Study to Monitor the Economic Development of the Collaborative Economy at sector level in the 28 EU Member States

Final Report

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[Written by]

technopolis |group|

VVA CONSULTING

Trinomics

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CONTENTS

GLOSSARY

Collaborative economy (often also referred to as the sharing economy)	Business models meeting all criteria simultaneously: • Business transactions take place between three parties – the service provider, the online platform and the customer; • Service providers offer access to their goods, services or resources on a temporary basis; • The goods, services or resources offered by the service provider are otherwise unused; • The goods, services and resources are offered with or without compensation (i.e. for profit or non-profit/sharing) [1]
Collaborative platform	An online platform connecting collaborative economy service providers with their customers
Collaborative economy business model	Business model used by the online platform to connect service providers and customers
Peer-to-peer services	Goods, services or resources offered by private individuals to other private individuals (peer-to-peer)
Peer-to-business services	Services provided by individual person to business units
Business-to-peer services	Goods, services or resources provided by private individuals to businesses
Business-to-business services	Services provided by business units to other businesses
Collaborative economy service provider	A private individual offering goods, services or resources through a collaborative economy platform
Collaborative economy customer	A private individual (or business unit) using goods, services or resources offered through a collaborative economy platform
Collaborative platform revenue	Income generated through a collaborative platform
Funds raised by collaborative finance platform	Collection of money by the platform for a particular purpose. Funds raised shows how much the platform has been able to attract for projects or business ventures advertised on the platform, but not for the platforms themselves.
Collaborative platform employment	Persons employed by a platform (either full-time or part-time)
Collaborative economy service provider revenue	Income generated by a collaborative economy service provider

[1] The definition of collaborative economy is contained in the Commission Communication, A European Agenda for the Collaborative Economy (2016): http://ec.europa.eu/DocsRoom/documents/16881/attachments/2/translations

Collaborative economy service provider employment	Individual persons offering services via a collaborative economy platform may not be directly employed (either full-time or part-time), but as they spend at least some of their time offering services, they are counted as employed persons
Collaborative economy sector revenue	Total income generated by platforms and service providers in the sector
Collaborative economy sector employment	Total employment by platforms and service providers in the sector
Collaborative platform investment	Total amount of money invested into development of a collaborative platform for its activities
Cross-border transactions	Transactions where the service providers, platforms or customers come from at least two different countries
Labour productivity	The amount of goods and services produced by one hour of labour
Domestic collaborative platform	Collaborative platform established and operating within the borders of one EU Member State
International collaborative platform	Collaborative platform operating in more than one EU Member State, established within the EU or outside the EU
For-profit collaborative platform	Collaborative platform operating on the basis of a fee or commission to generate profits, and where the service providers receive a payment for the goods, services or resources offered
Not-for-profit collaborative platform	Collaborative platform where the goods, services or resources are offered voluntarily and without any fee or commission
Web scraping	Extracting data from websites, either manually or automatically, using bots or web crawlers
Total website visits	Represents the total number of times a website was visited over a period of time, including repeat visitors

ABSTRACT

The study measured the current level of development of the collaborative economy of the EU-28 across the transport, accommodation, finance and online skills sectors. The size of the collaborative economy relative to the total EU economy was estimated to be EUR 26.5 billion (0.17% of EU-28 GDP in 2016). Similarly, it is estimated that about 394 000 persons are employed within the collaborative economy in the EU-28 (0.15% of EU-28 employment).

The largest collaborative economy markets are found in France (EUR 6.5603 billion), UK (EUR 4.6377 billion), Poland (EUR 2.7366 billion) and Spain (EUR 2.5243 billion). These top four countries also offered the most jobs in the collaborative economy (approx. 74 600, 69 400, 65 400 and 39 700, respectively) in 2016. In general, the seven largest collaborative economy markets in the EU (France, UK, Poland, Spain, Germany, Italy and Denmark) represent about 80% of the total collaborative revenues of the EU-28 in 2016.

At the same time, the level of development of the collaborative economy in the EU varies significantly. In Estonia, Poland, Latvia, Luxembourg, the Czech Republic and Sweden, the collaborative economy plays a significant role in the overall economy – these countries perform above the EU-28 average. On the other hand, in Denmark, Ireland, Romania, Slovenia and Belgium, the collaborative economy plays a relatively minor role in the overall economy.

EXECUTIVE SUMMARY

The increasing use and development of digital platforms has resulted in the creation of numerous new business models and opportunities in the field of commerce. Among these is the collaborative economy, which has emerged as one of the new business models, possessing substantial transformative potential and also being on course to change parts of the conventional economic environment.

The European Commission has acknowledged the rapid growth and potential of the collaborative economy in the EU.[2] The aim of this study was to describe the current level of economic development of the collaborative economy in the EU and on the sector level. For assessment, direct and indirect indicators were developed and calculated. The study identified differences in the economic development of the collaborative economy in Member States, while also improving awareness of the overall development of the collaborative economy in the EU.

The study covered an in-depth analysis of the collaborative economy:

- in all EU Member States (EU-28), and
- developments in the four main sectors: transportation, accommodation, finance and online skills (on-demand household services, on-demand professional services).

For this study, the following definition of collaborative economy was adopted: *A collaborative economy builds on business models, where private individuals (service providers) offer their unused goods, services or resources, with or without compensation, to other private individuals or businesses (customer) via an online collaborative platform, which facilitates contacts and transactions between them.* Based on this definition, collaborative platforms were identified in all EU-28 Member States. Most platforms proved to operate on a peer-to-peer basis, although some also covered businesses as customers. A majority of the platforms had been established specifically to operate based on the collaborative economy business model; however, some commercial platforms with a significant share of collaborative economy business were also included. Eventually, a total of 651 collaborative platforms were identified.

The collaborative platforms execute a variety of business models, which are presented in the table below:

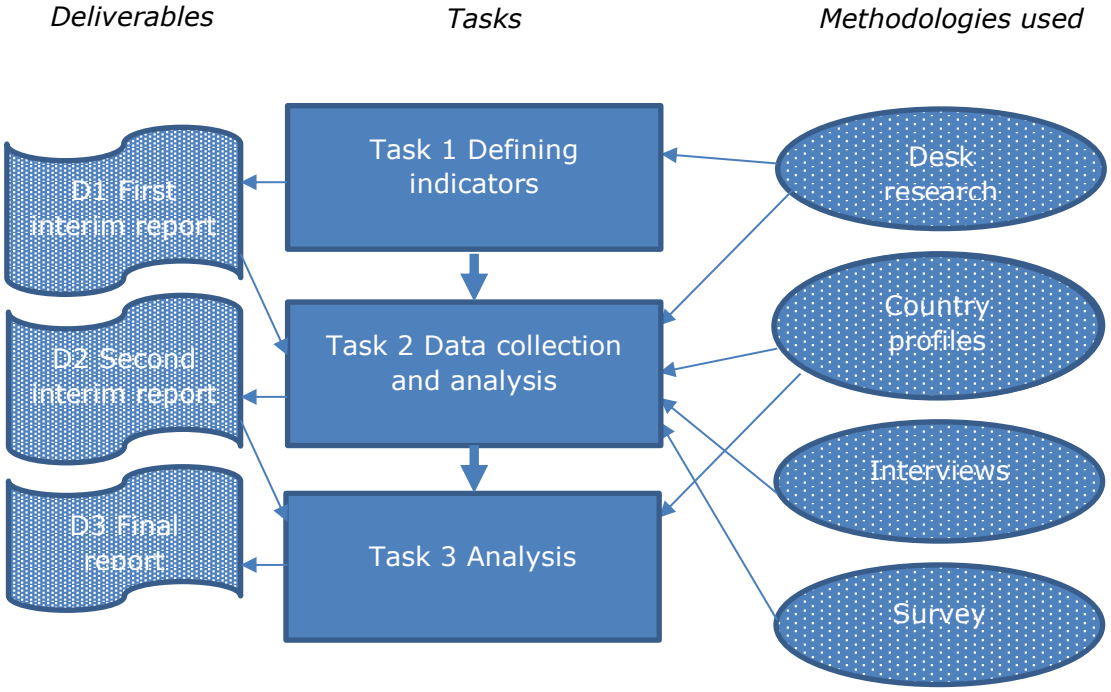
Transport	Accommodation	Finance	Online skills
Ridesharing P2P vehicle rental Rides on demand Parking spaces Delivery transport services Online food delivery	Residence renting Home sharing Home swapping	Reward-based funding Equity funding Debt funding	On-demand household services On-demand professional services

The study is based on data gathered from the 651 collaborative platforms. The data was aggregated to analyse the developments at the Member State, sectoral and EU levels. The data was further complemented and analysed against statistical data, information collected from Member States, and previous studies.

[2] Commission Communication, 'A European Agenda for the Collaborative Economy', 2016.

Methodology of the study

The overall methodological approach was based on the understanding of the fundamental purpose of this study, which was to assess developments in the collaborative economy at the EU Member State and sectoral levels. The study followed the methodological framework described in the figure below.



The study began (Task 1) with the mapping of collaborative economy platforms, stakeholders and data sources in Member States using desk research – available literature and studies in the Member States, as well as on the sectoral and EU level from publicly available sources, was screened. An initial list of collaborative platforms across sectors and Member States was developed. This was followed by the developing of indicators for measuring the development of the collaborative economy at the sectoral and country levels. A set of indicators was suggested, from which four indicators were used in data analysis during a later stage (indicated in bold in the table):

Direct indicators	Indirect indicators
Revenue	**Number of platforms**
Employment	Number of users from/outside of the country
Labour productivity	Number of providers from/outside of the country
Cross-border trade	Number of transactions per year
Investments into platforms	**Number of website visitors**

While direct indicators measure the development of the collaborative economy directly, indirect indicators describe the online environment and people's mind set, giving some indications of the potential for further growth.

In Task 2, the data was collected through a survey of collaborative platforms, desk research (platforms' webpages, literature, and previous studies), web scraping (e.g. SimilarWeb.com, crunchbase.com) and interviews with stakeholders in Member States. Different data sources enabled data triangulation and validation. All data collected was for 2016. As a result of data collection, only two direct indicators (revenues and

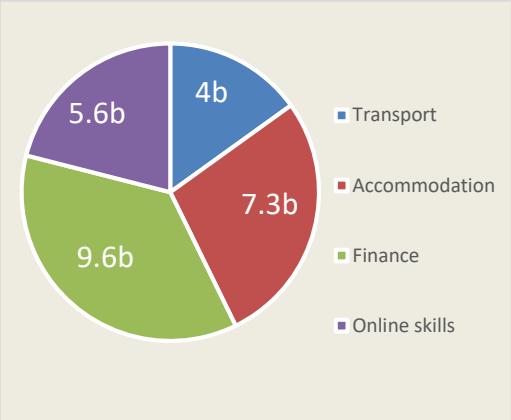
employment) could be calculated for assessment – data for the calculation of other indicators was insufficient. All calculations were based on reported data. However, for the purposes of filling in gaps in the data concerning revenues and employment, the following estimation techniques were used:

- missing revenues for platforms were estimated using the number of web visits and revenues reported by other platforms, assuming that there is a correlation between platform revenues and the number of web visits;
- the employment of platforms was estimated based on the assumption that there is a correlation between the revenues of platforms and the number of persons employed;
- revenues of service providers were estimated based on average platform fees (15% of the revenues generated by a platform goes to that platform and 85% to service providers in the transport, finance and online skills sectors, and 12% in the accommodation sector);
- employment by service providers was estimated based on the assumption that there is a correlation between the revenues of service providers and the number of persons employed;

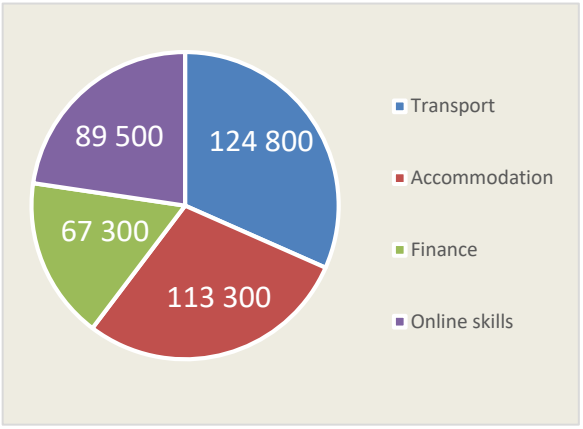
All results were aggregated at the Member State and the sectoral level.

The assessment of the economic level of the collaborative economy in Member States (Task 3) was developed based on the selected indicators. Data for the first three indicators (revenues, employment and the number of platforms) was based on the data collected during the study, while Eurostat data was used for the last four indicators (level of internet access in households, level of internet use by individuals, level of individuals using mobile devices to access the Internet on the move, and purchased online services). For the comparison of Member States, Eurostat data was also used to weigh revenues with national and sectoral GDP, collaborative employment with total national employment, and the number of platforms with the country's population.

The overall size of the collaborative economy in the EU-28 in 2016 was estimated to be EUR 26.5 billion.

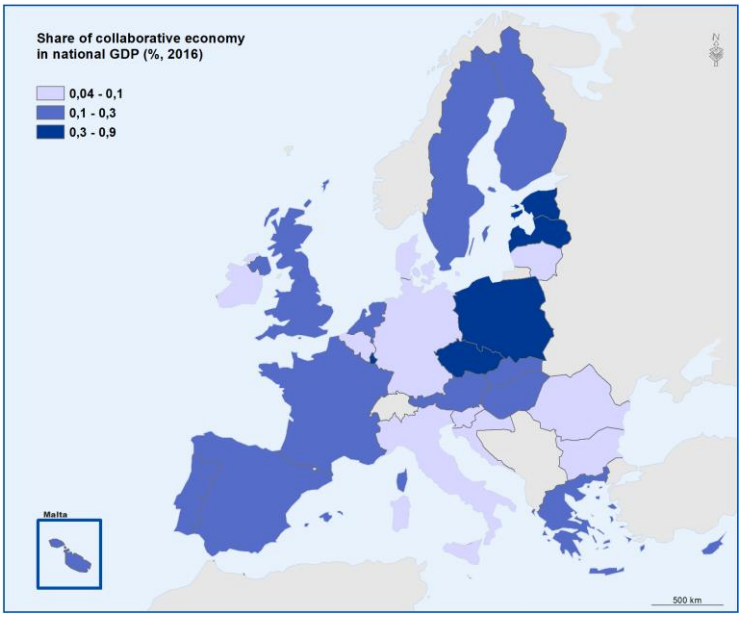


A majority of activities can be found in four sectors: the finance sector accounts for the largest revenues in the EU-28 (EUR 9.6 billion), followed by the accommodation (EUR 7.3 billion), online skills (EUR 5.6 billion) and transport (EUR 4 billion) sectors. This constitutes about 0.17% of total EU-28 GDP in 2016. The collaborative platforms have enjoyed revenues reaching EUR 3.8 billion, while service providers operating through these platforms have accumulated revenues of EUR 22.7 billion. The collaborative economy provides approximately 394 000 **jobs** across the EU, representing about 0.15% of total EU-28 employment.



The **largest markets** in the collaborative economy can be found in **France** (EUR 6.6 billion; 25% of the total collaborative EU-28 market), **UK** (EUR 4.6 billion; 17%), **Poland** (EUR 2.7 billion; 10%) and **Spain** (EUR 2.7 billion; 10%). These top four countries also provided the most jobs in the collaborative economy (74 600, 69 400, 65 400, and 39 700, respectively) in 2016. In general, the seven largest collaborative economic markets in the EU (France, UK, Poland, Spain, Germany, Italy, and Denmark) represent about 80% of the total collaborative revenues in the EU-28 in 2016. The remaining 21 Member States share 20% of the collaborative market. Within the latter group are countries with rather modestly sized collaborative economies, such as Cyprus (EUR 37 million), Lithuania (EUR 32 million), Malta (EUR 18 million) and Slovenia (EUR 17 million), each individually comprising about 0.1% of the total collaborative EU-28 market.

The level of **development of the collaborative economy in the EU varies significantly**. **Estonia** has the highest share of collaborative economy in the national economy in terms of the share of collaborative economy in GDP (0.88%), followed by **Poland** (0.64%), **Latvia** (0.63%), **Luxembourg** (0.44%), **Czech Republic** (0.44%) and **Sweden** (0.29%). In these countries, the collaborative economy plays a significant role in the overall economy. Similar to absolute revenue volumes, the collaborative economy has the lowest influence on the economies of Romania (0.05%), Slovenia (0.04%) and Belgium (0.04%). The EU-28 average share of the collaborative economy in the overall economy is 0.2%.



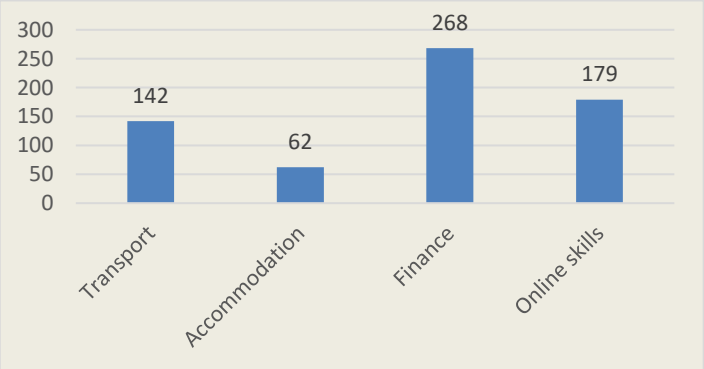
In all sectors and indicator categories (revenues, employment or number of collaborative platforms) there are as many as five **frontrunners,** leaders in terms of performance in that sector or indicator category. The performance of those countries is two or more times the EU-28 average. In the **UK**, **Latvia** and **Estonia**, for example, the business environment in general is quite conducive. Countries where the government has recognised the importance of the collaborative economy and taken steps to remove market barriers are in a favourable position to develop the collaborative economy (**Czech Republic**, **France**). At the same time, there are central or local governments that are more concerned when it comes to the collaborative economy, for example, **Germany** or **Italy**. Some governments have decided to remain neutral, although the business environment within the country is already relatively positive towards the collaborative economy (**Netherlands**, **Finland**). In places where the government is rather neutral and the business environment is not as

encouraging, the collaborative economy (**Bulgaria**, **Slovenia**) seems to be developing at a slower rate.

Countries that are performing above average typically have more than one collaborative economy sector that is performing well. Estonia and Slovakia have three above average collaborative economy sectors, whereas France, Latvia, Luxembourg, Czech Republic and Poland have two. Although the Netherlands only has one, it shows average development in all three of its other collaborative economy sectors.

In the **accommodation** sector, the market is largely dominated by Airbnb (U.S. origin), which claims the top spot in terms of revenues (2016: EUR 4.5 billion in the EU-28) and leaves fewer opportunities for domestic platforms. The **Transport** sector is predominantly local and has not yet found its full power – Uber, BlaBlaCar (France) and Taxify (Estonia) are expanding and testing EU target markets, and already have very large operations in some Member States, but have not yet established their markets in many of them (mainly due to the unclear regulatory framework in many Member States). The **finance** sector, despite its international characteristics, is also surprisingly local, with only a few platforms offering their services internationally (Funding Circle (UK), Ulule (France), Bondora (Estonia), Twino and Mintos (both in Latvia). The **online skills** sector is highly diverse, due to the variety of services offered, and includes significant growth potential – as more people get used to online services and as the popularity of online skills platforms grows.

In total, there are **651 platforms** identified as collaborative domestic platforms in the transport, accommodation, finance and online skills sectors. In addition to the platforms originating in the EU and operating in Member States, there are **42 internationally operating platforms** originating from outside the EU (mainly from the United States) and operating in international markets. Approximately 95% of collaborative platforms are for-profit – their transactions are reward based. Not-for-profit platforms were included in the study, but excluded from data analysis).



There are 51 (less than 1% of all collaborative platforms in scope) **EU-origin collaborative platforms** operating in more than one Member State (15 in transport, 10 in accommodation, 13 in online skills, and 13 in the finance sector). The most well-known international platforms in the transport sector are Delivery Hero and Foodora (both from Germany), Takeaway (Netherlands), Deliveroo and JustEat (both from the UK), BlaBlaCar (France) and Taxify (Estonia). In accommodation, the most well-known platforms are Wimdu (Germany) and HomeStay (Ireland). Funding Circle (UK), Ulule (France), Bondora (Estonia), Twino and Mintos (both from Latvia) represent the finance sector. Internationally operating EU-origin platforms in the online skills sector are rather small in terms of their scale and size, and often operate in a maximum of one to three target countries. At the same time, the big international players (i.e. Uber, Airbnb, UberEats, Kickstarter, Indiegogo and others) generate roughly EUR 10 billion (about 40%) out of the total EU-28 collaborative economy revenue in Member States (Airbnb only generates about EUR 4.5 billion in the EU-28).

INTRODUCTION

The general **aim of the study** was to measure and compare the current level of development of the collaborative economy in the EU at the Member State and sectoral levels. The study was carried out between March and December 2017. It was divided into three stages: the development of indicators to measure the development of the collaborative economy, data collection and analysis and, finally, synthesised analysis and presentation of the assessment framework. The assessment framework identifies differences in collaborative economy developments across Member States as well as improves awareness of the overall development of the collaborative economy in the EU.

The **scope of the study** was to cover:

- the collaborative economy in the EU;
- the collaborative economy in all EU Member States (EU-28);
- the collaborative economy in the transport, accommodation, finance and online skills sectors (including on-demand household services and on-demand professional services);

The **definition of collaborative economy** is based on the European Commission Communication published in June 2016:[3]

> *The term 'collaborative economy refers to 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. The collaborative economy involves three categories of actors: (i) service providers who share assets, resources, time and/or skills — these can be private individuals offering services on an occasional basis ('peers') or service providers acting in their professional capacity ('professional services providers'); (ii) users of these; and (iii) intermediaries that connect — via an online platform — providers with users and that facilitate transactions between them ('collaborative platforms'). Collaborative economy transactions generally do not involve a change of ownership and can be carried out for profit or not-for-profit.*

Following the definition, business models meeting the criteria listed below were included in the study:

- There are three parties in business transactions – the service provider, the online platform and the customer;
- The service provider offers access to goods, services or resources on a temporary basis;
- The goods, services or resources offered by the service provider are otherwise unused;
- The goods, services and resources are offered with or without compensation (i.e. for profit or non-profit/sharing)

[3] A European Agenda for the Collaborative Economy, European Commission, 2016, available at: http://ec.europa.eu/DocsRoom/documents/16881/attachments/2/translations

Based on the definition above, the study covered the following platforms:

- Transaction relation: peer-to-peer (P2P) and peer-to-business (P2B) online platforms;
- For-profit and not-for-profit online platforms.

This definition **excludes platforms** where traditional products and services are offered for sale – eBay, Amazon or Netflix – as well as platforms where companies, such as professional car rental services, are offering/selling these goods and services as their core business and/or they conduct business under a professional license. Also, platforms offering regulated professional services are out of the scope of this study, as they are not considered to be part of the collaborative economy.

There are some **mixed online platforms**, where both businesses (licenced and non-licenced) and private individuals offer their services. The study **excluded** those mixed platforms that only offer a small share of their activities under a collaborative economy model (i.e. Booking.com). However, those platforms where the majority of transactions follow a collaborative economy business model (e.g. Airbnb) or which are generally considered to be part of the collaborative economy and/or retain a significant number of private individuals, such as service providers, even if they also include licensed/professional service providers (e.g. UberX), **were included**.

A number of other studies have attempted to provide insight into the collaborative economy developments in the EU (i.e. PWC 2015,[4] VVA 2017,[5] CEPS reports[6]). The results of the current study are not directly comparable with these other studies. The main reason is that the definition of collaborative economy has been interpreted differently in each study, the studies have covered different types and numbers of platforms, while different terminology (i.e. in the finance sector 'market size' vs 'volume' or 'transactions' vs 'platform revenues') and methodologies have been used. Therefore, comparisons with previous studies must be made with due scepticism.

This final report consists of five chapters and an executive summary in English. The **first chapter** describes the methodology used in the study: how the platforms have been mapped and the set of indicators defined, how data has been collected and analysed, and how the framework to assess the economic development of the collaborative economy in the EU has been developed. The **second chapter** presents the main results of the study and an assessment on the level of economic development of the collaborative economy on the EU level. The **third chapter** describes the results and assessment of development on the Member State level, and in the **fourth chapter**, all 28 county profiles are presented. The country profiles describe the results of the study as well as discuss the drivers for development of the collaborative economy in each Member State. The **last chapter** presents the main findings and policy implications resulting from the study.

[4] PWC, Assessing the size and presents of the collaborative economy in Europe (2016): http://ec.europa.eu/growth/single-market/services/collaborative-economy_en;

[5] VVA, Milieu, GFK, Exploratory Study of consumer issues in peer-to-peer platform markets (2015): http://ec.europa.eu/newsroom/just/item-detail.cfm?&item_id=77704

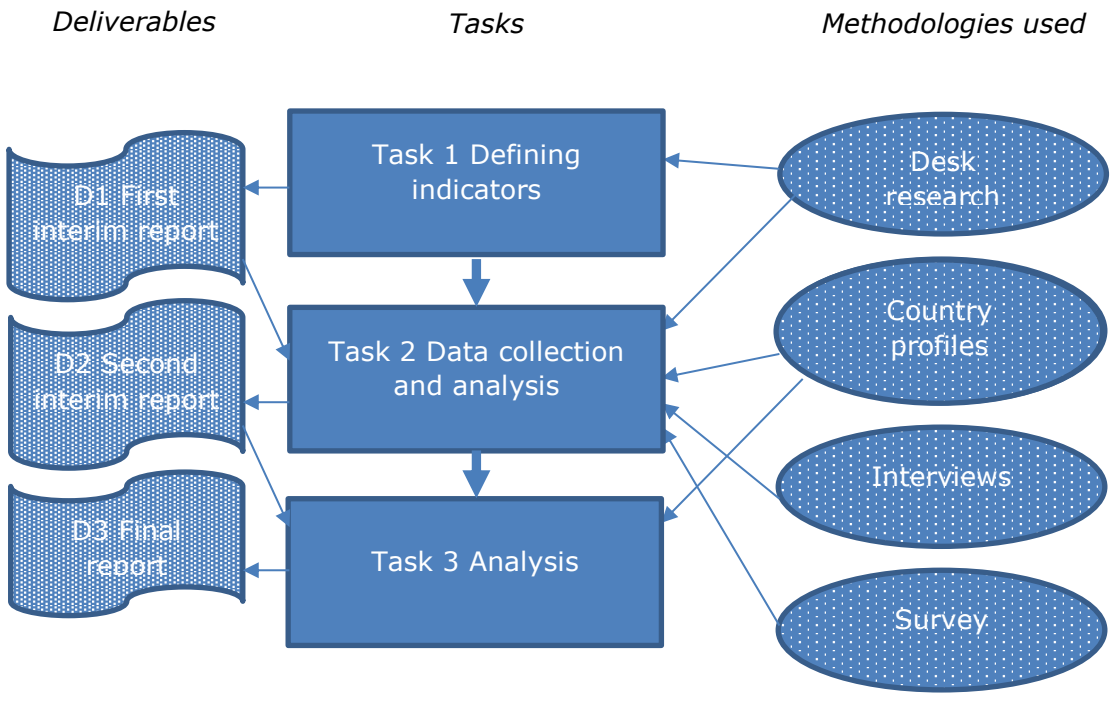
[6] CEPS (Centre for European Policy Studies), The Impact of collaborative economy on labour market (2016): https://www.ceps.eu/publications/impact-collaborative-economy-labour-market; CEPS, Impact of digitalisation an the on-demand economy on labour markets and the consequences for employment and industrial relations (2017): https://www.ceps.eu/publications/impact-digitalisation-and-demand-economy-labour-markets-and-consequences-employment-and

1. METHODOLOGY OF THE STUDY

The overall approach was based on the understanding of the fundamental goal of this study, which was to assess developments in the collaborative economy at the EU Member State and sector levels. The assessment covers three levels (collaborative platform, country, and EU) and four sectors (transport, accommodation, finance and online skills), which presented a challenge when it came to developing indicators and compiling data. This complexity required the use of various methodologies to cover the following aspects (see methodological framework in Figure 1):

- Indicators to measure development of the collaborative economy had to cover all three levels – platform, country and the EU;
- The data had to be available and collection possible for all three levels (company, country and EU);
- It had to be possible to distinguish collaborative platforms by their country of origin – either national or international;
- It had to be possible to distinguish data collected by sectors – transport, accommodation, finance and online skills;
- Indicators and the data collected had to describe all four sectors, which are very different in their characteristics.

Figure 1 Methodological framework of the study



To address the objectives of the study, three main tasks were designed:

- **Task 1 Defining indicators**, where indicators describing the collaborative economy were identified. The aim was to develop at least eight indicators, out of which two had to be measurable on the sectoral as well as Member State level. The initial plan was for indicators to be quantitative; however, due to a lack of data, qualitative indicators were also considered.
- **Task 2 Data collection and analysis** where the data for the indicators identified during Task 1 was assembled. The focus was on quantitative data, although additional data was also used to compile complementary qualitative indicators.

- **Task 3 Analysis** of the indicators and data collected during Task 1 and Task 2. The analysis resulted in the description of collaborative economy developments in the EU. In addition, 28 country profiles of EU Member States were produced.

1.1 Identifying indicators

The study started with the mapping of collaborative economy platforms, stakeholders and data sources in Member States using desk research – available literature and studies in Member States as well as on the sectoral and EU level from publicly available sources was screened. An initial list of collaborative platforms across sectors and Member States was developed. This was followed by developing indicators for measuring the development of the collaborative economy on the sectoral and country levels.

A long list of economic indicators, used to assess the economic development of the collaborative economy in the EU at the sectoral and the Member State levels, was defined and examined. The assessment of the economic development of the collaborative economy relied on the selected indicators. The indicators were selected so that they could also complement the Single Market Scoreboard.[7] Possibilities for measuring the economic activity in the collaborative economy, in both a direct manner (direct indicators) as well as an in indirect manner (indirect indicators), was investigated:

- **Direct indicators** – measure the volumes of the economic activity itself, i.e. economic activity resulting from the transactions on the collaborative platform and/or the collaborative platform itself.
- **Indirect indicators** – measure the volumes of the economic activity on collaborative platforms through proxy indicators on economic activity, i.e. information that could indirectly indicate the volumes of economic activity in the sectors of the collaborative economy.

The framework of selected indicators is presented in Table 1. A more detailed description of direct and indirect indicators is presented in Annex 2.

Table 1 Indicators describing economic activity of collaborative economy

Economic activity of the collaborative economy	
Direct indicators	**Indirect indicators**
1. Revenue	6. Number of collaborative platforms
2. Employment	7. Number of customers from and outside of the country
3. Labour productivity	8. Number of service providers from and outside of the country
4. Cross-border trade	9. Number of transactions per year
5. Investments into collaborative platforms	10. Number of website visitors

1.2 Data collection

Data collection focused on gathering **indicator components and other sector specific data** – there are several key indicator components, which can be used to calculate direct and indirect economic indicators (e.g. average time spent per provider to provide services, fee per transaction to the platform, average transaction value, etc.) Further sectoral data was collected to calculate indicators or the components thereof (e.g.

[7] http://ec.europa.eu/internal_market/scoreboard/performance_overview/index_en.htm

average price per guest per ride, number of deliveries made, average number of bookings per year, etc.) through the study.

Indicators were also selected and collected to describe the enabling environment for the collaborative economy, to further understand how much economic activity could potentially take place in the sectors. These **enabling factors** or proxies are not linked to the activity of collaborative platforms per se but facilitate and enable the development and use of collaborative platforms. These include, e.g. Internet access and mobile Internet use. Data collection was available through Eurostat.

In the second stage, data was collected through a survey of platforms, desk research and web scraping.

Data collection was started by launching an **online survey** for collaborative platforms. The online survey was used to collect primary information on collaborative platform data, such as the revenues of platforms and service providers, employment, investments, the number of investors, the number of platform customers, etc., and to compare that to the information gathered during desk research. The survey was designed and launched by using the software Surveygizmo.[8] The survey was sent out to all 1 012 mapped platforms, including for-profit and non-profit, as well as international platforms (the final list of collaborative platforms included in the study is presented in **Annex 1**).[9] Main data collection took place during July and October 2017 (see **Table 2**).

Table 2 Summary of survey results

	Number of recipients	Date of launching 2017	Date of closing 2017	Number of full responses	Number of partial responses
Main survey	1 012[10]	20 July	29 August	36	70
Shortened survey	976	30 August	31 October	28	39
Total				**64**	**108[11]**

After refining the list of platforms mapped, **web scraping** was used to collect further information about platform website traffic. The biggest advantage of web scraping was that it allowed for the gathering of harmonised information on the web traffic trends of most of the identified online platforms in each Member State. Web scraping covered country-specific websites of international collaborative platforms, where available (e.g. Airbnb.be, Airbnb.nl, etc.). However, this also meant that if a platform did not have a country-specific website, country specific website traffic data was not available, and estimation techniques (see methodology in Section 1) had to be used.

After assessing different options and software available, SimilarWeb[12] was selected for collecting information about platform usage and web traffic. Compared to other available data sources (such as, for example, Google Trends Data), the data from

8 https://www.surveygizmo.com/

9 These 1 012 platforms included the multiplication of international platforms in each Member State, as well as platforms not within the scope, and non-profit platforms. After double checking all platforms against the scope of the study and eliminating duplications, data on 651 platforms was collected and analysed.

10 Initially, we identified 1 012 collaborative platforms involved in the survey. During the study, a number of platforms were eliminated due to the duplication of platforms or the elimination of non-profit or out of scope platforms. Finally, there were 651 platforms on the list of the study.

11 The low rate of responses is mainly explained by the unwillingness of platforms to share their financial data – platforms do not want their data in hands of their competitors. This was a major issue in smaller markets, but also with internationally performing bigger platforms.

12 Digital market intelligence and website traffic: https://www.similarweb.com/ourdata

SimilarWeb covers different access points (e.g. Google or direct traffic), including traffic brought by apps. This was an important criterion, as larger platforms in particular generate a significant amount of traffic via apps and direct web sites visits.

SimilarWeb was used to collect information on:

- Number of website visits between May 2017 and July 2017
- Number of monthly website visits in July 2017
- Number of unique monthly visitors in July 2017

It is worth noting that the relatively short time frame was used in order to gain an understanding of the most recent developments. The data was used not to analyse the growth of the sector but to fill out data gaps for platforms where no original data could be found. Using a longer time frame (and with that older data) would have undervalued the platforms with the quickest growth in the market, which for our purposes would not have been optimal.

The level of automatization available was minimal and the task resulted in labour-intensive data collection activity. Web scraping data was available for 1 733 out of the 2 133 (82%) platforms screened[13].

1.3 Data analysis

In order to calculate the economic developments of the collaborative economy in Member States and on the sectoral level, we used data on platform and service provider **revenues and employment** as well as the number of **web visitors to platforms**. Other data collected was clearly not sufficient to be used for calculations. However, we were able to gain insights into investments only on the qualitative level.

Investments could be calculated and presented only on the sectoral level.[14] This is because the data on platform investments was either reported by collaborative platforms themselves, via the platform survey, or collected via crunchbase.com[15] or owler.com[16], as it was assumed that all larger collaborative platforms with significant investments into the platform would be listed on crunchbase.com or owler.com. As a result of having to rely on these data sources, the allocation of investments between countries in which the collaborative platform was operating was not possible. The level of platform investment was therefore attributed in full to the country of origin of each collaborative platform. This means that investment data is indicative only at the sectoral level and only for EU-origin collaborative for-profit platforms, not the international ones.

Labour productivity calculations were attempted using the revenues and employment numbers of platforms. However, both of these are only partially estimated, which would eventually make any labour productivity calculations too unreliable. Therefore, the focus was placed on estimating only sectoral revenues and employment, both for collaborative platforms and service providers.

Primary data, i.e. data collected during platform surveys, desk research and web scraping was first used for **estimating direct economic indicators** as it was the most reliable data available. To address the gaps in the primary data, several estimation techniques and a set of assumptions for each key direct indicator (i.e. revenue and employment) had to be relied on. Secondary sources, such as sector studies and reports provided by platforms themselves, or Eurostat data, were used to complement the calculations. In

13 Including EU and non-EU origin platforms by country, where platforms have registered their website.
14 On average, data about investments into platforms were either reported or found via desk research for less than 40% of countries.
15 https://www.crunchbase.com
16 https://www.owler.com

addition, web scraping data on total web visits in the last three months (May – July 2017) for each of the identified platforms was utilised. Further detailed modifications were made to account for sector specific variations. The result was an overall approach that was consistently applied to all sectors in estimating revenues and employment at the Member State and sectoral levels (see Annex 5 for a detailed methodology description).

The main features of the methodology used in the data analysis included the following:

1. All sectors used **website traffic data** (i.e. total web visits from May – July 2017) for the extrapolation of existing results on revenues for collaborative platforms without revenue data. In the case of extrapolation, it was assumed that there is a correlation between the number of web visits to a platform and its revenues.
2. All sectors used **estimated and reported platform revenue data** to split up total revenues into platform revenues and service provider revenues. In accommodation (see Annex 5) the overall revenues were calculated first and then split using platform fee rates. In other sectors, platform revenues were estimated first and then platform fee rates were used to estimate service provider revenues.
3. **Reported or estimated platform employment data** (from the survey or desk research such as LinkedIn.com, cruchbase.com or the web pages of platforms) was used to derive platform employment estimates for the Member States – i.e. website traffic was not used to estimate missing platform employment numbers, as there is no direct correlation between website traffic and platform employment.
4. On the basis of the estimated **revenues of service providers**, the number of persons employed by service providers was estimated using sector-specific approaches (see Annex 5), as the nature and availability of secondary data (i.e. other provided studies and reports, websites) varied between sectors (e.g. more reliable primary data could be collected for transport, whereas the secondary data was less robust).
5. The final calculations for the two main indicators (i.e. revenues and employment) were adjusted by **sector-specific approaches**. A sector-specific approach was needed, as the nature and availability of secondary data (i.e. other provided studies and reports, websites) varied between sectors (e.g. Airbnb as market leader in accommodation in Europe produced several city reports and EU level secondary data; however, in the transport, finance and online skills sectors such information was not available).
6. All estimated revenues and employment results **were weighted with the national income level** in order to keep the result comparable across Member States. GDP per capita was used to weigh revenues, and turnover per person employed in each sector of the collaborative economy was used to weight employment by service providers.
7. All **not-for-profit platforms were included** in the scope of the study (and survey); however, as their transactions are not for profit (i.e. no economic transaction, no payment for services), they were **excluded from the revenue calculations**.
8. For **internationally operating platforms** a share of their revenues in the country of operation was calculated when data was available.

Tables 3 and 4 present the overall approach of estimating revenues and employment for sectors (both for platforms and service providers). Detailed description of calculations per sector is presented in **Annex 5**.

Table 3 Calculation of revenues and number of persons employed

Activity	Calculation
Step 1: Calculating ratio how much revenues one web visit can generate	Based on the primary data, a ratio between reported revenues and number of web visits (May – July 2017) was calculated: $$Ratio = \frac{Reported\ platforms' revenues}{Number\ of\ corresponding\ platforms' web\ visits}$$ In order to also account for national income levels at the EU level, the reported revenues included in the calculation of the ratio were weighted with national sectoral GDP per capita. The resulting ratio was used to calculate revenues for platforms with missing data.
Calculate revenues for platforms with missing data	In order to calculate revenues for platforms with missing data the ratio calculated in step 1 was used. In order to calculate a platform's revenues, the ratio was multiplied with the number of web visits to a platform and weighted with national GDP per capita: $$ratio = ratio\ x\ number\ of\ platform's\ web\ visits\ x\ GDP\ per\ capita$$ When calculating the ratio between reported revenues and the number of web visits, outliers were excluded (i.e. platforms with reported revenues, but where the revenue, number of platform employees and number of web visits didn't make sense. As an example: there was reported revenue of EUR 1 000 while the platform had 10 employees and 50 000 website visits). Similarly, in the transport sector, the revenues of Uber were not used in the calculation of the ratio, as Uber generates much higher revenues per user than other platforms in the transport sharing economy. Including Uber, therefore, would have skewed the ratio unduly. Nevertheless, the ratio includes platforms with similar business models and lower revenue. As the revenue per customer will be higher in countries with higher GDP the calculated ratio was adjusted relative to national income levels. In the accommodation sector in Step 1 a price coefficient was calculated as the local Airbnb price/ EU weighted average price per night.
Step 2: **Calculating platform total revenues**	Summing up the revenues of platforms (reported and estimated) an estimated size of platform revenues in the EU was calculated.
Step 3: Calculating service provider revenue	As only a very low level of the revenues of service providers was reported, estimation techniques were used. For extrapolation, based on the revenues of platforms calculated per Member State, we assumed that about 85% of platform revenue goes to the service provider (88% in accommodation). In order to calculate the service providers' revenue, we used the formula: $$Service\ provider\ revenues = \frac{Member\ State\ total\ platform\ revenues}{0{,}15} x 0{,}85$$

Activity	Calculation
Step 4: Calculating total EU revenues	By summing up the revenues of platforms and service providers, an estimated size of collaborative financing in the EU was calculated.
Step 5: Turnover per person employed in sector	In order to calculate the number of persons employed by service providers, only the transport sector could rely on reported data. For calculation, a similar technique to employment for platforms was applied. In other sectors, as employment by service providers was reported only for a select few platforms, we used the top-down approach for extrapolation. The closest NACE codes[17] EU turnover per person employed in the sector was used (extracted from Eurostat). As relevant data for the finance sector (NACE K64) was missing, we calculated the turnover per person employed in the finance sector using the formula: $$turnover\ per\ person\ employed = \frac{\text{sector GDP}}{finance\ sector\ employment}$$
Step 6: Calculating the number of persons employed by platforms	In the case of platform employment, we used primary data, where we summed up platform employment as reported by platforms themselves via a survey, or by finding an indication of the number of people employed by a platform on the platform website itself or on the LinkedIn and Crunchbase websites. This approach worked very well for domestic platforms. For international platforms, we used LinkedIn (and filtered by country) or directly reported estimates by the platforms themselves. To fill-in missing information on platform employment, we made a few assumptions. In the case of domestic platforms that did not report any employment data, the employment was set to 1 person employed, as one can assume that it requires, on average, at least 1 person to keep the website running. For smaller websites, maintenance of the website might require less than 1 full time employee, but for larger platforms this might be more. Hence, this estimate is probably on the conservative side. In the case of European platforms operating in several EU Member States, 1 person employed was assumed in the country of origin of the platform, if no employment figures were reported or found on the platform's website. For international platforms originating outside the EU, no platform employment was assumed if reported data per Member State was lacking, as it is likely that these non-EU based platforms do not have local offices in the EU (except for Airbnb or Uber). In order to estimate the number of persons employed for missing platforms we created a linkage between the platform's reported revenues and the number of employees, in order to understand how much average revenue one employee is able to generate annually.

[17] The closest NACE codes for which all data was available were: accommodation: I55.2 (Holiday and other short-stay accommodation); finance: K64 (Financial service activities, except insurance and pension funding); online skills: M (Professional, scientific and technical activities), N (Administrative and support service activities) and S95.2 (Repair of personal and household goods).

Activity	Calculation
	For linking the reported number of employees with reported revenues, the ratio was calculated: $$Average\ revenue\ generated = \frac{Platforms' reported\ revenues}{Number\ of\ employees\ reported}$$
Calculate employment for platforms with missing data	In order to calculate employment for platforms with missing data, a correlation between the calculated ratio and the platform's revenue was used. In order to calculate the platform's employment, the platform's revenue is divided by the ratio: $$Platform's\ employment = \frac{Platform's\ revenue}{Ratio}$$ An estimate of platform employment was derived by summing up information for each platform for each Member State.
Step 7: Calculating the number of service providers' persons employed	Depending on the sector, service providers' revenues were reported for only a few platforms. In sectors where the reported number of platforms was too low to rely on (accommodation, finance and online skills) Member State level extrapolation was used. In the transport sector, calculations were performed on the basis of reported data. A similar linkage, as was used in calculating a platform's employment, was made (see Annex 5). In order to calculate the number of service persons employed by service providers, the assumption was made that the level of employment was linked with the revenues of service providers. For calculation, the revenue of the country's service providers was divided by the sector's average turnover per persons employed (using the average of the closest NACE codes): $$\frac{Number\ of\ service\ providers' persons\ employed}{service\ providers' revenue\ MS1} = \frac{}{Sector's\ turnover\ per\ persons\ employed\ MS1}$$
Step 8: Calculating total number of persons employed in collaborative economy in the EU	By summing up the number of persons employed by platforms and service providers, the estimated employment of the collaborative economy in the EU was calculated:

The main limitation of this approach is related to estimations of platform employment. The estimations were based on assumptions for missing employment figures for specific platforms, especially the non-EU based ones; however, these cannot be validated. The information found via the survey and the websites of platforms, as well as the use of LinkedIn and Crunchbase.com, provides a relatively good indication of the level of employment for these platforms in each Member State, and as such, the estimate should be relatively robust.

In the case of service providers' employment, an estimation based on secondary data was used in all sectors. In transport, the collected data and the bespoke estimates on the international platforms were used; however, the estimation for the remaining platforms

was based on the same approach as in the other sectors[18]. A lack of primary data on the number of persons employed by service providers meant that estimates had to be used. Also, employment by service providers is not directly linked with platform revenues or employment, which meant that additional (external) data sources had to be sought. Therefore, Eurostat data on the average turnover per employee in the closest possible NACE sector (see below for specification) was used to estimate employment by service providers from the estimated revenues.

The main challenge of the study was to obtain a sufficient level of data. Several data collection techniques were used, such as desk research, surveys of platforms and web scraping. Nevertheless, during the study and on the basis of the data collected, it became clear that the **projection of economic development of the collaborative economy cannot be calculated** due to the lack of comparable data from 2014 and 2015.

Finally, when crosschecking the calculated indicators, the results were compared with secondary data sources. The aim was to make sure the results of the study are reasonable and comparable at the EU level. However, it must be kept in mind that different studies and reports use different terminology and have a different scope; therefore, the comparison was done with some reservations (see also Chapter 3).

1.4 Assessment of development of the collaborative economy in the EU

Another aim of the study was to assess the economic development of the collaborative economy in EU. The assessment relied on the indicators developed and calculated during the study. In addition, to describe development of the collaborative economy, enabling factors were included. Assessment was only based on **quantitative measurable indicators** and data collected during the study. As a result of the data collection, data on **revenues, employment and the number of platforms** was sufficient to be used for assessment.

Data concerning investments in the collaborative economy proved very difficult to find. Furthermore, the data includes many inconsistencies, which makes it virtually impossible to use for any meaningful comparisons between Members States, or the estimation of investment volumes at the European level. Hence, it has not been used in the analyses presented in this report. Furthermore, this indicator makes sense only on the sector level and for platforms originating in the EU, as all investment (irrespective of where it comes from) is attributed to the country of origin of that platform.

Similarly, the lack of primary data on the revenues and employment of platforms required the use of estimation techniques, making the calculation of actual labour productivity vague. In particular, difficulty is encountered in the case of international platforms as they can still generate revenue in a certain Member State while not necessarily having any employees in that Member State. Since the indicators on the level of investments and labour productivity showed only partial results on the actual economic activity of

[18] In the transport sector both a similar top down approach, based on wages of taxi drivers, and a bottom up approach, based on available data, was used to estimate employment by service providers. Overall, the bottom up approach brought more convincing results. Work patterns and wages in the collaborative economy differ from those in the taxi industry and the top down estimate of service provider employment is therefore likely to be too low to be realistic. The overall estimate for the sector based on top down results would be lower than the reported number of drivers from Uber alone. For example, the traditional taxi sector in Germany generates significantly higher employment than Uber; therefore, using the statistics on traditional taxi drivers for the collaborative economy estimations would have generated unrealistic results.

collaborative platforms in the Member States, they were taken out of the assessment framework.

The assessment methodology follows the rationale of the Single Market Scoreboard[19]:

- for assessment, the Single Market Scoreboard categorisation was used – above average, average and below average;
- for defining the range of 'average' Single Market Scoreboard, a methodology of a +/-10 percentage points approach was applied.

In addition, the assessment methodology follows the following principles:

- Data for revenues, employment and platforms originate from the results of data analysis; data for enabling factors are taken from Eurostat;
- All collaborative economy indicators were weighted against the key economic indicators (GDP, employment, population) on the Member State or sectoral level (Eurostat). This allowed for the assessment of the economic development of the collaborative economy compared to the sectoral economic and employment development of the country.

For assessment of development of the collaborative economy in the EU, the steps described in **Table 4** were taken.

Table 4 Developing the assessment methodology

Step	Aim	Activity
1	**Identifying quantitative measurable indicators**	In the first stage of the study an indicator framework of eight indicators was developed. During data collection, sufficient data was collected for revenues and employment – these indicators are included into the assessment methodology. In addition, the number of platforms, as a measurable indirect indicator, is also included into the assessment. No other quantitative and measurable indicators out of the eight indicators identified could be used, as there was no data available or the data was not sufficient to present reliable results. For enabling factors describing the level of digitalisation and people's mind set in Member States, the following Eurostat data (all 2016 data) was used: 1) the number of households with Internet access (source: http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=isoc_ci_in_h&lang=en); 2) the level of Internet use by individuals (source: http://ec.europa.eu/eurostat/data/database); 3) the level of individuals using mobile devices to access the Internet on the move (source: http://ec.europa.eu/eurostat/data/database); 4) the level of individuals having ordered/bought goods or services for private use over the Internet in the last three months (source: http://ec.europa.eu/eurostat/data/database). In order to calculate the share of the collaborative economy in the overall economy, the following Eurostat data was used (all 2016 data): • EU-28 national GDP at market prices (source: http://ec.europa.eu/eurostat/data/database);

19 http://ec.europa.eu/internal_market/scoreboard/performance_overview/index_en.htm

Step	Aim	Activity
		• EU-28 employment (source: http://ec.europa.eu/eurostat/data/database); • EU-28 structural business statistics on sectoral GDP and the number of persons employed in the following NACE code sectors (as the closest NACE codes data was available): transport: H49 (Other passenger land transport); I55.2 (Holiday and other short-stay accommodation); finance: K64 (Financial service activities, except insurance and pension funding); online skills: M (Professional, scientific and technical activities), N (Administrative and support service activities) and S95.2 (Repair of personal and household goods) (source: http://ec.europa.eu/eurostat/data/database?p_p_id=NavTreeportletprod_WAR_NavTreeportletprod_INSTANCE_nPqeVbPXRmWQ&p_p_lifecycle=0&p_p_state=normal&p_p_mode=view&p_p_col_id=column-2&p_p_col_count=1) • EU-28 population as of 1 January 2017 (source: http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=tps00001&plugin=1).
2	**Calculating shares of collaborative economy in national economy**	**Revenues**: share of total revenue generated by collaborative platforms to national GDP on the Member State level was calculated: $$\%\text{ in GDP} = \frac{total\ revenue\ MS1}{GDP\ MS1} x\ 100$$ The result shows the level of penetration of the collaborative economy in the national economy. The higher the share, the higher the penetration. **Employment**[20]: the share of persons employed in the collaborative economy in national total employment on the Member State level was calculated: $$\%\text{ in employment} = \frac{Total\ collaborative\ employment\ MS1}{Total\ employment\ MS1} x\ 100$$ The higher the share, the more important collaborative employment is. **Number of platforms**: the number of collaborative platforms per 1 million residents at the Member State level was calculated: $$\text{number of platforms per 1 million residents} = \frac{1}{\frac{total\ population/100\ 000}{number\ of\ platorms}}$$ The result shows how many platforms are operating in the country per 1 million residents. **The level of households with Internet access**: % of individuals aged 16 to 74 **The level of Internet use by individuals**: % of individuals aged 16 to 74 **The level of individuals using mobile devices to access the Internet on the move**: % of individuals aged 16 to 74

[20] In comparison, Eurostat employment statistics were used, as it was the closest category in which data was fully available on NACE codes' level. Ideally, we would rather have used categories of 'number of persons employed' or 'working age population', as we believe these better represent the potential for collaborative economy employment; however, sectoral level data for these categories was not sufficiently available.

Step	Aim	Activity
		The level of individuals having ordered/bought goods or services for private use over the Internet in the last three months: % of individuals aged 16 to 74 The result shows people's habits for purchasing goods through e-commerce – it also shows people's mind sets and readiness for potentially using services through collaborative platforms
3	**Calculating shares of the collaborative economy in the respective traditional economy sector in Member States**	In order to understand the share of the collaborative economy in traditional sector's economy the proportion of revenues and number of persons employed in the collaborative economy as a share of the respective traditional economy sector was calculated. **Revenues**: the share of total sectoral revenue generated by collaborative platforms to national sectoral GDP on the Member State level was calculated: $$\%\text{ in sector's GDP} = \frac{total\ sectoral\ revenue}{sector's\ GDP} x\ 100$$ The result shows the level of penetration of the collaborative economy in a particular sector of the national economy. The higher the share, the higher the penetration. **Employment**: the share of persons employed in the collaborative economy into national total employment on the Member State level was calculated: $$\%\text{ in employment} = \frac{Total\ collaborative\ employment}{Total\ employment} x\ 100$$ The higher the share, the more important collaborative employment is.
4	**Developing categorisa-tion of countries**	In order to assess the level of development of the collaborative economy in Member States, three categories were used: above average, average, and below average. A simple EU average was calculated for revenues as a share of GDP, collaborative employment as a share of total employment and the average number of platforms per Member State, following the same equation: $$\text{average} = \frac{Total\ \ value}{Number\ of\ units}$$

<table>
<tr><th>Step</th><th>Aim</th><th>Activity</th></tr>
<tr><td>4</td><td></td><td>The 10 percentage points were calculated separately for each indicator:
<table>
<tr><th></th><th>Above average</th><th>Average</th><th>Below average</th></tr>
<tr><td>Revenues</td><td>0.224+0.1=0.307%</td><td>0.224%</td><td>0.224-0.1=0.107%</td></tr>
<tr><td>Employment*</td><td>0.183+0.05=0.209%</td><td>0.183%</td><td>0.183-0.05=0.109%</td></tr>
<tr><td>Number of platforms*</td><td>2.63+0.87=3.5</td><td>2.63</td><td>2.63-1.13=1.5</td></tr>
<tr><td>Household Internet access</td><td>83+10=93%</td><td>83%</td><td>83-10=73%</td></tr>
<tr><td>Internet use by individuals</td><td>81+10=91%</td><td>81%</td><td>81-10=71%</td></tr>
<tr><td>Individuals using mobile devices</td><td>60+10=70%</td><td>60%</td><td>60-10=50%</td></tr>
<tr><td>Purchasing goods/services over internet</td><td>40+10=50%</td><td>40%</td><td>40-10=30%</td></tr>
</table>
* for employment, to balance the results of categorisation, a step of 5 percentage points was calculated as a 10 percentage point step was too big – the majority of countries would fall under ‘below average’.

* we applied the closest meaningful range of the number of platforms around the average: as the average is 2.63, the range between 1.5 and 3.5 as average gives reasonable numbers of categorisation.</td></tr>
</table>

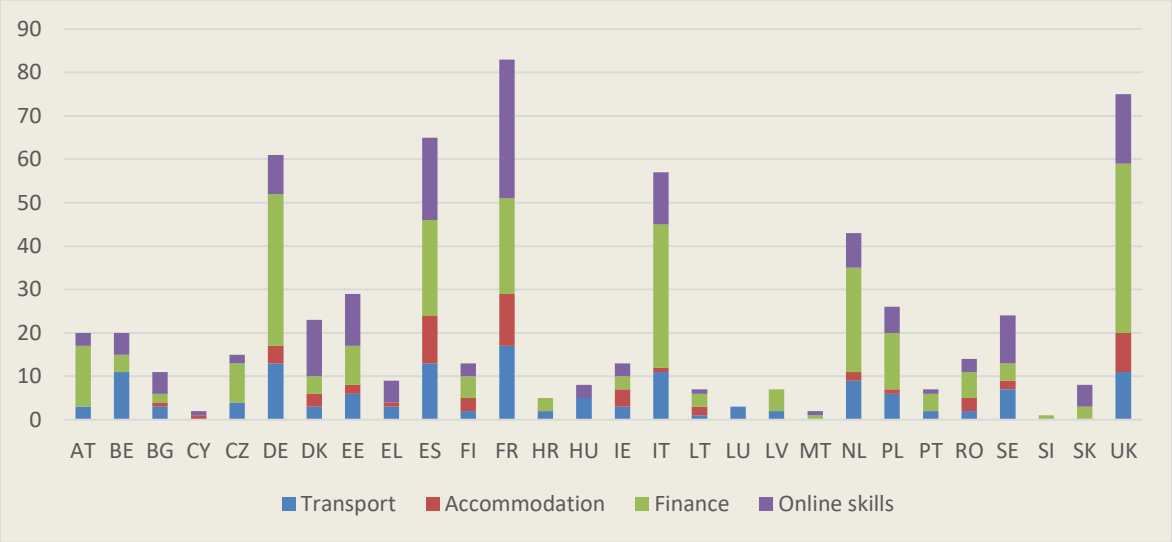
2. ASSESSMENT OF THE ECONOMIC DEVELOPMENT OF THE COLLABORATIVE ECONOMY IN THE EU

2.1 Current level of economic development of the collaborative economy in the EU

This chapter presents the main results about the current state of play of the collaborative economy in the EU and its Member States. The data analysis involved 651 collaborative economy domestic platforms in the transport, accommodation, finance and online skills sectors, originating from the 28 Member States. This number should not be taken as fixed, as the evidence shows that new collaborative economy platforms are being created, while some cease to exist over time. In addition to the platforms originating in the EU and operating in Member States, there were 42 internationally operating platforms originating from outside the EU (mainly from the United States) and operating in international markets. For some of these, data was available and distributed across Member States; however, certain platforms were not taken into account in the study results due to a lack of available data or the very minor share of the platform in the collaborative economy or their limited role in the EU market.

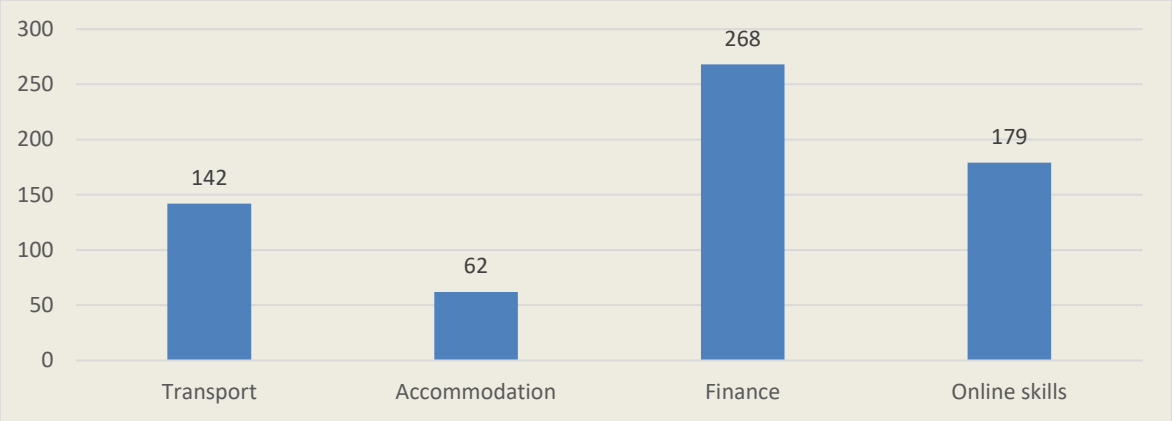
Figure 2 and Figure 3 describe the number of collaborative economy platforms in EU Member States in 2017. A total of 651 for-profit platforms were identified during the study. The figures below present the total number of platforms in each country per each sector. The results show a high level of activity by collaborative platforms in France, UK, Germany, Spain, and Italy, with a rather modest level of activity by collaborative platforms in Malta, Cyprus, Slovenia, and Luxembourg. Most platforms operated in the finance sector (268), followed by the online skills sector (179) and the transport sector (142). Fewer domestic platforms operated in the accommodation sector (62), which could be explained by Airbnb's significant dominance in all Member States.

Figure 2 Domestic collaborative economy platforms in Member States (2017)



Source: authors' data collection

Figure 3 Domestic collaborative economy for-profit platforms in the EU-28 by sector (2017)



Source: authors' data collection

For the accommodation sector, there were a total of 69 unique collaborative accommodation platforms operating in the EU (profit and non-profit/ cost-sharing platforms), out of which 62 were of EU origin. In the transport sector, there were 142 domestic platforms, with six platforms originating from outside EU. Among all platforms in the transport sector, 21 were identified as not-for-profit platforms. In the finance sector, there were 276 platforms, out of which 271 are domestic and five are originating from outside EU (mainly the United States). In the finance sector, 28 platforms are not-for-profit, mainly donating or penetrating social or environmental impact. In online skills, there were a total of 204 platforms operating, 179 of which were of EU origin and 25 from outside the EU (mainly U.S. origin), with only 11 platforms being not-for-profit. The list of platforms (for-profit, domestic and international) and their country of origin can be found in Annex 1.

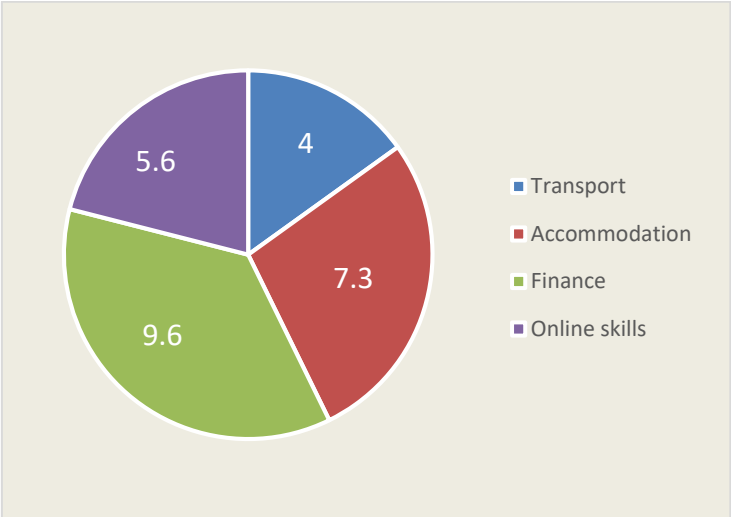
There are at least 51 EU origin collaborative platforms operating internationally[21] (15 in transport, 10 in accommodation, 13 in online skills, and 13 in the finance sector). The best known internationally operating platforms are in the transport sector: Delivery Hero and Foodora (Germany), Takeaway (Netherlands), Deliveroo and JustEat (UK), Blablacar (France) and Taxify (Estonia). In accommodation, the best known platforms are Wimdu (Germany) and HomeStay (Ireland). Funding Circle (UK), Ulule (France), Bondora (Estonia), and Twino and Mintos (Latvia) represent the finance sector. Internationally operating EU-origin platforms in the online skills sector are rather small in terms of their scale and size, and operate in a maximum of one to three target countries. Furthermore, roughly EUR 10 billion out of total EU-28 collaborative economy revenue is generated by non-EU origin platforms in Member States.

Overall, the **market size** of the collaborative economy **in the EU** was estimated at the level of **EUR 26.5 billion** (see Figure 4). The collaborative platforms facilitated revenues of EUR 3.8 billion, while service providers contributed EUR 22.7 billion. The largest share of revenues, EUR 9.6 billion, was generated in the finance sector, followed by the accommodation sector with EUR 7.3 billion, the online skills sector with EUR 5.6 billion, and the transport sector with EUR 4 billion. The large share of volumes in the finance sector was due to the large number of active platforms in the sector (271) as well as the nature of the sector – the primary goal of platforms is to raise funds. However, only an

[21] The list of internationally operating EU origin collaborative platforms may not be exhaustive as they do not always advertise their target markets, which makes it difficult to distinguish between markets.

average of 15% of transaction values are taken by the platform (see Figure 6). In the accommodation sector the market was largely dominated by Airbnb (U.S. origin), which left fewer opportunities for domestic platforms. In the transport and online skills sectors the services were rather local, and domestic platforms were small, especially in online skills; however, both sectors had internationally operating platforms generating high revenues. More specifically, well-known transport platforms, like Uber (USA), Taxify (Estonia), BlaBlaCar (France), Ubereats (USA), Deliveroo (UK), Takeaway (Netherlands) and JustEat (UK), or online skills platforms, like Pawshake (USA) and care.com (USA), accounted for a relatively large share of the market in Member States.

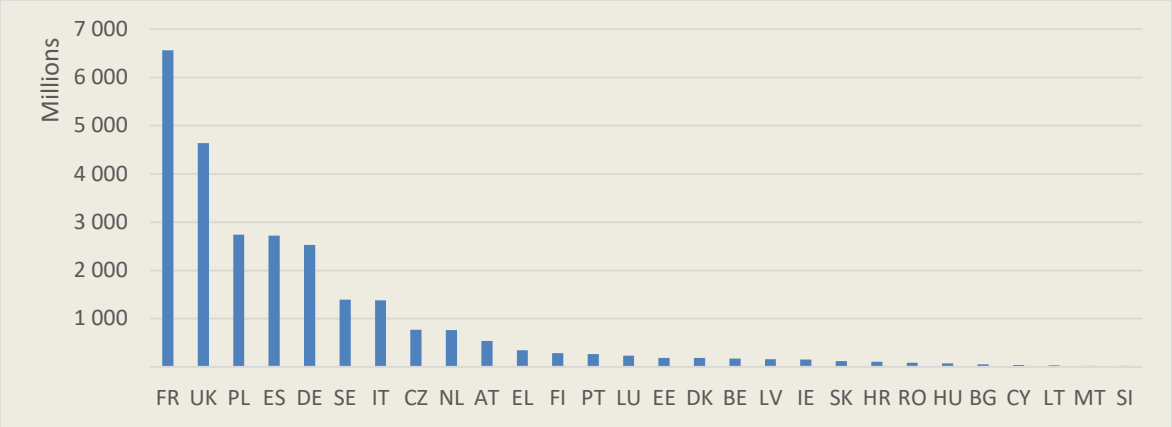
Figure 4 Estimated collaborative market revenue in the EU-28 in 2016 by sectors (EUR billion)



Source: authors' calculations

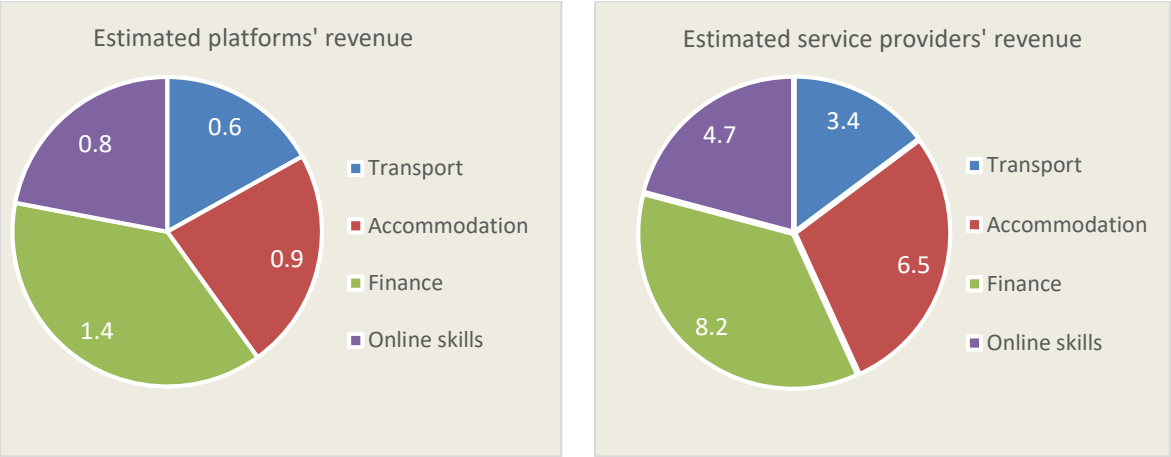
In absolute numbers, the collaborative economy in France enjoys the largest market share in the EU (EUR 6.6 billion), followed by the UK (EUR 4.6 billion), Spain (EUR 2.7 billion) and Poland (EUR 2.7 billion) (see Figure 5). The level of market revenues was the lowest in Lithuania (EUR 31.7 million), Malta (EUR 17.7 million) and Slovenia (EUR 17.4 million). In general, larger economies offer greater possibilities for domestic platforms as well as attract non-EU platforms to operate in the EU. At the same time, more than half of the Member States showed very modest performance in collaborative activity, which doesn't have to mean that the share of the collaborative economy in these markets was of low importance. A more detailed analysis and comparison of Member States is presented in Chapter 3.

