions of private house owners to rent out their property for short-rental accommodation practices, previously unthinkable and solely reserved for traditional service providers such as hotels, bed and breakfasts, camping sites, and hostels. This relatively new business model, which fits into a broader trend of shifting from possession to use, holds enormous gains in overall efficiency, service quality, and interconnectivity (Expósito-Izquierdo, Expósito-Márquez, & Brito-Santana, 2017). The concept of sharing, essential to the digital platform model, is associated with various benefits (Lutz et al., 2018, pp. 1472–3). These range from bonding and solidarity (Belk, 2010; Benkler, 2004; Wittel, 2011) to financial profit, and synergies (Belk, 2007; Gurven, 2006), status improvement (Gurven, 2006), and increased environmental sustainability (Belk, 2010; Botsman & Rogers, 2010).

Indeed, digital platform operators have a tendency to market their brand along the lines of these efficiencies. Airbnb for example frames and markets its service as a unique experience that distinguishes

[1] Unless specifically stated otherwise, the concept 'platform' always refers to 'digital platforms' or 'platform operators'.
[2] Throughout this thesis, we use the terms sharing economy, platform economy, collaborative economy, and peer-to-peer economy interchangeably.
[3] Defining what a digital platform is remains a hotly debated question to date. There is no consensus on the question, as Chapter 2 will demonstrate.

itself from traditional service providers, as guests stay at a local's private property which is deemed more authentic than staying for instance at a hotel (Airbnb, 2020). Implicitly (or perhaps not), they firmly believe their services go beyond what the incumbent offers and add to that additional efficiencies. To a large extent, this premise can be observed empirically: services offered by for instance Airbnb and Uber enjoy considerable success because they offer a variety of efficiencies, such as its simple and undemanding use, large-scale accessibility, growth of jobs, improved consumer choice, and improved service quality (Expósito-Izquierdo, Expósito-Márquez, & Brito-Santana, 2017; Ducci, 2016; Veisdal, 2020; Nooren et al., 2018; Juul, 2017). Moreover, where digital platforms initially started out entering one specific (digital) market, many have since expanded their business operations and ventured into multiple markets. Recently, Airbnb has added to its platform the possibility for individuals to book various travel experiences, such as dancing, cooking, gardening, and sports classes (Stucke & Ezrachi, 2017). Comparably, Uber offers differentiated products previously not unavailable, combined with lower prices to those by the incumbent. On this, Thelen (2018) documents not only the numerous – albeit similar – alternatives Uber has to its disposal, but also the differences that exist between countries:

> "Even where the company maintains operations, if you open the Uber app in different countries, you are presented with quite different options. In the United States, local menus vary but almost always include UberX, the company's low-budget option—ordinary drivers (vetted by the company but not commercially licensed) driving their own cars. While this service is available in Estonia, Poland, and other middle-income and developing countries, its European equivalent (UberPop) did not survive in other rich democracies, although in Sweden it lived on for a time, "by invitation"—i.e., the option appeared on your app, but only if Uber invited you. Some countries have particularly sparse offerings. In Germany, unless you are in Berlin or Munich, your nearest driver is hundreds of miles away, and in Berlin, the Uber that shows up is indistinguishable from any other taxi but for the payment method. Other countries featured options that are relatively unknown in the United States; for example, in Amsterdam, you could select Uberbike to order a car outfitted with a rack; in Oslo ordering UberEL would bring an electric car to your door" (Thelen, 2018, pp. 938–9).

Apart from the taxi sector, Uber has since most notably entered the food delivery market with Uber Eats to great commercial success, but also holds the ambitions to be dominant in other disruptive technologies such as automated vehicles (AVs), experimenting with self-driving cars. Other digital platforms note similar ambitions. To sum up this introductory section, the platform economy as a novel form of technology-enabled commerce has shaped our lives considerably over the past ten years and brought about large-scale efficiencies to many (cf. Calo & Rosenblat, 2017).

1.2 DEFINING THE REGULATORY CHALLENGE

Whilst platforms offer new and attractively priced services to consumers, they simultaneously affect the possibility for new players to enter the market and change the ways consumers interact with services and service providers (Nooren et al., 2018). Consequently, digital platforms not only generate efficiencies, but also negative externalities. As with any good or service in a free market, there can be different types of *market failure*. Market failure is "the failure of a more or less idealised system of price-market institutions to sustain desirable activities or to estop undesirable activities" (Bator, 1958, p.

351).[4] Such failures specifically related to digital platform markets can be defined as platform failure (cf. Calo & Rosenblat, 2017). There is a wide array of types of market failure that may apply to platform operators. Thelen (2018, p. 941) has defined this as the "Uber problem"; the concept of *Uberisation* has been widely used to characterise companies such as Uber that not only compete with the incumbent as a digital alternative to the customer, but also firmly challenge or even take over entire economic sectors by offering cheap(er) prices with a higher level of flexibility and transparency (Degryse, 2016). For this reason, some scholars speak of the pejorative terms "disruptive" innovation, and "taking" economy rather than sharing economy to describe the (potential) negative effects that platforms may cause (Calo & Rosenblat, 2017; Katz, 2015; Juul, 2017; Strowel & Vergote, 2016).[5] It would be outside the scope of this thesis to discuss all (potential) market failures and subsequent ramifications platforms may cause, which is why we outline two of the most pressing issues in the remainder of this section. These two combined, thus, reflect the regulatory challenge that is at the centre of this study.

The first sub-challenge would concern competition law issues and in particular the abuse of a dominant position by a single platform within a given market. There is a general consensus that fair competitive markets are beneficial to consumers, further stimulate innovation, and increase efficiency overall (Ducci, 2016; Nooren et al., 2018). Dominant digital platforms – such as Uber, Alibaba, Spotify, Airbnb, and Facebook – have been successful at both challenging the incumbent, as well as new digital competitors trying to enter the market in question. Incumbent firms are being pushed to respond to this increased competition and adjust what they offer, either by lowering the prices or by improving the quality of their services (Juul, 2017, p. 5). According to Thelen (2018), this can be noted as unfair, as platform operators enjoy competitive advantages (e.g. lower fixed costs) compared to traditional service providers. Indeed, criticasters claim that the sharing economy constitutes – amongst other things – unfair competition (Juul, 2017). Existing competition policies, both at the EU and national (member state) level are regarded to be inadequate to address competition law issues, thereby indicating a need to update these regulatory frameworks.[6]

Moreover, there is a regulatory need to respond to cases of monopolisation and a winner-takes-all situation, as digital platform markets have a tendency to be concentrated, which in turn may give rise to much attention – or even suspicion – from national competition authorities (Jullien & Sand-Zantman, 2019, p. 34). The basic premise for this is that network effects may cluster around a single dominant platform over time, thereby driving out competition between platforms within the (digital) market (Gawer, 2014, p. 1241).[7] This danger of such a winner-takes-all outcome is not unfounded, as examples of it are prevalent in many digital markets. For instance, the food delivery market is a prime example where mergers and acquisitions are regular occurrences. Only very recently, Uber has acquired the American food delivery service Postmates for a whopping 2,3 billion euros to bolster its Uber Eats delivery business (Hawkins, 2020). Some even speak of a so-called food delivery war, indicating that there is fierce and hard-fought competition between a few firms (Lunden, 2020). The food delivery

[4] We justify our pledge for government intervention to regulate markets based upon the economic perspective of public interest theory. This theory posits that governments can legitimise interventions in markets if market failure(s) is/are to be detected (Posner, 1974; Ogus, 1994).
[5] "Disruption" was even considered the buzzword of 2015 by some newspapers, such as the Flemish newspaper *De Standaard* (Dendooven & Lemmens, 2015).
[6] Other points of critique include (i) a reduction of job security, (ii) the avoidance of taxes, and (ii) a threat to safety, health and disability compliance standards, all of which together form the regulatory challenge posed by digital platforms (cf. Juul, 2017).
[7] The concept of network effects is explicated in detail in section 2.2.

market is merely one of most digital markets resembling a "winner-takes-most" market, in which it is extremely difficult to make a profit when your company is not the biggest player in a given region or country (NOS, 2020; Süddeutsche Zeitung, 2020; Die Presse, 2020; Demling, 2020). On top of that, the locus of competition for consumers shifts from prices (that are easily observable) to non-price competition, in particular quality of service and privacy intrusion (Jullien & Sand-Zantman, 2019). Platforms, once they have become dominant, can also set higher prices and make high profits. These are all implications of a lack of competition, which may lead to an abuse of market power. Subsequently, a level playing field must be ensured in (digital) markets.

Turning then to the second issue under scrutiny, another sub-challenge would be that of data protection failure and privacy concerns (Van Til et al., 2017). Concerns over privacy in regards to the use of a smartphone (and digital platforms, too) are on the rise as "smartphones currently collect and store an immense amount of data – including information that a user may never use, such as their movements or search history" (Stucke & Ezrachi, 2017, p. 1279). These concerns ought to be seen in light of the ever-increasing digitalisation within society, and that the everyday lives of network users have become increasingly datafied (Cohen, 2017, pp. 140–43). The OECD also voices that the sharing economy model raises data protection issues (OECD, 2020). According to a 2016 survey, more than seven in ten Internet and online platform users agree they are concerned about the data collected about them in the EU (Eurobarometer, 2016, pp. 40–51). This yields similar results to a study conducted on attitudes towards privacy concerns by the Pew Research Centre, where 93% of respondents stated that being in control of who can get information about them is important (Madden & Rainie, 2015). For many of the business activities conducted by digital platforms, there is no comparison available to analog counterparts (Stucke & Ezrachi, 2017, p. 1279). A smart thermostat, for instance, stores much more sensitive personal data than a normal thermostat. Compared to an analog thermostat, a smart thermostat detects when a homeowner is *actually* at home or has left the house, or finds out particular habits of occupants. As a result of this, consumers who voice potential privacy concerns caused by digital platforms and its smart technology lack (necessary) judicial precedents.

Similar to the aforementioned competition law issues, there is a regulatory need for adequate responses to data protection failure too (Gellert, 2015). In a monopolised market, personal data is concentrated in one or a few firms which is but one of many dangers of monopolisation (cf. Van Til et al., 2017). Super–platforms (or dominant market players) can use their technological design to track consumers, collect their data, develop personal profiles, and target them with behavioural ads; even selling that data to third parties (Stucke & Ezrachi, 2017, p. 1282). They do so because platform business models thrive on the collection and storage of big data, as the usage or membership of digital platforms generally comes at no cost for the consumer. In turn, those (i.e. platform operators) collecting and storing that data gain access to considerable details of an individual's life, such as with the previously mentioned example of smart thermostats. This does not necessarily have to be problematic, but one's thought of that even being a possibility in itself may be disturbing, therefore resulting in (a feeling of) privacy violation.[8] Upholding the right of privacy for both consumers and service providers of digital platforms is a persistent issue, as reports by both Edelman et al. (2017) and Mosendz (2014) show. As

[8] The various dimensions of the concept privacy are thoroughly discussed in section 2.4 of the present thesis.

the generation and analysis of data is a key element in most digital business models – e.g. to be used to improve services – it is vital to warrant that public interest and ensure proper data protection (cf. Nooren et al., 2018).

These two sub-challenges culminate in the premise that there are ample reasons to intervene in digital markets, thereby highlighting a need to regulate the platform economy.[9] That regulation, bound to the scope of this thesis, should primarily focus on limiting market dominance of platforms, taking away barriers for new entrants to a given digital market, and solving and guaranteeing data protection for EU citizens (cf. Cohen, 2017). Hence, this thesis aims to obtain the following objective:

Assessing to what extent digital platforms (in the EU) should be regulated considering competition law and data protection issues

Following the abovementioned objective, we would like to make two modest contributions to the existing literature on platform regulation. The first academic contribution is to do with a component of this thesis's research design. By conducting a comparative case study with similar digital platform services, we seek to find variance in the public interests under scrutiny whilst accounting for digital service-specific factors as much as possible (cf. Gschwend & Schimmelfennig, 2007). As such, this thesis provides a fruitful comparative analysis of the politics of the platform economy — both the regulatory problems these new business models pose and the responses they elicit (cf. Thelen, 2018, p. 949).

As regards the public interests that are examined, we follow Werner and De Bijl (2019, p. 68) that there is much overlap between competition law, data collection, and privacy issues, which is why they need to be studied together when tackling the research question to what extent the platform economy requires regulation. The second contribution concerns the level at which regulatory measures ought to be best taken and with that the question to what extent sector-specific regulatory solutions may help to address the regulatory challenge at hand adequately. Since all three levels of governance are occupied with the disruptive effects of digital platforms, we classify our challenge as a multi-level governance problem in line with Katz's research (2015). The remainder of this section succinctly outlines this multi-level governance problem, which then leads us to the research question this thesis poses.

Not only do different levels of authority fail to address the discussed negative externalities convincingly, but existing legislation proves to be inept to address these challenges brought about by digital platforms and the digital realm in which they operate and conduct businesses. Particularly relevant for competition policy, most of the applicable legislation to digital platforms stems from the so-called 'analog era' and is hardly fit for the digital age (Von der Leyen, 2019). The first problem arises with the very definition of platforms and what constitutes them. As Cohen notes:

> "Recent high-profile debates over the applicability of existing regulatory obligations to platform companies highlight the indecisiveness on how to define digital platforms — for example, whether Uber is a taxi company, whether and how Amazon.com transactions should be taxed, whether Google or Facebook should be required to remove privacy-invasive or harassing material that is brought to its attention, and so on" (Cohen, 2017, pp. 175–6).

[9] An example at the EU level to highlight this need for both competition law and data protection issues can be found when the Commission reviewed the Microsoft/LinkedIn merger. The Commission deemed this merger to be substantially reducing consumer choice and privacy protection (Stucke & Ezrachi, 2017).

Tied in with this ambiguity is the fact that, although one could argue that digital platforms such as Airbnb perform similar services to traditional service providers such as hotels and bed and breakfasts, platform operators are held to different regulatory standards. Complaints about this unfair advantage have been omnipresent, such as the documented notion that platforms ooze a sense of being untouchable as they continuously escape existing regulatory frameworks whereas traditional service providers have to adhere to strict regulation (Katz, 2015, pp. 1279–80).

The second issue regards the question which level of governance may best be suited to address competition law and data protection issues brought about by digital platforms. There is no consensus in political science and public administration research with regards to this. By scrutinising this disputed topic, this thesis aims to make a modest contribution to existing literature. At the EU level – much driven arguably by the omnipresence of the Big Five – talks of platform regulation have existed for quite some time, allowing smaller companies and new entrants free and fair competition on digital platform markets, which in turn can greatly benefit platform innovation and secure data protection for end users (Van Til et al., 2017).[10] Indeed, as Stucke and Ezrachi (2017) remark, European institutions have started to proactively address negative externalities caused by digital platforms and pledge for platform regulation.[11] In a 2015 resolution, the European Parliament emphasised that current legislation was not suited to the sharing economy. According to the Parliament, any action on the part of public authorities needs to be proportional and flexible to enable a regulatory framework that secures a level playing field for companies, and in particular a supportive positive business environment for SMEs and innovation in the industry (ibid.).

In a similar vein, the European Commission released a Communication on Online Platforms titled *A European Agenda for the Collaborative Economy* to address platform challenges in 2016 (European Commission, 2016c). In this Communication, the Commission notes that whilst the sharing economy offers opportunities to increase efficiency and provide consumers with more choices, it also causes new regulatory challenges (ibid., p. 8). Since the size and impact of the EU's digital economy have only substantially grown since then, the EU is continuously reviewing developments in the European collaborative economy. Most recently with the instalment of the Von der Leyen Commission in 2019, the Commission has stressed the importance of further strengthening the EU's economy with a much-needed digital transformation by attempting to put forward European solutions to the digital challenges at hand (Von der Leyen, 2020). To mark the importance of tackling this regulatory challenge at the EU level, we would like to point out that the Commission for the first time has appointed a Commissioner (Margrethe Vestager from Denmark) specifically tasked with the political priority of a *Europe Fit For the Digital Age* (Vestager, 2020). Together with the upcoming Digital Services Act, regulatory measures at the EU level have already been underway for some time to address the regulatory challenge outlined in the present thesis.

Besides the EU level, lower levels of authority are also impacted by and challenged with the effects caused by digital platforms. Since no integrated legislative framework on platform regulation at the EU level exists as of yet, most regulatory responses are (expected) to come from individual member

[10] The 'Big Five' are (in no particular order): Facebook, Apple, Amazon, Google, and Microsoft.
[11] To exemplify on this notion, we would like to point out that the Commission has fined Google for 2,42 billion euros for abusing dominance as search engine by giving illegal advantage to its own comparison shopping service (European Commission, 2017).

states and local authorities. Government has several justifications (or even obligations) for interfering with digital platforms' and consumers' rights (Cohen, 2017, pp. 11–2; Posner, 1974). These include – amongst others – safeguarding the public interests of national security, intellectual property, privacy and data protection, and health labour interests (Nooren et al., 2018, p. 277). Whilst this need may be apparent, member states and their respective legal frameworks slowly adapt to address (potential) negative effects of digital platform services. To quote Katz (2015, p. 184), "the administrative state is poorly equipped to address the challenges now confronting it." Moreover, it has led to cross-country differences in the EU. An example hereof is Uber, which in some countries has faced severe legal disputes or even a complete ban, whereas other EU member states have welcomed the service and used it as a vehicle for (much needed) reform in traditionally heavily regulated markets.[12] An explanation for these important cross-national differences can be attributed to the legacy of political conflicts, since Uber (but also other platforms) first enter markets rigidly in a confrontational manner and only then adapt to existing regulatory frameworks of individual countries (Thelen, 2018, p. 939).

Besides regulatory measures undertaken at the EU and member state level, local authorities try to combat negative externalities brought about by platform operators as well. Their role in addressing the multi-level governance problem is quite considerable. A related factor to account for is that local governments are the ones faced with the disruptive side of the platform economy the most (Fabo et al., 2017, p. 12). We can illustrate this with the example of Airbnb: local authorities are the first to be directly confronted with (potential) negative externalities such as nuisance, unwanted behaviour by tourists, changing neighbourhood characteristics, and the consumption of rivalrous public resources (Filippas & Horton, 2014; Nieuwland & Van Melik, 2018; Adamiak, 2019; Oskam, 2019). It follows logically that this level of governance may also be best suited to first and foremost address such issues. On top of that, this level of governance may best adapt to address sector-specific issues. The negative externalities examples of Airbnb do not apply to Uber for instance; there, other issues such as safety regulations, tax evasion, consumer safety, and licensing demand regulatory attention from policymakers (Thelen, 2018). All these considerations are taken up in the analysis of the present thesis. To end this section, all of the above leads us to the following research question this thesis posits:

How and why should platforms (in the EU) be regulated?

As the research question cannot be answered at once, the research question is divided into sub-questions (cf. Van Thiel, 2014; see also Toshkov, 2016). These sub-questions aim at structuring the present thesis as diligently as possible. Box 1 provides an overview of all theoretical and empirical sub-questions. In the right column, it is mentioned in which section the respective sub-questions are addressed.

[12] In Germany, Uber has been met with fierce resistance from the incumbent and regulators, and to this day is only available in limited cities and under strict regulation. However, the Head of the Federal Cartel Office (*Bundeskartellamt*), an independent authority established in 1958 whose task is to protect competition, greeted Uber's arrival and suggested that some reform of the taxi market might be in order (Gruhn & Kowalewsky, 2014). Germany's *Monopolkommission* (an independent board of experts that advises the government on competition law) warned against "overregulation" and defending business models which are (deemed) outdated, whilst also acknowledging the need for regulations (Thelen, 2018). This example clarifies the complexity of the regulatory challenge at hand.

Box 1: *Overview of theoretical and empirical sub-questions*

	Section(s) where this sub-question is addressed
Theoretical sub-questions	
1: What are two-sided (digital) markets?	2.1
2: How do (digital) two-sided markets function and which specific characteristics do they have?	2.2
3: How and to what extent are public interests warranted in (digital) two-sided markets?	2.3 and 2.4
4: How and why is regulation on digital platforms needed from a theoretical perspective?	2.5
Empirical sub-questions	
5: What is the current position of Airbnb in the EU's (digital) sharing economy and how has it developed?	4.1
6: What is the current position of Uber in the EU's (digital) sharing economy and how has it developed?	4.2
7: To what extent is competition warranted in the short-term rental market? And to what extent in the transportation market?	4.3
8: To what extent is data protection warranted in the short-term rental market? And to what extent in the transportation market?	4.4
9: How and why is regulation on digital platforms needed from an empirical perspective?	4.5

Box 1 depicts that sub-questions 1 up to and including 4 are theoretical sub-questions. Sub-questions 5 up to and including 9 are empirical sub-questions. Sub-questions 4 and 9 (how and why regulation is needed from a broader perspective) combined serve as a *theoretical-empirical* sub-question to link theoretical assumptions directly to empirical observations (cf. Van Thiel, 2014).

We now turn to the academic and societal contribution this thesis aims to make. After that, the reader's guide outlines the structure of the thesis and which information can be found in which chapter.

1.3 RELEVANCE IN PUBLIC ADMINISTRATION RESEARCH

This Master's thesis holds both a scientific as well as societal relevance. With regards to the academic relevance, well-studied scientific topics such as rapidly increasing digitalisation, smart technology, the collection, use, and storage of big data, or two-sided markets all are captured in the functioning of digital platforms (Gawer, 2014). Safeguarding the public interests of not only fair competition and preventing large tech firms from abusing their dominant position in a given market, but also that of data protection has sparked academic interests in many fields of study, most notably that of law, economics, public

administration, and political science (e.g. Katz, 2015; Nooren et al., 2018; Van Til et al., 2017; Werner & De Bijl, 2019; Cohen, 2017; Calo & Rosenblat, 2017). This thesis has taken an interdisciplinary approach and tackled the regulatory challenge outline in section 1.2 of the present thesis by combining insights from economics, engineering design, political science, sociology, and law.

Regulatory responses across the EU thus far have been framed as fragmented, ill-designed, and hardly effective (Katz, 2015; Juul, 2017; Jullien & Sand-Zantman, 2019; Werner & De Bijl, 2019). An important contributing factor to this is the dissension among scholars about which level(s) of governance are most effective and suited to solving negative externalities brought about by digital platforms (Vidal, 2019). Whereas authors such as Zuluaga (2016) argue for a "common approach" which should be initiated at the EU level, others insist that the best-suited locus to effectively regulate the platform economy is at the local level (De Masi, 2017). By tackling this complex issue, this thesis is a modest contribution to existing and ongoing academic research on the regulatory challenges pertaining to digital platforms and how it could best be solved from a public administration perspective, which overall is documented as understudied (cf. Veisdal, 2020).

As for its societal contribution, for almost twenty years, the Internet, and other digital advancements have massively impacted the habits and daily lives of European citizens (Eurobarometer, 2016). The introduction and mass adoption of using digital platforms in various sectors starting a decade ago has only fuelled this influence, causing them to deeply penetrate the lives of many ordinary EU citizens. Its potential positive impact on welfare has been estimated at over €1,000 per EU citizen (Zuluaga, 2016). As commented earlier, over half of EU citizens have used either accommodation (such as Airbnb) or transportation digital services (e.g. Uber), indicating that the impact of these technologies cannot be understated, and reach almost all aspects of society (Nooren et al., 2018; Lutz et al., 2018; Figure 1; see also Appendixes 1 and 2). In particular with regards to the negative externality of data protection (failure), the EU has deemed it extremely important to uphold the fundamental right of data protection and respecting an individual's privacy (the so-called *EU for the people* component). The General Data Protection Regulation (GDPR), effective 25 May 2018, is unprecedented at the global stage and marks the importance given to safeguarding that public interest by the EU. By examining to what extent public interests are warranted by these dominant platforms, there is an apparent societal relevance as many EU citizens use these digital platforms either on a regular or occasional basis.