Figure 5 Total collaborative market revenues in Member States in 2016 (EUR million)



Source: authors' calculations

Figure 6 Estimated platforms' and service providers' revenue in EU-28 in 2016 (EUR billion)

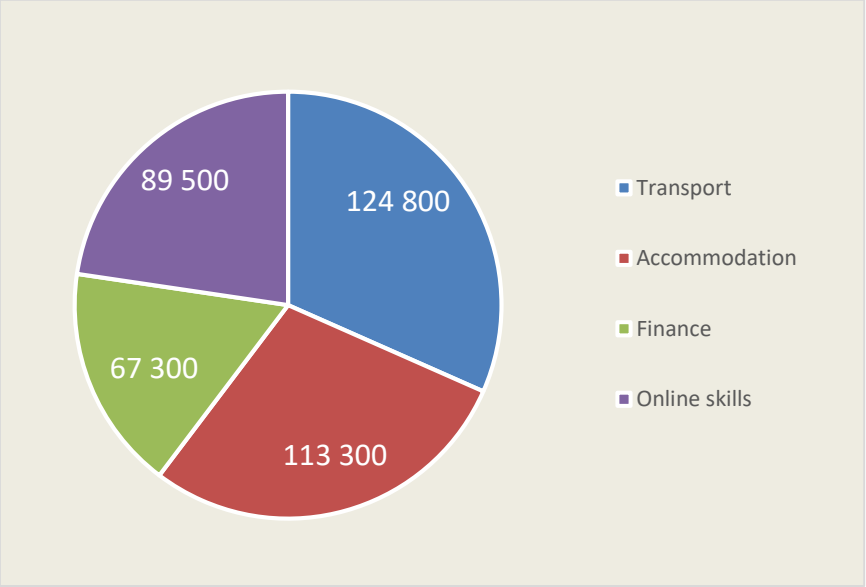


Source: authors' calculations

Estimated **employment** in the collaborative economy remained at a relatively modest level – accounting for 0.2% of total EU-28 employment.[22] The Figure 7 below presents the total number of people active in the collaborative economy (platforms and service providers) in Member States (394 915 employees). The collaborative economy offered the highest employment opportunity in the transport sector (124 800 persons employed) and the lowest in the finance sector (67 300 employees). Employment was also high in the accommodation sector (113 300 persons employed), although this number only included the employees of platforms and no employment by service providers (host). Also, in the finance sector, there is no reasonable interpretation of employment by service providers. In fact, peer lenders or investors (service providers in the finance sector), who provide financial means (generate revenues) via collaborative platforms to different groups of recipients, cannot be interpreted as being indirect employees of the collaborative platforms. Therefore, calculations in the collaborative finance sector on employment by service providers must be interpreted with caution.

[22] Eurostat 2016

Figure 7 Estimated number of persons employed in collaborative economy in EU-28 in 2016 by sectors



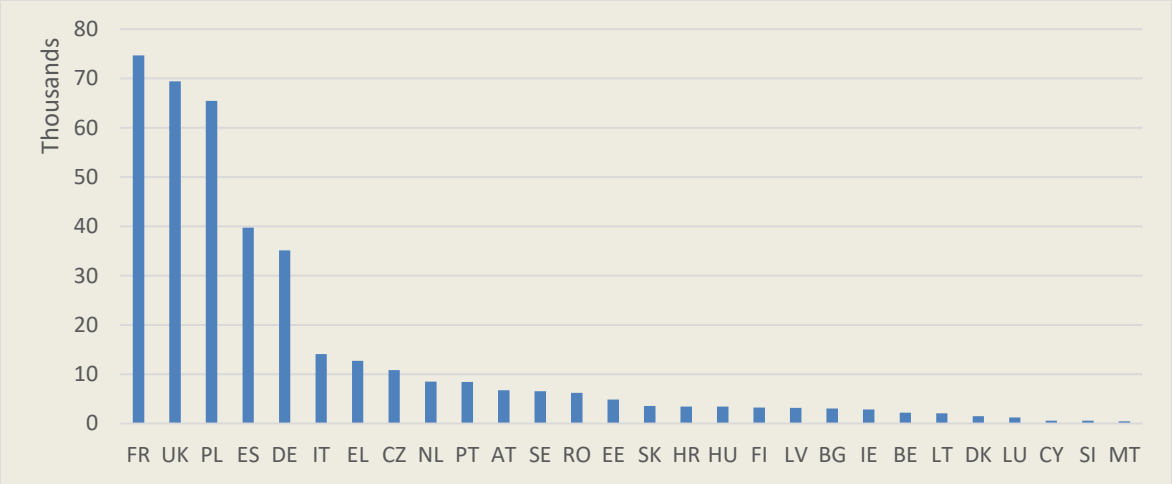
Source: authors' calculations

Also, the characteristics of employment by service providers varies a lot between sectors – while in the transport sector there are mainly drivers, who may or may not be employed by the platform or who are private persons offering services, than in the online skills sector, the service providers are definitely private persons[23] offering services outside of their professional activity. Finance sector service providers are private investors, who are not employed by the platform, neither are they counted as employers. Nevertheless, we interpret employment of service providers if they have, at least, to some extent, employment characteristics in their collaborative activities.

The Figure 8 presents collaborative employment in Member States. Similarly to market revenues, France had a leading role in collaborative employment with approx. 75 000 persons employed (platforms and service providers). The UK was the second largest market for collaborative employment (70 000 persons employed), followed by Poland (65 500) and Spain (40 000). Malta, Slovenia and Cyprus were the smallest collaborative economies, employing about 479, 574 and 588 employees, respectively. Similarly to the number of active platforms and revenues, the performance of the collaborative economy in the EU varied a lot, depending mainly on market size and the business environment (see Section 4).

[23] Private persons can offer their services as professionals, self-employed, freelancers, but outside of their professional activity (e.g. teacher can teach via collaborative platforms outside of his/her professional working hours)

Figure 8 Total number of persons employed in the collaborative economy in the EU-28 in 2016

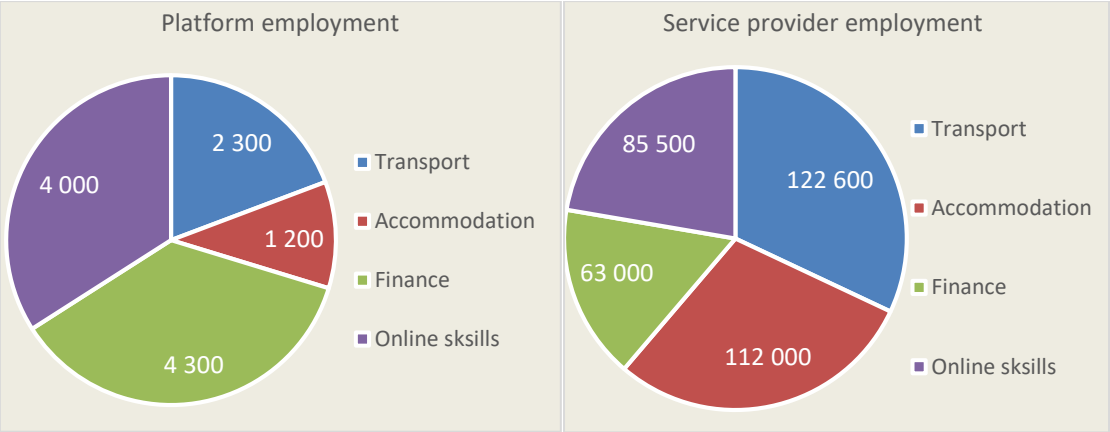


Source: authors' calculations

The total number of people active in the collaborative economy includes both persons employed by platforms and service providers. Figure 9 shows the distribution of persons employed between platforms and service providers by sector. The two diagrams reveal that the number of platform employees was not linked to the number of service providers, unlike in the case of estimated revenues. However, the highest number of employees among service providers (transport and accommodation) was registered in sectors that include big multinational companies like Uber, Taxify, BlaBlaCar and Airbnb. The case of Uber was particularly emblematic, since, with its 87 150 persons employed by service providers, it employed 70% of the total number of people active in the collaborative transport sector in the EU.

The figures for platform employment are instead more intuitive, where the sectors with the highest number of platform employees, which were finance and online skills, were also the ones with the highest estimated revenues and with the highest number of platforms.

Figure 9 Estimated number of persons employed by platforms and service providers in the EU-28 in 2016

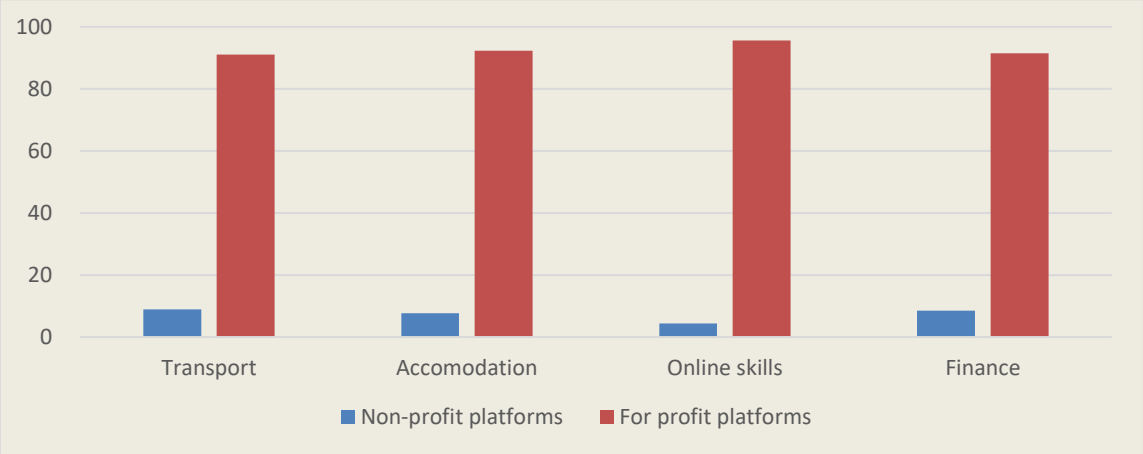


Source: authors' calculations

Collaborative economy platforms can offer goods, services or resources on a **for-profit** and **not-for-profit** basis. Figure 10 illustrates the share of for-profit and not-for-profit platforms in the different sectors. Not-for-profit platforms were registered in all sectors: representing 9% of all platforms operating in Member States in the transport sector, 8% in the accommodation and the finance sectors, and 4% in the online skills sector.

Not-for-profit platforms in the transport sector were mainly represented by ride and parking space sharing platforms, which connect individuals that want to share costs of fuel or parking rental, while in the accommodation sector not-for-profits are mainly platforms facilitating the rental and swapping of homes. In the finance sector, not-for-profit platforms operate mainly as donating platforms.

Figure 10 Share of for-profit and not-for-profit collaborative platforms by sector (%, 2016)



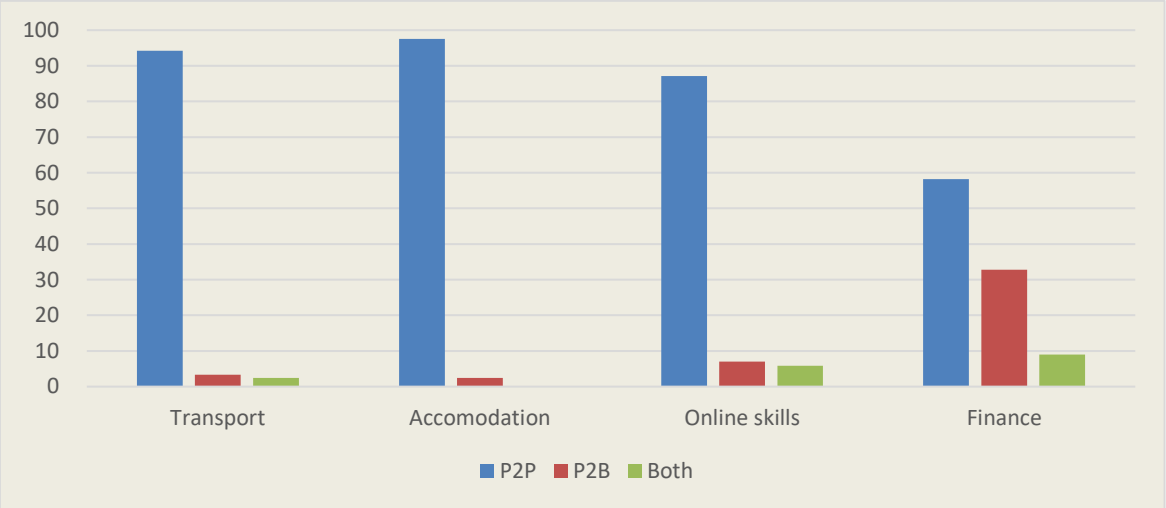
Source: authors' calculations

Collaborative economy platforms can also be distinguished between peer-to-peer (P2P) and peer-to-business (P2B) business models. P2P are services offered by a private individual to another private individual, while P2B are services provided by a private individual to a business unit.

Figure 11 presents the shares of P2P and P2B services provided in the transport, accommodation, finance and online skills sectors.

While P2P was the most diffused type of service provided in each sector, the finance sector offered the highest percentage of P2B services (33%), which consisted mainly of equity and debt funding. In the online skills sector, only 7% of platforms offered P2B services, which consisted mainly of education services for professionals and freelance professional services. The transport and accommodation sectors had a very low percentage of platforms offering P2B services (3% and 2%, respectively). P2B services in the accommodation sector consisted of home renting platforms, while in the transport sector P2B services ranged from food delivery for offices, to parking space rental and rides on demand.

Figure 11 Share of P2P and P2B business models used by sector (%, 2016)

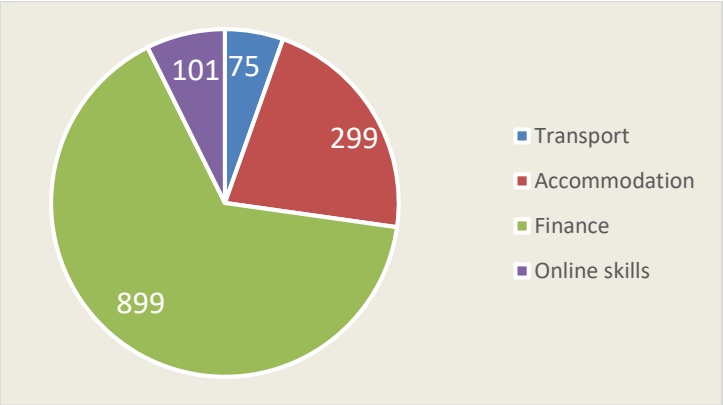


Source: authors' calculations

One of the indicators identified in this study was the level of **investments** in the platform. It allows for the value of funding that European collaborative platforms have been able to attract to be measured. This is of particular importance when it comes to examining whether there is a lack of investment in such business models and to identify the extent to which investments have been made into platforms operating in the EU. However, as the level of data collected on investments during the study was quite modest, we are unable to run the quantitative analysis regarding the level of investments – the results can only be interpreted on the sectoral level and not on the Member State level.

Figure 12 below shows the level of investments in platforms in 2016 in the EU. In total, EUR 1.4 billion has been invested in EU collaborative platforms. Investments include only EU platforms, international platforms with an origin other than that of the EU are excluded. Investments directed into the collaborative economy are the largest in the finance sector (EUR 899 million) with the accommodation sector at a significantly lower level (up to EUR 299 million invested in 2017). However, the transport and online skills sectors are much more modest, with EUR 101 million invested in online skills and EUR 75 million invested in transport. The investments into platforms have mainly been made for developing IT infrastructure. Also, as the majority of the collaborative platforms are start-ups, they are in the active development stage, which requires the involvement of investments.

Figure 12 Investments into collaborative economy platforms up to 2017 (EUR million)



Source: Crunchbase.com, platforms' websites

2.2 Assessment of the economic development of the collaborative economy in the EU

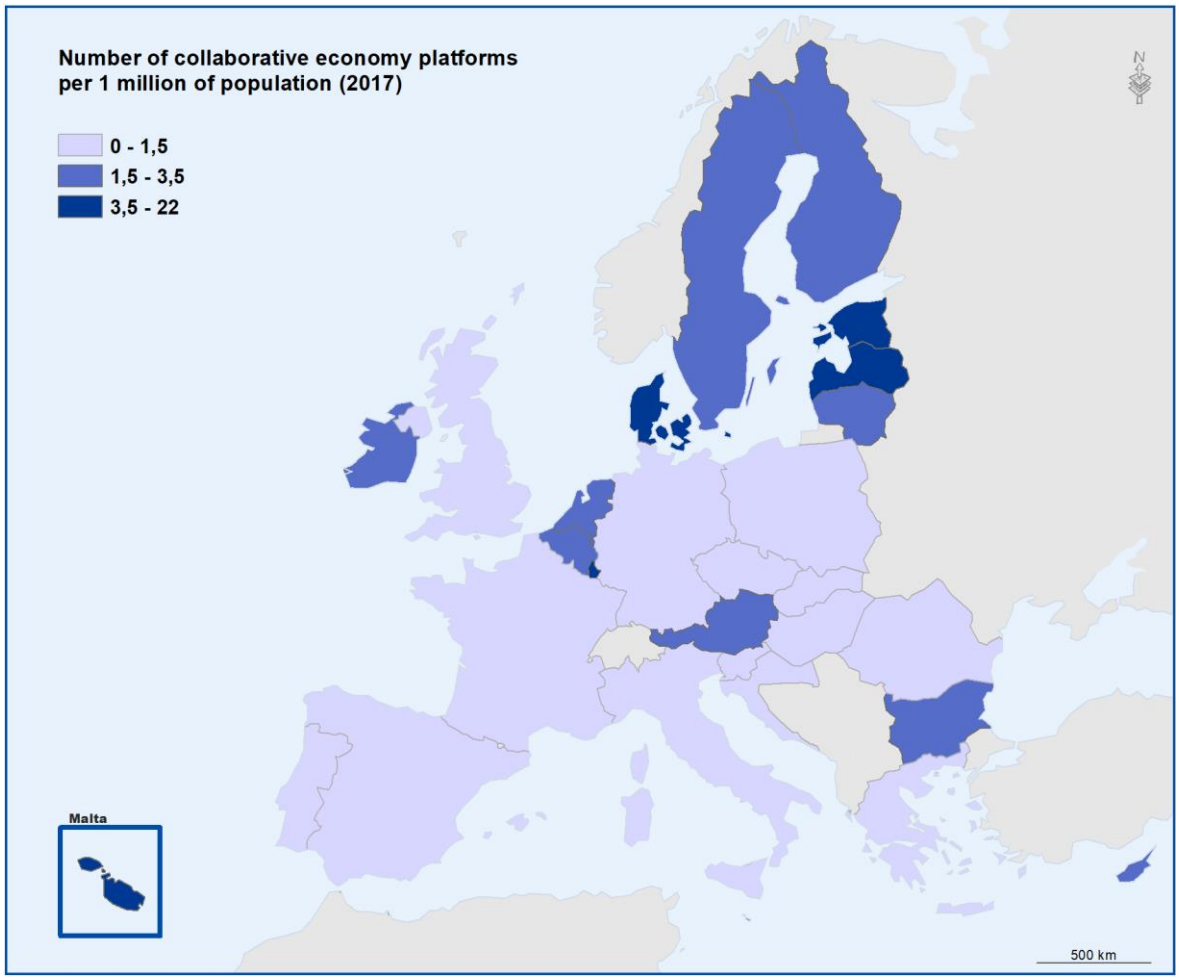
In order to assess the economic level of development of the collaborative economy, an assessment framework was developed. The framework is based on the indicators developed during the study and it enables the comparison of the development of the collaborative economy across Member States. This section discusses how the collaborative economy has developed across sectors as well as to the extent in which it impacts the traditional economy.

The number of collaborative economy platforms is not necessarily an indication of the volume of the collaborative economy or its impact on the economy or society. This is because collaborative economy business models are still in their emergent stage. This is one of the reasons that we are unable to assess any growth on the basis of the information available at this stage. The emergent stage of any new business model is typically represented by changes between a number of different competing variations, consolidation into fewer dominant business models and once again the emergence of new business models. Hence, until the dominant business models appear, and the business sector becomes more established, variations in the number of platforms and their sizes will be seen. The number of platforms should therefore not be regarded as an indicator of the development of collaborative economy business models, as such. Furthermore, it is not yet clear if the eventual established business sector will be dominated by one or two big international platforms or divided into several medium-sized and/or smaller domestic or even local platforms.

While changes in the number of platforms over a period can be used to illustrate the developments of the collaborative economy, the absolute number of platforms tells us very little. Hence, the number of platforms has not been used in the overall analysis. The number of platforms have been used in the sectoral analysis, but only as background information.

Instead, the number of collaborative platforms per million population in 2016 was used in the analysis, in order to assess the relative distribution of those platforms in comparison with the population in each Member States. The results of this analysis are presented in **Figure 13** and show that Estonia hosted 22 platforms per 1 million population, which was more than 4 times the average number of platforms in Europe (4.62). However, the EU average was strongly influenced by the high number of Estonian platforms. In fact, the median value, which was less influenced by the presence of outliers, was only 1.51. Moreover, the second country hosting the highest number of platforms compared to its population was Luxembourg, with only 5 platforms per million population.

Figure 13 Number of domestic collaborative platforms per 1 million population (2017)

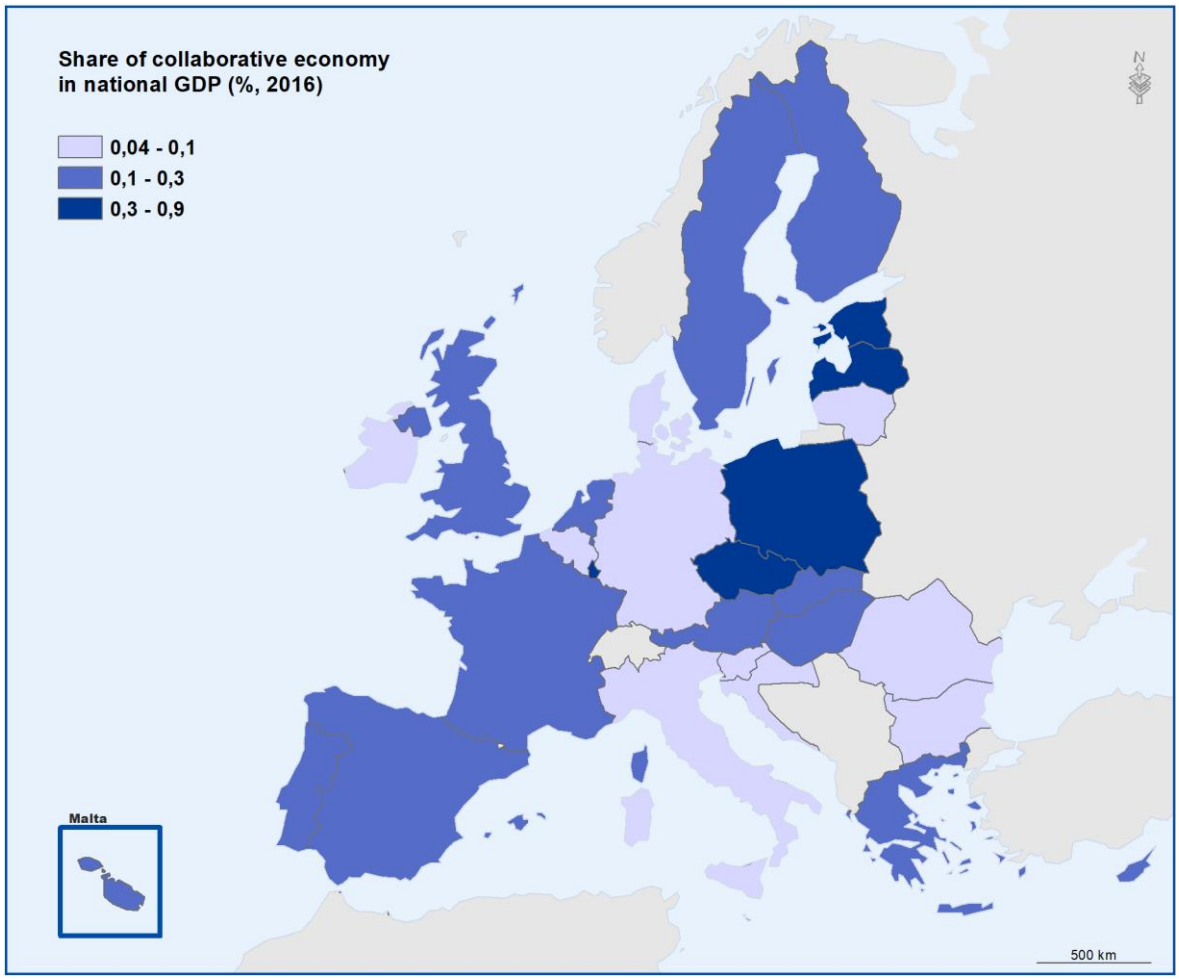


Source: authors' calculations

Figure 14 and Figure 15 below describe the level of development of collaborative economy in Member States. Figure 14 shows the share of the collaborative economy in national GDP and Figure 15 presents collaborative employment as the share of a country's total employment.

Results in Figure 14 confirm the high importance of the collaborative economy in Estonia, where it represented 0.88% of national GDP. Other countries consistently above average were Poland (0.64%), Latvia (0.63%), Luxembourg (0.44%) and the Czech Republic (0.43%). Romania (0.05%), Slovenia (0.04) and Belgium (0.04%) were the three European countries in which the collaborative economy contributed the least to national GDP.

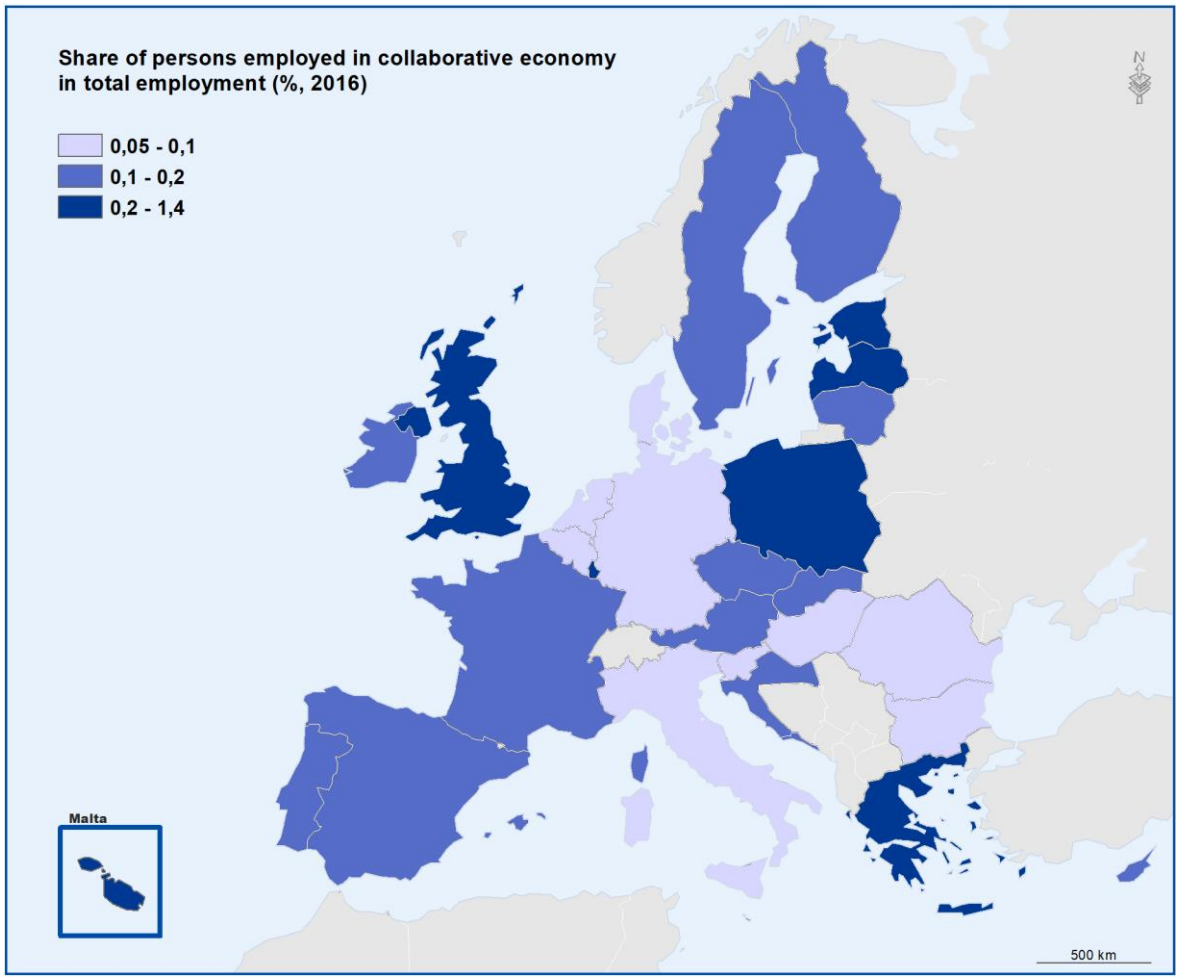
Figure 14 Share of collaborative economy in national GDP (%, 2016)



Source: authors' calculations

Figure 15 shows the share of persons employed in the collaborative economy over total employment in the corresponding sectors. As in the previous figure relative to GDP, Estonia also ranked first regarding the percentage of people employed in the collaborative economy when compared to total employment (with 0.74%), confirming the importance of this business model in the country. Estonia was followed by Luxembourg (0.45%) and Poland (0.39%), while the bottom three countries in the raking were Italy (0.06%), Denmark (0.05%) and Belgium (0.04%).

Figure 15 Share of persons employed in collaborative economy in total employment (%, 2016)



Source: authors' calculations

According to the assessment framework, Member States that performed **above the EU-28 average** in applying collaborative economy business models were **Estonia, Luxembourg, Latvia and Poland**. These were the countries with the highest share of collaborative economy revenues and employment. France and Spain also presented high figures in terms of collaborative economy revenue; however, figures in terms of collaborative economy employment were only average in these countries. The higher employment numbers could be explained by specific sectors, as discussed later in the report.

Other **average countries** included Austria, Cyprus, Greece, Spain, Portugal and the UK. While Ireland and Lithuania also ranked rather high in terms of collaborative economy employment, revenues from the collaborative economy remained below the EU-28 average. On the other hand, countries such as Finland, Hungary, Sweden and Slovakia performed at an average level in terms of revenue, but below average in terms of employment.

Countries **below average** in collaborative economy developments represented an interesting combination of large (Germany, Italy) and smaller (Belgium, Denmark, Netherlands) advanced Member States, as well as Southern and Eastern European countries (Bulgaria, Romania, and Slovenia).

Whether this could indicate that collaborative economy business models might represent a new mechanism for some less developed economies to catch up with the rest of Europe, remains to be seen. The volumes of collaborative economy business models were not yet high enough to allow such argumentation. Similarly, it is interesting to see that the adoption of collaborative business models in several more advanced Member States was only average or below average.

Countries performing above average typically had more than one collaborative economy sector that was above the EU-28 average. Estonia and Slovakia had three above average collaborative economy sectors, whereas France, Latvia, Luxembourg, Czech Republic and Poland had two. Even though the Netherlands has only one, it showed average development in all three other collaborative economy sectors.

Table 5 Performance of collaborative economy on sector level in Member States (% in sectoral GDP, 2016)

Country	Transport	Accommodation	Finance	Online skills
AT	0.005	0.988	0.027	0.001
BE	0.035	0.248	0.003	0
BG	0.006	2.941	0.006	0.003
CY	0	1.135	0	0
CZ	0.021	1.539	0.135	0.002
DE	0.005	0.439	0.019	0.001
DK	0.015	0.448	0.007	0.002
EE	0.117	0.443	0.219	0.035
EL	0.033	0.759	0	0.024
ES	0.013	0.712	0.017	0.020
FI	0.024	2.444	0.020	0.001
FR	0.061	0.718	0.038	0.009
HR	0.030	0.898	0.001	0
HU	0.019	0.891	0	0.001
IE*	0.015		0.004	0
IT	0.006	0.338	0.009	0.001
LT	0.037	0.887	0.014	0
LU*	0.001		0	0.019
LV	0.032	0.370	0.176	0
MT		0.037	0	0
NL	0.039	0.309	0.008	0.002
PL	0.027	0.267	0.023	0.145
PT	0.031	0.720	0.012	0.005
RO	0.028	0.505	0.004	0
SE	0.005	0.579	0.093	0
SI	0	1.579	0.001	0
SK	0.039	1.044	0.012	0.013
UK	0.064	0.345	0.019	0.001
EU-28 average	0.026	0.830	0.031	0.010

* GDP data on NACE I55.2 not available

Source: Authors' calculations

Greece and Latvia also exhibited above average performance in two sectors, which explains the higher number of persons employed compared to the other countries in the below average group.

Sector performance also reflects, to a certain extent, **national economic specialisation**. For example, the strong transport sector in the UK, the finance sector in Sweden, online skills in Spain and Slovakia, accommodation in Cyprus, etc. Specific development during recent years was also reflected in the sector comparison, e.g. financial market initiatives in Poland, real estate sector development in Spain, etc.

Country profiles in Chapter 4 may shed further insight into these kinds of developments and their impact on the adaptation of collaborative economy business models. However, it is safe to argue they have had, and will continue to have, an impact on overall developments at both the Member State and the European level. Sectoral developments are discussed in greater detail in Chapter 3.

The data available reflects a single year or time period (2016). Thus, it doesn't allow for the calculation of collaborative economy growth projections. However, the four enabling factors (level of household Internet access, level of Internet use by individuals, level of individuals using mobile devices to access the Internet on the move, and level of individuals having ordered/bought goods or services for private use over the Internet in the last three months) can, at least to some extent, be used to indicate the potential for collaborative economy growth in Europe – the higher the percentage of the population of enabling factors, the higher the potential for use of collaborative platforms. The indicators for Internet access and Internet use in general are factors that indicate access and the possibility to use web-based platforms for commercial purposes, including collaborative economy platforms. The indicators for bought on-line services, on the other hand, also indicate that people are ready to use Internet and web-based platforms for commercial purposes, i.e. buying and selling services. Nonetheless, these enabling factors do not reflect the level of development of the collaborative economy directly, but rather frame the business environment and indicate hypothetical potential for growth.

3. LEVEL OF DEVELOPMENT OF THE COLLABORATIVE ECONOMY ON THE SECTOR LEVEL

This chapter presents the main characteristics and results of data analysis on the sectoral level. Also an assessment of the level of economic development of the collaborative economy in Member States across sectors is presented.

3.1 Transport

Overview of the collaborative economy in the transport sector

Table 6 illustrates the characteristics of the five unique business models considered to be a part of the collaborative economy in the transport sector in this study.

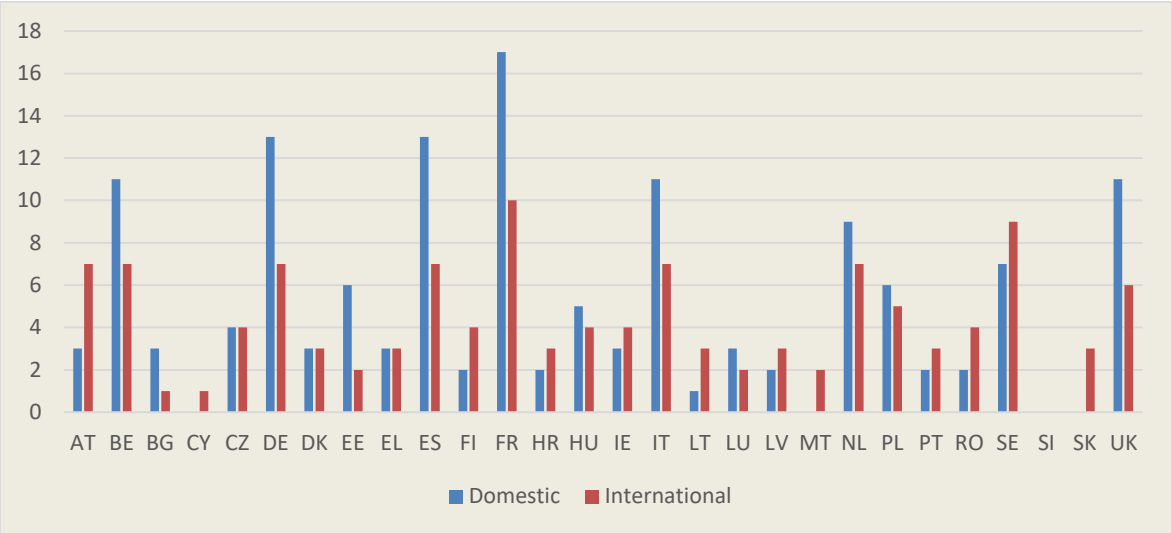
Table 6 Business models in transport sector

	Description	Assets	Parties to transaction		Activity			
		Cars	P2B	P2P	Rent	Share	Swap	Service
P2P Vehicle rental	for-profit (fee-based) transactions, where personal providers can rent out their cars and consumers can rent cars by subscribing to the car rental service on the platform (e.g. membership fee).	■		■	■			
Ridesharing	P2P and cost-sharing transactions (fee-based), where peers can share rides.	■		■		■		
Rides on demand	for-profit transactions (fee-based), where professionals or personal providers can offer to pick up peers that want to go to a specific place at a specific time or in other words, professionals or personal providers offering taxi services.	■		■				■
Parking spaces	private persons rent their parking space to someone while they are not using it themselves.			■	■			■
Delivery transport services	a private person offers their assets (time, vehicle) to deliver another individual's parcel from one location to another.	■		■				■

Source: authors' collection based on definition of collaborative economy

In the transport sector of the sharing economy, Germany recorded the highest number of collaborative domestic platforms. France, Spain, Italy, Belgium and the UK also hosted a high number of domestic platforms (see Figure 16). No domestic collaborative economy transport platforms were created in Cyprus, Slovenia and Slovakia. However, the lack of domestic platforms was somehow filled by the presence of international platforms (i.e. Carpool in Cyprus; Uber, BlaBlaCar and Taxify in Slovakia). Slovenia recorded neither domestic, nor international platforms in the transport sector of the sharing economy.

Figure 16 Breakdown of domestic platforms in the transport sector by country (2017)



Source: authors' data collection

Total **collaborative economy revenues in the transport sector in the EU-28 were estimated to be EUR 4 billion** (see Figure 17), out of which EUR 3.4 billion was service provider revenue. The highest total revenue was in the UK, with **EUR 1.8 billion** (45% of estimated revenues for the EU-28), followed by France (**EUR 1.1 billion**, 26% of estimated revenues for the EU-28). The country ranking third in terms of total revenue was Germany, but it did not generate the same economic impact as UK and France, with only EUR 171 million in estimated revenues. The main reason for this difference is the smaller representation of Uber in Germany (compared to France and the UK). It is also worth noting that in Germany some large car companies (eg. Daimler-Benz, BMW) provided car sharing services via subsidiaries (Car4you, Drivenow), but these services fell outside the scope of the study, as the respective assets (cars) are owned not by peers but by companies.

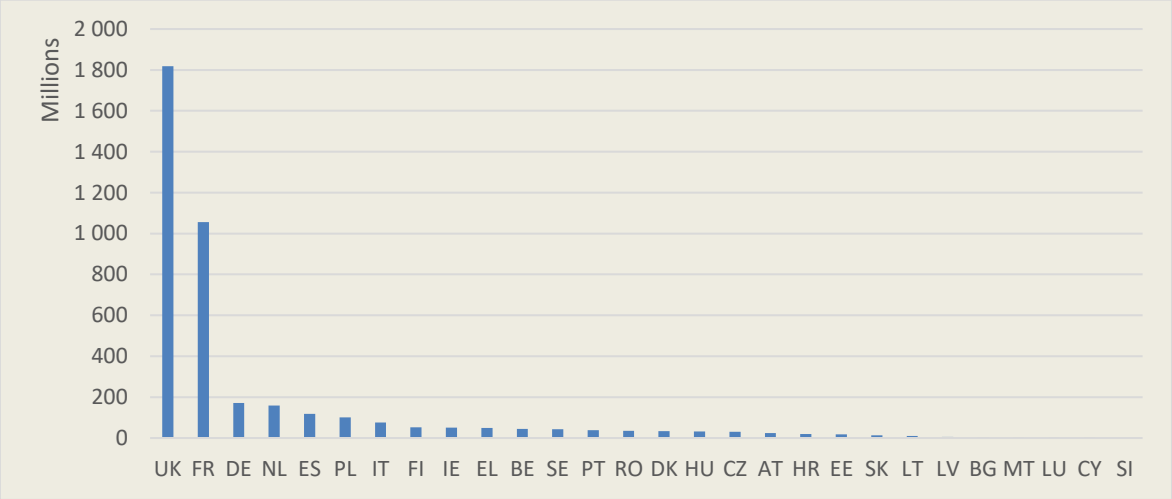
The UK was the leader in the transport sector of the collaborative economy with the highest revenues. One explanation for its strong position is the significant market position of some international platforms (i.e. Uber, Lyft), as well as the positive development of domestic platforms. Platforms such as JustPark, EasyCarClub, Nimber, Deliveroo or Liftshare were very popular at the national level.

In France, the transport sector of the collaborative economy had seen a positive development as well. Following the UK, France had the second highest share of the estimated revenues. Most of the revenues were generated by internationally operating platforms, such as BlaBlaCar and Uber. In addition, the regulatory framework in France allowed for the sharing economy to develop over the past few years; its Transport Code clearly defines ridesharing and car sharing, for which market access requirements were

low.[24][25] This has created a favourable environment for successful domestic platforms to emerge and for international platforms to operate in the country. In France, 17 domestic platforms were identified, out of which three operated internationally (BlaBlaCar, Heetch and Drivy).

Only not-for-profit collaborative platforms were identified in Slovenia for the transport sector, thus no revenue was estimated in Slovenia. Countries such as Cyprus, Luxembourg, Malta and Bulgaria generated very low revenues in the transport sector of the collaborative economy. Whereas the low revenues could be linked to the size of the population in Cyprus, Luxembourg and Malta, in Bulgaria these types of services had not yet generated an impact at the national level. Although in Bulgaria six domestic platforms were identified, these generated very low revenues.

Figure 17 Total collaborative economy transport revenue (EUR million, 2016)



Source: authors' calculations

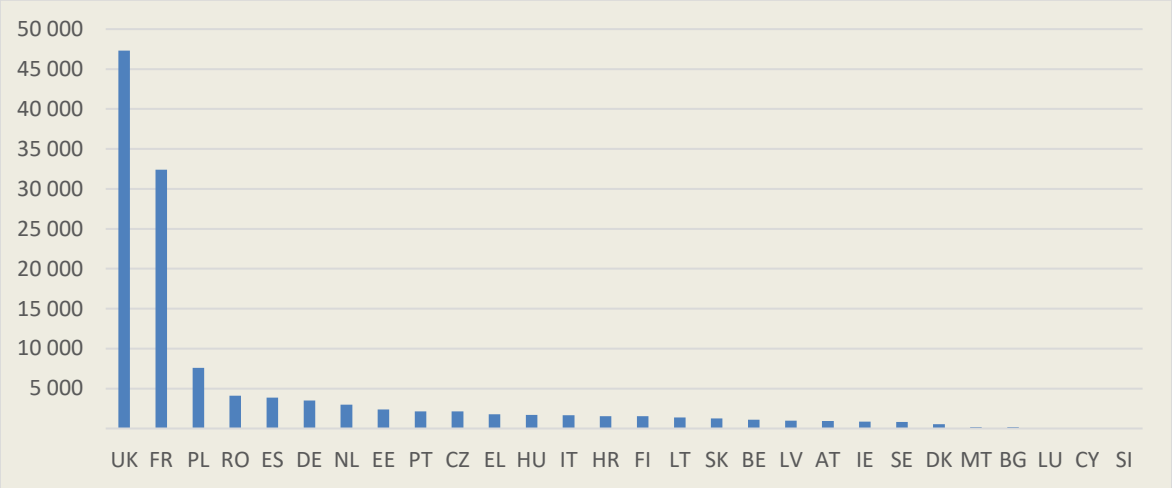
An estimated **125 000** people are employed in the transport sector of the collaborative economy (see Figure 18). A small minority of those people active in the sector were employed by platforms (around 2 200), the vast majority were peer providers providing their service for a variable number of hours per week. As most peer providers do not work full time, this means that the overall number of people active in the sector was even higher.

Of the total number of people active in the sector, the UK accounted for 38%, followed by France with 26% and Poland with 6%. One significant factor was the strong presence of international platforms, such as Uber and BlaBlaCar, which accounted for a considerable number of the persons active in the sector in France and the United Kingdom. By contrast, no persons active in the sector were estimated for Slovenia (due to the lack of platforms), whereas Cyprus, Luxembourg, Bulgaria and Malta registered a very limited number of persons active in the sector.

[24] Article L. 3132-1 of the French Transport Code defines ridesharing. Available at: https://www.legifrance.gouv.fr/affichCodeArticle.do?cidTexte=LEGITEXT000023086525&idArticle=LEGIARTI000031051569

[25] Article L. 1231-1-14 of the French Transport Code defines car sharing. Available at: https://www.legifrance.gouv.fr/affichCodeArticle.do?cidTexte=LEGITEXT000023086525&idArticle=LEGIARTI000028530315&dateTexte=&categorieLien=cid

Figure 18 Total number of people employed in the transport sector of the collaborative economy in the EU (2016)



Source: authors' calculations

Figure 18 reveals **high discrepancies** between EU Member States at the level of development of the sharing economy – around 72% of the total estimated revenues were produced by only two countries (France and UK) and 64% of persons active in the sector. The pace of development of the sharing economy differs across the EU due to various factors. One reason for this could be differences in regulatory systems and attitudes. Countries can have a low number of requirements for the traditional services that support the development of the collaborative economy (e.g. MiniCab services in the UK) or they can have a well-defined set of rules for some collaborative economy transport services (e.g. France, for car sharing and ridesharing) which provides legal clarity. In other Member States, the development of these business models either falls under traditional legislation (e.g. taxi) or operates in a "grey area" with a lack of any other laws (e.g. Romania, Bulgaria, Luxembourg). The level of income varies across the EU-28 and wage differences tend to be even higher in local services as transport services. This is also reflected in the transaction values (fees per ride) of domestic and international platforms operating in different countries. Similarly, international platforms, such as Uber, adapt the transaction fee to the economic reality of the country, in order to maintain their competitiveness on the respective market (e.g. the average trip fare in France is more than double the trip fare in Romania).

Access to financial support could also incentivise the development of domestic platforms (e.g. grant schemes, venture capital). Although scarce across the EU, support schemes such as Innovate UK[26] or the congress ShareBW[27] – organised by the German Länder of Baden-Württemberg and funded by the regional Ministry for Science, Research and Arts – can help with the development of innovative platforms at the national level. In Italy, the lack of venture capital had impeded domestic platforms from internationalising, thus the ecosystem of domestic platforms was very much concentrated at the national level.

Despite having a high number of domestic platforms in the transport sector and a few international platforms operating in the country, Germany did not generate high

[26] Innovate UK (2016), 'Funding competition: digital innovation in the sharing economy' accessed on 23rd August 2017 via https://www.gov.uk/government/publications/funding-competition-digital-innovation-in-the-sharing-economy/funding-competition-digital-innovation-in-the-sharing-economy

[27] Available at: www.sharebw.de

numbers of persons active in the sector or revenue, compared to other major economies (i.e. France, UK). As of 2016, Germany only had an estimated 3 485 people (3% of the estimated number for the EU-28) active in the sector, and revenues of EUR 171 million (4% of the estimated revenues for the EU-28). The relatively modest performance of the German P2P and P2B transport sector is due to the fact that Germany was Europe's leader in innovative B2C mobility services. B2C car-sharing platforms, such as DriveNow, Car2go or CiteeCar, were particularly popular in German cities. Moreover, the traditional taxi industry was very strong in Germany, and e-hailing apps, such as My Taxi, were widely used. Major platforms such as Uber and BlaBlaCar held a low market share compared to other EU countries.

In the case of other countries, the transport sector of the collaborative economy was **driven solely by international platforms**. In Romania, although some national platforms had emerged, these only had a minor impact on overall revenue and employment, and international platforms (Uber, BlaBlaCar and Taxify) enjoyed a significant market share. Similarly, in Slovakia no domestic platforms were identified, thus the collaborative transport sector was driven solely by international platforms (Uber, BlaBlaCar and Taxify). For the Romanian market, the presence of international platforms had increased the confidence of consumers in these types of platforms, hence the market was expected to grow in the foreseeable future. Due to the relatively strong entrepreneurship of the IT sector, additional domestic platforms are expected to emerge in Romania.

Some countries were too small for the transport sector of the collaborative economy to expand further. For example, Cyprus recorded the lowest revenues and employment in the transport sector (after Slovenia, where no platforms were identified). The size of the country is a determinant factor[28] in the development of the transport sector. The U.S. platform Carpool World was the sole operating platform in Cyprus. Similar considerations apply to Malta, where three transport platforms were operating (e.g. Bumalift), although with a rather limited impact on revenues and employment.

Another example is Luxembourg – a fairly small country with a majority rural population, which impeded the ability of platforms to reach a critical mass of users (i.e. in cities). This is also reflected in the fact that 3 out of the 4 domestic platforms identified in Luxembourg were ride-sharing models which operated outside cities. There seems to be more demand for long distance rides rather than short distance rides. Ride-sharing platforms were also widely used in Poland, where the transport sector generated considerable revenues (EUR 100 million). Out of the 11 platforms operating in the country, six had a ridesharing business model (including BlaBlaCar). The high presence of these types of platforms could also relate to more demand for long distance rides due to the high percentage of the population living in rural areas (40%).[29] At the city level, international platforms (e.g. Uber, Taxify) held most of the market share, as domestic platforms were missing.

Even though it is a small country, Estonia had a considerable number of persons active (2 370) and revenues (EUR 18 million) in the transport sector of the collaborative economy. The domestic platform, Taxify, and international platforms, such as Uber,

[28] The authors also considered a correlation between development of collaborative platforms and the number of passenger cars per 1 000 inhabitants in the country, but didn't find any reasonable correlation

[29] Eurostat. Available at: http://ec.europa.eu/eurostat/statistics-explained/index.php/File:Share_of_population_and_land_area_in_rural_Local_Administrative_Units_level_2_(LAU2),_OECD_and_new_typology.PNG

were widely used by consumers. Taxify was experiencing rapid growth and posed serious competition to Uber in some countries, as it had recently developed cross-border activities. Recent investments in Taxify (EUR 2 million) anticipated future growth in the transport sector of the collaborative economy in Estonia.

In comparison, the estimate in this study is significantly higher than the estimate from the DG Justice and Consumers (DG JUST) study (EUR 4 billion against EUR 1 billion).[30] The main reasons for this difference in estimates are methodological. The estimate in the DG JUST study was based on a consumer survey asking consumers about their spending on collaborative peer to peer services. In contrast, the estimates in this study are based on platform level data on revenues of collaborative platforms and their service providers. Larger platforms, like Uber or BlaBlaCar (constituting a dominant share of the estimated revenues), used providers from all levels of professionalism. Those differences in professionalism would be very hard to detect by consumers, and it is likely that a big part of the spending on larger platforms was not recorded by consumers in the DG JUST survey, as the organisation of the platform is highly professional and Uber or BlaBlaCar are an important and regular part of their consumption behaviour. Additionally, food transport platforms were included in the estimates of this study and they were not taken account of in the estimate for DG JUST. This means that the estimates are very different, but not necessarily inconsistent.

Assessment of the economic development of the transport sector of the collaborative economy

The **most advanced countries** in adapting collaborative business models in the transport sector, measured in relation to the size of the traditional transport sector, were Estonia, France and the UK, followed by Netherlands, Slovakia, Lithuania and Belgium. Comparing Member States' share of the transport sector of the collaborative economy in Europe to their contribution to the size of the overall taxi sector, it can be seen that in Hungary the transport sector of the collaborative economy was over eight times greater than the average, and in Estonia over six times greater. In the rest of the advanced countries in the transport sector, the collaborative economy was roughly 2-3 times the size of the EU-28 average (see Figure 19).

A main driver for **Estonia's** outstanding position and role in the transport sector can be found in the fact that one of Uber's main competitors in the European market, Taxify, originates from the Baltic country. Also, the legislative framework had been supportive of the transport sector.[31] In fact, Estonia was the first country that relaxed conditions to obtain an authorization to provide ride-sharing services (the passenger determines the destination) by adopting and incorporating relevant amendments into the Public Transport Act in 2017 (however, an authorisation is still required).[32]

The success of the **French** collaborative transport sector can, to a certain degree, be explained by the generally supportive regulatory and public attitude, as well as the unparalleled size of the entire collaborative economy. This assertion is supported by the evidence that increasingly intense synergies between 'traditional' companies and collaborative economy platforms could be noted. For instance, the French insurance

30 Exploratory study of consumer issues in peer-to-peer platform markets, DG Justice and Consumers, 2017, available at: http://ec.europa.eu/newsroom/just/item-detail.cfm?item_id=77704

31 http://www.err.ee/602145/riigikogu-vottis-vastu-nn-uberi-seaduse

32 Draft bill concerning the amendments to the Public Transportation Act, SE 188, Parliament of Estonia: https://www.riigikogu.ee/download/d7978395-ca72-4e85-9ba8-736336af3526/old

company MAIF had created partnerships with several platforms (e.g. BlaBlaCar), thereby not only enhancing their respective performance, but also trust in them.[33]

The transport sector in the **UK** stood out as the sector showing the highest maturity in the EU. There were some discussions about the presence of Uber, in London, that could limit further growth depending on the outcome, although the regulatory framework, in general, seemed to be supportive in the past.[34]

Latvia's position as one of the leading Member States in the transport sector was predominantly manifested in regulatory spheres. In fact, most legislative changes with regards to collaborative economies had been performed in the transport sector. Two cases that serve as evidence can be found in two court rulings, in which a Memorandum of Understanding, between the Ministry of Economics of the Republic of Latvia and the two most-known ridesharing companies within the industry, Uber and Taxify, was signed, ultimately culminating in a decision made in September 2017 to accommodate and legalise all forms of ridesharing whilst ensuring that taxes are paid.[35]

The reason for **Lithuania**'s above-average performance in the collaborative transport sector could be traced back to the significant importance of service providers within this sector, whose employment count was just short of 1 400 people. Furthermore, Vilnius was one of the fastest-growing and most promising markets for Uber, as the municipality and the platform signed a joint agreement to commence operations in 2015. This step, however, was only part of a bigger, and more elaborate strategy pursued by Lithuanian authorities. The government's initial support was expanded and is currently being amended into additional regulations that will allow drivers who are active in providing on-demand or ride-sharing services to continue to provide their services without any additional licensing requirements.[36]

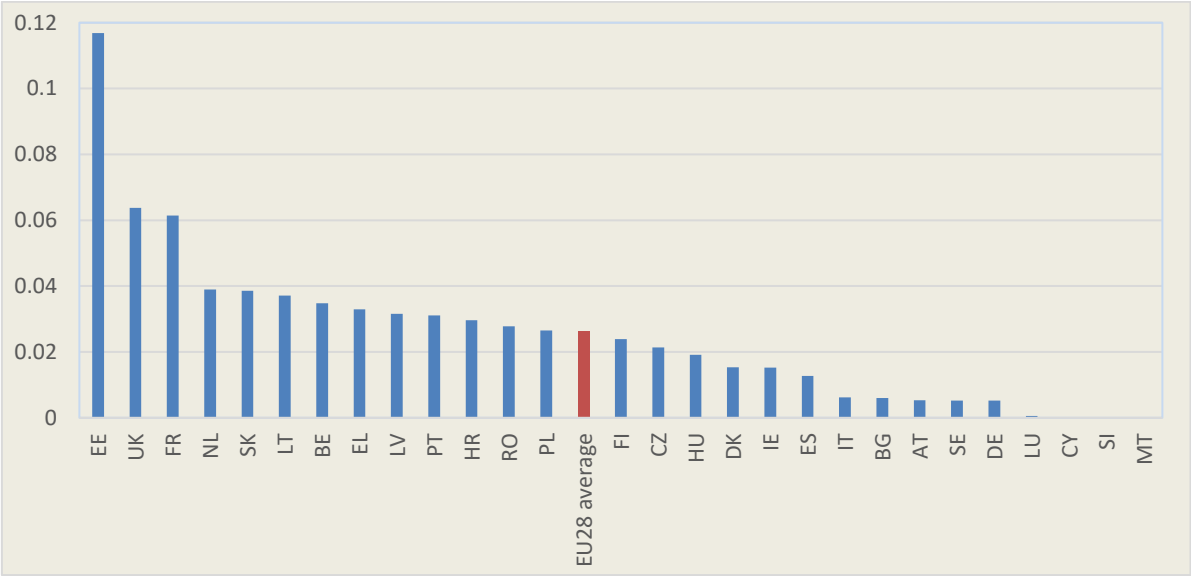
[33] Report to the French prime minister on the collaborative economy, 2016. Available at: http://www.gouvernement.fr/sites/default/files/document/document/2016/02/08.02.2016_rapport_au_premier_ministre_sur_leconomie_collaborative.pdf..

[34] Interview with NESTA

[35] The Parliament of the Republic of Latvia. (2017, September 28). *Grozījumi Autopārvadājumu likumā.* Récupéré sur likumi.lv: https://m.likumi.lv/doc.php?id=294208

[36] Interview with Mr. Dominykas Šumskis, Policy Project Manager at Enterprise Lithuania

Figure 19 Share of the collaborative economy in national sectoral GDP in the transport sector (%, 2016)



Source: authors' calculations

The highest rate of employment in the transport sector of the collaborative economy was in Estonia, followed by the other advanced countries in this sector (see Figure 20). Higher than average collaborative economy employment could also be seen in Denmark and Malta, which otherwise showed only average performance in this sector.

Figure 20 Share of persons employed in the collaborative economy in sectoral employment (%, 2016) - transport

Source: authors' calculations

3.2 Accommodation

Overview of the accommodation sector in the collaborative economy

There are three main business models considered to be a part of the accommodation sector of the collaborative economy, namely short-term home rental, property sharing and property swapping. The three main business models are presented in Table 7.

Table 7 Business models in the accommodation sector

	Description	Assets		Parties to transaction		Activity		
		Rooms	Homes	P2B	P2P	Rent	Share	Swap
Home renting	P2P transactions, where personal providers rent out their homes or spare rooms to other people looking for short-term accommodation	■	■		■	■		
Home sharing	Largely non-monetary, P2P transactions, where personal providers offer a space (a couch) in existing properties to share with other peers.		■		■		■	
Home swapping	P2P and cost-sharing transactions, where peers can swap their properties thereby sharing costs as they do not pay for accommodation.		■		■			■

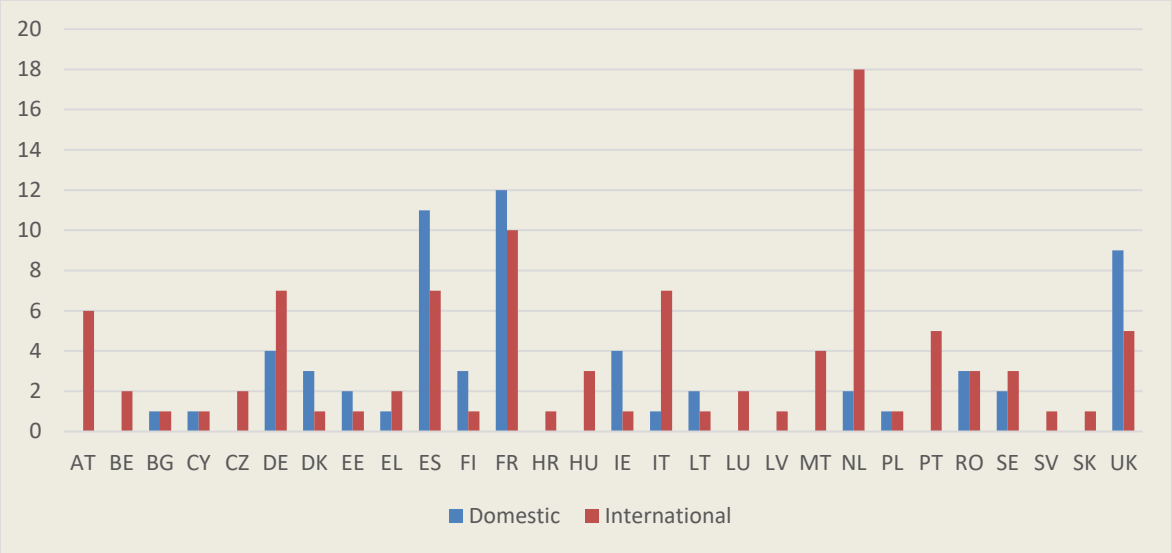
Source: authors' collection based on definition of European Commission collaborative economy

The accommodation sector was the smallest sector out of the four sectors examined in this study in terms of the number of platforms operating in the EU. There were only 69 accommodation platforms found, out of which 62 originated in one of the EU Member States (see Figure 21). The main reason behind this seemed to be the dominance of a few large platforms operating in the market.

By far the most important platform was Airbnb (origin U.S.), which operated in all EU Member States and accounted for around 62% (EUR 4.5 billion) of the sector's estimated total EU revenues (EUR 7.3 billion). The platform itself employed around 700 people in the EU in seven Member States.[37] Other important platforms included Homeexchange (12 Member States, origin USA), Homeaway (11 Member States, origin USA), Wimdu (9 Member States, origin Germany), Housetrip (8 Member States, origin the UK) and 9flats (7 Member States, origin Singapore).

[37] Communication with Airbnb Europe.

Figure 21 Domestic collaborative platforms per Member State in the accommodation sector (2017)



Source: authors' data collection

The figure above shows that France, Spain and the UK had the **largest number of domestic accommodation platforms**. This was not a surprise, as these countries all have large economies. Based on the information in the country fiches prepared within the framework of this study, the legislative framework in these countries was supportive of collaborative platforms (with the exception of Spain). However, regulation at the local level was becoming tougher in certain cities, like Paris, Amsterdam and Berlin, where local authorities started imposing restrictions. The UK remained open and supportive of collaborative accommodation. It introduced a GBP 1 000 tax-free allowance for property and trading income in 2016 for sole traders, and was billed as the 'world's first sharing economy tax break'.[38]

There are several Member States (11) which **did not have any collaborative economy domestic platforms operating in the accommodation sector**. This was partly due to the fact that these countries represent the smaller economies of the EU (the small market was captured by Airbnb or another bigger platform, according to a couple of interviews conducted in these countries), had less demand for short-term tourist accommodation in general, and the population may be reluctant to rent out their private homes, and considers it an administrative burden (as renting out private properties still required administrative obligations, such as registration with the city and payment of local taxes).

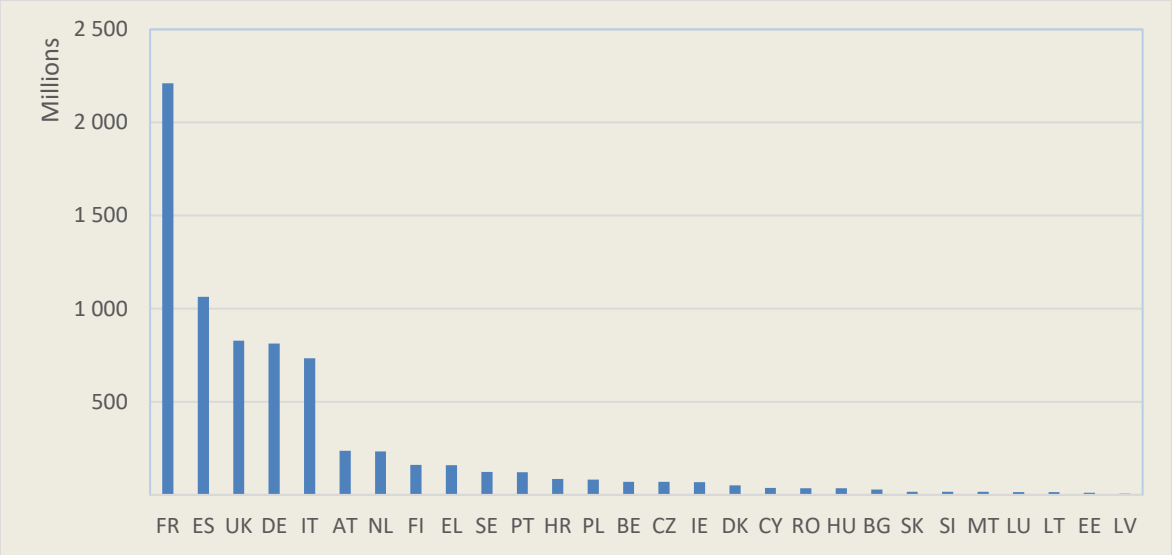
Estimated **total EU revenues in the accommodation sector in 2016 had been around EUR 7.3 billion** (see Figure 22). This included domestic as well as the vast majority of international platforms operating in EU Member States (see list in Annex 1).[39] There were a couple of smaller platforms whose revenues were not considered, as

[38] PWC 2016 Assessing the size and presence of the collaborative economy in Europe

[39] The main two international platforms missing from this estimation are booking.com and homeexchange.com. With respect to booking.com, it was estimated that around 10% of all listed properties are EU properties, and of those only 1.3% P2P renting properties. There are around 1.5 million properties worldwide (booking.com) and around 200 000 properties are in total in Europe, out of which 60% are listed on booking.com (see https://www.tnooz.com/article/booking-com-expedia-

Similarweb data was missing for these platforms, and for some smaller Member States, the revenues of some of the larger international platforms was not considered either, as Similarweb data for these countries was missing as well. However, these platforms were not expected to generate significant revenue streams to drastically change the overall total revenue estimate. The largest revenue generated (domestic and international platforms) was in France (30% of total EU revenue), Spain (14% of total EU revenue), the UK (11% of total EU revenue), Germany (11% of total EU revenue) and Italy (10% of total EU revenue). All other countries had a 3% or lower share in total EU revenues. As mentioned above, in some Member States the only operating platform was Airbnb and there were no domestic platforms.

Figure 22 Total accommodation sector collaborative economy revenue in the EU-28 in 2016 (EUR million)



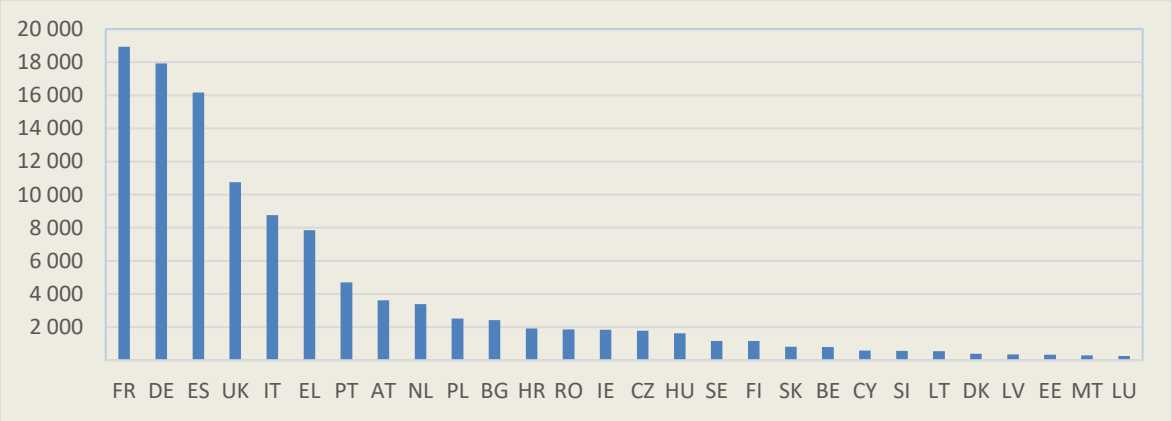
Source: authors' calculations

According to the estimates (see Annex 5 for calculation details), Spain, UK, Italy, France and Germany were the largest Airbnb markets, and they all had a couple of important domestic platforms – such as Le Bon Coin and Locservice, in France, and Niumba and Rentalia, in Spain – driving up the estimated revenues as well. The UK also had several domestic and international platforms, with Airbnb dominating the market in terms of revenues. In Germany, the main revenues were generated by Airbnb and Homeaway, as well as domestic platform Wimdu.

The **employment** results in the accommodation sector followed findings similar to those of revenues, where France (17%), Germany (16%), Spain (14%), the UK (9%), and Italy (8%) had the highest numbers of persons employed in the collaborative accommodation sector as a share of total EU persons employed in that sector (see Figure 23). Greece had 7% of EU persons employed, and other countries had 4% or less of total EU persons employed. In total, an estimated 113 000 persons were employed in the collaborative accommodation sector in the EU.

duopoly-europe-hotrec/), this results to around 10% of booking.com properties which are European. The 1.3% P2P renting figure is based on an average ratio of total properties in half of EU Member States and their share of 'homestays', which are P2P renting properties. Calculated based on booking.com data from the listings, as of 20 November 2017. Based on these assumptions, the relevant revenue was estimated at only EUR 33 million for the EU. Homeexchange was not considered in the estimate, as SimilarWeb data was missing for European countries.

Figure 23 Estimated number of persons employed in accommodation sector in EU-28 in 2016



Source: authors' calculations

The number of persons employed by platforms also varied between Member States, as in some Member States there were only international platforms operating, making the platform employment rate zero for that country. The highest number of persons employed by platforms was estimated to be in Ireland (512), home to Airbnb's European headquarters, followed by Spain (243), France (174) and the UK (125).

The PwC (2016)[40] study estimated transaction values in the P2P accommodation sector in 2015 at around EUR 15 billion, where transaction value was defined as the total value of transactions flowing through these platforms. While the scope of the PwC study seems to be the same as that of the current study, the methodology behind reaching estimates differs. Furthermore, it is not clear from the report how the authors reached the estimates.

The estimates for the accommodation sector are quite comparable in our study and the DG JUST study (EUR 7.3 billion against EUR 6.6 billion).[41] This alignment could be due to the fact that travel expenses are easy to remember (as they are larger transactions and not very frequent) and therefore are not easily forgotten in consumer surveys like the one conducted for DG JUST. The scope of both studies is also quite similar and therefore the estimates match up.

Assessment of economic development of the accommodation sector of the collaborative economy

In order to provide insights into the economic development of the accommodation sector of the collaborative economy, the share of collaborative economy revenues in **holiday and short-stay accommodation** sector (NACE I55.2) GDP was estimated.[42] The highest shares of collaborative revenues to sectoral GDP in the tourist accommodation sector were in Finland, Bulgaria and Cyprus, followed by the Czech Republic, Croatia and Hungary (see Figure 24). All other countries had a share that

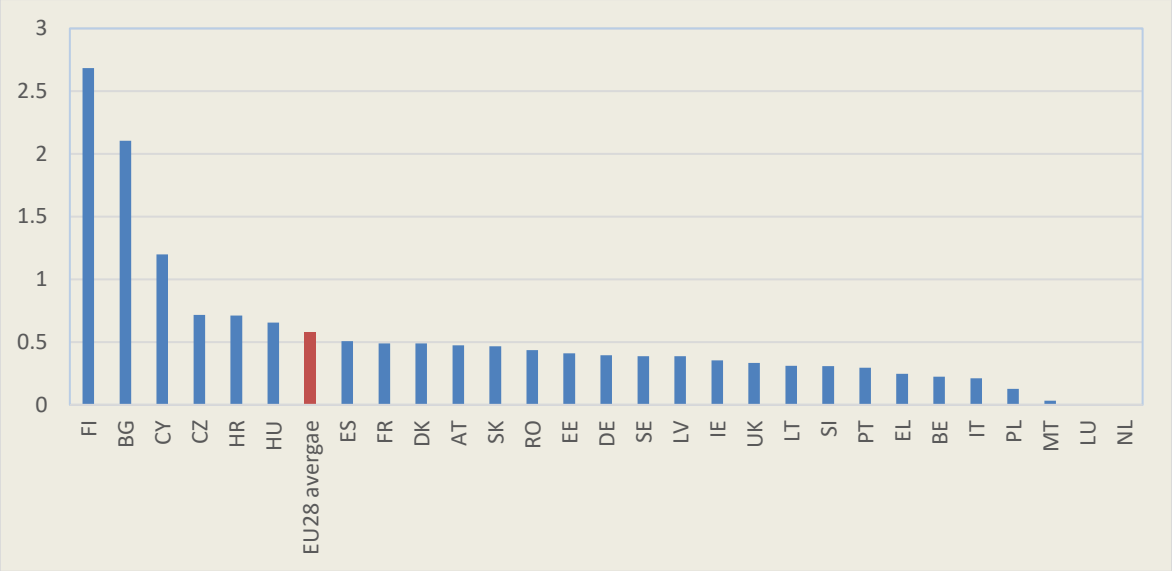
40 PWC, Assessing the size and presents of the collaborative economy in Europe (2016)

41 Exploratory study of consumer issues in peer-to-peer platform markets, DG Justice and Consumers, 2017, available at: http://ec.europa.eu/newsroom/just/item-detail.cfm?item_id=77704

42 We do not use the turnover generated in this sector (NACE I55.2) due to reasons of consistency with other sectors. Please also note, Eurostat figures on holiday and short-stay accommodation might be heavily underestimated according to HOTREC (the umbrella association of Hotels, Restaurants and Cafes in Europe) and the European Holiday Home Association (EHHA), mentioned during direct communication.

was below the EU average of 0.5%. In comparison, Finland's share of collaborative economy revenues to sectoral GDP was more than 2.5%.

Figure 24 Share of collaborative economy revenues in sectoral GDP (NACE I55.2) in the accommodation sector (%, 2016)



Source: authors' calculations

The reasons for this outcome might be manifold:

1) The revenues generated from collaborative accommodation reflect the position of the collaborative economy in the country vis-à-vis their traditional counterpart, in this case the holiday and short-stay accommodation sector. A high share would mean the collaborative economy is doing well in the Member State, while a low share would mean the collaborative economy is doing less well, all other things being equal.

2) The share of collaborative accommodation revenues to sectoral GDP might also be determined by the strength of the tourism industry in the country, in which case both collaborative revenues and sectoral GDP go hand in hand – if sectoral GDP grows, the collaborative economy revenue grows and *vice versa*, in which case, the share of the two remains roughly the same.

3) Since GDP is composed of household consumption, investments, government expenditures and net exports, the size of these components might differ between Member States, which would have an impact on the share even if the size of the collaborative economy is similar in other respects.

4) The missing data for Luxembourg and the Netherlands could, in principle, change the EU average or the ranking of countries along this dimension.

The correlation between the collaborative economy revenues and the sectoral GDP is highly positive at 0.94. This means that the two variables are highly correlated, and when one increases, the other increases as well. With only one data point, it is not possible to see the trend/direction.

Comparing the collaborative accommodation revenues among countries with a similar sectoral GDP could give an indication as to the economic development of the collaborative economy.

For example, **Bulgaria** had the second highest collaborative revenues to sectoral GDP ratio; however, its sectoral GDP was the lowest (EUR 14 million), while its collaborative revenues were only around EUR 29 million. **Latvia** had the second smallest sectoral GDP (EUR 16 million), and its collaborative revenues were only around EUR 6 million. This could imply that the collaborative economy was more developed in Bulgaria than in Latvia.

In **Finland**, with the highest share of collaborative revenue to sectoral GDP, the sectoral GDP was around EUR 60 million, while the collaborative revenue was around EUR 161 million. Compared to **Hungary**, with a sectoral GDP equal to EUR 55 million, its collaborative revenue was only EUR 36 million, a bit higher than in Bulgaria, but more than four times lower than in Finland. In Slovenia, with a sectoral GDP similar to Hungary and Finland (EUR 54 million), the collaborative economy was estimated to be only EUR 17 million. This could imply that Slovenia was performing below average with respect to the collaborative economy when compared to Member States with a similar size holiday and short-stay accommodation sector in terms of GDP.

The five Member States with the **highest** collaborative economy **revenues** (France, Spain, UK, Germany and Italy), also had the five highest sectoral GDPs in Europe, while their share of collaborative revenues to sectoral GDP was below the EU average. In these cases, it seems that the collaborative economy was moving hand in hand with the traditional sector. However, without knowing the evolution over time, it is difficult to determine with accuracy the progress made by the collaborative platforms.

Examples from Member States offer further insight into the analysis. With regard to **Spain**, the regulatory framework affecting the collaborative economy was rather restrictive and fragmented at the local level, which could impede further growth (see Section 4.10). In the accommodation sector, most Spanish regions required peer providers to obtain authorisations or licenses prior to letting their property. The city of Barcelona had even frozen the issuance of such licenses in 2017.[43] In **France**, there were three main laws dealing with online platforms and the regime of short-term rentals. According to the *Law for a Digital Republic*[44], peer providers had to notify the city administration when they rented out a secondary residence. An authorization and payment of compensation[45] may also be required when there is a change of use of the dwelling.[46] In addition, an amendment to the *Digital Law* passed in 2016 allowed cities with more than 200 000 inhabitants to request an authorization from the host to rent out their dwellings regardless of the duration and the category of the residence. Besides, according to the *Finance Law* of 2016,[47] platforms should provide detailed information[48] to users. Finally, platforms as service providers had the responsibility to control the content of their website.[49] They also had to inform hosts about any obligations to declare the property to the competent authorities.[50] The accommodation sector of **Romania**'s

43 Special Tourism Accommodation Plan (PEUAT) 2017. Available at: http://ajuntament.barcelona.cat/pla-allotjaments-turistics/en/

44 Law n°2016-1321 for Digital Republic

45 Compensation means that the owner must buy a dwelling with an equivalent surface to the one he rents to tourists.

46 There is a change of use if there is a change in the primary use of the housing, namely if a residence is rented repeatedly for short periods to guests.

47 Finance Law for 2016, Article 87 – II.

48 Among others, platforms must inform their users of their tax and social obligations in a loyal, clear and transparent manner.

49 Loi No. 575 21/06/2004 for the confidence in Digital economy.

50 Tourism code, available at : https://www.legifrance.gouv.fr/affichCode.do?cidTexte=LEGITEXT000006074073

collaborative economy, on the other hand, benefitted from the fact that the country had just recently experienced a surge in tourism. The lack of pre-installed infrastructure necessarily made collaborative accommodation platforms an integral and initial element of the developing tourism industry.[51] In the **UK**, the government introduced the *Deregulation Act* in 2015 that relaxed rules for short-term lets. **Portuguese** authorities even went a step further and actively embraced collaborative accommodation platforms. For instance, the historic city centre of Lisbon experienced a renaissance, as collaborative platforms helped to decrease the number of vacant buildings. One might also expect **Greece** to feature among these other tourism rich countries. However, the country had experienced a significant decline in tourism following the economic crisis that started in 2008, from which it has only recently began to recover. As collaborative accommodation platforms were just starting their operations around this time, they probably did not find a suitable environment in Greece to prosper and develop accordingly.

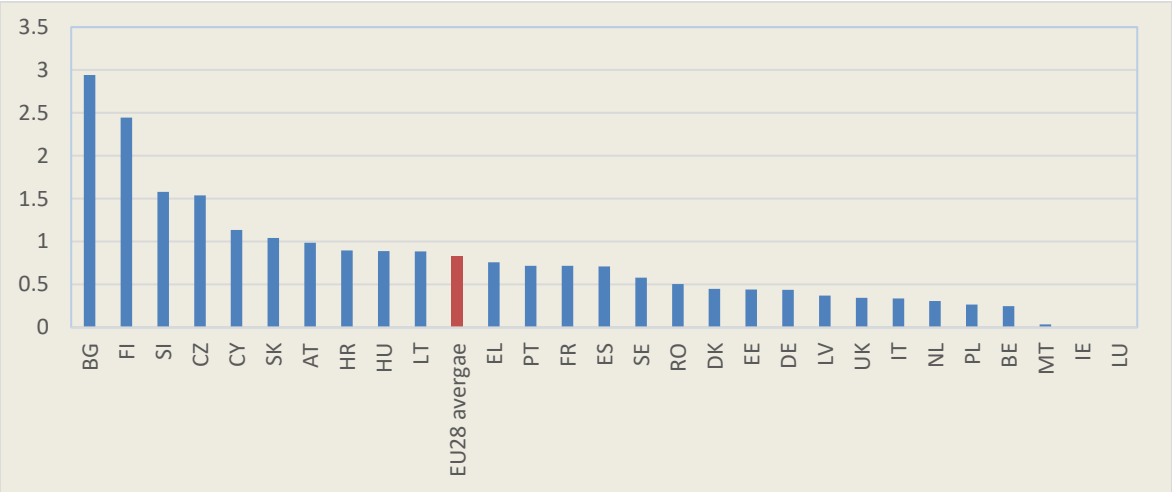
In some countries, the traditional accommodation sector was populated with numerous smaller affordable hotels and hostels. This may explain why collaborative economy business models had been adopted less in countries like **Germany**. Moreover, while the population's attitude towards collaborative platforms was positive, it did not necessarily translate into active usage. For instance, only 6% of a representative survey indicated that they had used a collaborative accommodation platform.[52] This rather reserved attitude was further reinforced by German authorities, which, for instance, heavily regulated platforms such as Airbnb in certain locations (e.g. Berlin).

Regarding the share of collaborative employment to sectoral **employment**, similarly, Bulgaria and Finland had the highest shares among Member States (see Figure 25). The Czech Republic, Slovenia, Cyprus and Slovakia also had a share above the EU average.

[51] http://www.unibuc.ro/prof/dobre_r_r/docs/res/2014marMaster_Plan_Tourism.pdf

[52] IÖW (2017) – Peer-to-peer sharing in Germany: Empirical insights into usage patterns and future potential

Figure 25 Number of persons employed in the collaborative economy as a share of national sectoral employment (NACE I55.2 (%, 2016))



Source: authors' calculations

When looking at sectoral employment, Slovenia, Finland, Cyprus, Latvia, Bulgaria and Slovakia were among the countries with the lowest sectoral employment in the EU, while Bulgaria had mid-level sized collaborative employment (2 423). Denmark had similar sectoral employment as Bulgaria, but its collaborative employment was six times lower, making the ratio much lower than the EU average. When comparing these two countries for example, Bulgaria had a more developed collaborative economy in terms of employed persons than Denmark. The results are not that surprising, as the vast majority of collaborative employment was determined by the collaborative revenues.

The main limitation of this analysis is that collaborative accommodation and holiday/ short-stay accommodation are not mutually exclusive accommodation types but are overlapping to a great extent. In other words, homes and properties listed under collaborative platforms are also listed under holiday and short-stay accommodations. Moreover, it has been mentioned by relevant stakeholders (during interviews provided for this study) that the Eurostat data on holiday and short-stay accommodations are heavily underestimated. Nevertheless, this simple analysis gives some insights into the functioning of collaborative accommodation in national markets.

3.3 Finance

Overview of the finance sector in the collaborative economy

In the finance sector of the collaborative economy, financial services and products are provided from peers to other peers on an individual basis or to businesses or larger projects (crowdfunding). In crowdfunding campaigns, the money is raised by a large number of people who each contribute a relatively small amount to finance a project or a business venture. It can be invested into different projects, or invested as equity, or given as a loan. Crowdfunding also functions as P2P lending for various individual purposes. In the finance sector, the peer or service provider is referred to as an 'investor'.

The different business models in this market were defined on the basis of the type of funding that is provided: namely reward-based funding (service providers receive a reward against their investment, such as a product), equity funding, and debt funding, as this can be provided peer-to-peer as well as crowdfunded. Donating as a not-for-profit activity is not included in the calculations of this study. The business models in the finance sector are illustrated in Table 8.

Table 8 Business models in the finance sector

	Description	Assets	Parties to transaction		Activity		
		Capital	P2B	P2P	Lending	Investing	Donating
Reward-based funding	the most popular and widespread form of crowdfunding. It brings together individuals (P2P) or individuals and businesses (P2B).						
Equity funding	allows individuals to invest in a business in return for shares in the company.						
Debt funding	allows individuals to borrow and lend money - without the use of an official financial institution as an intermediary.						

Source: authors' collection based in definition of collaborative economy

Table 9 below presents funds raised by collaborative finance platforms in EU Member States. **Funds raised** by the platforms are an indicator of the total amounts of funding the platforms have been able to attract for projects or business ventures advertised on the platforms, but not for the platforms themselves. Funds raised are typically reported by platforms and also used in most of the studies analysing the sector. The **revenues** of platforms (analysed in our study and discussed below) differ from the funds raised. Revenues demonstrate actual benefits or the success of the platform's own business, while funds raised are often seen as a guarantee for investors about a platform's capability to generate earnings on their investments. The latter is one of the reasons why the volume of funds raised is more important to platforms themselves and therefore

often published, whereas data on revenues is much less published. However, in this study, for consistency purposes, the analysis is based on revenues.

The 2nd European Alternative Finance Industry Report[53] provided data on funds raised by finance sector platforms. The leaders in this are the UK (EUR 3 billion), followed by France (EUR 285 million) and Sweden (EUR 128 million). The two leading countries, in terms of revenues and funds raised, were the same – the UK and France. Larger numbers of funds raised to some extent could also explain the revenues, because it indicated the activity and popularity of the platforms. However, it must be noted that the funds raised were raised for the projects advertised on the platform and not part of the platforms' own revenue. According to the 2nd European Alternative Finance Industry Report, the largest volumes of funds in the EU were raised by debt based funding, followed by equity and reward based funding.

Table 9 Funds raised by alternative finance platforms in Member States (EUR m, up to 2016)

Member State	Reward-based funding	Equity funding	Debt funding	Total
AT	2.5	11.1	7.7	21.3
BE	6.0	2.5	4.5	13.0
BG*				
CY*				
CZ	1.0	0.28	1.5	3.2
DE	9.8	37.3	66.8	113.9
DK			7.8	7.8
EE	1.3	0.2	28.2	29.7
EL*				
ES	31.1	10.7	22.3	64.1
FI		15.5	68.9	84.4
FR	41.9	50.1	193.2	285.2
HR	6.6	0.3		6.9
HU*				
IE*				
IT	7.1	3.4	42.0	52.5
LT*				
LU*				
LV			15.0	15.0
MT*				
NL	20.3	6.9	98.9	126.1
PL		0.2	1.9	2.1
PT	1.5		1.0	2.5
RO			1.0	1.0
SE	9.1	3.7	115.4	128.2
SI*				
SK				0
UK	58.8	465.3	2 509.2	3 033.5
EU-total	**197.7**	**607.4**	**3 185.3**	**3 990.6**

* Data was not available

Source: Cambridge Centre for Alternative Finance, 2017, Sustaining momentum: the 2nd European Alternative Finance Industry Report, available at: https://www.jbs.cam.ac.uk/faculty-research/centres/alternative-finance/publications/sustaining-momentum/#.WjO-BSOB36c

[53] https://www.jbs.cam.ac.uk/faculty-research/centres/alternative-finance/publications/sustaining-momentum/#.WjO-BSOB36c

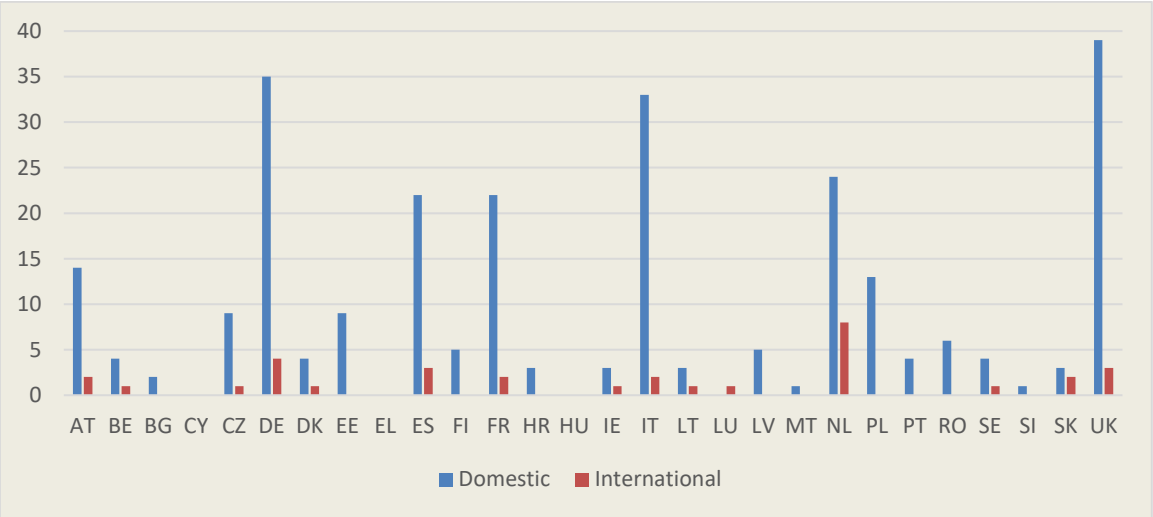
A total of 283 domestic and 5 non-EU origin (Indiegogo, Kickstarter, Gofundme, wemakeit.com, and medstartr.com) collaborative **platforms** were observed operating in the finance sector. In the case of non-EU origin platforms, the total funds raised in Europe in 2016 were USD 30 million for the Indiegogo platform and USD 108 million for Kickstarter.[54] Swiss based platform wemakeit.com, which supports creative projects, has thus far raised EUR 30 million.[55] The medical project support platform medstartr.com has raised USD 6 million since it began operating[56] and the travel support platform Gofundme has raised USD 5 billion since its operations[57] began. The annual funds raised (in 2016) by the largest non-EU origin platforms (Indiegogo and Kickstarter) were greater than the total funds raised in most EU countries, indicating global dominance of these platforms and the relatively small size of the industry in Europe. On the other hand, it also demonstrates market potential.

This study demonstrates that the UK was hosting the highest number of domestic platforms (39), followed by Germany (35) and Italy (33). A relatively high number of domestic platforms were also being hosted in the Netherlands (24), France (22), Spain (22) and Poland (13). At the same time there were countries with no platforms in collaborative finance (Cyprus, Greece, and Hungary). In Hungary, the collaborative economy overall was below the average found in other Member States. This discrepancy was explained by the country's restrictive regulatory framework, a lack of trust among users, and a fear of regulators.[58] In the cases of Cyprus and Greece, despite the fact that the transportation and accommodation sectors are both developed and important sectors for the economies of the respective countries, the collaborative finance sector has yet to be developed. Four of the five non-EU finance platforms operating in the EU were of U.S. origin – Indiegogo, Kickstarter, Gofundme, medstartr.com. – while Wemakeit.com, a Swiss platform, was operating only in Austria. The largest non-EU platforms by revenues were Kickstarter, operating in 11 Member States, and Indiegogo, operating in 5 Member States. There were also some popular EU-origin platforms operating cross-border, like Ulule (France) or Funding Cirle (UK). There are also other local origin platforms trying to expand and establish an international presence. However, most were operating domestically. This corresponded to the findings presented by the study *Moving Mainstream. The European Alternative Finance Benchmarking Report*[59] which concluded that the **funding system is overall domestically oriented**. Regarding the business models applied by the observed platforms, debt funding was the leader with 116 platforms, followed by reward-based funding and equity funding. The distribution of business models was quite even, and different forms were well represented in the market. This means that overall regulation or any other factors were not prohibiting development of various business models in the sector. As reported elsewhere,[60] there might be exceptions at the individual country level.

The breakdown of finance platforms per Member State is presented in Figure 26 below.

54 The Statistics Portal Statista, available here https://www.statista.com/statistics/757519/funds-raised-via-crowdfunding-by-platform-europe/
55 Wemakeit.com web-page, available at https://wemakeit.com/pages/about
56 Medstartr web-page, available at http://about.medstartr.com/about/
57 Gofundme webpage, available at https://www.gofundme.com/about-us
58 Interview with Ms Dalma Berkovics, Secretary General, Hungarian Sharing Economy Association.
59 University of Cambridge, Ernst&Young (2015). Moving Mainstream. The European Alternative Finance Benchmarking Report.
60 Crowdfunding Hub (2016). Current State of Crowdfunding in Europe

Figure 26 Domestic and international platforms operating in the EU in the finance sector (2017)



Source: authors' data

From the platform perspective, **revenues** in the finance sector are rather seen as a return on investment. Calculation of platform revenues may be very complicated, as it depends on the business model, the size of the investment/transaction, the number of investors and customers, and other details. Therefore, in this study, the calculation of revenues for collaborative finance platforms was simplified and viewed as a simple transaction between investor, platform and customer. Normally, platforms attract investors (peers) either for 'free' (which actually means that the platforms expect investors still to pay a 'voluntary tip' of up to 15% of the investment cost) and they have to pay a processing fee (normally around 3% per investment)[61]. Other sources indicate that the most popular remuneration model is the one that only remunerates project owners (fundraisers). Remuneration that targets project owners and investors was estimated to represent one third of platforms.[62] This also indicates that the business models used by alternative finance platforms can be very different.

Apart from the investor side, platforms also charge customers a transaction fee, which varies between 5% and 20%, depending on the business model. A platform's revenues are generated from fundraising – how much a platform earns from lending or funding per euro. On average, this was 15% per transaction, which was also used as a point of reference in the calculation of finance sector revenues.[63]

Total finance sector **revenues** were estimated at EUR 9.6 billion in the EU (see Figure 27). In the finance sector across EU Member States a significant gap exists when it comes to generated revenues. **France** led (EUR 2.2 billion) the shortlist of dominant markets (based on revenue), while the finance sectors of the **UK** (EUR 1.8 billion) and **Germany** (EUR 1.3 billion) combined only slightly exceeded the indicators displayed by France. These dominant markets were in line with the results of the study "Moving

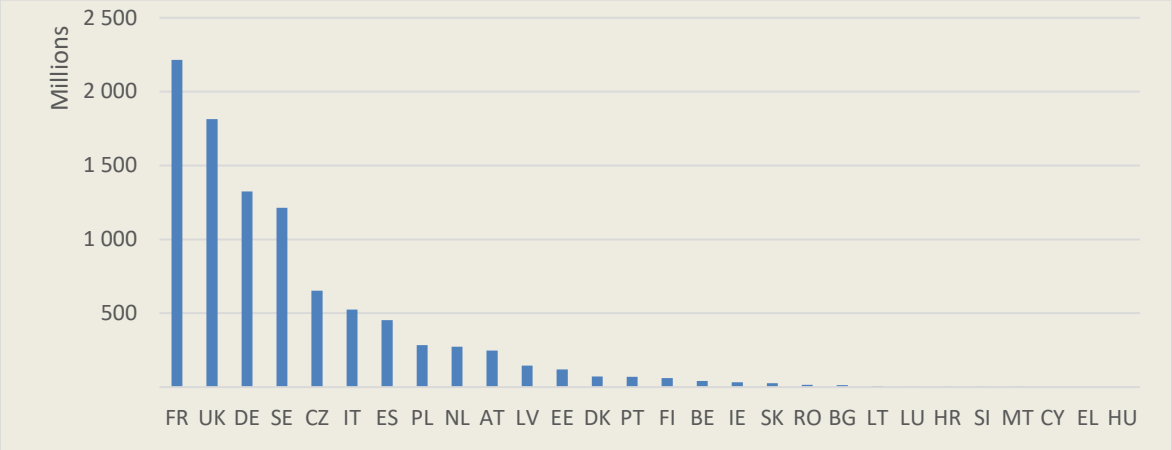
61 Is the 'free fundraising' really free?, available at: https://www.crowdfunding.com/free/

62 European Securities and Markets Authority. ESMA response to the Commission Consultation Document on Capital Markets Union Mid-Term Review 2017. Available at: https://www.esma.europa.eu/sites/default/files/library/esma31-68-147_esma_response_to_cmu_mid-term_review.pdf

63 Conclusion is based on survey data collection and is referred also in the "Assessing the size and presence of the collaborative economy in Europe" by PWC (2016).

Mainstream. The European Alternative Finance Benchmarking Report"[64] which also listed these markets among the leaders.

Figure 27 Total finance sector collaborative economy revenue EU-28 (EUR million, 2016)



Source: authors' calculation

This divide mostly existed between Western European countries and the remaining EU Member States (with Sweden representing the single Northern European country, Spain and Italy representing Southern Europe, and Poland and the Czech Republic representing Eastern Europe). It is interesting that among the geographical regions Western Europe had only two countries (Belgium, Ireland) that were not in the top list of countries in terms of revenue generated by the finance sector, while other regions only had one or two countries that made it onto the list. These results demonstrate that Western European countries were either more accepting of alternative financial businesses (as compared to the traditional banking sector and other credit institutions), had larger internal markets, a more developed existing investment culture, or these countries had a better regulatory environment in which to develop business in the finance sector.

Simply put, revenues for finance platforms demonstrate differences between the income and outcome of the platform. It is important to note that, for finance platforms, the funds raised demonstrate the activity and popularity of the platforms and are often measured in other studies. The 2nd European Alternative Finance Industry Report[65] provided data on funds raised by finance sector platforms. The leaders were the UK (EUR 3.03 billion), followed by France (EUR 285 million) and Sweden (EUR 128 million). The two leading countries, in terms of revenues and funds raised, were the same. Larger numbers of funds raised could, to some extent also explain the revenues, because it indicates the activity and popularity of the platforms. However, it should be noted that the funds raised are raised for the projects advertised on the platform and not the platform's own revenue.

The indicators describing **persons employed** in the sector match the situation already seen when examining revenues in the finance sector, with Western European countries at the very top, while other regions struggle to compete (see Figure 28). Among the

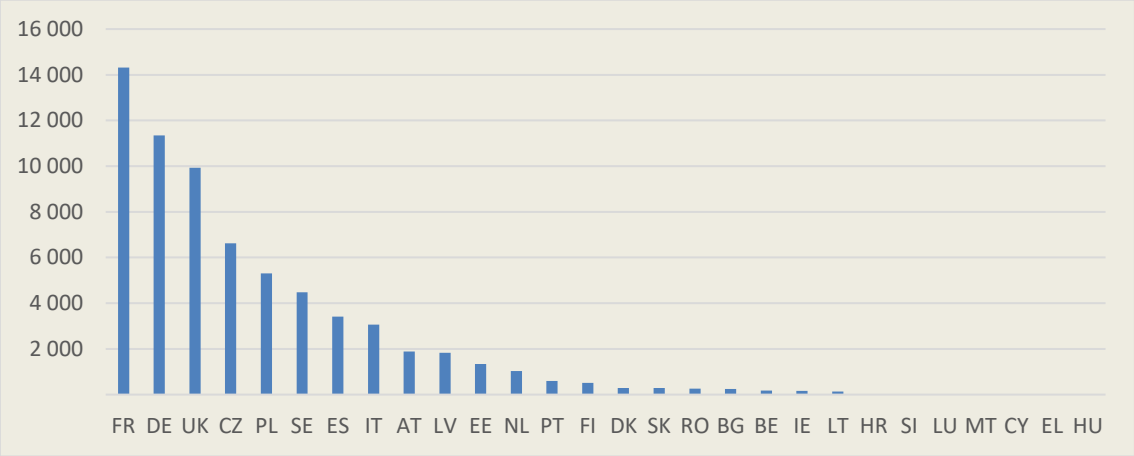
64 University of Cambridge, Ernst&Young (2015). Moving Mainstream. The European Alternative Finance Benchmarking Report.

65 Cambridge Centre for Alternative Finance, 2017, Sustaining momentum: the 2nd European Alternative Finance Industry Report, available at: https://www.jbs.cam.ac.uk/faculty-research/centres/alternative-finance/publications/sustaining-momentum/#.WjO-BSOB36c

other sectors, finance had fewer employees, as wages in the sector were high, forcing platforms to be very productive.

When looking at persons employed, France once again led (14 300 persons employed) while Germany ranked second (11 300) and the UK was third (9900). These positions were almost in line (Germany ranked third regarding revenues) with what was observed with the revenue indicator – an understandable situation indicating that countries with high revenue will also have high numbers of persons employed in the finance sector.[66]

Figure 28 Estimated number of persons employed in in the finance sector of the collaborative economy in the EU-28 in 2016



Source: authors' calculation

According to the 2nd European Alternative Finance Industry Report[67] in 2015 the online alternative finance market in Europe (crowdfunding, P2P lending, other) had reached EUR 5.4 billion. According to the report, this was an increase of 92% as compared to the market value in 2014. The report also stated that in 2015 the absolute year-on-year growth rate of the EU online alternative finance market (excluding the UK) had decreased by 10%. While this decrease was calculated excluding the UK (the exclusion was done primarily because the UK market suffered a drastic decrease in growth), by taking the approach that the same 10% could be applied across the entire EU online alternative finance market, we can then consider that, on a straight projection, total market growth in 2016 would be roughly 82% (92%-10%). By this assumption, the projected market growth in 2016 could have reached around EUR 9.9 billion. According to our study, the market value of collaborative finance platforms was EUR 9.6 billion – very similar to the projection made based on the findings of the 2nd European Alternative Finance Industry Report. Given that the 10% decrease was estimated while excluding the UK, our findings correspond to the market trends expected for 2016.

[66] In the finance sector, there is no reasonable interpretation for persons employed by service providers (investors). To the same degree as bank customers are not indirect employees of their banks, peer lenders or investors (service providers in finance sector) who provide financial means (generate revenues) via collaborative platforms to different groups of recipients cannot be interpreted as indirect employees of the collaborative platforms. What the service providers are offering is that they provide funds (or borrow funds), they do not provide working time as such. Therefore, the calculations in the collaborative finance sector on persons employed by service providers are provided, but must be interpreted with caution.

[67] Cambridge Centre for Alternative Finance (2016). Sustaining Momentum the 2nd European Alternative Finance Industry Report.

Finance sector results cannot be compared to the DG JUST study[68] as finance was not part of that study.

Assessment of the economic development of the finance sector in the collaborative economy

The finance sector overall is quite **well regulated** (i.e. necessary regulations are in place). These regulations also apply to the collaborative finance platforms, which have to meet all requirements set for financial institutions. While there have been many discussions about the legitimacy of the transport and accommodation sectors in the collaborative economy, discussions regarding the finance sector have been quite modest. This is believed to be because of the well-established regulatory framework – about 47% of platforms find the regulatory framework adequate and appropriate.[69] At the same time, another study provides a slightly different picture by concluding that regulatory issues are preventing development of the sector in many countries, while other countries, for example, the UK, demonstrate a high rate of success due to their progressive regulations.[70]

Countries that ranked **above average** in adapting collaborative business models in the finance sector were Estonia, Latvia and the Czech Republic, followed by Sweden, France, Poland and Austria (see Figure 29). The former, in particular, had expressed specific interest in becoming hubs and European powerhouses in fields such as FinTech. This desire was supported by their respective governments. For instance, **Latvia** had devoted specific regulatory attention to this area, and the increasing interest in P2P financing was not only observed among new start-ups, but also big banks, insurance companies and other financial institutions that must adapt to the changing financial sector landscape in order to keep up. An element that unites all concerned Member States (the former, as well as the latter three) was the generally increased demand in P2P lending solutions. Comparing the share of the finance sector in the collaborative economy of Member States in Europe to their contribution to EU-28 sectoral GDP, it can be seen that in **Estonia** the finance sector of the collaborative economy was more than seven times larger than average, and in Latvia more than six times larger. The findings here were in line with comparisons made between the per capita volume of the sector and GDP per capita figures in the 2nd European Alternative Finance Industry Report.[71] The report ranked Estonia and Latvia among the leaders.

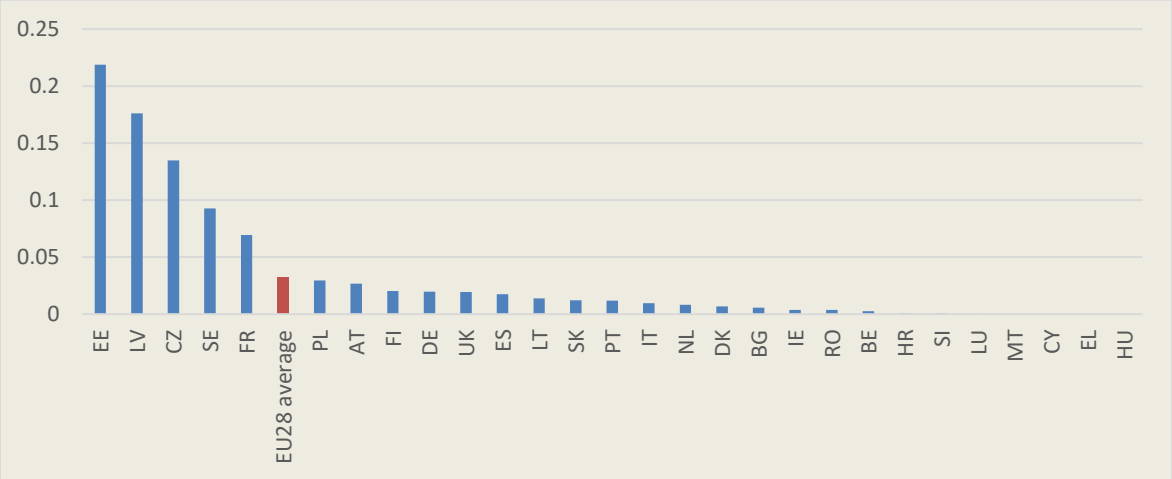
68 Exploratory study of consumer issues in peer-to-peer platform markets, DG Justice and Consumers, 2017, available at: http://ec.europa.eu/newsroom/just/item-detail.cfm?item_id=77704.

69 Cambridge Centre for Alternative Finance, 2017, Sustaining momentum: the 2nd European Alternative Finance Industry Report, available at: https://www.jbs.cam.ac.uk/faculty-research/centres/alternative-finance/publications/sustaining-momentum/#.WjO-BSOB36c

70 Crowdfunding Hub (2016). Current State of Crowdfunding in Europe

71 Cambridge Centre for Alternative Finance (2016). Sustaining Momentum. The 2nd European Alternative Finance Industry Report.

Figure 29 Share of the finance sector (%, 2016) in the collaborative economy in terms of sectoral GDP (NACE K64)



Source: authors' calculations

It is interesting to see how the international traditional financial hubs in Europe rank among the EU-28. An above average position in terms of the share of the collaborative economy in sectoral GDP was held by the Nordic hub of Sweden, followed by France, while the UK and Germany ranked close to average. This may partly be explained by equity-based crowdfunding, since these countries – the UK, the Nordic region, and to some extent, also France – had grown increasingly stronger in terms of start-up creation. Platforms like FundedByMe, in Sweden, or Crowdfunder and Seedrs, in the UK, Ulule or Bulb in Town, in France, had become very popular and attractive. It can be observed that an overall supportive business ecosystem for start-ups also attracts more collaborative finance platforms (thus there is a demand from quality businesses in need of funding).

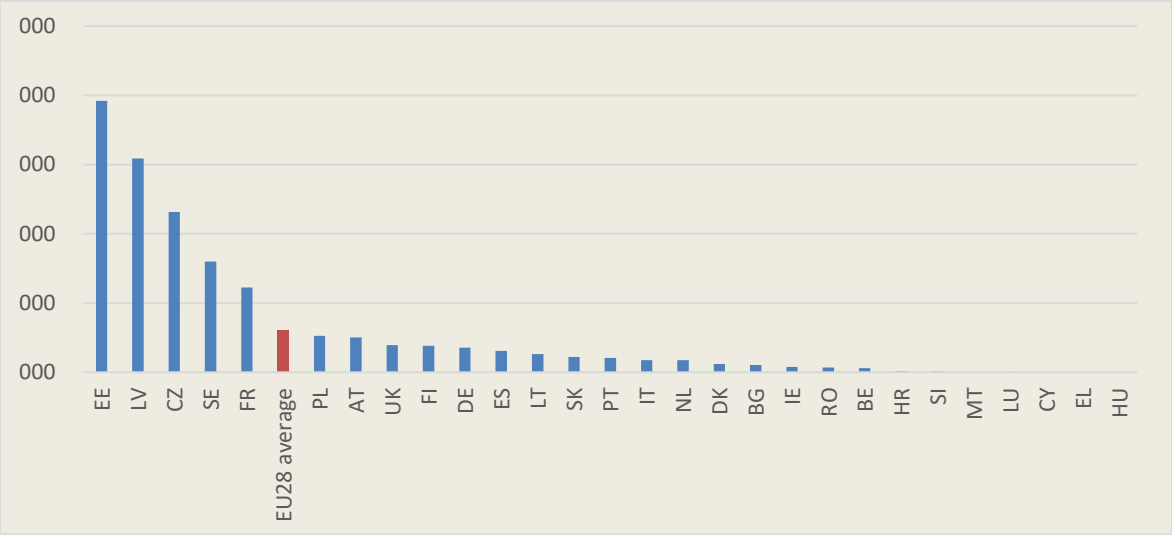
The relatively strong developments in the new Member States – Latvia, Estonia, Czech Republic and Poland – may be better explained by the development of peer-to-peer lending to compete with traditional bank loans. As an example, Iuvo and Bondora, in **Estonia,** or Mintos and Twino, in **Latvia,** had established strong P2P lending markets and attracted peer-investors internationally. These platforms offered significant competition to traditional banks, offering loans without guarantees and at lower interest. In **Poland**, the platforms Kokos and Finansowo had become popular local alternative lending platforms.

The countries that were **below average** in terms of collaborative economy business developments represented a mix of smaller developed countries (the Netherlands, Italy, Denmark, etc.) and Eastern and Southern European countries (Lithuania, Romania, Malta, Croatia, Slovenia, and Hungary). The underlying reasons why collaborative economy business models had not been adopted in the finance sector in these countries are likely to vary a lot. The collaborative finance market in the **Netherlands** was relatively open. Licenses were required for equity-based crowdfunding and P2P lending, but this was not the case for reward-based crowdfunding. However, as the level of digitalisation was very high and there were no clear reasons why the Netherlands was lagging behind, the country could have significant potential for further growth (see also Section 4.21). The same applies to **Denmark** (see Section 4.7). In **Lithuania**, government support in recent years had been commented on as being the driving factor behind the current success of the sector, especially for P2P lending and crowdfunding. Existing platforms already showed an increase in users (2017 being the most successful

year for all operating platforms), with future projections of continuing growth (these trends were not seen in the calculation of indicators, as it is based on 2016 data) (see also Section 4.17). At the same time, some countries, such as **Slovenia**, had imposed distinctively restrictive regulations on the development of collaborative finance platforms. Yet, a single clear reason could not be directly cited (see also Section 4.26).

Sectoral **employment** in collaborative economy business models in the finance sector followed the same pattern as revenues. However, this may be due to the estimation methods used in this study. Also, as discussed earlier, in the case of the finance sector, only individuals who were employed by platforms can be considered to be employment. Therefore, the Figure 30 has to be interpreted with reservation.

Figure 30 Share of persons employed in the collaborative economy in sectoral employment (NACE K64) in the finance sector (%, 2016)



Source: authors' calculations

3.4 Online skills

Overview of the online skills sector in the collaborative economy

By European Commission definition,[72] online skills includes on-demand household services and on-demand professional services as displayed in Table 10.

Table 10 Business models in the online skills sector

	Description	Assets			Parties to transaction		Activity
		Human capital	Time	Tasks	P2B	P2P	Service
On-demand household services	offered by 'crowd-based' marketplaces, enable households to have access to various household services provided by individuals.						
On-demand professional services	consist of individuals providing professional services to other individuals and businesses.						

Source: authors' collection based in definition of collaborative economy

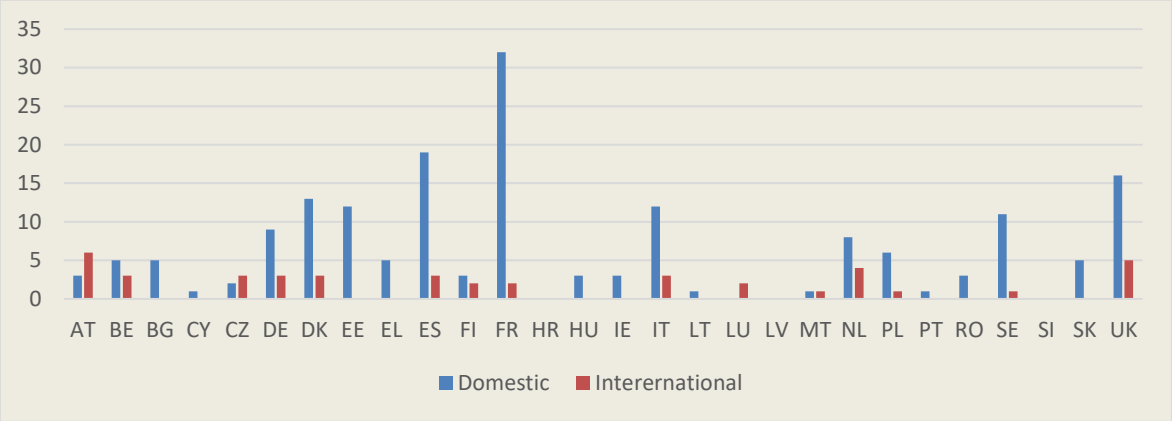
The results of the study showed that there was a good balance between the two **business models**, with the balance shifting slightly more towards household services. Across the EU-28, slightly more than 58% of platforms offer on-demand household services and nearly 42% provide on-demand professional services. However, when it comes to domestic vs. international operations, the majority of platforms (81%) operate domestically and only 19% of identified platforms operated across multiple countries.

In terms of which business model was more popular among international platforms, on-demand household services were again more common taking up 62% of the international online-skills platforms, while on-demand professional service platforms accounted for 38% of international operators.

The study identified a total of **221 platforms** operating across EU Member States (see Figure 31). Of these, Austria has the highest number of international platforms (6), followed closely by the UK (5) and the Netherlands (4).

[72] A European Agenda for the Collaborative Economy, European Commission, 2016, available at: http://ec.europa.eu/DocsRoom/documents/16881/attachments/2/translations

Figure 31 Domestic and international platforms operating in the EU in online skills sector (2017)

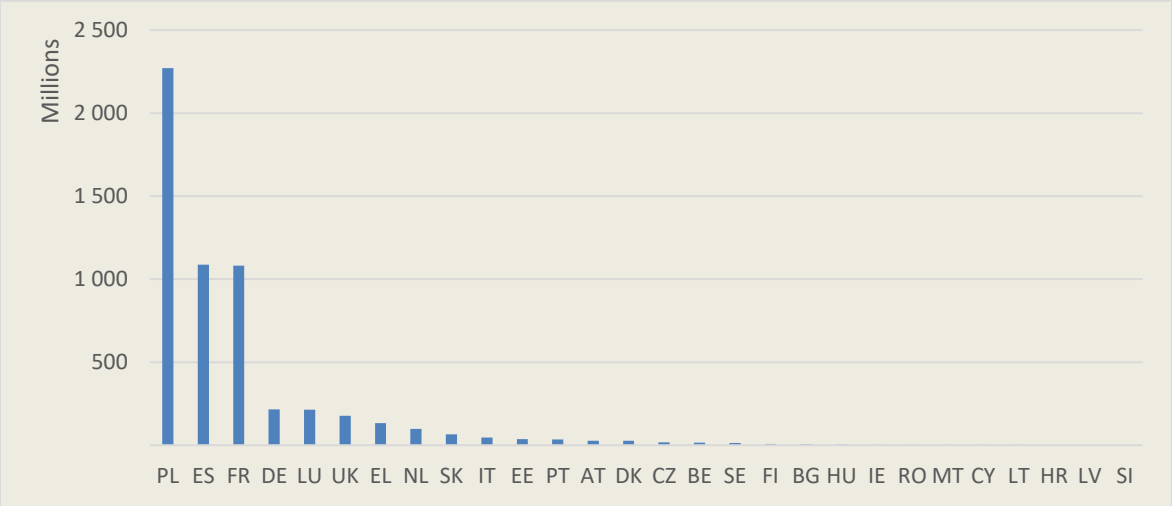


Source: authors' data collection

In terms of total online-skills platforms, France enjoys a decisive lead with 34 total platforms, while Spain (22) and the UK (21) are lagging slightly behind. However, a high number of platforms (domestic or international or both) does not necessarily translate into high revenues, as the following figure demonstrates.

When considering the **revenue** across the online skills sector the available indicators do suggest that there is a geographical divide between Member States with high revenue vs. those generating low revenues (see Figure 32).

Figure 32 Total online skills sector revenue in the collaborative economy of the EU-28 (EUR million, 2016)



Source: authors' calculations

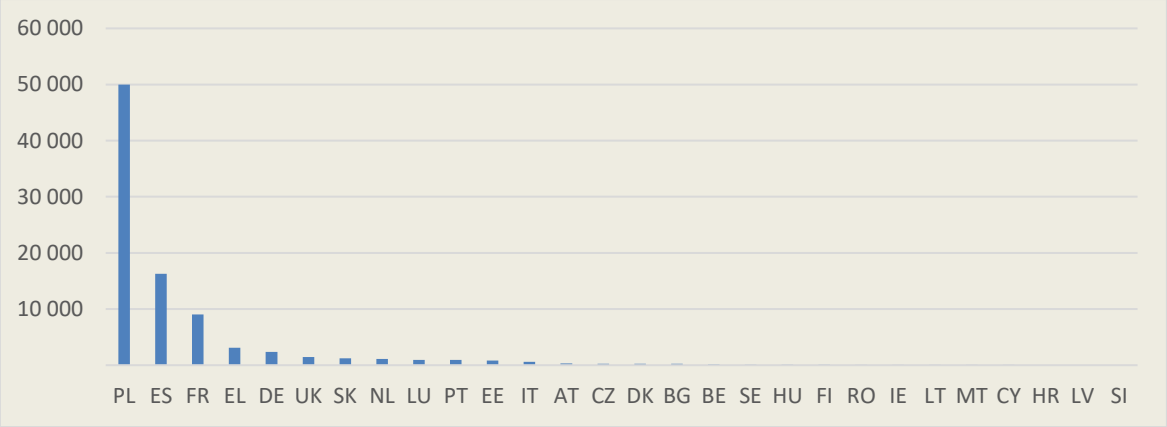
Poland leads in terms of revenue generated by the online skills sector, with total revenue surpassing the second and third highest revenue countries (Spain and France, respectively). Poland presents an interesting case, where the country has few online-skills platforms (six domestic and one international), especially when compared to France, Spain and the UK. Yet, these platforms together generate more revenue than Spain and France combined. That is, seven platforms operating in Poland generate higher revenue than a combined 56 platforms across France and Spain. However, the Polish position seems to be primarily driven by a single platform ("Zadane"), which accounted for more than 90% of annual platform revenue in 2016.

On the other hand, **Spain** and **France** have a more balanced distribution of revenue between platforms. This showcases that, despite a lower position according to total revenue, platform operators in France and Spain benefit from better market conditions, which allow a larger number of online-skill platforms to benefit from existing demand for their services, whereas in Poland the demand is heavily skewed towards a single platform operator.

Collaborative online skills services in other Member States constitute relatively low revenues – the services are rather local and rewards are low as well, as online services have not yet been picked up by service providers and customers. Furthermore, international (non-EU) platforms have only established their markets in larger economies, excluding EU markets from their revenues.

In terms of **persons employed** in the online skills sector, the collected data shows a similar outcome to the situation observed when examining revenues in the online skills sector. There are about 90 000 persons employed in the online skills sector across the EU-28 (about 0.2% of total EU-28 employment). As seen in the **Figure 33** below, Poland enjoys the highest number of persons employed (50 000 persons employed – more than half of the total persons employed in the collaborative online skills sector) while Spain (16 200) and France (9 000) rank second and third.

Figure 33 Estimated number of persons employed in in the online skills sector of the collaborative economy in the EU-28 in 2016



Source: authors' calculations

On the EU level, the number of persons employed is below that of the accommodation and transport sectors, but ahead of the finance sector. According to the gathered data, out of the four sectors covered by the study, online-skills platforms account for 21.89% of the persons employed.

However, the online-skills sector, more so than the other sectors of this study, generates a working environment for those offering services through platforms. Indeed, the study *Non-Standard Forms of Employment: Recent Trends and Future Prospects*[73] notes that it is difficult to judge the success of platforms based solely on revenues (especially considering that the success stories of high-profile platforms mentioned in the study were either transport or accommodation). An aspect that has to be considered is the way online-skills platforms allow for the economic viability of many activities to be

[73] Eurofound (2017). Non-standard forms of employment: Recent trends and future prospects. Available at: https://www.eurofound.europa.eu/publications/customised-report/2017/non-standard-forms-of-employment-recent-trends-and-future-prospects

increased. Thus, online-skill platforms, while appearing more modest in their revenue and employment when compared to the other sectors, emerge with different strengths related to economic empowerment of service providers registered on the platforms.

Furthermore, the Sharing Economy in Europe 2016[74] comes to the same conclusions regarding the ranking of the sharing economy in the EU: transport and accommodation platforms outperform online-skills platforms (on-demand household services and on-demand professional services) in terms of revenue. However, the study notes that collaborative platforms will continue to grow in the coming decade, and it is expected that by 2025 on-demand household service platform revenue will be higher than peer-to-peer accommodation, placing on-demand household services platforms just behind peer-to-peer transportation, which is expected to maintain its leading position.

The DG JUST study[75] estimated the EU-28 revenue of online platforms for "Odd Jobs" to be EUR 1.2 billion. The estimated revenue for online skills in our study is significantly higher (EUR 5.6 billion). The main reason for this is the significantly broader scope of our study as the DG JUST study only gave the respondents of the survey a very limited list of services to consider. The online skills sector in our study was defined more broadly.

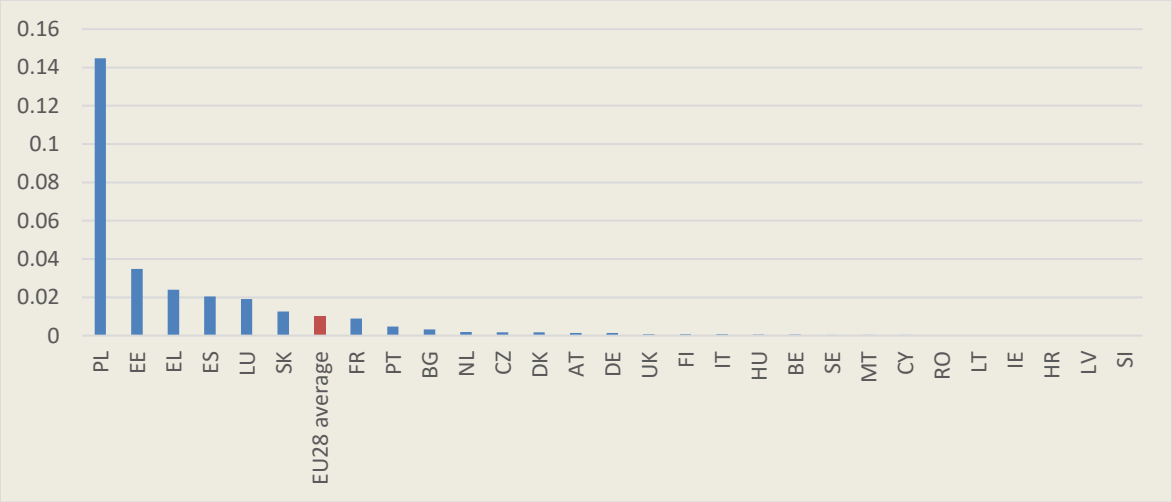
Assessment of the economic development of the online skills sector in the collaborative economy

Of the six countries that rank **above the EU average** in terms of the share of the collaborative economy in sectoral GDP in the online skills sector, Poland is in the lead (0.14%) followed by Estonia (0.03%), Greece (0.02%) and Spain (0.02%) (see Figure 34). In Poland, the share of the online skills sector in the collaborative economy in terms of sectoral GDP is more than five times larger than the EU average; in Luxembourg, it is ten times larger, and in Estonia it is three times larger. This situation demonstrates that in a relatively small number of countries the online-skills sector provides a more significant contribution towards sectoral GDP. The importance of collaborative online skills services in other Member States is very low – it is clearly below the EU-28 average.

74 PwC (2016). Sharing Economy in Europe 2016. Available at: https://www.pwc.co.uk/issues/megatrends/collisions/sharingeconomy/future-of-the-sharing-economy-in-europe-2016.html

75 Exploratory study of consumer issues in peer-to-peer platform markets, DG JUST, 2017, available at: http://ec.europa.eu/newsroom/just/item-detail.cfm?item_id=77704

Figure 34 Share of the online skills sector (%, 2016) in the collaborative economy in terms of sectoral GDP (average of NACE M, N, S65) in

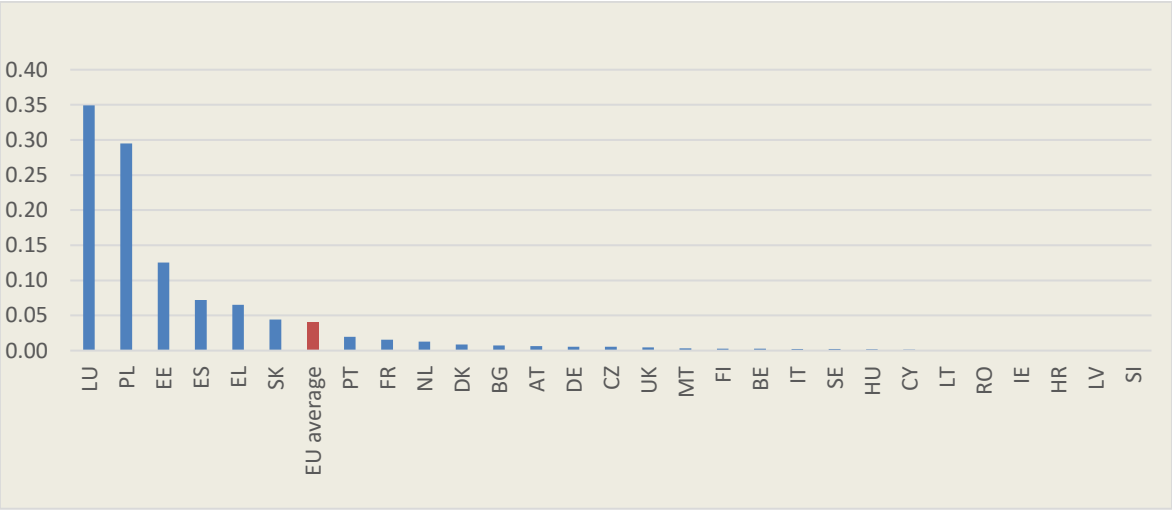


Source: authors' calculations

In terms of **persons employed** in the collaborative economy, Luxembourg is in the lead (about 0.3%) with the share of persons employed in the collaborative economy in total employment in the online skills sector (eight times above the EU-28 average) (see

Figure 35). Poland (0.3%) is slightly behind Luxembourg, demonstrating that the two countries have the strongest positions in terms of the impact online-skills have on the collaborative economy and its role in the national economies. In Luxembourg, employment is generated by two observed international platforms (Minijobs, Pawshake) offering employment to 332 persons. Due to the relatively high revenues of service providers, the number of persons employed by service providers is also relatively high (about 640), which places Luxembourg relatively high in comparison with the country's sectoral GDP.

Figure 35 Share of persons employed in collaborative economy in sectoral employment (average of NACE M, N, S95) in online skills sector (%,2016)



Source: authors' calculations

However, while the indicators for the online skills sector in **Poland** establish the country as an EU leader, no specific regulatory efforts have been made to foster this (see also Section 4.22). There are six local (examples include Oferia, Zadane and pomocedomowe.pl) and one international platform operating and accounting for about

99% of the country's sectoral revenues. Having said this, collaborative economies are further exposed to a tight regulatory framework, which is especially interwoven with regards to taxation questions. For instance, due to the great variety in activities within the collaborative economy and subsequent differing interpretations regarding the determination of personal income taxes, an efficient regulation of the collaborative economy is considered as being rather complex and difficult to implement.[76] The success of the collaborative economy in Poland can therefore mainly be traced back to cost advantages over more traditional modes.

The online skills sector is the biggest and most important sector in **Greece**. The main services and goods offered range from the provision of medical consulting, to on-demand household chores, to further P2P or P2B services. This is reflected in Greece being among the six countries that rank above the EU average in terms of the share of persons employed and percentage of sectoral GDP generated by the online-skills sector (0.02%). Also, the Greek government now claims to not only be aware of the advantages and side-effects of the collaborative economy, but is even proceeding to regulate some aspects (mainly in the transportation and accommodation sector, which stand out as the most active sectors in Greece) (see also Section 4.9).

Estonia's high ranking is explained by its overall positive approach to the collaborative economy (0.03% of sectoral GDP). There are a variety of platforms operating, some of them operating internationally (Jobbatical, GoWorkaBit) and new platforms are being launched by community initiatives. There is no specific regulation in force, but the overall business environment is rather open and it's simple to launch new companies. Also, the level of overall trust towards online services is high and people, such as students, housewives or retirees, are eager to have short-term jobs. In addition, recent regulatory development has introduced a new form of entrepreneurship for micro entrepreneurs, which makes working as a private person legally more attractive and easier to manage (see also Section 4.8).

Given the traditions with respect to emigration and self-employment, it is surprising to see countries such as Romania (nearly 0% of sectoral GDP) and Portugal (0.005% of sectoral GDP) ranking below the EU average in the development of the collaborative economy in the on-line skills sector. Perhaps this is due to the fact that the collaborative economy's business models are still new in these countries and hence, they have not yet been picked up to the same extent. As an example, platforms like Uber and Airbnb are very popular in **Romania**, also introducing collaborative consumption in other sectors (see also Section 4.24). In **Portugal**, the regulatory framework is already quite supportive; however, the government is working on reducing barriers for collaborative economy platforms, to allow their growth and to continue developing the Portuguese collaborative economy environment, in order to make it more and more attractive for international and domestic players (see also Section 4.23). These are promising developments, especially in light of Portugal having better employment indicators than revenue indicators for the online-skills sector. The reduction of barriers to growth, together with an established workforce, could see Portugal joining those Member States ranking above the EU average.

While the transport and accommodation sectors are well-developed and well-known in **Hungary**, in other sectors, including online skills, Hungary ranks below the EU average. Due to low market penetration of online-skills platforms, the country should, therefore, be seen as an outlier in this category, despite its strengths in other sectors (see also Section 4.14).

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[76] This section is extensively drawn on the analysis carried out by PwC (2016) (Współ)dziel i rządź!, Prawno-podatkowe aspekty ekonomii współdzielenia w Polsce, see: https://www.pwc.pl/pl/pdf/ekonomia-wspoldzielenia-raport-2-pwc.pdf

4. LEVEL OF DEVELOPMENT OF THE COLLABORATIVE ECONOMY IN MEMBER STATES

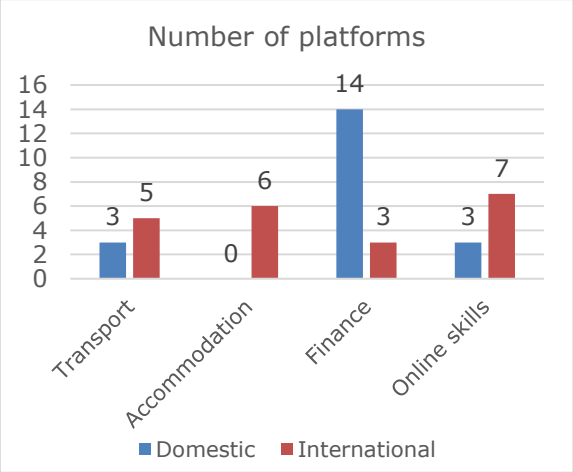
This chapter presents the results of data analysis and a description about the level of economic development of the collaborative economy in the EU-28. In addition to the main results of the study, the country profiles discuss the primary political and public approaches to the collaborative economy, the main drivers and obstacles, as well as initiatives taken and the future outlook for further growth.

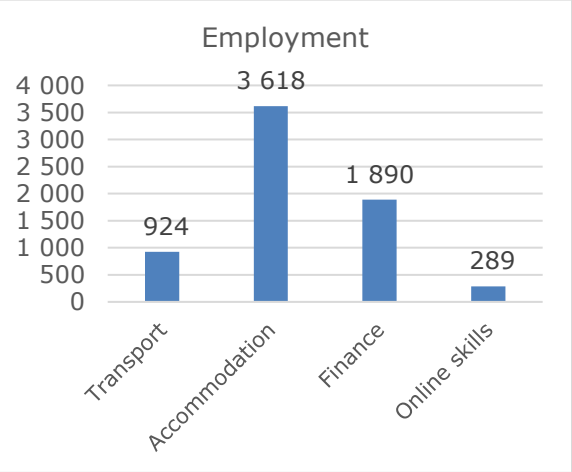
4.1 Austria

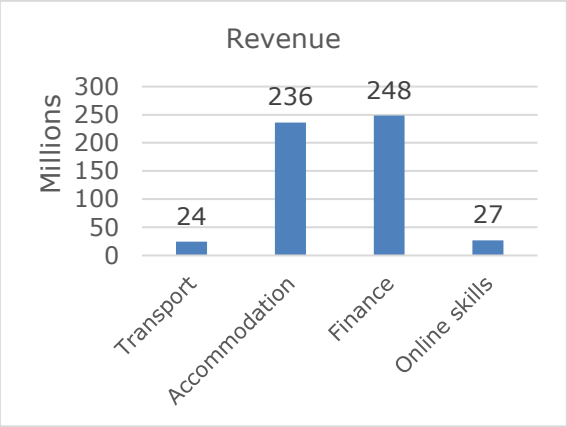
The size of the Austrian collaborative economy is comparable to the Europe-wide average. A total of 41 active platforms were detected in the country, of which almost half (20) are domestic. Similarly, Austria also settles in the European middle in economic terms. About EUR 536 million in revenues were generated in 2016, with the biggest share coming from the finance sector (EUR 248 million) and the accommodation sector (EUR 236 million).

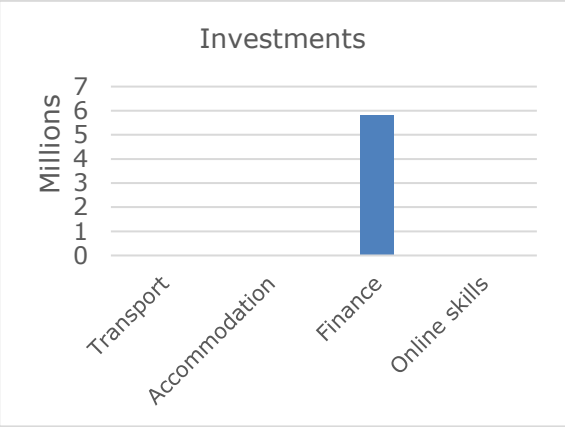
Viewed in a Europe-wide perspective, Austria belongs to the group of Member States that demonstrate a below-average ratio of platforms per 1 million population (2.28); however, one notices a relatively more significant contribution of its collaborative economy with regards to national GDP (0.15%). In a similar vein, the platforms of Austria's collaborative economy constitute an average share of overall national employment figures, manifested in a contribution to such of 0.15%.

Relevant information, data and corresponding graphics can be found in the following overview. Please note that, unfortunately, no or incomplete data for investments could be retrieved due to a lack thereof.









What is the level of development of the country in comparison with other Member States in the transport, accommodation, finance and online skills sectors?

The largest number of active platforms in the Austrian market can be found in the finance sector (17) and the online skills sector (10). Apart from the **finance** sector, the platforms operating within the Austrian shared economy are predominantly international. To illustrate this further, not a single domestic platform is currently active in the **accommodation** sector. Roughly 6 700 people are estimated to be working in Austria's collaborative economy in 2016, of which 1 890 are employed in the finance sector. The finance sector is also the only sector to have received funding for domestic Austrian platforms (approx. EUR 5.8 million).

The biggest chunk of activity within Austria's collaborative economy can thus be attributed to the finance sector, as it outperforms the accommodation, **transport**, and **online skills** sectors. This also means that Austria's collaborative activity is characterised by a focus on domestic platforms, given that the incumbents in the finance sector are mostly Austrian. International platforms might be predominant in other sectors, but these sectors have yet to grow.

The appearance and importance of each sector can further be contextualised by identifying their respective, predominantly implemented **business models**. As for the finance sector, debt funding stands out as the most commonly effectuated model, accounting for about 43% of all platforms in this sector, following this operative concept. The transport sector is dominated by platforms providing ride-sharing services (57% of all platforms), whereas the accommodation sector is predominantly shaped by platforms offering home renting services (66%), while the online skills sector relies exclusively on on-demand household services.

What is the evidence regarding the level of development of the collaborative economy in the country?[77]

Regulatory measures at the state-level have yet to be developed. If at all, the focus of policy remains local, as is the case in other Member States. Salzburg, a picturesque city in the north of the country, is a recent example: the entry of platforms like Airbnb, 9flats, and Wimdu into the accommodation sector has increased the already high rental

[77] This section was prepared based on input provided by Philipp Hofstätter, Consultant at the Zukunftsinstitut, in a personal interview.

prices to exorbitant levels. Even though a city tax has been levied, this has not tamed demand sufficiently. On a daily basis, over 300 properties are currently offered in Salzburg.[78] The municipality has decided to step in and will put in place a law that will limit the use of private homes as tourist accommodations. This is supposed to keep investors from buying property and using it for hospitality purposes year-round.[79]

In general, the cultural switch towards an economy that embraces sharing has not fully taken place among consumers yet. This is largely due to the fact that knowledge about and awareness of the concept is still underdeveloped. However, this is not the case all over Austria. A large mindset divide continues to exist between urban and rural regions. Whereas citizens of Vienna, Salzburg or Graz tend to use platforms quicker, the rural population (34% of Austria's inhabitants[80]) is mainly responsible for the lack of uptake. Possible explanations abound: For one, the rural population tends to be older and reluctant in embracing digital alternatives. Second, possession generally trumps sharing in an environment that is characterized by remoteness and long commutes.

Nonetheless, the Austrian market could have potential in the future. Social capital is ample and people generally enjoy the process of helping each other out personally.[81]

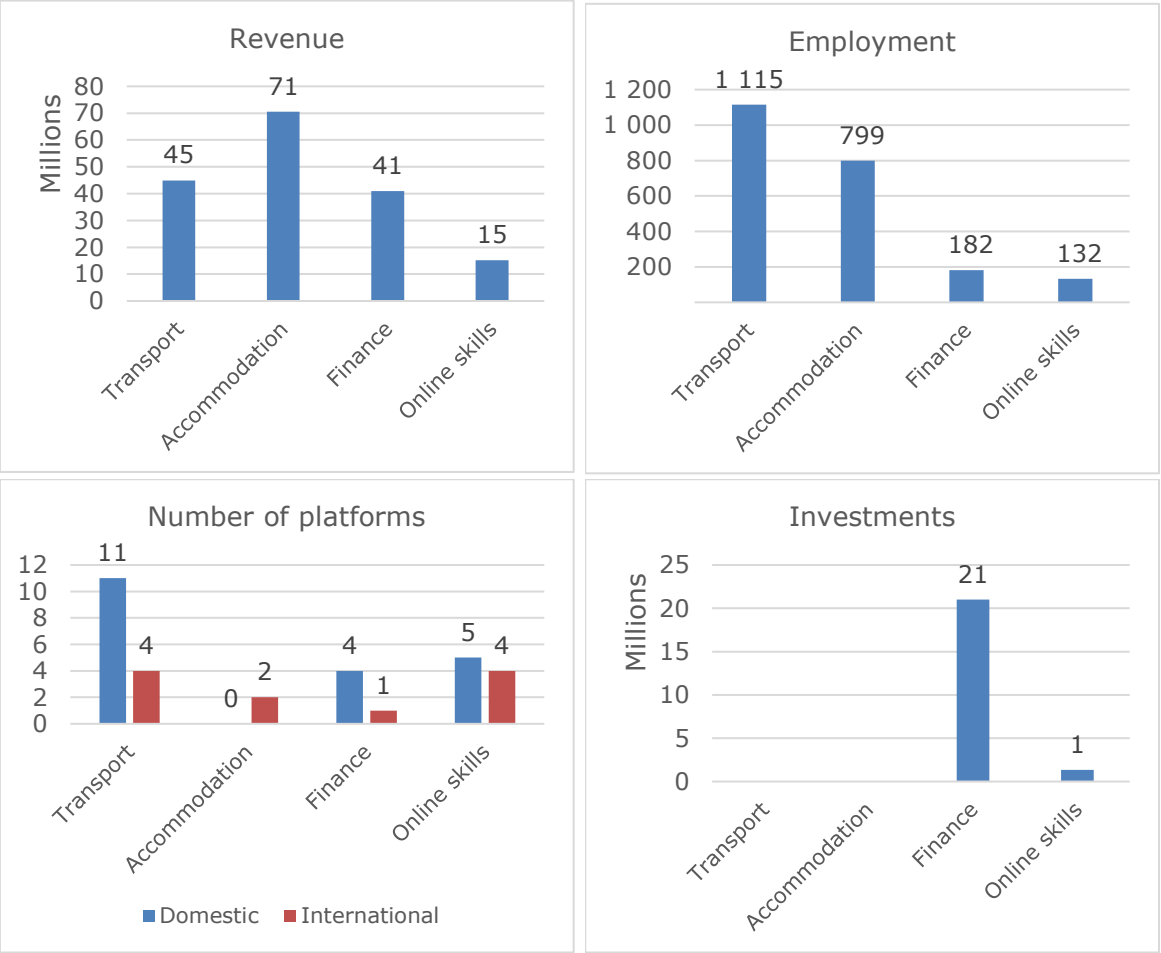
78 According to a brief location search on Airbnb.com.
79 WKS (2017) – Bald neue Spielregeln in Salzburg für Airbnb & Co; https://news.wko.at/news/salzburg/spielregeln-fuer-plattformen.html
80 IndexMundi (2017) - http://www.indexmundi.com/facts/austria/indicator/SP.RUR.TOTL.ZS
81 Insights from interview with Philipp Hofstätter.