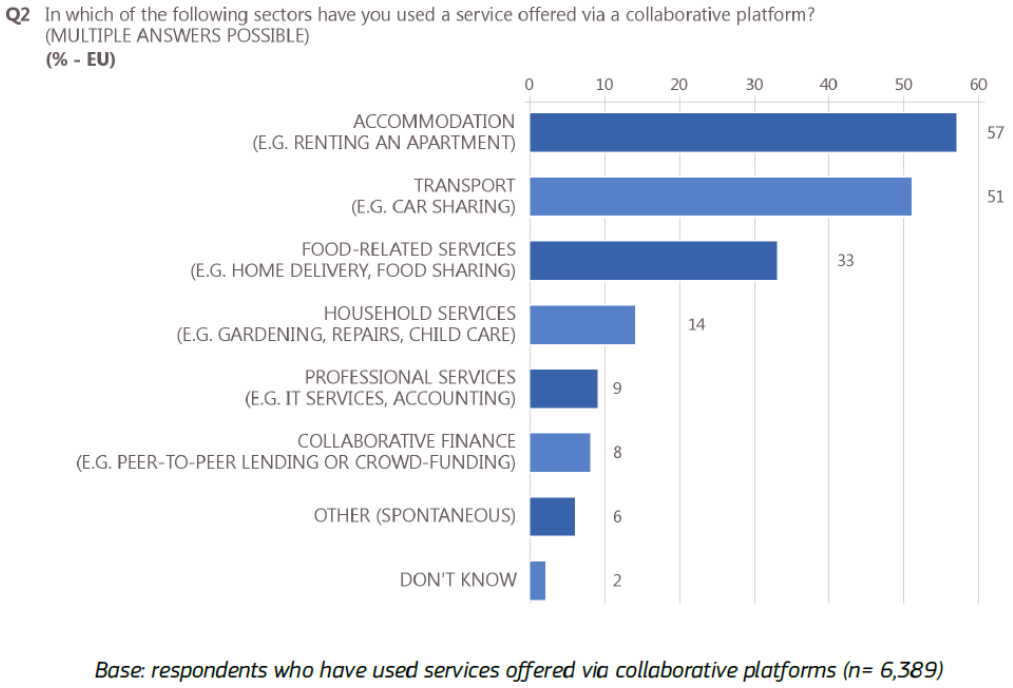

Figure 1: *% of EU citizens (sample) that have used digital platforms in various sectors (Eurobarometer, 2018, p. 13)*

Besides that, there are over 1 million EU platform businesses that offer their goods and services online (European Commission, 2019). For 2017 only, the EU's digital economy was projected to be worth €602 billion, growing nearly 14% each year (ibid.). The ever-growing size and impact of the digital economy, combined with increasing privacy concerns and dominant market players seeking to further abuse their position at the top, impact to a greater or lesser extent almost any EU citizen operating in the digital realm. Assessing to what extent regulation – and particularly how and at which level(s) of governance – could solve the regulation issue at hand, is thus of much importance to individual citizens of member states, businesses, and society as a whole.

1.4 READER'S GUIDE

The remainder of this thesis is structured as follows. Chapter 2 presents the theoretical framework. First, we explicate the concept of digital platforms and link it to the economic theoretical construct of two-sided markets. Combined with insights from engineering design, sections 2.1 and 2.2 combined provide an interdisciplinary perspective on the peculiarities of platforms and what constitutes them. We then outline our theoretical argument and dwell on the negative externalities relevant for this thesis: competition law and data protection issues (section 2.3 and 2.4). These are inextricably intertwined with the regulatory challenge introduced in the introduction and serve as the guiding theme throughout this thesis. Section 2.5 takes stock of relevant academic literature and displays an interim conclusion on the question how and why regulation is needed on digital platforms.

Following the theoretical framework, Chapter 3 demonstrates the chosen research design and other methodological choices of social inquiry. In particular, we focus here on data collection,

justification of selected cases, the chosen analytical method, and the reliability and validity of the present thesis. In Chapter 4, we present the results that have been gathered and analysed to answer the main research question. To structure the thesis along the lines of the theoretical framework, each section in Chapter 2 finds its direct counterpart in the analysis. Of particular importance here are sections 4.3 (the public interest of competition law), 4.4 (the public interest of data protection), and 4.5 (regulation on digital platforms in a broader context). A general story on how and why regulation is needed based upon empirical evidence then emerges logically in section 4.5. Finally, Chapter 5 concludes. After answering the main research question, a discussion follows. In the discussion, we pay attention to three main points: elaborating on the findings by putting them into a broader contextual perspective, critically discussing the methodological approach, and putting forth recommendations for future research.

2. THEORETICAL FRAMEWORK

The theoretical framework serves as the foundation of this thesis. In this chapter, sub-questions 1 up to and including 4 are answered. First, sub-question 1 displays the concept of two-sided markets. Digital platforms can be seen as (digital) markets where two types of agents (usually consumers at one side of the intermediary and service providers at the other) interact with each other through the platform, which otherwise would not have been possible (Rochet & Tirole, 2003; Rysman, 2009). The digital component, as an addition to traditional two-sided markets, of the most prevalent examples of today's platform economy is explicated in section 2.2, which serves to answer sub-question 2. Here, the focus is on the peculiarities of value creation and network effects. We then proceed with explaining the regulatory challenge from a theoretical viewpoint, for which we centre our research around issues with competition law and data protection. Both section 2.3 (competition law) and 2.4 (data protection) answer sub-question 3, thereby defining what the regulatory problem is. These sections are complemented with examples by means of clarification. We conclude this chapter with an interim conclusion (section 2.5).

2.1 TWO-SIDED MARKETS: THE BASICS

Sub-question 1: What are two-sided (digital) markets?

Rochet and Tirole (2003) are among the first scholars to define two-sided markets from an economic perspective (but see also Rochet & Tirole, 2006; Evans, 2003; Rysman, 2009). To quote their seminal definition, "two-sided markets are markets in which one or several platforms enable interactions between end-users, and try to get the two (or multiple) sides 'on board' by appropriately charging each side" (Rochet & Tirole, 2006, p. 645). More broadly speaking, a two-sided market acts as an intermediary that allows two types of agents (i.e. consumers on one side and service providers on the other) to interact through the platform (Rysman, 2009, p. 125). Other crucial features of two-sided markets are externalities, direct and indirect network effects, pricing, and the premise that decisions made by one type of agent (e.g. the consumer) always results in the other side of the platform to be directly affected (ibid.; Armstrong, 2006, p. 66; Evans & Schmalensee, 2008, p. 667).

Such markets can almost be found everywhere and range from newspapers, advertiser-supported media, consumer electronics, videogame platforms such as Nintendo and PlayStation, and so forth. Another useful example is that of a payment card that brings together consumers who use it and merchants. Credit card companies such as American Express, Visa, and Mastercard have exploited the concept of two-sided markets to great length (Gawer, 2014). Rysman (2009) documents other examples, such as dating services that match two persons interested in each other, or shopping malls that bring together consumers and retailers. Essentially, all platforms experience the economics of two-sided markets. Many high-technology markets (e.g. platform markets) have a multi-sided nature. To cite Gawer (2014, p. 1240), platforms are "special kinds of markets that play the role of facilitators of exchange between different types of consumers that could not otherwise transact with each other."

Coming back to the definition of two-sided markets given by Rysman (2009) and its two prominent features (intermediaries and externalities), market intermediaries function like glue and form the connection between the two agents operating on either side of the platform. Taking the example

of a video game system, a Nintendo Switch or PlayStation 4 can be grouped in the category of intermediary between the two agents: consumers of the system on the one hand and video game developers on the other hand. Neither of these two agents is interested in the console if the other party is not, meaning that when the console has a limited offer of games, consumers might not be interested in the console and switch to another (cf. Boudreau, 2007; Rochet & Tirole, 2006). Correspondingly, game developers are not interested in developing games for a console with few consumers.

Two-sided markets, furthermore, depend on choices (mostly the strategy of *pricing*) that market intermediaries make (Rysman, 2009, p. 126). The platform, acting as intermediary, creates some form of interdependence between the two types of agents (ibid.). Externalities, another crucial feature of platforms, could be usage or membership of the platform. Externalities (also: generated value) can be intra-group, for which an example could be that any new LinkedIn user joining the platform increases the value of the network for all users (cf. Rysman, 2009; Gawer, 2014). Besides intra-group effects, externalities can also be inter-group, as when an additional driver makes the use of Uber more interesting for riders (Jullien & Sand-Zantman, 2019, p. 6). Specific for inter-group externalities is that these effects are different for each side of the platform. As such, prices (the most common market intermediary choice) set by a platform for different groups will be optimally different (ibid.).

So, how does this concept then work when applied to the digital realm in which many platforms find themselves in today's age? Airbnb for example acts as an intermediary between on the one hand users of the platform (consumers), and on the other hand service providers (Airbnb house owners). Together, they form the two sets of agents Rysman (2009) speaks of in his definition, affecting each other's outcomes through the decisions they make. If an individual wishes to go on a short holiday to Berlin for four days and wants to book accommodation accordingly, the very listing chosen by the platform user affects the other type of agent (in this case the platform service provider). It means, among other things, that the listing for that period cannot be rented to other consumers, that Airbnb receives a service fee for the fact that another booking has been successfully conducted, and so on.[13] The vast amount of offers listed on Airbnb, and the ease with which it comes to the consumer, impact the consumer's benefit of using the platform altogether. Understandably, the majority of listings offered would probably never have been found by this imaginary user had it not been for a platform such as Airbnb to act as an intermediary and list them in a comprehensible manner (e.g. through the use of filters to select listings accordingly).

Similarly, the platform Uber lets two types of agents interact with each other. The platform is highly dependent on how many users make use of the platform, as it only becomes attractive for taxi drivers to join the platform with sufficient demand (from consumers) to make end meets. Conversely, the platform from a business model perspective can only thrive once consumers' needs are met persistently and consistently, which can most likely be guaranteed the greater and more extensive the services are offered by the providers on the platform. In the case of Uber, this means that an individual

[13] Decisions undertaken by the two sets of agents, and more importantly the implications they have for the outcomes they generate on the platform, are almost endless to think of. Booking an apartment for a specific period of time (as given in the example in the text: four days in Berlin) leaves it to be unable to book for other potentially interested users which may have booked the listing for a longer period of time. As house owners listing their property on Airbnb can claim a cleaning fee for every *user* that books the listing (whether that'd be one day, or ten), a decision made by the consumer (i.e. how many days do I stay?) impacts the amount of money earned for the 'service provider' from cleaning services which are generally included in the price (cf. ESB, 2018). In a way, it is economically more profitable to have more, shorter-term bookings, as more cleaning fees can be claimed then.

that books an Uber benefits from the fact that a large number of taxi drivers are connected to the platform (cf. Armstrong, 2006). This ensures that there's always an Uber in the vicinity, at any time of the day, no matter which day of the week it is. A specific market intermediary for Uber could be the concept of surge pricing, in that it may have a considerable effect to what extent an individual actually books an Uber, given availability, waiting time, and pricing.[14] To conclude this section, Figure 2 visualises what a two-sided (digital) market is and thereby illustrates the answer to sub-question 1.

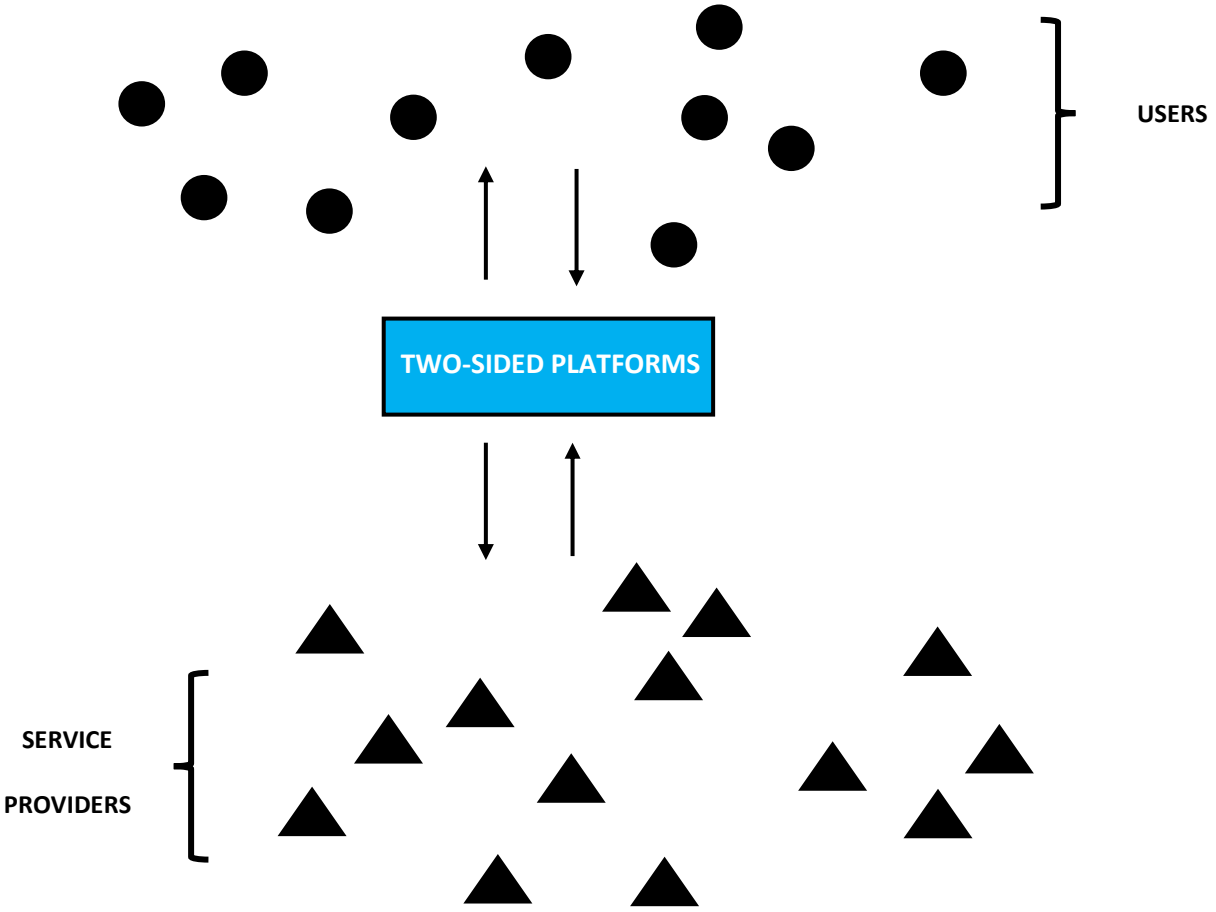

Figure 2: *Two (or multi-) sided markets (own depiction)*

The circles represent the one type of agent active on the platform, namely consumers (or: users of the platform), whereas the triangle-shaped pictograms depict the service providers (the other type of agent). Interaction then takes place between the two sides through the intermediary (e.g. Airbnb or Uber).

In the next section of this chapter, we further elaborate on the theoretical concept of two-sided digital markets in greater detail. Since the seminal work on two-sided markets presented by Rochet and Tirole (2003) and Rysman (2009), the digitalisation of markets and in particular the rise and development of the platform economy has truly taken off over the past ten years, which is why we feel it

[14] Surge pricing is a dynamic form of pricing which adjusts prices of rides to match driver supply to rider demand at any given time (Dholakia, 2016). In more technical terms, Gurley (2014) defines it as a self-balancing cycle that makes the system oscillate between undersupply and oversupply states, enabled by high price elasticities in supply and demand. Novak and Kalanick (2013) add to this that surge pricing is often controlled by system variables such as demand/supply ratio in the network or fleet utilisation.

is important to take up those technological advancements and societal changes into the theoretical framework of this Master's thesis. Specifically, section 2.2 serves to explain how digital platforms work and which specific characteristics they have (sub-question 2).

2.2 DIGITAL PLATFORMS: THE SPECIFICS

Sub-question 2: How do (digital) two-sided markets function and which specific characteristics do they have?

Research on digital platforms can be divided into two strands of academic literature: (industrial) economics (Rochet & Tirole, 2003; Evans, Hagiu, & Schmalensee, 2006; Armstrong, 2006; Rysman, 2009) and engineering design (Meyer & Lehnerd, 1997; Krishnan & Gupta, 2001; Jiao, Simpson, & Siddique, 2007). Since the introduction and mass adoption of the smartphone, big data, AI, automation and further digitalisation, the paradigm around (digital) platforms has shifted towards a more technological side, whilst still accounting for the economics of its inherently two-sided nature (Caldéron & Miller, 2020). As regards (digital) platforms, some scholars speak of "innovation ecosystems" (Adner & Kapoor, 2010; Nambisan & Sawhney, 2011), or "ecosystems sparking convoluted innovation" (Dougherty & Dunne, 2011).

To aptly summarise its concept, a platform provides crucial functions to a highly innovative technological system that other firms can use as a foundation to offer complementary services, products, or other technologies (Gawer, 2009; 2014, p. 1242). To provide an example, Facebook – which is a social networking service – is also used by other third parties that work with the platform to introduce consumers to their respective platform, such as game developers and advertisers. The two most important characteristics of digital platforms are value creation and network effects (a type of externalities). These are explicated in further detail hereafter.

The first crucial characteristic of platforms is that they create value (Rochet & Tirole, 2003). Gawer (2014) neatly defines what value creation by platforms entails:

> "[P]latforms fundamentally create value by acting as conduits between two (or more) categories of agents who would not have been able to connect or transact without the platform. Platforms create value by coordinating these groups of consumers and in the economic view this coordination is effected through pricing. The value that consumers as well as the platform owner can capture increases with increasing customer bases, in a virtuous cycle of indirect network effects" (Gawer, 2014, p. 1241).

As for the users of any given platform, the basic premise of value creation entails the notion that it should be worthwhile for users to not only join the platform but also to stay there and keep using the services in question. The business model of Spotify provides an excellent example in this regard. Much of the value of Spotify lies not so much in the content itself (Spotify acts truly as an intermediary as the platform does not produce its own music) as it lies in the personalised, user-centric approach they have developed. By offering a tailor-made viewer experience based on streaming preferences, they have exploited the huge potential of using big data and personalising the content offered to and available for everyone. A 1990s music playlist from one consumer may have very different songs from the 90s than another user has. In a similar vein, Airbnb allows users to screen potential accommodation listings according to its

most important value creation mechanism: pricing. Preferences for bookings can be saved and tailored to specific, individual wishes. By accounting for individual preferences, such platforms, thus, create and offer value to each user.[15]

Value creation is inextricably linked to the second characteristic of digital platforms: network effects or externalities (Li, Liu, & Bandyopadhyay, 2010). The basic idea behind network effects is that the value of a product or service increases with the number of users active on the platform (Rysman, 2009; Nooren et al., 2018). Especially in a digitalised world where entire business sectors are increasingly dominated by platforms, network effects of platforms play an essential role in their survival. Furthermore, it coincides with the shift from traditional supply-side economics to demand-side economics where the network size of a platform drives customer value (Gawer, 2014). Two-sided digital markets – such as dating services – thus become more attractive as more users sign up to utilise the services on that given platform (Caillaud & Julien, 2003; Damiano & Li, 2008). This is called network effects. Network effects are also characterised as demand-side economies of scale (cf. Katz & Shapiro, 1986, p. 824; Parker & Van Alstyne, 2005, p. 149).

Network effects can be further divided into direct network effects (also: same-side) and indirect network effects, also known as cross-group effects (Gawer, 2014). Direct network effects occur when the value of a product or service to your user increases exponentially with the number of the other users using the same product or service (Rysman, 2009; Gawer, 2014). An example of this is a telephone network, or the network of Skype users. Indirect network effects can be defined by the feature of cross-group network effects: one side's decision (let's say that of the consumer) is dependent on the number of participants on the other side of the platform. Using Uber as a digital platform to get from A to B from a consumer perspective is only attractive to use for customers if there are always enough Uber drivers in the vicinity so that one does not have to wait too long. Whereas direct network effects concern the demand-side economics of scale, indirect network effects have to do with the economics of scope (Gawer, 2014; Nooren et al., 2018).[16]

To exemplify, YouTube as a two-sided digital market makes use of indirect network effects. Both users and content providers of the platform interact with each other, but only through the intermediary of the platform itself. The more content is provided on the platform, the higher is the likelihood that consumers flock to the platform and use it. Conversely, providing content on the platform becomes more attractive and lucrative once the audience is bigger. YouTube as a digital platform does not contain any direct network effects, as individual users of the platform do not interact with each other. For many social networking platforms, direct network effects play a pivotal role in the functioning of the digital platform. Platforms such as Facebook, WhatsApp, or LinkedIn are built around the mechanism of "same-side effects". LinkedIn for example allows users to expand their social circle by inviting other individuals to their professional network. Referring back to Figure 2 presented in section 2.1 of this chapter, this would imply that there would be interaction arrows between the circles on the user side.

[15] In the aforementioned in-text example of *saving preferences for listings that users may be interested in*, the value for the individual user is created through the algorithm of the platform in that specific wishes are saved. You could then imagine that different listings are shown on top first to different users according to which budget they have at their disposal.

[16] Economies of scale mean that the average cost declines as the number of users increases (Nooren et al., 2018). Economies of scope imply that the average cost declines as more different goods and/or services are offered (ibid.). Scope economies are very important in business models that run on the mining and processing of big data.

This in turn affects the value creation of the platform, as more users positively benefit the value of the platform itself.

The next two sections address the economic and legal aspects of the regulatory challenge posed in the introduction and are therefore at the centre of the theoretical foundation of this Master's thesis. First, we examine issues with competition law (section 2.3). Many digital platform markets are plagued by a considerable lack of competition from which several issues arise (Cohen, 2017). The essence of competition law issues with digital platforms lies in the premise that new entrants to the market, whether or not driven by radical innovation and state-of-the-art-technology, have a difficult time gaining traction to the market and earn a (profitable) spot (cf. Van Gorp & Batura, 2015; Fijneman, Kuperus, & Pasman, 2018). As such, market dominance lurks. Section 2.4 deals with the public interest of data protection and the ownership of (personal) data.[17] This section takes up the relationship between data and competition between platforms within a single digital market (ESB, 2018; Van Til et al., 2017). Consequently, both sections contribute to answering sub-question 3.

2.3 A COMPETITION LAW PERSPECTIVE: THE DANGER OF THE WINNER-TAKES-IT-ALL

Sub-question 3: How and to what extent are public interests warranted in (digital) two-sided markets?

With regards to the economics of two-sided markets in relation to competition, two of the most important strategies that a potential platform firm may choose are pricing and openness. Regarding pricing, there may be ambiguity pertaining to the established price of a good or service in a two-sided market, as it is difficult to assess how the price for example would have been established in a market that has greater competition (Rochet & Tirole, 2003; 2006; Rysman, 2009, p. 129; Weyl, 2010).[18] To quote Rysman (2009, pp. 129–130), "since the platform faces a similar computation on the other side, prices on both sides of the market depend on the joint set of demand elasticities and marginal costs on each side."

On top of that, the effect of pricing in two-sided markets can be even larger:

> "The low price on one side not only attracts elastic consumers on that side but also, as a result, leads to higher prices or more participation on the other side. The increased value extracted from the other side magnifies the value of having consumers on the first side, which leads to a yet bigger price decrease and quantity increase for the side that experiences the increase in elasticity" (Rysman, 2009, p. 130).

The two-sidedness of pricing is even more prevalent in competitive markets. This is because lowering the (consumer) price attracts customers from a competing platform, thereby degrading the value of the competitor to buyers, and hence leading to a (large) increase in buyer interest in the original platform (ibid.). Two-sided markets raise questions for dynamic pricing too, of which penetration pricing is an example (Rysman, 2009, p. 131). Two-sided markets see a natural outcome, which is that an intermediary (i.e. digital platform) generally offers its services to a lower price first to attract consumers, and then raises it after enough customers have been brought in (ibid.; cf. Rochet & Tirole, 2003). Many

[17] Data protection rights are enshrined at the EU level by means of the GDPR and can therefore be classified as a "fundamental right" to ordinary EU citizens.
[18] An example of pricing in relation to two-sided markets is that consumers pay for every newspaper they would buy (or the subscription to one), whereas we do not pay for using a search engine on the Internet (e.g. Google or Yahoo).

business case models of digital platforms operate like this, such as Netflix or Spotify raising the monthly subscription price, or Airbnb claiming a larger usage fee for Airbnb service providers, who then pass this raise on to customers.

Besides pricing, there is a second strategy at work: openness. Openness refers to two specific strategic issues (Rysman, 2009, p. 132). The first is the number of sides that a digital platform wishes to serve: platform operators have a choice in designing their platform along the structure of either one-sided, two-sided, or multi-sided markets. The second strategic issue is how a platform deals with competing firms, which can range from offering compatible services, to some kind of integration, to excluding cooperation (ibid.; Gawer, 2014; Armstrong, 2006). This strategy may be subject to change over time. For instance, a platform can decide to alter its strategy or attitude towards competing platforms after having established a firm consumer base itself. Rysman (2009) opts to speak of "two-sided strategies" rather than markets as two-sidedness is an endogenous choice in some markets, not a technologically determined outcome. Payment cards and newspapers (media) seem much less flexible in terms of the choice of two-sidedness (ibid., p. 133; Rochet & Tirole, 2003). Thus, whereas the first strategic issue of openness concerns the question whether to multi-sided or not (the concept of vertical integration), the second meaning of openness has to do with strategic choices of digital platforms in terms of (not) cooperating with other (digital) competitors in the market.