4.2 Belgium

The overall market volume of the collaborative economy was approximately EUR 171.6 million in 2016, with total employment of 2 228 persons.

Viewed from an EU-wide perspective, Belgium belongs to the group of Member States that demonstrate a below-average ratio of platforms per 1 million population (1.76), and similarly lags behind in regards to the contribution of its collaborative economy to national GDP (0.04%). Belgium's collaborative economy continues this trend by showing that the input of its collaborative economy's platforms into overall national employment figures does not exceed 0.05%.

Relevant information, data and corresponding visualisations can be found in the following overview.



What is the level of development of the country in comparison with other Member States in the transport, accommodation, finance and online skills sectors?

As of 2016, 31 P2P collaborative economy platforms were identified in Belgium, out of which 11 are international platforms. Most domestic platforms are operating in the transport sector (11 platforms). In the finance and online skills sector, there are a total of four and five domestic platforms operating, respectively. No domestic accommodation platforms have been identified. Out of 11 international platforms operating in Belgium, there are four in the transport and online skills sectors, respectively, two in accommodation and one in finance.

In 2016, the highest employment count was achieved by the **transport** sector with 1 115 persons employed. This was followed by the **accommodation** sector with comparable levels of employment, namely 799 persons employed. The online skills and transport sectors are both dominated by domestic platforms (e.g. Listminut and Pwiic, for online skills; and Carpool and Caramigo, for transport) which were the main source of service provider employment. By contrast, online skills and finance platforms have a less pronounced impact on employment, demonstrated by 132 and 182 jobs, respectively.

Following a similar trend, the accommodation sector generated the highest revenue in Belgium with EUR 70.5 million. Lower revenues were generated by the transport (EUR 45 million) and finance (EUR 41 million) sectors. The online skills sector trails in this comparison with total revenue of EUR 15 million generated in 2016.

In the Belgian collaborative economy, **investments** in the finance (EUR 21 million) as well as online skills sectors (EUR 1.35 million) could be identified.

The most dominant **business models** per sector can be conceptualised as follows: Within the finance sector, most platforms have specialised in equity funding, leaving few platforms focussed on debt funding instead. Platforms in the transport sector are mostly aligned to serve ride-sharing services, which comprise 47% of the entire sector's size, whereas all but one of Belgium's online-skills platforms are offering on-demand household services. Since the accommodation sector is oligopolistic in nature, with only two platforms in Belgium, a concise statement regarding the sector's predominantly engaged business models cannot be made.

What is the evidence for the level of development of the collaborative economy in the country?

A study from the King Baudouin Foundation stated that few reliable and comprehensive figures on the development of the collaborative economy in Belgium are available, yet acknowledges that the collaborative economy is a growing phenomenon.[82] As of 2015, 22% of Belgians had heard about the sharing economy and 2% already used such platforms. According to stakeholders[83], collaborative economy platforms reached their highest rate of growth in 2016.

Compared to the country's neighbouring nations, such as France, the Belgian market is smaller and fragmented between three regions and languages. Although there are few domestic platforms, international platforms are more popular in Belgium. The main driver for the Belgian platforms to operate internationally is to increase the number of users and thus increase the number of transactions.[84]

The collaborative economy has had an impact on Belgium's employment, social system and tax regimes.[85] Thus, the Belgian government started to regulate the collaborative economy sector. The first legal instrument is a law introduced in 2016,[86] regulating the taxation of **services** in cases where transactions are processed through collaborative economy platforms. According to this regulation, all revenues generated from the supplying of services (and not supplies of goods such as renting out accommodation) below the threshold of EUR 5 000 per year are taxed at the rate of 10%. Transactions

82 King Baudoin foundation 2016, « The collaborative economy for the poorer: an opportunity?", study realized by Alter. Available at: https://www.kbs-frb.be/fr/Activities/Publications/2016/20161214DD

83 Interview with Trend-Tendances magazine and the blog Uberize-me conducted the 09/11/17.

84 Interview with Trend-Tendances magazine and the blog Uberize-me conducted the 09/11/17.

85 Federal Council for the sustainable development, 2017. Opinion on guidelines about the collaborative economy. Available at: http://www.frdo-cfdd.be/sites/default/files/content/download/files/2017a02f_0.pdf..

86 Loi programme of the 01/07/16.

must take place on a platform approved by the Belgian authorities.[87] Platforms are responsible for collecting all applicable taxes directly during the transaction.

The second segment concerned is **crowdfunding**. A law passed in 2016[88] regulates the investment in companies through crowdfunding platforms.[89] All platforms active in this sector should receive the approval of the Belgian Financial Services and Market Authority (FSMA).

Two laws regulate **tourist accommodation** rentals. In Flanders, a decree[90] states that it is sufficient to simply inform the relevant department of the Flemish Government for tourist accommodation. In the Brussels Capital region, the legal instrument regulating tourist accommodation is the Ordinance of 2014[91], according to which all accommodations rented for touristic purposes (via a platform or not)[92] must be registered with the regional public authorities. In addition, the host as well as the accommodation rented out must fulfil certain criteria[93] and the transaction may be subject to a tax collected by the Belgian regions.[94] The arrival of players such as Airbnb has created greater competition issues in the traditional hospitality and accommodation sector, ultimately resulting in a stricter regulatory framework.[95]

The regulations having the greatest impact are the ones concerning the collaborative economy and the rental of tourist accommodations.[96] Further regulation formulated in Belgium states that regular employees can earn income in addition to their salary under a statute of part-time self-employment. This additional income is added to their regular salary and thus increases their income tax.[97] With the **2016 law on the collaborative economy**, employees can earn extra revenues of up to EUR 5 000 per year with a 10% tax rate. This is lower compared to the equivalent rate under the part-time self-employed regime. Therefore, this regulation is supporting participation in the collaborative economy.[98] The purpose of this law was to achieve a compromise: to regulate these activities without restricting the potential extra revenues for the employees.[99]

87 See BDO, 2016, New tax measures in a Programme act, available at: https://www.bdo.be/en-gb/news/2016/new-tax-measures-in-a-program-act

88 Law of 18/12/16 organizing the legal framework of the crowdfunding activities.

89 To date, peer-to-peer lending is not yet permitted in Belgium.

90 Decree of 05/02/2016 on tourist accommodations entered into force in April 2017 and replacing decree of 05/04/2008 on tourist accommodation.

91 Ordonnance relative à l'hébergement touristique 8 mai 2014. Entered into force in 2016 with the implementation Decree of 24/03/16.

92 Accommodation rental to tourist cannot exceed 90 days. Beyond that time, the rental will be regulated according to landlord-tenant law.

93 Hosts who advertise listings on collaborative economy platforms must meet the following criteria, among others: have civil liability insurance, have no criminal record and be compliant with the regulation on work and social security; the accommodation must be kept in good condition, meet safety standards, and have a certificate of compliance with urban planning standards.

94 For instance, in the Brussels-region Capital - the most popular Belgian region for online accommodation rentals - a tax of EUR 3 per night is collected on the transaction fee.

95 Ibid.

96 Interview with a journalist of Trend-Tendances magazine and the blog Uberize-me conducted on 09/11/17.

97 See the Part-time self-employed statute available at: https://www.belgium.be/en/economy/business/creation/becoming_self_employed/part_time_self_employed

98 Interview with a journalist of Trend-Tendances magazine and the blog Uberize-me conducted on 09/11/17.

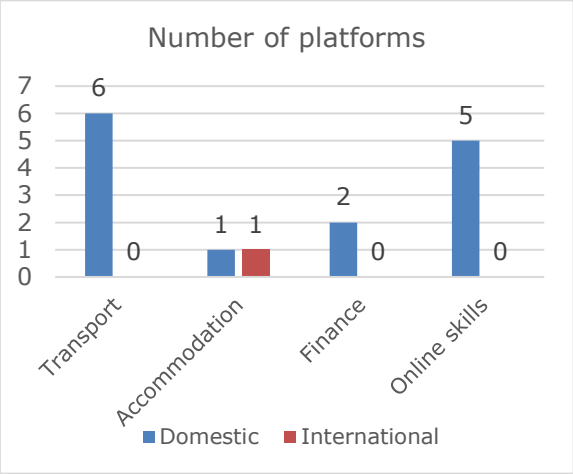
99 Ibid.

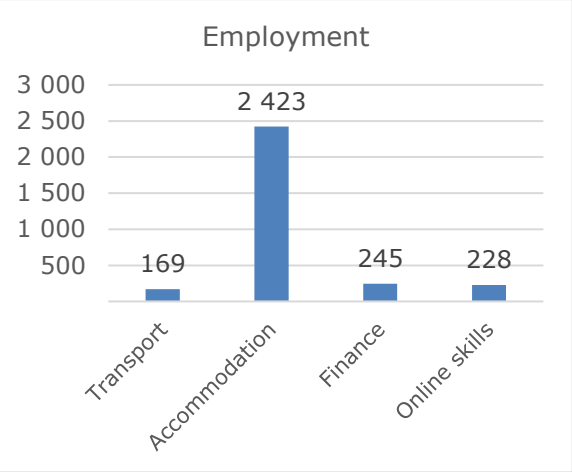
4.3 Bulgaria

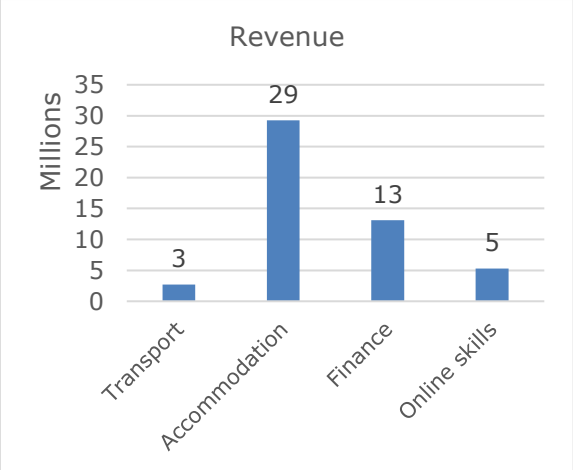
A total of 15 platforms operating in the sectors of transportation, accommodation, finance and online skills could be identified in 2016. The entire market size had a volume of about EUR 50.4 million, which represents a contribution of 0.11% to total national GDP, placing Bulgaria below the EU average.

In a similar vein, Bulgaria is well below average in the number of platforms per 1 million population (1.55), and similarly poorly placed with regards to collaborative employment in relation to total national employment (0.1%).

Relevant platforms and associated data can be found in the following overview. Please note that, unfortunately, no investment figures could be retrieved due to the lack of data.







What is the level of development of the country in comparison with other Member States in the transport, accommodation, finance and online skills sectors?

One of Bulgaria's biggest (in terms of number of platforms) collaborative economy sectors can be found in the **transport** sector, which is largely shaped by P2P ride-sharing platforms. Most of the six platforms operate locally, with AhaCars and Comborides, which operate on an extra-regional or national scale, being the exception. The employment and revenue figures of 169 employees and EUR 2.7 million in total revenue, as of 2016, demonstrate the sector's importance. These figures, however, also indicate that the collaborative transport sector is relatively moderately sized in monetary terms compared to the country's accommodation and finance sector, to which we will divert to in the following sections. This assertion is further supported by the evidence

that no transport platform has made any attempts to operate internationally. All but one platform in the Bulgarian transport sector effectuate a ride-sharing business model.

The most striking feature of Bulgaria's collaborative economy platforms is certainly the limited number of international platforms, which, in fact, is solely represented by the internationally operating **accommodation platform** Airbnb. Airbnb's only remaining competitor in the Bulgarian market is embodied by Sakvartiranti, which, however, does not directly compete with Airbnb as this service connects flatmates rather than brokering temporary (holiday) accommodations, and hence follows a business model which can most appropriately be conceptualised as room-renting services. Airbnb has hence become increasingly popular in Bulgaria. In addition to low-budget airlines opening new routes to and from Sofia, Airbnb has been a major factor in pushing real estate prices in Sofia.[100] The two accommodation platforms generated revenue of approximately EUR 29 million in 2016, and provided 2 423 jobs.

A similarly oligopolistic market can be identified in the **financial** sector, which has only brought two platforms, Klearlending and Tramplin, to the fore. Klearlending is a combination of P2P lending and free financial education,[101] whereas Tramplin is the only national platform for civic crowdfunding, targeted at socially engaged and beneficial projects.[102] These platforms employ 245 people, and generated revenue of EUR 13.1 million in 2016.

Lastly, several **online skills** platforms can be singled out in Bulgaria, all of which are using a P2P transaction type, combined with an almost exclusive engagement in on-demand household or professional services business model. The platform "I am free", which is a platform linking people with free time and certain skills with people who need errands, repairs, etc. done for them;[103] "Ucha se", a platform offering online tutoring in different school subjects at different levels;[104] "Divera", a knowledge-sharing platform targeted at adults;[105] as well as "Daskal" and "Rock School", form the backbone of the collaborative online skill economy in Bulgaria. In total, these platforms displayed employment figures of 228 employees as well as revenue figures of approximately EUR 5.3 million in 2016.

What is the evidence for the level of development of the collaborative economy in the country?

The landscape of the Bulgarian collaborative economy appears to be divided by opposing opinions and attitudes between and across different levels. No special support measures have been identified in the country and no studies have been commissioned by the government. While it is easy to start a business in Bulgaria, the uncertainty surrounding collaborative economy platforms affects any advancements in this sector. Similarly, no formal regulatory framework with specific respect to collaborative economies has been established. Instead, collaborative economies are generally exposed to "standardised" and existing fiscal or regulatory frameworks. Yet, as a representative of the Bulgarian committee for consumer protection claims, such specific legislation is currently in the making (retrieved from a 06/02/2017 TV interview with D. Margaritov).

The attitude of the Bulgarian public towards the collaborative economy, on the other hand, is generally rather positive. Eurobarometer results from March 2016 show that around 35% of the respondents have heard of or are familiar with the aforementioned platforms, and about 17% of the respondents have used their services in Bulgaria, mainly due to their competitive pricing. This positive impression, however, is partially

100 Idem
101 https://www.klearlending.com/
102 Tramplin.bg
103 Iamfree.pro
104 Ucha.se
105 www.divera.bg

offset by some 36% of Bulgarians, who have expressed disappointment over the lower quality of the services, followed by a lack of trust in Internet transactions in general.[106]

A further division between attitudes towards collaborative economies can be seen in differing acceptance levels and readiness to use according services between different population groups. Such attitudes differ drastically with age, the urban/rural and big town/small town divide.

[106] Flash Eurobarometer Survey 438 report, June 2016 (survey in BG was made on the basis of 500 interviews)

4.4 Cyprus

Being one of the smallest EU Member States, Cyprus also shows some of the smallest measurable activity with respect to collaborative economies among all EU Member States. Its four platforms contributed total revenue in the amount of EUR 37.2 million in 2016.

Comparing Cyprus with other EU Member States, the country can be labelled as being moderate in terms of the overall performance of its collaborative economy. Cyprus ranks respectably in the level of revenue compared to national GDP (0.21%) as well as collaborative employment among total national employment (0.14%); however, its performance is below the EU-28 average, considering the number of platforms in the country per 1 million population (2.34).

Relevant platforms and associated data can be found in the following overview. Please note that, unfortunately, no investment figures could be retrieved due to lack of data.

What is the level of development of the country in comparison with other Member States in the transport, accommodation, finance and online skills sectors?

Carpool Cyprus, a subsidiary of U.S. platform Carpool World, offering ride-sharing services, is the sole operating collaborative **transport** platform in Cyprus. Its monopoly position provides one job, and ensured the platform a revenue of about EUR 17 494.

Similar to comparable countries in the region, Cyprus' economy is highly influenced by and dependent on tourism. Hence, the **accommodation** sector, with its collaborative economy platforms, is the most dynamic and also the biggest sector, in terms of the

number of platforms (2) and also the turnover generated in 2016 (EUR 37 million). According to the insights gathered within this analysis, 581 jobs have been created in this sector, which is dominated by Airbnb.

Collaborative finance platforms are entirely absent in the Cypriot market. Consequentially, no data or information can be presented.

Similar to Cyprus' collaborative transport sector, the **collaborative online skills sector** is also shaped by a monopoly. The Cypriot platform Bartercard contributed to the market by providing five jobs and generating EUR 234 553 in 2016.

What is the evidence for the level of development of the collaborative economy in the country?

The collaboration of people on a local, national and international level through online platforms – where short-term access to underutilised assets and skills is being offered in a non-professional capacity – has given rise to the collaborative economy. Cyprus' population is by no means to be exempted from these dynamics, and participates in this new market space. Yet, the Cypriot population does not appear to be intensely involved in collaborative economies,[107] and rarely passes the stage of bare recognition of the existence of according platforms. No voiced public discourse surrounding collaborative economies can be noted in Cyprus at the moment, and no attempts have been made by the Cypriot government to establish a set of regulations.

This rather passive stance is mirrored in the attitude of Cypriots towards, and the effective treatment of, services offered online, such as those stemming from e-commerce. The purchasing behaviour of Cypriots is below the EU average with respect to online purchasing patterns, reflected in the fact that only about every tenth citizen purchases goods or services online. This trend continues through to the supply side, where the percentage of enterprises selling their goods and services online (13%) does not reach the EU average either (18%). These figures, however, should not be interpreted in a manner that depicts Cypriots as being generally averse to "the Internet". In fact, the population's trust in online security is above the EU average.[108] Nonetheless, performance by Cyprus remains below average, and only ranks 22nd among the EU-28 in the digital economy and society indicator of 2017,[109] a position which the government attempted to relativize by stating that 'although the level of commitment of Cypriots is higher than the European average, individuals and businesses have not yet taken advantage of the opportunities and possible benefits of the digital economy'.

[107] It was supported by the Minister of Transportation, Communication and Works, Marios Dimitriades, at a journalists' convention that was held at the beginning of the campaign "Be Digitally Connected! Easy and Simple!" in October 2017. It was also stated in the interview with Spyros Triantafillides, Commerce and Industry Officer at the Ministry of Energy, Commerce, Industry and Tourism.

[108] Digital Economy and Society Index 2017, available at: https://ec.europa.eu/digital-single-market/en/news/digital-economy-and-society-index-desi-2017

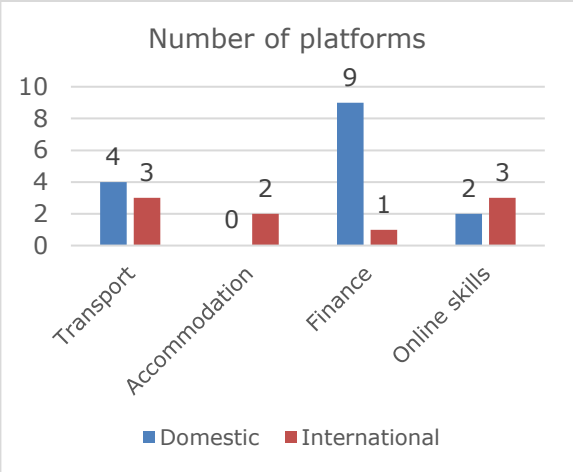
[109] Ibid

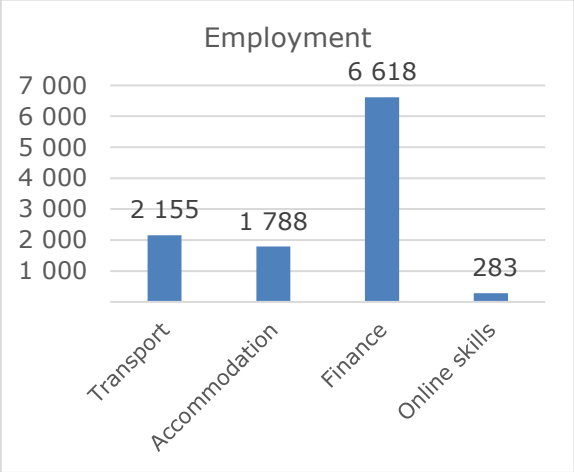
4.5 Czech Republic

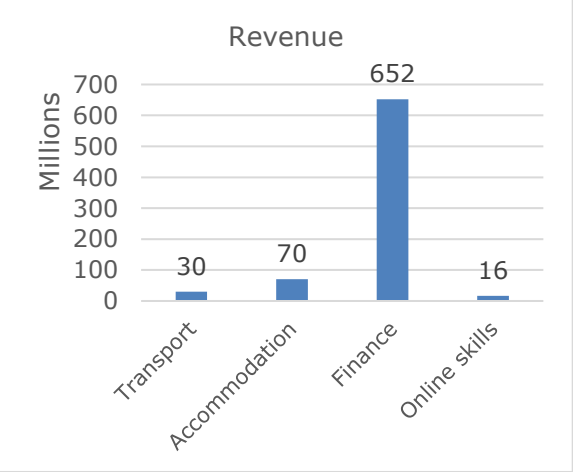
The market volume of the collaborative economy in the country is EUR 768 million, and reveals that there are about 10 800 persons employed within this sector.

This noteworthy importance of the collaborative economy alluded to is especially embodied by the platforms' contribution to overall national GDP, which is manifested in a share or 0.44% in 2016 and an above EU-average. In contrast, the country's ratio of platforms per 1 million inhabitants (1.42), is below average. The collaborative economy's contribution to the local labour market (0.21%) ranks in the middle in terms of the EU-average.

Relevant platforms and associated data can be found in the following overview. Please note that, unfortunately, no investment figures could be retrieved due to lack of data.







What is the level of development of the country in comparison with other Member States in the transport, accommodation, finance and online skills sectors?

The most active sector in terms of number of platforms, revenue and employment is the finance sector. The main driver behind the growth of P2P lending, in particular, in the Czech Republic is the creation of an alternative to saving, as well as the low interest rates offered by commercial banks.[110]

[110] Interview with Kryštof Kruliš, Ph.D., 1) Research Fellow Association for International Affairs (AMO), 2) Chairman of the Board of Directors Spotřebitelské fórum, z. ú.

A total of 24 **platforms** constitute the Czech collaborative economy. The highest number of domestic platforms (those originating in the Czech Republic) are found in the finance sector (9), followed by transport (4) and online skills (2). There are no domestic platforms in the accommodation sector, where the market is dominated by Airbnb, and to some extent Homeaway. The main international platforms operating in the country are Airbnb, in the accommodation sector, and Uber and BlaBlaCar, in the transport sectors. In the online skills and finance sectors, there are some Slovak and international platforms operating on the Czech market. In a similar vein, there are some finance platforms, such as Hithit and Startovac, which also operate in Slovakia, as Czech and Slovak markets can take advantage of the similarity of the language and business environment.

The highest **revenue** in 2016 was generated by the finance platforms, equalling to around EUR 652 million, followed by accommodation (around EUR 70 million), transport (around EUR 30 million) and online skills (around EUR 16 million).

In terms of **employment** in 2016, finance created more than 6 600 jobs in the sector, transport more than 2 000, accommodation about 1 800, and online skills around 280.

The most commonly engaged **business model** in the finance sector is represented by debt-funding services, which make up about 42% of the sector. Similar figures can be retrieved from the transport sector, where 43% of the operating platforms, and thereby the biggest share, follow a P2P vehicle rental business model. The online skills sector is dominated by on-demand household platforms, whereas the accommodation sector does not allow for a sensible interpretation due to its oligopolistic nature.

What is the evidence for the level of development of the collaborative economy in the country?[111]

At the Ministry of Industry and Trade, those in favour of collaborative economies, claim that the collaborative economy should be supported as it leads to new starts up and entrepreneurial activity, and those surveying collaborative economies more critically demand their compliance with regulations regulating self-employed workers.[112] These regulatory requirements are not currently followed by service providers offering collaborative services. As a result, one of the main barriers of the collaborative economy in the Czech Republic is the law regulating self-employed workers (*živnost* in Czech),[113] i.e. the law allowing physical persons to conduct business activities.[114] It is not clear whether or to what extent the definition of service under this law applies to service providers on collaborative platforms. There is legal uncertainty in this respect as to how the law will be interpreted, which might restrict the growth of the collaborative economy.[115] With regard to the Income Tax obligation, around EUR 1 200 per year (CZ 30 000) is tax free for occasional services provided without a business licence.[116]

111 To draft this section, the author is grateful to Kryštof Kruliš, Ph.D., 1) Research Fellow Association for International Affairs (AMO), 2) Chairman of the Board of Directors Spotřebitelské fórum, z. ú. for providing information during an interview for this study.

112 Interview with Kryštof Kruliš, Ph.D., 1) Research Fellow Association for International Affairs (AMO), 2) Chairman of Board of Directors Spotřebitelské fórum, z. ú.

113 Act 455/1991 on self-employed businesses and its amendments

114 Interview with Kryštof Kruliš, Ph.D., 1) Research Fellow Association for International Affairs (AMO), 2) Chairman of Board of Directors Spotřebitelské fórum, z. ú.

115 Interview with Kryštof Kruliš, Ph.D., 1) Research Fellow Association for International Affairs (AMO), 2) Chairman of Board of Directors Spotřebitelské fórum, z. ú.

116 Income Taxes Act No. 586/1992 Coll.

Moreover, the service provider should pay the tax on the income earned and social contributions.[117]

The Ministry of Industry and Trade, and its internal market department, has commissioned a study on the development of the collaborative economy in the Czech Republic in 2016.[118] Following this, several conferences on the topic were organised,[119] and an economic study on the collaborative economy and digital platforms was commissioned by the government office in 2017.[120] Its methods and results were exposed to criticism expressed by platforms and some of the experts.

Further legislative considerations can be noted in each respective collaborative economy sector. For instance, the Czech regulations differentiate between two types of **transport** services – taxi services and car-sharing (a short-term rental)/ carpooling (e.g. BlaBlaCar). The Road Transport Act (111/1994) does not apply to car-sharing, and carpooling is not considered a taxi service or an economic activity (as it is based on cost-sharing).[121] Hence, the latter two business models do not provide a regulatory problem in the Czech Republic.[122] The biggest debate concerns ride hailing services, such as Uber and Taxify, as they directly compete with regulated taxi services, and hence could fall under the Road Transport Act regulating taxi services. This has been an issue in Prague and Brno (in Brno, Uber was temporarily banned based on a precaution issued by the local court, and then allowed after the precaution was lifted by a court of higher instance).[123] Uber was taken to court by the magistrate of Brno for not complying with the taxi services regulation and this judicial proceeding is currently ongoing. In Prague, one Uber driver brought a suit against an administrative penalty imposed by a magistrate on him and the court in administrative proceedings lifted the penalty on the grounds that the magistrate did not fully consider whether the driver provided the service as part of a collaborative (sharing) service or not. The matter is not yet settled in the Czech Republic.[124] In autumn 2017, the Ministry of Transport has announced its intention to amend the Road Transport Act and open the opportunity to liberalise the regulatory environment for the functioning of online applications, including the substitution of taximeter with GPS in a smart phone.[125]

There are currently considerably fewer restrictions on collaborative platforms operating in the **accommodation** sector. Nonetheless, the city of Prague intends to organize an awareness campaign on legal obligations related to renting out private properties.[126] According to the Czech regulation, one can provide accommodation in one's own property under two regimes – business accommodation activity (under the Trade Act) or ordinary civil law housing rentals (under the Civil Code). The first regime, if provided regularly and as profit-seeking, requires a Trade Licence on accommodation services. The second regime is based on a property rental contract for housing purposes – an individual does not require a Trade Licence, but the income should be taxed under §9

117 Ibid
118 http://docplayer.cz/16013873-Research-paper-2-2016-analyza-vybranych-sektoru-sdilene-ekonomiky-v-ceske-republice-krystof-krulis-alice-rezkova.html
119 E.g. https://www.mpo.cz/assets/dokumenty/55571/63680/654733/priloha001.pdf
120 Sekce pro Evropske zalezitosti Uradu vlady CR, Analytical paper 06/2017, Analyza sdilene ekonomike a digitalni platforem
121 4Liberty.eu, (no year given) Policy paper: Less regulation, more reputation! Case study: the sharing economy in transportation and accommodation
122 Through, carpooling critics debate the legality of "voluntary" customers' opportunity to pay the driver.
123 Information provided by the interviewee Kryštof Kruliš
124 Ibid
125 https://www.mdcr.cz/Media/Media-a-tiskove-zpravy/Ministerstvo-dopravy-navrhuje-umoznit-v-zakone-pro
126 Information provided by the interviewee Kryštof Kruliš

of the Income Tax Act (income from rentals).[127] One should ensure that foreign guests have been registered in the Alien Police database. In the case of tourists, it may be also necessary to administer and pay tourist tax to the local municipality. Such an administrative burden, if it cannot be taken care of directly through a platform, limits the development of collaborative accommodation in the Czech Republic.

Collaborative **finance** started off as reward-based financing. Currently, the most popular is P2P lending. There is growth in this sector, as P2P lending platforms offer alternative opportunities for investments.[128] But the overall market share of P2P lending platforms in the consumer lending sector is still relatively small. Since mid-2016, there is also a Czech equity crowdfunding platform Fundlift. These platforms follow the standard regulations in the sector, and have no regulatory or legal disputes.[129]

Platforms in the **online skills** sector function differently compared to Uber or Airbnb – in terms of managing the payments and contracts through the platforms. There are no regulatory restrictions in this sector.

127 4Liberty.eu, (no year given) Policy paper: Less regulation, more reputation! Case study: the sharing economy in transportation and accommodation

128 Information provided by the interviewee Kryštof Kruliš

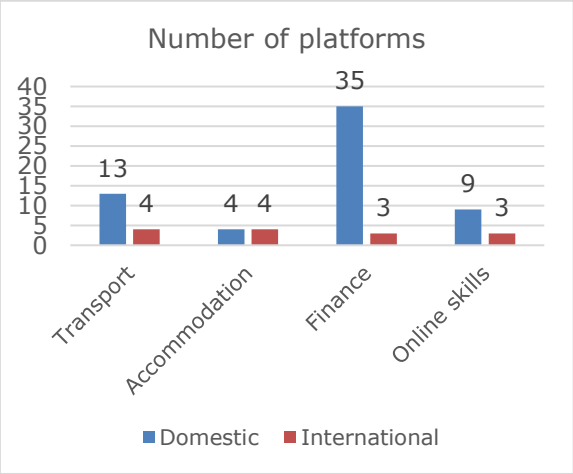
129 Information provided by the interviewee Kryštof Kruliš

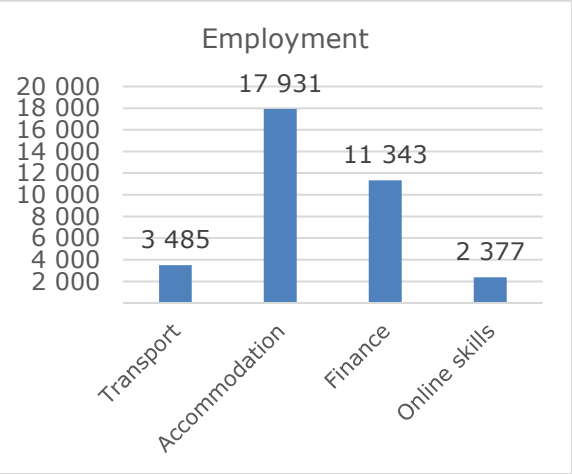
4.6 Germany

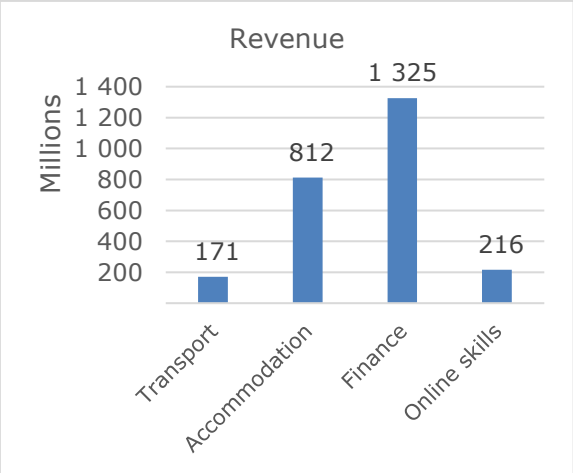
A total of 75 active platforms were detected in the country, of which 61 are domestic. Most platforms active in the German market can be found in the finance (38) and transport (17) sectors. From an economic perspective, Germany occupies one of the leading spots in the European comparison. Roughly EUR 2.6 billion in revenues were generated in 2016.

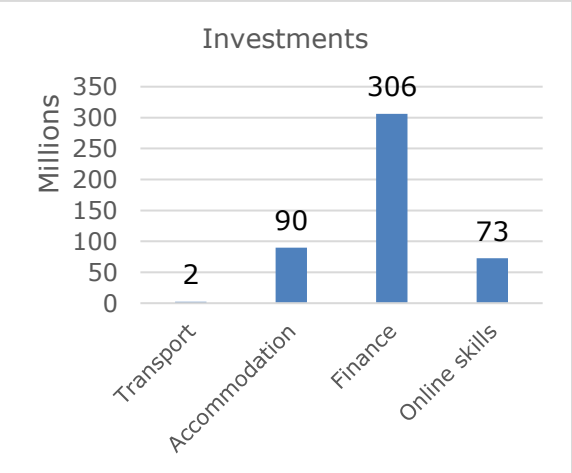
However, all indicators, platforms per 1 million inhabitants (0.81), the collaborative economy's contribution to overall national employment (0.1%) and national GDP in 2016 (0.1%), are below average.

Relevant figures, information, data and visualisations can be found in the following overview.









What is the level of development of the country in comparison with other Member States in the transport, accommodation, finance and online skills sectors?

The biggest sectors are represented by the finance (EUR 1.33 billion) and accommodation (EUR 812 million) sectors. Drivers behind this are, on the one hand, the need for alternative, more accessible sources of financing to fuel Germany's start-up

hype[130] and, on the other hand, the increased interest of tourists in Germany, which has made it the 4th most visited country in the EU-28[131] and hence boosted demand in the accommodation sector.

This is mirrored in the count of persons employed, with roughly 18 000 people employed in the accommodation sector and 11 300 in the finance sector. Overall, about 35 000 people are estimated to be working in Germany's collaborative economy in 2016.

German investment seems to be concentrated on those sectors in which German platforms maintain a competitive edge in the domestic market and are not facing the immediate threat of takeover by an international firm. The online skills sector hereby received almost as much in investments (EUR 72.6 million) as the accommodation sector (EUR 90 million); even though revenues in the latter sector dwarf revenues in the former. This can be explained by the fact that international firms, such as Airbnb, dominate the German accommodation sector. In online skills, however, the biggest operating platforms (e.g. Helpling, BookaTiger) are German. Further investment figures can be noted in the transport sector (EUR 2.2 million), as well as the finance sector, which clearly stands out as the most intensely considered sector concerning investment figures (EUR 306 million).

Germany's respectable count in collaborative economy platforms is mirrored in the diversity of their respective **business models**. As for the finance sector, the primarily engaged structural alignment complies with debt-funding services, which represent about 46% of all platforms in this sector. The diversity alluded to is especially apparent in the transport sector, where 36% of all platforms offer ride-sharing services, 28% P2P vehicle rental, and another 24% services that are targeted at addressing issues surrounding parking spaces. A total of 45% of all platforms active in the accommodation sector engage in a business model which is targeted at renting out residences. Similar figures can be stated for the online-skills sector, where on-demand professional services are the most commonly effectuated business model, and accordingly implemented by 58%.

What is the evidence for the level of development of the collaborative economy in the country?[132]

As of today, Germany does not belong to the countries with an overarching **policy** regarding the collaborative economy. A green paper by the Ministry of Economic Affairs and Energy, released in 2016, discusses the general implications for the economy of digital platforms, but fails to specifically recommend policy action for sharing platforms.[133] Specific existing regulations are rather circumstantial and influenced by geographic and thematic factors (i.e. focused on a specific city or business model). Especially big international platforms have caught the eye of the legislator: Uber was temporarily banned from operating in Hamburg and Berlin, in 2014, due to a lack of passenger protection.[134] Collaborative accommodation platforms are likely to face restrictions in the German capital on days rented per property, according to a revision

130 KPMG (2016) – Deutscher Startup Monitor 2016
131 World Atlas (2014) – The Most Visited European Nations
132 This section was prepared based on input provided by Dr. Gerd Scholl of the Insitut für Ökologische Wirtschaftsforschung (IÖW) in a personal interview.
133 BMWi (2016) – GREEN PAPER Digital Platforms
134 The Guardian (2014) – Uber taxi service banned in Berlin; https://www.theguardian.com/technology/2014/aug/14/uber-taxi-service-banned-berlin-safety-grounds

of the "Misappropriation Act" which is due in early 2018.[135] In general, these small-scale policies tend to be reactive and strict, rather than creating an enabling environment for the sustainable growth of these platforms.

Public attitude towards P2P platforms is generally positive. Based on an extensive user survey[136] conducted by the Institute for Ecological Economy Research (IÖW), the triple-dividend of social, economic, and environmental benefits to the collaborative economy lies at the heart of this positive conception. What is more, incumbent users are more positive about P2P platforms and diversify their usage of them. This could lead to a general uptake in platform traffic for Germany in the future. Below are some statistics taken from the IÖW survey on German usage patterns:

- **7%** of respondents have heard about P2P platforms and possess general knowledge concerning their usage.
- **6%** of respondents indicated that they have used accommodation platforms before / **3%** for car sharing / **14%** for ridesharing.
- **15%** of respondents indicated that they are likely to use accommodation platforms in the future / **10%** for car sharing / **19%** for ridesharing.

135 Der Tagesspiegel (2017) – Berliner Zweckentfremdungsgesetz wird verschärft; http://www.tagesspiegel.de/berlin/airbnb-in-berlin-berliner-zweckentfremdungsgesetz-wird-verschaerft/20472786.html

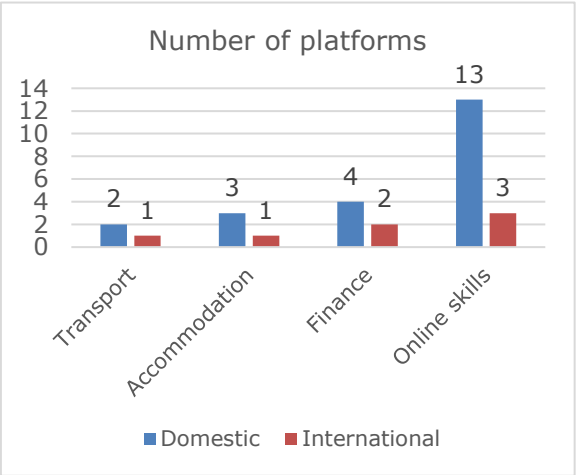
136 IÖW (2017) – Peer-to-peer sharing in Germany: Empirical insights into usage patterns and future potential

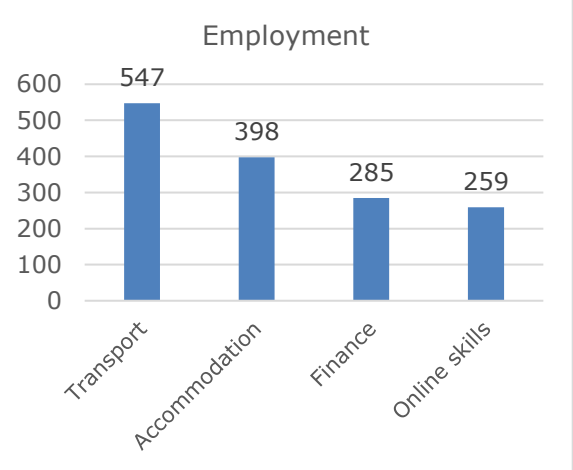
4.7 Denmark

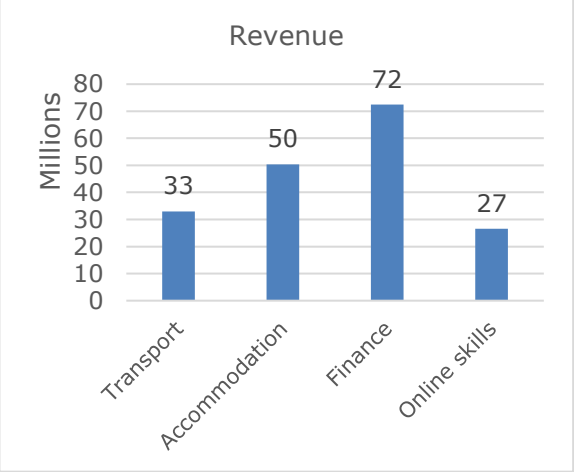
Denmark's collaborative economy is numerically approached by a market size of EUR 182 million as of 2016. This figure places the Scandinavian country in similar spheres as countries such as Estonia or Finland. The achievement of this market volume is supported by and effectively effectuated through the in total 1 489 persons employed within the country's 30 platforms.

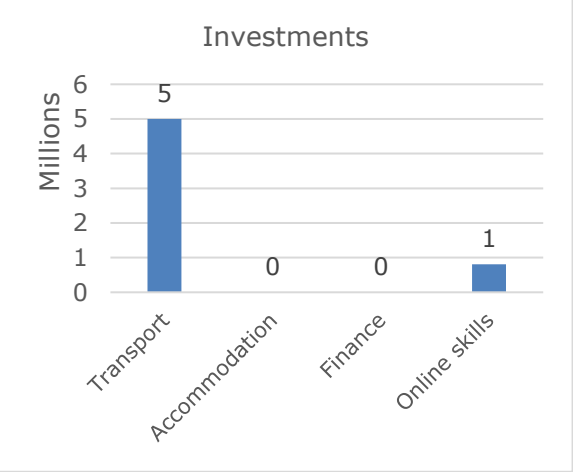
Viewed from an EU-wide perspective, Denmark lies above the EU-average in terms of its ratio of platforms per 1 million inhabitants (4.00). Figures that hint at below-average performance, however, can be noted regarding the contribution of the collaborative economy to national GDP, where Denmark does not exceed 0.07%, as well as its share of employment stemming from collaborative economies in relation to overall national employment (0.05%).

All figures, data and insights are gathered and represented in the following overview.









What is the level of development of the country in comparison with other Member States in the transport, accommodation, finance and online skills sectors?

A first glance at Denmark's collaborative economy sectors reveals rather dispersed attributes, with no single sector claiming absolute superiority over others. Accordingly, the **transport** sector shows the highest count of persons employed (547); however, it does not stand out in particular. The sector is further characterised by a total revenue of EUR 33 million in 2016, as well as investment figures of EUR 5 million. It is worth noting that the transport sector is populated by the lowest platform count in a national comparison, as platforms such as Uber are banned from the country. Half of all transport platforms operating in Denmark commit to rides-on-demand services.

The collaborative **online skills** sector houses most platforms, represented by the count of 16 as of 2016. Of these 16 platforms, 13 originate from a domestic background, leaving 3 as international contenders. Worth noting is revenue in the amount of EUR 26.5 million and a total of 259 persons employed. It is furthermore necessary to note the sector's investment figures, which amount to EUR 811 000. The most commonly engaged business model in the online skills sector is on-demand household services, which sum up to about 75% of the entire online skills market.

The sector making a mark as the one demonstrating the highest revenue figures is the **finance** sector (EUR 72 million). The sector furthermore provides 285 jobs, and hosts 6 platforms. Three-quarters of the finance platforms in Denmark follow a debt funding business model.

For the remaining collaborative economy sector, the **accommodation** sector, a revenue of EUR 50.4 million as well as almost 400 jobs can be noted. Of the 4 platforms operating in this sector, 3 are of domestic origin, with the remaining platform being international. Airbnb dominates the market, and effectively accounted for 5.4% of all overnight-stays booked in Denmark in 2016.[137] Half of the platforms in this sector list home renting as their primarily engaged business model.

What is the evidence for the level of development of the collaborative economy in the country?

The Danish government is generally supportive of the collaborative economy, and aspires to take advantage of the potential for growing innovation and the more efficient use of natural resources and capital assets. At the same time, the government also wishes to bring the collaborative economy into the regulated economy. This general approach was set out in the Government's coalition agreement from 2016.[138] In addition, the Government's *Strategy for Growth Through the Sharing Economy*,[139] published in October 2017, further elaborates on the approach taken, and outlines a number of measures aimed at creating a clearer framework within which businesses in the collaborative economy shall operate and grow. A new *Taxi Act*, agreed on in February 2017, prompted the departure of Uber from the Danish market. Following a number of legal cases brought against the company and drivers for breaking the Taxi law and failing to pay taxes on earned income, the new law upheld a number of existing requirements and other provisions which made it all but impossible for the company's current business model to function legally.[140]

The uptake of collaborative economy services by consumers in Denmark is slightly below the European average, with 14% of the respondents of a representative Eurobarometer survey confirming their use of collaborative platforms (EU: 17%).[141] A 2017 survey from Statistics Denmark estimates a participation rate of 19%.[142] Participants in the collaborative economy are likely to be young and live in the larger urban areas of the country.[143] The vast majority of Danish consumers use e-commerce and there is a high-level of 'generalised trust'. Survey results suggest that barriers to a higher rate of take-

137 Deleøkonomien i Danmark, Op. Cit, p. 23

138 Regeringsgrundlag, Marienborgaftalen 2016: For et friere, rigere og mere trygt Danmark, Danish Government, 2016, retrieved from http://stm.dk/multimedia/Regeringsgrundlag2016.pdf [accessed 16 November 2017].

139 Strategi for vækst gennem deleøkonomien, Danish Government, October 2017, retrieved from: https://em.dk/nyheder/2017/10-09-strategi-for-deleokonomi [accessed 16 November 2017]

140 https://techcrunch.com/2017/03/28/uber-to-pull-out-of-denmark-blaming-new-taxi-law/ [Accessed November 16, 2017]

141 Flash Eurobarometer 438: The use of collaborative platforms, June 2016, p. 6, retrieved from: https://data.europa.eu/euodp/data/dataset/S2112_438_ENG [accessed 16 November 2017]

142 It-anvendelse i befolkningen (tema) deleøkonomi 2017, Statistics Denmark 22 June 2017, retrieved from: http://www.dst.dk/Site/Dst/Udgivelser/nyt/GetPdf.aspx?cid=28787 [accessed 16 November]

143 Deleøkonomien i Danmark: Kortlægning af omfang i Danmark og øknomisk virkning af øget udbredelse af deleøkonomiske tjenester, Danish Business Ministry, October 2017.

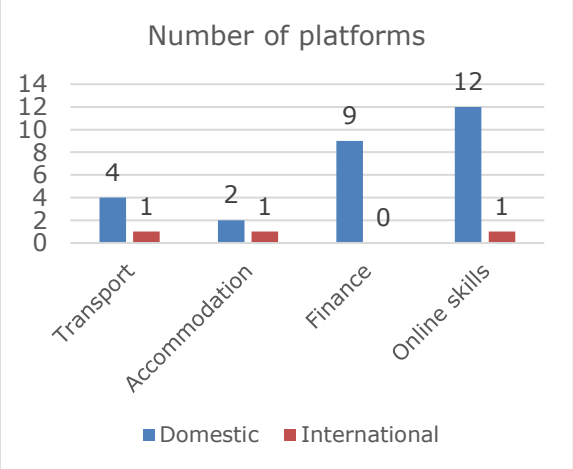
up include lack of trust as well as uncertainty about insurance, consumer rights and legality of services provided, to name a few.[144]

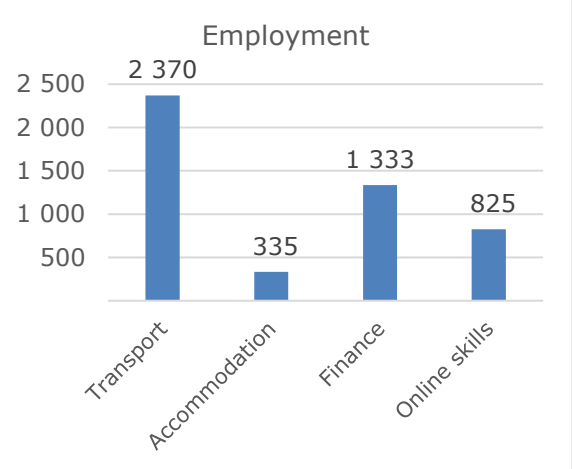
[144] Deleøkonomien i Danmark, Op. Cit, p. 19

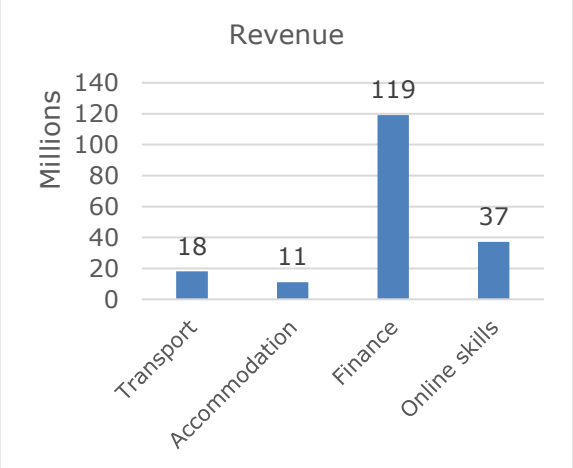
4.8 Estonia

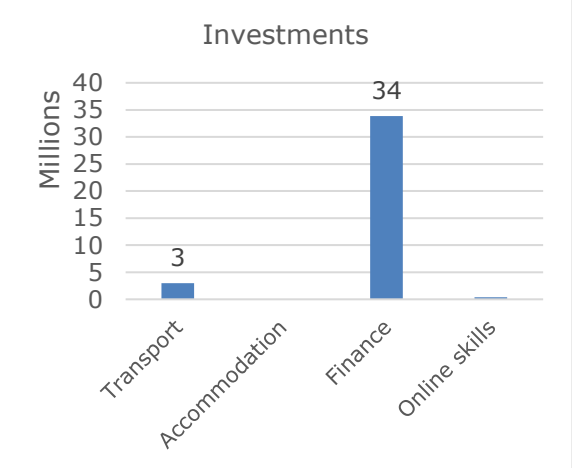
There were 32 collaborative platforms observed to be operating in the transport, accommodation, finance and online skills sectors in 2016 (29 domestic and three international platforms). The total estimated market revenue of the collaborative economy is about EUR 185 million, which was about 0.88% of national GDP in 2016. This places Estonia first in this respect in an EU-wide comparison.

In comparison with other EU Member States, Estonia belongs to the group of countries that are above average in terms of the overall performance of the collaborative economy within the country. Estonia ranks first in the number of platforms per 1 million population (22), and also ranks highly in the level of revenues compared to national GDP (aforementioned 0.88%) as well as collaborative employment in total national employment (0.74%).









Source: authors' calculations

What is the level of development of the country in comparison with other Member States in the transport, accommodation, finance and online skills sectors?

There are five platforms in the **transport sector** operating in Estonia – four are domestic origin and one international (Uber). The estimated revenue of the platforms in 2016 was EUR 2.7 million and total market size (platforms and service providers' revenue) EUR 18 million. The sector employs approximately 140 people and there are slightly more than 2 200 service providers in the transport sector. The transport sector

has enjoyed total investments of about EUR 3 million, out of which at least EUR 2 million has been recently (in 2017) invested into Taxify. In the transport sector, we are able to observe platforms operating in different segments. In the ridesharing sub-sector, Estonia's Taxify as well as the U.S. origin Uber are both popular among consumers. In addition, we can find platforms for car sharing (Autolevi), parcel delivery services (Shipitwise) and the sharing of parking spaces (Barking). Taxify is a serious competitor to Uber in the Estonian market and is rapidly expanding its activities cross-border, being present in more than 21 countries. The main driver for the sector is a gap in the market of flexible and cheap transport services, with the number of rideshare users growing rapidly. One motivation to use on-demand services is the use of a platform (quick and clear way to share information) and the opportunity to provide immediate feedback. In 2016 the government launched multilateral discussions about the necessity to amend the Public Transport Act, which concluded with improved regulation of the transport sector. Most notably, **Estonia was the first country to legalize ridesharing** by adopting amendments to the national Transport Act. The country's transport platforms operate in diverse spheres, ultimately not letting any particular business model dominate or stand out in any manner.

There are two domestic accommodation platforms and one international (Airbnb) operating in Estonia. The estimated market size (platforms and service providers) in 2016 was EUR 11 million, with about 335 persons employed. No investments have been made into domestic accommodation platforms. The small number of domestic **accommodation** platforms (two originating from Estonia) is likely due to the popularity of international platforms, such as Airbnb and Booking.com (having also a small number of rooms for short-term rent), which have quite successfully penetrated the market (e.g. currently there are approximately 300 listings advertised on Airbnb for accommodation in Estonia[145]). All in all, 10% of the accommodation market is served by the collaborative economy (out of which about 90% is Airbnb and Booking.com). However, the accommodation sector has been significantly influenced by the emergence of collaborative economy platforms. In 2015, the turnover for collaborative economy platforms in the accommodation sector grew 44% while at the same time in the traditional accommodation sector it was 18%. Altogether, collaborative economy platforms make up about 8% of the accommodation market.[146] The main drivers for the market are flexible, transparent and user friendly online platforms.

The **financial sector** has been one of the fastest developing collaborative economy sectors in Estonia in recent years. The estimated revenue of platforms in 2016 was EUR 18 million and total market size (platforms and service providers) EUR 119 million. The sector employs roughly 1 300 people. Numerous new platforms have been created, targeting different aspects of the financial market. Most platforms in the finance sector are in the debt funding segment, with private persons offering loans to private lenders as an investment (Bondora, Iuvo). There are also some equity funding platforms (Crowdestate, Fundwise) and one crowdfunding platform that is being used quite widely in Estonia (Hooandja). Since there are a relatively high number of platforms in the financial sector for a small country, not many platforms of foreign origin have become popular in this sector in Estonia. For example, for crowdfunding purposes Estonians use mostly Hooandja, but not Kickstarter or Gofundme. Rapid growth of the financial sector of the collaborative economy has attracted investments of more than EUR 33 million into the development of platforms. No particular business model dominates this sector, in which all platforms operate in different spheres.

145 August 2017
146 https://www.mkm.ee/sites/default/files/lopparuanne.pdf

There are different types of collaborative platforms in the **online skills sector** in Estonia. The biggest ones are platforms for facilitating short-term employees for companies (Jobbatical, GoWorkaBit) but there are also educational platforms (Tebo, Annaabi), platforms for pet care services (Petify), household services (Kommuun), care services (Helpific) and cooking services (Toitla). Most of these platforms have remained rather small, since they are local in nature and thus have not expanded their activities cross-border. There are no foreign origin platforms operating in online skills observed in Estonia. However, the platforms generated estimated revenue in 2016 of about EUR 5.6 million and together with service providers, the market size reaches the level of approximately EUR 37 million. There are about 825 people employed in the sector. The sector has attracted investments about EUR 364 000. Out of the 12 platforms in this sector, seven are operating according to a business model focussing on on-demand professional services, leaving the remaining five platforms specifically positioned towards on-demand household services.

What are the drivers for the level of development of the collaborative economy in the country?

In 2016 the Ministry of Economic Affairs and Communications commissioned a study to understand the state of play and growth potential of the sharing economy in Estonia. The predictions about the **development of the collaborative economy** in Estonia estimate that if the government of Estonia does not undertake any significant measures to either promote or restrict the collaborative economy, the sector has the possibility to grow approximately 30% by 2020. However, should the government support the sector by adopting regulations that encourage the development of the sector, potential growth could be as high as 44%.[147]

Furthermore, Estonian collaborative economy companies have formed a **union of collaborative economy businesses** with the aim being to promote the collaborative economy and cooperate in helping the government craft suitable regulations.

As stated earlier, **Estonia was the first country to legalize ridesharing**. In the spring of 2016, a draft bill (also referenced as the so-called Uber bill) was compiled to legalize peer-to-peer ridesharing, while simultaneously revoking some requirements for traditional market participants, e.g. making it easier to apply for an operating licence for taxi drivers to create a more level playing field.[148] It was approved in the Estonian Parliament and entered into force on the 1 November 2017.[149]

Another recent regulatory development, which helps to make the lives of people who use collaborative economy platforms for making a living easier, is the creation of a **new form of entrepreneurship for micro entrepreneurs**. This is meant for private persons whose revenue in a year does not exceed EUR 25 000 and has simplified administrative requirements which allow entrepreneurial activities to be undertaken with fewer regulatory burdens. This initiative will provide private persons with greater flexibility to participate in the labour market, also enabling them to work for multiple employers at the same time.

Looking at the regulatory **challenges ahead**, then the question of the taxation of private persons as service providers is one of the main concerns which must be tackled, in order to ensure the development of the collaborative economy while also guaranteeing tax revenue. More specifically, it has been referenced that the question of

147 https://www.mkm.ee/sites/default/files/lopparuanne.pdf

148 Draft bill concerning the amendments to the Public Transportation Act, SE 188, Parliament of Estonia: https://www.riigikogu.ee/download/d7978395-ca72-4e85-9ba8-736336af3526/old

149 http://www.err.ee/602145/riigikogu-vottis-vastu-nn-uberi-seaduse

healthcare insurance contributions needs to be reviewed in light of the collaborative economy playing an increasingly significant role as a source of income for many people. Also, at the same it has been emphasised that in order to not create an uncompetitive market between collaborative economy platforms and traditional businesses, new regulations need to be fair for all market participants.

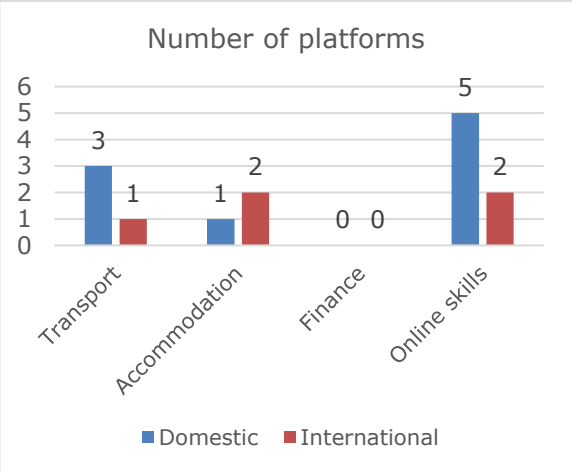
In addition to the sharing economy study provided in 2016, there are an increasing number of articles and discussions on the topic appearing in the media, also indicating the growth in the importance of the collaborative economy in Estonia. The topic remains high in political and media discussions.

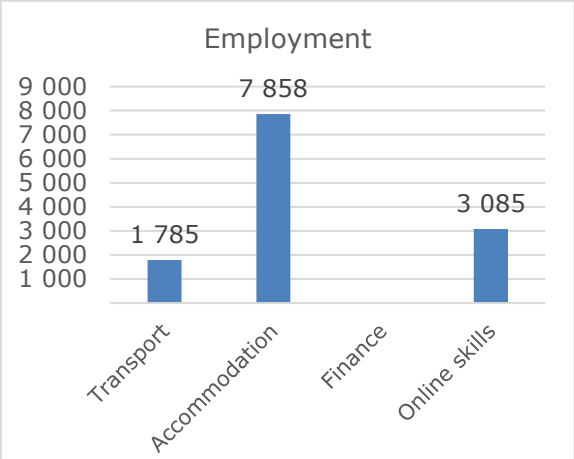
4.9 Greece

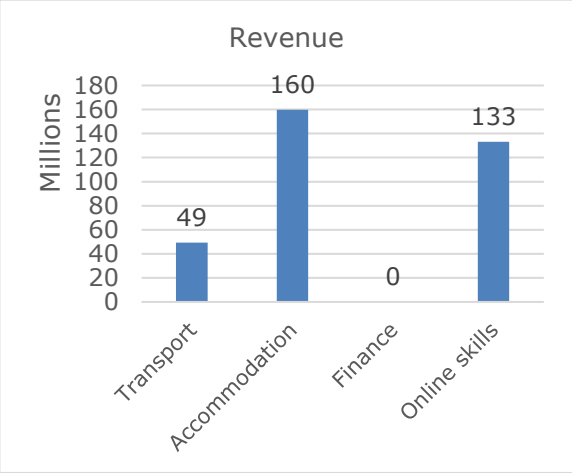
Since the effects of the recession caused by the sovereign debt and fiscal crises are still present in Greece, the general effort to reach sustainable growth rates and restore the country's credibility, constitute the environment in which the collaborative economy makes its appearance in Greece. The country's 14 collaborative economy platforms combined constituted a market volume of about EUR 343 million in 2016.

In comparison with other EU Member States, Greece belongs to the group of below average countries in terms of the number of platforms per 1 million population (0.84), but demonstrates more promising potential by ranking within the EU average in the level of revenues compared to national GDP (0.2%), and is even listed above the EU-average considering the collaborative economy's contribution to total national employment (0.27%).

Relevant platforms and associated data can be found in the following overview. Please note that, unfortunately, no investment figures could be retrieved due to the lack of data.







What is the level of development of the country in comparison with other Member States in the transport, accommodation, finance and online skills sectors?

The collaborative **transport** sector is predominantly shaped by domestically originated and operating platforms, with the U.S. origin platform Uber being the only, though noteworthy and powerful, exception. The domestic platforms are specialised in facilitating ride-sharing options and parking services. All platforms combined, including Uber, generated revenue of EUR 49.4 million in 2016, effectively achieved by the

sector's 1 785 employees, making it the third biggest collaborative economy platform in Greece. No particular business model stands out in a dominating manner in this sector.

Greece's collaborative **accommodation** sector is noticeably objected to by the country's hotel industry. Health, safety and quality have been brought to the fore by this industry, whereas the media has stressed the potential impact that accommodations stemming from collaborative economies can have. Nonetheless, the collaborative accommodation sector in Greece, with its three platforms (one national, two international), managed to generate revenue of EUR 160 million in 2016 and provide 7 858 jobs. Since Greece is a country that is clearly reliant on the tourism industry, questions have emerged as to whether the collaborative economy platforms substitute for the traditional forms of providing the service, or have a supplementary effect to it. Similar to the transport sector, no business model is evidently standing out in terms of predominant occurrence.

No collaborative **finance** platforms could be identified. Accordingly, no data or information could be gathered and displayed.

The seven platforms of the collaborative **online skills** sector represent the largest number of platforms in any of the four sectors in Greece, ultimately generating revenue of EUR 133.3 million in 2016. In addition, the sector provided 3 085 jobs. The services and goods offered by the platforms in question range from the provision of medical consulting, to household chores, to additional P2P or B2P services. In particular, all but one platform use an on-demand professional services business model.

What is the evidence for the level of development of the collaborative economy in the country?

One could be inclined to expect that the aforementioned recessional environment in Greece would potentially benefit the growth of the collaborative economy through the use of online platforms, which create peer to peer or peer to business markets. However, this statement does not seem to be supported by evidence and, in fact, appears to be plainly false. According to a study by the research agency MRB Hellas S.A., published in 2015, one of four citizens is familiar with the term collaborative economy itself; however, only 8% of the total population has been actively involved or engaged in it.

Considering the current challenges, it must be relativized that balancing the numerous short term obligations and the structural reconstruction of the public sector, so as to create a long term national strategy, is no simple task. Within the framework of externally induced criticism and pressure, a public discourse centered on the benefits and disadvantages of the collaborative economy has been initiated, at last. The Greek government now claims to not only be aware of the advantages and side-effects of the collaborative economy, but is even proceeding to regulate some aspects of it within the transportation and accommodation sectors, which stand out as the most active sectors in Greece. In fact, the Greek parliament is considering revising the existing legislation on passenger transportation. The former regulatory framework, which had liberated parts of the passenger transport sector by permitting the use of passenger vehicles with drivers that work for tourist agencies or car rental businesses for profit purposes, is about to be annulled. The aim, as formulated by the Greek government, is to eventually establish passenger transportation systems which are exclusively operated by licensed individuals and entities.

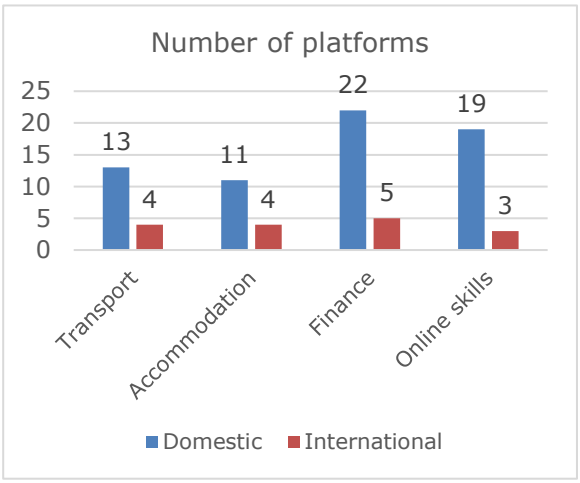
Similarly, further sectors, such as the accommodation sector, are also exposed to changing regulatory frameworks. While it had been permitted from 2015 to 2017 to list short term leases of up to 30 days as regular urban leases, which is a regulation that certainly benefitted the collaborative economy, it was ruled that this act shall be lifted in the near future. Furthermore, income generated through short-term leasing is now exposed to a 15% income tax, as well as to a mandatory creation of an officially registered business, if the concerned income exceeds EUR 12 000 per year.

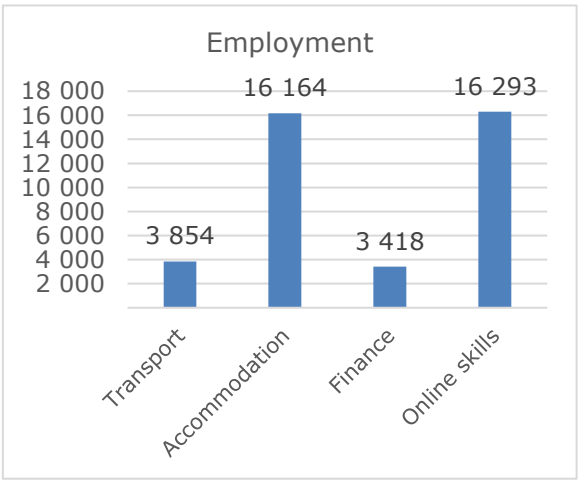
4.10 Spain

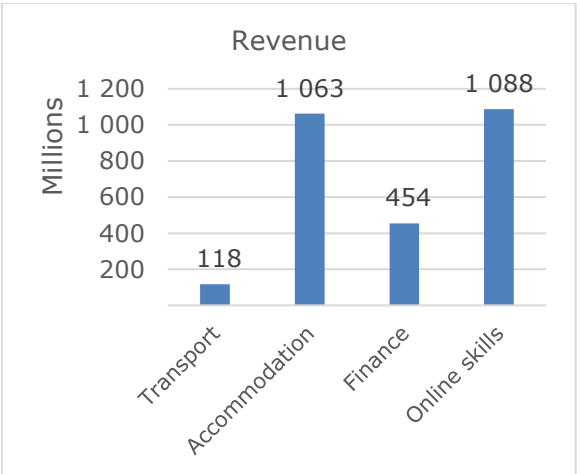
The collaborative economy in Spain has been developing over the past few years. According to a household panel convened by the National Commission on Markets and Competition (CNMC), 30% of Spanish Internet users used a collaborative economy platform in 2017. The most developed sectors are accommodation (used by 12% of panel respondents) and ridesharing services (6.5% of respondents). Crowdfunding, ride hailing, and online skill services are less popular, at 5%, 4% and 3.5% of respondents, respectively.[150] The entire collaborative economy in Spain reached a market volume of EUR 2.7 billion.

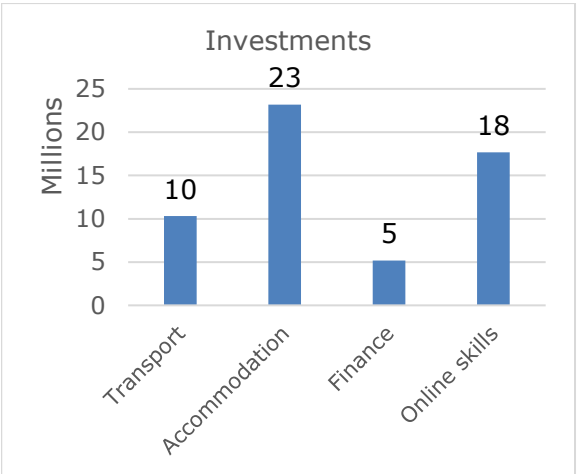
This position of the collaborative economy is reflected in the importance of the platforms for the entire Spanish economy. Though the ratio of collaborative economy platforms per EUR 1 million inhabitants is below the EU average (1.40), both, its contribution to overall national employment (0.18%) and national GDP in 2016 (0.24%) are within the EU-average.

Relevant data, information, insights and visualisation can be seen in the following overview.









[150] CNMC (3 November 2017). Press release "Las app para vender or alquilar productos de segunda mano, las más utilizasas por los internautas". Available at: https://www.cnmc.es/node/365389.

What is the level of development of the country in comparison with other Member States in the transport, accommodation, finance and online skills sectors?

As of 2016, 81 collaborative economy **platforms** were identified in Spain, out of which 16 are international platforms. The largest number of domestic platforms are operating in the finance sector (27 platforms). In the transport and accommodation sectors, 17 and 15 platforms, respectively, were identified. There are 22 online skills domestic platforms represented on the Spanish collaborative economy market. Out of 16 international platforms operating in Spain, there are four in the transport and four in the accommodation sectors, three in online skills and five in finance.

In 2016, the highest **employee count** was achieved by the online skills sector with 16 293, and matched closely by the accommodation sector with 16 164. In contrast, transport and finance platforms have a smaller impact with regards to employment, with 3 854 and 3 418 persons employed, respectively.

In terms of **revenue**, the online skills and accommodation sectors generated the highest level, with more than EUR 1 billion each. By some distance, the finance and transport sectors are to be noted, with figures of approximately EUR 454 million and EUR 118 million, respectively.

Substantial **investments** have been made in the accommodation sector (EUR 23 million), followed by its counterparts in the online skills (EUR 18 million), transport (EUR 10 million) and finance (EUR 5 million) sectors.

About 45% of all platforms operating in the finance sector have specialised in equity funding. The most common, yet not dominant, effectuated **business model** in the transport sector is P2P vehicle renting, represented by a share of about 29%. A similarly diverse picture can be drawn for the accommodation sector, where home renting is the most commonly named business model, accounting for not more than 35% of concerned platforms. The online skills sector, on the other hand, is almost exclusively populated by platforms operating to broker and mediate on-demand household services.

What is the evidence for the level of development of the collaborative economy in the country?

The growth of the collaborative economy in Spain can be attributed to several factors, according to the CNMC. First, the development of telecommunication networks and the growth in mobile phone use has facilitated the spread of collaborative platforms. Second, the economic crisis has developed alternative channels, especially in the finance sector, to compensate for the reluctance of banks and investment firms to lend money. Finally, Spain embraces the change in consumer culture common to the rest of Europe, which is more focused on access to services rather than ownership, and greater environmental concerns.[151]

Nonetheless, the **regulatory framework** affecting the collaborative economy in Spain is rather **fragmented at the local level**, which can impede further growth. For instance, in the accommodation sector, most regions require peer providers to obtain authorisations or licenses prior to letting their property. The city of Barcelona has even frozen the issuance of such licenses in 2017.[152] In the transport sector, Spain was the first EU country to ban the P2P version of the ride hailing platform Uber (UberPop) in

[151] CNMC (3 November 2017). Press release "Las app para vender or alquilar productos de segunda mano, las más utilizasas por los internautas". Available at: https://www.cnmc.es/node/365389

[152] Special Tourism Accommodation Plan (PEUAT) 2017. Available at: http://ajuntament.barcelona.cat/pla-allotjaments-turistics/en/

2014.[153] [154] Similarly, in the online skills sector, collaborative economy workers must fulfil the same requirements as traditional providers, notably in terms of taxes and the social security obligation.

Accordingly, a series of regulatory issues were targeted over the past few years. For instance, in March 2016, the CNMC published a report which identified the main obstacles to the development of the collaborative economy and provided recommendations for further growth.[155] In June 2017, the Ministry of Energy, Tourism and Digital Agenda launched a consultation, with the aim of drafting a strategy on the digital and collaborative economy.[156] The Spanish government is also working on implementing specific tax regulations for collaborative platforms and peers. At the regional and local level, there have been some initiatives to scrutinise the collaborative economy.[157]

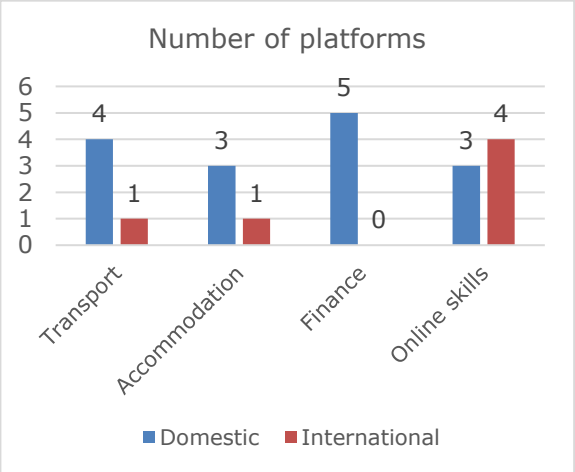
153 Decision from the Juzgado de lo Mercantil no. 2 de Madrid, 09/12/2017.
154 Ley 16/1987, de 30 de Julio, de ordenación de los transportes terrestre.
155 CNMC (March 2016). Study on new models of providing services and the sharing economy. Available at: https://docs.google.com/document/d/1n65MjUaTmRLuZCqTIlqyWvobVqreR-iAzsz1mhxy2y0/edit?pref=2&pli=1#
156 See Ministry of Energy, Tourism and Digital Agenda, "La Estrategia Digital para una España inteligente." Available at: http://www.minetad.gob.es/telecomunicaciones/es-ES/Participacion/Paginas/Cerradas/consulta-estrategia-digital.aspx
157 Comissio Interdepartamental de l'Economia Collaborativa. Available at: http://sac.gencat.cat/sacgencat/AppJava/organisme_fitxa.jsp?codi=19907

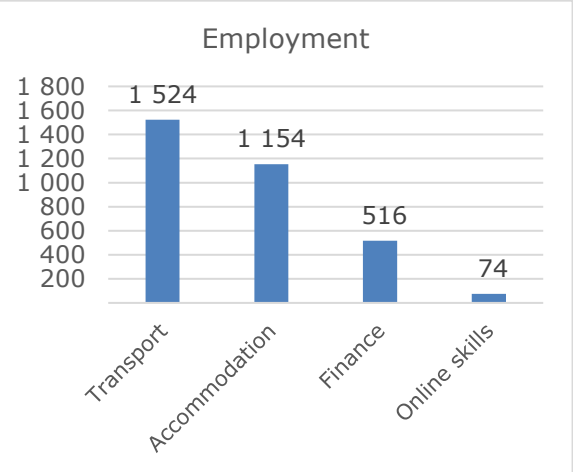
4.11 Finland

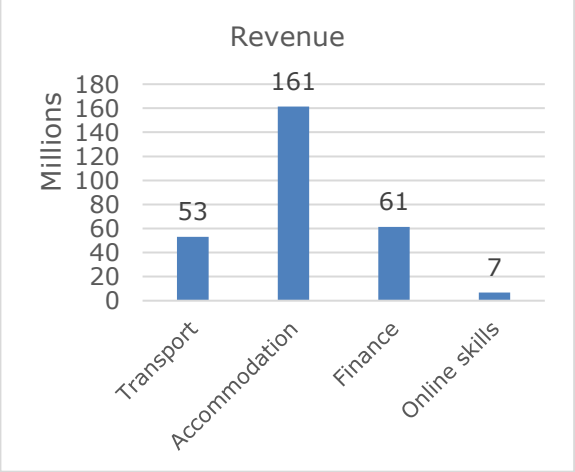
As of 2016, a total of 19 collaborative economy platforms had been identified in Finland, out of which six are of international origin. Of the 13 domestic platforms, five are operating in the finance sector, two in transport, three in accommodation, and another three in online skills. Out of the six international platforms operating in Finland, there are four in the online skills sector, one in the transport sector and one in the accommodation sector. There are no international platforms operating in the finance sector. All platforms combined captured a market volume of EUR 282.3 million in 2016, and had an employee count of 3 268.

Viewed from an EU-wide perspective, Finland belongs to the group of Member States that demonstrate an average ratio of platforms per 1 million population (2.36), and similarly ranks within the average regarding the contribution of its collaborative economy to national GDP (0.13%). Complementary figures can be retrieved from the input of the collaborative economy's platforms into overall national employment figures, which are well within the EU-wide average and manifested in a contribution to such of 0.13%.

Relevant figures can be seen in the following overview. Please note that, unfortunately, no investment figures can be displayed due to a lack of relevant data.







What is the level of development of the country in comparison with other Member States in the transport, accommodation, finance and online skills sectors?

In 2016, the highest **count of persons employed** was generated by the transport sector with 1 524. The accommodation (1 154) sector operates in similar spheres, whereas the finance (516) and online skills sectors (74) fall behind in this direct comparison.

The accommodation sector generated the highest **revenue** in Finland with EUR 161 million, followed by the finance sector with EUR 61 million, the transport sector with EUR 53 million, and the online skills sector with EUR 7 million.

A total of 60% of the platforms in the finance sector have specialised in debt funding. As for the transport sector, platforms offering P2P vehicle renting and those offering ridesharing carve up a substantial share of the market between themselves, with each respective **business model** claiming 20%. No particular model dominates in the accommodation sector, whereas two thirds of the online skills sector operates in accordance with an on-demand household or professional services business model, leaving the remaining one third for on-demand household services.

What is the evidence for the level of development of the collaborative economy in the country?

The **collaborative economy in Finland is currently in its initial stages.** There is, however, growing interest towards the sector.[158] The study commissioned by the Ministry of Economic Affairs and Employment estimates that by 2020 the value of collaborative economy transactions in Finland will reach EUR 1.3 billion.[159]

Finnish regulatory framework has not yet specifically addressed the collaborative economy. Except for the new Law on Transport Services (320/2017)[160], there are neither supportive nor restrictive regulations.[161] Some court cases and disputes have occurred in the context of Airbnb and Uber. At least one housing cooperative changed their by-laws to ban Airbnb renting, but the Market Court ruled that such a ban requires a unanimous decision by the stakeholders.[162] Regarding Uber, the Supreme Court has ruled that Uber drivers under the old traffic legislation have acted illegally, as they do not possess the required taxi licence.[163]

Broadly speaking, there **has been no significant political discussion** about the collaborative economy in Finland. Those politicians and stakeholders that have expressed opinions about the collaborative economy have expressed concerns about the rights of employees and the changes to the employment market as a result of the collaborative and platform economy. On the other hand, there is interest towards the new employment options provided by the sector.[164]

158 Interview with an expert from the Ministry of Economic Affairs and Employment on 10/11/2017
159 Ministry of Economic Affairs and Employment 2017, Jakamistalous Suomessa 2016 – Nykytila ja kasvunäkymät. Available at: http://urn.fi/URN:ISBN:978-952-327-196-8
160 Available at: http://www.finlex.fi/fi/laki/alkup/2017/20170320
161 Interview with an expert from the Ministry of Economic Affairs and Employment on 10/11/2017
162 The Market Court, 2017, MAO:8/17 Asunto Oy Eerikinkatu 35 Bostads Ab > Patentti- ja rekisterihallitus. Available at: http://www.markkinaoikeus.fi/fi/index/paatokset/teollisjatekijanoikeudellisetasiat/teollisjatekijanoikeudellisetasiat/1485939213285.html
163 Supreme Court, 2017, Uber-kuskille tuomio luvattoman taksiliikenteen harjoittamisesta. Available at: http://korkeinoikeus.fi/fi/index/ajankohtaista/tiedotteet/2017/08/uber-kuskilletuomioluvattomantaksiliikenteenharjoittamisesta.html
164 Interview with an expert from the Ministry of Economic Affairs and Employment on 10/11/2017

Currently, there is an **ongoing mapping project of the legislative environment**, with a memo scheduled for publication towards the end of November 2017. This mapping is being done cooperatively between different Ministries, and will include suggestions for future measures. The Ministries hope that this memo will generate further political conversation on the topic. One of the recommendations of the memo will be setting up a website jointly between different Ministries, to provide information and guidance. Until now such guidance has not been available, rather individual authorities have given advice on a case by case basis, and it seems that the lack of clarity on how to remain within the bounds of law is a restriction for both the supply and demand side of the collaborative economy in Finland.[165]

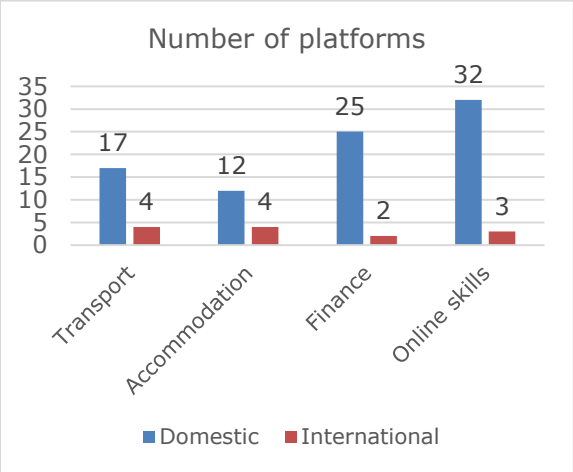
[165] Ibid.

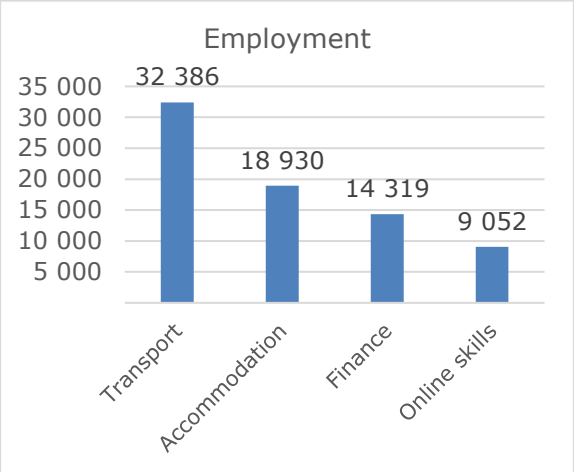
4.12 France

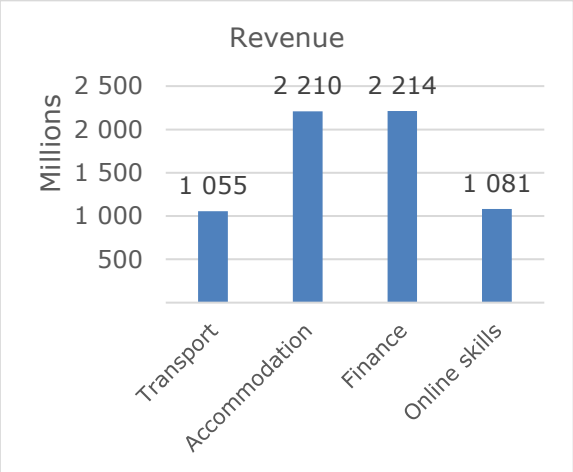
France stands out as the undisputed leading figure when it comes to the collaborative economy in the EU. The collaborative economy in the country accounts for EUR 6.5 billion, and is second to none. Similarly, the approximately 75 000 people employed by collaborative economy platforms are unparalleled.

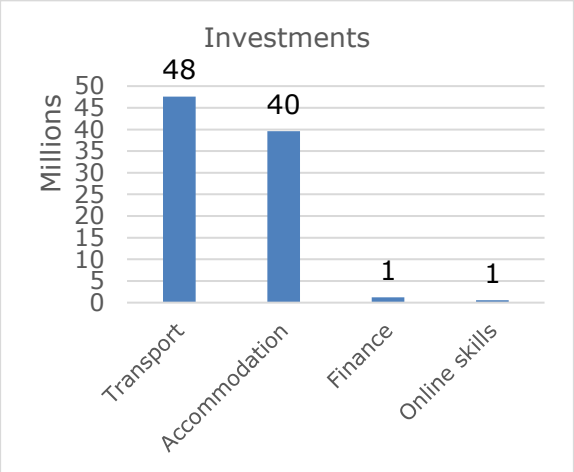
This significance of the collaborative economy is mirrored in the relative contribution of the platforms to France's overall economy. The collaborative economy's contribution to national GDP in 2016 (0.38%) is above the EU-average. Its employment counterpart (0.15%) is still within the EU-average, whereas the count of platforms per 1 million inhabitants (1.28) is below.

Relevant information and visualisations can be found in the following overview.









What is the level of development of the country in comparison with other Member States in the transport, accommodation, finance and online skills sectors?

As of 2016, 99 collaborative economy **platforms** were identified in France, out of which 13 are international platforms. The largest share of domestic platforms are operating in the online skills sector (35 platforms), followed by the finance (27), transport (21) and accommodation (16) sectors. Out of 13 international platforms operating in 2016, four are operating in the transport sector, four in the accommodation sector, three in the online skills sector and two in the finance sector.

In 2016, the highest **count of persons employed** was achieved by the transport sector with 32 386 employees, followed by the accommodation sector with about 19 000. With comparable levels of employment also present in the finance and online skills sectors (14 300 and 9 000 persons employed, respectively).

In terms of **revenues**, the finance sector generated the highest values in France with about EUR 2.2 billion, closely matched by the accommodation sector with an almost identical EUR 2.2 billion. With more than EUR 1 billion, both, the online skills and transport sector complete the list.

There are substantial **investments** in the transport sector (EUR 47.5 million), followed by the accommodation sector with similar amounts of investments, namely about EUR 40 million. The finance and online skills sectors have recorded lower investments, by EUR 1.3 million and EUR 580 000, respectively.

The finance sector is prevailingly occupied by platforms operating in line with equity funding doctrines (57%). Slightly less clear, yet indicative figures can be retrieved for the transport sector, in which about 43% of all platforms follow a P2P vehicle rental business model. The accommodation sector appears to be even more diverse, where home sharing platforms adopt a leading role with no more than 27%. On the other hand, online skills platforms primarily rely on on-demand household services.

What is the evidence for the level of development of the collaborative economy in the country?

Several factors account for the success of the French sharing economy sectors. First, there is an important stock of non-used items. According to a study done by the French Directorate-General for Enterprises in 2015, the average French household owns 70 items they do not use and there are more than 31 million cars which are barely used.[166] Combined with the growing interest in the use of a product rather than ownership,[167] there is great potential for the collaborative economy. Secondly, there is a growing synergy between 'traditional' companies and platforms. For instance, the French insurance company MAIF has created partnerships with platforms, such as BlaBlaCar or GuestToGuest, which enhance the trust of the users of such platforms.[168]

The exporting of French platforms can partly be explained by overall growing demand. As there is a certain degree of success with the collaborative economy in neighbouring countries, once a platform has proven successful in France, attempts are made to gain new market shares.[169] An interviewee from a French observatory on the digitalisation of the economy[170] indicated that as the European market is fragmented, it can be difficult for a French platform to operate abroad. The different regulations and languages can act as barriers for export activities.

With the development of the collaborative economy, issues about the transparency of the platforms, the working legal statute of the workers or the fiscal regime of the transaction have emerged. The French legislator has tried to achieve a compromise

166 French Directorate-General for Enterprises, 2015, Issues and prospective for collaborative consumption. Available at: https://www.entreprises.gouv.fr/files/files/directions_services/etudes-et-statistiques/prospective/Numerique/2015-07-Consommation-collaborative-Rapport-final.pdf

167 According to the French Directorate-General for Enterprises study mentioned, in 2013, 83% of French respondents declared than the use of a good was more important than the ownership.

168 Report to the French prime minister on the collaborative economy, 2016. Available at: http://www.gouvernement.fr/sites/default/files/document/document/2016/02/08.02.2016_rapport_au_premier_ministre_sur_leconomie_collaborative.pdf.

169 Ibid.

170 Interview with a member of the Observatory of the Uberization conducted the 13/11/17.

between the prevention of unfair competition and the need to support the economic development of the sector.[171]

In France, a set of regulations dealing with the **transport, accommodation and crowdfunding** sectors is evident. In terms of any collaborative activity in **transport,** P2P ridesharing is allowed, with no authorization or professional licence needed. Drivers providing private transport must be registered at the national level to be allowed to operate,[172] and drivers providing VTC[173] must be professionals.

In the **accommodation** sector, there are three main laws dealing with online platforms and the regime of short-term rentals. According to the Law for a Digital Republic,[174] peer providers must notify the city administration when they rent out a secondary residence. An authorization and compensation[175] may also be required when there is a change of use of the dwelling.[176] In addition, an amendment to the Digital Law passed in 2016 allows cities with more than 200 000 inhabitants to request an authorization from the host to rent out their dwellings regardless of the duration and the category of residence. In addition, according to the Finance Law of 2016[177], the platforms should provide detailed information[178] to the users. Finally, platforms as service providers have the responsibility to control the content of their website[179]. They also must inform hosts about any obligations to declare the property to the competent authorities.[180]

The Decree 2014-1053[181] is the main legislation in the crowdfunding sector. According to this regulation, P2P equity investment and peer-to-peer lending are allowed. Platforms must be registered at the National register for Intermediaries professions in Insurance, Bank and Finance[182] and have the obligation to provide certain legal information.[183]

A representative of the French observatory[184] indicated that in general, policy-makers are paying **growing attention to the development of collaborative economy platforms.**[185] Two main views have emerged. The first one considers that the free-market principles should dominate as this sector is expected to be a future important source of revenue. The second stresses the need to protect the traditional sectors against an unfair competition. Policy-makers try to reach a compromise between these two positions.[186] The interviewee pinpointed that, overall, the legislative framework in France is rather flexible and supportive in the development of the collaborative

171 Report to the French prime minister on the collaborative economy, 2016. Available at: http://www.gouvernement.fr/sites/default/files/document/document/2016/02/08.02.2016_rapport_au_premier_ministre_sur_leconomie_collaborative.pdf.

172 See The French website about public services : https://www.service-public.fr/professionnels-entreprises/vosdroits/F31027

173 VTC means « Voiture de Transport avec Chauffeur » : car with a personal driver.

174 Law n°2016-1321 for Digital Republic

175 A compensation means that the owner must buy a dwelling with an equivalent surface to the one he rents to tourists.

176 There is a change of use if there is a change in the primary use of the housing, namely if a residence is rented repeatedly for short periods to guests.

177 Finance Law for 2016, Article 87 – II.

178 Among others, platforms must inform their users of their tax and social obligations in a loyal, clear and transparent manner.

179 Loi n° 575 21/06/2004 for the confidence in Digital economy.

180 Tourism code, available at : https://www.legifrance.gouv.fr/affichCode.do?cidTexte=LEGITEXT000006074073

181 Decree 2014-1053 on crowdfunding activities.

182 In French: ORIAS, Registre des Intermédiaires en Assurance, Banque, Finance.

183 For instance the annual report of the previous year must be published on the website of the platform.

184 Observatory of the Uberization. See : https://www.uberisation.org/

185 Interview with a member of the Observatory of the Uberization conducted the 13/11/2017.

186 Ibid.

economy. However, with the growing importance in France of phenomena such as Airbnb or Uber, the regulation is becoming tougher.[187]

With regards to the market restrictions on the collaborative economy, it is commonly mentioned that regulation of the collaborative economy could act as a barrier[188] if it is too stringent and it might face resistance from some traditional sectors (hospitality, taxis).[189] A main driver for the sharing economy seems to be the wish from the users to participate in an alternative model of the traditional economy scheme.[190]

187 For instance, the Paris administration has intensified its controls on illegal rental through Airbnb as well as the fines. See: http://www.lemonde.fr/logement/article/2017/08/11/airbnb-a-paris-les-amendes-sont-passees-de-45-000-a-615-000-euros-en-un-an_5171370_1653445.html.

188 Interview with a member of the Observatory of the Uberization conducted the 13/11/2017.

189 Interview with a journalist from Consocollaborative conducted on the 09/11/17.

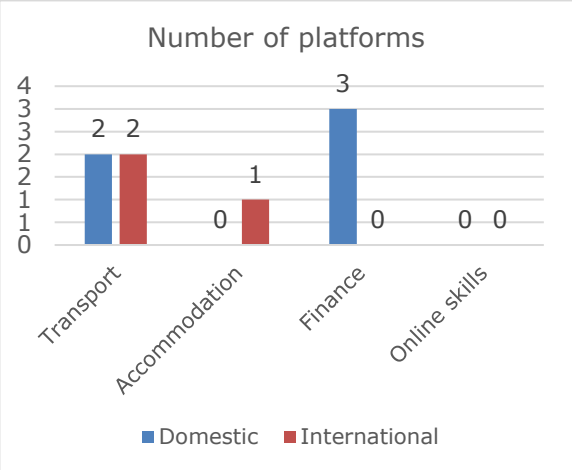
190 Interview with a member of the Observatory of the Uberization conducted the 13/11/2017

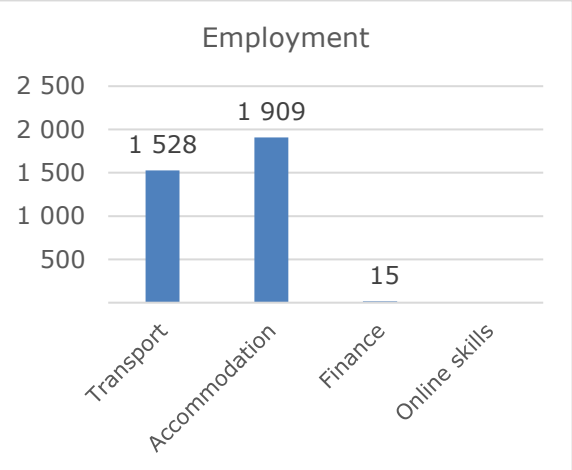
4.13 Croatia

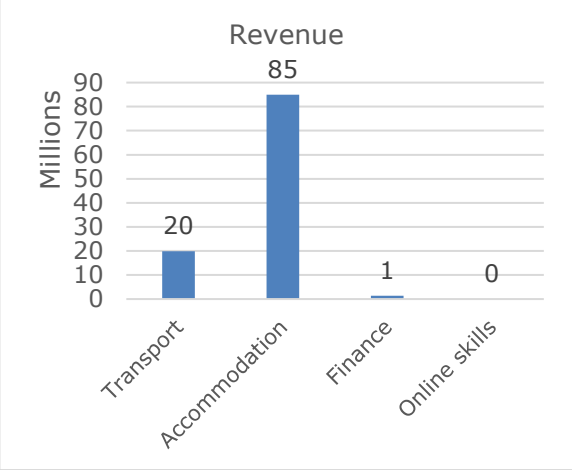
A total of eight platforms in the sectors of transportation, accommodation, finance and online skills could be identified in 2016. The total market size of these platforms amounts to estimated market revenue of about EUR 106 million.

Comparing to other EU Member States, it can be seen that Croatia falls within the group of countries with below average performance as regards number of platforms per 1 million population (1.20), as well as in the level of revenues compared to national GDP (0.1%). More promising figures can be noted with regards to the collaborative economy's contribution to national employment, which is at 0.19% and thereby falls within the EU-average.

Relevant platforms and associated data can be found in the following overview. Please note that, unfortunately, no investment figures could be retrieved due to the lack of data.







What is the level of development of the country in comparison with other Member States in the transport, accommodation, finance and online skills sectors?

The **transport** sector has the most platforms. Within the sector, two of the four platforms, BlaBlaCar and Uber, are characterised by a P2P transaction model, whereas Spin City is the only collaborative economy transport platform which relies on a P2B scheme. Further differences can be noted in their geographic origin; while BlaBlaCar and Uber are internationally operating platforms, which entered Croatia in recent years, Locodels and Spin City are domestically originated and operating platforms, though Locodels has the intention to expand to further EU cities. The transport sector in Croatia stands out as one of the most labour-populated collaborative economy platforms,

providing 1 528 jobs. This respectable performance, however, is only partially reflected in the sector's overall estimated revenue in 2016, where a comparatively small amount of EUR 19.8 million can be noted. Within these figures, Uber likely has the most noticeable impact on employment. In fact, data from a September 2016 study on Uber shows that for 35% of their drivers in Croatia, Uber is the only source of income, whereas 64% claimed their activities within the Uber consortium to be an extra source of income.[191] Half of the platforms in this sector focus on ridesharing.

Croatia's collaborative **accommodation** sector is exclusively shaped by Airbnb. This platform is exclusively relying on a P2P transaction model providing about 1 900 jobs, hence making it the most labour-populated sector. An outstanding and driving role is adopted by the accommodation sector with regards to its overall market revenue in 2016. Approximately EUR 85 million in total revenue could be noted, making it by far the most important collaborative economy sector in monetary terms, which can be traced back to the fact that Croatia remains one of Europe's favourite travel destinations. Accordingly, many Croats earn their living from tourism, and many more are active in the P2P accommodation business seeking extra income.[192]

Three **finance platforms**, all of which are operating and originated domestically, can be found in Croatia, which together generated a turnover of more than EUR 1.4 million in 2016, to which 15 employees contributed. Albeit the finance sector shows great potential, it is clearly dominated and effectively limited by the accommodation and tourism sector.[193] The oligopolistic nature of this sector does not allow for a sensible nor reliable identification and allocation of business models.

Our mapping exercise could not determine any platforms in the field of **online skills**.

What is the evidence for the level of development of the collaborative economy in the country?

A discussion surrounding the Draft Law on Transportation is currently the focus of attention,[194] especially as no special support measures for the collaborative economy have been promoted yet, and no studies have been commissioned by the government, thus far. In a similar manner, no specific regulatory framework for the collaborative economy has been formulated yet. However, the Ministry of Sea, Transport and Infrastructure is currently drafting a Law on Transportation which is expected to regulate the collaborative economy in the transport sector. It is expected that the law will support the liberalisation of transport services and create a level playing field between collaborative platforms (e.g. Uber) and licensed taxi-drivers.[195]

In a similar vein, the **public in general is in favour of collaborative economy platforms**. A Eurobarometer survey from March 2016 indicates that more than 70% of the respondents have heard of one or more of the concerned platforms, with about 24% of the respondents having also used such platforms. Similar to most national markets, the popularity of these platforms is mostly grounded in their competitive pricing. Yet, obstacles remain, as some 30% of the respondents expressed a lack of trust in online transactions.[196] Furthermore, it is evident that entrepreneurs repeatedly find it difficult to source venture or start-up capital, as the number of early-stage investors is highly limited.[197]

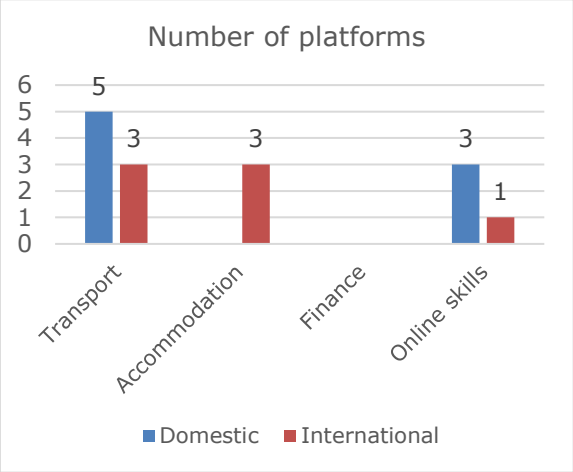
191 Idem
192 Interview Petra Seles
193 Interview Petra Seles
194 Interview with Petra Seles
195 https://www.vecernji.hr/vijesti/taksi-licencije-novi-zakon-o-prijevozu-u-cestovnom-prometu-uber-1187199
196 Flash Eurobarometer Survey 438 report, June 2016 (survey in BG was made on the basis of 500 interviews)
197 Interview with Petra Seles

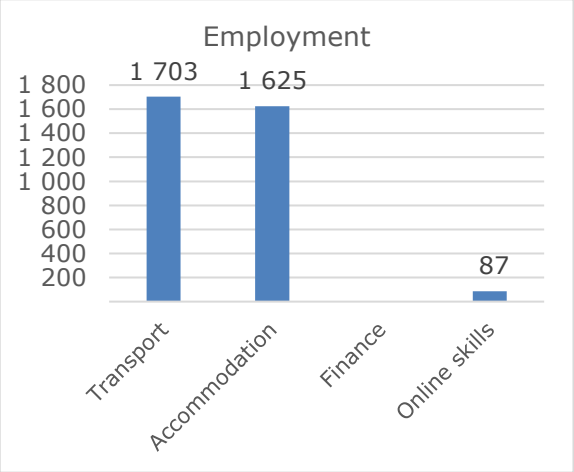
4.14 Hungary

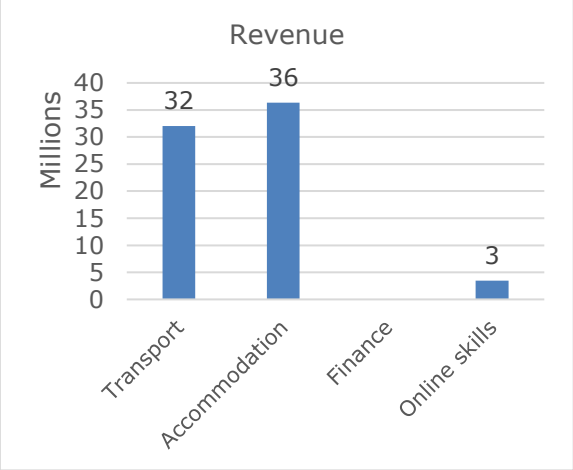
Hungary's collaborative economy is characterised by an overall market volume of EUR 72 million and 3 416 employees.

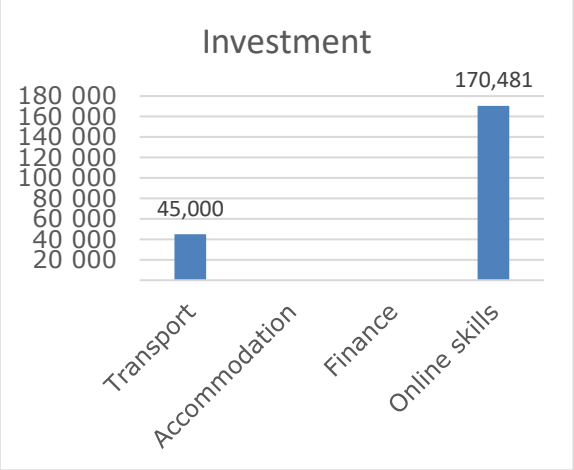
Viewed from an EU-wide perspective, Hungary belongs to the group of Member States that demonstrate a below-average ratio of platforms per 1 million inhabitants (0.82) as well as the collaborative economy's contribution to national employment (0.08%); however, the country scores more satisfyingly and within EU-average results regarding the impact of its collaborative economy on national GDP (0.16%).

Relevant information is visualised in the following overview.









What is the level of development of the country in comparison with other Member States in the transport, accommodation, finance and online skills sectors?

The Hungarian market is dominated by big international players, whereas domestic players tend to be mostly micro-enterprises. As of 2016, 15 collaborative economy **platforms** were identified in Hungary, out of which seven are international platforms. No finance platforms are operating in Hungary. There are five domestic platforms operating in the transport sector and three in the field of online skills. No domestic platforms in the accommodation field have been identified. Out of seven international platforms operating in Hungary, three are in the transport sector, three in the accommodation sector, and one in the online skills sector.

Similar to other Member States, the development of the collaborative economy in Hungary varies across the sectors. While the transport and accommodation sectors are

well-developed and well-known, other sectors, including finance and online skills, are lagging behind and their market penetration is low.[198] Within the sector of online services, there have been a couple of unsuccessful attempts to create national platforms, however, international platforms, such as TaskRabbit, have expanded their services to Hungary.[199] In the financial sector, one domestic crowdfunding platform was set up, but did not survive on the market. There are no lending or peer-to-peer equity platforms. The lack of market penetration in this sector can be explained by the fact that lending activities are subject to licensing requirements including the investors.[200] In terms of transport services, the ban on Uber in mid-2016 seems to not have had much of a negative impact on this sector of the collaborative economy in Hungary.[201] The for-profit ride-sharing service is now completely banned, as under the current regulation it would need to obtain all required licences, and in Budapest it would need to use fixed prices, among other criteria, thus making Uber-like services uncompetitive against regular taxi services. On the other hand, a few other online platforms, like Taxify – which connects drivers and passengers for a ride-share, either on short- or long-haul drives – still exist, as their services are not considered similar to those of a licensed taxi service.[202] In addition to ride-sharing and car-sharing, there are also collaborative economy platforms for bike-sharing, boat-sharing and delivery services, both national and international, operating in the transport sector.

In 2016, most **jobs** were provided by the transport sector, with 1 703, closely followed by the accommodation sector, with 1 625. By contrast, the online skills sector has a significantly lower impact, with 87 persons employed.

As for **revenues**, the most profitable sectors in the Hungarian collaborative economy are accommodation and transport, mirrored by EUR 36 million and EUR 32 million in 2016, respectively. About EUR 3.5 million in revenue stems from the online skills sector.

In Hungary, there are very few domestic platforms that are profitable. As the sharing economy is still a rather new concept in Hungary, quite a few platforms are in early stages of development and are still developing their business model. To stay afloat, the companies rely on EU funding, investors or business angels.[203] There are governmental **investments** into high ventures which also include collaborative economy.[204] Limited amount of investments was identified in the online skills sector (EUR 170 481), followed by the transport sector (EUR 45 000).

Regarding the respective sector's primary **business model**, it can be stated that all sectors are either oligopolistic or too diverse to single out specifically striking features.

What is the evidence for the level of development of the collaborative economy in the country?

Hungary's collaborative economy is steadily growing. Yet, it faces a diverse set of obstacles, such as a lack of trust among users and a fear of regulators.[205]

198 Interview with Ms Dalma Berkovics, Secretary General, Hungarian Sharing Economy Association.
199 Interview with Ms Dalma Berkovics, Secretary General, Hungarian Sharing Economy Association.
200 Budapest Business Journal (2017). Crowdfunding: Feasible in Hungary? Available at: https://bbj.hu/opinion/crowdfunding-feasible-in-hungary_130190.
201 Kecskemeti, A. (2016). Hungary: the Painful Birth of the Sharing Economy. Available at: http://blog.euromonitor.com/2016/11/hungary-the-painful-birth-of-the-sharing-economy.html.
202 Kecskemeti, A. (2016). Hungary: the Painful Birth of the Sharing Economy. Available at: http://blog.euromonitor.com/2016/11/hungary-the-painful-birth-of-the-sharing-economy.html.
203 Interview with Ms Dalma Berkovics, Secretary General, Hungarian Sharing Economy Association.
204 Ibid.
205 Ibid.

It is important to note that the collaborative economy does not really work outside of Budapest, with the exception of ride-sharing.[206] No on-going discussions with the national policy makers on the subject of collaborative economy regulation have been identified. Once a sector becomes bigger or more important (such as Uber, Airbnb), the regulator then acts, usually implementing greater restrictions. At the moment, no new laws regulating the collaborative economy in Hungary are being developed or considered. When new laws are developed in this area, there is usually no consultation/inclusion of stakeholders in the discussion process.[207]

As of 2017, there is a new **national digital strategy** initiative that aims to digitalise certain sectors, this includes the collaborative economy. For the national strategy for tourism 2020, the question of the collaborative economy needs to be resolved in terms of taxation and regulation.[208]

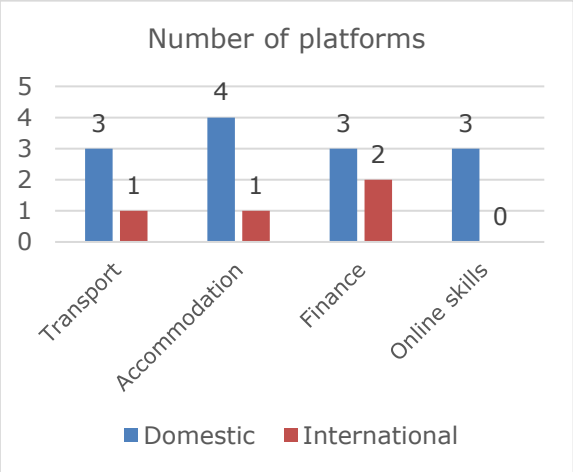
The **main drivers** of the collaborative economy in Hungary are the big players on the market (such as Airbnb, Oszkar) which, in turn, open the door to other platforms. From the consumer's point of view, the price and provision of new services is decisive. In addition to the regulatory environment, the main restrictions include fear of the regulator and a lack of trust among users towards the platforms and services received. In addition, smartphone penetration is quite low in Hungary, which provides yet another obstacle for the collaborative economy in Hungary.[209]

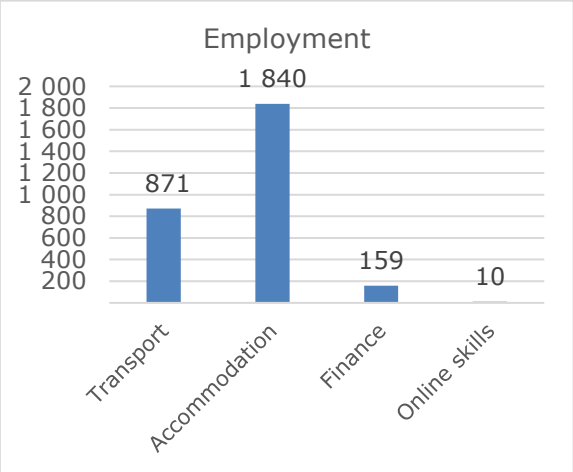
In March 2017, the **Sharing Economy Association** was established in Hungary, with the aim to educate Hungarian consumers on the collaborative economy and its utilisation. The Association also hopes to develop a relationship with the regulatory bodies in Hungary to support cooperation in the sector.[210]

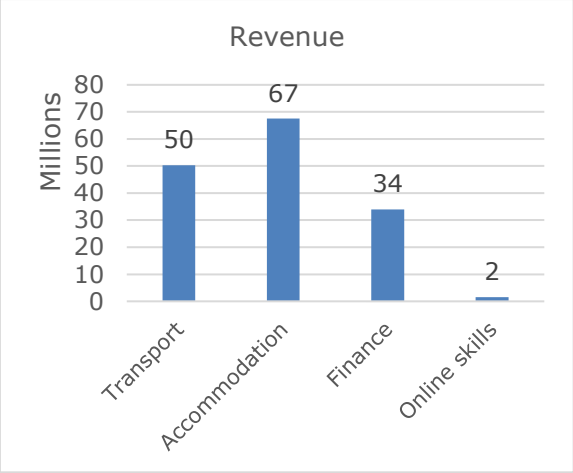
206 Interview with Ms Dalma Berkovics, Secretary General, Hungarian Sharing Economy Association.
207 Ibid.
208 Ibid.
209 Ibid.
210 Ibid.

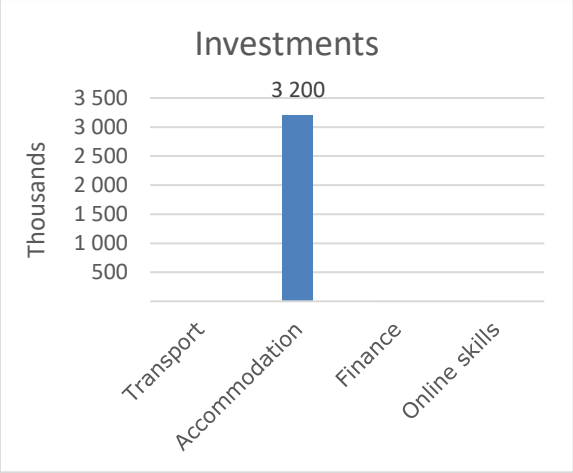
4.15 Ireland

Overall revenue figures demonstrate a market volume of EUR 153 million for 2016, which was generated by the nation's 17 collaborative economy platforms and their 2 880 persons employed. Viewed from an EU-wide perspective, Ireland demonstrated below-average performance with respect to the collaborative economy's contribution to national GDP in 2016 (0.06%). More promising shares can be identified viewing the nation's ratio of platforms per 1 million inhabitants (2.72), which is within the EU-average, as well. Similar trends could be retrieved from the importance of the collaborative economy sector in relation to overall national employment, as the indicated 0.14% is within the EU-average.









Relevant data and figures can be seen in the following graphics.

What is the level of development of the country in comparison with other Member States in the transport, accommodation, finance and online skills sectors?

The **transport** sector is currently Ireland's second-most developed collaborative economy sector, as its revenue figures of EUR 50.2 million mark a partially leading position compared to the other remaining sectors. The four platforms, of which three are domestically- and one internationally-originated, provided 871 jobs; however, they did not record any investments in 2016. It is important to note that Uber is now restricted to offering licenced taxi drivers and chauffeur-driven cars, and is hence unable to operate their trade-mark, UberX service in Ireland. No business model proliferates itself as being predominantly effectuated in the transport sector.

Accommodation is the biggest sector in the Irish collaborative economy, both, in terms of persons employed and revenue. The sector is dominated by Airbnb, which has its

European headquarters in Dublin, and has had a profound economic impact on the hospitality sector throughout the country. A 2016 study by Airbnb showed that hosts (service providers) have earned a total income of EUR 22 million so far, and estimated associated economic activity exceeding EUR 100 million in value.[211] Even so, additional platforms in the accommodation sector must also be noted. All four competing platforms are of domestic origin. The entire sector (incl. Airbnb) generated revenue of EUR 67.5 million in 2016, which was supported by a total of 1 840 employees. The majority of all platforms, namely 60%, are specialised in home sharing.

The **finance** sector has seen several platforms emerge and is now one of the more developed sectors of the collaborative economy in Ireland, which is underpinned by an active FinTech sector in the country. Recent developments have culminated in overall revenue of EUR 34 million for 2016, as well as an employee count of 159. Out of the 5 platforms within this sector, three find their origins and operating scales in domestic spheres, whereas two are internationally sourced. A diverse picture can be drawn for the business models used by the respective platforms, where no particular model stands out.

The **online skills** sector is the smallest collaborative economy sector in Ireland. The sector's revenue of EUR 1.5 million constitutes a rather marginal share of the entire market. The number of persons employed at only 10 follows a similar doctrine. All three online skills platforms are domestic, and offer either on-demand household or professional services.

What is the evidence for the level of development of the collaborative economy in the country?

The Irish government is taking an increasing interest in the collaborative economy and can be said to be in 'study mode' at this time. It is expected that initiatives will be taken in early 2018. In particular, the effect of short-term letting on the housing market is a subject of increasing debate and is being addressed by the Government and Parliament.[212] The National Economic and Social Council (NESC) has, hence, issued a report on the *Circular Economy*, concluding that stronger government support is needed to unlock the potential of the *Circular Economy* and strengthen the competitiveness of Irish firms in the sector.[213]

At present, however, there are no known government support schemes specifically aimed at the collaborative economy. Only non-governmental initiatives such as Sharing Economy Ireland, a non-profit industry association, work to support its development. Amongst others, Sharing Economy Ireland is working to raise awareness among consumers and establish a code of conduct for its members to help strengthen the operation and reputation of the sector.[214] Government regulation in the transport and

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211 *Home Sharing: Empowering Regional & Rural Ireland*, Airbnb, 4 November 2016, retrieved from: https://www.airbnbcitizen.com/new-study-airbnbs-social-economic-impact-regional-rural-ireland/ [accessed 15 November 2017]

212 For example: *The Impact of Short Term Lettings on Ireland's Housing and Rental Market*, Houses of the Oireachtas, Joint Committee on Housing, Planning and Local Government, October 2017, retrieved from: http://data.oireachtas.ie/ie/oireachtas/committee/dail/32/joint_committee_on_housing_planning_and_local_government/reports/2017/2017-10-05_the-impact-of-short-term-lettings-on-ireland-s-housing-and-rental-market_en.pdf [accessed 15 November 2017]

213 Moving Towards the Circular Economy in Ireland, National Economic and Social Council (NESC), Council Report 144, October 2017, retrieved from http://www.nesc.ie/en/publications/publications/nesc-reports/moving-towards-the-circular-economy-irish-case-studies/ [accessed 15 November 2017]

214 https://www.sharingeconomyireland.com/ [accessed 15 November 2017]

accommodation sectors are important factors for the development of the collaborative economy. Yet, overall, the lack of regulatory clarity surrounding many areas of the collaborative economy could have a dampening effect on its development.

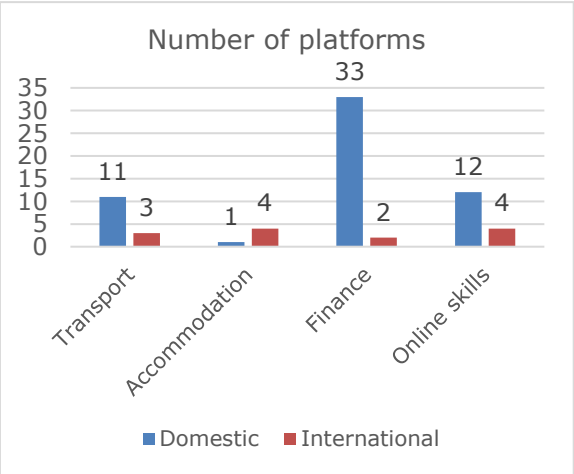
Similarly (and to a certain degree), the level of awareness of consumers in Ireland remains low among the general population. Collaborative services are often used by people in the technology sector and consumers who have experience in using such services. Others will often look for different services. A further potential barrier is trust. Among consumers in Ireland, e-Commerce and buying online is very wide-spread;[215] however, there is still a barrier when it comes to using services, such as cleaning or repairs, i.e. those that require a stranger entering the home of the consumer.

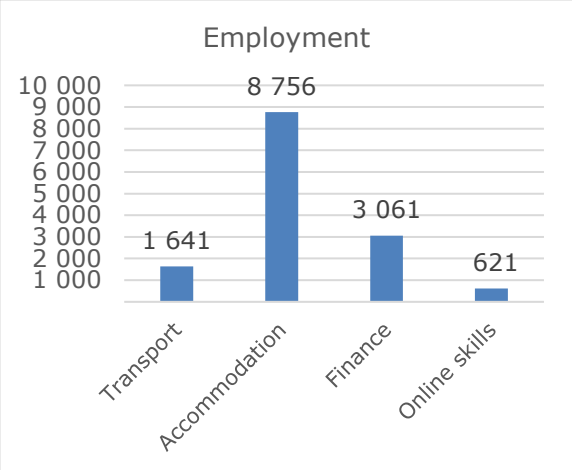
[215] https://www.ecommerce-europe.eu/research-figure/ireland/ [accessed 15 November 2017]

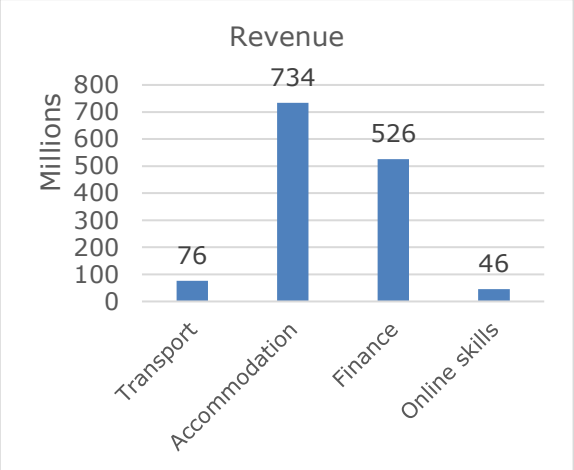
4.16 Italy

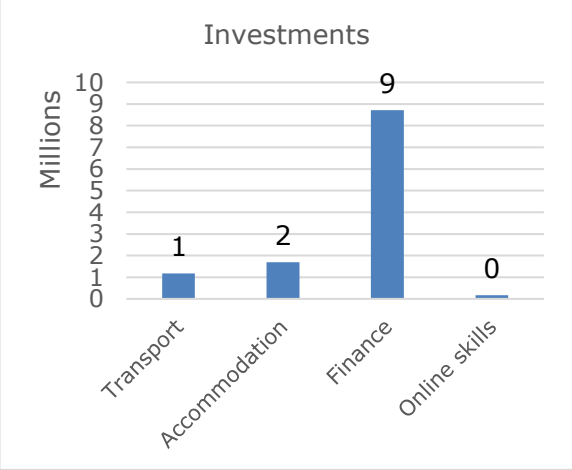
Italy demonstrates an overall collaborative economy volume of EUR 1.4 billion and an employee count of about 14 000. In a relative and EU-wide framework, the collaborative economy's contribution to overall national GDP (0.08%) and overall employment in 2016 (0.06%) are below the EU average. Similarly, Italy's ratio of collaborative economy platforms per 1 million inhabitants (1.01) also falls below the performance indicators for other Member States.

Relevant information, data and visualisations can be retrieved from the following overview.









What is the level of development of the country in comparison with other Member States in the transport, accommodation, finance and online skills sectors?

As of 2017, 70 P2P collaborative economy **platforms** were operating in Italy, out of which 13 are international platforms. The most platforms were operating in the finance sector (33 domestic and two international), followed by the online skills sector (12 domestic and four international), the transport sector (11 domestic and three international) and the accommodation sector (one domestic and four international).

The highest number of persons employed in Italy in 2016 can be found in the accommodation sector with 8 800. The finance sector comes second by providing about 3 000 jobs, followed by the transport and online skills sector (1 641 and 621, respectively).

In a similar manner, the highest **revenue** in the Italian collaborative economy is generated by the accommodation sector, amounting to EUR 734 million. The finance sector accounts for around EUR 526 million and the transport sector for around EUR 76 million. As for the online skills sector, a volume of EUR 46 million can be noted.

The finance sector in Italy recorded EUR 8.7 million of **investment**, followed by its accommodation (EUR 1.7 million) and transport (EUR 1.2 million) counterparts. No investment could be identified in the online skills sector.

About 48% of the platforms in the finance sector have incorporated a reward-based funding model, listing another 42% focused on equity funding. Within the transport sector, about 53% of all platforms have aligned with a ridesharing business model. The vast majority of platforms operating in the online skills sector offer on-demand professional services, whereas no particular **business model** stands out in accommodation sector.

What is the evidence for the level of development of the collaborative economy in the country?

The use of sharing economy platforms is quite transversal in Italy, but it is particularly popular among young people (between 18 and 34 years old), accounting for 46% of total users.[216] [217] A 2015 study assessed the stimuli of Italian peers to enrol in sharing economy activities. For 41% of Italians, the economic crisis and the 'saving' factor have led to the success of these new business models. The other 39% of Italians use these business models because they are perceived as being **innovative and intelligent**.[218] There is increased awareness of the sharing economy among Italians, with one in four already involved in these types of services.[219]

Nonetheless, compared to other large economies (i.e. France, United Kingdom), **Italy** fails to reach the top levels in terms of the development of the sharing economy. The delay in digitalisation of the Italian economy and society is a determinant factor, with Italy ranking 25th out of the 28 EU Member States in 2016.[220]

In the aftermath of the economic crisis, domestic platforms tended to shut down their activity when international platforms settled in, as they could not cope with the competition. However, the **competitiveness of Italian platforms** is provided by niche business models, thus trying to target an audience which is not covered by the established platforms (e.g. Auting).[221] In Italy, most of the platforms are limited liability companies and the size of the sharing economy is limited. One of the main issue relates to the dependency of start-ups on personal funds, as opposed to venture capital. As a result, a relatively high number of small platforms operate in Italy, but struggle to survive when competing with major players with access to venture capital. Very few domestic platforms tried to internationalise, due to the lack of capital.[222]

Italian domestic platforms operate predominantly locally because most of them provide their services in the national language. The sharing economy thus has a very strong

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216 TNS (2015), Sharing economy in Italia. Available at: http://www.tns-global.it/news-center/news/sharing-economy-italia

217 Andreotti, A., Anselmi, G., Eichhorn, T., Hoffmann, C.P., Jürss, S. and Micheli, M., 2017. Participation in the Sharing Economy: European Perspectives. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3046550

218 TNS (2015)

219 Rent or Share (2017), The growth of the Sharing Economy: The European market will be worth EUR 570 billion. Available at: http://www.rentorshare.net/the-growth-of-the-sharing-economy-in-europe/

220 European Commission (2016), What is the Digital Economy and Society Index? Available at: http://europa.eu/rapid/press-release_MEMO-16-385_en.htm

221 Il manifesto (2016), Sharing economy, small digital platforms grow in Italy. Available at: https://global.ilmanifesto.it/sharing-economy-small-digital-platforms-grow-in-italy/

222 Interview with Ivana Pais of SharItaly

regional dimension.[223] Despite the large number of domestic platforms, Italy does not have its own 'export model' like BlaBlaCar in France.[224]

As of 2017, there is **no legislative framework** which regulates sharing economy activities. The Italian government has initiated a legislative proposal to regulate the sharing economy, known as *The Sharing Economy Act*. The proposal calls for the fiscal regulation of sharing economy platforms, as well as the defining of the sector. At the same time, new obligations are introduced for the operators, including that of managing payments only electronically and that of providing transparent registration methods for all users.[225] Apart from the ban of UberPop in 2015,[226] no other laws have been put in place as of 2017. Nonetheless, the main restriction for the development of domestic platforms is not related to the legislative framework, but to the lack of a financial ecosystem supporting these platforms.[227]

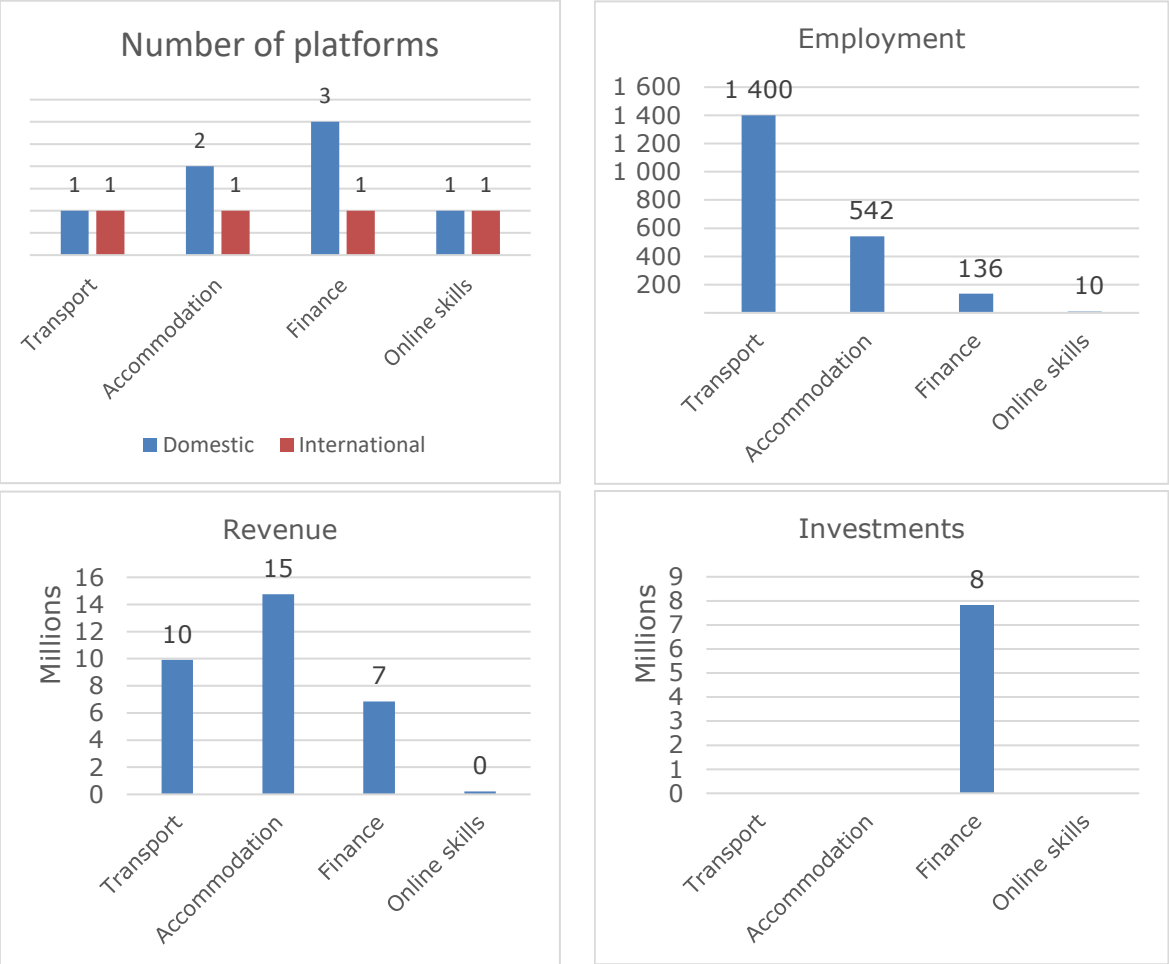
More than half of the domestic platforms originate from **Northern Italy**.[228] Initiatives related to the promotion of the sharing economy are also concentrated in Northern Italy. For example, Sharitaly[229] is an initiative launched in 2013 by Collaboriamo, TRAILab (Università Cattolica di Milano) and the Municipality of Milan, which deals with P2P platforms. Other initiatives include the Observatory on Crowdfunding of the Politecnico di Milano,[230] and the Observatory on Sharing Mobility, initiated by the Ministry for Environment.[231]

223 Interview with Professor Christian Iaione of LUISS University in Rome
224 Il manifesto (2016), Sharing economy, small digital platforms grow in Italy. Available at: https://global.ilmanifesto.it/sharing-economy-small-digital-platforms-grow-in-italy/
225 Startup business (2017), Sharing economy, la legge quadro elimina IVA e iscrizione AGCM. Available at: https://www.startupbusiness.it/sharing-economy-la-legge-quadro-elimina-iva-e-iscrizione-agcm/91398/
226 Politico (2017), Uber wins appeal against ban in Italy. Available at: https://www.politico.eu/article/uber-wins-appeal-against-ban-in-italy/
227 Interview with Ivana Pais of SharItaly
228 Il manifesto (2016), Sharing economy, small digital platforms grow in Italy. Available at: https://global.ilmanifesto.it/sharing-economy-small-digital-platforms-grow-in-italy/
229 Sharitaly. Available at: http://sharitaly.com/
230 Observatory on Crowdfunding of the Politecnico di Milano. Available at: http://www.osservatoriocrowdinvesting.it/
231 The Observatory on Sharing Mobility. Available at: http://osservatoriosharingmobility.it/

4.17 Lithuania

A total of 11 collaborative platforms were observed operating in the transport, accommodation, finance and online skills sectors in 2016. The estimated market revenue of these platforms is calculated to be around EUR 31.7 million, which accounted for about 0.08% of Lithuania's GDP in 2016, and places the country in the category of performing below the EU-average in this respect. Lithuania's ratio of collaborative economy platforms per 1 million inhabitants, on the other hand, reveals a performance indicator (2.46) that lies within the EU-average. Similarly, the collaborative economy's contribution to the overall national economy, in terms of the relative share of overall national employment (0.15%), is within the EU average, as well.

Overview of activity of the collaborative economy in Lithuania



What is the level of development of the country in comparison with other Member States in the transport, accommodation, finance and online skills sectors?

Currently, two platforms are operating in the **transport sector** in Lithuania. One of these, Uber, is of international origin, while the remaining platform is domestic. By 2016 the estimated market size (platforms' total revenue) had reached EUR 9.9 million. The count of persons employed in the sector differs significantly, where the platforms themselves provide less than 10 jobs while the employment by service providers in the transport sector is just short of 1 400 jobs. The start of transport platforms was marked by Uber entering the Lithuanian market. In October 2015, the Vilnius Municipality and Uber signed a joint agreement to commence operations, and Vilnius was said to have

been one of the fastest cases of Uber establishing its services.[232] While Uber is estimated to have the largest share of users, their position is being threatened by domestic competitors (Taxify). Half of all transport platforms have incorporated a business model centred on rides on demand.

Three platforms have been identified in the **accommodation sector**. Of these, the two domestic platforms – which have specialised in home renting – are dwarfed by Airbnb, which had over 1 000 listings in 2016. A total of 542 persons employed in this sector can be identified. Accommodation platforms have the largest market size, which in 2016 is estimated to have been about EUR 14.8 million. The accommodation sector appears to be the most stable at the moment, with no additional legislation planned for the future.

The **finance sector** has some of the largest number of all visitors. Of all platforms within this sector, Mintos appears to hold the majority of interest and market share, followed closely by FinBee, while Paskolu klubas remains third. A total of four financial platforms have been identified with an estimated market size of EUR 6.8 million in 2016. The policy environment has stabilised and it is expected that financial platforms will be growing in terms of numbers. Government support in recent years has been cited as the driving factor for the current success of the sector, especially for P2P lending and crowdfunding. Existing platforms already show increases in their users (2017 being the most successful year for all operating platforms) with future projections indicating continued growth. Domestic platforms in the finance sector are the only examples of collaborative platforms set up by Lithuanian businesses that have generated interest in the international market. Moreover, investment figures of EUR 7.8 million can be registered in the finance sector.

The **online skills sector** is populated by 2 identified platforms (one domestic and one international). The estimated market share in 2016 was EUR 211 947, with a total number of 10 persons employed across the country.

What are the drivers for the level of development of the collaborative economy in the country?

As previously noted, the **transport sector** has benefited the most from initial support from the government. Current plans are to adopt additional regulations that will allow drivers from Uber and other ride-sharing companies to continue to provide services for customers without any additional licensing requirements. This would mean that the ride-sharing services should continue to flourish in the future due to a favourable regulation environment.[233]

In November 2016, the Lithuanian government passed a law on crowdfunding which stipulates that private enterprises wishing to provide crowdfunding services have to register with the Bank of Lithuania as a crowdfunding platform[234] (whereas previously P2P platforms would have had to register as consumer credit companies). Any investor in P2P platforms, whose individual contribution is between EUR 1 000 and EUR 5 million, is entitled to detailed financial information about the project they are funding.

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232 Šumskis D. (2016). Sharing Economy in Lithuania: Lessons of Success and Failure. Available at: http://4liberty.eu/wp-content/uploads/2016/10/Dominykas-Sumskis_Sharing-Economy-in-Lithuania-Lessons-of-Success-and-Failure_Review_5.pdf

233 Interview with Mr. Dominykas Šumskis, Policy Project Manager at Enterprise Lithuania

234 Bank of Lithuania (2017). Sutelktinio finansavimo platformų operatoriai. Available at: https://www.lb.lt/lt/sutelktinio-finansavimo-platformu-operatoriai

Investments in excess of EUR 5 million can only be performed with securities.[235] The government is now focused on FinTech and P2P crowdfunding, with plans to adopt a regulatory sandbox[236] for such platforms where they would benefit from reduced taxes during the first few years of operation.

As for home sharing platforms, an increase began around 2014, when individual homeowners began to rent their real-estate through collaborative platforms.[237] However, the Lithuanian Hotel and Restaurant Association has been lobbying for the government to introduce regulations on accommodation platforms (specifically taxing of platform operators and homeowners). However, it is most likely that accommodation platforms will continue to operate under the current conditions in the foreseeable future.[238]

The IT infrastructure of Lithuania has also been noted as a positive contributing factor in the rapid spread of awareness and the adoption of collaborative platforms in everyday use. However, even though the transport, accommodation and finance sectors have seen a steady increase in users, the online skills sector has generated the least interest, both from policy makers and users alike. Few platforms have been identified, and in general Lithuanians appear more interested in the selling and buying of goods rather than services via online platforms.

235 Sorainen (2016). Priimtas sutelktinio finansavimo 5statymas. Available at: http://www.sorainen.com/UserFiles/File/Publications/lt%5B1%5D24.html

236 Interview with Mr. Dominykas Šumskis, Policy Project Manager at Enterprise Lithuania

237 Šumskis D. (2016). Sharing Economy in Lithuania: Lessons of Success and Failure. Available at: http://4liberty.eu/wp-content/uploads/2016/10/Dominykas-Sumskis_Sharing-Economy-in-Lithuania-Lessons-of-Success-and-Failure_Review_5.pdf

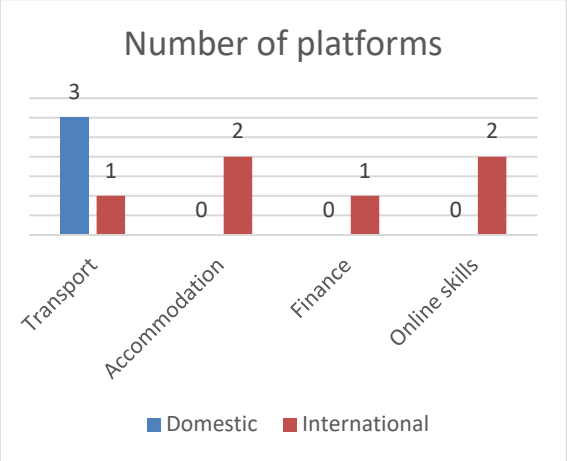
238 Valentinaitienė G. (2016). Apie dalijimosi ekonomiką, kuri leidžia užsidirbti visiems. Available at: https://verslas.lrytas.lt/rinkos-pulsas/2016/07/08/news/apie-dalijimosi-ekonomika-kuri-leidzia-uzsidirbti-visiems-1264512/

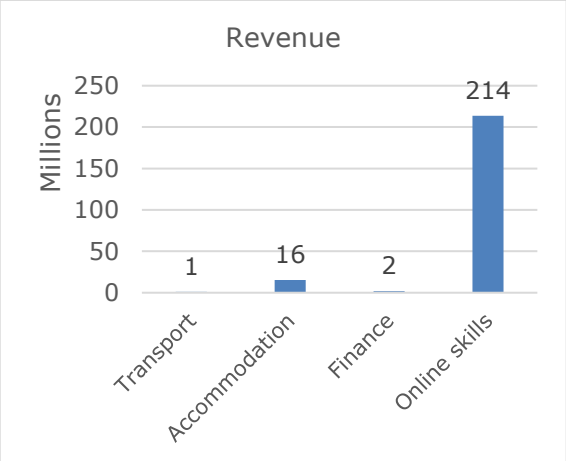
4.18 Luxembourg

According to a Eurobarometer survey on the use of collaborative platforms released in June 2016, 13% of respondents in Luxembourg use collaborative platforms (against 17% in the EU) and 3% of them offer services on these platforms (against 5% in the EU).[239] According to Foundation IDEA, it should be kept in mind that Luxembourg is a small country with a majority rural population (i.e. only one city of 100 000 inhabitants), which impedes platforms from reaching a critical mass of users. Furthermore, Luxembourg suffered less of an impact by the economic crisis than other EU countries, which reduced the need of the population to find alternative means of consumption. Besides, the state of the labour market in the country is satisfactory, with a low level of involuntary part-time work and hazardous work, and fairly high wages. The demographic and socioeconomic factors encouraging the development of the collaborative economy are therefore less prevalent in Luxembourg than other EU countries.

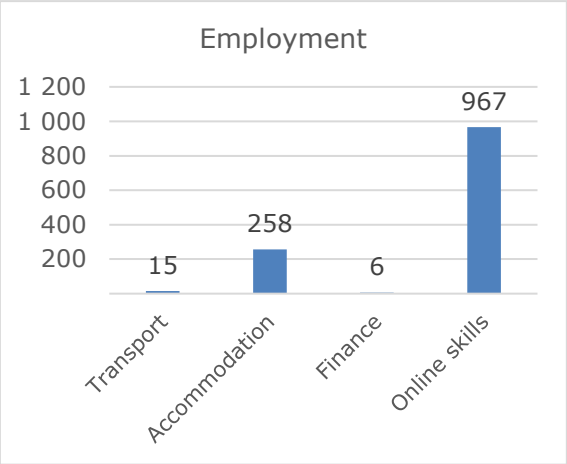
It is precisely because of the country's small population, however, that Luxembourg shows above-average values in all performance indicators covered by this study; The country's count of platforms per 1 million inhabitants (5.08), the collaborative economy's relative contribution to overall national employment (0.45%), and the respective share for the country's national GDP (0.44%) in 2016 all are above the EU average.