Notwithstanding, "in a two-sided market, competition takes place in multiple contexts: between platforms who need to attract both buyers and sellers to transact on them, between sellers who need to strategically decide as to which platform to join and then compete with other sellers on that platform for the buyers' attention, and the buyers who need to decide on the platform they want to visit" (Li, Liu, & Bandyopadhyay, 2010, p. 245). Again, pricing strategies play a central role here. Disney+, Amazon Prime, Netflix, and more regional and national streaming services such as the Dutch Videoland all compete on the market and use pricing as (one of their) main strategy to create value, which in turn impacts a streaming service's network effects. Although competition between platforms in a given digital market may seem a certainty, the disruptive elements of platforms, combined with technological components driven forcefully by large tech companies, can lead to a winner-takes-it-all situation that may lead to abusive market control – even when competition in itself is present.[19] The remainder of this section discusses this danger of monopolisation.

The danger of monopolisation: abusing a dominant position

As stipulated in the introduction, there is general consensus on the notion that competition positively affects efficiency, prompts innovation, and is beneficial to consumers (Nooren et al., 2018). However, market players may engage in practices that negatively affect competition, such as abusing a dominant position (Rysman, 2009). This can lead to a "platform leader" or "keystone firm" in a specific digital sector (Gawer & Cusumano, 2002; Iansiti & Levien, 2004). Some of the most prevalent examples of the rising platform economy over the past decade have pointed out clear indications of dominant platforms

[19] An essential difference with traditional two-sided markets (as touched upon in section 2.1) is that competition on digital market, fuelled by smart technology, is far more dynamic, as opposed to the more static nature of competition. Consider the example of Uber. Sure, there are other platforms operating in the same business sector – hence one could argue there is competition in place. However, the digitalisation (or: *Uberisation*) of the taxi sector smacks of a winner-takes-all situation. A study by Future Advisor reports that Uber earned twelve times as much as its closest competitor, Lyft, in early 2014 (Borison, 2014; see also Katz, 2015, pp. 1121–2).

taking over an entire digital market. New entrants struggle to get into the market and compete with the incumbent (i.e. the dominant platform), further complicating what we would call "fair market competition" (Veisdal, 2020). This is also referred to as the "chicken-and-egg" problem (Caillaud & Jullien, 2003; Kyprianou, 2018), or simply the principle of no one joins until everyone has basically joined the platform. This fear of a winner-takes-all principle and market failure is not unfounded. We can generally identify three possible issues that may determine whether tipping towards a market situation of one or few dominant players occurs (Rysman, 2009). The first would be that standards can successfully exist side-by-side, as long as these standards utilised by different digital platforms are separated from one another (Chou & Shy, 1990; Church & Gandal, 1992). The second potential problem, which builds upon the first, would be that tipping is less likely to occur if agents can easily access multiple standards (ibid.). Lastly, the third identified issue derived from the literature states that tipping is more likely if the ability of providers of complementary goods and/or services to differentiate themselves after selecting a platform is present (Rysman, 2009, p. 134; Ellison & Fudenberg, 2003; Augereau, Greenstein, & Rysman, 2006).

Besides, and related to the first identified issue, a lack of opportunities for differentiation can be noted as an explanation as to why for instance many websites have failed (cf. Rust & Hall, 2003). As such, the organisation of the platform within the business sector greatly affects public policy towards new entries. Monopolisation is prohibited and documented in EU law through Article 102 Treaty on the Functioning of the European Union (TFEU). When large platform corporations run into accusations of anticompetitive behaviour however, it typically involves charges of monopolisation (Rysman, 2009; Katz, 2015). Yet, to cite Rysman (2009, p. 137), "two-sided markets typically have network effects and as such are likely to tip toward a single dominant platform." As a result, it is not surprising that these markets come under the (regulatory) attention of national competition authorities, as well as governments (ESB, 2018; Nooren et al., 2018). Regarding the economics of two-sided markets, monopolisation "and vertical contracting cases typically hinge on whether a firm has excluded competitors from the market in a way that did not benefit consumers or reduce costs" (Rysman, 2009, pp. 137–8). Putting it differently, it should not be the case that new entrants to a market are constrained all too much by the incumbent, or have been excluded altogether. We discuss the ramifications of competition law issues in detail in the analysis (Chapter 4), as it is crucial in answering the research question the present thesis poses.

2.4 SAFEGUARDING THE PUBLIC INTEREST OF DATA PROTECTION

Sub-question 3: How and to what extent are public interests warranted in (digital) two-sided markets?

Apart from the competition law perspective and concerns regarding the dominant market share of digital platforms, another prevalent issue is at stake: that of (consumer) data protection. Whether it is booking an appointment at the hairdressers', ordering food, calling an Uber, or renting an apartment for a short stay in a European city, large amounts of personal data are being collected, stored, and processed by digital platforms. For many digital platforms, the ownership of big data is at the core of their business model (Hartmann et al., 2016). Access to digital platforms usually comes at no cost, and money is being made through advertisements on the platform, network externalities, or sharing data with third parties.

A large consumer base for any big tech firm further fuels these lucrative data-driven business models. As the size of the EU's digital economy ramps up, so does the collection of personal data of millions and millions of users. This section, therefore, answers the second part of sub-question 3.

Since digital platforms have an increasing influence on our lives, the market power of a platform is not so much the issue any longer for consumers (Ponsoldt & David, 2007). Consumers either do not seem to care much (even though they perhaps should),[20] or it could be that the market dominance is taken up by two, three, or perhaps four influential market players that evens out over time, much like what happened in the Dutch telecommunications market (Cave & Peitz, 2013; Kocsis et al., 2015). Rather, the issue has shifted towards other negative externalities reaching far beyond the impact of a single digital platform (Ponsoldt & David, 2007; Katz, 2015; Sirimanne, 2019). For the scope of this thesis, we identify data protection – and subsequently privacy issues – to be the most ubiquitous one to discuss and take up in the analysis.[21] Failure of data protection is one of several larger negative externalities brought about by digital platforms that can be classified as *platform failure*: market failure specifically caused by the existence and use of digital platforms. Data contains large amounts of personal information which can be seen as a commodity (BEUC, 2018). The public interest at stake is the proper handling of data by large tech-driven platforms, which – as previously mentioned – have an increasing impact on our lives. Even if, for example, no data leaks could cause severe violations such as fraud or identity theft, individuals may still long for data protection. How these data are collected, who has access to them, and to what extent an individual is aware where her data is stored, thus, are among some of the most important regulatory (sub-)challenges that need to be addressed.[22]

This is because, through digitalisation and with the introduction of smart technology in more and more devices, "owning" data can be dubbed the powerful knowledge of the 21st century. The generation and analysis of data is a key element in most digital business models, mining those data from the user base which can then be used for improving services (Van Til et al., 2017; Böhmecke-Schwafert & Niebel, 2018; Hartmann et al., 2016). As such, it contributes to an overall better user experience and further prompts innovation. Sharing data between companies or platforms in essence is beneficial, as it can also positively contribute to improving the services which are offered on the platform. Data then forms the knowledgeable input, whereby so-called learning effects lead to new or improved upon services, which are then reviewed again by consumers and so on (Van Til et al., 2017). These learning effects caused by the large influx of incoming data from many users can greatly contribute to a platform's growth in becoming a bigger player on the market, especially in combination with network effects (as discussed in section 2.2).

Whereas improved services of a platform through smart use of big data can be seen as a positive externality, large-scale abuse of data containing personal and sensitive information proves to be a

[20] Facebook provides a useful example in this regard. Even though Facebook over the past years has been plagued by privacy scandals, the actual number of Facebook users has continued to rise, jumping to some 2,3 billion users in 2019 (Lee, 2019).
[21] Of course, other negative externalities or market failure can be identified for digital platforms, such as the information asymmetry in favour of platforms over consumers and labour law implications for platform workers. It would be outside the scope of this Master's thesis to address all (potential) market failures platforms may cause, which is why, in view of the impact it has on ordinary EU citizens, we focus on the issue of data protection. Nevertheless, it is important to bring forward such issues in the larger debate of regulating the platform economy.
[22] An example of the importance of knowing where your data is being stored stems from the omnipresent activity in which many large tech firms engage: selling data to third parties. For instance, Facebook is being used by many smaller platforms as a gatekeeper to receiving large amounts of personal data, e.g. amusement games such as the popular Candy Crush Saga.

regulatory challenge (Van Til et al., 2017; Nooren et al., 2018). 'Abuse' in this context knows several categories: it can range from not knowing by which other third parties my data is acquired to more severe situations involving identity theft or stolen passwords.[23] The relationship between data and the competition law aspect discussed in the previous section of this chapter within a single (digital) market, but also between digital markets, is complex and characterised by how data is being used in such platforms (ESB, 2018). It follows logically that the more dominant a platform is (leaving consumers with few to none other options), the more data the digital platform in question can acquire, thereby generating a higher value and increased network effects. Currently, digital platforms put considerable pressure on existing government policies. On the one hand, they are known to stimulate innovation (Gawer, 2014). On the other hand, digital platforms may cause (negative) externalities which are not always accounted for, as data protection issues display. For the latter, they provide governments with several reasons (or even obligations) to intervene in these (digital) markets (Nooren et al., 2018, p. 277; Van Til et al., 2017; ESB, 2018). Consequently, digital platforms at the moment are of particular interest to policymakers to respond to potential data protection concerns (Katz, 2015; Nooren et al., 2018; Prüfer & Schottmüller, 2016). For policymakers, they need to understand the positive and negative effects of issues on data protection in order to be able to determine if, how, and when to intervene.

For example, how digital platforms treat the personal data of users is a crucial aspect to think of in terms of analysing the effects of platforms on public interests (Van Til et al., 2017). Consider a situation in which no regulation would intervene and uphold the principle of the fundamental right of data protection, this could very well lead to massive abuse of large amounts of personal data over which individuals do not have any control, whilst they are still bound to the increasing societal impact digital platforms have and how they penetrate people's daily lives. Airbnb allows users to book rooms, apartments, and houses of private persons through their platform and thereby offers its users a unique travel experience previously largely unavailable to the customer (Airbnb, 2020). Yet before a listing on the platform can even be booked, users are obliged to create a profile on the platform and go through an identification process so that they are verified as a user.[24] For this, it is necessary to upload an official document (e.g. passport or driver's licence) to the platform, which is then checked and used as a tool to verify a person's existence. After successful completion of the verification process, users can freely make use of Airbnb's services at no additional costs.

Nevertheless, one can imagine the collection and storage of such sensitive personal data and the potential danger of large-scale abuse of those data requires a meticulous approach that needs to be taken by digital platforms to truly ensure full data protection. Again, this can range from selling personal data to third parties, to identity fraud through hacking, and data leaks on a more aggregated level. For instance, the social network and dating service Grindr admitted to having shared users' HIV status and other intimate personal details with outside software vendors (Singer, 2018; Moylan, 2018). Knowing

[23] Compare the possession over personal data with a lock of your private room. In that room, you safely store all personal belongings (= data) that others do not have access to. Now imagine loosing that lock (or: it gets stolen). This would imply a situation of privacy lost.

[24] Airbnb can also be used without creating an official profile with the necessary identification process, but we would like to stress here that in such cases, the platform is not necessarily used for its core purpose. It would be the same to use Uber merely for the prospect of viewing which cars are used as Uber taxis, rather than actually booking a taxi to get to a certain destination. The Dutch real estate platform Funda is also illustrative in this regard. The platform allows users to search for houses, with many listings on the platform accompanied by pictures of the property's interior and exterior. One could imagine this information known to other individuals intending to do harm and malicious third parties to be a breach of one's privacy.

an individual's HIV status, whether the third party acts upon it or not, can be deemed a severe invasion of someone's privacy. Another example is illustratively proven by the Cambridge Analytica scandal caused by Facebook (Wong, 2019). In short, Facebook had allowed someone to extract vast amounts of private information about vast numbers of people from its system, and that entity had passed the data along to the Brexit campaign, advocates of which then used it for political ends (ibid.). These examples are merely two of many vast data breaches caused by (large) digital platforms that thrive on the ownership of big data. At the same time, it stresses the necessity for a regulatory response by governments and/or international organisations – with the EU to be the most relevant for this thesis – alike. The extensive regulation on data protection through the GDPR, effective 25th of May, 2018 indicates the importance at the EU level for protecting consumers and users of digital platforms for potential harmdoing in light of data protection and privacy concerns (GDPR, 2016). Section 2.5, which is also the last section of this chapter, specifically addresses the question of why regulation on digital platforms is needed and therefore zooms out to present a broader perspective (cf. Katz, 2015).

2.5 REGULATING THE PLATFORM ECONOMY: AN INTERIM CONCLUSION

Sub-question 4: How and why is regulation on digital platforms needed from a theoretical perspective?

In the last section of this chapter, we take up the most important points from sections 2.3 and 2.4 and succinctly debate the broader perspective of how and why regulation on the platform economy is needed. Subsequently, this part concludes and summarises the essence of what is being discussed throughout the theoretical framework of this thesis.

The question to what extent there needs to be regulation with regards to the platform economy is fuelled by both an academic and societal debate that perceives the rise and development of the sharing economy as a regulatory disruption (cf. Katz, 2015, p. 1084). Current regulatory efforts have not yet addressed many of the legal issues raised by sharing; as the sharing economy continues to grow, regulators will need to confront these grey areas (ibid., p. 1099). The main driver behind the discussion is that the platform economy by some critics operate in the same (digital) market as the incumbent, yet are not held to the same regulatory standards. Many so-called "peer-to-peer" services, as is the argument, offered by digital platforms conduct the same business activities as traditional service providers. To an extent, we feel this is a valid point. For example, both Airbnb and hotels in the traditional set-up operate on the same (digital) market and conduct the business of offering services for short or longer-stay rentals, albeit in a different setting (an individual's private home vs. a hotel). Nevertheless, hotels are bound by regulatory procedures such as health and fire codes, whereas Airbnb homeowners are not.[25] Uber drivers have been able to circumvent safety regulations, whilst conducting the same driving tasks as the incumbent does. This could be explained because some prominent

[25] An example of this difference is given in the paper by Edelman and Geraldin (2016): hotels must install fire suppression systems such as sprinklers, whereas hosts from Airbnb listings do not have to. Hotels are furthermore obliged to have non-flammable bedding, whereas this is not the case for listings offered on Airbnb. One could argue that this does not rhyme with upholding safety measures for the public good. In a similar vein and to cite Katz (2015, p. 1081), "[t]axis are subject to detailed rules governing metering rates, required coverage areas, vehicle inspections, driver background checks, and licensing." For drivers working for Uber – although conducting the same business operations – this is not the case, causing a regulatory vacuum and distinct difference.

examples of the platform economy do challenge the very definitions of "goods" and "services" (Katz, 2015, p. 1098; Thelen, 2007; Nooren et al., 2018).

On top of that, digital platforms do not always operate in one specific market, which leads to complex legal questions in combination with the regulatory vacuum that currently exists. This is because, contrary to what is stated in the previous paragraph, some argue that sharing platforms differ substantially from traditional service providers and that they as such cannot be held to the same regulatory standards set for the incumbent (i.e. taxi drivers, hotels etc.). Therefore, existing regulatory frameworks may not be up to par for the challenges brought about by the efficiencies and negative externalities of digital platforms (Fijneman, Kuperus, & Pasman, 2018). Katz (2015, p. 1082) aptly summarises this regulatory challenge:

> "Highly localized and specialized regulatory frameworks pose a challenge for sharing platforms, particularly those that operate nationwide. To clarify ambiguities in local regulations or contest regulations that prohibit sharing services, platforms must advocate for reform on a city-by-city basis. Even as cities and states begin to pass legislation tailored to sharing platforms, each jurisdiction takes a different approach. Sharing platforms must therefore adapt to a wide range of regulatory solutions. However, many other interest groups also have an interest in the outcome of regulatory action governing sharing platforms" (Katz, 2015, p. 1082).

Tailoring this notion to the context of this thesis, we could extend the argument into saying that there could be a situation in which the EU outlines regulation on platforms at the EU level, but leaving leeway to nation-states (and subsequently lower levels of jurisdiction) to cater regulation to the specific situation and jurisdiction in which platforms find themselves. Short-term rental digital platforms, for instance, see vast differences among EU member states and within countries with regards to how the externalities brought about by them are perceived.[26] Whereas cities such as Barcelona, Amsterdam, and Paris are burdened with negative effects of tourism and have struggled considerably with the rise and development of Airbnb and other short-term rental platforms, other cities in Europe may be very willing to attract more tourists and welcome the services offered by Airbnb and other competitors (Couzy, 2019). Therefore, inherent to any legal question, regulating the platform economy as an ecosystem with digital platforms operating in them requires a careful balancing of interests.[27]

We now turn to the methods section of this thesis. Chapter 3 outlines the methodological choices of this research and specifically addresses the chosen research design, case selection, data collection, operationalisation, and other issues of social inquiry (King, Keohane, & Verba, 1994).

[26] All negative externalities combined fall into the broader concept of "market failure" which digital platforms cause, thereby highlighting a need for (some form of) regulation. For example, short-term rentals listed on Airbnb, Booking.com or TripAdvisor rentals cause many tourists to flock to popular residential areas of cities, previously largely unaffected by (mass) tourism. This can considerably change the characteristics of a single building, an entire neighbourhood, or even community (Katz, 2015, p. 1083; Filippas & Horton, 2014; Nieuwland & Van Melik, 2018). Discussing all (potential) negative externalities, although worthwhile to mention briefly here, is outside the scope of this thesis (see also the explanation given in Chapter 1, section 1.2).

[27] This balancing of interests is taken up in the analysis chapter of this thesis, as the comparative case study approach undertaken for this research exposes the competing interests of "costs of regulation" vs. "benefits of innovation".

3. METHODOLOGY

In this chapter, we present the research design which lays the methodological foundation for this thesis. This thesis, as already stipulated in the introduction, is rooted in the qualitative tradition of conducting research in the social sciences (King, Keohane, & Verba, 1994). Therefore, section 3.1 explains in further detail what type of qualitative research is conducted. The main method is qualitative document analysis, complemented with additional quantitative data to serve triangulation purposes (Gschwend & Schimmelfennig, 2007). Section 3.2 delves into the selected cases and most importantly justifies why they were chosen. After the case selection, the researcher explicates which data have been collected to analyse the theoretical assumptions from the theoretical framework (section 3.3). The analysis (Chapter 4) is based upon an extensive document study, using many different sources from academia, media outlets, and policy organisations such as the Commission. For an overview hereof, we refer to the references following the discussion. Next, section 3.4 follows up with the operationalisation of the main concepts relevant to this thesis. Section 3.5 concludes this chapter with a critical assessment of reliability and validity vis-à-vis qualitative research and how it relates to the present thesis specifically.

3.1 QUALITATIVE RESEARCH METHOD: DOCUMENT ANALYSIS

To answer the research question *How and why should platforms (in the EU) be regulated*? and subsequently draw inferences, we make use of a qualitative document analysis combined with existing quantitative data on the overall platform economy and the specific platforms under scrutiny. This thesis mainly carries out a qualitative document analysis, subsequently forming the main method of study (Bowen, 2009). To quote Bowen (2009, p. 27), "document analysis is a systematic procedure for reviewing or evaluating documents, both printed and electronic (computer-based and Internet-transmitted) material." Document analysis does not differ from other analytical methods in qualitative research in that the researcher is required to scrutinise and interpret in order to obtain theoretical and analytical findings presented in the text which can serve to expand on empirical knowledge (Bowen, 2009, p. 27; Corbin & Strauss, 2008; Rapley, 2007). Atkinson and Coffey (1997, p. 47) allude to documents as "social facts", i.e. products that are shared and used in socially organised ways. Thus, as a research method, document analysis is of particular relevance and mostly applicable to qualitative case studies, which are known to provide in-depth insights into a single phenomenon, be it a regulation, policy, organisation, or event (Stake, 1995; Yin, 1994).

The concept of triangulation

These 'social facts' can – unsurprisingly – take many forms, ranging from policy documents, newspaper articles, media reports, evaluation reports, minutes from (business) meetings, manuals, press releases, and so forth (George & Bennett, 2005). As Merriam (1988, p. 118) points out, all different types of documents available to a researcher can help understanding and discovering insights which are relevant to (answering) the research problem. "Document analysis yields data — excerpts, quotations, or entire passages — that are then organised into major themes, categories, and case examples specifically through content analysis" (Bowen, 2009, p. 28; see also Labuschagne, 2003). Often, using the method

of document analysis is part of a strategy called triangulation. This qualitative research strategy is the combination of methodologies that attributes to studying a single phenomenon or case studies (Denzin, 1970, p. 291). In other words: using multiple sources of evidence assists in providing a clearer, more solid picture of the answers to the research question following the analysis. Triangulation is "to seek convergence and corroboration through the use of different data sources and methods" (Bowen, 2009, p. 28). Thus, apart from documents (in whichever form presented to and used by the researcher), the study relies on other sources such as interviews, participant or non-participant observation, quantitative data in the form of surveys, reports, and questionnaires, and physical artefacts (Yin, 1994). The present thesis makes use of additional secondary academic literature, as well as extant quantitative data if relevant to the regulatory challenges posed.

What is then the objective of triangulation? According to Eisner (1991, p. 110), triangulation means that the researcher tries to use multiple sources to double-check and verify an assemblage of empirical evidence, which strengthens the credibility of the results, and thus the overall argument. This credibility is enhanced by the fact that multiple sources are used, as well as different methods available and checked in a peer-to-peer fashion. Consequently, we follow Eisner, but also Patton (1990) in that triangulation as a used research strategy helps the researcher to produce a study with findings that is based on more than a single method, merely a few academic sources, or a single investigator's bias.

Notwithstanding, a qualitative document analysis as the main method of study comes with both advantages and disadvantages (King, Keohane, & Verba, 1994; Goertz & Mahoney, 2012; George & Bennett, 2005). To start with the advantages, the first would be that a qualitative document analysis as a method is an efficient one: it is less time-consuming and therefore more efficient than other research methods. Rather than collecting data independently as a researcher, qualitative document analysis concerns selecting relevant existing data and meticulously analyse and interpret them (Bowen, 2009, p. 31). Especially given the scope of this thesis and the time available to conduct research, document analysis proves to be fruitful in this regard. Tied in with the first advantage is the second one: its cost-effectiveness. Data (stored in documents) have, after all, already by gathered by other researchers which considerably takes off time (Goertz & Mahoney, 2012; Gerring, 2017). The third advantage is what the literature identifies as a lack of obtrusiveness and (subjective) awareness (King, Keohane, & Verba, 1994). It means that documents are unaffected by the research process and the researcher(s).

Linked to this third advantage is the notion of reflexivity. "Reflexivity – which requires an awareness of the researcher's contribution to the construction of meanings attached to social interactions and acknowledgment of the possibility of the investigator's influence on the research – is usually not an issue in using documents for research purposes" (Bowen, 2009, p. 30). Similarly, Merriam (1988) notes that the researcher does not alter what is being studied. Merriam refers to this as a stable factor of conducting a qualitative document study (ibid.). Applying this logic to how this research is conducted, it means that the documents analysed for the present thesis may very well be used for other purposes or studies, without the exact relevance or meaning be lost or changed. Fourth, exactness of what the documents reveal to the research is also seen as an asset (Yin, 1994; Brady, Collier, & Seawright, 2010). The final and fifth advantage is that documents cover a long period, many events, and many settings (Yin, 1994, p. 31). As such, they provide a reliable source both temporally and spatially.

Despite the aforementioned advantages of qualitative content analysis, there are also some drawbacks. We briefly mention– in our opinion – two of the most prevalent disadvantages of using this particular research method.[28] The first is that documents may be produced for some purpose other than research and therefore contain insufficient detail as to providing satisfactory answers to the research question posed. Cohen (1974, p. 5), especially critical of qualitative research in general, documents that "the findings of most qualitative analyses tend to be "conjectural, non-verifiable, non-cumulative, 'meanings'… arrived at by sheer intuition and individual guesswork." Although we agree that a qualitative analysis to an extent relies on the interpretation of a researcher and brings in elements of subjectivity and a lower level of reliability in terms of the study's findings, most qualitative research involves making sense of the often "messy reality" of social life (cf. Holliday, 2007). Making sense of the outside world and in our case understanding how the platform economy works and should be regulated, goes beyond quantitative research and statistical analyses. The second disadvantage concerns biased selectivity (Bowen, 2009, p. 31). In an organisational context, the available (selected) documents are likely to be aligned with organisational and/or institutional policies and procedures (ibid.). This may be particularly valid in our case for documents provided by EU institutions. By utilising triangulation and combining the qualitative document analysis with additional academic literature and quantitative data, we seek to minimise these (potential) disadvantages as much as possible.

For reasons of clarification, Figure 3 below presents four common norms in conducting qualitative research derived from Wesley (2010). His insights are complemented with other academic sources and serve as methodological guidelines for the present thesis.