Corresponding data is visualised in the following overview. Please note that, unfortunately, no investment figures could be retrieved due to the lack of data.





239 Flash Eurobarometer 438 (June 2016). The use of collaborative platforms.



What is the level of development of the country in comparison with other Member States in the transport, accommodation, finance and online skills sectors?

A total of 9 P2P **platforms** were identified, out of which three are domestic, and six are international platforms from neighbouring countries (i.e. Belgium, France or Germany). The two domestic platforms operate in the transport sector.

In 2016, the highest provision of **jobs** was delivered by the online skills sector (967). The accommodation sector comes second in this respect with 258, followed by transport with 15 jobs. An analysis of the collaborative finance sector in Luxembourg resulted in the identification of a count of persons employed of six.

The online skills sector stands out as the highest-yielding sector in Luxembourg, with a turnover of EUR 214 million in 2016. The accommodation sector generated the second-highest **revenue** in Luxembourg with more than EUR 15 million, followed by the finance sector (EUR 1.8 million). The transport sector generated the lowest revenue for 2016, namely about EUR 900 000.

What are the drivers for the level of development of the collaborative economy in the country?

Luxembourg has a well-developed ecosystem to support entrepreneurship and start-up initiatives, however, there is no specific **regulatory framework** dedicated to the collaborative economy. In all sectors, the same regulatory framework applies to traditional and collaborative economy providers. This may prevent certain collaborative economy operators to be active in Luxembourg. For instance, in the transport sector, the ride hailing platform Uber has not managed to settle in Luxembourg yet, and the Ministry of Economy has clearly indicated that the platform would have to follow the same establishment rules as professional taxi and VTC drivers.[240] Similarly, in the accommodation, finance and online skill sectors, collaborative economy providers follow the same rules as professional operators, which often involve registering their activity, and to obey to the same taxation, social security and VAT rules.

The Luxembourg government has nonetheless shown a **willingness to understand and encourage collaborative economy** activities. The Ministry of Economy has launched in 2016 the "Third Industrial Revolution Strategy"[241] aiming at engaging the

[240] L'essentiel (10 November 2016). « Uber au Luxembourg, mais sous conditions. » Available at: http://www.lessentiel.lu/fr/economie/story/Uber-au-Luxembourg-mais-sous-conditions-26830898

[241] Grand Duchy of Luxembourg website, Press release (11 November 2016). "Third industrial revolution in the Grand Duchy". Available at: http://www.luxembourg.public.lu/en/actualites/2016/11/15-rifkin/index.html

country into the digital economy. As part of this initiative, a working group on the collaborative economy gathering public authorities and stakeholders has been established to reflect about the consequences and possible regulatory options. Furthermore, public authorities have been found to directly support the development of the collaborative economy, with the Ministry of Transport launching its own ridesharing platform.[242]

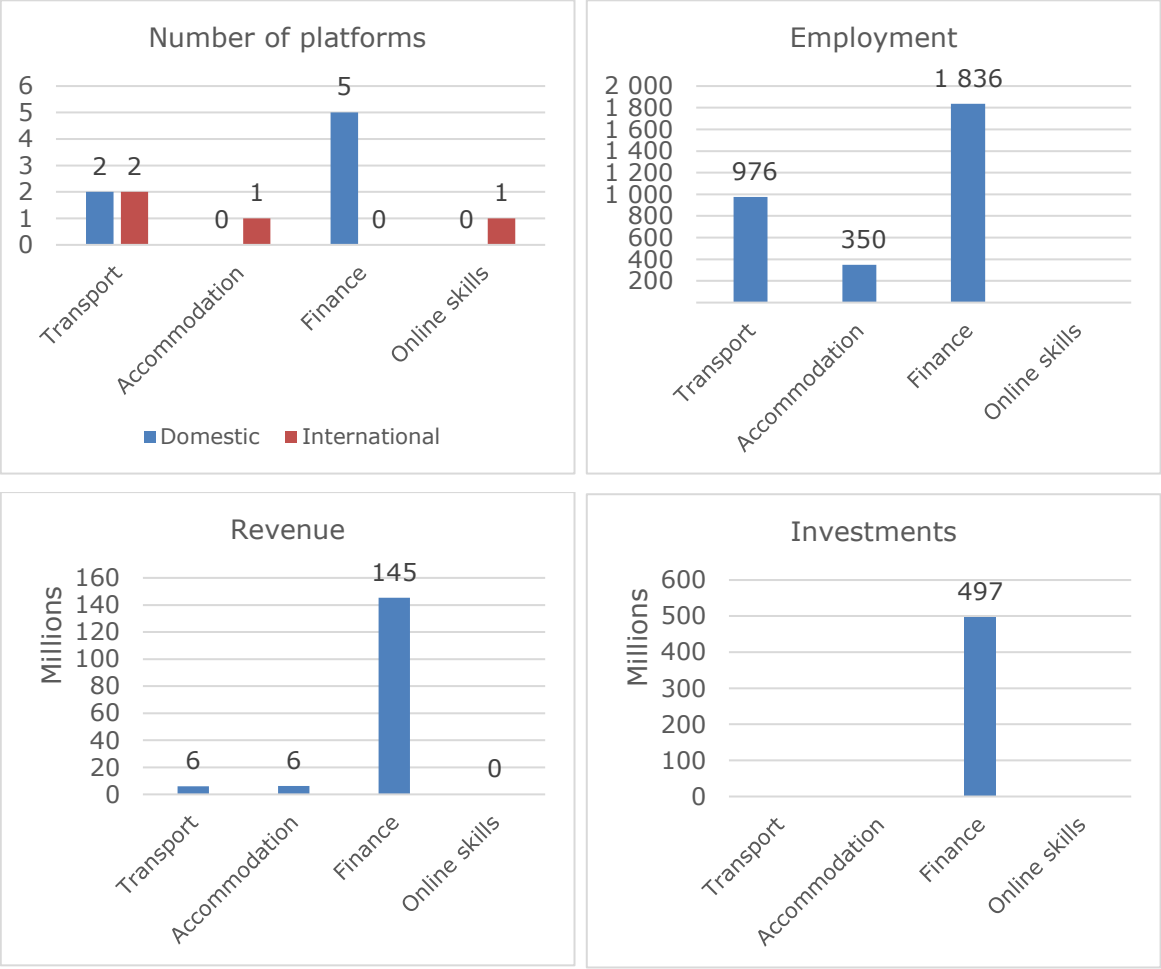
[242] Luxembourg Wort (31 October 2016). « Une nouvelle solution pour le trafic au Luxembourg. » Available at: https://www.wort.lu/fr/luxembourg/appli-covoiturage-une-nouvelle-solution-pour-le-trafic-au-luxembourg-58175e9e5061e01abe83b3d1

4.19 Latvia

Latvia's eleven platforms summed up to an overall market size of EUR 157.7 million in 2016. Latvia's generally positive attitude towards collaborative economies is further exemplified by the collaborative economy's contribution to the national labour market, to which it contributes 3 162 jobs.

Comparing Latvia with other EU MS, the Baltic state belongs to the group of countries with above average performance in terms of overall collaborative economies in the country. Latvia is amongst the leading Member States with respect to number of platforms per 1 million population (3.59), and demonstrates similarly promising to consider its revenues in a relative framework with national GDP (0.63%). Following the same trend, the collaborative economy's contribution to total national employment (0.33%) is above EU-average, as well.

Concerned information, data and corresponding visualisations can be found in the following overview. Please note that, unfortunately, no or incomplete data for investments could be retrieved due to lack of corresponding data.



What is the level of development of the country in comparison with other Member States in the transport, accommodation, finance and online skills sectors?

A total of four collaborative **transport** platforms can be identified in Latvia. Two national and two international platforms, which all function as either P2P or P2B car-sharing, ride-sharing or on-demand transportation services, show a number of persons employed of 976. The collaborative transport sector furthermore contributes a volume of about EUR 6 million to Latvia's national GDP. The transport sector experiences specific

attention by the Latvian administration. For instance, in September 2017, certain adjustments were made to the national transport law so as to accommodate and legalise all forms of ridesharing, whilst ensuring that taxes are paid.[243]

Within the collaborative **accommodation** sector, Airbnb enjoys a monopoly as well as ever-increasing popularity, which is ever more evident in the capital, Riga. As of 2017, no noteworthy domestic platforms could be identified in this sector. It does not come as a surprise that, like in most other nations, a public discourse surrounding the sharing economy accommodation sector can be noted in Latvia. Nonetheless, the only operating platform, Airbnb, provided 350 jobs and generated total revenue of about EUR 6.3 million, in Latvia, in 2016.

The fastest developing and, in every respect, the biggest and most important sector of the collaborative economy is represented by the **finance** sector. The country's platforms show a distinct focus on P2P lending. Especially competitive competencies are to be identified in the field of Fintech and various forms of non-bank loans. Corresponding platforms that originate from Latvia commonly also operate on an international scale. Largely driven by the appeal of this investment opportunity compared to traditional banking services, and the subsequent surge in demand, this sector has grown significantly over the past three years, with most of the P2P financing platforms having been launched within this period. These facts ultimately culminate in the current position of the sector as Latvia's most important, which is attested by the number of persons employed, which reached 1 836; 2016's market revenue, which amounted to a total of about EUR 145 million; and the sector's willingness to invest, which is embodied by a volume of about EUR 497.3 million.

Collaborative economies in the **online skills** sector are the least developed and almost non-existent in Latvia. The sole international platform identified failed to provide any jobs, revenue or investment figures.

What is the evidence for the level of development of the collaborative economy in the country?

The development of the collaborative economy, while ensuring legal and qualitative standards, enjoys general support. This is especially true in the case of the transport sector, which has been subject to the broadest legislative changes with regards to the collaborative economy. Besides the recently passed legislation and the adjustments currently under development, the Latvian government has expressed its specific interest in and focus on the sectors of collaborative accommodation and financing.

The European Commission's Flash Eurobarometer report on the use of collaborative platforms found a generally positive attitude by the Latvian population towards collaborative economies. Almost a quarter of the respondents in Latvia indicated that they have used these platforms, and around 9% of the respondents indicated that they were likely to use the services offered by these platforms regularly. The statistics regarding the use of collaborative platforms in Latvia were among the highest of all EU Member States.[244] Furthermore, the study found that Latvians mostly identified convenient access to services and cheaper prices as the two greatest benefits of sharing platforms.

However, concerns about, and disappointment over, the quality of the offered services was frequently expressed, as well. Moreover, a major issue for even development of the collaborative economy across regions in Latvia is the heavy concentration of Latvia's

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243 The Parliament of the Republic of Latvia. (2017, September 28). *Grozījumi Autopārvadājumu likumā.* Récupéré sur likumi.lv: https://m.likumi.lv/doc.php?id=294208

244 European Commission (2016). Flash Eurobarometer 438. The use of collaborative platforms

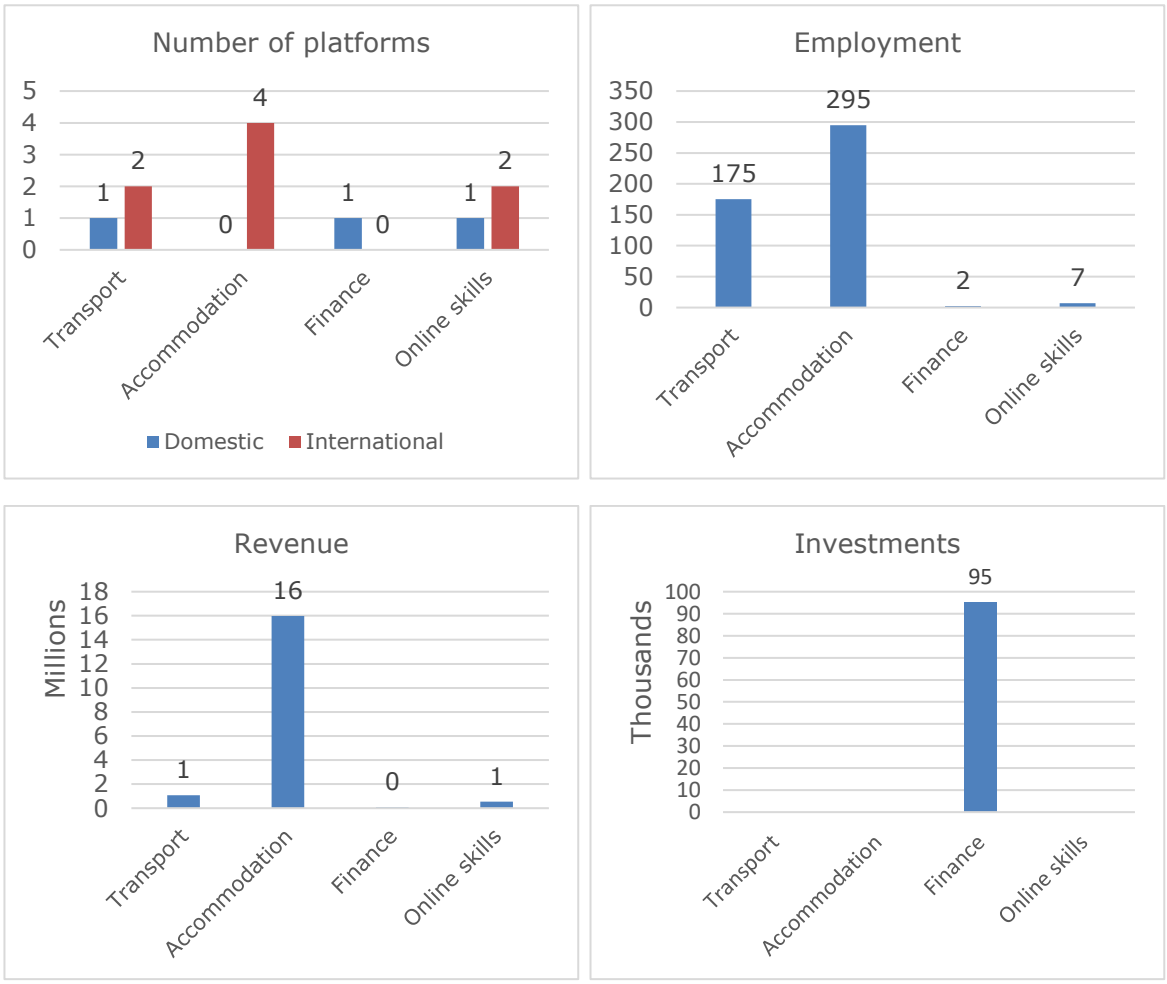
population in the capital of Riga. According to data gathered by the Central Statistical Bureau of Latvia, around 54% of the country's Gross Domestic Product (GDP) in 2014 came from Riga, as more than half of Latvia's population lives or works in the city.[245] The lack of critical mass and low population density in other regions across Latvia is a very topical problem in the context of the collaborative economy. Most of the collaborative economy is based on physical assets, therefore, transaction costs are high and benefits are difficult to obtain.

[245] Central Statistical Bureau. (2017). *Centrālā statistikas pārvalde*. Récupéré sur http://www.csb.gov.lv/

4.20 Malta

Malta is also the EU Member State with the lowest population and GDP.[246] Similarly, the country's collaborative economy is shaped by a rather small volume, which did not exceed approximately EUR 17.7 million in 2016. A similar doctrine is followed by the number of persons employed at 479.

Because of the country's small population, the impact of the collaborative economy varies according to the category it is effectuated in and compared to. On the one hand, Malta's ratio of collaborative economy platforms per 1 million inhabitants (4.54), as well as its share within employment figures (0.24%), both, are above the EU-average, whereas, on the other hand, its contribution to the country's national GDP in 2016 (0.178%) only ranks within the average amongst all 28 Member States.



Corresponding data is displayed in the following overview.

What is the level of development of the country in comparison with other Member States in the transport, accommodation, finance and online skills sectors?[247]

Ten active **platforms** were identified in the country, of which only two are domestic. The most active platforms in the Maltese market can be found in the accommodation

246 Eurostat (2017)
247 Numbers presented are based on the graphs in the Annex if not stated otherwise.

(four) and online skills (three) sectors. Domestic platforms are distributed over the finance and online skills sector.

The largest share of its revenue came from the accommodation sector (EUR 16 million). All other sectors are trailing with corresponding figures of EUR 1.1 million, EUR 543 580, and EUR 75 873 for the transport, online skills, and finance sector, respectively. Of the aforementioned 479 **people employed** by platforms operating in the Maltese collaborative economy, 295 are employed in the accommodation sector, 175 in the transport sector, seven the online skills sector, and two in the finance sector. The finance sector is the only sector to have received funding for a domestic platform (EUR 95 000 for Zaar).

International platforms in the accommodation sector, therefore, seem to make up the largest share of collaborative activity in Malta, due to it being a popular tourist destination for mainland Europeans. The transport sector follows suit, also likely stimulated by tourist activity on the island.

What is the evidence for the level of development of the collaborative economy in the country?

A Eurobarometer survey showed that the least frequent users of sharing economy services are the Maltese.[248] Only 4% of respondents from Malta indicated that they have used a sharing platform, where only 2% use these platforms occasionally, and only 1% use them regularly.[249] The platforms present in Malta seem to mostly be used by tourists; however, a growing number of inhabitants have started showing interest in the collaborative platforms. Platforms such as crowdfunding and sharing economy for businesses are absent on the island, but the strong family tradition and the inflow of tourists every year could provide Malta with an excellent opportunity to expand its share of collaborative economy platform usage. So far, the Maltese Government has looked into the best practices in the collaborative economy in other countries, but has not yet carried out any studies on the fiscal impact (as of 2016)[250].

The accommodation sector of the collaborative economy in Malta is probably the most promising, as the island is a popular holiday destination and, sure enough, Airbnb has experienced an increase in its presence. However, not everyone is happy about this development. The Maltese Hotels and Restaurants Association (MHRA) feel that the rise of Airbnb represents a challenge to their customer base and services, which has led them to call on the regularisation of Airbnb hosts to adhere to the same standards as them.[251] Nonetheless, the government could be encouraged by VAT collection to initiate cooperation with, for example, Airbnb.[252]

The Ministry for Tourism and the Maltese Tourism Authority recently launched an educational awareness campaign in order to improve the overall quality of Maltese Island products, thereby also affecting unlicensed accommodation for tourists, as they are afraid that the reputation of the island is at stake. Further discussion on the opportunities and issues related to these activities will take place in 2018, at the Tourism High Level Conference.[253]

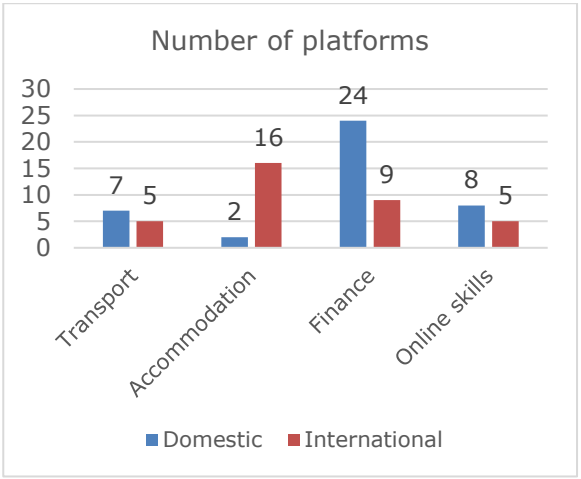
248 Munkøe (2017) – Regulating the European Sharing Economy: State of Play and Challenges
249 EC (2016) – Flash Eurobarometer 438, The use of collaborative platforms
250 EC (2016) – Flash Eurobarometer 438, The use of collaborative platforms
251 The Malta Business Weekly (2016) – The Collaborative Economy: Encouraging a regulatory environment that allows new business models to develop.
252 Malta Today (2015) – Discovering new trends in tourism; http://www.MTtoday.com.MT/business/business_comment/53678/discovering_new_trends_in_tourism#.Wi-vvkqnGUl
253 Times of Malta (2017) – The collaborative economy; https://www.timesofMT.com/articles/view/20170207/opinion/The-collaborative-economy.638870

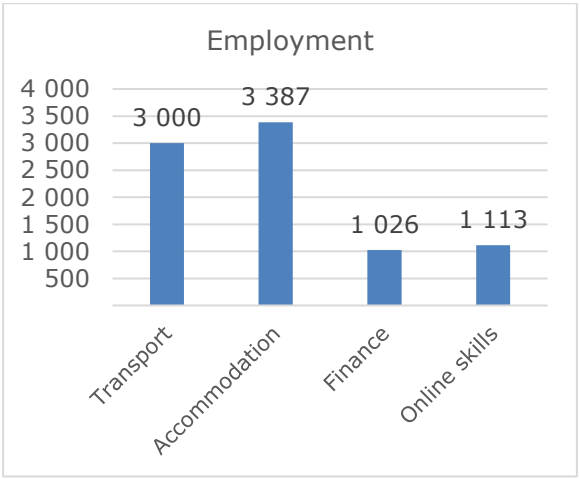
4.21 Netherlands

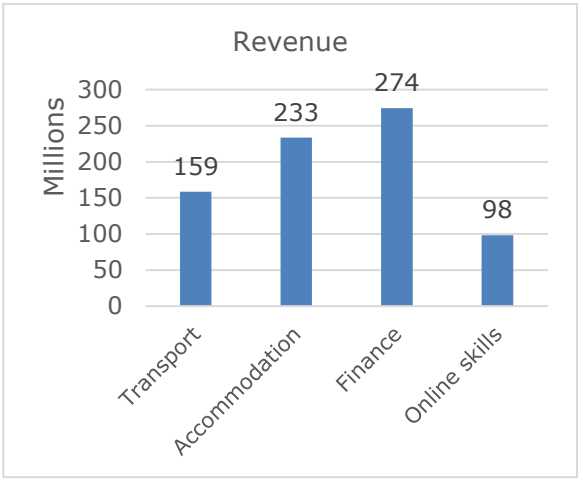
This study found 78 platforms in total, of which 43 shall be referred to as Dutch platforms (i.e. originating in the Netherlands). In general, it can be stated that the collaborative economy in the Netherlands is quite diverse. Many platforms were founded in the last five years, which is one of the outcomes of the formation of the umbrella organisation ShareNL, founded with the aim to spur growth in the 'sharing economy', in 2013. However, the organisation has gradually moved away from being an association to a more independent body, currently positioning itself more as a network or organisation to exchange and create knowledge and make new connections between collaborative economy organisations.

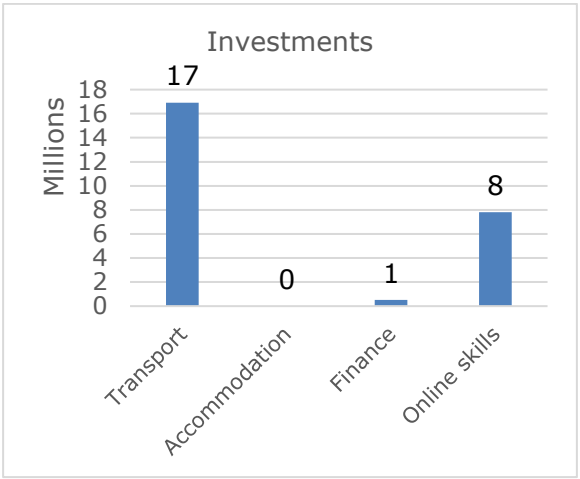
Concerned national and international platforms constituted a market volume of the collaborative economy of EUR 765 million in 2016, and furthermore provided 8 526 jobs. Viewed from an EU-wide perspective, the Netherlands belongs to the group of Member States that exhibit a generally average performance in most aspects. Accordingly, the ratio of platforms per 1 million inhabitants (2.52) and the contribution of its collaborative economy to national GDP (0.11%) are within the EU average. However, the corresponding measure aimed at national employment (0.18%) falls short in this direct comparison and is below the EU average (0.1%).

Relevant data is visualised in the following overview.









What is the level of development of the country in comparison with other Member States in the transport, accommodation, finance and online skills sectors?

Of the four sectors studied, the **finance** sector is the largest sector, both, in terms of revenue (EUR 274.5 million) and in terms of the number of platforms operating in the Netherlands (33). Studies conducted in 2017 and cited in this study found that EUR 161 million of crowdfunding was raised (excl. donations and P2P lending) in the Netherlands, of which EUR 141 million was raised by companies, and the remainder went to creative and societal projects.[254] A total of EUR 522 000 in investments was found for the finance sector. Half of the platforms in this sector have adopted a reward-based business model.

The **online skills** sector trails in a nation-wide comparison of collaborative economy sectors in the Netherlands, with an estimated EUR 98 million in revenues in 2016. Moreover, the 13 online skills platforms provide the second lowest levels of persons employed, namely an equivalent of around 1 113 in 2016. In the past year, almost EUR 8 million in investments was recorded for online skill platforms in the Netherlands. Most of the **accommodation** sector distinguishes itself by being the second largest sector in the Netherlands. As in many EU Member States, the sector is dominated by international platforms, such as Homeaway, Airbnb and Wimdu. Our approach yielded a total revenue of EUR 233 million[255] for 2016. The collaborative accommodation sector provides 3 387 platform jobs in the Netherlands. No investments were recorded for the accommodation sector. A total of 18 platforms, out of which two are of domestic origin, can be noted in the Netherlands.

The **transport** sector is estimated to have generated total revenue of approximately EUR 158 million. BlaBlaCar (ride-sharing), Uber (ride-hailing), and Snappcar (car sharing) are the most important collaborative transport platforms in the Netherlands, next to which another nine, making it a total of twelve, operate in the Netherlands. In 2016, 20 000 successful BlaBlaCar rides were taken in the Netherlands.[256] Snappcar currently has 250 000 users and has 30 000 shared cars on offer. In summer 2017, Snappcar received a new round of funding from Europcar worth EUR 10 million, providing Europcar with a minority share in Snappcar. In total, Snappcar received EUR 16.2 million in funding and it is the only transport platform in the Netherlands for which investments have been recorded. Overall, the collaborative transport sector provides around 50 platform jobs and around 3 000 jobs of service-provider employment. No single business model stands out, with those concerned with issues surrounding ridesharing, parking spaces, or P2P vehicle rental each claiming about 20% of the corresponding market.

What is the evidence for the level of development of the collaborative economy in the country?

A minimum level of national legislation specifically restricting certain collaborative economy activities has been established in the Netherlands. The only exception is UberPop, Uber's model supporting P2P taxi rides, which has been prohibited in the

254 Douwe & Koren (2017) Crowdfunding in Nederland 2016. http://douwenkoren.nl/crowdfunding-onderzoek/crowdfunding-nederland-2016/#download [last retrieved on 08/12/2017].

255 A report from Airbnb on its economic impact in the Netherlands reported that Airbnb hosts earned EUR 188m in 2016, which means that the total revenue (including platform income) was around EUR 207m.

256 BlaBlaCar (2017) Personal communication.

Netherlands since 2014.[257] In September 2017, the final verdict in the last opportunity for appeal was that the ban on UberPop will be maintained.[258]

Similar to other countries, there are some local issues with collaborative economy activities. In Amsterdam, for example, the excessive expansion of the number of Airbnb listings in the city has led to a public debate on restricting rentals via Airbnb, in order to maintain liveability in neighbourhoods and prevent further worsening of the shortage of housing. The municipality of Amsterdam has now implemented some specific rules for the renting of rooms and homes. Homes or rooms can only be rented out on an incidental basis for a maximum of 60 days per year, and for a maximum of four persons a night.[259] Additionally, renting can only be done by the registered main resident of the house. As of October 2017, Amsterdam has also implemented an obligation for collaborative accommodation providers to register themselves. Recently, the city successfully strengthened enforcement of its regulations, with growth in the number of listings offered having stabilised and the share of providers that do not comply with the maximum number of renting days declining from 13% to 5%.[260]

The collaborative **finance market in the Netherlands is relatively open**. For equity-based crowdfunding and P2P lending, licenses are required; however, this is not the case for reward-based crowdfunding. In the online skills sector the Dutch government has so far been hesitant in imposing regulations. This may have to do, in part, with the fact that several platforms have implemented policies to screen their workers and offer them good conditions and protection. Also, many platforms focus on offering jobs to individual professional service providers.

257 NOS (2014) Rechter verbiedt uberpop. https://nos.nl/artikel/2007891-rechter-verbiedt-uberpop.html [last retrieved on 11/12/2017].

258 AD (2017) UberPOP blijft verboden in Nederland. https://www.ad.nl/economie/uberpop-blijft-verboden-in-nederland~a916e890/ [last retrieved on 11/12/2017].

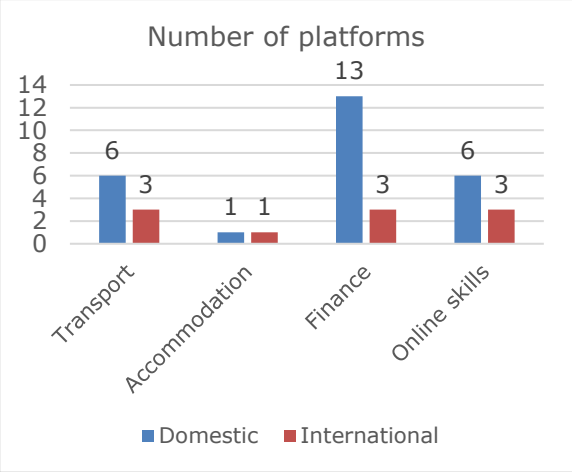
259 Gemeente Amsterdam (2017) Particuliere vakantieverhuur en Bed & Breakfast, https://www.amsterdam.nl/wonen-leefomgeving/wonen/bijzondere-situaties/vakantieverhuur/ [last retrieved on 08/12/2017].

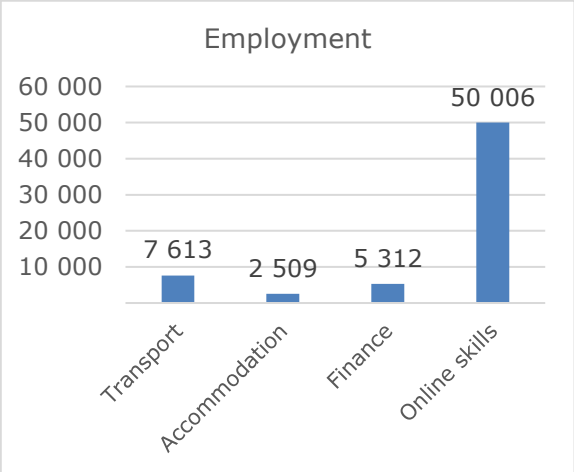
260 Het Parool (2017) Amsterdam krijgt grip op Airbnb: minder illegale verhuur, https://www.parool.nl/amsterdam/amsterdam-krijgt-grip-op-airbnb-minder-illegale-verhuur~a4519138/ [last retrieved on 08/12/2017].

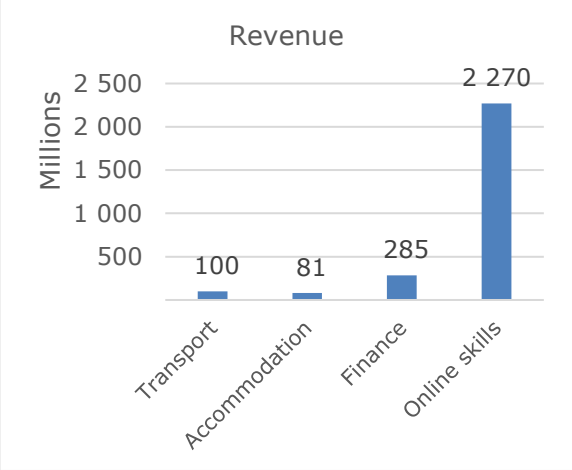
4.22 Poland

Poland's economy is one of the strongest in the post-Soviet territories and serves as a prime-example in many respects. This leading role is also reflected in the country's approach towards and role within collaborative economies. The post-Soviet country hosts 36 collaborative economy platforms, which in total made up a volume of approximately EUR 2.7 billion in market revenue in 2016. Compared with other EU Member States, Poland belongs to the group of countries with above average performance by its collaborative economy. In fact, the country only trails a few other Member States in this respect. Nonetheless, Poland ranks below the EU-average with regards to their number of platforms per 1 million population (0.74), but in contrast ranks high in the level of revenues compared to national GDP (0.66%), as well as its collaborative employment figures in relation to its total national employment (0.4%).

Relevant platforms and associated data can be found in the following overview. Please note that, unfortunately, no investment figures could be retrieved due to the lack of data.







What is the level of development of the country in comparison with other Member States in the transport, accommodation, finance and online skills sectors?

The Polish **transport** sector is shaped by nine platforms, of which six are domestically originated and operating, and three (BlaBlaCar, Taxify and Uber) of international origin. All platforms combined are run by 7 613 employed persons, who generated an overall market revenue of about EUR 100 million, in 2016. Most platforms (about two thirds) operate according to the doctrine of ridesharing, as well as the idea of providing parking

spaces. The commonly engaged transaction type is peer-to-peer. The transport sector can be referred to as a sector with moderate development potential, as concerned platforms have already been operating for a considerable period of time and are more or less established. Nonetheless, further advancements from both the demand- and supply-side, can soon be expected.

Two collaborative **accommodation** platforms could be identified in Poland, of which the American provider Airbnb represents the international operator in the Polish market, and Stancja its domestic counterpart. These platforms provide 2 509 jobs, and their combined revenue for 2016 adds up to about EUR 81.3 million. Similar to the transport sector, collaborative accommodation platforms have already been operating for a longer period of time, therefore implying rather moderate growth potential.

Most of Poland's 36 collaborative economy platforms are located in the country's **finance** sector. A respectable 16 platforms – 15 of which are of domestic origin and three international – provided about 5 300 jobs and constituted revenue of EUR 285 million, in 2016. Most platforms rely on a P2P transaction model, with a few exceptions pursuing a P2P as well as B2P concept. It is worth mentioning that one of the platforms, PolakPotrafi, also operates internationally. The financial sector is commonly referred to as the potentially most promising collaborative economy sector in Poland, as concerned platforms play an important role in facilitating access to external sources of funding and therefore experience a surge in demand for their services. No single business model dominates this sector; however, platforms having incorporated P2P lending or equity funding each make up 30% of the corresponding market.

The biggest and most important collaborative economy sector is represented by the **online skills** sector, in which most platforms offer on-demand household services. Though not hosting most platforms, namely nine, under its roof, the six international and three national platforms are run by about 50 000 employees, who collectively generated revenue of about EUR 2.3 billion, in 2016. Similar to aforementioned sectors, the predominantly used transaction type is in line with a P2P concept.

What is the evidence for the level of development of the collaborative economy in the country?

The size and volume of Poland's collaborative economy sector does not necessarily rely on a specifically targeted regulative framework. Accordingly, no extensive reference is made to collaborative economies in the recently published national Strategy for Responsible Development (Strategia na rzecz Odpowiedzialnego Rozwoju). Nonetheless, attempts to coordinate investment efforts more efficiently and effectively have been promoted, and found their effectuation in the establishment of the Polish Development Fund (PFR), which will function as an umbrella institution for group agencies and funds participating in the implementation of development projects. **Collaborative economies are further exposed to a tight regulatory framework**, which is especially interwoven with regards to taxation questions. For instance, due to the great variety in activities within the collaborative economy and subsequent differing interpretations regarding the determination of personal income taxes, the efficient regulation of the collaborative economy is considered to be rather complex and difficult to implement.[261] The success of the collaborative economy in Poland can therefore mainly be traced back to cost advantages over more traditional modes.

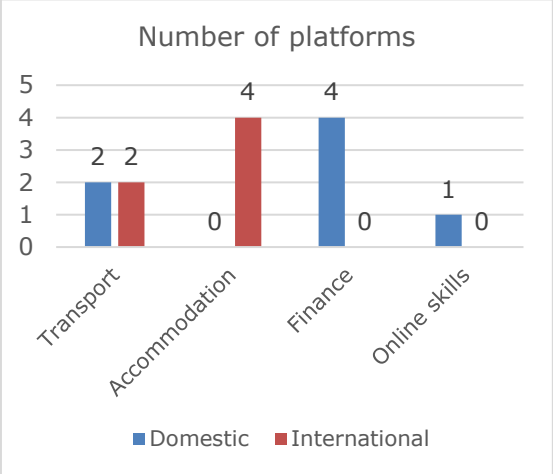
[261] This section has drawn extensively on the analysis carried out by PwC (2016) (Współ)dziel i rządź!, Prawno-podatkowe aspekty ekonomii współdzielenia w Polsce, see: https://www.pwc.pl/pl/pdf/ekonomia-wspoldzielenia-raport-2-pwc.pdf

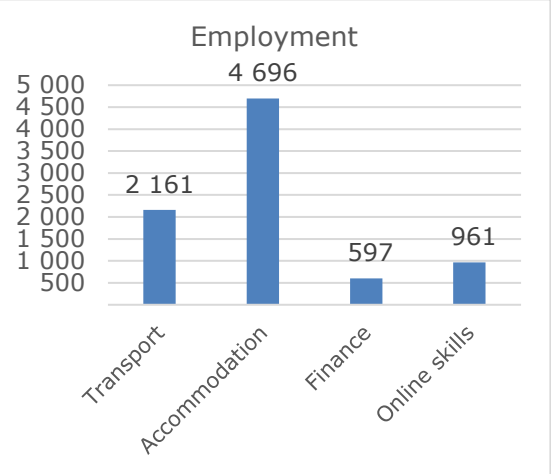
4.23 Portugal

Portugal's scaleup ecosystem is growing twice as fast as the European average.[262] After years of austerity, Portugal's economic troubles seem to belong to the past as its economy continues to grow[263] and with Lisbon, the capital, reinventing itself as a European hub for creative and tech start-ups.[264] In November 2018, Lisbon will host the Web Summit – Europe's largest and most important technology marketplace – for the third time in a row.[265]

This potential, however, is only hinted at rather than effectively and actually represented in the Portuguese collaborative economy. The overall market size of EUR 265 million and the count of persons employed of about 8 400, as well as the contribution to national GDP in 2016 (0.14%) and overall employment (0.17%) rank within the lower middle range of all EU Member States. Portugal's ratio of platforms per 1 million inhabitants (0.68) even ranks below the EU-average.

Relevant data can be found in the following visualisation.



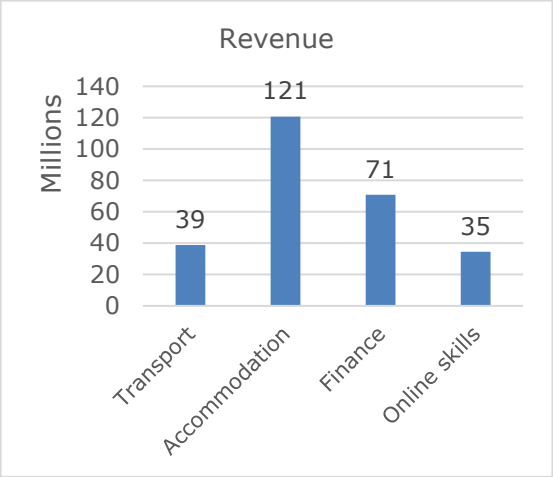


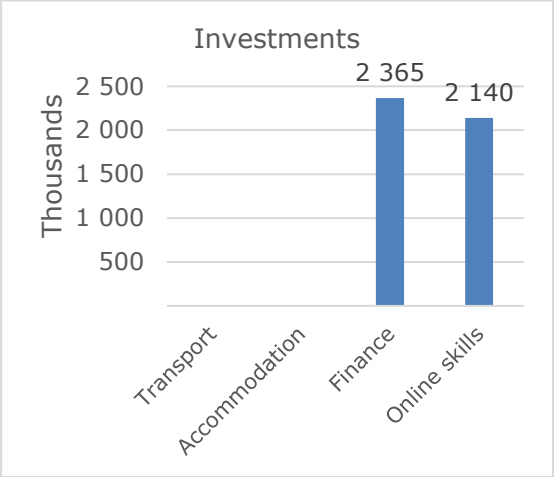
262 Bozorgzadeh.A. E (2017). Portugal is building a startup mega campus in Lisbon. Published on 09/09/2017. Available at: https://venturebeat.com/2017/09/09/portugal-is-building-a-startup-mega-campus-in-lisbon/.

263 Amaro, S. (2017). How Portugal came back from the brink — and why austerity could have played a key role. Published on 02/08/2017. Available at: https://www.cnbc.com/2017/08/02/how-portugal-came-back-from-the-brink.html.

264 Bozorgzadeh.A. E (2017). Portugal is building a startup mega campus in Lisbon. Published on 09/09/2017. Available at: https://venturebeat.com/2017/09/09/portugal-is-building-a-startup-mega-campus-in-lisbon/.

265 Web Summit (2017). Frequently Asked Questions. Available at: https://websummit.com/faq.





What is the level of development of the country in comparison with other Member States in the transport, accommodation, finance and online skills sectors?

As of 2016, 13 collaborative economy platforms were identified in Portugal, out of which six are international platforms. From these international platforms, four are located in the accommodation sector and two are in the transport sector. The number of domestic platforms is increasing.[266] Currently, there are domestic platforms operating in the finance (four), transport (two) and online skills (one) sectors. In comparison with their international counterparts, they are rather small and primarily focussed on concepts most appropriately affiliated with microenterprises developing and trying to strengthen their business models.

In 2016, the highest number of **persons employed** was achieved by the accommodation sector, with a total of 4 696. The transport sector ranked second, with 2 161 employees; followed by the finance and online skills platforms, which have a comparably smaller significance in this respect, and therefore display rather modest figures of 567 and 961, respectively.

In terms of **revenue**, the accommodation sector generated the highest volume with more than EUR 120 million. The finance sector follows with EUR 71 million, which in turn is followed by the EUR 39 million registered for the transport and EUR 35 million for the online skills sector, respectively.

In 2016, all **investment** transactions were exclusively made in the finance sector (EUR 2.4 million) and the online skills sector (EUR 2.1 million).

As regards the country's primarily engaged in **business models**, it can be seen that three out of four transport platforms are aligned to provide ridesharing services. All other sectors, however, are either too diverse or oligopolistic to identify concise and accurate trends with regard to their business models.

What is the evidence for the level of development of the collaborative economy in the country?

[266] Interview with Mr Paulo Simoes, Director of Services, Directorate of Commerce, Services and Restoration Services, Directorate-General of Economic Activities, Ministry of Economy of the Portuguese Republic.

Portugal seems to have woken up from its deep slumber and is demonstrating promising growth potential. In fact, the accommodation and finance sectors already are relatively well developed.[267] After years of austerity measures, Portugal is experiencing economic growth, particularly in tourism.[268] This, in turn, has recently been shown to have a positive spill-over effect on the collaborative economy.[269]

All of the major international collaborative platforms are present in Portugal and growing.[270] However, in the transport sector the Court of Lisbon prohibited Uber Pool and Uber Pop and similar platforms from providing transportation services for profit in 2015.[271] On the other hand, UberBlack, UberX and Uber Green are allowed as they take advantage of the regulation governing car rentals.[272]

Further, the collaborative economy, particularly in the accommodation sector, led to the revitalisation of cities, for example, in Lisbon, the city's historical centre, previously in bad shape, has undergone significant urban rehabilitation works. About 30% of the buildings suitable for habitation were empty in the historical centre of the city. Besides the restoration of buildings, which lead to better security, the rehabilitation also benefited local residents and employees.[273]

The collaborative accommodation sector is regulated through the *Local Accommodation Act* (Decree-law 128/2014 of 29 August 2014 amended by Decree-law 63/2015 of 23 April 2015).[274] Similarly, P2P equity investment and P2P debt funding are regulated by legislation that has been specifically designed to meet the new ways of financing in the collaborative economy - Act No. 102/2015 Regulatory regime of collaborative financing.[275] However, no particular regulation applies to the transport sector, with the exception of the abovementioned court decision.

Overall, the government is working on reducing barriers for collaborative economy platforms to allow their growth and to continue developing the Portuguese collaborative economy environment to make it more and more attractive for international and domestic players.[276]

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267 Ibid

268 Amaro, S. (2017). How Portugal came back from the brink — and why austerity could have played a key role. Published on 02/08/2017. Available at: https://www.cnbc.com/2017/08/02/how-portugal-came-back-from-the-brink.html.

269 Interview with Mr Paulo Simoes, Director of Services, Directorate of Commerce, Services and Restoration Services, Directorate-General of Economic Activities, Ministry of Economy of the Portuguese Republic.

270 Ibid

271 Judgement of the District Court of Lisbon, First Section, of 24 April 2015, Case no. 7730/15.0T8LSB, available at http://observador.pt/wp-content/uploads/2015/04/decisao-comarca-de-lisboa-uber.pdf.

272 Grimaldi Studio Legale, Universita Commerciale Luigi Bocconi CERTeT and Wavestone (2017). Study on passenger transport by taxi, hire car with driver and ridesharing in the EU. Annex III. Country Reports. [Unpublished]

273 Spark Legal, VVA Consulting (2017). Study on the Assessment of the Regulatory Aspects Affecting the Collaborative Economy in the Tourism Accommodation Sector in the 28 Member States (580/PP/GRO/IMA/15/15111J). Market Case Study – Lisbon. [Unpublished]

274 Decree-law 128/2014 of 29 August 2014, 'Local Accommodation Act'; Decree-law 63/2015 of 23 April 2015 amending Decree-law 128/2014.

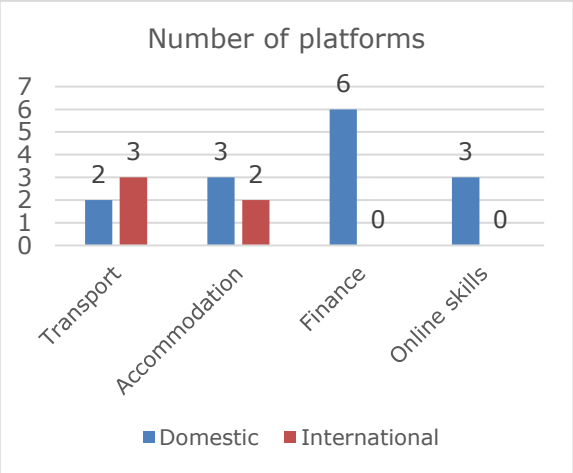
275 Act no. 102/2015 Regulatory regime of collaborative financing; Regulamento da CMVM No. 1/2016 Financiamento Colaborativo de capital ou por empréstimo".

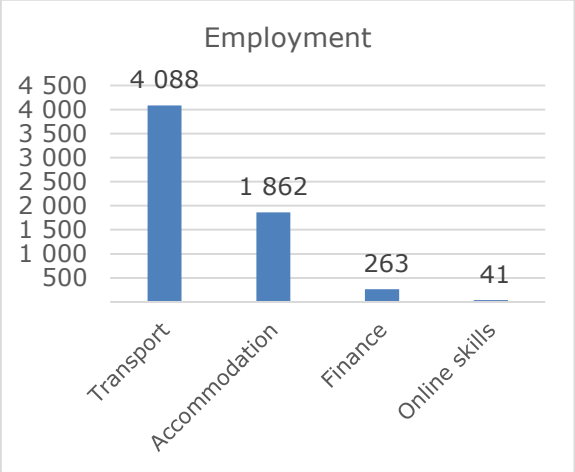
276 Interview with Mr Paulo Simoes, Director of Services, Directorate of Commerce, Services and Restoration Services, Directorate-General of Economic Activities, Ministry of Economy of the Portuguese Republic.

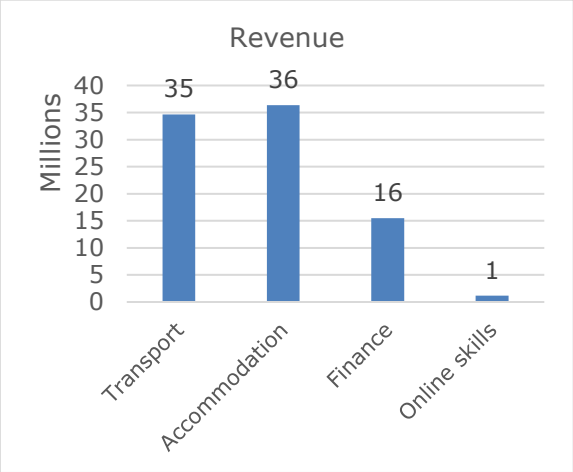
4.24 Romania

Romania's collaborative economy is numerically approached by a market volume of EUR 87.7 million, in 2016 as well as an employment figure of 6 253 in the same year. Viewed from an EU-wide perspective, Romania's ratio of platforms per 1 million inhabitants (0.71) is amongst the lowest in the EU. A similar verdict can be made as regards the collaborative economy's share in national employment counts, which does not exceed 0.07%, as well as its share in national GDP in 2016 (0.05%).

Relevant data can be found in the following overview. Please note that, unfortunately, no investment figures can be displayed due to the lack of data.







What is the level of development of the country in comparison with other Member States in the transport, accommodation, finance and online skills sectors?

As of 2016, 19 collaborative economy platforms were identified in Romania, out of which five are international platforms. The largest number of domestic platforms operates in the finance sector (six platforms), trailed by two in the transport sector, three in the online skills sector and another three in the accommodation sector. Out of the six international platforms operating in Romania, three are located in the transport sector and two in the accommodation sector.

In 2016, the highest **volume of jobs** in Romania was generated by the transport sector (4 088). The accommodation sector ranked second with 1 862 jobs, in 2016. Similar to the transport sector, most jobs are created by large international platforms, which hold

most of the market share in Romania. Finance and online skills platforms have a smaller impact with 263 and 41 jobs, respectively.

The highest **revenue**, however, is generated by the accommodation sector, with EUR 36.4 million, closely followed by the transport sector (EUR 34.7 million), the finance sector (EUR 15.5 million), and the online skills sector (EUR 1.2 million).

Most platforms in the transport sector are specialised in ridesharing. In a similar vein, the vast majority of platforms in the accommodation sector have focused on residence renting. Lastly, two out of three platforms in the online skills sector have incorporated a **business model** designed to advertise their qualifications in on-demand professional services, leaving the remaining platform offering on-demand household services.

What is the evidence for the level of development of the collaborative economy in the country?

In the aftermath of the economic crisis, new business models have emerged in the Romanian market. However, the sharing economy in Romania is at an incipient stage – the market has slowly absorbed the spill-over effects generated by the new economy in the more developed European countries. Hence, international platforms hold a much higher market share compared to domestic platforms which operate solely at national level. A further limiting factor is the delay in the digitalisation of the Romanian economy and society – according to the Digital Economy and Society Index 2016, Romania ranks last in the EU.[277]

No integrated approach for comprehending the sharing economy has been carried out in Romania.[278] As of 2017, there are a few private initiatives as regards the sharing economy at the national level, but no general economic framework or legislative framework that would encourage its development. Due to a lack of a defined legislative framework, sharing economy platforms do not have a high degree of trust among Romanian consumers. This is also reflected in the fact that Romania is one of the last countries as regards the number of cross-border transactions or number of e-commerce users. However, the fact that some international platforms, such as Uber of Airbnb, have recently entered the market has slowly increased the level of trust of Romanian consumers in these types of services.[279]

The Romanian Parliament's Commission for Information Technology and Communication has released a legislative proposal to define the sharing economy[280] and some argue that this initiative has emerged as a reaction to Romanian taxi drivers' protests against Uber competition. The legislative proposal in its current form is rather restrictive and it is believed that it will hamper the development of the sharing economy in Romania.[281]Besides this issue, no other issues generated by the sharing economy as a whole have been identified prior to the release of the legislative proposal. The sharing economy could generate opportunities not solely for international platforms settling in Romania, but also for potential Romanian entrepreneurs wishing to open a business in this sector.[282]

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277 European Commission (2016), What is the Digital Economy and Society Index? Available at: http://europa.eu/rapid/press-release_MEMO-16-385_en.htm

278 Interview with Ms Anca Harasim, Executive Director, AmCham Romania

279 all: Interview with Ms Diana Voicu, Co-Founder and President, Institute for Digital Coexistence

280 Available at: https://legestart.ro/economia-de-acces-lege-noua-pentru-platformele-de-furnizare-si-inchiriere-produse/

281 Manolea, Bogdan (2016). Cum se încearcă reglementarea Uber, Airbnb, Indiegogo si ce mai pica. Available at: http://legi-internet.ro/blogs/index.php/cum-se-incearca-reglementarea-uber

282 Manolea, Bogdan (2016). Cum se încearcă reglementarea Uber, Airbnb, Indiegogo si ce mai pica. Available at: http://legi-internet.ro/blogs/index.php/cum-se-incearca-reglementarea-uber

The development of the sharing economy in Romania has thus been driven by the existence of a few international platforms that operate at the national level. The presence of such international platforms has stimulated the emergence of a handful of national players which, although holding a small market share, show an encouraging trend. Should the sharing economy develop at a faster pace in Romania, stakeholders believe that public authorities should understand the phenomenon and the opportunities it generates and subsequently create a favourable legislative framework for these types of businesses to operate within.[283]

[283] Albescu, Oana, and Mircea Maniu (2017). "Sharing economy: evaluating its structural dimensions for policy design purposes." Online Journal Modelling the New Europe 22. Available at: http://neweurope.centre.ubbcluj.ro/wp-content/uploads/2017/06/SHARING-ECONOMY.pdf

4.25 Sweden

The country's 37 collaborative economy platforms are conceptualised by an employee count of 6 550 and an annual market volume of about EUR 1.4 billion, as of 2016.

In comparison with other EU Member States, the Nordic Country belongs to the group of countries exhibiting above average performance by it collaborative economy in terms of total figures, although at an average level of performance within the relative framework. In fact, all performance indicators demonstrate average relative figures. Accordingly, Sweden ranks among average with respect to number of platforms per 1 million population (2.4). Moreover, the Swedish collaborative economy's contribution to total national employment is within the EU average (0.13%). A similar verdict can be made regarding its collaborative market volume compared to total national GDP (0.3%).

Relevant platforms and associated data can be found in the following overview.

What is the level of development of the country in comparison with other Member States in the transport, accommodation, finance and online skills sectors?

The collaborative **transport** sector includes 12 platforms, which employed a total of 811 people and contributed approx. EUR 43 million to Sweden's national GDP in 2016. Furthermore, investment figures of EUR 1 000 can be noted. Most of the concerned platforms, which are approximately evenly split between domestic and international operators, follow a P2P transaction model, though P2B enjoys noticeable popularity, as well. An aspect which unites most of the platforms within this sector, and that effectively distinguishes it from other markets, is represented by the fact that environmentally

friendly operations and aspects are repeatedly and consistently stressed. Social and monetary motivations are listed as further drivers. Nonetheless, the Swedish government is currently considering a stricter and tighter regulatory framework regarding on-demand services such as Uber Pop, following an investigation carried out between 2014 to 2016. A third of all platforms in this sector follow a business model centred on rides on demand, thereby making it the most prominent, albeit not dominating business model.

The **accommodation** sector is dominated by peer-to-peer room rental or room sharing platforms, which together provided 1 154 jobs, generated revenue of EUR 123 million in 2016, and showed investment figures of EUR 1 million. Out of the four platforms operating in this sector of the Sweden's collaborative economy, Airbnb stands out as the biggest and fastest growing. In fact, most developments and discussions directly stem from or are directed at the U.S. platform. For instance, Swedish authorities have closely eyed Airbnb's developments, finding that about SEK 10 million in accumulated income from its app has not been declared by the platform.[284] Further regulatory controversies have arisen regarding the legality of subletting apartments in Sweden, as the country's legislation prohibits subletting for personal profit interests. [285]

A total of seven platforms, of which four are of domestic and three of foreign origin, can be identified in the Swedish collaborative **finance** sector. Providing 4 477 jobs and generating revenue of EUR 1.2 billion, this sector is, by far, the biggest and most important sector in Sweden's collaborative economy. This success can partly be traced back to the fact that all domestically originating platforms also have international reach. It can furthermore be stated that crowdfunding in general is a growing industry in the Swedish collaborative economy. Several reports indicate that Stockholm is considered to be the second most important FinTech hub, after London. The same report, however, concludes that Swedish authorities have not necessarily been reactive to recent developments and their potential.[286]

The **online-skills** sector is dominated by Swedish, national platforms. Eleven out of 14 platforms are domestic in this sector, leaving three as international platforms. A total of 108 people are employed by the platforms in the online-skills sector, and revenue of EUR 12.6 million can be noted for 2016. No investment figures could be retrieved. As the sector has experienced rapid growth in recent years, union organisations have stressed the vulnerability of people being employed via online platforms. Questions and concerns arise with regards to accountability, regulation and competitiveness.[287] Two thirds of all platforms in this sector provide on-demand household services.

What is the evidence for the level of development of the collaborative economy in the country?

The country shows high levels of IT and communication competency, a relatively dense and well-developed network of entrepreneurial clusters, high levels of internet coverage and smartphone usage, and pronounced environmental and sustainability concerns. Accordingly, in 2015 it was monitored that Swedish authorities appear to be more aware of and involved in the collaborative economy than comparable countries.[288] Yet, Swedish laws and regulations have not been specifically adapted to fit the specific nature of the collaborative economy thus far. For instance, a major concern in the Swedish context is the question of taxation. How can the collaborative economy be integrated into the national taxation system? How can tax-dodging be prevented? These and further

284 https://digital.di.se/artikel/skatteverket-om-fusket-med-airbnb-vi-har-blivit-vassare
285 https://digital.di.se/artikel/valkommen-till-folkhemmet-airbnb
286 http://www.crowdfundinghub.eu/current-state-crowdfunding-sweden/
287 https://www.arbetsvarlden.se/stor-andel-tjanstemannajobb-inom-delningsekonomin/
288 Robin Teigland, « Sharing economy, embracing change with caution » 2015. https://www.slideshare.net/eteigland/sharing-economy-webb

questions concerning the benefits and disadvantages of the collaborative economy in Sweden are yet to be answered. No specific support measures or regulations are in place yet. On the one hand, the government argues that the absence of such measures is rooted in insufficient knowledge. On the other hand, the government opposition suggests the simplification of bureaucratic regulations, based on investigations in each sector.[289]

Gaining increased knowledge about the collaborative economy has been labelled as a priority by the Swedish government. Mapping exercises, or public evaluation studies, have been conducted in the course of this elevated attention. An important study is the recently published official investigation "Delningsekonomin – på användarnas villkor", which focusses on the role of users in the collaborative economy, and how regulations could protect them.[290] Besides governmentally motivated operations, further organisation, such as Shared Economy Sweden (SES) are now entering the arena. SES aims to provide policy makers with insights from the point of view of companies within the collaborative economy.[291]

289 https://digital.di.se/artikel/m-sagar-forslag-om-delningsekonomin-tandlos-utredning

290 Karin Bradley, « Delningsekonomi - på användarnas villkor » 2017. http://www.regeringen.se/495f62/contentassets/82aabf7f731c4e18aaee3b8dc3621063/delningsekonomi--pa-anvandarnas-villkor-sou-201726

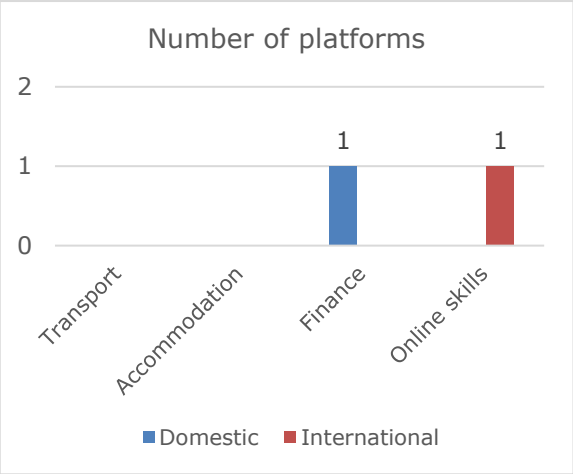
291 http://www.sharedeconomy.se/

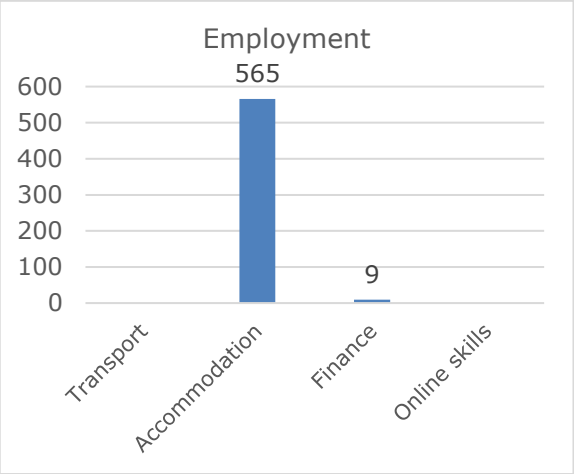
4.26 Slovenia

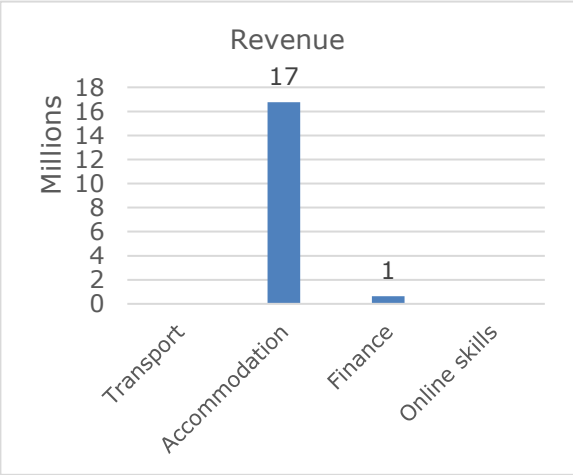
Two P2P for-profit collaborative economy platforms were identified in Slovenia, one of international and one of domestic origin, operating in the online skills and finance sectors, respectively. These two platforms reached a market size of EUR 17.4 million in 2016, and provided 575 jobs.

Viewed from an EU-wide perspective, Slovenia finds itself amongst the group of countries with below-average performance with specific respect to collaborative economies, demonstrated by the ratio of platforms per 1 million inhabitants (0.48), the contribution of its collaborative economy to overall employment (0.06%), as well as national GDP in 2016 (0.04%).

Relevant figures and data can be retrieved from the following overview. Please note that, unfortunately, no investments can be displayed due to a lack of data.







What is the level of development of the country in comparison with other Member States in the transport, accommodation, finance and online skills sectors?

In 2016, the two platforms generated 565 jobs in accommodation and nine persons were employed in finance.

The accommodation sector generated about EUR 16.8 million, followed by EUR 641 987 in online finance. These figures correspond to the small size of the market in Slovenia and the early stage of development of the collaborative economy.

What is the evidence for the level of development of the collaborative economy in the country?

Slovenia's collaborative economy is quite heavily regulated.[292] By law, activities generating income (turnover) of any scale are considered business activities. As such, they have to be registered either as regular businesses (companies or sole traders or part-time sole traders) national authorities must be notified (natural persons providing services occasionally) taxes must be paid (income tax, personal income tax, VAT in special cases – see below) and social contributions made (where applicable).[293]

In addition to registration/notification of activity in terms of income generated, some activities (such as room/apartment rental, passenger transport, and some professional services) have to comply with special conditions to be admissible to enter the market (e.g. minimum technical conditions for room/apartment rental,[294] transport of passengers[295]), and are subject to a substantial amount of administrative burden: minimum bookkeeping, registration of guests (in room/apartment rental), controls, reporting, taxes and contributions, etc. Registration is also necessary for room/apartment rental if advertised through a platform (e.g. Airbnb).[296] In addition, working with foreign platforms is considered an export activity – consequently room/apartment providers are subject to VAT regardless of the volume of the turnover (in domestic transactions, operators with an annual turnover of up to EUR 50 000 are not subject to VAT).[297]

There are numerous national regulations covering the provision of the business activities/services in question,[298] and in addition, some of them are also regulated by local/municipal decrees (e.g. municipal decrees on taxi service). Please, find below only the main pieces of regulations. Some collaborative economy activities are additionally regulated, i.e. they have to comply with so called technical conditions (including licences in some cases) before the provision of services may begin.[299]

In September 2016, the government of Slovenia took note on the European agenda for the collaborative economy and adopted the following resolution: "The Government of the Republic of Slovenia invites the ministries and governmental offices to comply with the guidelines of the European agenda for the collaborative economy, and to actively cooperate and discover opportunities and draw amendments to the legislation necessary to introduce the collaborative economy."[300] Consequently, the Government of Slovenia established an inter-department Task Force for the preparation of an action plan on updating regulations governing a short-term rental of accommodation to tourists.[301] Further to that, the Ministry of Economic Development and Technology (MGRT,

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292 4liberty.eu, 2017. The Regulatory Framework of the Collaborative Economy in Central and Eastern Europe. Available: http://4liberty.eu/wp-content/uploads/2017/09/The-Regulatory-Framework-of-the-Collaborative-Economy-in-Central-and-Eastern-Europe.pdf

293 Articles 48, 59 and 135.a of Personal Income Tax Act (Zakon o dohodnini, ZDoh-2), Uradni list Republike Slovenije (Official Gazette of Republic of Slovenia) No. 13/11 with subsequent changes.

294 Hospitality Industry Act, Article 9.

295 All drivers are required to obtain taxi licenses but fulfilling numerous conditions set by the Road Transport Act (i.e. have a good reputation, have a professional competence, have adequate financial standing, own at least one vehicle registered in Slovenia or have the legal right to use such vehicle, have no outstanding tax obligations, and meet the establishment criteria in line with Regulation (EC) No. 1071/2009).

296 Hospitality Industry Act, Article 14.

297 Articles 48, 59 and 135.a of Personal Income Tax Act (Zakon o dohodnini, ZDoh-2), Uradni list Republike Slovenije (Official Gazette of Republic of Slovenia) No. 13/11 with subsequent changes.

298 Please see the main regulations in footnote

299 See the technical requirements of the Hospitality Industry Act and Road Transport Act.

300 Source: Ministry of Public Administration, Informacija o Evropski agendi za sodelovalno gospodarstvo – predlog za obravnavo, No. 542-61/2016/, 13 September 2016.

301 Source: 72nd Correspondence Government session, 23 September 2016.

responsible for services and tourist accommodation), proposed in November 2017 to establish a new, broader inter-department Task Force, which will coordinate and steer activities and, together with other ministries, examine existing regulations from all aspects in order to propose appropriate measures and associated amendments in order to adjust currently applicable rules in all relevant areas with a view to enabling collaborative economy service providers to carry out this type of activity in a legal manner.[302]

Consequently, in July 2017, new Rules on minimal technical requirements and on the scope of services for hospitality operations were adopted, defining non-standard forms of accommodation.[303] MGRT claims that all accommodation providers should have their activity registered or provide notification thereof; should report their guests, pay taxes and, therefore, should not present unfair competition to other (registered) providers. MGRT also considers the possibility to adopt a "horizontal law" that would enable all platform providers (national and foreign) to operate in a legal manner.

The government of Slovenia (line ministries) point out that they embrace innovative solutions and new business models, because they have positive effects (e.g. room/apartment rental has positive effects on tourism), but such activities cannot disrupt market conditions or generate unfair competition for other providers (i.e. "regular" providers). MGRT also points out that control and regulation are necessary, together with awareness raising among natural persons involved in this area (i.e. room/apartment rental).[304] For instance, last summer, the Tax Administration of Slovenia announced stricter control of room/apartment rentals.[305]

302 Source: VG No. 300-23 / 2016/22 of 22 November 2016.

303 Last amendment of the Hospitality Industry Act. Please see: Uradni list Republike Slovenije (Official Gazette of the Republic of Slovenia) No.1/95 with amendments.

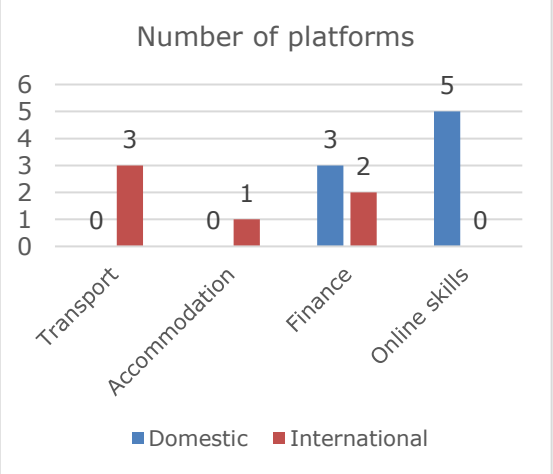
304 Source: Sodelovalna ekonomija v Sloveniji, article, https://novipodjetnik.si/airbnb-booking-apartma/

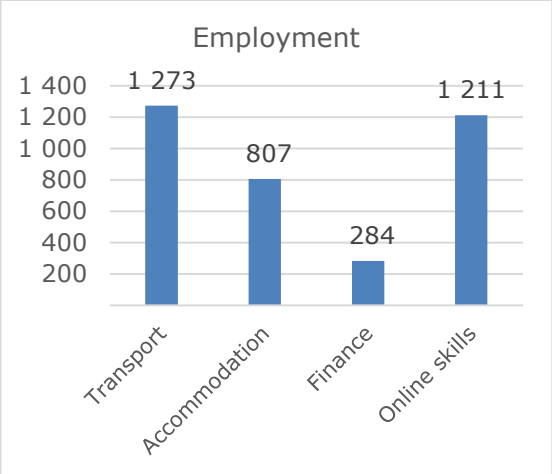
305 4liberty.eu, 2017. The Regulatory Framework of the Collaborative Economy in Central and Eastern Europe. Available: http://4liberty.eu/wp-content/uploads/2017/09/The-Regulatory-Framework-of-the-Collaborative-Economy-in-Central-and-Eastern-Europe.pdf

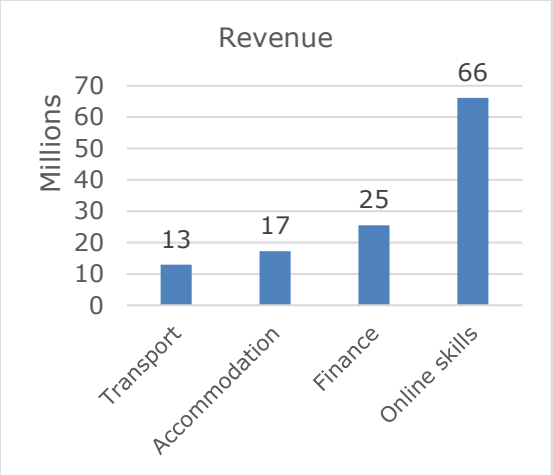
4.27 Slovakia

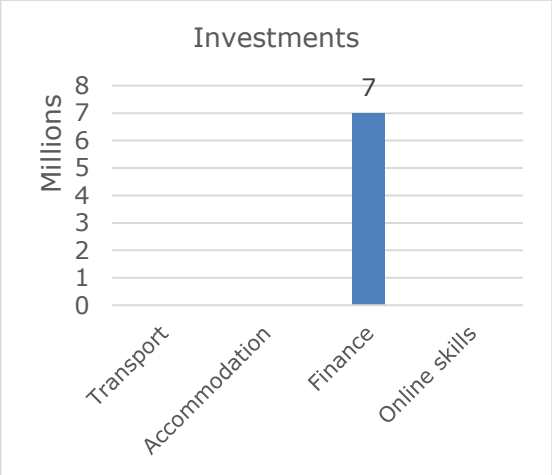
The Slovak collaborative economy reached an overall market volume of EUR 122 million in 2016, to which 3 575 employees contributed. Viewed from a Europe-wide perspective, Slovakia demonstrates a below-average number of platforms per 1 million inhabitants (1.47). Slightly more promising figures can be retrieved from the collaborative economy's contribution to overall national employment (0.15%) and national GDP (0.13%), as both values fall within the average.