Four common norms in conducting qualitative research within the social sciences:

1) *Authenticity / credibility*: an analysis that offers a genuine interpretation of reality, or an accurate reading of a particular (set of) document(s), thereby providing a believable interpretation of the meanings found therein (Richerson & Boyd, 2004, pp. 410–11).
2) *Portability / external validity*: regarding a contribution to knowledge, most social scientists concur that their inquiries must offer insights extending beyond the specific cases under study (cf. Bryman, 2004, p. 539). External validity concerns the generalisability of a particular analysis to broader questions about political life.
3) *Precision / dependability*: assessing this aspect of trustworthiness in terms of reliability, through inter-coder testing. This can be captured in the question: Would I have reached the same general conclusions, given the opportunity to read the same set of documents under similar conditions?
4) *Impartiality (of observations) / objectivity*: social science is premised on the capacity of its practitioners to produce relatively unprejudiced knowledge about the social world, through findings that are reflective of reality as opposed to their own pre-determined beliefs (Marshall & Rossman, 1989, p. 147).

Figure 3: *Methodological guidelines for qualitative document studies* (Wesley, 2010)

[28] A third disadvantage frequently mentioned in the literature is that of "low retrievability". Low retrievability refers to the process of contacting the original authors of documents to verify to what extent they (still) stand behind statements and conclusions marked in a given document. Undertaking such a process would be too time-consuming and beyond the scope of this thesis.

3.2 CASE SELECTION: CONDUCTING A COMPARATIVE CASE STUDY

This section explains the case selection for this thesis and justifies why the two selected platforms have been chosen to contribute to answering the research question posed in the introduction. To try and attain an optimal undertaken comparative approach between the two platforms, the two-sided digital markets are both enshrined in providing *services*: Airbnb (hosts and guests interacting on the platform) and Uber (drivers and passengers) (cf. Strowel & Vergote, 2016, p. 5).[29] Both have also severely challenged traditional business sectors and can be classified as disruptive start-ups altering consumers' lives by presenting a digital solution to short-term accommodation and transportation (Fabo et al., 2017; Dervojeda et al., 2013). As Sundararajan (2016) aptly summarises it, Airbnb and Uber are the two major components of today's sharing economy and are the frontrunners of the transition to a fully-fledged digital economy. Figure 4 illustrates this by indicating the four most popular sectors in which digital platforms are active in the EU in 2015 (European Parliament, 2017a).

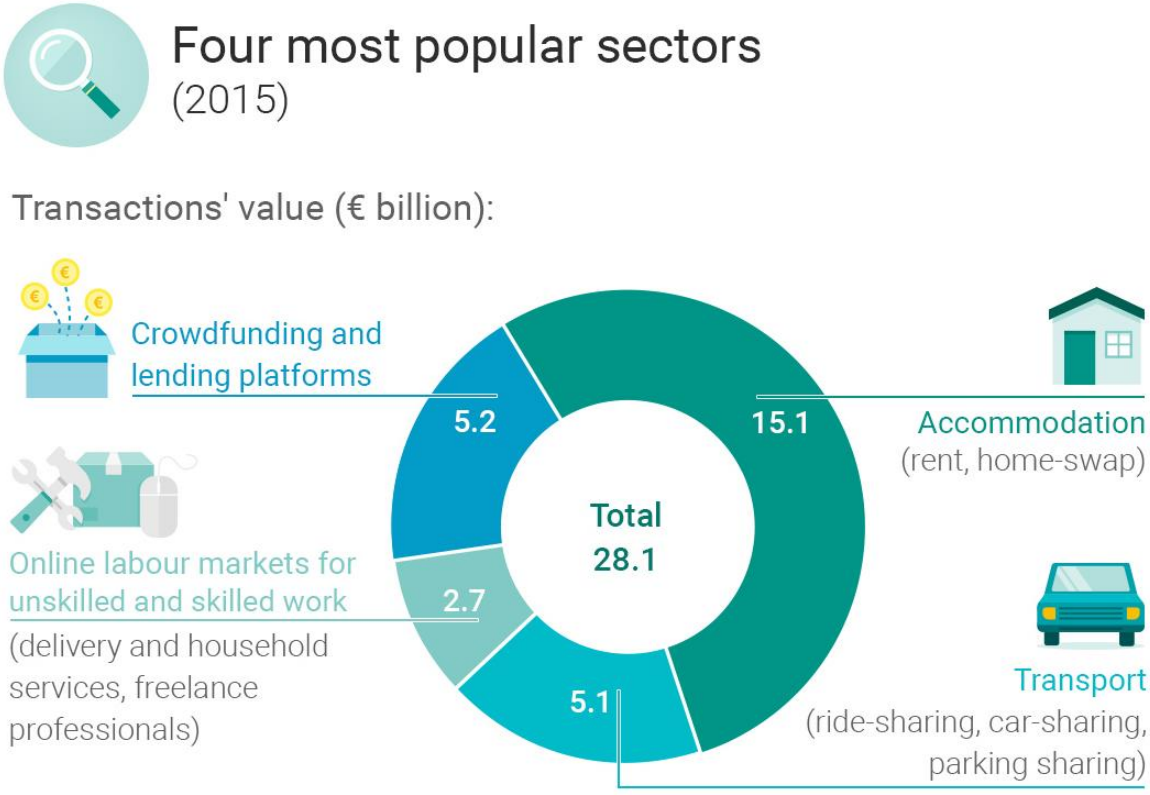

Figure 4: *Four most popular sectors of the EU's platform economy in 2015 (European Parliament, 2017a)*

As Figure 4 shows, both accommodation and transport belong to the most popular sectors of today's EU sharing economy. The next two paragraphs justify the case selection of Airbnb and Uber in more detail.

[29] In their article, Strowel and Vergote (2016, p. 5) present a high-level typology of digital platforms based on the type of resources they grant access to. In the end, they identify five different types of platforms, of which access to goods and/or services is one (e.g. Airbnb and Uber).

The case of Airbnb

Airbnb is among some of the most well-known digital platforms that have fuelled the transition to a so-called sharing (digital) economy. Although digital platforms are active in many areas of social and economic activity, tourism – with Airbnb as the main contributor to the rise and development of the platform economy – has been one of the sectors most impacted (Juul, 2017, p. 1). In other words: "the disruptive potential of the sharing economy is [best] illustrated by the example of Airbnb, probably the sharing economy's most promising start-up" (Dervojeda et al., 2013, p. 6). International travel has rapidly grown over the past twenty years: where the EU welcomed 331 million arrivals in 2000, that number had risen to 478 million by 2015 (Juul, 2017, p. 2). In 2018, it was projected that by 2020, the activities undertaken by Airbnb would contribute to circa 340 billion euros in economic output across Europe (Davis, 2018). By January of 2017, Airbnb claimed it had over 2,5 million listings with over 100 million guests in 191 countries worldwide, most of them situated in Europe and the United States (Juul, 2017, pp. 3–4). Airbnb holds a dominant market share in most large European cities, as the percentage of Airbnb overnight stays as a % of all overnight stays varies between 4 and 20% (Hotelschool The Hague, 2018; see also Appendix 3). The importance of Airbnb's economic and societal impact, thus, cannot be overlooked or underestimated, which is why we examine this case in further detail for this thesis's analysis.

The case of Uber

Similar to Airbnb's considerable impact on the traditional short-term rental market and accommodation incumbents, Uber serves as one of the other hotly debated digital platforms, heralded by some whilst considered extremely disruptive by others. Much like Airbnb swept away traditional business models in the accommodation sector, Uber has done so for the transportation market, in particular threatening taxi companies as Uber, its main competitor Lyft and other transportation network companies (TNCs) cater towards rapidly changing consumers' needs for short trips in personal vehicles (Katz, 2015). Uber has been so leading and influential in this disruptive effect on existing markets and operators that it even sparked the inspiration for naming this social phenomenon: *Uberisation*. Uberisation, according to Strowel and Vergote (2016, p. 2), marks the "destructuration of the value chain by new intermediaries which, through the use of digital technologies (mainly apps, smartphones and online payment systems), capture part of the value at the detriment of traditional operators." Uber is valued at 110 billion euros (Rinne, 2019) and active in more than 900 cities, most of which are situated in the United States and Europe (Uber, 2020). Besides its considerable size within the digital (sharing) economy and notable societal impact, it has also been noted as a clear-cut example of questioning existing regulatory approaches, threatening public interests and causing negative externalities, thereby prompting a need for regulatory response(s) (see e.g. Nooren et al., 2018; Werner & De Bijl, 2019; Thelen, 2018; Katz, 2015).

As such, this thesis analyses the cases of Airbnb and Uber by taking into consideration the enormous impact they both have on the EU's (digital) economy and the lives of ordinary EU citizens. This set-up mirrors a comparative small-n case study approach (Gerring, 2017; Toshkov, 2016). Gourevitch (1986, p. 281) once wrote that "for social scientists who enjoy comparisons, happiness is

finding a force or event that affects a number of societies at the same time. Like test-tube solutions that respond differently to the same reagent, these societies reveal their characters in divergent responses to the same stimulus."[30] The comparative method has been proven extremely helpful to draw inferences about social phenomena in political science and public administration research (Lijphardt, 1971; 1975). Because the two selected cases can be classified as similar platform services, operate comparably with regards to their position within the (digital) platform economy and have both been under much scrutiny over the past year to what extent their platform services should be regulated to combat negative externalities, we control for platform-specific factors as much as possible.[31] For this reason, the comparative method particularly strengthens the assurance of independence of cases (cf. Lijphardt, 1975), and the understanding of historical divergences between cases for the present thesis (cf. Slater & Ziblatt, 2013).[32] Subsequently, the analysis of these two cases in detail makes a modest contribution to the existing literature on platform regulation.

3.3 DATA COLLECTION

The data for this thesis were gathered by means of triangulation (Gschwend & Schimmelfennig, 2007; Leuffen, Shikano, & Walter, 2012). As already stated in section 3.1 of this chapter, this research is mainly set up as a qualitative document study complemented with additional secondary literature, existing quantitative data, and their respective insights in regards to regulating the platform economy. Most of the documents used for the analysis are comprised of policy documents, reports, secondary academic sources, and extant literature. Therefore, the main data sources are qualitative. The quantitative data used for the thesis mainly serve as illustrative and are descriptive. The data were collected between April and June of 2020 in the Netherlands. For an overview of all used data sources, including the hyperlinks where applicable for retrievability, we refer to the references following this thesis's discussion (Chapter 5).

In the next section, we explicate in further detail the operationalisation process and dwell on the measurement standards to which this thesis upholds itself. In other words: how do we measure the main concepts introduced in the theoretical framework for the analysis?

3.4 OPERATIONALISATION

This section encapsulates the methodological issue of good measurement (Adcock & Collier, 2001). Measurement is the process of making empirical observations concerning a theoretical concept (Blatter & Blume, 2008; Zeller & Carmines, 1980, p. 2). The problem of measurement – and consequently the methodological importance of the operationalisation process – stems from the fact that most (and

[30] The 'force' here is the swift rise and development of dominant digital platforms that have altered people's lives considerably in less than a decade.

[31] Again, the concept of negative externalities is comprised of many effects brought about by digital platforms. This thesis focusses specifically on issues with competition law and (consumer) data protection. As regards the notion of platform-specific factors, we refer to Strowel and Vergote's article (2016). Their high-level typology of digital platforms identifies, besides access to goods and/or services to which the services offered by Airbnb and Uber apply, four other types of digital platforms based on the type of resources they grant access to (see also ibid., pp. 5–7). Taking other types of digital platforms with different types of resources into consideration for the comparative case study approach would complicate the analysis and be outside the scope of this thesis.

[32] The other two strengths of the comparative method are: avoiding conceptual stretching (cf. Sartori, 1970) and potentiality of controlled comparisons to generate causal arguments that are at once internally and externally valid (cf. Slater & Ziblatt, 2013).

perhaps all) important social science concepts are not directly observable, because they are *latent* (Gerring, 2012, p. 157). The box presented below (Table 1) provides an overview of the operationalisation of the main variables. These latent concepts include (i) digital platforms, (ii) competition (law), and (iii) data protection and privacy issues.

The first variable digital platforms is the independent variable, as it has implicated (causal) effects on competition law and privacy-related issues (Nooren et al., 2018; Van Til et al., 2017). The latter two concepts, thus, are the dependent variables. Figure 5 presents the presumed causal model at work.

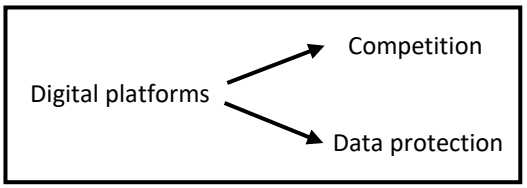

Figure 5: *A causal model linking digital platforms to competition and data protection*

To reiterate and conclude this section, Table 1 below provides a schematic overview of each concept.

Table 1: *Operationalisation of main variables*

	Definition / indicators
Independent variable	
Digital platforms	Digital platforms are "business models where activities are facilitated by collaborative platforms that create an open marketplace for the temporary usage of goods or services often provided by private individuals" (Juul, 2017, p. 2).
Dependent variables	
Competition	"Competition [is] interaction among market players that is driven by rivalry in which every actor tries to maximise its long-run profits" (Nooren et al., 2018, p. 278). - How many competitors are active in the (digital) market? - To what extent are there any entry barriers for new entrants? - % of the market share of the platform leader in a given market. - Are there indicators of cartels and collusion? To what extent are signs observable of a "winner-takes-all" outcome?
Data protection	Data is "any information relating to an identified or identifiable individual (data subject)" (OECD, 2013, p. 13). Personal data should be "protected by reasonable security safeguards against such risks as loss or unauthorized access, destruction, use, modification, or disclosure of data" (OECD, 2020, p. 12). - Is the collection of data selective? - Is the amount of collected data from the subject minimised? - Is the collection (of data) overtly or covertly? - Who has access to the data? - To what extent is there protection against function creep? - Is the collected data encrypted or otherwise access protected? - Is the data protected against manipulation? - Are there any instances of data breaches known? - Have there been any data protection violations reported?

The next and final section of this chapter builds upon this section and delves into two criteria for good measurement: reliability (precision) and validity.

3.5 RELIABILITY AND VALIDITY: A CRITICAL REVIEW

The last section of this chapter discusses two important elements of conducted research in public administration: reliability and validity. These two criteria are often mentioned in the same breath with the criterium of objectivity: to what extent are measurements independent of the researcher? (Adcock & Collier, 2001). First, this section discusses both concepts; especially which place they hold in

qualitative research. After the definitions, the pros and cons of both concepts are discussed and what consequences the chosen method, data, and operationalisation have. This chapter closes by presenting a critical review before the analysis presents this thesis's results.

Reliability in qualitative research

Joppe (2001, p. 1, as cited in Golafshani, 2003, p. 598) defines the concept of reliability as follows:

> "…The extent to which results are consistent over time and an accurate representation of the total population under study is referred to as reliability, and if the results of a study can be reproduced under a similar methodology, then the research instrument is considered to be reliable" (Joppe, 2001, p. 1, as cited in Golafshani, 2003, p. 598).

In qualitative research, scholars have mixed opinions of using reliability as a criterion (George & Bennett, 2005; Pierson, 2004). Stenbacka (2001, p. 552) argues that the concept of reliability in qualitative research is misleading. The reason for this is that using reliability as a criterion leads to the consequence that most qualitative studies would fail to provide sufficient reliability. On the contrary, Patton (2001) states that reliability (and validity as well) is a factor that scholars should take into account upon designing any qualitative research. Similarly, Searle (1999) explains that the trustworthiness of cited studies is crucial in having good reliability. In sum, even though this concept divides scholars, reliability holds an important methodological component in qualitative research.

Following the essence of reliability, though, is that reliability in qualitative research scores quite low (Van Thiel, 2014). First, the collected qualitative data, usually generated from interviews and observations, can be interpreted in many ways. The way the investigator interprets the data to a certain degree determines the results of the study (Golafshani, 2003). By using qualitative document analysis as the main method of study, many steps may require interpretation from the investigator (Collier, 2011). Hence, the analysis might not always be reproduced in the same way, even when different studies would use a similar methodology. Second, the way a researcher operationalises the variables alters how the research question is being tackled and thus to an extent which results are achieved (George and Bennett, 2005). This bias usually is reflected in the lower degree of reliability that is common for most conducted qualitative case studies (Golafshani, 2003, p. 601).

However, this does not mean that reliability of conducted qualitative research is unfeasible. If the three assumptions made by Kirk and Miller are taken into consideration, the reliability of this thesis is to be achieved in two ways. First, conducting a document study to analyse the research question allows for great transparency of data. Since the documents used are available for anyone, repeated measurements would most likely give the same results (Van Thiel, 2014). Second, qualitative document analysis sees to the principle of using a systematic analysis to increase reliability (George and Bennett, 2005). This advantage matches the second assumption made by Kirk and Miller. In sum, even though the results might be up for debate and not every scholar may necessarily agree with them, at least the process which was used to generate results and draw conclusions is clarified.

Validity in qualitative research

Building upon the concept of reliability, Joppe (2001, p. 1, as cited in Golafshani, 2003, p. 599) then defines validity as:

> "Validity determines whether the research truly measures that which it was intended to measure or how truthful the research results are. In other words, does the research instrument allow you to hit "the bull's eye" of your research object? Researchers generally determine validity by asking a series of questions, and will often look for the answers in the research of others" (Joppe, 2001, p. 1, as cited in Golafshani, 2003, p. 599).

Validity in (public administration) research questions whether the means of measurement are accurate and whether they measure what they are intended to measure (Van Thiel, 2014; George & Bennett, 2005). Unlike with the concept of reliability, Stenbacka (2001) stresses the importance of satisfactory validity in qualitative research. However, Winter (2000, p. 1) argues there are different views on how to define and operationalise the concept of validity.

Subsequently, it is important to make a distinction between two types of validity: internal and external validity. Excellent internal validity is the achievement of measuring the variables that are truly intended to be measured (Van Thiel, 2014). Case studies lend themselves perfectly for this purpose, which is why this thesis has chosen this method and proceed in a comparative analysis between existing examples of the platform economy. In particular, a document study sheds a detailed light on how different platforms have disrupted existing business sectors and to what extent they should be regulated (or not) in light of competition law issues and data protection. On the downside, it should be noted that these methods suffer from interpretation bias (Pierson, 2004). In sum, qualitative research for the most part strives to obtain a high level of internal validity.

Contrary to the concept of internal validity is the notion of external validity. External validity is the extent to which results from cases can claim statements about similar cases (Van Thiel, 2014). Usually, this type of validity proves to be a challenge for qualitative case studies because one of the main assets of case studies is that it allows the investigator to deeply dive into cases and generate results on those cases, rather than to make general statements of a large group of similar cases (Bennett & Elman, 2006). Whereas quantitative research is more often used to make claims about a population using a large n-sample, qualitative case studies usually do not span more than ten cases and also shy away to extend the results gathered from those cases to other cases. As such, the insights gathered from this thesis and in light of answers given to the research question may not span beyond the project this thesis focusses on (Gerring, 2017).

The next chapter outlines the results of this study. The focus is particularly on discussing the theoretical expectations and how they compare to the gathered data.

4. RESULTS

This chapter presents the results of the research conducted on the research question of regulating the platform economy. We first introduce the two cases under scrutiny in brief and elaborate on how they have positioned themselves in their respective (digital) markets. Sections 4.1 (Airbnb) and 4.2 (Uber) therefore answer the empirical sub-questions 5 and 6. Then, section 4.3 delves into empirical observations with regards to competition law (issues) for both digital platforms (sub-question 7). To what extent is competition warranted in such markets and which observations over the past decade can be noted in this regard? Sub-question 8 is answered in section 4.4 which builds upon the notion of warranting public interests in digital two-sided markets through the concept of data protection. These two sections together unfold the regulatory challenge and outline how and to what extent regulation on digital platforms in the EU is needed from an empirical viewpoint. We conclude this chapter by stipulating the need for regulation from a broader perspective. Consequently, sub-question 9 mirrors sub-question 4 of the theoretical framework to establish a nexus between theoretical assumptions made in Chapter 2 and empirical observations in this chapter.

4.1 ANALYSING AIRBNB AND ITS CURRENT POSITION IN THE EU'S DIGITAL ECONOMY

Sub-question 5: What is the current position of Airbnb in the EU's (digital) sharing economy and how has it developed?

By late 2008, the global economy, and particularly that of the United States and most EU member states, had plummeted into a severe financial and subsequent economic crisis (Jones, Keleman, & Meunier, 2016; Schimmelfennig, 2015). The origins of this crisis can be traced back to the so-called bursting of the U.S. housing bubble and subprime mortgage crisis, causing many to lose their jobs and/or homes throughout 2007–2009 (Crotty, 2009; Offe, 2013). In Europe, the Euro took a serious hit which had a profound impact on the financial and economic situation in the Eurozone, as well as on the EU labour market. After three years of steadily declining unemployment in the EU for example, the number of persons unemployed in the Euro area went up by 3.7 million to a total of 15.0 million in May 2009 compared to the previous year, whilst in the same period EU-27 unemployment rose by 5.4 million persons to reach 21.5 million (Hijman, 2009, p. 2; see also Appendix 4). At the same time, this financial crisis opened unprecedented windows of opportunities for new, daring business models to come to fruition. Stucke and Ezrachi (2017) note that, whilst economies around the globe struggled to recover economically, at the same time innovation sparked and many business ideas came to life due to 'forced' thinking outside the box. Indeed, many of today's most well-known digital platforms were founded between 2008 and 2011 as alternatives for the consumer society at the height of the financial crisis. It is impossible to determine if these platforms would also have arisen without the economic and financial crisis, as we cannot assess this counterfactual (cf. King, Keohane, & Verba, 1994). Nevertheless, we feel it is an important observation to mention as a backdrop to sections 4.1 and 4.2

One of the first prime examples of this new wave of (digitally-oriented) start-ups is Airbnb. Founded in San Francisco in August 2008, Airbnb has grown from a successful start-up around the city of San Francisco in the United States to a global phenomenon and perhaps the most well-known (and

notorious) digital platform to date. Airbnb brands itself as an online marketplace, allowing its users to stay at an individual's private property instead of a hotel or other traditional service provider (Airbnb, 2020).[33] This contributes, according to Airbnb, to having a unique travel experience for the user of the platform. What started as offering a mattress on the floor in a private home to compensate for high rents in San Francisco has turned into a lucrative business model for millions of users (Mickle & Rana, 2020). From single rooms within properties to entire apartments, houses, vacation rentals, treehouses, and even boats: some seven million listings are being offered on Airbnb every day, with on average two million users staying on Airbnb per night (Airbnb, 2020).[34] Coherent to the definitions and characteristics of digital platforms given in section 2.2 of the present thesis, Airbnb does not offer any listings itself. Rather, it acts as a broker or intermediary between providers of accommodation on one side of the platform (listing their property on the platform) and tourists on the other side.

Apart from initiatives such as Couchsurfing, Airbnb was among the first digital platforms that allowed providers and users of the platforms to match in such an uncomplicated matter. For the first time in history, private owners of property around the globe could easily rent out their homes through an easy digital set-up, consequently becoming one of the largest online accommodation providers over the past ten years (Adamiak, 2019). It can be noted as a revolution to the short-rental accommodation market, which before the establishment of Airbnb primarily belonged to traditional accommodation providers, such as hotels, bed and breakfasts, hostels, camping sites, and so on (Edelman & Geraldin, 2016). Dolnicar (2018) documents that Airbnb was able to quickly increase the base of customers on both sides (i.e. both service providers and users) and leverage positive network effects due to advantages of flexibility, efficient mechanisms of risk mitigation, transaction handling and micro-segmentation (cf. Adamiak, 2019, p. 2). Those factors, combined with the mass adoption of the smartphone, digitalisation, and introduction of internet-mediated short rentals culminated in the rapid growth and expansion of the platform over the past decade.

Concerning the situation in the EU, Airbnb has exploded onto the market with triple-digit growth in several European cities since 2014 (Henley, 2019). Figure 6 presents the total number of listings for five major European cities from January of 2008 to April of 2016.

[33] Again, the definition of what a digital platform is and how it should be characterized is up for debate, as Airbnb sees itself for instance as an 'online marketplace', whereas the European Commission defines Airbnb as a 'collaborative economy platform' (European Commission, 2016b).
[34] These figures date from before the outbreak of the COVID-19 pandemic in March of 2020.

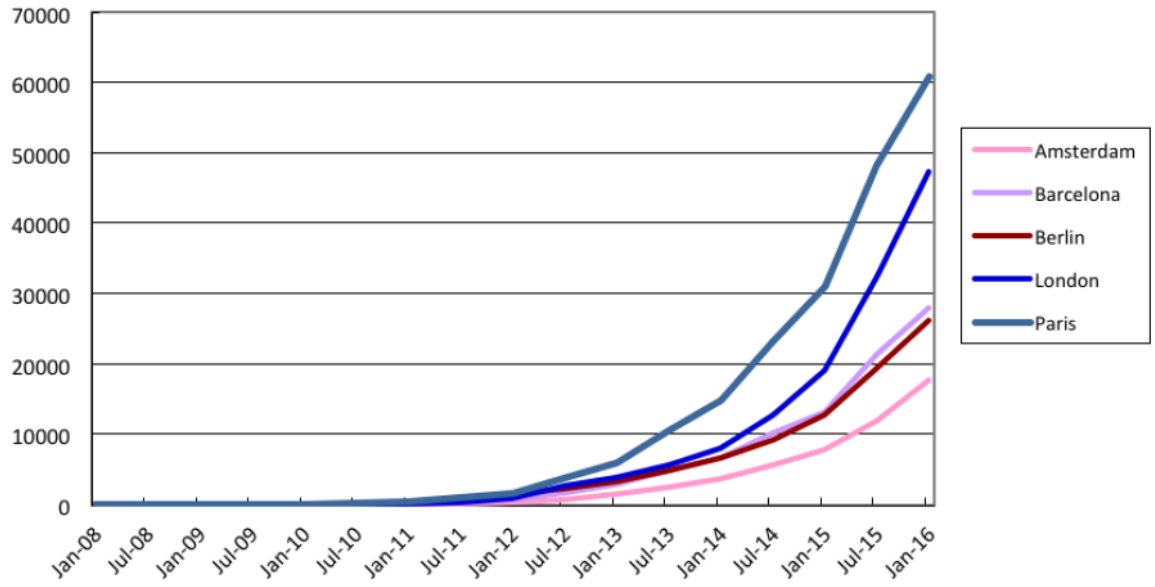

Figure 6: *Number of Airbnb listings in five European cities between 2008–2016 (Coyle & Yeung, 2016)*

As is shown in Figure 6, for all European cities illustrated in the graph the number of Airbnb listings exponentially increased for six years, particularly between early 2012 and 2016. Paris tops the list with more than 65,000 listings by 2016 (Coyle & Yeung, 2016, p. 10). By contrast, the number of hotel rooms in Paris was roughly 76,600 in 2010, and some 82,500 at the end of 2018 (Perret, 2011; Perret & Balyozyan, 2019). The use of Airbnb in Amsterdam increased from 600.000 nights in 2016 to an estimated 2.1 million nights (+350%) in 2018 (Fijneman, Kuperus, & Pasman, 2018). In a similar vein with regards to the impact and size of Airbnb on the entire short-term rental accommodation market, Juul (2017) reports that by 2017, Airbnb had more than 2,5 million listings in 191 countries worldwide, thereby offering more lodgings than for instance Hilton Worldwide. Figure 7 supports this claim (Haywood et al., 2019), whilst Figures 8 and 9 illustrate the explosive growth and size of Airbnb in Amsterdam, a European city that is among the most impacted by the arrival of Airbnb (InsideAirbnb, 2016; Heerschap, Windmeijer, & Ortega, 2019).

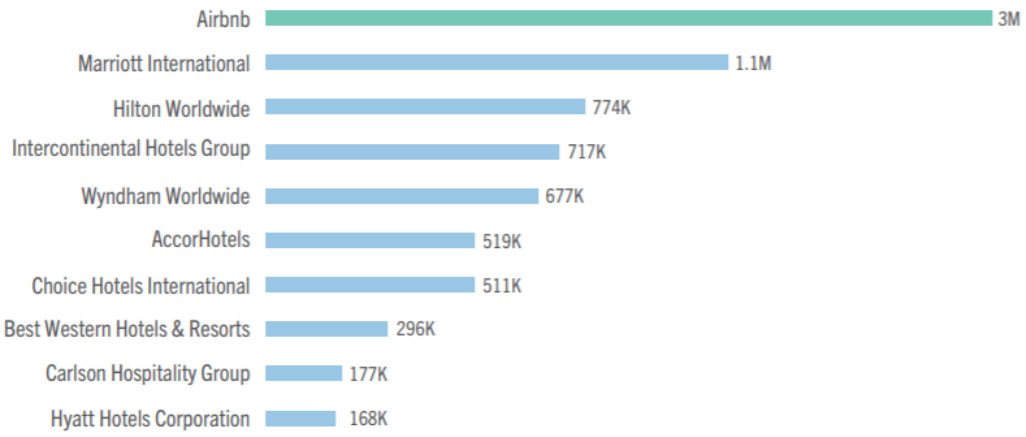

Figure 7: *Largest lodging companies by rooms/listings (Haywood et al., 2019)*

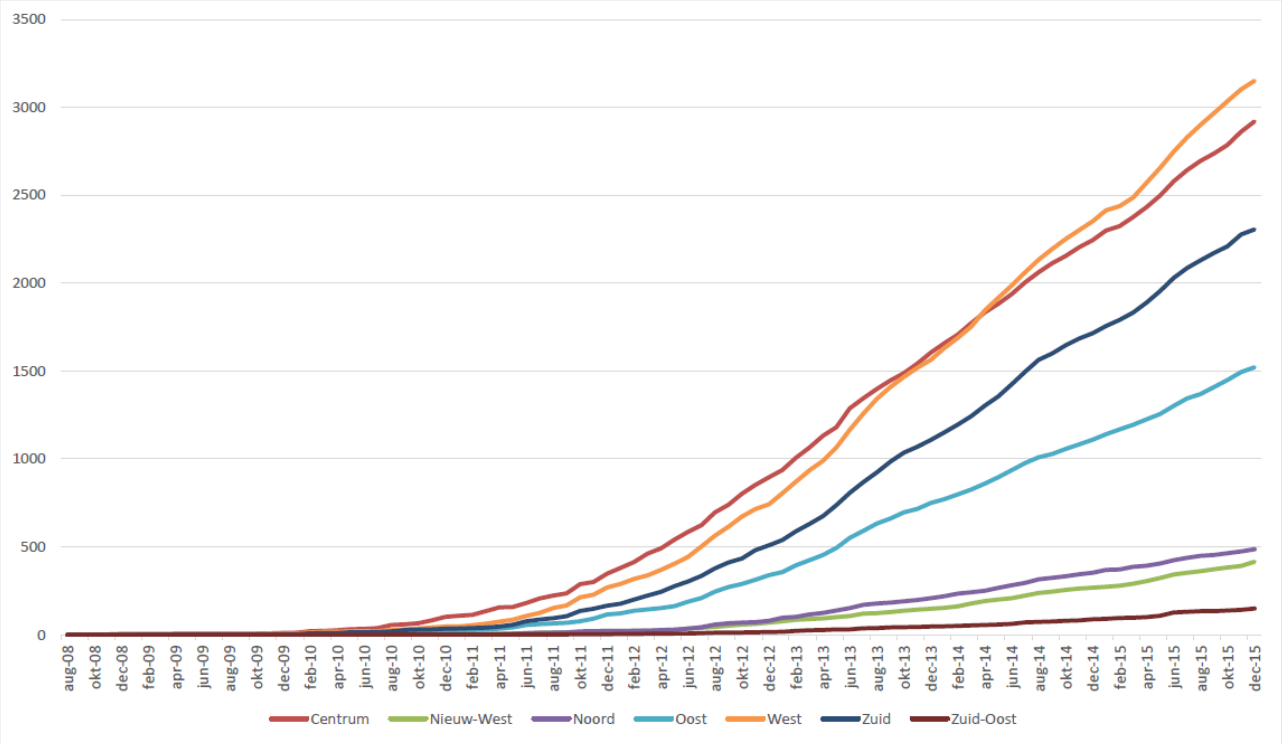

Figure 8: *Increase of Airbnbs in Amsterdam per region between 2008–2016 (InsideAirbnb, 2016)*

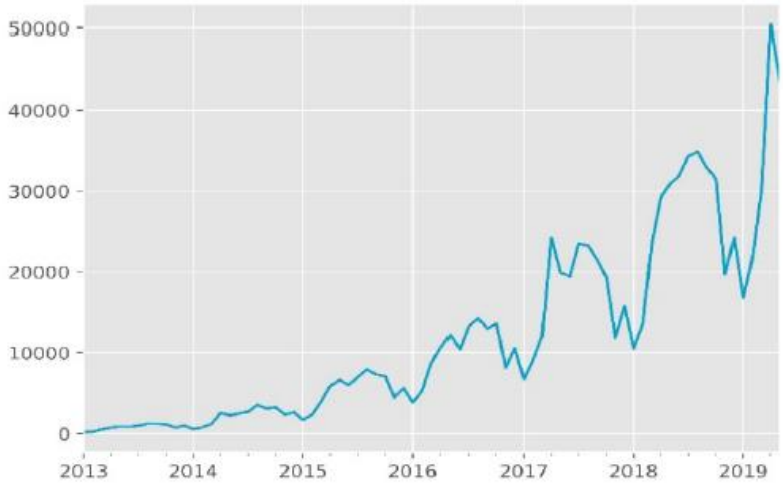

Figure 9: *Number of individual reviews on Airbnb in Amsterdam, per month, 2013–2019 (Heerschap, Windmeijer, & Ortega, 2019, p. 19)*

Apart from the fact that Airbnb by a wide margin is the largest accommodation provider, another interesting inference can be drawn from Figure 7. From all ten accommodation providers listed, Airbnb is the only digital platform, whereas the other nine can be classified as traditional accommodations (i.e. the incumbent). In terms of being a (dominant) market leader and showing signs of a "winner-takes-all-outcome", Airbnb does clearly outdo other digital competitors on the short-term rental market. The implications of this, as well as additional findings, are taken up in section 4.3 of this chapter.

Although Airbnb does not publish its own data, Adamiak (2019) indicates a rise of 20 percent in the number of active listings on Airbnb for the European cities under scrutiny between October 2018 and September 2019 (cf. Calatayud, 2020). Further empirical evidence for this development is given by the data provided in Figure 8 (InsideAirbnb, 2016). From early 2012 onwards, all seven regions in Amsterdam see an increase in the amount of Airbnbs listed on the platform in their respective neighbourhood. Particularly noteworthy is the development in *Amsterdam Centrum*, *West*, *Zuid*, and *Oost*, where increases of the total number of listings between 2012–2016 can be documented up to 1180%.[35] Further support for this claim is provided by Figure 9. Figure 9 displays the number of individual reviews Airbnb users have provided on the platform between 2013 and 2019 (Heerschap, Windmeijer, & Ortega, 2019). Whereas this number equalled around 1,000 individual reviews (and thus, bookings) per month in 2014, this number had grown to over 50,000 by 2019.[36] This growth can then be seen in the bigger picture of an overall growth of +20% by the number of Airbnb listings between 2014–2019, totalling 1.98 million Airbnb overnight stays last year (ibid., Pieters, 2019). An important factor for this growth – in our observation – can be attributed to the fact that many users have listed their private property on Airbnb, which would have been significantly more difficult without the existence of the platform.[37] All in all, Airbnb has managed to become a market leader in providing accommodation without actually owning real estate (Strowel & Vergote, 2016, p. 5).

Section 4.2 describes the rise and development of Uber in a similar set-up to this section and thereby answers sub-question 6.

4.2 ANALYSING UBER AND ITS CURRENT POSITION IN THE EU'S DIGITAL ECONOMY

Sub-question 6: What is the current position of Uber in the EU's (digital) sharing economy and how has it developed?

Around the same time as Airbnb's arrival to the emerging digital sharing economy, Uber was launched shortly after in Spring 2009.[38] Similar to Airbnb, the platform was established in California and presents itself as a ride-hailing mobility service, which matches users on the one side and service providers (i.e. Uber drivers) on the other side by facilitating real-time transactions in a digital environment (Korolko, Woodard, Yan, & Zhu, 2018; Xie et al., 2019), or simply "transportation-matching service" (Cohen, 2017). Calo and Rosenblat (2017) provide an apt definition of Uber and how the platform operates:

[35] The increase of 1180% is calculated for the region 'West' in the period *feb-12* to *dec-15*. There were roughly 250 listings in Amsterdam West in February of 2012, which had expanded to 3,200 by the end of 2015.
[36] The methodological approach of how these data are collected is given in the report by Heerschap, Windmeijer, and Ortega (2019, pp. 9–14).
[37] The rationale behind this is the question: *To what extent does Airbnb create new stays that would not have been there if it had not been for the platform*?
[38] As of 2020, Uber has expended its business activities to other markets, most notably food delivery (Uber Eats). To the purpose of this thesis's analysis, we specifically refer to Uber as a digital platform offering services that include peer-to-peer ridesharing which is also the core business Uber started with back in 2009.

> "Consumers utilise Uber's services by downloading a software application that Uber designs from scratch. The application opens to a map of the user's present location. Represented on the app are icons of vehicles alongside the wait time for the nearest available driver. A user may open her app and see many vehicles around her, suggesting that an Uber driver is close by should she decide to hail one. Clicking the button to request an Uber prompts a connection to the nearest driver, who may be much farther away. The consumer may then face a wait time as an actual Uber driver wends her way toward the pickup location" (Calo & Rosenblat, 2017, pp. 1654–5).

Uber arrived on the American scene in 2009 and launched its first services in San Francisco in June of 2010 (Thelen, 2018, p. 944). After initial success and rapid expansion throughout the United States, Uber launched its first overseas operation in 2011. Over the next six years, the company had expanded its reach to well over 700 cities in 84 countries (ibid., 938). Today, Uber is one of the most popular ridesharing services around the world with 111 million people using the app every month in 2019 (Mazareanu, 2019).

Its accomplishments within the global digital economy are unparalleled and its disruptive nature of the traditional transportation market has even been coined *Uberisation* because of its effects on the economy and the labour market (Schmidt, 2017). "Creative disruption" is meant in the sense that existing regulations of the economy within which digital platforms operate are either neglected or avoided, whilst at the same time upturning whole industries within the space of a few years (Degryse, 2016; PwC, 2015).[39] Uber – and Airbnb in its wake – has become one of the more visible examples of a broader class of new "platform" business models that create value not by producing "things" or even by traditionally providing services, but instead by enabling producers and consumers to interact directly (Thelen, 2018, p. 938). This is in line with CNBC's 2018 Disruptor list of the world's most disruptive firms, with Uber coming in at second place and Airbnb at 3 (CNBC, 2018).[40] Many (dominant) start-ups in various sectors that followed in the wake of Uber have been described as the 'Uber for X' sharing platform. Specifically for the transportation market, Uber has initiated a regulatory revolution with the introduction of new legislative frameworks across EU member states, taxi-liberalisations and an explosion of taxi drivers and registered vehicles in but a few years (Frazzani, Grea, & Zamboni, 2016; European Parliament, 2017b).[41] Figure 10 provides an illustrative example of one of the EU's largest taxi markets: London.

[39] Disruption, as becomes apparent from secondary academic literature, is most certainly not always meant negatively. For example, the U.S. FTC Sharing Economy Report is hopeful that sharing economy firms will increase competition overall through what they define as a gale of creative eradication of outdated business models (Calo & Rosenblat, 2017, p. 1677).

[40] Perhaps even more impressive is Uber's giant leap to number 2 on the list, compared to being number 19 the year before (CNBC, 2018).

[41] Frazzani, Grea and Zamboni (2016), as well as Le Petit and Earl (2019) provide a detailed market analysis report for e.g. the growth of taxi drivers, registered vehicles and so on, documented for each EU member state vis-à-vis the impact of ride-sharing digital platforms. It would be outside the scope of this thesis to mention all details here, but we refer to these two reports for an elaborate overview.

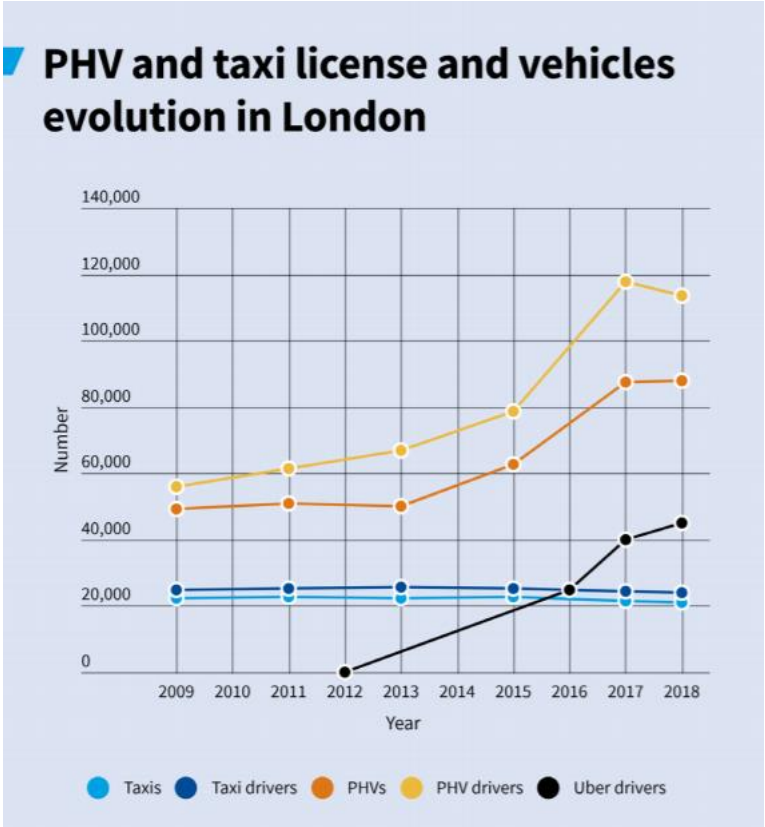

Figure 10: *Evolution of private hired vehicles (PHV) and licences in London before and after Uber's arrival (Le Petit & Earl, 2019, p. 6)*

As can be seen in Figure 10, the number of private hired vehicles (PHV), as well as Uber drivers substantially increased after Uber's introduction to the London taxi market in 2012. Similar to Airbnb, Uber has enabled individuals to sign up with the platform and become a taxi driver without the strict and extensive regulation that traditional taxi drivers have to adhere to. To a lesser extent than Airbnb, though, it can be questioned for Uber to what extent "new" demand for taxi rides has been created. Whereas with Airbnb there is a substantial difference between staying at a hotel and at someone's home, with Uber the similarities are more apparent (i.e. both concern rides in a taxi to get from A to B).

Regarding the size and market share of Uber across Europe, Uber has exploded onto the transportation market and taxi sector since its initial introduction in 2011. The case of London is a good proxy to track the growth of Uber in the EU (Le Petit & Earl, 2019). The total PHV vehicle licence volume almost doubled from 49,854 to 88,113 between 2013 and 2018 (ibid.). Similar findings of this explosive growth can be observed in other important EU markets for Uber, such as Paris, Brussels, the Randstad region in the Netherlands, and Madrid (Grimaldi, 2016). To exemplify, the greater region of Paris notes a similar growth to that of London between 2016–2018, with the number of PHV licences (including Uber) nearly doubling from around 10,000 to close to 20,000 over the course of two years (SDES, 2018). The numerous studies mentioned here all indicate a dominant presence of Uber on the transportation market, as well as its considerable share and impact on the (EU's) digital economy. By far, Uber is the most dominant player in the market controlling more than 65% of the ride-sharing market share in Europe (Mittal, 2019, p. 20). Figure 11 supports this claim.

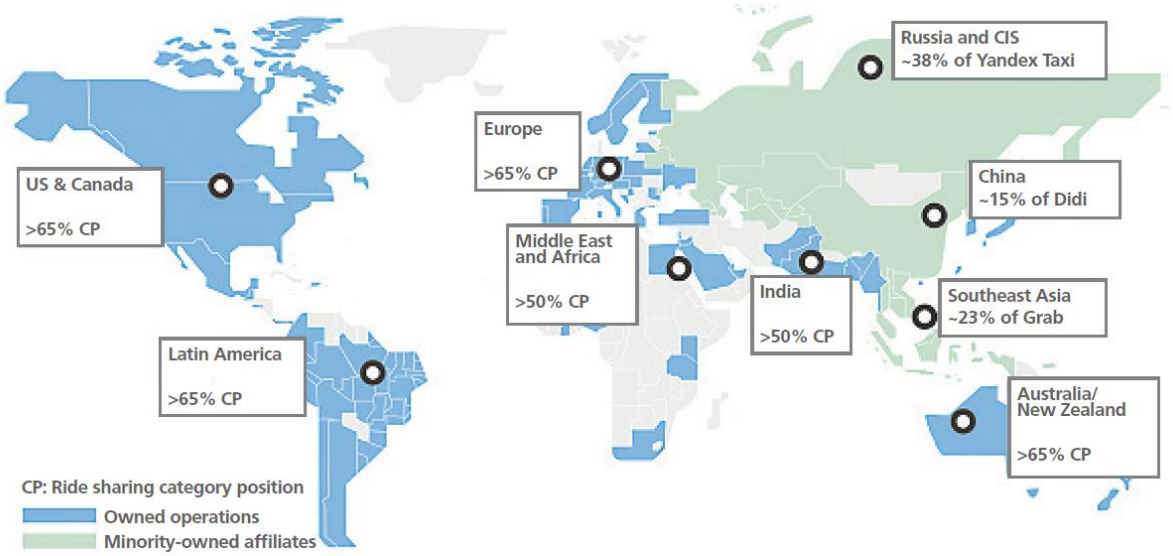

Figure 11: *% of Uber claiming the total ride-sharing market share worldwide (Mittal, 2019)*

Even with overhauling their initial strategy to overtaking the taxi sector across European countries, Uber today still manages to account for 18,3% of the total amount of taxi users on average across EU member states by 2020 (Statista, 2020). This is remarkable, as Uber competes with both platform competitors such as BlaBlaCar and Lyft, as well as the incumbent which is known in many EU member states to be traditionally heavily regulated (Frazzani, Grea, & Zamboni, 2016; Thelen, 2018; Scott, 2017).[42] In their study, PwC has calculated the value of transactions in shared mobility in Europe in 2015, which was EUR 5.1 billion, and transport platforms' revenue was EUR 1.6 billion (2015, p. 22). For 2025, the same study has estimated that the value of transactions could be above EUR 100 billion and the annual revenue of the transport platforms might reach EUR 33 billion (ibid.). This indicates tremendous growth for digital platforms in the ride-sharing (digital) market for the foreseeable future. Similar to the notion which concluded section 4.1 of this chapter, Uber has managed to become a dominant market player in providing transportation without actually owning a driver's fleet (cf. Strowel & Vergote, 2016).

The remainder of this chapter proceeds as follows. The last three subsections follow the same set-up as the theoretical framework to ensure a well-established linkage between the theoretical arguments and assumptions described in Chapter 2 on the one hand and empirical observations gathered from the qualitative document analysis on the other hand. Section 4.3 deals with competition law issues in both (digital) markets. After the EU competition law perspective, section 4.4 delves into (violations of) data protection and privacy concerns regarding both platforms. Section 4.5 concludes and mirrors theoretical sub-question 4: to what extent are Airbnb and Uber currently regulated in the EU? Which regulatory responses can be noted thus far and where do we perceive signs for potentially tighter or altered regulation? Regarding the latter and in light of the multi-level governance problem, we also suggest, based on empirical findings, at which level(s) regulatory measures may best be taken.

[42] For an excellent introduction and overview of Uber's strategy in retaking the European taxi market, we refer to the article by Heikkilä (2019), written for POLITICO. Thelen (2018, p. 938) documents Uber's initial introduction to the EU market and notes that Uber has seen many different (regulatory) responses to its services in different countries, from accommodating regulatory adjustments in light of reforming regulated markets deemed necessary, to legal bans and thus rejecting Uber's entry to the market.

4.3 A COMPETITION LAW PERSPECTIVE: EMPIRICAL OBSERVATIONS

Sub-question 7: To what extent is competition warranted in the short-term rental market? And to what extent in the transportation market?

As stipulated in section 3.4 of the present thesis, "[c]ompetition refers to interaction among market players that is driven by rivalry in which every actor tries to maximise its long-run profits" (Nooren et al., 2018, p. 278). Competition law in the EU seeks to enable the proper functioning of the Union's internal market as a key driver for the well-being of EU citizens, businesses, and society as a whole (Parenti, 2020). EU competition law finds its legal basis in Articles 101 to 109 TFEU and Protocol No 27 on the internal market and competition, as well as a series of Regulations and Directives ("Competition rules in the EU", 2020). All legislation regarding competition law combined aims at economic efficiency and welfare, economic freedom, protecting competitors in a given (digital) market, and fairness (Jones & Sufrin, 2016). Of particular relevance in light of the theoretical subsection 'Danger of monopolisation' is Article 102 TFEU, which prohibits the abuse of a dominant position by a given company, be it a traditional firm or, more relevant to the present thesis, digital platforms.