The following overview displays all data and figures retrieved for Slovakia.









What is the level of development of the country in comparison with other Member States in the transport, accommodation, finance and online skills sectors?

The collaborative economy in Slovakia is a relatively small but growing market. This does not come as a surprise, as Slovakia is a small economy by itself.[306] There are no platforms originating in Slovakia (domestic) in the transport and accommodation sectors. The market is driven by international platforms, such as Airbnb, in the accommodation sector, and Uber, Taxify and Blablacar, in the transport sector. In finance, there are three main domestic **platforms** operating. The largest number of domestic platforms is in the online skills sector (5), including large platforms such as Jaspravim, Supersused, and Domelia.

[306] etrend.sk TREND 41/2017, Priklady slovenskej gig ekonomiky: Ponuka pracu za par eur a casto z domu (TREND magazine article).

The largest **revenue** in 2016 is estimated to be in the online skills sector (EUR 66 million), followed by finance (EUR 26 million), accommodation (EUR 17 million) and transport (EUR 13 million). The largest number of **people** employed in 2016 is estimated to be in the transport sector (more than 1 200 persons), closely matched by the online skills sector with a similar count, and ultimately followed by the accommodation (around 800) and finance (around 280) sector.

The collaborative economy market in the transport and accommodation sectors is dominated by international platforms. Accordingly, the two main international platforms operating in Slovakia are Airbnb and Uber. BlaBlaCar entered the market at the beginning of 2016.[307] In January 2016, it acquired Slovak car sharing platform, Jazdomat.[308] From the domestic platforms' perspective, online skills is the biggest domestic market with five main domestic platforms. There are several online skills and finance platforms that are also operating in the Czech Republic (mainly) and a couple in other neighbouring countries. The transport and online skills markets are the biggest markets. The driver behind these is that peers can earn additional income by providing services on these platforms (often in addition to their other jobs).

No **investment** could be identified in the transport and accommodation sectors, as only international platforms are operating within the sectors in Slovakia. For online skills, there was no evidence found on the level of investment into the Slovak platforms, either. For the finance sector, however, investment data was found for one platform, equivalent to EUR 7 million in total.

The online skills sector is dominated by the on-demand household services **business model**. All further sectors are either too dispersed or oligopolistic to make sensible and reliable statements regarding their predominant incorporation of business models.

What is the evidence for the level of development of the collaborative economy in the country?[309]

There is no well-defined regulatory environment for the collaborative economy in Slovakia.[310] The topic of collaborative economies was widely discussed in various Ministries in 2015-2016 (Ministry of Economy (lead), Ministry of Transport, and the Ministry of Employment). However, the discussions at the national level did not lead to any conclusions or regulation. Currently, collaborative platforms operate in a 'grey' zone, i.e. they are not regulated, nor are they prohibited. The topic has not yet been sufficiently prioritised to be dealt with in a consistent manner on the national level.[311]

The Ministry of Economy as the lead partner on the national level on this topic, together with the Deputy Prime Minister's Office for investments and digitalisation and the Ministry of Employment and Social Affairs have planned to develop a strategy on how to approach collaborative economy players on the market.[312] This strategy was supposed to be published in 2016; however, it is not clear whether this has taken place, as it is not publicly available. The discussions were leading towards regulation, particularly in regard to Uber and its drivers. However, insufficient progress has been

307 http://www.hayek.sk/cestovanie-ala-blabla/

308 SME, 13 January 2016, Portal spolocneho cestovanie Jazdomat sa meni na BlaBlaCar, https://auto.sme.sk/c/8118206/portal-spolocneho-cestovania-jazdomat-sa-meni-na-blablacar.html

309 This section of the country profile was prepared thanks to the discussion with Petra Dzurovcinova, former Executive Manager of SAPIE

310 Opinion of the interviewee, Petra Dzurovcinova, former Executive Manager of SAPIE

311 Also mentioned in 4Liberty.eu, (no year given) Policy paper: Less regulation, more reputation! Case study: the sharing economy in transportation and accommodation

312 Information provided by the interviewee, Petra Dzurovcinova, former Executive Manager of SAPIE

made in this regard from the public sector, while the market players (e.g. Airbnb and Uber) do approach policy makers at the national and city level to reach an agreement and conclusions.[313]

Specific regulations can also be applied to and identified in specific sectors. For instance, in the **transport sector**, the debate primarily surrounds Uber as the main platform operating in the sector. Uber is viewed from the perspective of a taxi service. There is a regulation governing taxi drivers in Slovakia, which Uber drivers failed to meet when Uber first entered the market. This raised a mass protest from the taxi drivers in Slovakia.[314] Since 2016, the Ministry of Transport requires Uber drivers to fulfil certain conditions – i.e. the driver needs to have a business licence for being self-employed and be registered – Uber arranges this for their drivers. However, due to the high number of Uber drivers and the low frequency and capacity of the professional skills test that taxi drivers need to pass, this condition was not satisfied for Uber drivers, and they continue to provide services without complying with the official public regulations.[315]

Within the **accommodation sector**, only Airbnb operates in the market. The city of Bratislava is discussing the mandatory collection of city taxes from service providers, since in the case of around 300 listings, only two out of 93 properties checked were registered and paid taxes.[316] According to the Bratislava regulation, all providers of accommodation are required to pay a city tax when renting out their properties. However, in the case of Airbnb, the service provider is an international company (Airbnb), and Slovak hosts are often not registered within the city as property providers (as they are peers). As such, Bratislava suggested that a local tax be included in the final price for a property offered on Airbnb, and that Airbnb transfers this tax to the city. This is the only restriction to date that the city is preparing.[317] With regards to collecting income tax from revenue generated by hosts, this issue remains open as there is no mechanism in place which would allow for control and enforcement. According to the Slovak tax regulation, the property renter must register with tax authorities and pay income tax on revenue generated from renting out the property.[318] If renting out properties includes other services, such as cleaning, the host also needs to have a self-employed licence to do so, which presents additional costs, in particular if the annual gross revenue exceeds EUR 5 148.[319] There are additional regulatory bottlenecks, such as the Decree of the Ministry of Economy No. 277/2008 Coll., which regulates the categorisation and classification of the accommodation facility (premises destined for rent which were originally used for housing, are included in the category: "private accommodation").

The **Finance sector** is characterised by some domestic as well as international platforms. Currently, there is no legal mechanism in Slovakia for P2P lending.[320] The contracts are not drafted as for finance institutions but rather as for NGOs. As such, the

313 Opinion of the interviewee, Petra Dzurovcinova, former Executive Manager of SAPIE
314 4Liberty.eu, (no year given) Policy paper: Less regulation, more reputation! Case study: the sharing economy in transportation and accommodation
315 4Liberty.eu, (no year given) Policy paper: Less regulation, more reputation! Case study: the sharing economy in transportation and accommodation
316 Etrend.sk TREND, 13/07/2017 Bratislava chce od Airbnb vyberat dan, https://www.etrend.sk/podnikanie/bratislava-chce-od-airbnb-dan-z-ubytovania.html
317 Etrend.sk TREND, 13/07/2017 Bratislava chce od Airbnb vyberat dan, https://www.etrend.sk/podnikanie/bratislava-chce-od-airbnb-dan-z-ubytovania.html
318 A host must complete the form: "The announcement of origin of accommodation". Accommodation Tax is paid for each night that a person stays at a facility. On average, it is 0.50-1.50 euro.
319 4Liberty.eu, (no year given) Policy paper: Less regulation, more reputation! Case study: the sharing economy in transportation and accommodation
320 Information provided by the interviewee, Petra Dzurovcinova, former Executive Manager of SAPIE

terms are not advantageous for the lenders as there is no recovery of claims. With regard to crowdfunding, it is mostly reward-based, and a lot of projects use international platforms, such as Kickstarter and Indiegogo.[321]

Within the **online skills** sector, several domestic platforms can be identified. The sector is not yet regulated. Services offered under these platforms are called "micro services". Until now, revenue from occasional work below EUR 500 per year was exempt from taxes. However, currently, a proposal for legislation is being discussed to also tax also these types of revenues.[322]

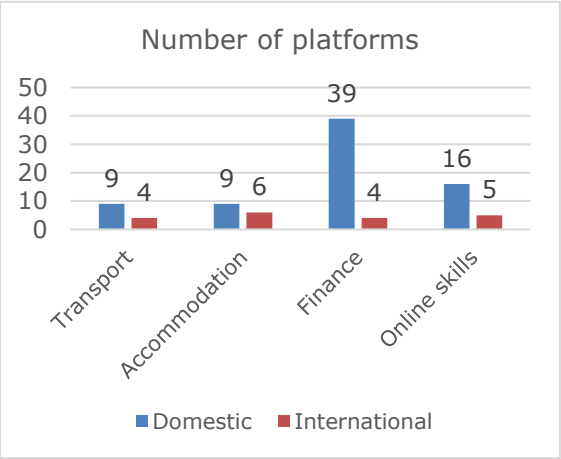
321 Opinion of the interviewee, Petra Dzurovcinova, former Executive Manager of SAPIE

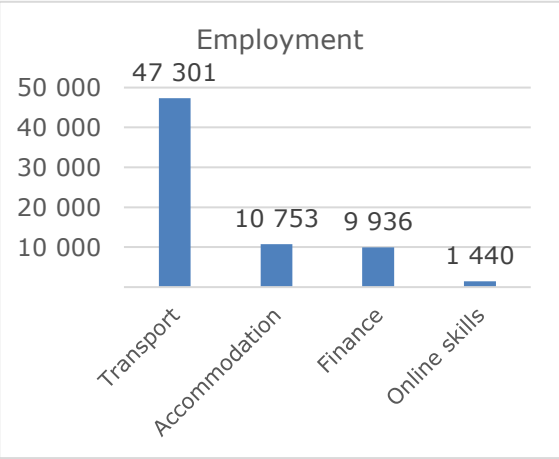
322 etrend.sk TREND 41/2017, Priklady slovenskej gig ekonomiky: Ponuka pracu za par eur a casto z domu (TREND magazine article).

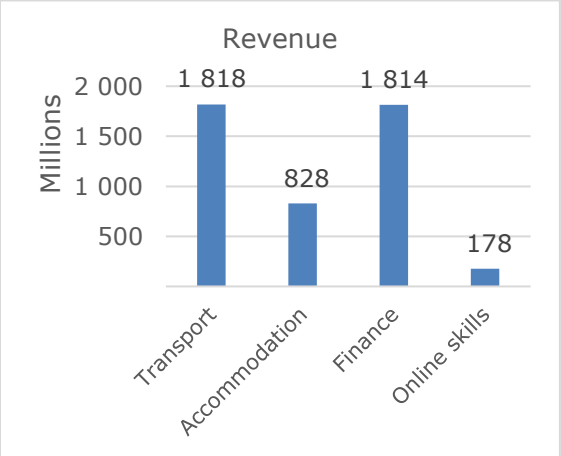
4.28 United Kingdom

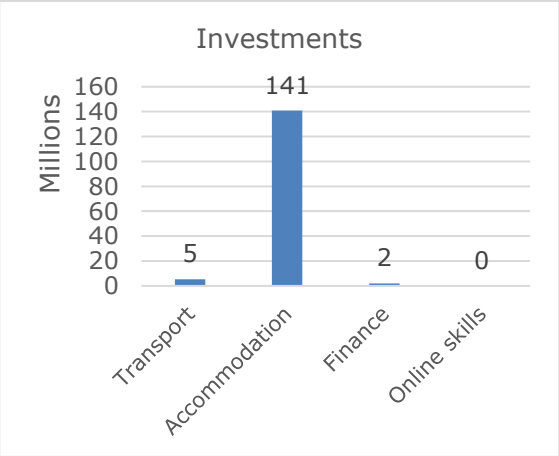
The United Kingdom distinguishes itself as one of the powerhouses for collaborative economies in the EU. Its overall market size reached EUR 4.6 billion, and is second only to France. Similarly, the number of persons employed in the collaborative economy (69 431) hints at a rather developed state of collaborative economies. In this country-specific case, however, development is not necessarily to be confused with significance. Even though the collaborative economy is an important pillar of the British economy, its relative significance varies according to the parameters it is being compared to. For instance, while the collaborative economy's contribution to national employment is above the EU-average at 0.22%, its ratio of platforms per 1 million inhabitants (1.14) finds itself at the lower end in an EU-wide comparison. To complete the spectrum, the market volume in relation to total national GDP in 2016 (0.2%) falls within the EU-average.

A complete overview of the number of platforms, estimated revenues, estimated employment and recorded investments in the four sectors is given in the figures below.









What is the level of development of the country in comparison with other Member States in the transport, accommodation, finance and online skills sectors?

It is estimated that the **finance** sector generated revenue of around EUR 1.8 billion in 2016, and provided 9 936 jobs. As opposed to some other sectors, the UK collaborative finance market is primarily dominated by domestic platforms, most notably Funding Circle, Crowdfunder, Lendy and RateSetter, but the international platform Indiegogo

also receives a lot of UK web visitors. Taken together, about 49% of platforms are designed to satisfy demands concerning debt funding. Another 30% have specialised in equity funding.

In terms of revenues and employment, the **online skills** sector is the smallest sector in the collaborative economy in the UK. Revenues are estimated to be around EUR 178 million in 2016. In the online skills sector, international platforms dominate the revenues although the domestic platforms are higher in number. The online skills sector is also the second sector in terms of employment, providing over 300 platform jobs, and an additional count of more than 1 100 in jobs originating from service-provider. About 60% of all platforms in this sector follow an on-demand household services business model.

The **accommodation** sector accounts for almost one fifth of the total revenue in the UK's collaborative economy, with estimated revenue of EUR 828 million in 2016. This sector is also strongly dominated by international platforms, most notably Airbnb and Homeaway. The sector demonstrates a volume of roughly 125 platform employees, and an equivalent of over 10 600 in its service providers counterpart. Moreover, the sector received large investments over the last few years amounting to more than EUR 140 million. The majority of platforms in this sector are aligned to cater to home/residence renting services.

The **transport** sector is the biggest sector in the UK's collaborative economy in terms of employment and revenues, as some of our interviewees stressed that the transport sector might continue to grow and have the largest potential for further growth. The transport sector generated an estimated EUR 1.8 billion in 2016. The French platform BlaBlaCar and Uber seem to be the most important platforms in the collaborative transport sector in the UK, but the domestic platform Justpark is frequently used as well. The sector provides 714 people with jobs, and the entire volume of jobs generated by service provider is estimated to be equivalent to about 46 000. No particular business model stands out in numerical terms, thereby stressing the diversity of this sector.

What is the evidence for the level of development of the collaborative economy in the country?

At the national level there is general support for the collaborative economy, which is a reflection of the current government's view on open markets as well as the desire to become the centre for innovative solutions, thereby also contributing to the development of the sharing economy.[323]

The UK Office for National Statistics (ONS) has also started working on the sharing economy by developing a conceptual framework to support the collection and dissemination of statistics on sharing economy activities.[324] At this stage, ONS tries to define the collaborative economy, which businesses are part of it, to understand the nature of such businesses, their users, as well as their differences with other services.

The collaborative workers still need to register with the tax authorities/social security funds or company register, but the registration is free. However, the extra paperwork it generates and to understand the regulations makes it more cumbersome to be a part

[323] Interview with individual from NESTA

[324] Office for National Statistics (November 2017), The feasibility of measuring the sharing economy: November 2017 progress update, https://www.ons.gov.uk/economy/economicoutputandproductivity/output/articles/thefeasibilityofmeasuringthesharingeconomy/november2017progressupdate

of the collaborative economy as a worker.[325] Nevertheless, this does not seem to have stopped the shift towards a sharing economy and, with new employment forms emerging,[326] there seem to be forces pulling the economy in that direction. A new industry association for sharing economy platforms (SEUK)[327] was established in 2015, which launched the Trust Seal in 2016. The Trust Seal is a self-regulatory tool on good practice methods for sharing economy platforms.[328]

It is estimated that between 47%[329] and 64% of the population in the UK is taking part in the sharing economy,[330] and that the participation shows a 60% growth every year on platform usage.[331] The factors influencing participation in the collaborative economy are that it saves money, it is more environmentally friendly, it is an easy way to earn some extra money and it helps build communities, according to a study done by ING in 2015.[332] However, it remains to be seen how the political arena will respond towards regulations for the collaborative economy in the future. For now, these are the developments happening in the four sectors:

In the **transport** sector, in 2015, the fare calculation system of Uber's taxi services was brought to court by Transport for London, and was in the end deemed legal.[333] The most recent development for Uber was that their private hire license expired in September 2017, and was not renewed by Transport for London. Uber has since launched a legal appeal, and will operate until the legal process has been disclosed, which could take more than a year.[334]

In the **accommodation** sector, the *Deregulation Act* relaxed the planning rules for short-term lets in 2015, where previously owners had to apply to the Local Planning Authority for permission, and in the same year the 'Rent a Room' tax allowance came in to play, allowing the first £7 500 of rental income from a room in a primary residence to be tax-free.[335] In 2016, a £1 000 tax-free allowance for property and trading income was introduced for sole traders, and was billed as the 'world's first sharing economy tax break'.[336] Most recently, there seems to have been a strong interest from the UK government to look into how peer-to-peer accommodation affects the local community, which might lead to tougher regulations,[337] as concerns are being raised about increasing house prices and neighborhood responsibility.[338] The UK has limited its legislative framework to make room for the peer-to-peer accommodation rental sector, and thereby acted to update and introduce some new regulations that are more appropriate for the sharing accommodation sector.[339]

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325 CEPS 2016 The Impact of the Collaborative Economy on the Labour Market
326 Eurofound 2015 New forms of employment
327 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/414111/bis-15-172-government-response-to-the-independent-review-of-the-sharing-economy.pdf
328 http://www.sharingeconomyuk.com/trustseal
329 Interview with individual from Sharing Economy, UK (SEUK)
330 EP 2015 Research for Tran Committee – Tourism and the sharing economy: challenges and opportunities for the EU
331 Interview with individual from Sharing Economy, UK (SEUK)
332 ING 2015 International Survey on "The sharing economy" Fig. 6
333 The Independent, 16 October 2015. Uber fare calculator app does not break the law, High Court rules. Available at: research.org.cy
334 The Guardian, 13 October 2017. "Uber launches appeal against loss of London license. Available at: https://www.theguardian.com/technology/2017/oct/13/uber-appeal-london-licence-tfl
335 HMRC Research Report 453, 2017 Sharing Economy: User characteristics and tax reporting behaviour
336 PWC 2016 Assessing the size and presence of the collaborative economy in Europe
337 http://www.telegraph.co.uk/technology/2017/10/15/government-funded-open-data-study-assess-airbnb-regulation/
338 Interview with individual from Sharing Economy, UK (SEUK)
339 PWC 2016 Assessing the size and presence of the collaborative economy in Europe

Similarly, the regulatory environment for **alternative finance** models has been revised to accommodate growing peer-to-peer lending and finance products, though the government has also moved to strengthen consumer protection by limiting marketing and advertisements online and on social media.[340]

Regarding **online skills,** as older generations become more familiar with the digital world and start using it to their advantage an increase in platform usage might be seen. This is also true for other groups in society – such as vulnerable groups who are less well off – if they gain access, as this will impact the development.[341]

340 PWC 2016 Assessing the size and presence of the collaborative economy in Europe
341 Interview with individual from Sharing Economy, UK (SEUK)

5. MAIN FINDINGS AND POLICY IMPLICATIONS

This chapter presents the main findings about the level of economic development of the collaborative economy on the EU and sector level. The policy implications are made based on study process and results and are focused on supporting further growth of the collaborative economy in the EU.

5.1 Main findings

1) **Overall size of the collaborative economy in the EU-28 in 2016 is estimated to be EUR 26.5 billion.** A majority of activities can be found in four sectors: finance makes the largest revenues in EU-28 (EUR 9.6 billion), followed by accommodation (EUR 7.3 billion), online skills (EUR 5.6 billion) and transport (EUR 4 billion). This constitutes about 0.17% of total EU-28 GDP in 2016. The collaborative economy offers about 394 000 **jobs** across the EU, representing about 0.15% of total EU-28 employment.
2) The **largest markets** for the collaborative economy can be found in **France** (EUR 6 560.3 million; 25% from total collaborative EU-28 market), **UK** (EUR 4 637.7 million; 17%), **Poland** (EUR 2 736.6 million; 10%) and **Spain** (EUR 2 524.3 million; 10%). These top four countries also offered the most jobs in the collaborative economy (approx. 74 600, 69 400, 65 400 and 39 700, respectively) in 2016. In general, the seven largest collaborative economy markets in the EU (France, UK, Poland, Spain, Germany, Italy and Denmark) represent about 80% of total collaborative revenues in the EU-28 in 2016. The remaining 21 Member States share 20% of the collaborative market. Within the latter group of countries, there are countries with a rather modestly sized collaborative economy, like Cyprus (EUR 37 million), Lithuania (EUR 32 million), Malta (EUR 18 million) and Slovenia (EUR 17 million), each individually comprising about 0.1% of the total collaborative EU-28 market.
3) The level of **development of the collaborative economy in the EU varies a lot**. Estonia has the highest share of the collaborative economy in the national economy in terms of the share of the collaborative economy in national GDP (0.88%), followed by Poland (0.64%), Latvia (0.63%), Luxembourg (0.44%), Czech Republic (0.44%) and Sweden (0.29%). In these countries, the collaborative economy plays a significant role in the overall economy. Similarly, in terms of absolute revenue volumes, the collaborative economy has the lowest influence on the economies of Romania (0.05%), Slovenia (0.04%) and Belgium (0.04%). The EU-28 average share of the collaborative economy in the overall economy is 0.2%.
4) In all sectors and indicator categories (revenues, employment or the number of collaborative platforms) there are as many as five **frontrunners,** who lead the performance in that sector or indicator category. The performance of those countries is two or more times the EU-28 average. In the UK, Latvia and Estonia, as an example, the business environment in general is rather conducive. Countries, where the government has recognised the importance of the collaborative economy and taken steps to remove market barriers, are in a favourable position to develop the collaborative economy (Czech Republic, France). At the same time there are central or local governments that are more concerned regarding the collaborative economy, like in Germany or Italy. Some governments remain neutral, but the business environment is already rather positive towards the collaborative economy (Netherlands, Finland). In places where governments are rather neutral and the business environment is not as encouraging, the collaborative economy (Bulgaria, Slovenia) seems to be developing at a slower rate.

5) **Countries that are performing above average** typically have more than one collaborative economy sector which is performing well. Estonia and Slovakia have three above average collaborative economy sectors, whereas France, Latvia, Luxembourg, Czech Republic and Poland have two. Although the Netherlands has only one, it shows average development in all three of its other collaborative economy sectors.

6) In total, there are **651 platforms** identified as collaborative domestic platforms in the transport, accommodation, finance and online skills sectors. In addition to the platforms originating in the EU and operating in Member States, there are **42 internationally operating platforms** originating from outside the EU (mainly from the United States) and operating in international markets. About 95% of collaborative platforms are for-profit – their transactions are reward based. Not-for-profit platforms were included in the study, but excluded from data analysis).

7) The **most platforms** are operating in the finance sector (268), followed by the online skills (179) and transport (142) sectors. The fewest domestic platforms are operating in the accommodation sector (62). This is explained by the large differences in the characteristics of sectors, but also by the nature of business models. While services in the transport and online skills sectors are rather local, then accommodation and finance services can be offered globally. The main sectoral characteristics observed:

    a. The dominant position in terms of revenue displayed by the finance sector is due to the large number of active platforms in the sector (268) as well as the nature of the sector (raising funds) naturally lending itself to higher revenue generation.

    b. In the accommodation sector the market is largely dominated by Airbnb (USA origin), which leaves fewer opportunities for domestic platforms. A point demonstrated by the fact that there are only 62 platforms operating locally across the EU-28.

    c. For the transport and online skills sectors the services are primarily local, which translates to smaller platform sizes, which in turn leads to more modest shares of revenues. However, in both sectors there are large platforms (e.g. Uber (USA), Taxify (Estonia), BlaBlaCar (France) in transport or Zadane (Poland), Allovision (France)), which have been found to account for a relatively large share of the market size in the country.

8) In comparison, when looking at the **number of platforms per 1 million population**, Estonia ranks first (22.04), followed by Luxembourg (5.08), Malta (4.54), Denmark (4) and Latvia (3.59). The number of collaborative economy platforms is not necessarily an indication of the volumes of the collaborative economy or its impact on the economy or society. This is because collaborative economy business models are still in their **emergent stage**. The emergent stage of any new business model is typically represented by changes between lots of competing variations, consolidation into fewer dominant business models and, once again, the emergence of new business models. Hence, until the dominant business models appear, and the business sector becomes more established, variations in the numbers of platforms and their sizes will be seen. The number of platforms should therefore not be regarded as an indicator of the development of collaborative economy business models as such. Furthermore, it is not yet clear if the eventual established business sector will be dominated by one or two

big international platforms, or divided into several medium-sized and/or smaller domestic or even local platforms.

9) On average, 15% of the **value of a transaction** facilitated by collaborative economy platforms is received by platform. The revenue models the platforms apply vary significantly between sectors and business models. In the accommodation sector, the share of revenue received by the platform is approx. 12%.

10) There are 51 (less than 1% from all collaborative platforms in scope) **EU-origin collaborative platforms** operating in more than one Member State (15 in the transport sector, 10 in the accommodation sector, 13 in the online skills, sector and 13 in the finance sector). The most well-known international platforms in the transport sector are Delivery Hero and Foodora (both Germany), Takeaway (Netherlands), Deliveroo and JustEat (both UK), BlaBlaCar (France), and Taxify (Estonia). In accommodation, the best known platforms are Wimdu (Germany) and HomeStay (Ireland). Funding Circle (UK), Ulule (France), Bondora (Estonia), Twino and Mintos (both Latvia) represent the finance sector. Internationally performing EU-origin platforms in the online skills sectors are rather small in their scale and size and often operate in maximum one or three target countries. At the same time, the big international players (i.e. Uber, Airbnb, UberEats, Kickstarter, Indiegogo and others) generate roughly EUR 10 billion (about 40%) out of total EU-28 collaborative economy revenue in Member States (Airbnb only generates about EUR 4.5 billion in the EU-28).

11) Availability of **data describing development of the collaborative economy is scarce**. There are no central databases or 'labelled' data in Member States or at the EU level about the collaborative economy. Also, most collaborative platforms were rather reluctant in sharing their financial information. Despite the gaps in data, comparing study results with other studies and analyses provided in the field or on the EU level showed that the results of the study are comparable to other secondary evidence in all sectors and are fully reliable.

5.2 Policy implications

These policy implications are based on experiences we gained during data collection and analysis as well as assessment on the development of the collaborative economy in the EU. The main policy implications with regard to promoting further growth in the collaborative economy are the following:

- The results of the study would indicate that collaborative economy developments in Europe are only beginning to emerge, and that significant market potential remains untapped. Furthermore, Member States that have a favourable and adaptive business environment or even active measures in place to promote collaborative economy business models are often above average in terms of collaborative economy developments. This clearly indicates that **policy measures can have a significant impact** on the development of collaborative economy in Europe and in Member States. Should national governments and the Commission see it as beneficial to promote the development of the collaborative economy, they could work together to **remove unnecessary market** (i.e. regulatory, access to finance, SME support, access to international markets) **barriers** for collaborative economy business models. However, in doing so, sufficient attention should be given not only to the necessary regulations (e.g. ensuring consumer rights, safety of service providers and service users, and how potential conflicts are managed), but the whole business environment in general. Solutions should primarily be based on self-regulation of the collaborative economy platforms and, when appropriate, also service providers.

- Almost 40% of the EU-28 collaborative economy market revenues are generated by non-EU platforms (i.e. dominant market players like Airbnb and Uber). At the same time, less than 1% of EU-origin platforms operate in more than one national market. If the Commission and Member States want to facilitate the internationalisation and growth of EU–origin collaborative economy platforms, the Commission could encourage the collaborative economy platforms to organise and, as an example, establish **European associations**. These could prove highly effective in facilitating dialogue between national authorities (i.e. discuss how market barriers can be removed), transferring good practices, especially regarding safety and service quality related concerns, and enhancing and ensuring sufficient consumer protection (e.g. the Taxify case, where the company was applying for a licence to enter into the London market, was ignored by authorities for months, finally launched its operation through a local company in possession of the licence, and was forced to suspend operations for legal clarifications by the authorities[342]). Collaboration between these associations and the Commission could also be used to collect data that would allow the monitoring of collaborative economy developments in Europe. The platforms capture most of the relevant data needed in monitoring, and combining it with the information collected by Eurostat would allow excellent insight into the socio-economic impact of collaborative economy business models.

- In the changing product and labour market demand conditions, the collaborative economy can improve the resilience of the overall economy by offering alternative revenues and employment opportunities. Where the traditional economy is not always able to react quickly to changes in market demand or supply, the collaborative economy offers additional flexibility and can address changes relatively quickly (i.e. in Romania, where the lack of pre-installed infrastructure necessarily made collaborative accommodation platforms an integral and initial element of the developing tourism industry.[343] For example, collaborative economy businesses may offer alternative or complementary services, or bring previously non-active people into the labour markets by offering the unemployed, students or pensioners part-time employment. The collaborative economy could therefore prove very effective in adjusting labour demand and supply unbalances between regions. The potential clearly exists, and capitalising on it could have a significant positive economic and social impact, especially in regions currently struggling with unemployment. Combining collaborative economy business models with state-of-the-art digital e-working solutions might also reduce undesirable migration due to unemployment.

342 http://www.telegraph.co.uk/technology/2017/09/08/taxify-forced-suspend-london-operations-just-three-days-launch/

343 See Section 4.24 and Section 3.2

ANNEX 1 LIST OF PLATFORMS INCLUDED IN THE STUDY

Transport

Name of the platform	Website	Country of origin
Carsharing 24/7	https://www.carsharing247.com	AT
foahstmit	https://www.foahstmit.at	AT
mitfahrangebot	https://www.mitfahrangebot.at	AT
Bolides	http://www.bolides.be/	BE
Carpool	https://www.carpool.be/	BE
covoituragebelgique	http://www.partagedevoiture.com/	BE
Degage	http://www.degage.be	BE
Eutodelen	https://www.autodelen.net/	BE
eventpool	https://www.eventpool.be/fr/aboutus	BE
Ezilize	https://ezilize.be/fr	BE
Schoolpool	http://schoolpool.be/fr	BE
Vap-vap	http://www.vap-vap.be/	BE
Wibee	https://www.wibee.be//	BE
Caramigo	https://www.caramigo.eu	BE (INT)
Aha!Car	http://ahacar.com/	BG
ComboRides	http://www.comborides.com/	BG
Prevozvalnik	https://prevozvalnik.bg/	BG
Spodeleno patuvane	http://www.spodeleno-patuvane.com/	BG
V edna posoka	http://www.vednaposoka.com/	BG
Zaedno na pat	http://zaednonapat.com/	BG
SharedParking	https://sharedparking.ch/	CH (INT)
HoppyGo	http://www.hoppygo.cz/	CZ
Packmule	http://www.packmule.it/	CZ
Sharujeme.cz	http://sharujeme.cz/uvod/	CZ
Smile Car	https://smilecar.com/?lang=en	CZ
Ampido	http://www.ampido.com	DE
Besser mitfahren	http://www.bessermitfahren.de	DE
Bring Hand	http://www.bringhand.de	DE
bringwasmit	http://www.bringwasmit.de	DE
Fahrgemeinschaft	http://www.fahrgemeinschaft.de	DE
Flinc	http://www.flinc.org	DE
foodora	https://www.foodora.it	DE
MatchRider	http://www.matchridergo.de	DE
Mietmeile	http://www.mietmeile.de	DE
MiFaZ	https://www.mifaz.de	DE
Mitfahren/Drive2Day	https://www.drive2day.com	DE
Parkonaut	http://www.parkonaut.de	DE
Parkplace	http://www.parkplace.de	DE
Parktag	http://www.parktag.mobi	DE
parku	https://parku.com/	DE

Name of the platform	Website	Country of origin
paulcamper	https://www.paulcamper.com	DE
Pendlerportal	http://www.pendlerportal.de/	DE
Shäre-a-taxi	https://shaere.me/	DE
Tamyca	https://www.tamyca.de	DE
Velogistics	http://www.velogistics.net	DE
WunderCar	http://www.wundercar.org	DE
Zeit42	http://www.zeit42.de	DE
Camptravel	https://www.camptravel.dk	DK
Mover	https://www.usemover.com/about/	DK
GoMore	https://www.gomore.dk/	DK (INT)
Barking OÜ	http://www.barking.ee/	EE
PostPal	https://www.postpal.ee/	EE
Shipitwise OÜ	https://shipitwise.com/	EE
Wisemile	http://www.wisemile.com	EE
Autolevi OÜ	https://www.autolevi.ee/	EE (INT)
Taxify	https://www.taxify.eu/	EE (INT)
Carpooling	http://www.carpooling.gr/	EL
Nestcargo	http://www.nestcargo.com/	EL
ParkAround	http://www.parkaround.com/	EL
Amovens	https://amovens.com	ES
Aparc&go	https://www.aparcandgo.com/	ES
AreaVan	http://www.areavan.com/	ES
Deliberry	https://www.deliberry.com/	ES
Delsuper	https://www.delsuper.es/	ES
Eccocar	https://www.eccocar.com/	ES
Glovo	https://glovoapp.com/es	ES
Koiki	http://www.koiki.eu/es/	ES
LetMeSpace	https://www.letmespace.com/	ES
Mambo Car	http://mambocar.com/	ES
Shipeer	https://www.shipeer.com/	ES
Socialcar	https://www.socialcar.com	ES
WeSmartPark	https://barcelona.wesmartpark.com/es	ES
Kimppa.net	http://kimppa.net/	FI
Kyydit.net	http://www.kyydit.net/	FI
Piggy Baggy	http://piggybaggy.com/	FI
Shareit Blox Car	https://www.shareitbloxcar.fi/	FI
bourse aux équipiers	https://www.bourse-aux-equipiers.com/	FR
citiz	http://citiz.coop/	FR
CityGoo	http://www.citygoo.fr/	FR
Click&Boat	https://www.clickandboat.com/	FR
coovia	coovia.fr	FR
covoiturage-libre	covoiturage-libre.fr	FR
dadavroum	dadavroum.fr	FR

Name of the platform	Website	Country of origin
deways	deways.com	FR
Heetch.com	https://www.heetch.com	FR
Idvroom	https://www.idvroom.com/	FR
Koolicar	koolicar.com	FR
Mobypark	www.mobypark.com	FR
Ouicar	https://www.ouicar.fr/	FR
Samboat	https://www.samboat.fr/	FR
Yescapa	https://www.yescapa.fr/	FR
Zenpark	http://zenpark.com/	FR
Blablacar	www.blablacar.fr	FR (INT)
Drivy	https://fr.drivy.be/	FR (INT)
Locodels	https://locodels.com/?lang=hr	HR
Spin City	https://www.spincity.hr/	HR
Autosztunk	www.autosztunk.hu	HU
BeeRides	www.beerides.com	HU
Oszkar Telekocsi	www.oszkar.com	HU
Pick It App	www.pickitapp.co	HU
Telefutar	www.telefutar.hu	HU
Buymie	https://buymie.eu	IE
GoCar	https://www.gocar.ie	IE
Parking Motel	https://www.parkingmotel.com	IE
Auting	http://auting.it/	IT
clacsoon	http://www.clacsoon.com/	IT
iGoOn	iGoOn	IT
Park Sharing Sparky		IT
scooterino	http://scooterino.it/en/	IT
takemythings	http://www.takemythings.com/	IT
Toctocbox	http://www.toctocbox.com/	IT
Traslochino	http://www.traslochino.it/	IT
UP2GO	http://www.up2go.it/	IT
Viaggiainsieme	http://www.viaggiainsieme.it/	IT
zego	www.zegoapp.com	IT
Baltic Arrow	https://balticarrow.lt/	LT
Bananacar	https://bananacar.lt/	LT
Go2Uni	http://go2.uni.lu/	LU
GroupLunch	https://grouplunch.lu/	LU
Karzoo	https://www.karzoo.lu/	LU (INT)
Braucam Kopa	http://braucamkopa.com/en/home/	LV
Mobocars	https://mobocars.com/	LV
Bumalift	https://www.bumalift.com/	MT
Abel	https://rideabel.com/	NL
Brenger	https://brenger.nl/	NL
mywheels	https://mywheels.nl/	NL

Name of the platform	Website	Country of origin
Parkflyrent	https://www.parkflyrent.nl/	NL
Pickthisup	https://www.pickthisup.nl/	NL
Toogethr	https://www.toogethr.com/	NL
Yeller	http://www.getyeller.nl/	NL
Snappcar	https://www.snappcar.nl/	NL (INT)
Autem PL	http://www.autem.pl	PL
Autostop	http://www.autostop.com.pl	PL
ByTheWay	http://www.bytheway.pl	PL
InOneCar	http://www.inonecar.com	PL
iParkomat	http://www.iparkomat.pl	PL
Jadezabiore	http://www.jadezabiore.pl	PL
Boleia.net	http://www.boleia.net	PT
Deboleia	http://www.deboleia.com/	PT
4inmasina	http://www.4inmasina.ro/	RO
ia-macutine	http://www.ia-macutine.ro/	RO
Baghitch AB	https://www.baghitch.com/sv	SE
CargoSpace24 AB	http://www.cargospace24.eu/	SE
Freelway AB	http://www.freelway.com/	SE
Mobilsamåkning	http://www.mobilsamakning.se/	SE
Packbud Nordic AB	http://www.packbud.com/	SE
Roadmate.se	http://www.roadmate.se/	SE
Sambil	http://www.sambil.se/	SE
Skjutsgruppen.nu	http://www.skjutsgruppen.nu/	SE
EasyCarClub	https://www.carclub.easycar.com/	UK
GoCarshare	http://www.gocarshare.com/	UK
Haxi	https://www.haxi.me/	UK
Hiyacar	https://www.hiyacar.co.uk/	UK
JustPark	https://www.justpark.com/	UK
Liftshare	https://www.liftshare.com/uk	UK
Nimber	https://www.nimber.com/	UK
Park on my drive	http://www.parkonmydrive.com/index.php	UK
Rentecarlo	https://www.rentecarlo.com/	UK
CarpoolWorld	https://www.carpoolworld.com/	USA (INT)
Lyft	https://www.lyft.com/	USA (INT)
Uber	https://www.uber.com/	USA (INT)
Deliveroo	https://deliveroo.co.uk/	UK (INT)
JustEat	https://www.just-eat.co.uk/	UK (INT)
Ubereats	https://www.ubereats.com	USA (INT)
Wolt	https://wolt.com/en	FI (INT)
TakeAway	https://www.takeaway.com	NL (INT)
Delivery Hero	https://www.deliveryhero.com/	DE (INT)
Foodora	https://www.foodora.com/	DE (INT)

Accommodation

Platform	Webpage	Country of origin
9flats	9flats.com	SGP
Airbnb	airbnb.com	USA
Alterkeys	alterkeys.com	ES
Bedycasa	bedycasa.com	FR
Bemate	bemate.com	ES
bewelcome	bewelcome.org	FR
Bnbeez	bnbeez.com	FR
Booking.com	Booking.com	NL
Bydays	bydays.com	ES
Bytbolig (HomeExchange.com)	bytbolig.com	DK
Campinmygarden	campingmygarden.com	UK
Couchsurfing	couchsurfing.com	USA
coucoustudent	coucoustudent.com	FR
Cyprus 24	cyprus24.net	CY
DanRent	danrent.com	DK
Dirba butas	dirbabutas.it	LT
eDom	edom.pl	DE
Elder Home Share	elderhomeshare.ie	IE
Entreparticulares	entreparticulares.com	ES
EstRent Cottages OÜ	estrent.ee	EE
ferieboligkbh	Ferieboligkbh.dk	DK
Flipkey	flipkey.com	USA
Gamping	gamping.fr	FR
Gloveler	gloveler.com	DE
Guesttoguest	guestoguest.com	FR
Handiscover	handiscover.com	SE
HelpStay	helpstay.ie	IE
Helsinki Bed and Breakfast (HBB)	fi.hbb.fi	FI
Holiday Link	holidaylink.com	IE
Holidaylettings.com (under Tripadvisor)	holidaylettings.com/	UK
HomeAway	homeaway.com	USA
HomeExchange	homeexchange.com	USA
Homelink	homelink.com	DE
HomeStay	homestay.com	IE
Honey Comb housing	honeycombhousing.com	SE
Housetrip	housetrip.com	UK

Platform	Webpage	Country of origin
Huizenruil	huizenruil.com	USA
Hundredrooms	hundredrooms.com	ES
Idealista	idealista.com	ES
Incrediblue	incrediblue.com	EL
InHoming	inhoming.com	IE
KimppaKämppä	KimppaKämppä.fi	FI
Knok	knok.com	ES
lapensiuni	lapensiuni.ro	RO
Le bon coin	leboncoin.com	FR
Locservice	locservice.fr	FR
LoveHomeSwap	lovehomeswap.com	UK
MyTwinPlace	mytwinplace.com	ES
Myweekendforyou	myweekendforyou.com	FR
Nettimökki	nettimokki.com	FI
Nightswapping	nightswapping.com	FR
Niumba	niumba.com	ES
NordicRent (OÜ Somnium)	nordicrent.ee	EE
OneFineStay	onefinestay.com	UK
only-apartments	only-apartments.es	ES
Rentalia	rentalia.com	ES
Roomlala	roomlala.com	FR
Sailsquare	sailsquare.com	IT
Sakvartiranti	sakvartiranti.info	BG
Stancja	stancja.pl	PL
Stashbee	stashbee.com	UK
Storemates	storemates.co.uk	UK
Trampolinn	trampolinn.fr	FR
TravelRO	travelro.ro	RO
Trumpam	trumpam.lt	LT
turistinfo	turistinfo.ro	RO
Under the doormat	underthedoormat.com	UK
Vrumi	vrumi.com/	UK
Wimdu	Wimdu.com	DE

Finance

Platform	Webpage	Country of origin
1000x1000	1000x1000.at	AT
52Masterworks	52masterworks.com	DE
Ablrate	Ablrate.com	UK
Abundance Investments	Abundanceinvestment.com	UK
Adrifund	Adrifund.com	SI (INT)
Aescuvest	Aescuvest.de	DE
Alfa Finance Group	Dofinance.eu	LV (INT)
Anaxago Innovation	Anaxago.com	FR
Angel	Angel.com	BE
Angels Den	Angelsden.com	UK
Appsfunder.com	appsfunder.guru/	BE (INT)USA?
Arboribus	Arboribus.com	ES
Archover	Archover.com	UK
AssetzCapital	Assetzcapital.co.uk	UK
Assiteca Crowd	Assitecacrowd.com	IT
Auxmoney	Auxmoney.com	DE
Babyloan	Babyloan.org	FR
Bankerat	Bankerat.cz	CZ
Be Crowdy	Becrowdy.com	IT
Beesfund	Beesfund.com	PL
Benefit	Benefit.cz	CZ
Bergfürst	Bergfuerst.com	DE
Bestaker	Bestaker.com	ES
Bettervest	Bettervest.de	DE
Bloom VC	Bloomvc.com	UK
bluebees	Bluebees.fr	FR
BNKTOTHEFUTURE	Bnktothefuture.com	UK
Bondora AS	Bondora.ee	EE (INT)
BookaBook	Bookabook.it	IT
Booomerang	Boomerang.dk	DK
borsadelcredito	Borsadelcredito.it	IT
Bulb in Town	Bulbintown.com	FR
BursaBinelui	Bursabinelui.ro	RO
Cofyp	Cofyp.com	IT
Cofounder	Cofounder.co.uk	UK
Collin Crowdfund	Collincrowdfund.nl	NL
Commeon	Commeon.com	FR
Community Shares	Communityshares.org.uk	UK
Companisto	Companisto.com	DE
Comunitae	Comunitae.com	ES
Conda	Conda.at	AT (INT)
Creoentuproyecto	Creoentuproyecto.com	ES
Crestemidei	Crestemidei.ro	RO
Croenergy	Croenergy.eu	HR
Croinvest	Croinvest.eu	HR
Crosslend	Crosslend.com	DE (INT)
Crowd About Now	Crowdaboutnow.nl	NL
Crowd Culture	Crowdculture.se	SE
Crowd4capital	Crowd4capital.it	IT
Crowd4Energy	Crowd4energy.com	AT
Crowdangels	Crowdangels.pl	PL
Crowdarts	Crowdarts.eu	IT
Crowdcube	Crowdcube.es	ES
Crowdestate.eu	Crowdestate.eu	EE (INT)
Crowdforangels	Crowdforangels.com	UK
Crowdfunder	Crowdfunder.co.uk	UK
Crowdfunding Safari	Safaricrowdfunding.com	ES
crowdfundme	Crowdfundme.it	IT
CrowdPatch	Crowdpatch.co.uk	UK
Cubevent	Cubevent.com	IT
Dagobert Invest	Dagobertinvest.com	AT
Das ErtragReich	Dasertragreich.at	At
De Rev	Derev.com	IT

Platform	Webpage	Country of origin
Deutsche Mikroinvest	Deutsche-mikroinvest.de	DE
Doniralica	Doniralica.hr	HR
Doorgaan	Doorgaan.nl	NL
Downing Crowd	Downingcrowd.co.uk	UK
Duurzam Investeren	Duurzaminvesteren.nl	NL
Easy Up	Easyup.fr	FR
Ecobole	Ecobole.eu	FR
ecomill	Ecomill.it	IT
Econeers	Econeers.de	DE
Enerfip	Enerfip.fr	FR
Eppela	Eppela.com	IT
equinvest	Equinvest.it	IT
Es Geht!	Es-geht.at	AT
Estateguru OÜ	Estateguru.co	EE
Ethex	Ethex.org.uk	UK
EXPORO	Exporo.de	DE
Fairplaid	Fairplaid.org	DE
Fellow Finance	Fellowfinance.fi	FI
Finansowo	Finansowo.pl	PL
Finanzarel	Finanzarel.com	ES
Finanziami il tuo Futuro	Finanziamiiltuofuturo.it	IT
FinBee	Finbee.lt	LT
FindFunds	Findfunds.pl	PL
Finnest	Finnest.com	AT
Finple	Finple.com	FR
Fireflock	Fireflock.com	UK
Fixura	Fixura.fi	FI
FlexFunding	Flexfunding.com	DK
Folk2Folk	Folk2folk.com	UK
Friendsurance	Friendsurance.de	DE
Fundedbyme	Fundedbyme.com	SE
fundera	Fundera.it	IT
Fundernation	Fundernation.eu	DE
FundingCircle	Fundingcircle.com	UK
FundingEmpire	Fundingempire.com	UK
FundingKnight	Fundingknight.com	UK
Fundlift	Fundlift.cz	CZ
Fundwise OÜ	Fundwise.me	EE
Geldvoorelkaar	Geldvoorelkaar.nl	NL
Geldwerk1	Geldwerk1.de	DE
Giromatch	Giromatch.com	DE
Global Rockstar	Globalrockstar.com	AT
GLS Crowd	Gls-crowd.de	DE
Good Shepherd	Goodshepherd.games	NL (INT)
Goteo	Goteo.org	ES
Green Crowd	Greencrowd.nl	NL
Greenrocket	Greenrocket.com	AT
GreenVesting	Greenvesting.com	DE
GreenXMoney	Greenxmoney.com	DE
GroupEstate	Groupestate.de	DE
Grupa ANG	Grupaang.pl	PL
Hello Merci	Hellomerci.com	FR
helloasso	Helloasso.com	FR
Hithit.com	Hithit.com	CZ
Home Rocket	Homerocket.com	AT
Hooandja	Hooandja.ee	EE
I believe in you	Ibelieveinyou.at	AT
iDonate	Idonate.ie	IE
iFunded	Ifunded.de	DE
iFundraise	Ifundraise.ie	IE
Indiegogo	Indiegogo.com	USA (INT)
innovestment	Innovestment.de	DE
Invercrowd	Invercrowd.com	ES
Invesdor	Invesdor.com	FI
Investingzone	Investingzone.com	UK

Platform	Webpage	Country of origin
Investi-re	Investi-re.it	IT
Investly Holding OÜ	Investly.co	EE (INT)
iuvo	Iuvo-group.com	EE (INT)
YouCan2	Youcan2.de	DE
Yournalism	Yournalism.nl	NL
Kapilendo	Kapilendo.de	DE
Kapitaal op Maat	Kapitaalopmaat.nl	NL
KATRIM	Katrim.de	DE
Kazuu	Kazuu.ro	RO
Kendoo	Kendoo.it	IT
kickerCrowd	Kicker-crowd.de	DE
Kickstarter	Kickstarter.com	USA (INT)
Kisskissbankbank	Kisskissbankbank.com	FR
Klear	Klearlending.com	BG
Kokos	Kokos.pl	PL
Kundi	Kundi.pl	PL
La Courte Echelle	Lacourtechelle.fr	FR
Lainaaja	Lainaaja.fi	FI
Landbay	Landbay.co.uk	UK
Lanzanos	Lanzanos.com	ES
leetchi	Leetchi.com	FR
Leih deiner Stadt Geld	Leihdeinerstadtgeld.de	DE
Leih deiner Umwelt Geld	Leihdeinerumweltgeld.de	DE
Lend a hand	Lendahand.com	NL (INT)
Lendex	Lendex.nl	NL
Lendico	Lendico.de	DE
Lendify AB	Lendify.se	SE
Lending Works	Lendingworks.co.uk	UK
lendingcrowd	Lendingcrowd.com	UK
Lendino	Lendino.dk	DK
Lendix	Lendix.com	FR (INT)
Lendy	Lendy.co.uk	UK
Lendopolis	Lendopolis.com	FR
LeoCrowd	Leocrowd.com	UK
Lion Rocket	Lionrocket.com	AT
Live on Demand	Liveondemand.com	NL
Loanbook Capital	Loanbook.es	ES
Look&Fin	Lookandfin.com	BE (INT)
Mayfair & Morgan	Mayfairandmorgan.com	UK
mamacrowd	Mamacrowd.com	IT
Manu	Manu.lt	LT
Marmelada	Marmelada.sk	SK
Mecenup	Mecenup.it	IT
Mesenaatti	Mesenaatti.me	FI
MicroInversores	Micro-inversores.com	ES
Mintos	Mintos.com	LV (INT)
MyMicroinvest	Mymicroinvest.com	BE
MyNbest	Mynbest.com	ES
Monaco Funding	Sportlerfoerderung.de	DE
Money&co	Moneyandco.com	UK
MoneyThing	Moneything.com	UK
MoneyZen	Moneyzen.eu	EE
Multifinantare	Multifinantare.ro	RO
musicraizer	Musicraizer.com	IT
Muum Lab	Muumlab.com	IT
Nakopni. Mě	Nakopni.me	CZ
nextequity	Nextequity.it	IT
Novo Banco Crowdfunding	Novobancocrowdfunding.ppl.pt	PT
Onderstroom	Onderstroom-design.nl	NL
oneplanetcrowd	Oneplanetcrowd.com	NL
opstart	Opstart.it	IT
OÜ Omaraha	Omaraha.ee	EE (INT)
Paskolų Klubas	Paskolųklubas.lt	LT
PolakPotrafi	Polakpotrafi.pl	PL (INT)
PostSiEu	Postsieu.ro	RO

Platform	Webpage	Country of origin
PPL	Ppl.com.pt	PT
PPT		PT
prestiamoci	Prestiamoci.it	IT
Prêt d'union	Pret-dunion.fr	FR
Prexem	Prexem.com	FR
produzionidalbasso	Produzionidalbasso.com	IT
Proplend	proplend.com/	UK
Pujcmefirme	Pujcmefirme.cz	CZ
Rainbow Campaign	Rainbowcampaign.com	AT
Raize.pt	Raize.pt	PT
RateSetter	Ratesetter.com	UK
RealFunding	Realfunding.org	ES
Rebuilding Society	Rebuildingsociety.com	UK
Respekt.net	Respect.net	AT
Rocket Hub	Rockethub.com	UK (INT)
Sameningeld	Sameningeld.nl	NL
Savy	Gosavy.com	UK (INT)
schoolraising	Schoolraising.it	IT
Seed Ups	Seedups.ie	IE (INT)
Seedmatch	Seedmatch.de	DE
SEEDRS	Seedrs.com	UK
ShareVestors	Sharevestors.com	PL
Symbid	Symbid.nl	NL
SymCredit.com	Symcredit.com	CZ
smartkia	Smartkia.it	IT
Smava	Smava.de	DE
SociosInversores	Sociosinversores.com	ES
Solargreenpoint	Solargreenpoint.nl	NL
sportsupporter	Sportsupporter.it	IT
Startnext	Startnext.com	DE
Startovac.cz	Startovac.cz	CZ
startsup	Startsup.it	IT
StockCrowd IN	Stockcrowdin.com	ES
Storystarter	Mystorystarter.com	UK (INT)
Stratosphere	Strato-sphere.co.uk	UK
The Crowd Angel	Thecrowdangel.com	ES
Thincats	Thincats.com	UK
Toborrow AB	Toborrow.se	SE
Tramplin	Tramplin.bg	BG
Triboom	Discover.triboom.com	IT
Tributile	Tributile.mipise.com	FR
Twino	Twino.eu	LV (INT)
Ulule	Ulule.com	FR (INT)
Unbolted	Unbolted.com	UK
Unbound	Unbound.com	UK
unglue	Unglue.it	IT (INT)
Unilend	Unilend.fr	FR
Unternehmerich	Unternehmerich.de	DE
Venturefounders	Verturefounders.co.uk	UK
Verkami	Verkami.com	ES
VIAInvest	Viainvest.com	LV (INT)
Viventor	Viventor.com	LV (INT)
We Share Solar	Wesharesolar.com	NL
WeAreHere	Wearehere.ro	RO
WeAreStarting	Wearestarting.it	IT
Wedogood	Wedogood.co	FR
Wellesley & Co.	Wellesley.co.uk	UK
wemakeit	Wemakeit.com	CH (INT)
Withyouwedo	Withyouwedo.telecomitalia.com	IT
woopfood	Woopfood.com	IT
WorldCoo	Worldcoo.com	ES
Wspieram	Wspieram.to	PL
Wspolnicy	Wspolnicy.pl	PL
Wspolny Projekt	Wspolnyprojekt.pl	PL

Platform	Webpage	Country of origin
Zaar	Zaar.com.MT	MT
Zinceuro	Zinceuro.sk	SK
Zinsbaustein	Zinsbaustein.de	DE
Zlty Melon	Zltymelon.sk	SK (INT)
Zonky	Zonky.cz	CZ
Zonnepanelen delen	Zonnepanelendelen.nl	NL
Zopa	Zopa.com	UK
Zorgfunders	Zorgfunders.nl	NL

Online skills

Platform	Webpage	Country of origin
5euros.com	5euros.com	FR (INT)
99designs	99designs.com	USA (INT)
Airnounou	Airnounou.com	FR
Allovoisins	Allovoisins.com	FR
Amazon MTurk	MTurk.com	USA (INT)
Animal futé	Animal-fute.com	FR
Animali alla pari	Animaliallapari.net	IT
Annaabi	Annaabi.ee	EE
Atizo.com	Atizo.com	CH (INT)
Babysitter24	Babysitter24.at	AT
Bartercard	Bartercard.com	CY (INT)
baucoin	Baucoin.com	IT
Bebiszitter	Bebiszitter.info	HU
Bee Lancer	Beelancer.ie	IE
Bizzby	Bizzby.com	UK
BluebottleBiz	Bluebottlebiz.com	ES
BnB Sitter	Bnbsitter.com	FR
Bonsai	Bonsai.se	SE
Bookatiger	Bookatiger.de	DE (INT)
Borrow My Dog	Borrowmydog.com	UK
Bsit	Bsit.com	BE
Buddler AB	Buddler.com	SE
Buildwith.me	Buildwith.me	USA (INT)
Care.com	Care.com	USA (INT)
Catalant	Gocatalant.com	USA (INT)
Caut.ro	Caut.ro	RO
CautExpert	Caut-expert.ro	RO
Chefly	Chefly.co	ES
Cleady	Cleady.dk	DK
Clickworker	Clickworker.com	DE (INT)
Clintu	Clintu.es	ES
Codeur.com	Codeur.com	FR (INT)
Congrazie	Congrazie.ro	RO
Creads	Creads.fr	FR
Crono Share	Cronoshare.com	ES
Croqqer	Croqqer.it	IT (INT)
Crowdflower	Crowdflower.com	USA (INT)
Crowdguru.de	Crowdguru.de	DE
Crowdsource	Crowdsource.com	USA (INT)
Curioseety	Curioseety.com	IT
Daskal	Daskal.eu	BG
Den Lille Tjeneste	Denlilletjeneste.dk	SE (INT)
Designonclick	Designonclick.com	DE (INT)
dinst	Dinst.nl	NL
Divera	Divera.bg	BG
Doctoranytime	Doctoranytime.gr	EL
Dogbuddy	Dogbuddy.com	UK (INT)
Doglar	Doglar.me	BG
Dogley	Dogley.com	DK (INT)
DogVacay	Dogvacay.com	USA (INT)
Doido	Getdoido.com	DE
Domelie.sk	Domelie.sk	SK (INT)

Platform	Webpage	Country of origin
Domytask	Domytask.se	SE
Douleftaras	Douleftaras.gr	EL
Drooble	rockschool.bg/bg/i/drooble	BG
Dwého	Dweho.com	FR
Eataway	Eataway.com	UK (INT)
eYeka	Eyeka.com	FR (INT)
e-Lamp	Elamp.fr	FR
Etece	Etece.es	ES
Everaround	Everaround.com	FI (INT)
e-Work	Eworkgroup.com	SE (INT)
FamilicaFacil	Familicafacil.es	ES
Fastask	Fastask.ee	EE
Fieldagent	Fieldagent.net	USA (INT)
Fiverr	Fiverr.com	IL (INT)
FiveSquid	Fivesquid.com	UK
Folyo	Folyo.me	FR (INT)
FouleFactory	Foulefactory.com	FR
Freelancer	Freelancer.co.uk	AUS (INT)
Frizbiz	frizbiz.com	FR
Geniuzz	Geniuzz.com	ES
Giaola	Giaola.gr	EL
Go Cambio	Gocambio.com	IE (INT)
Go Pillar	Gopillar.com	IT (INT)
Good-spot	Good-spot.com	FR
GoWorkaBit OÜ	Goworkabit.com	EE (INT)
Grannar.se	Grannar.se	SE
Gudog	Gudog.com	ES
Guide Meight	Guidemeright.com	IT
Habitissimo	Habitissimo.es	ES
Hallo Babysitter	Babysitter.at	DE (INT)
Handy	Handy.com	USA (INT)
Handyhand	Handyhand.dk	DK
Happy Helper	Happyhelper.dk	DK
Happy Tail AB	Happytail.com	SE
Hassle	Hassle.com	UK
Haushaltshilfe24	Haushaltshilfe24.at	SK (INT)
Heygo	Heygo.com	ES
Helpfully	Helpfully.dk	DK
Helpific	Helpific.com	EE
Helpy	Helpyapp.fr	FR
Helpling	Helpling.de	DE (INT)
Hinnerdu.se	Hinnerdu.se	SE
Hogarsoluciones	Hogar-soluciones.es	ES
Hoodsapp.dk	Hoodsapp.dk	DK
Housekeep	Housekeep.com	UK
HouseMyDog	Housemydog.com	IE (INT)
IAMFREE	Iamfree.pro	BG
IdeaHunters	Ideahunters.dk	DK
Yakasaider	Yakasaider.fr	FR
Yepstr AB	Yepstr.com	SE
Youpijob	Youpijob.be	CH (INT)
yuVe	Yuve.com	SK (INT)
Jamjar	Jamjar.gr	EL
jaspravim	Jaspravim.sk	SK (INT)
Je me propose	Jemepropose.com	FR
jobado	Jobado.nl	NL
Jobbatical	Jobbatical.com	EE (INT)
Jobbi	Jobbi.dk	DK
Jusuaukles	Jusuaukles.l	LT
Jovoto	Jovoto.com	DE (INT)
Kang	Kang.fr	FR
Keybutler.dk	Keybutler.dk	DK (INT)
Klusup	Klusup.nl	NL
Kokad.ee	Kokad.ee	EE
Kommuun.eu	Kommuun.eu	EE
Konnektid	Konnektid.com	NL

Platform	Webpage	Country of origin
Lancetalent	Lancetalent.com	ES
LearnAssembly	Learnassembly.com	FR
Letsbrussel	Letsbrussel.be	BE
Lingjob	Lingjob.com	LT (INT)
Listminut	Listminut.be	BE
Luckey Homes	Luckeyhomes.com	FR
Malt	Malt.com	FR
MarioApp	Marioapp.io	IT
Menu Next Door	Menunextdoor.com	BE
Meploy	Meploy.me	DK
microWorkers	Ttv.microworkers.com	USA (INT)
Minijob	minijob.de	DE
Minijobs	Minijobs.info	DE (INT)
Smiile	smiile.com	FR
Monsupervoisin	Monsupervoisin.fr	FR
Nachhilfen24	Nachhilfen24.at	AT
Nannuka	Nannuka.gr	EL
Nidmi	Nidmi.es	ES
Od komunity	Odkomunity.sk	SK
Oferia	Oferia.pl	PL
Openloge	Openloge.fr	FR
Otthonrol	Otthonrol.hu	HU
Ouikan	Ouikan.fr	FR
Oxway	Oxway.co	IT
Pawshake	Pawshake.com	USA (INT)
Peopleperhour	Peopleperhour.com	UK
Petbnb	Petbnb.nl	NL
Petify	Petify.ee	EE
petitbus	Petitbus.com	FR
Pomoce Domowe	Pomocedomowe.pl	PL
Pwiic	Pwiic.com	BE
Rendi lakastakaritas	Rendi.hu	HU
Renren.dk	Renren.dk	DK
Rentafriend	Rentafriend.com	USA (INT)
RentMarket OÜ	Rentmarket.eu	EE
Seecar	Seecar.fr	FR
Sel-lets	Sel-lets.be	BE
Share your Meal	Shareyourmeal.net	NL (INT)
Sir Local	Sirlocal.pl	PL
Skill Trade	Skilltrade.org	PL
Skilledup	Skilledup.com	FR
Skillshare	Skillshare.com	USA (INT)
Skilltroc	Skilltroc.com	FR
SocioTransit	Sociotransit.com	DK
Stootie	Stootie.com	FR
Streetspotr	Streetspotr.com	DE (INT)
Supermanny	Supermanny.it	IT
SuperSoused	Supersoused.cz	CZ
SuperSused	Supersused.sk	SK
Tabbid	Tabbid.com	IT
TaskRabbit	Taskrabbit.com	USA (INT)
Taskrunner AB	Taskrunner.se	SE
Tebo OÜ	Tebo.me	EE
Testbirds	Testbirds.com	DE (INT)
The Extra Dish	Theextradish.com	UK
Tiersitter24	Tiersitter24.at	AT
Timevillage	Timevillage.org	SE
Toitla OÜ	Toitla.com	EE
Top Ayuda	Topayuda.es	ES
Topdesigner.cz	Topdesigner.cz	CZ
Trabajofreelance.com	Trabajofreelance.com	ES (INT)
Treamer	Treamer.com	FI
Trusted House Sitters	Trustedhousesitters.com	UK (INT)
Tumanitas	Tumanitas.com	ES
Tutlo	Tutlo.com	IE (INT)
Twago	Twago.de	DE

Platform	Webpage	Country of origin
Upwork	Upwork.com	USA (INT)
Userfarm	Userfarm.com	UK (INT)
Vayable	Vayable.com	USA (INT)
Vibuk	Vibuk.com	ES
Vicker	Vicker.org	IT
Viedit	Viedit.com	NL (INT)
Vigo.dk	Vigo.dk	DK
Vizeat	Vizeat.com	FR (INT)
Voices	Voicesuk.co.uk	UK
Wayook	Wayook.es	ES
WeGoLook	Wegolook.com	USA (INT)
Weliketowork	Weliketowork.com	UK
With Locals	Withlocals.com	NL
Work Pilots	Workpilots.fi	FI
Wulu	Wulu.pl	PL
WunderChef	Wunderchef.se	SE
Zaask	Zaask.pt	PT
Zadane	Zadane.pl	PL
Zestrip	Zestrip.net	IT
Zillion Designs	Zilliondesigns.com	USA (INT)

ANNEX 2 INDICATORS DESCRIBING THE LEVEL OF ECONOMIC DEVELOPMENT OF THE COLLABORATIVE ECONOMY

Figure 36 shows the final list of direct and indirect indicators, their direct sub-indicators (for revenue and employment), indicator components as well as the indicators on enabling factors. Revenues and employment were estimated at both the Member State and the sector level.

Direct indicators

We selected the following five indicators to directly measure economic activity within the collaborative economy:

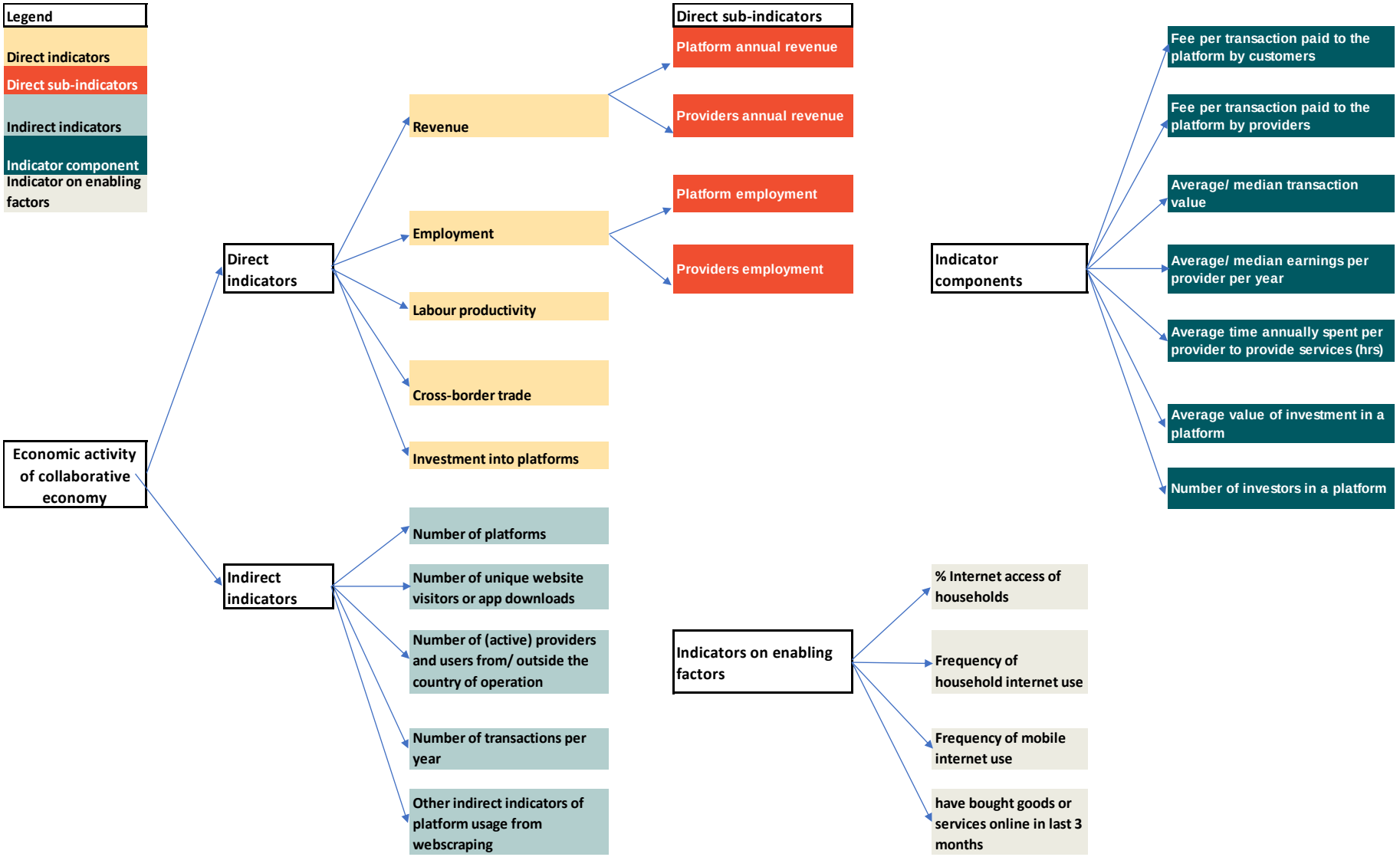
1) Revenue

Annual revenue is a key direct economic indicator that estimates the total value of all transactions occurring within the collaborative economy in Member States and the EU. Since revenue is a function of the value (price) and the volume of transactions (quantity), the indicator recognises the importance of either a few high value transactions or a lot of small transactions. This indicator was calculated for each sector and each Member State (MS) and aggregated by summation to the EU level. Revenue in the sector is made up of two sub-indicators: the annual revenue of the platforms itself and the annual revenue of service providers. Both therefore form sub-indicators. We asked all identified profit-making platforms in the survey to provide their annual platform revenue for 2014, 2015, 2016 (where possible) and their average % revenue growth rate. We also asked platforms in the survey if they are familiar with revenue streams for service providers. Profit making platforms include those platforms that request a fee in order to use the platform or take a commission from the individual transaction.