Regarding the short-term rental ("tourism accommodation") market in the EU, Airbnb operates in a market that can be classified as considerably competitive (Haywood et al., 2019; Eurostat, 2020). The unprecedented growth in the tourism sector in many European cities such as Amsterdam, Berlin, Barcelona, Paris, Vienna, and Munich over the past decade is mainly attributable to the supply boom in the short-term rental market, facilitated mostly by digital platform operators (Dredge et al., 2016). Besides market leader Airbnb, other competitors (both accommodation platforms and search engines for vacation rentals) such as Booking, Expedia, HomeStay, HomeAway, HouseTrip, Tripping, HomeToGo, HomeExchange, FlipKey, and Wimdu all offer similar services to that of Airbnb. For example, FlipKey – branded the "vacation rental marketplace" – possesses a growing inventory of 300,000 properties in well over 160 countries (Chan, 2018). The digital platform and direct competitor to Airbnb 'Wimdu' yields a similar market share to that of FlipKey, with over one million users registered and about 300,000 listings EU-wide (ibid.). Notwithstanding, the dominant position of Airbnb on the digital market is prevalent, as estimations indicate a 62% share of the total EU revenues (Vidal, 2019, p. 1). According to Bakker and Twining-Ward (2018), Airbnb's position in the EU smacks of a "tipping-outcome", consequently indicating that a dominant player is bound to take over an entire business sector.

Besides that, the market itself knows examples of competition law breaches, such as the manipulation of results in online air and hotel bookings. Following Expedia's 2015 acquisition of Orbitz, for example, Stucke and Ezrachi (2017, p. 1258) note that "the online travel agency implemented a new program that enables hotel properties to move to the first page of Expedia's listings for an additional 10 percent commission." This can be observed as an instance of unfair competition. Airbnb has been accused of unfair competition practices by the incumbent, having to respond to new services and lower prices (Reillier & Reillier, 2017). Indeed, as we have seen in section 2.3, pricing is the most important strategy for platforms engaging in competitive markets. In France for instance, the hotel industry sued Airbnb for unfair competition in November of 2018, claiming hotels could not compete with the services offered by Airbnb hosts and the average prices that were asked (AFP, 2018). Guttentag (2015) describes

Airbnb as a disruptive innovation for the traditional lodging industry. Since Airbnb hosts can offer lower prices since they have their fixed costs (rent and electricity) already covered and do not have to pay staff, it thus provides Airbnb with a competitive advantage (Nieuwland & Van Melik, 2018). This, too, makes it more difficult for new (digital platform) entrants to successfully enter the market. Current pricing strategies, as well as considerable network effects from an already well-established market player (i.e. Airbnb), hamper the much-needed level playing field to ensure fair competition (Fabo et al., 2017; OECD, 2020; Bakker & Twining-Ward, 2018; Dredge et al., 2016).

Compared to the accommodation market, Uber has faced even more challenging and enduring backlash from the incumbent. On the reception of Uber by traditional transportation providers across Europe, Thelen (2018) writes:

> "Almost everywhere, Uber has encountered fierce resistance from established taxi and transportation companies. In most contexts, this is a heavily regulated market, one that in the past has featured especially steep barriers to entry, e.g., through arrangements that limit the number of service providers who may operate within a particular jurisdiction. Established companies have fought the entry of Uber into these protected markets on grounds that the company's practices constitute unfair competition" (Thelen, 2018, p. 941).

Besides this, traditional taxi drivers across EU member states have taken to the streets to protest against Uber and its services over the past couple of years (Fleisher, 2014). Among other cities, protestors in London, Paris, Berlin, and Madrid (cities with traditionally large-scale taxi sectors) have complained about unfair competition practices as Uber proposes lower prices than traditional providers (Buda, 2015; Marin et al., 2019). Perhaps even more unclear and opaque than the pricing mechanism of Airbnb listings is Uber's introduction of artificial precision into the concept of *surge pricing* (Thelen, 2018; Caldéron & Miller, 2020; Hu, Hu, & Zhu, 2018; Yang, Ke, Li, & Wang, 2019; Calo & Rosenblat, 2017). Surge pricing is an automatic system that monitors real-time variations in the number of riders requesting transport and drivers offering their service (De Masi, 2017, p. 79; see also the brief mentioning of the concept in section 2.1). This, thus, indicates these prices can vary according to fluctuations on the market. This form of dynamic pricing raises questions for potential price discrimination (Weyl, 2010). As Caillaud and Jullien (2003) convincingly show, platforms can use price discrimination as a successful strategy when market participants expect new entrants to the market to fail (cf. Rysman, 2009). Comparing Uber to Airbnb then, there is furthermore a fundamental pricing difference, as Airbnb hosts have a say over this (i.e. determining how expensive an individual listing is), whereas Uber drivers are bound to the system deployed by Uber.

Moreover, Calo and Rosenblat (2017, p. 1658) document that Uber also appears to be charging different prices to similarly situated consumers. There have been numerous studies on this discrepancy alone, in which it has been documented that different users booking a similar Uber ride from point A to B under similar circumstances pay considerably diverging prices (see e.g. Edelman & Geraldin, 2016 for an excellent example hereof). Subsequently, their dynamic pricing algorithm remains unclear to both users, Uber drivers (the service providers), and other competitors as Uber refuses to share its data on the matter.[43] Given the dominant position and considerable market share of Uber in the EU, this may

[43] With this we imply that e.g. (many) Uber drivers are unaware of the fact how the dynamic pricing system exactly works and calculates the customers' fares (Kerr, 2015). In other words, the pricing algorithm remains unclear to them too. From a labour law

be problematic from a competition law perspective (cf. Stucke & Ezrachi, 2017). As we have noticed earlier, Uber faces little competition from other digital platform operators (Katz, 2015). Most noteworthy to mention are Lyft, Wundercar, Zipcar, Car2Go, Waze, and MOL Bubi, but their respective market shares are nowhere near that of Uber (PwC, 2015). In 2014, Uber earned twelve times as much as its closest competitor Lyft (Borison, 2014; Katz, 2015, pp. 1121–2). And in similar wordings, others note that although alternative service providers such as Lyft, Bolt, and mytaxi took over a part of the EU's market share over the last years, it nevertheless still pales in comparison to that of Uber (Marin et al., 2019; Hatzopoulous, 2018).

Again, this could point towards a situation of monopolisation and a clustering of network effects around a single digital platform, which can hardly be deemed a truly competitive market. To conclude and based upon the aforementioned empirical observations, one could make the argument that for both sectors competition does exist, but simultaneously depict a "tipping-outcome" in that both case studies under scrutiny largely dominate the market. In the next section, we proceed in the same way and conduct a comparative approach for (violations of) data protection and privacy concerns.

4.4 SAFEGUARDING THE PUBLIC INTEREST OF DATA PROTECTION: EMPIRICAL OBSERVATIONS

Sub-question 8: To what extent is data protection warranted in the short-term rental market? And to what extent in the transportation market?

Following the section on competition law issues, (proper) data protection proves to be another pivotal issue pertaining to the far-reaching impact of digital platforms in light of the "fourth industrialisation", mass adoption of smart technology in less than a decade, and large-scale collection and storage of big data (Florisson & Mandl, 2018; Huws et al, 2017; Degryse, 2016). In the EU, privacy is considered a fundamental human right and guarantor of human dignity (Cohen, 2017, p. 193). Besides that, privacy is important to maintaining personal security, protecting identity, and promoting freedom of expression in the digital age (ibid.). The firm belief of privacy to be a fundamental citizen right in the digital age of information is acknowledged by the EU, as it adopted unprecedented and extensive legislation on the matter through the General Data Protection Regulation (GDPR) in 2016. With the introduction of the GDPR, effective 25 May 2018, the EU has undertaken an important first step to enshrine those fundamental rights into EU-wide legislation and make those rights fit for the digital era (EUR-Lex, 2016). Data protection in the EU, thus, finds its legal basis both in the GDPR and the Charter of EU rights (Goddard, 2017).

Even more so than in the analog era, sharing economy firms (may) pose a threat to an individual's privacy. Like other digital platforms, sharing economy firms have access to a tremendous volume and variety of information about the behaviour of consumers (Calo & Rosenblat, 2017, p. 1647). In light of data protection violations, the assumption is made that sharing economy firms likely collect more information than is needed to accomplish their core goals of reducing search costs and facilitating trust (ibid.; Lutz et al., 2018). In this context, one could use the – albeit pejorative – term "taking economy" rather than the sharing economy, in that (dominant) digital platforms thrive on the power of

perspective, this is worth mentioning as it greatly impacts the wages they make as platform workers. However, such elaborations are outside the scope of this thesis.

owning data and take more from consumers than they share or give back. To reiterate, platform operators do not always have to engage in malpractices here. The mere thought of a firm possessing potentially sensitive personal data, even when no one will ever act upon abusing that sensitive information may be troublesome enough to some (cf. Katz, 2015; Sirimanne, 2019). After all, privacy concerns are based on assessments of the likelihood and extent of adverse consequences from information disclosures (Dinev & Hart, 2004; Malhotra, Kim, & Agarwal, 2004).

Apart from privacy concerns at the individual level, situations could arise where users face threats such as misuse or loss of data (Khadem, 2015), harassment, stalking and discrimination (Edelman & Luca, 2014; Edelman, Luca, & Svirsky, 2015), or more meta-level indicators of data breaches, fraud, and large-scale identity theft (Van Til et al., 2017). Concerning our case studies under scrutiny, violations of data protection have been reported both in academia as well as substantial media coverage. As for the short-term rental market, a recent report by Edelman, Luca, and Svirsky (2015) shows privacy issues with Airbnb transactions. By observing who was able to secure a booking or how users rated their experiences, Airbnb then parsed this information demographically, which has been considered a form of racial discrimination in the sharing economy (Calo & Rosenblat, 2017, p. 1670). In addition to this, an Airbnb host may find her information privacy violated by guests who learn about their host's living conditions, personal interests and tastes, possibly uncovering intimate information in the apartment (ibid.).[44] Other wide-spread violations from the host perspective have been documented too, such as property damage and/or theft, and violation of house rules (Mare, Roesner, & Kohno, 2020, p. 447). Reversely, the situation may also occur that guests are being videotaped of which they are not aware of, thereby also leaving questions to what extent full privacy is upheld (Popken, 2019). From the user perspective, violations of data protection and privacy mostly concern the presence of smart devices, and hosts being discriminatory or even spying on their guests (Mare, Roesner, & Kohno, 2020, pp. 444–5).

To exemplify on the matter of data protection vis-à-vis the usage of digital platforms, Figure 12 serves as an illustration to a clear indicator of (potential) privacy concerns: that of password sharing.

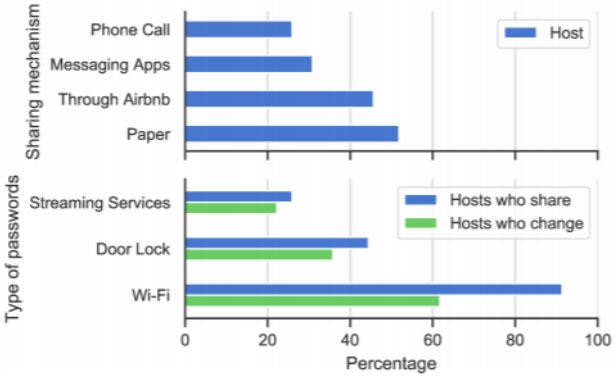

Figure 12: *Password sharing practices in Airbnb (Mare, Roesner, & Kohno, 2020)*

Figure 12 shows password sharing practices reported by Airbnb hosts. The authors elaborate on the findings and report that "about 90% of hosts reported sharing Wi-Fi passwords, 43% reported sharing

[44] On a critical note, one could make the counterargument that for this type of privacy violation, the Airbnb host in question knew what she signed up for. Inherent to the very nature and rationale of the sharing economy, it is unavoidable that Airbnb users do not somewhat learn about their host's living conditions by making use of their private property for accommodation purposes.

door lock passcodes, and 23% reported sharing passwords for a streaming service. Hosts [also] reported different mechanisms through which they exchanged passwords, among which writing on paper (that is then left inside the Airbnb) was the most common method" (Mare, Roesner, & Kohno, 2020, p. 446). These practices are highly intertwined with the concept of trust (Warren & Brandeis, 1890), as passwords give access to the usage of the Internet through a private IP-address. About 67% of the respondents stated they would change passwords between guests (Mare, Roesner, & Kohno, 2020). Similar findings have been reported by Zeng, Mare, & Roesner (2017), Zheng et al. (2018), and Zimmermann et al. (2018) to name a few. Regardless of whether there is an *actual* need to change these passwords in light of data protection violation, it indicates a need strongly felt by Airbnb hosts to change them, which most presumably stems from the mere thought of other individuals "owning" that piece of personal data. This is an elaboration of an argument made before that privacy concerns may not necessarily entail actual breaches or abuse but can also be violations of information privacy.

Turning to the case of Uber, we observe similar practices from media reports and our document study. A prime example of privacy issues with Uber is that it tracks passengers as well as drivers. In itself this practice is necessary, as Uber needs to know where riders are located to connect them to potential passengers (Calo & Rosenblat, 2017; Thelen, 2018; Veisdal, 2020). However, it has been reported – which may be considered bothersome – that Uber continues to record a passenger's whereabouts after she has left the car (Calo & Rosenblat, 2017, pp. 1647–8; Roman, 2016). Tracking an individual's location without a person's consent can be considered a violation of the criterium to minimise the data collected from users (Krempel & Van Gulijk, 2013, pp. 17–8; see also Chapter 3). Overindulgence in the activity of data collection, at a minimum, undermines the market by promoting resentment and distrust (cf. Calo & Rosenblat, 2017, p. 1677). The question can thus be raised to what extent it is needed that Uber (or other platform operators) is informed about a user's location at any given time, specifically when the app is not actually in use (Hawkins, 2016).

Additionally, reports have surfaced that uncovered Uber's poor internal privacy safeguards (Calo & Rosenblat, 2017, p. 1649) and other violations of data usage from a consumer perspective (Olejnik, Englehardt, & Narayanan, 2017; Lutz et al., 2018). In August of 2017, the Commission alleged that Uber failed to use best practices in safeguarding user data, notwithstanding Uber's public representations to the contrary on its website and terms of service (Calo & Rosenblat, 2017, p. 1678). As regards the latter, a striking empirical example can be attributed to the workings of Uber. As we already frequently mentioned, Uber deploys a surge pricing mechanism. This pricing mechanism is intertwined with far-reaching data tracking of users, as became clear from the analysis conducted by Calo and Rosenblat (2017). Uber researchers found that individuals are more willing to pay surge pricing when the batteries on their phones are low (ibid.). This makes sense, of course, because the alternative is for the consumer to be stranded without access to a means of communication (De Masi, 2017; Veisdal, 2020). Apart from a discussion or even a detailed analysis to what extent Uber leverages that information, the very fact that Uber monitors battery life raises questions about the information to which Uber has access as well as the criteria the firm might find suitable for use in pricing (Calo & Rosenblat,

2017, pp. 1656–7).[45] Again, it mirrors a situation in which a digital platform may store more (sensitive) data from a user than is deemed strictly necessary in terms of assessing the level of data protection.[46]

Building upon this and comparing both cases directly, perhaps most notably for both Airbnb and Uber in terms of privacy is their ranking system. The ranking systems are used by both agents (i.e. users and service providers) and therefore inherent to the respective designs and two-sided nature of both platforms. In particular, these ranking systems have both been heralded as consumer-friendly and easy to use, but at the same time lead to consumer safety breaches, and prove to be generally unreliable. By some it has even been dubbed the myth of digital equity, laying bare profoundly problematic elements of the use of ranking systems (Ramaswamy, 2017). For instance, Thelen (2018, p. 942) finds that consumer safety is compromised and causes privacy issues, among others by the use of ranking systems. In their 2016 Eurobarometer on Online platforms, the Commission documents that 33% of the respondents believe ranking systems, as used by platforms such as Airbnb and Uber are unreliable (European Commission, 2016a, pp. 4–5). This calls into question the validity of those rating systems, and how it may violate the fundamental right of data protection. After all, being identified as an unpleasant Uber passenger which becomes apparent from a bad overall rating may not exactly be the type of personal data one wishes to be shared with e.g. third parties or inner-circle people.[47] On top of that, one could question to what extent a rating on a digital platform truly says something about an individual being. And even more so, to what extent such information is necessary to be collected and stored by digital platforms, just to rent an apartment for a short stay, or to get to a destination of one's choice by taxi.

Section 4.5, which is also the last section of this chapter, specifically addresses the question of why regulation on digital platforms is needed from an empirical perspective (cf. section 2.5 of the present thesis).

4.5 REGULATING THE PLATFORM ECONOMY: EMPIRICAL OBSERVATIONS

Sub-question 9: How and why is regulation on digital platforms needed from an empirical perspective?

To finalise this chapter, this section addresses the regulatory challenge based on empirical observations. As such, it links and compares findings from our extensive qualitative document study to theoretical assumptions made in section 2.5. Particularly, the focus is on existing regulatory responses thus far by EU member states and variation thereof with regards to Airbnb and Uber. Discussing all (potential) ramifications for both digital platforms and a thorough review of regulatory responses by various

[45] Elaborating on this notion, Calo and Rosenblat (2017, p. 1650) extend their argument by saying that "the problem is not simply that Uber has access to detailed information about its ecosystem; the problem is that only Uber does."

[46] One could put forward the argument that it can already feel like a privacy issue simply knowing that someone else is up-to-date about the battery life percentage of your phone, without that person or entity actually doing something with that information (knowing an individual's cell phone battery life (percentage) is not such harmful information, but other type of data may very well be).

[47] In a similar vein, after being accused of discriminatory practices, Airbnb reduced the prominence of photos in the booking process (Tribune News Services, 2016). This happened as a response to allegations that Airbnb hosts rejected customers on the basis of race (Calo & Rosenblat, 2017). It is another example that calls into question the actual need to share such privacy-sensitive data for the end goal, which is just to book an apartment for a short stay or a taxi. In other words: does the end justify the means?

member states over the years in itself would be outside the scope of this thesis.[48] By no means, we intend to present an exhaustive list of regulatory responses. Rather, this section serves to conclude and add to ongoing empirical analyses on the regulating digital platforms problem this thesis aims to contribute to. Within the EU, there has been a substantial variance in government responses concerning the platform economy, with explicit strategies outlined by EU member states such as Germany, Denmark, and France, compared to implicit or no responses from Spain, Hungary, and Slovakia (Fabo et al., 2017, p. 11; Lenaerts, Beblavý, & Kilhoffer, 2017). We highlight and analyse in brief some of the – in our view – most glaring examples of regulatory action across the EU as of today in light of a broader discussion on platform regulation (cf. Katz, 2015; Edelman & Geraldin, 2016; Nooren et al., 2018). Subsequently, these deliberations all add up to answering this thesis's main research question.

For both platforms, there have been numerous regulatory responses at the EU level, but even more so at lower levels of governance, most notably at the national and local level. A related factor to account for is that local governments are the ones faced with the disruptive side of the platform economy the most (Fabo et al., 2017, p. 12). Platform operators enjoyed a competitive advantage through e.g. lower transaction costs than the incumbent and making smart use of legal loopholes, particularly in the early years of their existence (Edelman & Geraldin, 2016; Gurran & Phibbs, 2017). As such, many digital platforms have been able to take regulatory shortcuts, reap benefits, and circumvent existing regulatory frameworks. In the case of Airbnb, many major European cities have struggled with the consequences of increased tourism over the past decade, which has even lead to anti-tourism marches in for example Barcelona and Venice (Coldwell, 2017). Complaints have been voiced about increasing rents, neighbourhood changes, and nuisance (Espinosa, 2016; Oskam & Boswijk, 2016); for example concerning the liveability and housing availability in Barcelona (Cócola Gant, 2016) and Berlin (Füller & Michel, 2014). These perceived negative externalities prompted regulatory responses from heavily impacted cities such as Amsterdam, Paris, Barcelona, and Berlin, which ought to be viewed from a broader perspective than the focus on competition law issues and data protection of the present thesis.

Last year, ten European cities in a joint statement voiced their concerns to the EU about negative externalities brought about by Airbnb (Nieuwland & Van Melik, 2018). In this letter, the cities warned the EU about increasing mass tourism, and attributed Airbnb's platform to be a disturbing factor to both the accommodation market as well as the housing market. As Airbnb is known to cause most negative externalities in large European cities, the most prevalent regulatory responses have been made at the local level and initiated by municipalities, also in light of tailoring regulation to city-specific situations. For example, the Council of Amsterdam and Airbnb reached an agreement that for offering a listing on Airbnb, a maximum of 30 days per year was imposed on all Airbnb hosts (AT5, 2018). The rationale behind this is that by imposing this restrictions, the room(s) or apartment for the other eleven months is to be used for housing only, as well as creating a level playing field in the hotel industry (Nieuwland & Van Melik, 2018; Haywood et al., 2019). Amsterdam's local government response came after an

[48] See, for instance, the excellent, comprehensive OECD report on short-stay accommodation and tourism in the digital age and regulatory responses for most EU member states (OECD, 2020).

explosive growth of tourism overall in but a few years. Amsterdam serves as an example of a much wider trend in the tourism sector visible in the EU, for which Figure 13 provides a helpful illustrative overview.

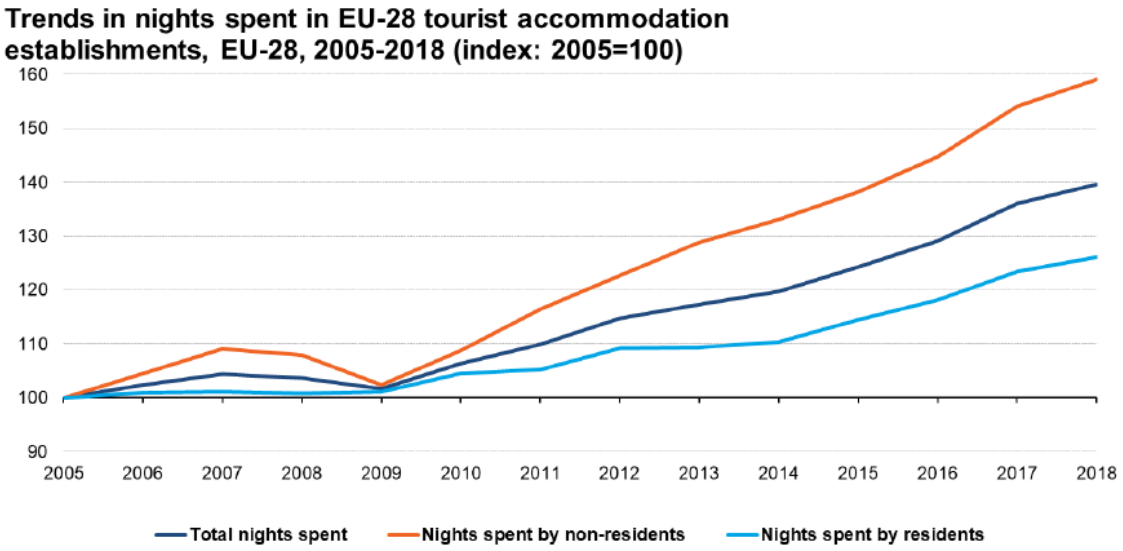

Figure 13: *Total nights spent in EU-28 between 2005–2018 (Eurostat, 2019)*

Figure 13 displays a steady increase in the number of nights spent in all 28 EU member states from 2011 onwards as an indicator of tourism growth, which correlates with Airbnb overtaking the European market around the same time (see also section 4.1). Furthermore, Amsterdam experiences increased nuisance and unwanted behaviour in neighbourhoods which had been mostly residential before Airbnb's arrival (Municipality of Amsterdam, 2018). Prior to this agreement, citizens of Amsterdam could rent out their Airbnb listing(s) for a maximum of 60 days; before that no such regulatory restrictions were in place.

Compared to Amsterdam are regulatory responses from cities such as London and Paris, which can be considered more lenient towards Airbnb. Paris and London only cap the maximum amount of nights rented per year (to respectively 4 months and 90 nights a year) and no permit registration is necessary (Van Nieuwland & Melik, 2018, p. 814). In January 2017, Airbnb announced new measures to ensure its registered hosts in London were operating under the 90-day legislation rule (the Deregulation Act), brought in to effect by the GLA in 2015 (Hotelschool the Hague, 2018, p. 5). In Paris, Airbnb hosts are obliged to register at local authorities to legally host guests for a maximum of 120 days since the 1st of December, 2017 (ibid.). Other European cities have been stricter with Airbnb entering the accommodation market, such as Berlin which imposed a ban on renting out entire apartments and demanding at least 50% of the property to be used by the property owner (Hawkins, 2016; Oltermann, 2016). Barcelona even imposed a partial ban for new licenses in its old town, motivating its policy response by arguing that the city and its residents had overwhelmingly suffered from the vast increase in tourism (Van Nieuwland & Melik, 2018; Dredge et al., 2016).

Similar to Airbnb, Uber triggered various regulatory problems that caused national authorities and local governments across the EU to respond with legislative measures (Thelen, 2018, p. 942). To reiterate, Uber has faced even more difficulties to set foot on the European market, e.g. through steep entry barriers and national taxi markets that have traditionally been heavily regulated (De Masi, 2017).

At present, Uber mainly offers UberBLACK, UberX, and UberPOP options in Europe (European Commission, 2016a, p. 66). Yet considerable differences exist amongst EU member states and the app's legal status varies considerably across the EU (Brondoni, 2018). Figure 14 exhibits the legal status of Uber in all EU member states by 2016 (Zuluaga, 2016, p. 2).

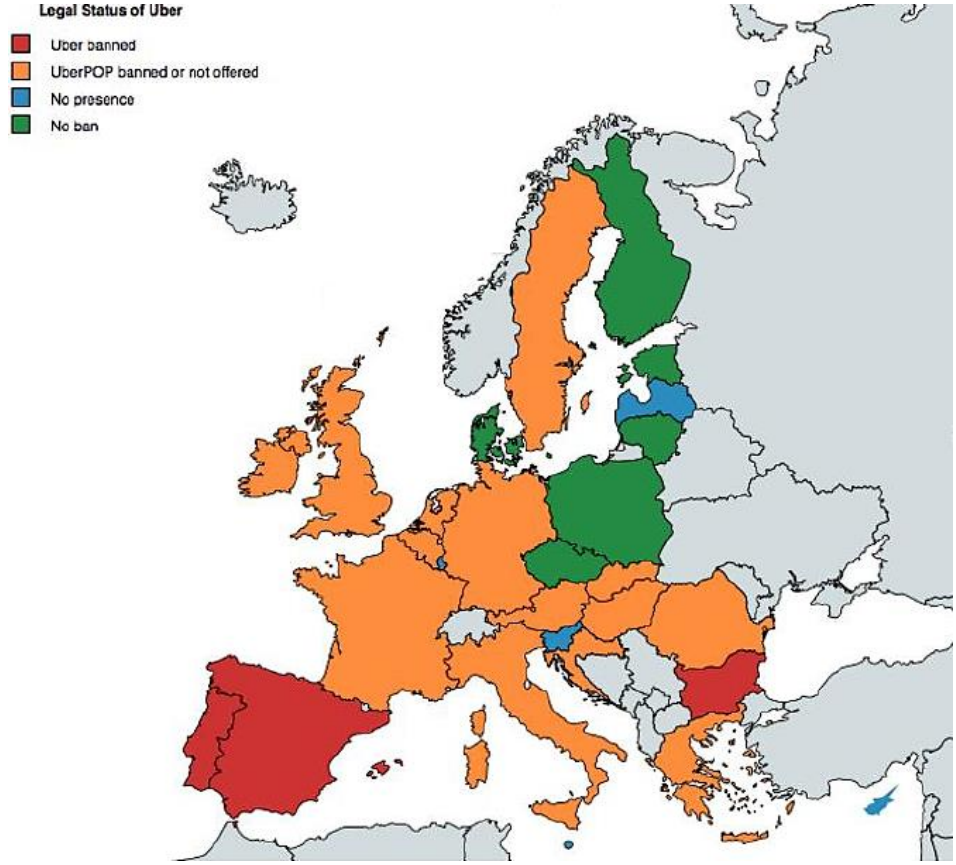

Figure 14: *Uber's legal status across the EU by the end of 2016 (Zuluaga, 2016, p. 2)*

From Figure 14, it becomes clear that Uber has been met with some form of (legal) resistance in most EU member states. Comparing the regulatory response towards Uber to that of Airbnb, one could conclude that national authorities have taken a harder stance towards Uber as a partial or complete ban of the service is a stricter regulatory intervention than (milder) restrictions or even less regulation.

Elaborating on Figure 14, we now succinctly delve into a few remarkable empirical observations. In Germany, Uber only attempted to launch its services in a few locations and it was effectively banned nationwide within a year (Thelen, 2018). As she documents on Uber's arrival to Germany:

> "The national mobile taxi hailing service, Taxi Deutschland, filed a suit calling for a nationwide ban, citing the company's unfair competitive behaviour. In September 2014, the court agreed, and issued an injunction against the company. Uber contested the ruling even as taxi companies organised sting operations to expose illegal drivers who faced enormous fines. By March 2015, a general ruling by the Frankfurt state court (*Landesgericht*) confirmed earlier decisions, effectively banning Uber across all of Germany. This effectively ended Uber's German operation" (Thelen, 2018, p. 946).

As of today, Uber Deutschland only operates under strict regulation in a few major cities such as Frankfurt, Berlin, and Munich and by federal law has to cooperate with car rental companies and their

licensed drivers (Schuetze, 2019). By contrast, Swedish authorities responded much more welcoming in this regard. The deregulation of the traditional taxi market had created a much more fluid and competitive market compared to that of countries such as Germany and Austria (Thelen, 2018, p. 947). Swedish authorities argued that Uber is just another operator connecting people who want rides with drivers (ibid., p. 951). Compared to protests and even plain legal bans in countries such as Germany and France, Uber's services eased its way into the taxi market of Scandinavia's biggest city (Le Petit & Earl, 2019). Apart from Sweden, countries with an equally traditionally competitive taxi market such as Denmark and Poland have also (initially) taken a laissez-faire approach (Zuluaga, 2016; Marin et al., 2019).

Nevertheless, Uber faced regulatory restrictions in practically all EU member states, even from more welcoming countries. This is mainly to do with issues of competition law, as well as licensing, employment, and taxation (De Masi, 2017). In her analysis of Uber's arrival to Germany, Sweden, and the United States, Thelen (2018) finds that "competition" (which captures the clash between local transportation providers and their disruptive new competitor), was an issue in all three cases, but figured especially prominently in Germany (p. 942). To support this claim, Figure 15 serves as empirical evidence.

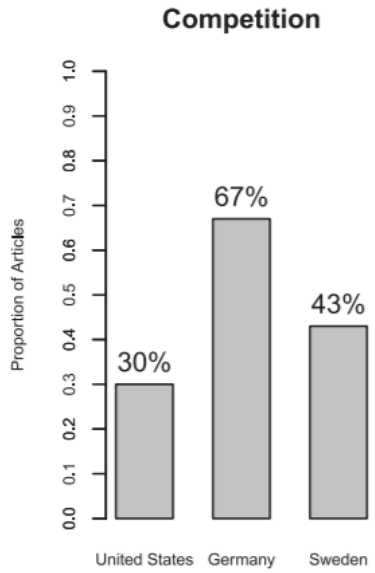

Figure 15: *Frequency of appearance of competition as a regulatory issue, as share of Uber articles (Thelen, 2018, p. 943)*

Figure 15 reports the share of all Uber articles within a country that were devoted to the regulatory issue of competition and provides a first indication to what extent competition law issues emerged as central political flashpoints in each respective country (ibid.). Similar findings have been documented for most other EU member states, justifying their regulatory responses vis-à-vis Uber to combat – amongst other issues – its disruptive nature or practices of unfair competition (De Masi, 2017; Le Petit & Earl, 2019).

To draw this section to an end, we would lastly like to point out two European Court of Justice (ECJ) rulings in light of platform regulation. In terms of an "EU-response", these two rulings have been marked influential on matters of defining digital platforms and regulation. As we have seen in both

academic literature, as well as empirical evidence, digital platforms try to circumvent existing regulatory frameworks and minimise the risk of being subjected to extensive legislation in whichever way possible (Katz, 2015; Fijneman, Kuperus, & Pasman, 2018; Fabo et al., 2017; Lenaerts, Beblavý, & Kilhoffer, 2017). In their respective fights to avoid more regulation, particularly by city authorities, Airbnb and Uber have both brought a case before the ECJ. Although by (theoretical) definition both services are comparable and of similar nature (cf. Strowel & Vergote, 2016, p. 5), the EU court has ruled substantially differently in both cases regarding the question of how these digital platform services ought to be defined. Box 2 provides an apt summary of both rulings, which is followed by a succinct discussion of the implications thereof.

Box 2: *ECJ rulings on defining digital platforms from a judicial perspective*

	ECJ ruling
Court cases	
Airbnb (C-930/18)	In 2019, the ECJ ruled that Airbnb acts as an intermediary and can be classified as an "information society service" rather than a real estate agency or a firm of the traditional lodging industry (Boffey, 2019), thereby classifying Airbnb as a (digital) service under Directive 2000/31. As (part of the) justification for the ruling, the Court stated Airbnb "did not decide rental price charged, nor select the hosts or the accommodation put up for rent on its platform" (Boffey, 2019). On top of that, Airbnb does not own any of the listings. Subsequently, Airbnb has secured EU legal victory (as of to date) over its status as an online platform (Espinoza & Hancock, 2019).
Uber (C-434/15)	In 2017, the ECJ ruled that Uber is to be classified as a "transport services company" rather than a computer services business as Uber argued itself (Bowcott, 2017), thereby labelling Uber as a company bound to transportation law. As (part of the) justification for the ruling, the Court stated that Uber's services were more than an intermediation service. Bowcott (2017) notes on this that Uber was "indispensable for both the drivers and the persons who wish to make an urban journey."

The decision taken by the ECJ in the case of Airbnb contrasts the 2017 ruling on Uber where the ECJ did not qualify the intermediation service offered by Uber as "information society service" but as "transport service" instead which led to the application of national Spanish law (Theiss, Marko, & Riepan, 2020). Despite apparent similarities between the services offered by Airbnb and Uber and obvious parallels, the different ECJ rulings have led to a crucial ramification. Namely, that one is considered to be a digital platform and can operate under the legal basis of such services, whereas the other is considered to be yet another competitor in a traditionally heavily regulated market. Besides court cases at the EU level, judicial initiatives at the national level of member states have been undertaken. Case law on the regulatory challenges of platform operators is widespread among EU member states, such as Italian case law on UberPOP and UberBLACK (De Masi, 2017, pp. 66–71). Combined, they provide a clear indicator that local governments and the incumbent are concerned with the qualification of digital platforms and their activities, and subsequently take judicial action (ibid., p. 66).

All in all, these rulings and other empirical observations mentioned above call into question to what extent such platforms need stricter regulation, and if so how this is best done. Again, a future outlook on the question still revolves around the balancing of interests. On the one hand, innovation spurred by digital platforms is often greeted with positive feedback from society and policymakers. On the other hand, the need for (tighter) regulation and/or enforcement in some respects, as has become clear from the results, is apparent. The latter comes with costs, for which a continuous effort in assessing the “costs of regulation” is needed at both the EU level, as well as lower levels of authority. In the end, based upon empirical findings, we deem a combination of the local level and EU authorities the most suited for addressing platform failure (i.e. all types of negative externalities brought about by platforms). Regulatory measures taken at the local level adapt to local needs which may substantially vary not only between EU member states but also within countries. By adapting to local needs, platform operators may be more willing to cooperate rather than circumvent existing legislative frameworks.

An example of this is proven by the agreement between the Council of Amsterdam and Airbnb and the regulation of a 30-days maximum to rent out a room or apartment, which we previously mentioned (AT5, 2018). In addition to this, the City of Amsterdam laid down an integrated policy strategy to improve the city’s liveability.[49] Such strategies, combined with consulting digital platforms, improve local governance by establishing better coordination between stakeholders and parties involved (Municipality of Amsterdam, 2018). As for the EU, it is important to set general platform standards to which every member state and platforms operating in the respective countries have to adhere. In line with the “balancing of interests” question, the costs of regulation would be too much if only local authorities were to address the regulatory challenge (see also footnote 27). Apart from that, the analysis has also shown that the EU can act as an important counterbalance (i.e. powerful institutional force) to dominant platforms trying to circumvent regulation (Thelen, 2018). Margrethe Vestager’s – the Commissioner for Competition and the EU’s Digital Agenda – rigid stance on platform regulation, for

[49] This policy strategy is to address specific local regulatory challenges in Amsterdam partly caused and enlarged by Airbnb, which include pressure on the housing market and keeping rent affordable to all citizens (a public housing issue), gentrification (Cócola Gant, 2016), and continued nuisance and increasing unwanted behaviour caused by tourism. On the latter it should also be noted that Amsterdam attracts a different type of tourist than let’s say Vienna, therefore strengthening our argument that regulatory measures ought to be best taken at the municipality/regional level to adapt to local and sector-specific needs.

example, and her ambitions with the upcoming *Digital Services Act* illustrate that the EU takes on a crucial role in addressing the regulatory challenge at hand.

To exemplify on the importance of cooperation between platforms and different levels of governance, there are ample examples to be found. To give one example, Uber has cooperated closely with local and national authorities in member states such as Finland. In Finland, Uber was put on hold in 2017 (Oppegaard et al., 2019, p. 3). However, under new regulation from July 2018, certain services such as UberX and UberBLACK returned. Here, particularly local authorities (e.g. the City of Helsinki) worked with platform operators, rather than against them in addressing regulatory challenges (ibid.). A complimentary solution to local regulation that has already been initiated at the EU level could be the upcoming Digital Services Act (European Commission, 2020). As part of the European Digital Strategy, this act is designed to foster platform innovation and competitiveness of the European online environment due later this year (ibid.). Addressing negative externalities at both the EU level, and even more at lower levels of governance would best correct existing market failure and achieve legitimate policy objectives. After all, competitive markets and data protection remain undisputed public interests that need to be warranted at all costs.

In the next and final chapter, we conclude and summarise the main findings. Most importantly, a definitive answer is given to the research question posed in the introduction. After the conclusion, the thesis ends by presenting a thorough discussion. In this section, we elaborate on the findings and how they compare to the theory section, the methodological approach, and possible points of departure for future research. As such, it serves as a critical reflection on the writing and realisation of this thesis.

5. CONCLUSION AND DISCUSSION

By conducting a qualitative document study complemented with the use of quantitative data and media coverage to serve triangulation purposes, this thesis has posed the research question of how and why platforms (in the EU) should be regulated. The regulatory challenges that digital platforms and their swift rise and development within the EU's (digital) economy have brought about have sparked much interest from academia and policymakers alike. This thesis is the latest and a modest contribution to an ongoing academic and societal debate to what extent regulation is needed on digital platforms and how they should operate within the political and economic realm of the EU and its member states. In more detail, this thesis has examined two sub-challenges that are of vital importance to the regulating markets issue that is at the centre of this study, namely that of competition law and data protection. Together, they comprise the public interests that ought to be warranted in digital two-sided markets. To empirically scrutinise the research puzzle outlined in the introduction, we have conducted a comparative case study with two of the most prevalent cases of today's platform economy in the EU but also on the world stage: Airbnb and Uber. As such, the two-sided (digital) markets under scrutiny are the short-term rental accommodation market and the transportation market.

Rooted in a classical public administration research tradition, this thesis has examined the regulatory challenge at hand by undertaking an interdisciplinary approach and combining insights from economics, political science, multi-level governance, and (EU) law. In general, the results indicate that public interests are to a certain extent warranted in the two digital two-sided markets, but some signals call for more extensive regulation and/or stricter enforcement of existing EU legislation. In view of adequately addressing the regulatory challenge at hand, the local level seems to be the most suited level of governance to combat negative externalities brought about by digital platforms. Combined with EU legislation that specifically addresses platform failure, this seems to be a proper regulatory response based on our empirical findings. As regards competition law issues, both Airbnb and Uber operate in admittedly competitive (digital) markets, but at the same time lead by a landslide in terms of their (dominant) share within the market. This leads to a situation in which competition might be given and existent in the accommodation market and taxi sector, but reality points towards a tipping situation. Through increasing network effects and effective pricing (the most important strategy to create value for a platform), a snowball effect could set in motion an already dominant player on the market becoming the winner-that-takes-all. The results have outlined that both the incumbents and other digital competitors struggle considerably with competing against Airbnb and Uber respectively.

Turning to the second public interest – and fundamental right to EU citizens – analysed in terms of the regulatory challenge this thesis focuses on, the extent to which digital platforms warrant data protection also calls for further elaborations. Privacy concerns are addressed by digital platforms, especially when publicly called out or surfacing reports that point towards privacy violations. At the same time, there is ample empirical evidence of data protection failure by digital platforms, for which both Airbnb and Uber have proven to be no exemptions. In light of the monetisation aspect of collecting and owning big data as part of a lucrative business model, and that data can be named the knowledge of the 21st century, this thesis's results find support for the presumption that data protection remains a regulatory challenge to date. Thus far, regulatory responses in combating these negative externalities

have been omnipresent at both the EU level and that of individual member states. Indeed, regulation on the platform economy as a whole and towards individual digital platforms has evolved by leaps and bounds over the past decade, as this thesis has shown. Yet a considerable amount of work in terms of (effectively) regulating two-sided digital platforms remains to be done. In the final section of this thesis, we take up some of these points that have surfaced from the analysis and put them into a broader (theoretical) context. Intertwined with this is a discussion of interesting findings that have not been at the core of this study, but could nevertheless serve as a starting point for future research.

Discussion

Following the conclusion and answering the main research question this thesis has posed, we now turn to our discussion. Whilst critical in its set-up, this discussion section also serves to showcase that the conclusions of this research have some credibility, as well as providing accountability on how this study was conducted. As such, we take up three main points of attention: (i) elaborating on the findings by putting them into a broader contextual perspective, which includes surprising findings that were not at the core of this thesis's research, (ii) discussing the methodological approach by presenting a critical reflection of conducting independent research, and (iii) suggesting a point of departure for future research. Each discussion point, in brief, takes into account the implications they have for the answer to the research question.

On a general note, the findings imply that both Airbnb, as well as Uber, tend to be in tension with existing regulatory frameworks. The logic attached to this implication is that current (EU) legislation is insufficient in addressing the negative externalities under scrutiny convincingly. As the literature describes, negative externalities brought about by digital platforms extend well beyond those of competition law issues and data protection violations (Katz, 2015; Nooren et al., 2018; Werner & De Bijl, 2019). This section is perfect to succinctly discuss such elaborations as they matter in the broader theoretical and societal perspective on the regulation of digital platforms, but were outside the scope of our research. It is also here we would in short want to highlight what a regulatory solution could be at the member state level, as the analysis has indicated that much of solving the issue can be gained at both the local level and that of the EU. In total, we present three such elaborations below.

A first elaboration would be on the concept of price discrimination, where different consumers are charged different prices, depending on their willingness and ability to pay (Stucke & Ezrachi, 2017, p. 1263; Rysman, 2009). The competition law sections in both Chapters 2 and 4 have illustrated that Airbnb and Uber respectively use pricing strategies to gain a(n) (unfair) competitive advantage over other digital competitors and the incumbent. What we however did not take up in the analysis is the role of (national) competition authorities in combating the danger of monopolisation. A study by Stucke and Ezrachi (2017), for instance, has shown that the U.K. competition authority already found price discrimination to be more prevalent online. Research focusing on the actor constellations present in various EU member states could contribute to answering the question of how and why digital platforms ought to be regulated. *How do competition authorities across the EU vary in their approach towards competition law issues* could be an example of a research question that a dissertation posits. In

particular, a diagnostic approach could assess which problems arise that hamper addressing the regulatory challenge adequately (cf. Van Thiel, 2014).[50]

A second interesting notion can be attributed to the ranking systems of both digital platforms and in which aspects they can be deemed problematic in terms of data protection (cf. Ramaswamy, 2017; Calo & Rosenblat, 2017). Apart from the question to what extent a ranking system is needed at all, and specifically when it contains the collection and storage of substantial (personal) data, its current set-up for both platforms fail to warrant the public interest relevant here (Lutz et al., 2018; Van Til et al., 2017). A suggestion to solve this issue is made by Juul (2017). She proposes, in light of adequate regulatory responses, to create an independent European rating agency for digital platforms (ibid., p. 9). This would not only allow the creation of a level playing field for all platforms that deploy a ranking system in their two-sided platform model but also set each platform, in every EU member state, to the same standards.

The third elaboration is to stress the multi-level governance aspect of the regulatory issue at hand.[51] As for addressing the regulatory challenge at the member state level, the analysis has shown that platform firms are actively participating in the ongoing construction of circumventing national existing legislation and finding ways to conduct business operations that are more hospitable to their interests (cf. Cohen, 2017, p. 199). As we have seen, some EU member states have been more willing to let digital platforms disrupt markets, leading to much-needed reform.[52] It implies that market players such as Airbnb and Uber have a say at the regulatory table and influence decision-making. From the member state level perspective, there are also multiple ways possible to enhance potential solutions to the regulatory issue at hand. To name one example, a regulatory solution could be to showcase the political will to address the issue at the highest level. In light of reforming outdated regulation and transitioning legislation into the digital age, Denmark announced the appointment of a digital ambassador whose portfolio focuses specifically on relations with giant platform companies (Taylor, 2017). Discussions are now underway in various other European countries about the desirability of appointing new government digital ministers, which could positively impact making the EU and its member states fit for the digital age (Cohen, 2017, p. 202).

Second, we would like to critically review the research design of this thesis without panning it at the same time. As such, we account for a critical assessment of doing independent research essential to any Master's thesis rooted in a public administration research tradition. The first critical reflection would be on the main method of study. By opting for a qualitative document study, the results of this study suffer to an extent from interpretation bias (Holliday, 2007; Wesley, 2010). Although all used documents are retrievable and any research could easily use the same set of documents for a similar thesis, a qualitative study, more so than quantitative research, yields results that to a considerable extent

[50] In her book on conducting research and methodology in the field of Public Administration, Van Thiel (2014) describes there are several orders (levels) of research questions. For example, an explanatory research question (which the present thesis has) is of a higher knowledge order than research questions of a descriptive nature. Each research question of a higher level consists of sub-questions of lower level(s). So, a diagnostic research question would be divided into sub-questions either descriptive, explanatory and/or testing (e.g. hypotheses).

[51] Although our argument centres around the belief that local authorities, as well as the EU are the most suited levels of governance to address the regulatory challenge, that does not mean however (national) member states are incapable of contributing overall. This paragraph, therefore, serves to make a suggestion at this particular level of governance to paint a full picture of multi-level regulatory solutions.

[52] To reiterate here, Thelen (2018) documents that Sweden (initially) has been welcoming Uber's services to the country and the challenging effects it brought about to traditional business operators. As such, digital platforms have been used as a vehicle to reform (outdated) regulation in specific markets. In a similar vein, member states such as Denmark and Poland, too, welcomed Uber to improve and further fuel the competitive element of free and fair markets.

are dependent on the interpretation of the researcher. Nevertheless, we have tackled this methodological issue by serving triangulation purposes and using not only many documents in terms of quantity, but also consulting different types of public documents. The number of documents studied and analysed, as well as their academic relevance, have significantly contributed to the robustness of the findings.[53] Even within a single type of document (e.g. media coverage), we have tried to use as many different documents as possible, for example by taking stock of media coverage on a given topic in various EU member states. Subsequently, concerning the logistics of conducting research, this thesis has benefited from the linguistic competences of this thesis's writer and prior knowledge and experience with the selected case studies (cf. Gerring, 2017).

Nevertheless, the findings could have been even more elaborate and satisfactory by considering other methods of study. If given the chance to redo the research design, the first consideration could be to include in-depth (expert) interviews as an addition to the qualitative document study. Interviews, be it in a semi-structured or unstructured fashion, could add significant value in answering the research question posed in the introduction. By using qualitative content analysis (QCA), results from the document study could have been verified through expert interviews to contribute to the overall empirical findings (cf. Schreier, 2012). An additional instrument could have been to conduct a complimentary survey, again to serve triangulation purposes and to easily extend the number of respondents relevant for answering (parts of) the research question (cf. Gschwend & Schimmelfennig, 2007). Particularly with regards to the variable of data protection, a large-scale survey asking both users of platforms, as well as service providers (in our case Airbnb hosts and Uber drivers) could have exposed supplementary findings of privacy concerns and issues. In this way, capturing the notion of to what extent this public interest is warranted (see also sub-question 3 and section 4.4 of the present thesis) would have been even more detailed.

To the defence of this thesis's research design though, we would like to put forward two remarks on this matter. First, adding interviews on the one hand could have made the findings more robust, but on the other hand would most likely have increased interpretation bias seeping through the analysis. More so than analysing (public) documents, conducting interviews may substantially suffer from the interviewer's interpretation and to a greater or lesser extent lead to (more) subjectivity of interpretations (Wesley, 2010; Veisdal, 2020).[54] With coding as the main tool of QCA, interpretation bias lurks and demands extensive attention from the researcher over a longer period to try and prevent subjectivity of results. This reflection remains mostly ambiguous – as we cannot assess the counterfactual (cf. King, Keohane, & Verba, 1994) – to what extent such conducted interviews would have added significant value to the overall line of argument of this thesis. Besides this, the second comment would be the limitations in terms of time and resources available to the researcher (Gerring, 2017). Such extensions of the research design used for this thesis would have been practically impossible. Moreover, the original scope

[53] Here, we would like to emphasise that a well-thought-out thesis is built on – as Google Scholar puts it – the shoulder of giants. For example, not having mentioned the works of Rochet and Tirole (2003), Armstrong (2006), and Rysman (2009) in the theoretical framework would have been disputable given their influential research on two-sided markets. Similarly, a study on bureaucratic institutions that excludes (the mentioning of) the work by Crozier (1964) in a theoretical discussion would also be arguable.

[54] Veisdal (2020, p. 6) provides an extensive list of limitations pertaining to the use of interviews as the main source of data.

of this research has been significantly altered throughout the process, which has also impacted the methodological approach.[55]

Regarding the case selection, critical points of reflection can be noted as well.[56] As Geddes (1990) documents, in both small-n and large-n research the answers are affected by the cases selected by the researcher. Considering this, perhaps the most obvious issue would be selection bias (Gerring, 2017; Toshkov, 2016). Selection bias is a faulty inference that wrongly attributes the properties of the scrutinised cases to a larger universe of cases (Gerring, 2017). In our case, we have argued extensively why Airbnb and Uber respectively have been chosen as comparable case studies (see e.g. Strowel & Vergote, 2016 and their argument that both platforms offer similar services in different markets; section 3.2). Including them has been of considerable value to both society as a whole (in terms of how much impact they both have on the EU's digital economy) as well as academia. They are representative cases and particularly useful for illustrative purposes (Gerring, 2017).

Nevertheless, considering how well-studied both cases have already been given that they are two of the most striking examples of today's sharing economy, other and more cases could have had an even more significant impact on the overall added value of the results. In terms of how many cases have been analysed, Lijphart (1971; 1975) suggests as one solution to the many variables, small-n problem to simply increase the number of cases as much as possible.[57] A comparative case study of only two cases, thus, presents limitations to the findings of this research. At the same time, though, there is a trade-off as regards case selection between depth and breadth of cases. Indeed, as Gerring (2017) puts it, the deeper you analyse your cases, the fewer cases you will be able to take on board. Concerning the selection of the negative externalities scrutinised, though, we feel that we have convincingly argued for choosing the two types of negative externalities analysed for the present thesis, both in terms of relevance and also through their fundamental legal basis in EU law (Article 101–103 TFEU and the GDPR respectively). To be more precise and exemplify, not taking up the concept of privacy into the regulating markets issue would have been difficult to defend from both a theoretical and methodological perspective.[58]

Additionally, we could specifically look at and take into consideration the sectors in which digital platforms operate. For example, collaborative finance services (e.g. peer-to-peer lending or crowd-funding) are only used on average by 8% of EU citizens. Delving into competition law and data protection issues for such platforms could contribute to interesting findings from most likely understudied cases

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[55] With this we would like to in short point out the following. The original intention for this study was to write a(n) – albeit similar – thesis on regulating the platform economy by looking at Mobility as a Service (MaaS) in the transportation sector on behalf of the Dutch Ministry for Infrastructure and Water Management. Due to personal reasons as well as the COVID-19 outbreak from March onwards, the design and research focus had to be changed. Not only a considerable period of time (i.e. two months) were lost in total, but all desktop research on MaaS conducted in February of 2020 has not ended up in the final thesis.

[56] In Gerring's (2017) words on case study research, no matter which type of case study is conducted, *case selection* is the crucial design decision. As such, we follow his argument that the discussion of a study's case selection is imperative in any research paper, dissertation or thesis.

[57] According to Lijphart (1971), the many variables, small-n problem is inherent to using the comparative method. His suggestion to focus the comparative analysis on comparable cases (and a thorough preoccupation with the problem of many variables) is satisfactorily met in our view. Similarly, he argues to centre the comparative analysis around the key variables. Here too, we feel this condition has been met as other variables (i.e. other negative externalities which each individually are a type of platform failure) are not as crucial in addressing the outlined regulatory challenge as competition law considerations and data protection are.

[58] Initially, I did not plan to address data protection issues and privacy concerns as a main negative externality in my thesis. The consideration to take up the concept of privacy and data protection considering both its theoretical and empirical added value was suggestion made by a professor at Utrecht University with whom I also took a course during my first semester. Only after his consideration I added data protection into this thesis's research question and analysis, for which I am very much indebted to him taking into account the final result.

(European Commission, 2018).[59] Our analysis is based upon an extensive array of public documents on competition law and data protection available on the cases of Airbnb and Uber, but how would such public interests be warranted in e.g. the (digital) finance sector? Regarding the posed research question, regulating the platform economy and in particular different digital platforms is highly dependent on the context in which these digital platforms operate (cf. Cohen, 2017, p. 176). As such, additional findings generated by the inclusion of other (digital sector) cases into our research would most likely be sector-specific. Rather, bearing in mind the specific scope of this study, an extension of this thesis would benefit more from adding cases in the EU's accommodation market and taxi sector.[60] We subsequently consider this point to be a potential improvement regarding the research design used for this Master's thesis.

In terms of (quantitative) data availability, at times it has been difficult to assess the EU's digital economy, as reliable data on its impact and size remain largely unavailable. This is in part because most digital platforms are reluctant to share their data with others. As such, there is to exemplify no extensive data set on the platform economy in the EU to date. In the case of Airbnb and Uber, they blatantly refuse to share their data. Many scholars have reported this limitation. To provide an example, Jullien and Sand-Zantman (2019) document that it is difficult to identify the extent of market power hold by individual platform operators. Assessing market dominance and the potential abuse of that dominant position by digital platforms then can be demanding. As of March 2020, the European Commission has reached a landmark agreement with four collaborative economy platforms on data sharing (Eurostat, 2020).[61] This will allow Eurostat to publish data offered via these platforms across the EU (ibid.). The first statistics are envisioned to be published in the second half of 2020, which is promising for future research on any research topic related to the sharing economy and platform regulation.

Last but not least, a critical reflection on the methodology requires a succinct discussion of this thesis's internal and external validity, as well as its reliability (cf. section 3.5). To recap, internal validity refers to the correctness of theoretical assumptions vis-à-vis the findings concerning the *sample* (i.e. the case(s) *actually* studied by the researcher) (Slater & Ziblatt, 2013, p. 1305). External validity refers to the correctness of theoretical assumptions vis-à-vis the findings concerning the *population* of an inference (i.e. all cases, including those not studied) (ibid.). Subsequently, the goal of case study research is to explain the case(s) under investigation and also, at the same time, to shed light on a larger class of cases (Gerring, 2017; Toshkov, 2016). To start with this study's internal validity, qualitative small-n case studies generally provide in-depth insights into a small set of cases (Gerring, 2017). Indeed, the extensive document study has shed some interesting light on how two of the most influential digital platforms operating in the EU do not always warrant the public interest of fair competition and data protection. In light of the notion that data can be labelled the knowledge of the 21st-century and business models of platforms thrive on the collection and storage of big data (cf. Lutz et al., 2018), in-depth case studies can particularly advance the academic knowledge of and debate on the regulation of digital platforms.

Nevertheless, the findings of this study have to be interpreted cautiously. The external validity of this study is, in part due to the research design, limited. To be more specific, the results generated

[59] By contrast, 57% (for accommodation services such as Airbnb) and 51% (for transportation services such as Uber) of EU citizens responded yes to the question: *Have you (ever) used services offered via a collaborative platform [in specific sectors]*? (European Commission, 2018).
[60] From a competition law perspective, direct (digital) competitors to both Airbnb and Uber can then be taken up in the analysis and compared directly. The yielded results would most certainly benefit from this suggestion.
[61] These concern four platforms in the accommodation market: Airbnb, Booking, Expedia Group, and TripAdvisor.

from the document study can only to an extent be generalised to other cases (i.e. other digital platforms). Not only do the various sectors in which platforms operate differ considerably (e.g. compare the finance sector to that of accommodation), digital platforms in itself prove to be difficult to operationalise and no exhaustive definition of what it entails prevails in the literature (see e.g. Gawer, 2014). Strowel and Vergote (2016, p. 5) alone identify five different types of platforms, which hampers good comparability of cases. However, we follow Calo and Rosenblat (2017, p. 1654) in their assumption that a thorough analysis of any large sharing platform, be it Airbnb, Uber or any other example, would raise similar concerns and research questions, and subsequent results.

Although not reported in the analysis, the writer of this thesis, by conducting a document study, automatically has been informed about competition law and data protection issues of other digital platforms that were scrutinised in various reports and other documents. Following the line of reasoning by Calo and Rosenblat (2017), this would increase the overall level of external validity of the present thesis. Moreover, the promise of external validity is meaningless if the research design lacks internal validity, and this study's findings ensure a decent level of internal validity (cf. Gerring, 2017). After all, it is also often easier to justify the assumptions necessary for causal inference when drawing data from one or a few cases than when drawing data from many (Pepinsky, 2019, p. 8). As regards this study's reliability (i.e. the consistency of a particular measurement, meaning the extent to which a particular assessment would yield identical results if repeated under the same conditions), we deem the reliability of this thesis generally high (cf. Wesley, 2010, p. 3). Apart from the potential suffrage of interpretation bias stipulated before, all results have been based upon public documents available to anyone, which leave no question in terms of *what* was reported. In other words: the evidence embedded in the analysed texts is objectively identifiable (ibid.; Manheim & Rich, 2002). In line with common norm 3 of conducting qualitative research, we feel reasonably confident that another independent researcher would reach the same general conclusions, given the opportunity to read the same set of documents under similar conditions (cf. Wesley, 2010; see also Figure 3, Chapter 3).

As outlined above, our research presents some limitations which may inspire future research. To draw this section and subsequently thesis to an end, the third and final discussion point considers a suggestion other scholars could take up. The analysis has indicated that there may be a strong role for particularly lower levels of authority in addressing the regulatory challenge as outlined in our introduction. Legislation initiated at the local level could perhaps best solve dilemmas that digital platforms bring about, thereby also accounting for and adapting to local issues. Research on this underlying assumption that there is a crucial role for local governments is understudied, but a growing body of literature hints at the importance of local regulation in terms of effectively regulating the sharing economy. Rauch and Schleicher (2015) note the following on this:

> "If sharing firms prevail in the current fights over the right to operate (and indications suggest they will), it is unlikely that cities and states will ignore them. Instead, as sharing economy firms move from being upstarts to important and permanent players in key urban industries like transportation, hospitality, and dining, local and state governments are likely to adopt the type of mixed regulatory strategies they apply to types of firms with whom sharing firms share important traits, from property developers to incumbent taxi operators" (Rauch & Schleicher, 2015, p. 901).

The authors then conclude that the way forward should be, in light of ongoing fierce conflicts between new sharing firms and entrenched incumbents, joint cooperation between city governments on the one hand and sharing firms on the other (ibid., p. 963). Similar conclusions are reached by for example Murphy (2016). Murphy (2016, pp. 127–8) – and similarly to the present thesis's analyses of both Airbnb and Uber – posits that "the most efficient method of managing the sharing economy is through localised, responsive and quick-acting regulations that reflect the sharing economy's amorphous nature, which is best done at the local and community level." A great addition to both the present thesis, as well as studies conducted by Rauch and Schleicher (2015) and Murphy (2016) would be to examine in further detail the role of local governance in EU member states in addressing our outlined regulatory challenge.[62]

Besides the level at which crucial legislation should be initiated, local authorities could also, if need be, opt for sector-specific regulation. As regards the situation in the EU, the analysis has shown that abuse of a dominant position is more applicable to Uber's situation than that of Airbnb. Taxi markets – at least in most EU member states – are also traditionally heavily regulated markets with steep entry barriers compared to the accommodation sector. In turn, it could be that reforming the transportation market by embracing the creative disruption digital platforms cause requires other regulatory measures than needed for the short-term rental market. To add to this, we would like to emphasise that not only local authorities should tackle negative externalities caused by platforms. This stems from a belief that different levels of governance are best suited for addressing different sub-challenges. At the EU level, there is a well-suited instrument that could set common regulatory standards to which all platforms, irrespective of the (digital) market they operate in, are subjected to. Thus far, there is no such existing legislative framework that specifically addresses platform failure. Instead, regulation is differentiated between levels of authorities, member states, and overall can be noted as extremely fragmented (cf. Juul, 2017). It follows logically from this, and also given the complexity of the issue, that it hampers addressing the regulatory challenge adequately.

With the upcoming *Digital Services Act* as part of the Commission's European Digital Strategy led by Ursula von der Leyen, regulatory measures at the EU level are underway to tackle these issues, whilst at the same time embracing their efficiencies and innovative nature (Von der Leyen, 2019; European Commission, 2020). As such, it contributes to a much-needed update of existing regulatory frameworks that are inadequate for the digital age in which we increasingly find ourselves and which facets pertain to almost any aspect of our lives. As Calo and Rosenblat (2017, pp. 1689–90) put it, "at one level, we should embrace the sharing economy as a novel form of technology-enabled commerce, whilst at the same time we must be vigilant." Regulators, after all, should not allow platforms to grow in the shadow of the law (Katz, 2015, pp. 1125–6). If anything, the digital economy is here to stay and will demand continuous regulatory attention from policymakers across the EU. We leave it to others to pursue these tracks, address the outlined challenges, and take up the aforementioned suggestions.

[62] These authors have focused on the U.S. market. Therefore, complementary and additional insights can be gained by analysing the situation in the EU and/or (a cluster of) member states.

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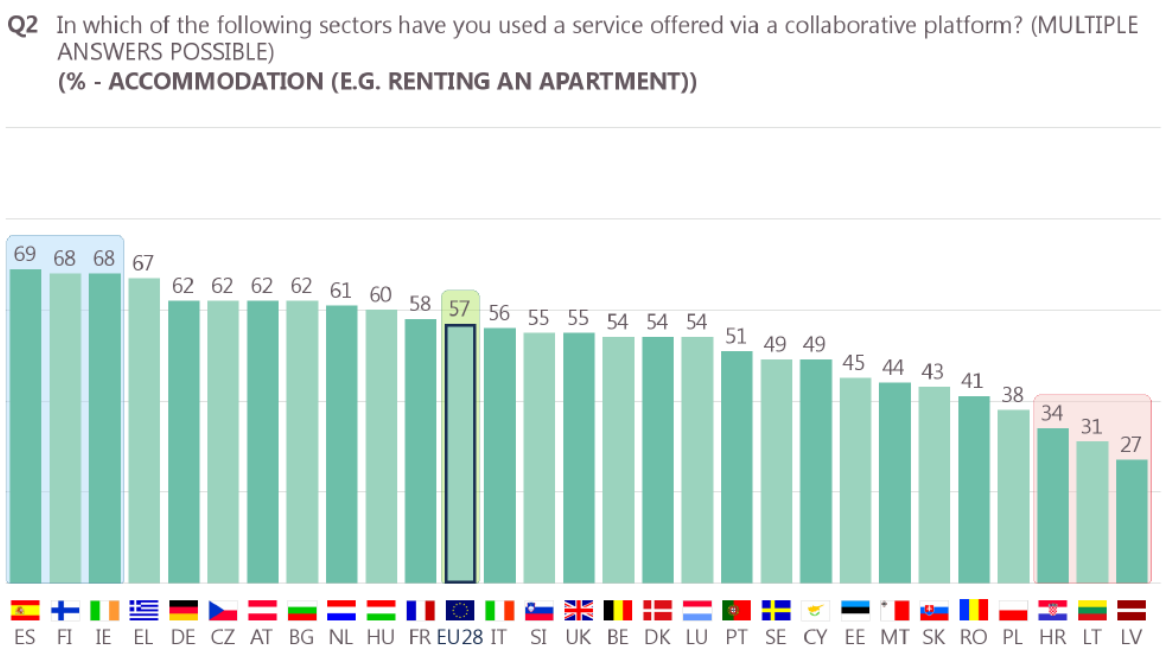
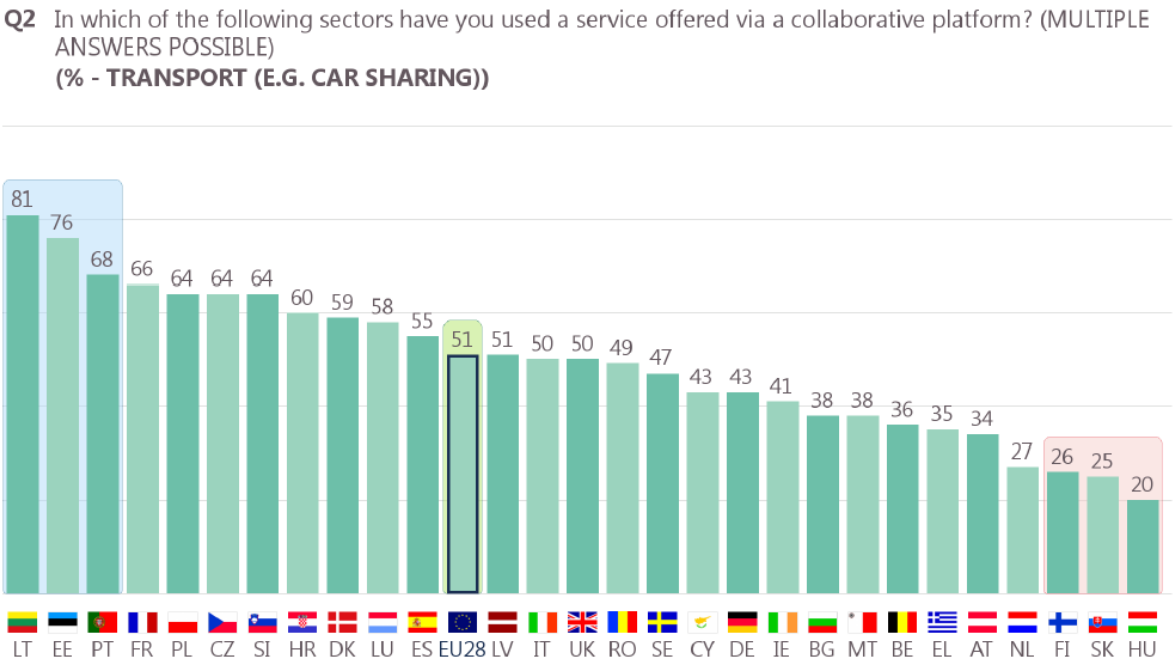
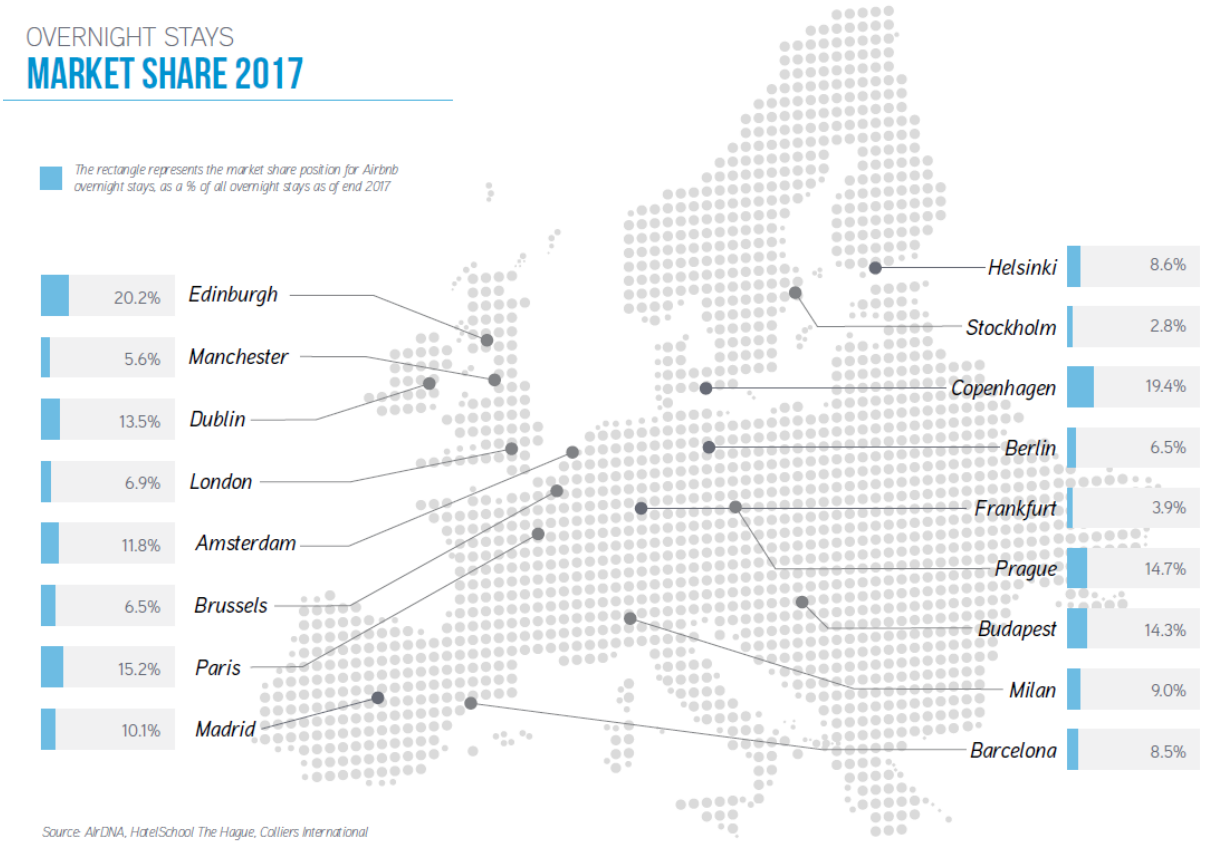
APPENDIXES



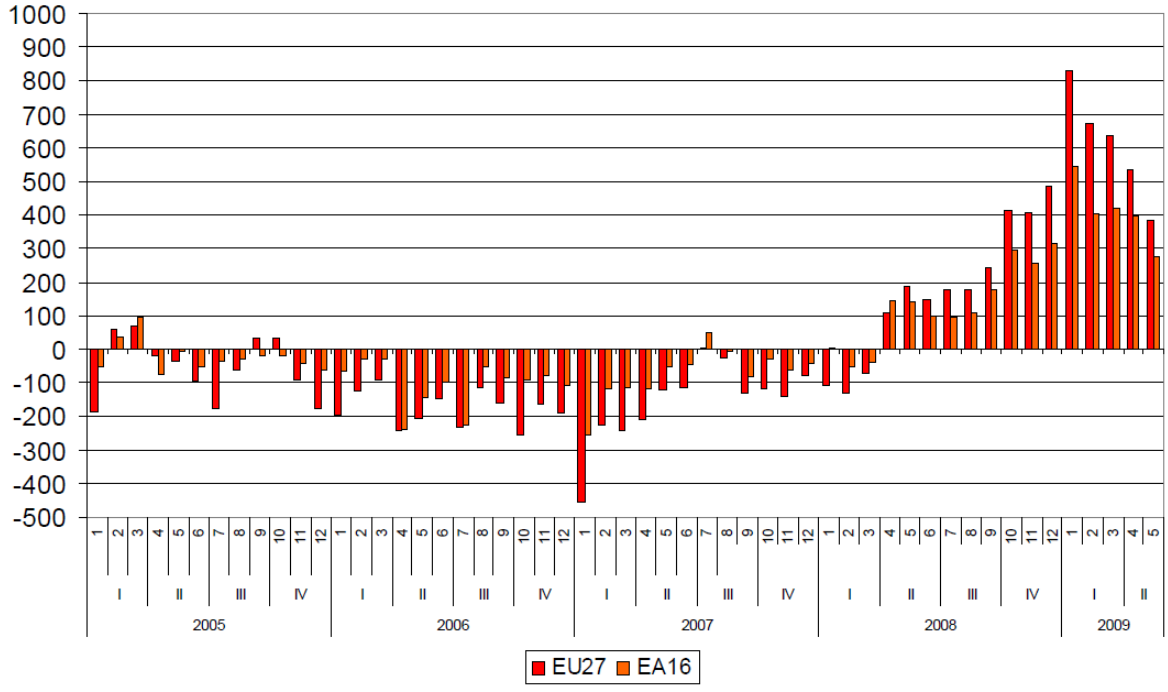
Appendix 1: *% of EU citizens (sample) that have ever used digital platform(s) in the accommodation market, by EU member state (Eurobarometer, 2018)*



Appendix 2: *% of EU citizens (sample) that have ever used digital platform(s) in the transportation market, by EU member state (Eurobarometer, 2018)*



Appendix 3: *Overnight stays (Airbnb) – EU market share 2017 (Hotelschool The Hague, 2018)*



Appendix 4: *Monthly change in the number of unemployed persons between 2005 – 2009 (compared to previous month, in thousand), seasonally adjusted (Hijman, 2009 [Eurostat 53/2009])*