The results showed that collaborative economy platforms are currently (still) hesitant to report their revenue numbers. This was partly expected as we have experienced a similar degree of resistance in other projects. To fill the gaps, revenue was calculated in another way, including as a product of **the estimated number of transactions per unit of time** and **the average value per transaction**. These indicator components were also requested in the survey. The definition of a transaction was specified in the survey for each sector. In the case of any further data gaps, the number and value of transactions was further estimated by sector specific data on, for example, average prices per hour, number of bookings, etc. Calculation details per sector are provided in Annex 5.

The number of transactions is a useful indicator because it shows the level of activity: if the collaborative economy grows, this indicator will grow. We have therefore made this an indirect indicator (see next section).

Figure 36 Overview of selected indicators



2) Employment

Employment is another key indicator that directly measures economic activity in a sector that uses labour to 'produce' goods and services. Moreover, it is of strategic policy importance. In the case of the collaborative economy, it is very important to distinguish between 'platform' employment, i.e. people employed by an online collaborative platform, and 'service provider' employment, people providing services through the platform but not employed by it directly (e.g. Uber drivers, Airbnb hosts, etc.). The indicator was estimated on a sector as well as a Member State level. These figures were aggregated to the EU level by summation. We collected data on both types of employment directly from the platforms via the survey; gaps were filled-in through desk research and assumptions. Calculation details per sector are provided in Annex 5.

3) Labour productivity

Productivity measures the efficiency of factors of production, i.e. of capital and labour, and is usually calculated as the ratio of outputs to inputs. Labour productivity measures the amount of services provided by one hour of labour. As an outcome of the study, calculation of labour productivity defined as a share of revenues to employment was based on estimations that were too rough, and as such, the results were not robust enough to be used in the assessment. For example, one issue was the inherent nature of online platforms when the services are provided locally; however, there is no need for a local employment platform (e.g. Airbnb office in Ireland can serve other EU countries as well). The lack of robustness of the data was the reason for not using this indicator in the study to describe development of the collaborative economy. Nevertheless, it remains a relevant indicator for further monitoring.

4) Cross-border trade

Through their digital nature, collaborative economy platforms can, in theory, engage in economic activity across the borders of EU Member States and as such support the functioning of the Internal Market. It would therefore have been interesting to study the volume of cross-border trade realised by the collaborative economy. In the collaborative economy, this largely concerns the export and import of services. Trading services in the collaborative economy are often Mode 1 trade in services (providing services abroad by mail or digital infrastructure) or Mode 2 trade in services (consuming services locally when a person is physically abroad). Platforms providing rides on demand, car sharing services and accommodation, for example, belong in the latter category, while professional online services belong in the former category. Some platforms inherently operate cross-border, such as collaborative finance, where crowdfunding comes from investors in several countries. As an outcome of the study, the lack of data on the share of cross-border trade did not allow us to make any assessments of or conclusions about cross-border trade. We observed a number of EU origin platforms operating internationally; however, it was not possible to differentiate between their home and cross-border activities. Nevertheless, in the case of data availability, the indicator remains relevant for measuring the collaborative economy in the EU.

5) Investments made into collaborative economy platforms

In addition, we proposed measuring the value of funding that European collaborative platforms have been able to attract. It is particularly important to examine whether there is a lack of investment in such business models and to identify the volume of investments made into platforms operating in the EU. We requested this data from platforms, with gaps being filled-in by desk research and web scraping.

As an outcome of the study, investments could be calculated and presented only on the sectoral level.[344] Data on investments was either reported by platforms via survey or collected via crunchbase.com[345] or owler.com[346]. Gaps were not filled-in, as it was assumed that all larger platforms with significant investments into the platform would be listed on crunchbase.com or owler.com. The level of investment was wholly attributed to the country of origin of the respective platform; as such, any spreading between the countries was impossible. This means that investment results are only measurable at the sectoral level and only for domestic platforms, not international.

Indirect indicators

In order not to depend fully on direct indicators of economic activity in the collaborative economy, we also specified indicators that indirectly try to estimate the value and volume of economic activity in the sector. That is, indicators on features of the market not directly related to revenue or employment, but rather aspects that tend to move in line with these indicators or are indicative of the level of revenue and/or employment. Therefore, some of them could also be used to calculate direct indicators. These indicators were provided at the sector level and/or the Member State level, for example, the number of platforms. Indirect indicators, such as website traffic or the number of transactions, are platform level data, but can also be broken down by the geographical location of the website visitor, for example.

1) Number of platforms

The number of collaborative economy platforms is a useful proxy for the maturity of the collaborative economy in a specific Member State. However, it is not necessarily a very good reflection of the market size, since a significant share of the platforms are quite small in terms of their number of users, whereas only a very small number of platforms are large and have many users and providers. Nevertheless, it is important to indicate the number of platforms active in a Member State per sector, and their country of origin and operation.

2) Number of unique website visitors or app downloads

The number of unique website visitors and app downloads per unit of time can be a useful indicator in assessing the intensity by which a certain platform is used.

3) Number of (active) providers and users from inside and outside the country of operation

We tried to collect data on the number of active providers and users from inside and outside the country of operation. We requested this data from the platforms, as they were the only available source for this type of information (no other source for this data was identified). It turned out that we were unable to obtain the number of active providers and users, but rather the total number of providers and users, and only for

[344] In average data about investments into platforms were either reported or found via desk research for less than 40% of countries.
[345] https://www.crunchbase.com
[346] https://www.owler.com

some platforms. We planned to use data to calculate some of the direct indicators, such as cross-border trade or providers' employment, but due to lack of data we had to look for other estimation techniques.

4) Number of transactions

The number of transactions per unit of time is an important indirect indicator, as it is needed to estimate revenues. Each sector had a definition of transaction in that sector.

5) Other indirect indicators of platform usage from web scraping

Depending on the type and volume of information available per platform in the web scraping tool, other potential indicators can be extracted that are indicative of the popularity and use of a certain platform. This included information in relation to referrals on social media, Google searches and the type of pages on a website that are most visited.

Enabling factors - Technology penetration indicators

Since digital platforms rely on the use of Internet and electronic devices, such as mobile phones, computers and tablets, the relevant Eurostat indicators allow for conclusions to be drawn on the level of readiness of countries to support the development of the collaborative economy. The advantage of these enabling indicators is the fact that Eurostat already collects such data per Member State on a regular basis. The disadvantage is that these indicators do not directly reflect the functioning of the collaborative economy.

ANNEX 3 DATA COLLECTION FOR INTERNATIONAL PLATFORMS ORIGINATING OUTSIDE THE EU

The main international platforms (platforms operating in more than one Member State) were the special focus of data collection work. In many of the smaller markets, international platforms comprise the majority, and sometimes the overwhelming majority, of business activity; therefore, estimating their importance is crucial in obtaining a reliable result.

To ensure the participation of the major players, personal contacts from previous projects were used or personal points of contact were identified. These points of contact were approached by email and telephone, when necessary, and their support for the study was requested. Apart from the link to the survey, the international platforms were also provided with the survey in the form of a Word document, to make their responses as easy as possible.

One of the challenges that data collection involving international platforms presented was the concern about commercially sensitive data. VVA needed to sign data confidentiality agreements with many international providers before obtaining any data, and even then the platforms refused to provide some of the data on a country level, only doing so on the EU level.

Additionally, for many international platforms operating from outside the EU (specifically U.S. origin platforms) a web scraping exercise was conducted, thereby ensuring that the available information was included. For most of the indicators (e.g. revenue, investment or direct employment) the importance in local EU markets of many of these platforms is limited, as they conduct their business from outside the EU (meaning investment, revenue and employment is located outside the EU). These platforms, with no branch or employment in the EU, were therefore not contacted directly (but were included in the survey). However, we involved market revenues and employment generated in the EU as much as possible and where data was available. As an example, we had Airbnb revenues for many EU countries; similarly, we used Uber data provided by the company (indirect revenues for both are integrated into calculations). Also, as an example, employment figures for Ireland (IE) in accommodation are relatively high as the country is also home to the European headquarters of Airbnb.

As described above, some data could only be obtained on the total company level or on the EU-28 level (see **Table 11**). This made it necessary to estimate the distribution of those numbers among the Member States, in order to be able to include them in the database. This distribution was done differently, based on the economic reason underlying that distribution:

- Revenue: distribution of revenue was assumed to be proportional to the number of users (from SimilarWeb).
- Platforms' employment: if not directly provided, the employment figures were distributed based on numbers obtained from LinkedIn (search by platform and by country of operation).
- Service providers' employment: it was assumed that the number of persons employed by service providers is linked to the business in the Member State and was distributed using the SimilarWeb figures on users of the website.
- Investments: investment figures are more concentrated on the headquarters of the platform or at least linked to the countries were the platform employs staff. For this reason, investment figures were not distributed by Member States but only shown on a total EU-28 level per sector.

Table 11 List of non-EU origin platforms that were specifically targeted

International platforms	Result of data collection
Blabla car (transport)	Data provided by the platform
Uber (transport)	Data provided by the platforms, but some only on the EU level
Airbnb (accommodation)	Data provided by the platform
Homeaway (accommodation)	Data promised, but not yet provided
Expedia (accommodation)	Data promised, but not yet provided
9flats (accommodation)	No data provided
Kickstarter (finance)	Data collected on the international level through desk research
Indiegogo (finance)	Data collected on the international level through desk research
Pawshake (online skills)	Data collected through desk research
Care.com (online skills)	No data provided
Deliveroo (online skills)	Data collected through desk research
JustEat (online skills)	Data collected through desk research
Ubereats (online skills)	Data collected through desk research

Source: Authors

Among non-EU based platforms Airbnb is the largest international platform operating in the EU, dominating all EU national markets (see **Table 11**). In transportation, the best known U.S. origin platforms are Uber (operating in 22 Member States) and Ubereats (operating in 10 Member States). At the same time, Airbnb operates in all Member States across the EU. In terms of the finance sector, the largest international platforms are Kickstarter (operating in 12 Member States) and Indiegogo (operating in 6 Member States), and for online skills Pawshake (operating in 10 Member States), and care.com (operating in 10 Member States). All of the largest non-EU platforms are included in the calculation of indicators. The rest of the international platforms are rather small or their EU related data was unavailable.

We also identified a number of international platforms (mainly originating from the U.S.) that are operating in the EU, but for which no data or countries of operation could be determined. We excluded these platforms from our study for the above-mentioned reason. Furthermore, even while booking.com offers residences for short-term rent, the collaborative share is minor and does not influence the study results significantly (see **Table 12**).

Table 12 List of international platforms left out of the study

International platforms	Result of data collection
Booking.com (USA, accommodation)	Data provided by the platform; share of short term residence rent not available; no distinguishing between Member States possible
HomeExchange (USA, accommodation)	No data provided
Fiverr (USA, online skills)	No data provided
Rentafriend (USA, online skills)	No data provided
Vayable (USA, online skills)	No data provided
Skillshare (USA, online skills)	No data provided
Buildwithme (USA, online skills)	No data provided
Microworkers (USA, online skills)	No data provided
Amazon MTurk (USA, online skills)	No data provided
Crowdflower (USA, online skills)	No data provided
Crowdsource (USA, online skills)	No data provided
Catalant (USA, online skills)	No data provided
Zillion Designs (USA, online skills)	No data provided
Atozo (CH, online skills)	No data provided
Handy (USA, online skills)	No data provided

ANNEX 4 RESULTS OF DATA ANALYSIS

Table 13 Calculation of revenues and number of persons employed in transport sector

Country	Estimated revenue (EUR million)																	Estimated number of persons employed (thousands persons)						
	Estimated revenue of platforms											Estimated revenue of service providers												
	Data source					Estimated revenue of platforms						Data source		Estimated revenue of service providers				Data source			Estimated number of persons employed			
	Number of domestic platforms	Number of internationally operating platforms	Total number of platforms	Number of platforms with reported platform revenue data	Number of platforms with extrapolated platform revenue data	Ratio = total revenue reported/ total number of web visits	Total platform revenue reported	Total platform revenue extrapolated*	Total platform revenue (1)	Number of platforms' Web visits**	GDP per capita (EU-28=1)	Number of platforms with reported service provider revenue	Number of platforms extrapolated service provider revenue	Service provider revenue extrapolated	Service provider revenue reported	Total service provider revenue (2)	Total revenue (1+2)	Turnover per person employed in transport sector (NACE H49.3)	Number of platforms reported persons employed data	Number of platforms extrapolated persons employed data	Ratio = total reported service providers revenue / reported service providers persons employed	Platform persons employed (3)	Service provider persons employed (4)	Total number of persons employed (3+4)
						0.63															*23 746*			
Calculation steps						*1*			*2*							*3*	*4.0*				*5*	*6*	*7*	*8*
AT	3	7	10	6	4		3.9	0.1	4.0	3.2	1.28	6	4	20.0	0.3	20.3	24.3	77 000	3	7		0.02	0.9	0.9
BE	11	8	19	9	10		6.9	0.1	7.1	2.7	1.18	5	14	13.3	24.6	37.9	45.0	75 600	3	16		0.04	1.1	1.1
BG	3	1	4	1	3		0.4	0.0	0.4	1.0	0.49	1	3	0.2	2.2	2.3	2.7	14 000	0	4		0.00	0.2	0.2
CY	0	1	1	0	1		0.0	0.0	0.0	0.0	0.83	0	1	0.0	0.0	0.0	0.0	43 300	0	1		0.00	0.0	0.0
CZ	4	4	8	4	4		4.4	0.2	4.6	1.7	0.88	4	4	1.3	23.7	25.0	29.7	36 400	3	5		0.03	2.1	2.2
DE	13	7	20	8	12		24.7	0.9	25.6	49.5	1.23	8	12	5.0	140.2	145.2	170.8	72 800	4	16		0.05	3.4	3.5
DK	3	3	6	2	4		3.6	1.5	5.2	5.0	1.24	2	4	8.7	19.1	27.8	33.0	99 900	2	4		0.02	0.5	0.5
EE	6	2	8	4	4		2.7	0.0	2.7	0.5	0.75	3	5	0.7	14.6	15.3	18.0	39 300	3	5		0.14	2.2	2.4
EL	3	3	6	3	3		7.7	0.0	7.7	9.9	0.68	3	3	0.1	41.6	41.7	49.4	25 100	1	5		0.02	1.8	1.8

Country	Estimated revenue (EUR million)																	Estimated number of persons employed (thousands persons)						
	Estimated revenue of platforms										Estimated revenue of service providers													
	Data source					Estimated revenue of platforms						Data source		Estimated revenue of service providers							Data source			Estimated number of persons employed			
	Number of domestic platforms	Number of internationally operating platforms	Total number of platforms	Number of platforms with reported platform revenue data	Number of platforms with extrapolated platform revenue data	Ratio = total revenue reported/ total number of web visits	Total platform revenue reported	Total platform revenue extrapolated*	Total platform revenue (1)	Number of platforms' Web visits**	GDP per capita (EU-28=1)	Number of platforms with reported service provider revenue	Number of platforms extrapolated service provider revenue	Service provider revenue extrapolated	Service provider revenue reported	Total service provider revenue (2)	Total revenue (1+2)	Turnover per person employed in transport sector (NACE H49.3)	Number of platforms reported persons employed data	Number of platforms extrapolated persons employed data	Ratio = total reported service providers revenue / reported service providers persons employed	Platform persons employed (3)	Service provider persons employed (4)	Total number of persons employed (3+4)
ES	13	7	20	5	15		12.7	3.6	16.3	37.0	0.92	5	15	20.4	80.8	101.3	117.6	50 600	3	17		0.05	3.8	3.9
FI	2	4	6	5	1		8.7	0.0	8.7	2.3	1.09	4	2	0.3	44.0	44.3	53.0	68 700	2	4		0.03	1.5	1.5
FR	17	10	27	10	17		158.5	6.0	164.5	66.3	1.04	8	19	35.2	855.7	890.9	1 055.3	89 100	6	20		0.73	31.7	32.4
HR	2	3	5	3	2		3.2	0.0	3.2	1.6	0.60	3	2	0.2	16.4	16.6	19.8	32 200	2	3		0.03	1.5	1.5
HU	5	4	9	4	5		3.3	1.5	4.8	8.0	0.67	4	5	8.4	18.9	27.2	32.0	34 000	4	5		0.02	1.7	1.7
IE	3	4	7	3	4		7.5	0.5	8.0	5.2	1.83	3	4	2.8	39.4	42.2	50.2	115 900	1	6		0.02	0.9	0.9
IT	11	8	19	5	14		10.9	0.1	11.0	11.3	0.97	5	14	0.4	64.6	65.1	76.0	72 800	3	15		0.05	1.6	1.6
LT	1	3	4	2	2		1.4	0.0	1.4	0.3	0.75	2	2	0.0	8.5	8.5	9.9	17 800	2	2		0.01	1.4	1.4
LU	3	2	5	1	4		0.0	0.1	0.1	0.1	2.58	1	4	0.7	0.0	0.8	0.9	75 600	0	5		0.01	0.0	0.0
LV	2	3	5	2	3		0.8	0.0	0.8	0.3	0.65	2	3	0.2	5.1	5.2	6.0	13 700	2	3		0.01	1.0	1.0
MT	0	2	2	1	1		0.1	0.0	0.1	0.1	0.96	1	1	0.0	0.9	0.9	1.1	33 200	1	1		0.00	0.2	0.2
NL	9	7	16	5	11		23.9	1.3	25.2	16.3	1.28	5	11	7.1	126.3	133.4	158.6	77 000	3	13		0.05	2.9	3.0
PL	6	5	11	4	7		14.9	0.0	14.9	24.2	0.68	4	7	0.2	85.0	85.2	100.1	29 000	3	8		0.12	7.5	7.6

Country	Estimated revenue (EUR million)																Estimated number of persons employed (thousands persons)						
	Estimated revenue of platforms										Estimated revenue of service providers												
	Data source					Estimated revenue of platforms						Data source		Estimated revenue of service providers						Data source			Estimated number of persons employed			
	Number of domestic platforms	Number of internationally operating platforms	Total number of platforms	Number of platforms with reported platform revenue data	Number of platforms with extrapolated platform revenue data	Ratio = total revenue reported/ total number of web visits	Total platform revenue reported	Total platform revenue extrapolated*	Total platform revenue (1)	Number of platforms' Web visits**	GDP per capita (EU-28=1)	Number of platforms with reported service provider revenue	Number of platforms extrapolated service provider revenue	Service provider revenue extrapolated	Service provider revenue reported	Total service provider revenue (2)	Total revenue (1+2)	Turnover per person employed in transport sector (NACE H49.3)	Number of platforms reported persons employed data	Number of platforms extrapolated persons employed data	Ratio = total reported service providers revenue / reported service providers persons employed	Platform persons employed (3)	Service provider persons employed (4)	Total number of persons employed (3+4)
PT	2	3	5	3	2		6.4	0.0	6.4	0.5	0.77	3	2	0.1	32.3	32.4	38.9	35 900	2	3		0.04	2.1	2.2
RO	2	4	6	4	2		5.4	0.0	5.4	3.7	0.58	4	2	0.0	29.2	29.3	34.7	15 500	3	3		0.05	4.0	4.1
SE	7	9	16	4	12		6.8	0.4	7.2	4.0	1.23	4	12	0.6	35.1	35.7	42.9	116 500	1	15		0.03	0.8	0.8
SI	0	0	0	0	0		0.0	0.0	0.0	0.0	0.83	0	0	0.0	0.0	0.0	0.0	46 200	0	0		0.00	0.0	0.0
SK	0	3	3	3	0		2.6	0.0	2.6	0.3	0.77	3	0	0.0	10.4	10.4	13.0	21 400	3	0		0.01	1.3	1.3
UK	11	6	17	6	11		302.4	2.5	304.9	71.4	1.07	5	12	22.7	1 490.4	1 513.1	1 818.0	95 900	3	14		0.71	46.6	47.3
Total EU 28	142	123	265	107	158		624.0	19.0	643.0	326.3		98	167	148.5	3 209.5	3 358.0	4 001.0		63	200		2.27	122.6	124.9

* Ratio x number of web visits May-June 2017
** May-July 2017 (SimilarWeb) (millions)
Source: authors' estimations

Table 14 Calculation of revenues and number of persons employed in accommodation sector

	Estimated revenue (EUR million)															Estimated number of persons employed (thousands persons)					
	Data source					Estimated revenue (EUR million)										Data source			Estimated number of persons employed		
Country	Number of domestic platforms	Number of internationally operating platforms	Total number of platforms	Number of platforms reported revenue data	Number of platforms extrapolated	Total platform revenues reported	Airbnb platform revenues (estimated)	Airbnb service providers revenues (estimated)	Total revenue Airbnb	Number of Web visits of non-Airbnb platforms*	Airbnb local price EUR	Total platform revenues extrapolated**	Platform revenue (1)	Service provider revenue (2)	Total revenue (1+2)	Turnover per person employed NACE I52.2	Number of platforms reported persons employed data	Number of platforms extrapolated persons employed data	Platform persons employed (3)	Service provider persons employed (4)	Total number of persons employed (3+4)
Calculation steps							*1*						*2*	*3*	*4*	*5*			*6*	*7*	*8*
AT	0	6	6	0	6	0.0	27.8	203.9	231.7	0.2	72	0.5	28.3	207.8	236.1	57 430	1	5	0.0	3.6	3.6
BE	0	2	2	0	2	0.0	8.5	62.0	70.5	0.0	72	0.0	8.5	62.0	70.5	77 783	1	1	0.0	0.8	0.8
BG	1	1	2	0	2	0.0	3.5	25.4	28.9	0.0	40	0.0	3.5	25.8	29.3	10 635	1	1	0.0	2.4	2.4
CY	1	1	2	0	2	0.0	4.4	32.2	36.6	0.1	83	0.0	4.4	32.5	36.9	56 000	1	1	0.0	0.6	0.6
CZ	0	2	2	0	2	0.0	8.4	61.7	70.1	0.0	52	0.0	8.4	61.7	70.1	34 496	1	1	0.0	1.8	1.8
DE	4	7	11	0	11	0.0	64.3	471.7	536.1	19.2	52	33.2	97.5	714.9	812.4	40 116	5	6	0.1	17.8	17.9
DK	3	1	4	0	4	0.0	6.0	44.1	50.1	0.0	84	0.0	6.0	44.3	50.4	112 009	1	3	0.0	0.4	0.4
EE	2	1	3	0	3	0.0	1.2	8.7	9.8	0.1	55	0.1	1.3	9.7	11.0	29 085	1	2	0.0	0.3	0.3
EL	1	2	3	0	3	0.0	19.0	139.4	158.4	0.1	55	0.2	19.2	140.7	159.9	17 908	1	2	0.0	7.9	7.9
ES	11	7	18	1	17	0.0	88.0	645.1	733.1	19.6	61	39.6	127.6	935.7	1 063.3	58 774	8	10	0.2	15.9	16.2
FI	3	1	4	1	3	14.1	5.2	38.4	43.6	0.0	82	0.0	19.4	142.0	161.4	123 409	2	2	0.0	1.2	1.2
FR	12	10	22	3	19	1.1	71.6	525.3	596.9	81.8	71	192.4	265.2	1 944.7	2 209.9	103 682	14	8	0.2	18.8	18.9
HR	0	1	1	0	1	0.0	10.2	74.8	84.9	0.0	49	0.0	10.2	74.8	84.9	39 155	1	0	0.0	1.9	1.9
HU	0	3	3	0	3	0.0	4.4	32.0	36.3	0.0	46	0.0	4.4	32.0	36.3	19 680	1	2	0.0	1.6	1.6
IE	4	1	5	0	5	0.0	8.1	59.3	67.4	0.0	78	0.0	8.1	59.4	67.5	44 724	4	1	0.5	1.3	1.8
IT	1	7	8	0	8	0.0	73.3	537.7	611.0	0.7	61	14.8	88.1	646.0	734.0	74 025	2	6	0.0	8.7	8.8
LT	2	1	3	0	3	0.0	1.2	8.9	10.1	0.3	51	0.6	1.8	13.0	14.8	24 087	3	0	0.0	0.5	0.5

	Estimated revenue (EUR million)														Estimated number of persons employed (thousands persons)					
	Data source					Estimated revenue (EUR million)									Data source			Estimated number of persons employed		
Country	Number of domestic platforms	Number of internationally operating platforms	Total number of platforms	Number of platforms reported revenue data	Number of platforms extrapolated	Total platform revenues reported	Airbnb platform revenues (estimated)	Airbnb service providers revenues (estimated)	Total revenue Airbnb	Number of Web visits of non-Airbnb platforms*	Airbnb local price EUR	Total platform revenues extrapolated**	Platform revenue (1)	Service provider revenue (2)	Total revenue (1+2)	Turnover per person employed NACE I52.2	Number of platforms reported persons employed data	Number of platforms extrapolated persons employed data	Platform persons employed (3)	Service provider persons employed (4)	Total number of persons employed (3+4)
LU	0	2	2	0	2	0.0	0.5	3.5	3.9	0.6	69	1.4	1.9	13.7	15.5	53 100	1	1	0.0	0.3	0.3
LV	0	1	1	0	1	0.0	0.8	5.5	6.3	0.0	51	0.0	0.8	5.5	6.3	15 759	1	0	0.0	0.3	0.3
MT	0	4	4	0	4	0.0	1.9	14.1	16.0	0.0	62	0.0	1.9	14.1	16.0	47 713	1	3	0.0	0.3	0.3
NL	2	18	20	0	20	0.0	23.2	170.4	193.6	1.8	79	4.8	28.0	205.4	233.4	60 795	1	19	0.0	3.4	3.4
PL	1	1	2	0	2	0.0	9.7	71.3	81.0	0.3	36	0.0	9.8	71.5	81.3	28 518	1	1	0.0	2.5	2.5
PT	0	5	5	0	5	0.0	10.6	78.1	88.7	2.2	52	3.8	14.5	106.3	120.8	22 628	1	4	0.0	4.7	4.7
RO	3	3	6	3	3	0.2	4.1	30.4	34.5	0.0	48	0.0	4.4	32.0	36.4	17 309	3	3	0.0	1.8	1.9
SE	2	3	5	0	5	0.0	13.5	98.9	112.3	0.4	94	1.2	14.7	108.0	122.7	93 700	2	3	0.0	1.2	1.2
SI	0	1	1	0	1	0.0	2.0	14.7	16.7	0.0	63	0.0	2.0	14.7	16.7	26 066	1	0	0.0	0.6	0.6
SK	0	1	1	0	1	0.0	2.1	15.1	17.2	0.0	44	0.0	2.1	15.1	17.2	18 776	1	0	0.0	0.8	0.8
UK	9	5	14	0	14	0.0	73.7	540.3	614.0	9.0	86	25.7	99.4	729.0	828.4	68 590	6	8	0.1	10.6	10.8
Total EU 28	62	98	160	8	152	15.4	547.2	4 012.8	4 560.0			318.5	881.2	6 462.1	7 343.3		67	93	1.2	112.1	113.3

* excl. those that reported revenues (SimilarWeb May - July 2017)
** non-Airbnb. non-reported
Source: authors' estimations

Table 15 Calculation of revenues and the number of persons employed in the financial sector

Country	Estimated revenue (EUR million)													Estimated number of persons employed (thousands persons)					
	Data source					Estimated revenue								Data source		Estimated number of persons employed			
	Number of domestic platforms	Number of internationally operating platforms	Total number of platforms	Number of platforms reported revenue data	Number of platforms extrapolated	Total platform revenues reported	Total platform revenues extrapolated*	Number of platforms' Web visits**	Ratio = total platform's revenue reported/total number of platform's web visits	GDP per capita (EU-28 = 100)	Total platforms' revenue (1)	Total service providers' revenue (platform revenue/0.15*0.85) (2)	Total revenue (1+2)	Number of platforms reported persons employed data	Number of platforms extrapolated persons employed data	Turnover per person employed in the finance sector***	Platform persons employed (3)	Service provider persons employed (4)	Total number of persons employed (3+4)
									23										
Calculation steps									*1*		*2*	*3*	*4*			*5*	*6*	*7*	*8*
AT	14	2	16	1	15	1.8	35.5	1.2		1.28	37.3	211.1	248.4	11	4	124 100	0.2	1.7	1.9
BE	4	1	5	4	1	6.0	0.1	0.2		1.18	6.1	34.8	40.9	3	1	239 279	0.0	0.1	0.2
BG	2	0	2	0	2	0.0	2.0	0.2		0.49	2.0	11.1	13.1	1	1	48 158	0.0	0.2	0.2
CY	0	0	0	0	0	0.0	0.0	0.0		0.83	0.0	0.0	0.0	0	0	121 510	0.0	0.0	0.0
CZ	9	1	10	0	10	0.0	75.8	3.7		0.88	97.8	554.3	652.1	5	5	84 502	0.1	6.6	6.6
DE	35	2	37	3	34	22.0	176.8	6.4		1.23	198.8	1 126.3	1 325.1	15	28	104 455	0.6	10.8	11.3
DK	4	1	5	2	3	4.3	6.6	0.3		1.24	10.9	61.6	72.4	3	1	225 760	0.0	0.3	0.3
EE	9	0	9	3	6	4.6	13.2	1.1		0.75	17.9	101.2	119.1	9	0	79 985	0.1	1.3	1.3
EL	0	0	0	0	0	0.0	0.0	0.0		0.68	0.0	0.0	0.0	0	0	108 834	0.0	0.0	0.0
ES	22	3	25	1	24	5.7	62.4	2.9		0.92	68.1	385.9	454.0	12	11	118 033	0.1	3.3	3.4
FI	5	0	5	5	0	9.2	0.0	0.3		1.09	9.2	52.0	61.2	4	1	111 000	0.0	0.5	0.5
FR	22	2	24	1	26	11.4	320.7	16.9		1.04	332.1	1 882.1	2 214.3	15	10	137 771	0.7	13.7	14.3
HR	3	0	3	0	3	0.0	0.2	0.0		0.60	0.2	1.2	1.4	0	1	95 956	0.0	0.0	0.0
HU	0	0	0	0	0	0.0	0.0	0.0		0.67	0.0	0.0	0.0	0	0	50 578	0.0	0.0	0.0
IE	3	1	4	1	3	1.4	3.7	0.1		1.83	5.1	28.9	34.0	0	3	216 884	0.0	0.1	0.2
IT	33	2	35	1	34	8.6	70.3	3.1		0.97	78.8	446.8	525.6	24	13	160 231	0.3	2.8	3.1
LT	3	1	4	3	1	0.9	0.1	1.2		0.75	1.0	5.8	6.8	4	0	48 120	0.0	0.1	0.1
LU	0	1	1	1	0	0.3	0.0	0.0		2.58	0.3	1.5	1.8	0	0	249 488	0.0	0.0	0.0

Country	Estimated revenue (EUR million)													Estimated number of persons employed (thousands persons)					
	Data source					Estimated revenue								Data source		Estimated number of persons employed			
	Number of domestic platforms	Number of internationally operating platforms	Total number of platforms	Number of platforms reported revenue data	Number of platforms extrapolated	Total platform revenues reported	Total platform revenues extrapolated*	Number of platforms' Web visits**	Ratio = total platform's revenue reported/total number of platform's web visits	GDP per capita (EU-28 = 100)	Total platforms' revenue (1)	Total service providers' revenue (platform revenue/0.15*0.85) (2)	Total revenue (1+2)	Number of platforms reported persons employed data	Number of platforms extrapolated persons employed data	Turnover per person employed in the finance sector***	Platform persons employed (3)	Service provider persons employed (4)	Total number of persons employed (3+4)
LV	5	0	5	2	3	0.6	21.3	1.4		0.65	21.8	123.6	145.4	3	2	69 428	0.1	1.8	1.8
MT	1	0	1	0	1	0.0	0.1	0.0		0.96	0.0	0.6	0.1	1	0	47 795	0.0	0.0	0.0
NL	24	8	32	1	31	3.6	37.6	1.3		1.28	41.2	233.3	274.5	6	23	285 280	0.2	0.8	1.0
PL	13	0	13	0	13	0.0	42.7	2.7		0.68	42.7	242.2	284.9	4	11	47 787	0.2	5.1	5.3
PT	4	0	4	0	4	0.0	10.6	0.6		0.77	10.6	60.2	70.8	3	1	103 634	0.0	0.6	0.6
RO	6	0	6	1	5	0.1	2.2	0.2		0.58	2.3	13.2	15.5	3	3	54 350	0.0	0.2	0.3
SE	4	1	5	1	4	4.3	177.7	6.2		1.23	181.9	1 030.8	1 212.7	1	3	233 204	0.1	4.4	4.5
SI	1	0	1	0	1	0.0	0.1	0.0		0.83	0.1	0.5	0.6	0	1	66 905	0.0	0.0	0.0
SK	3	2	5	1	4	0.2	3.7	0.2		0.77	3.8	21.7	25.5	3	2	82 550	0.0	0.3	0.3
UK	39	3	42	10	32	49.8	222.3	13.7		1.07	272.1	1 541.7	1 813.7	10	30	183 634	1.5	8.4	9.9
Total EU 28	268	31	299	42	260	134.6	1 285.5	63.9			1 442.1	8 171.8	9 613.9	140	155		4.3	63.0	67.3

* Ratio*number of web visits May-June 2017
** May-July 2017 (SimilarWeb) (millions)
*** sector GDP (NACE K64) / employment NACE K64)

Source: authors' estimations

Table 16 Calculation of revenues and number of persons employed in online skills sector

Country	Estimated revenue (EUR million)													Estimated Number of persons employed (thousand persons)					
	Data source					Estimated revenue								Data source		Estimated number of persons employed			
	Number of domestic platforms	Number of internationally operating platforms	Total number of platforms	Number of platforms reported revenue data	Number of platforms extrapolated	Total revenues reported	Total revenues extrapolated	Number of platforms' Web visits*	Ratio = total revenue reported / total number of web visits	GDP per capita (EU-28 = 1)	Platform revenue (1)	Service provider revenue (2)	Total revenue (1+2)	Number of platforms reported persons employed data	Number of platforms extrapolated persons employed data	Average EU turnover per person employed in online skills sector (NACE M. N. S95.2)	Platform persons employed (3)	Service provider persons employed (4)	Total number of persons employed (3+4)
									8										
Calculation steps									*1*		*2*	*3*	*4*			*5*	*6*	*7*	*8*
AT	3	6	9	0	9	0.0	4.0	0.4		1.28	4.0	22.8	26.8	1	6	101 500	0.1	0.2	0.3
BE	5	3	8	1	7	0.1	2.2	0.7		1.18	2.3	12.9	15.2	4	2	121 700	0.0	0.1	0.1
BG	5	0	5	0	5	0.0	0.8	0.2		0.49	0.8	4.5	5.3	1	4	20 200	0.0	0.2	0.2
CY	1	0	1	0	1	0.0	0.0	0.0		0.83	0.0	0.2	0.2	0	1	47 200	0.0	0.0	0.0
CZ	2	3	5	0	5	0.0	2.4	0.3		0.88	2.4	13.9	16.3	0	5	54 400	0.0	0.3	0.3
DE	9	3	12	0	12	0.0	32.4	3.1		1.23	32.4	183.7	216.1	1	8	100 233	0.5	1.8	2.4
DK	13	3	16	1	15	0.0	4.0	0.4		1.24	4.0	22.6	26.5	6	8	104 867	0.0	0.2	0.3
EE	12	0	12	4	8	1.3	4.3	1.2		0.75	5.6	31.6	37.2	8	4	40 967	0.1	0.8	0.8
EL	5	0	5	0	5	0.0	20.0	3.5		0.68	20.0	113.3	133.3	4	1	38 133	0.1	3.0	3.1
ES	19	3	22	0	22	0.0	163.2	20.9		0.92	163.2	924.7	1 087.9	9	12	59 400	0.7	15.6	16.3
FI	3	2	5	3	2	0.4	0.6	0.1		1.09	1.0	5.7	6.7	2	1	93 200	0.0	0.1	0.1
FR	32	2	34	3	31	3.0	159.2	18.1		1.04	162.1	918.7	1 080.9	18	14	113 833	1.0	8.1	9.1
HR	0	0	0	0	0	0.0	0.0	0.0		0.60	0.0	0.0	0.0	0	0	45 167	0.0	0.0	0.0
HU	3	0	3	0	3	0.0	0.5	0.1		0.67	0.5	3.0	3.5	0	3	37 433	0.0	0.1	0.1
IE	3	0	3	0	3	0.0	0.2	0.0		1.83	0.2	1.3	1.6	0	3	199 667	0.0	0.0	0.0
IT	12	3	15	0	15	0.0	6.9	0.8		0.97	6.9	39.2	46.1	10	4	72 367	0.1	0.5	0.6
LT	1	0	1	0	1	0.0	0.0	0.0		0.75	0.0	0.2	0.2	1	0	27 533	0.0	0.0	0.0

Country	Estimated revenue (EUR million)												Estimated Number of persons employed (thousand persons)					
	Data source					Estimated revenue							Data source		Estimated number of persons employed			
	Number of domestic platforms	Number of internationally operating platforms	Total number of platforms	Number of platforms reported revenue data	Number of platforms extrapolated	Total revenues reported	Total revenues extrapolated	Number of platforms' Web visits*	Ratio = total revenue reported / total number of web visits	GDP per capita (EU-28 = 1)	Platform revenue (1)	Service provider revenue (2)	Total revenue (1+2)	Number of platforms reported persons employed data	Number of platforms extrapolated persons employed data	Average EU turnover per person employed in online skills sector (NACE M. N. S95.2)	Platform persons employed (3)	Service provider persons employed (4)	Total number of persons employed (3+4)
LU	0	2	2	0	2	0.0	32.0	1.5		2.58	32.0	181.6	213.6	0	1	285 867	0.3	0.6	1.0
LV	0	0	0	0	0	0.0	0.0	0.0		0.65	0.0	0.0	0.0	0	0	25 133	0.0	0.0	0.0
MT	1	1	2	0	2	0.0	0.1	0.1		0.96	0.1	0.5	0.5	0	1	78 900	0.0	0.0	0.0
NL	8	4	12	0	12	0.0	14.8	1.4		1.28	14.8	83.6	98.3	2	8	87 567	0.2	1.0	1.1
PL	6	1	7	0	7	0.0	340.5	59.1		0.68	340.5	1 929.7	2 270.2	2	5	38 867	0.4	49.6	50.0
PT	1	0	1	0	1	0.0	5.2	0.8		0.77	5.2	29.4	34.6	0	1	31 567	0.0	0.9	1.0
RO	3	0	3	3	0	0.2	0.0	0.0		0.58	0.2	1.0	1.2	3	0	29 967	0.0	0.0	0.0
SE	11	1	12	0	12	0.0	1.9	0.2		1.23	1.9	10.7	12.6	0	11	122 300	0.0	0.1	0.1
SI	0	0	0	0	0	0.0	0.0	0.0		0.83	0.0	0.0	0.0	0	0	54 567	0.0	0.0	0.0
SK	5	0	5	0	5	0.0	9.9	1.5		0.77	9.9	56.2	66.1	0	5	50 967	0.1	1.1	1.2
UK	16	5	21	0	21	0.0	26.6	2.9		1.07	26.6	151.0	177.7	4	13	133 267	0.3	1.1	1.4
Total EU 28	179	42	221	15	206	4.9	831.9	117.1			836.8	4 741.7	5 578.5	76	121		4.0	85.5	89.5

* *May-July 2017 (SimilarWeb) (millions)*

Source: authors' estimations

ANNEX 5 DETAILED DESCRIPTION OF METHODOLOGY

Transport

In terms of the transport sector, there are 265 platforms currently operating in the EU-28, out of which 142 are national platforms and 123 are country operations of international platforms, which were counted as one platform (one line in the database) for each Member State in which they were operating. As explained in Section 3.1, there are five sub-sectors within the collaborative transport sector: P2P vehicle rental, ride sharing, rides on demand, parking spaces and delivery transport services.

Platform revenues

Revenue estimates for transport platforms in the collaborative economy are based on the survey results, data provided by or researched on big international platforms and extrapolations based on this primary data. The approach is described in detail below in the table; however, the specific estimates for the different international platforms did dominate the overall estimate provided, as the international platforms are overall dominating the market place. Therefore, a summary of the different estimations of the international platforms is provided under the Table 7.

Table 17 Calculation methodology in transport sector

Step	Calculation
Survey and desk research data	Data on platform revenues was identified through desk research and survey consultation. Where the platforms provided complete sets of data, no revenue calculations or estimations were needed. In terms of the transport sector, only 7 platforms provided data through the survey consultation. Platform revenue was identified through desk research for only 10 national platforms operating in the transport sector. The platform revenue identified through this method represents only **2%** of total estimated revenue (a more thorough breakdown is provided in Step 5).
International platforms	To strengthen the evidence base, the larger international platforms operating in the transport market were approached directly, in order to obtain an understanding of their revenues and the distribution of those revenues between the different EU Member States. Different sets of information on those international platforms were provided by the platforms or were identified in desk research. A lot of the available information was not available on a Member State basis and therefore an estimate of platform revenue in the different Member States was developed. Those estimates were added to the database. Overall, **96%** of total estimated revenue was based on these platform specific estimates. The exact methodology for the estimation of international platform revenue was dependent on the available data and is provided below the table.
Step 1: Calculating a ratio of SimilarWeb visits and revenue	Calculations involving international platforms have provided more robust data, which enabled the study team to estimate revenues for the platforms where no data was identified. For the platforms with revenue data, a ratio per click was calculated using the following method: $$\text{Ratio} = \frac{Average\ revenues\ of\ platforms\ with\ data}{Average\ web\ visits\ of\ the\ corresponding\ platforms}$$ It is worth noting that the estimated values for Uber were not used for the calculation of the ratio, as the ratio of Uber revenue and Uber web visits was significantly above (40 times greater) the ratio of all other platforms in the sample. This could be either because Uber, with its brand recognition, has a higher number of regular customers than other platforms, or because of SimilarWeb's figures for Uber, as SimilarWeb only provides web visits for the

	overarching uber.com website. As Uber is an exception in the market place, the remaining platforms in the sample were a much better fit for the extrapolation. Additionally, the revenues for the calculation of the ratio were adjusted using the per capita GDP figures of the various Member States, in order to take into account that in Member States with lower than average EU GDP, the revenue per visit will be lower. The ratio of SimilarWeb visits and revenue equalled **EUR 0.63/per visit**. $$EUR\ 0.63\ = \frac{EUR\ 1.420.000}{2.245.775\ visits}$$
Estimation of revenues for platforms without revenue data	The ratio per click calculated in Step 1, was used to determine the revenue for platforms with no data. In this regard, the following calculation was used: $$Revenue = \ EUR\ 0.63\ x\ number\ of\ platform's\ web\ visit$$ The abovementioned calculation generated **EUR 19 million** in platform revenue (3**%** of the total estimated platform revenue).
Step 2: Aggregating the platform revenues	The platform revenues and peer provider revenues were aggregated by country – the results provided a better picture of transport sector revenues by EU Member State. Out of the overall platform revenue estimated for the transport sector. 97**%** is generated by the international platforms described above and below the table. The remaining 3**%** of the platform revenue is a result of the estimation of revenues for platforms without revenue data, using SimilarWeb data.
Step 3: Calculation of total revenue	Total revenue was calculated as: $$total\ revenue\ = platform\ revenue + service\ provider\ revenue$$
Step 4: Estimation of platform employment	In the case of all platforms, an intensive desk search using company websites as well as linkedin.com was conducted in an attempt to identify the most up to date staff figures. In the case of the bigger platforms, information on staff size could be identified and some platforms provided the data to the study team. For the smaller platforms, where no data could be identified in the desk research, it was assumed that at least 1 person is employed by the platform. Overall, 219 platforms received this staff value of 1 by extrapolation, adding a total of 219 Full Time Equivalents (FTEs). Overall. **2 300** people were employed in 2016 by the transport platforms.
Step 5: Estimation of service providers' persons employed	For some big platforms, the number of drivers (e.g. Uber) could be identified by desk research or were provided by the platform; however, for most platforms, the number of people active in the collaborative economy as service providers had to be estimated based on the estimated revenues of service providers. Using Eurostat data on the average turnover of people employed in the transport sector (NACE H49.3 Other passenger land transport) per Member State, the number of active individuals was estimated. In 2016, a total of 123 000 people were active in the collaborative economy at the level of service providers in the transport sector. It is worth noting that the actual number of drivers is significantly higher than that; however, following the common methodology in sector studies, we recalculated the number of FTEs, estimating how many people would be needed if everyone would be doing the work on a full-time basis. For example, in the case of Uber drivers, the average number of hours per week is 28, and therefore the number of Uber drivers was adjusted by a ratio of 28/40.

Step 6: Calculation of platform employment	Total platform employment is a sum of the platform employment identified through desk research (or reported by the platforms themselves) and the extrapolation of 1 FTE per platform, where data was not found (see step 4): $platform\ employment = total\ platform\ employment\ identified + total\ platform\ employment\ extrapolated$
Step 7: Calculation of the number of service providers' persons active in the sector	In order to calculate the number of individuals employed by the service provider we assumed that the employment is linked with service providers' revenues. For calculation, we divided platform service providers' revenue with sector's average turnover per person employed (using NACE H49.3): $Number\ of\ individuals\ employed\ by\ the\ service\ provider\ per\ platform = \frac{Platform's\ service\ providers'\ revenue}{Turnover\ per\ person\ employed\ per\ platform}$ As some data was identified separately for some international platforms, the above calculation was applied for each platform with no data, considering the turnover per person employed in the country of operation. The final results were aggregated at the Member State level: $Total\ number\ of\ service\ providers'\ persons\ employed\ per\ MS = number\ of\ service\ providers\ persons\ employed\ identified + number\ of\ service\ providers\ persons\ employed\ extrapolated$
Step 8: Calculation of total employment	To calculate the total number of people active in the sector, platform and service provider employment was totalled.

The international platforms provided different types of data, and most of the data was not available on Member State level; therefore, individual approaches for revenue calculations were used:

BlaBlaCar provided an overview on the number of rides, the number of clients per ride, the average price per ride and the transaction fee for each Member State in which they are operating. Based on this data, service provider revenue was calculated in the following way for each country of operation[347]:

$$Revenue = Number\ of\ successful\ rides\ x\ Average\ number\ of\ clients\ per\ ride\ x\ Average\ price\ (EUR)\ per\ guest\ per\ ride$$

The above formula was applied for each of the countries in which Blablacar operates. The above formula generated an EU aggregate service provider revenue of **EUR 294 million**. Platform revenue was calculated based on the transaction fee – for Blablacar, this varies between countries (up to 12%). For each country of operation, the platform revenue calculation was based on the individual transaction fee. Based on the service provider revenue and the transaction fee, the aggregate platform revenue for Blablacar equalled **EUR 38 million**.

For each Member State of operation, **Uber** provided the total number of drivers and the average fee per ride. Desk research provided additional information on the total number

[347] Platform based data can be present only on aggregated level due to the confidentiality clause.

of rides[348], the global number of drivers and the average number of work per week for the Uber drivers. Based on the data set provided by the platform and the data collected through desk research, the study team calculated Uber service provider revenues, for each country of operation, as follows:

$$Revenue = Number\ of\ rides\ per\ country\ x\ Average\ fee\ per\ country$$

The above formula generated an EU aggregate service provider revenue of **EUR 2 322 billion**.
Platform revenue was calculated based on the transaction fee – for Uber, the transaction fee is, on average, 20%. Based on the transaction fee, an EU aggregate platform revenue of **EUR 464 million** was obtained.

Taxify provided data on the average fare per trip and the number of trips per country, and the study team calculated Taxify service provider revenues per country of operation, as follows:

$$Revenue = Average\ price\ per\ trip\ x\ N\ number\ of\ rides\ provided\ per\ country$$

The above formula generated an EU aggregate service provider revenue of **EUR 48 million.**
Platform revenue was calculated based on the transaction fee – for Taxify, the transaction fee is set at 15%. Based on the transaction fee, an EU aggregate platform revenue of **EUR 7 million** was obtained.

Drivy operates in 5 EU countries, but the platform provided data for only one country. Based on the data set provided by the platform and the data collected through desk research, the study team calculated the service provider revenue for only one country of operation:

$$Revenue = Average\ price\ per\ car\ used\ per\ day\ x\ Number\ of\ transactions$$

In the absence of country-based information, peer revenues and platform revenue were distributed based on SimilarWeb data shares by country of operation.

The above formula generated an EU aggregate service provider revenue of **EUR 9 million**.
EU platform revenue was calculated based on the transaction fee – for Drivy, the transaction fee is 30%. Based on the transaction fee, an EU aggregate platform revenue of **EUR 3 million** was obtained.

Autolevi provided data on platform revenue and service provider revenues for one country, and this information was extrapolated based on SimilarWeb web visits to the other countries of operation. The estimated platform revenue amount was **EUR 70 000** and the service provider revenue amount was **EUR 219 000.**

Nine international **food delivery platforms** with operations in 58 countries were also included in the transport sector estimate (Deliveroo, UberEats, Justeat, Wolt, Takeaway, Delivery Hero, Foodora, and Seamless). As none of those platforms provided data in the survey, revenue figures for those platforms were collected by desk research. If the revenue figures were only available on the company level, the Similarweb web visits were used to distribute those revenues between the Member States.

[348] The global number of rides facilitated by Uber.com was, according to desk research, between 500 million rides and 2 billion rides in 2016. This is the most reliable estimate, as it is the most consistent with Uber's estimated revenue of $20b for 2016. We estimated that the proportion of Uber rides in the EU was the same as the proportion of drivers (124 500 of 1.5 million drivers or 8.3%). That would mean that of the 2 billion rides globally each year, 166 million rides would be facilitated in the EU.

An important challenge for the estimation of platform results was the distribution of the overall revenues of service providers and platforms. Some of the food delivery platforms do not use independent service providers for transport, but instead employ delivery staff. To avoid a misinterpretation of results and provide figures that are comparable with the other transport platforms we also used an average split (15% platform, 85% service provider) for these platforms, even though some of the 'service provider revenue' would actually be part of the platform revenue and paid out in the form of a wage.

Overall, the food delivery platforms were estimated to have revenues of **EUR 101 million**, while their service providers received an additional **EUR 572 million.**

Accommodation

Calculation of revenues

The collaborative accommodation sector in the EU comprises a total of 69 platforms operating on the market. One international platform – Airbnb – dominates in EU national markets. There are three main sub-sectors within the collaborative accommodation sector: home renting, home sharing and home swapping. In 2016, via survey or desk research, data on revenues was only available for 8 platforms, with data on employment available for 67 platforms.

In the case of Airbnb as the dominant platform in the sector, EU revenue data was estimated using information provided by Airbnb itself (e.g. number of guests, average number of nights per booking, etc.) and from insideairbnb.com (average price per night). For calculation details, see Box 1.

Box 1: Calculation of revenues for Airbnb

Parameter	A. **Total # of guests**	B. **Average # guests per booking**	**A/B Total number of bookings**	**C. # nights per guest**	**A/B x C: Total # of nights booked**	**A x C Total person-nights**	**D. Average price per night (EUR)**	**A/B x C x D: Total revenue (EUR)**
EU-28 2016	27.8 million	2.5	*11.2 million*	4.1	*45.6 million*	*114.0 million*	*100*	*4.56 billion*
(Source)	*1*	*2. 3*	*Calculated*	*1*	*Calculated*	*Calculated*	*4. Calculated*	*Calculated*

1. *Airbnb (2016). Overview of the Airbnb community in the European Union.* ***2.*** *Airbnb (2016). Overview of the Airbnb Community in Denmark – based on 2015 data* ***3.*** *Airbnb (2017). The Airbnb Community: The Netherlands – based on 2016 data* ***4.*** *Based on listing data from http://insideairbnb.com/ for London, Edinburgh, Paris, Berlin, Madrid, Barcelona, Mallorca, Venice, Amsterdam, Brussels, Vienna and Copenhagen (206 121 listings in total), retrieved on 03/03/2017.*

** For the total number of guests, only the inbound guests, i.e. EU-residents and non-EU residents staying in Airbnb accommodations on EU territory. Stays by EU-residents outside of EU territory were not included in this calculation.*

Total EU Airbnb revenue in 2016 is estimated at EUR 4.56 billion. Assuming 12% Airbnb service fees (3% host fee and 9% booking fee[349]), platform revenue can be calculated from the total revenues. The remaining 88% are service provider revenues. This implies that **EU-28 Airbnb platform revenue was EUR 548 million in 2016**[350] **and EU-28 Airbnb service provider revenue was EUR 4 billion**.

[349] According to Airbnb, the host fee is generally 3% and the guest fee varies between 5% and 15%, see https://www.airbnb.com/help/article/1857/what-are-airbnb-service-fees .

[350] Airbnb platform revenue calculated as 12% multiplied by total revenue of EUR 4.56 billion

Table 18 Calculation methodology in accommodation sector

Table	Calculation
Step 1: Calculation of Airbnb EU and Member States platform revenue	We first calculated the total revenue of Airbnb for the EU as a whole, and then estimated the share of this revenue corresponding to the Airbnb platform itself. The details of this calculation can be found in Box 1 above. We then distributed the revenue for Airbnb EU across Member States using the weight of the tourist accommodation sector size in the respective Member States of the EU. The size of the tourist accommodation sector in a particular Member State was estimated as the total number of accommodation nights spent in hotels and holiday / short-stay accommodations in that Member State (data from Eurostat), multiplied by the average Airbnb price per night in that Member State.[351] $Airbnb\ platform\ revenue\ MS1$ $= \frac{(total\ nights\ spent\ (hotels + holiday\ homes) MS1\ x\ Airbnb\ average\ price\ per\ night\ MS1)}{\sum_{i=1}^{28} total\ nights\ spent\ MS\ 1 \times Airbnb\ average\ price\ per\ night\ MS1 \times EU\ Airbnb\ platform\ revenue}$ The results of the calculation can be seen in Box 2.
Step 2: Calculation of sector platform revenue per Member State	Accommodation sector platform revenue per Member State was calculated as the sum of reported platform revenue (eight platforms in total). Airbnb platform revenue (Step 1) and the revenue of other platforms (non-Airbnb and no reported data) in each Member State. To calculate 'revenue of other platforms', **a ratio of platform revenue to total website visits** was calculated based on Airbnb's platform revenues and the platforms which reported revenue data. This ratio is calculated based on revenue and web visit information for 17 Member States, as Member States with no local Airbnb website were excluded. Box 3 shows the results of calculation of the revenues and web visits to calculate this ratio. All revenues used for the calculation of the ratio were adjusted to Member State specific price levels using a **price coefficient** calculated as the ratio of Member State average Airbnb price to an **EU weighted average price per night**. This was calculated as follows: $Price\ coefficient\ MS1 = \frac{MS1\ average\ Airbnb\ price}{EU\ weighted\ average\ price}$ $EU\ weighted\ average\ price\ per\ night = \frac{\sum_{i=1}^{28} total\ nights\ spent\ MS1 \times Airbnb\ average\ price\ per\ night\ MS1}{\sum_{i=1}^{28} total\ nights\ spent\ MS\ 1} = \frac{EUR\ 159 billion}{2.5\ billion} = EUR\ 63.5\ per\ night\ spent$ The platform revenue to web visits ratio was calculated as the share of the total adjusted platforms revenues to total corresponding web visits. $EU\ platform\ ratio = \frac{\sum_{i=1}^{17} total\ adjusted\ platform\ revenues\ MSi}{\sum_{i=1}^{17} total\ web\ visits\ revenues\ MSi} = \frac{EUR\ 514\ million}{244\ million} = EUR\ 2.1\ per\ visit$ Assuming 12% of total revenues generated (platform and service providers) goes to platforms themselves in fees, the ratio of total revenue to web visits can be calculated.

[351] https://www.lonelyplanet.com/news/2017/08/09/average-airbnb-costs-europe/

	$$total\ adjusted\ revenue\ MS1\ (platform + providers) = \frac{1}{0.12} \times adjusted\ platform\ revenues\ MS1$$ $$EU\ ratio\ total\ revenue\ = \frac{\sum_{i=1}^{17} total\ adjusted\ revenues\ MSi}{\sum_{i=1}^{17} total\ web\ visits\ revenues\ MSi} = \frac{EUR\ 4.3billion}{244\ million} = EUR\ 17.5\ per\ visit$$ The calculation of the revenues other platforms used the calculated EU platform ratio, the price coefficient and web visits to other platforms. For each MS, the web visits of all 'other platforms' were summed up. The calculation is as follows: $$other\ platforms' revenue\ MS1 = \sum sum\ web\ visits\ other\ platforms\ MS1\ \times EU\ platform\ ratio \times price\ coefficient\ MS1$$
Step 3: Calculation of service provider revenues per Member State	Service provider revenue per Member State was calculated by assuming that 12% of total revenue is platform revenue. Hence 88% of total revenue is service provider revenue. The calculation is as follows: $$service\ provider\ revenue\ = platform\ revenue\ \times \frac{0.88}{0.12}$$
Step 4: Calculation of total revenue	Total revenue was calculated as: $$total\ revenue\ = platform\ revenue + service\ provider\ revenue$$
Step 5: Calculating turnover per person employed to calculate service provider employment	Turnover per person employed using data from Eurostat for the holiday and short-stay accommodation sector (NACE I55.2) was used as a proxy to estimate the number of service providers active in the collaborative accommodation sector.[352] The turnover was calculated as: $$turnover\ per\ person\ employed\ MS1\ = \frac{turnover\ NACE\ I55.2\ in\ MS1}{persons\ employed\ NACE\ I55.2\ in\ MS1}$$ There were only three MS with missing information: Luxembourg, Malta and the Netherlands. To estimate turnover per person employed in these countries we used the average EU turnover per person employed and adjusted it by the price coefficient.
Step 6: Platform employment	For platform employment, we used a bottom up approach, where we summed up platform employment as reported by platforms themselves via a survey, or by finding an indication of the number of people employed by a platform on the platform website itself or on the LinkedIn and Crunchbase websites. This approach worked very well for domestic platforms. For international platforms, we used LinkedIn (and filtered by country) or directly reported estimates by the platforms themselves. From a personal communication with Airbnb, we received rough estimates of employment figures for 7 Airbnb offices in Europe. For the Member States that do not have an Airbnb office, the Airbnb platform employment was set to zero. To fill-in missing information on platform employment, we made a few assumptions. For the domestic platforms that did not report any

[352] Eurostat defines turnover as comprising the totals invoiced by the observation unit during the reference period, and this corresponds to market sales of goods or services supplied to third parties; and the number of persons employed is defined as the total number of persons working in the observation unit (inclusive of working proprietors, partners working regularly in the unit and unpaid family workers), as well as persons who work outside the unit, who belong to it, and are paid by it (e.g. sales representatives, delivery personnel, repair and maintenance teams). NACE I55.2 was used as the best available proxy, which has been confirmed by stakeholders in a workshop organized for the DG Environment study on assessing the environmental potential of the collaborative economy, May 2017, Brussels, European Commission.

	employment data, the employment was set to 1 person employed, as one can assume that it requires, on average, at least 1 person to keep the website running. For smaller websites, maintenance of the website might require less than 1 FTE, but for larger platforms, this might be more. Hence. this estimate is probably on the conservative side. In the case of European platforms operating in several EU Member States, 1 person employed was assumed in the country of origin of the platform, if no employment figures were reported or found on the platform website. For international platforms originating outside the EU, no platform employment was assumed if reported data per Member State was lacking, as it is likely that these non-EU based platforms do not have local offices in the EU (except for Airbnb). An estimate of platform employment was derived by summing up information for each platform for each Member State.
Step 7: Calculation of service providers' employment	The calculation of employment by service providers was done by dividing the revenue of service providers by turnover per person employed, according to Eurostat. $$service\ provider\ employment\ MS1\ = \frac{service\ provider\ revenue\ MS1}{turnover\ per\ person\ employed\ MS1}$$
Step 8: Calculation of total employment	To calculate total employment, platform and service provider, employment was totalled.

Box 2: Results of calculations of Airbnb revenues per Member State

Member State	Total nights spent (hotel + holiday) (Million) (ESTAT) (A)	Airbnb - average price per night (EUR) (B)	nights spent * price (EUR billion) (C = A x B)	Weight (D = C/ total C)	Airbnb Revenue – platform (EUR billion) (E = D x EU Airbnb platform revenue)
AT	112.0	72	8.1	0.05	27.8
BE	34.1	72	2.5	0.015	8.5
BG	25.1	40	1.0	0.01	3.5
CY	15.3	83	1.3	0.01	4.4
CZ	46.9	52	2.4	0.02	8.4
DE	358.8	52	18.7	0.12	64.3
DK	20.8	84	1.7	0.01	6.0
EE	6.2	55	0.3	0.00	1.2
EL	100.2	55	5.5	0.03	19.0
ES	418.3	61	25.5	0.16	88.0
FI	18.5	82	1.5	0.01	5.2
FR	292.6	71	20.8	0.13	71.6
HR	60.3	49	3.0	0.02	10.2
HU	27.5	46	1.3	0.01	4.4
IE	30.1	78	2.3	0.01	8.1
IT	348.6	61	21.3	0.13	73.3
LT	6.9	51	0.4	0.00	1.2
LU	2.0	69	0.1	0.00	0.5
LV	4.3	51	0.2	0.00	0.8
MT	9.0	62	0.6	0.00	1.9
NL	85.3	79	6.7	0.04	23.2
PL	78.3	36	2.8	0.02	9.7
PT	59.4	52	3.1	0.02	10.6
RO	25.0	48	1.2	0.01	4.1
SE	41.6	94	3.9	0.02	13.5
SI	9.3	63	0.6	0.00	2.0
SK	13.6	44	0.6	0.00	2.1
UK	248.5	86	21.4	0.13	73.7
Total	**2 498.8**	**1 748**	**158.7**		**547.2**

Box 3: Calculation of platform revenues and website visits to calculate the ratio used to extrapolate the revenues of platforms with no revenue information

To calculate the ratio, reported platform revenues that included web visitor data from SimilarWeb were used[353] along with the calculated Airbnb revenues for each Member State. Due to confidentiality issues, the reported revenues of the eight platforms will not be disclosed; however, they will be integrated into the overall revenue and web visits per Member State.

The table below presents the results of the calculation of revenues to calculate the ratio.

MS	Web visits (Airbnb + 5 platforms*) (million)	Platform revenues (Airbnb + 5 platforms*) EUR million	Price coefficient to adjust for price differences**	Adjusted platform revenues*** (EUR million)	Adjusted total revenues (platform and service providers) (EUR million)
AT	1.6	27.8	0.88	24.5	204.4
BE	3.1	8.5	0.88	7.5	62.2
CZ	3.9	8.4	1.22	10.3	85.6
DE	29.2	64.3	1.22	78.6	654.8
DK	2.1	6.0	0.76	4.5	37.9
EL	0.3	19.0	1.15	22.0	182.9
ES	32.4	88.0	1.04	91.6	763.4
FI	1.8	19.3	0.77	15.0	124.8
FR	64.5	72.8	0.89	65.1	542.6
HU	2.0	4.4	1.38	6.0	50.2
IT	29.4	73.3	1.04	76.3	636.2
NL	7.3	23.2	0.80	18.7	155.7
PL	8.0	9.7	1.76	17.2	142.9
PT	5.2	10.6	1.22	13.0	108.4
SE	2.5	13.5	0.68	9.1	75.9
RO	6.4	0.2	1.32	0.3	2.5
UK	44.7	73.7	0.74	54.4	453.5
totals	**244.3**	**522.8**		**514.1**	**4 284.0**

* only five out of eight platforms that reported platform data were used to calculate the ratio of platform revenue to web visits. as these contained SimilarWeb information on web visits

** The price coefficient was calculated as the average MS Airbnb price per night divided by the EU weighted average price, taking into account the size of the tourist accommodation sector in terms of total nights spent. The average MS Airbnb price per night was taken from https://www.lonelyplanet.com/news/2017/08/09/average-airbnb-costs-europe/; the EU weighted average price per night was calculated as the total revenues generated by hotels and holiday homes, using the average Airbnb local prices, divided by the total nights spent in those two accommodation types.

*** Adjusted platform revenues were calculated as platform revenues multiplied by the price coefficient.

[353] Only five out of the eight platforms that reported revenue data had web visitor information.

Finance

The collaborative finance sector comprises 302 platforms in total. In 2016, via survey or desk research, data pertaining to revenues was available for 42 platforms, with data pertaining to employment available for 140 platforms.

Among the non-EU internationally operating platforms, Kickstarter's revenue data was publicly available: in 2016, revenue in the UK was EUR 34 million, Denmark EUR 4.2 million, Sweden EUR 4.2 million and the remaining EUR 51 million was shared between Austria, Belgium, Luxembourg, Italy, Ireland, France, Germany, Spain and the Netherlands. In order to estimate Kickstarter's revenues in these Member States, we used national GDP as indicator of the market size. We calculated the estimated share of the country's GDP in the GDP of the respective nine Member States and applied this ratio to calculate the country's share of the EUR 51 million. The **Table 19** below presents the results.

Table 19 Calculation of Kickstarter revenues in EU (EUR million, 2016)

MS	UK	BE	AT	LU	IT	FR	DE	ES	NL	DK	SE
GDP 2016		423	353	53	1.680	2.228	3.144	1.118	702		
Share of GDP (%)		4.24	3.54	0.53	16.84	22.33	31.51	11.21	7.04		
Revenue	34	2.2	1.8	0.3	8.6	11.4	16.1	5.7	3.6	4.2	4.2

Source: Eurostat: http://ec.europa.eu/eurostat/data/database ; http://icopartners.com/2017/01/kickstarter-in-2016-year-in-review/

Table 20 Calculation methodology in finance sector

Activity	Calculation
Summarising revenues reported by platforms	On the basis of survey and desk research, 42 platforms reported revenues in 2016 in the total average amount of EUR 160 million.
Desk research for bigger international finance platforms	We identified four main international platforms in the finance sector originating outside of the EU. As a result of desk research, we were only able to identify revenues for Kickstarter (see **Table 19**) Revenue for other international platforms was extrapolated, as distinguishing revenues between EU Member States was not available.
Summarising web visits for platforms reported revenues	According to SimilarWeb, the average number of web visits to platforms that reported data about revenue is 6.9 million visits.
Step 1: Calculating ratio how much revenues one web visit can generate	For linking reported revenues with web visits, the ratio between reported revenues and number of web visits (May – July 2017) was calculated: $$23 = \frac{160}{6.9}$$ The calculated ratio shows that every click on a platform's website equals an average of EUR 23 in their annual revenues. In order to also take the national income level into consideration, the reported revenues included in the calculation of the ratio were weighted with national GDP per capita.

Calculate revenues for platforms with missing data	In order to calculate revenues for platforms with missing data, a correlation between the calculated ratio and the number of web visits was used. In order to calculate the platform's revenue, the ratio is multiplied with the number of web visits to the platform and weighted with national GDP per capita: $$ratio = ratio\ x\ number\ of\ platform's\ web\ visits\ x\ GDP\ per\ capita$$
Step 2: **Calculating total revenue for platforms**	Summing up the revenue of platforms (reported and extrapolated) an estimated amount of platform revenue in the EU was calculated: $$1.4b = 0.1b + 1.3b$$ Total platform revenue is EUR 1.4 billion.
Step 3: Calculating service provider revenue	As the revenues of service providers were reported for only two platforms, on which we could not rely, the revenues for all service providers was extrapolated on the Member State level. Based on the revenues per Member State calculated for platforms, we assumed that about 85% of platform revenue goes to the service provider. In order to calculate the revenue of service providers we used the formula: $$Provider\ revenue = \frac{MS\ total\ platform\ revenue}{0.15} x 0.85$$ Total revenue for service providers is EUR 8.2 billion.
Step 4: Calculating total EU revenues	By summing up the revenue of platforms and service providers, the estimated amount of collaborative financing in the EU is calculated: $$9.6b = 1.4b + 8.2b$$
Step 5: Turnover per person employed in sector	As employment by service providers was only reported for eight platforms, we used the top-down approach for extrapolation. An average of the closest NACE codes[354] number of persons employed was used to calculate employment by service providers. We calculated an average EU turnover per person employed in the financial sector, using the formula: $$turnover\ per\ person\ employed = \frac{sector\ GDP}{sector\ number\ of\ persons\ employed}$$
Step 6: Calculating the number of persons employed by platforms	On the basis of the survey and desk research, 140 platforms reported a total of 281 employees in 2016. In the case of platforms reporting the number of employees, the corresponding reported revenue was EUR 34 million. In order to link the reported number of employees with reported revenues, the ratio was calculated: $$121.566 = \frac{34m}{281}$$ The calculated ratio shows that every platform's employee produces about EUR 121 566 annually.

[354] The closest NACE code for which all data was available is K64 - financial service activities, except insurance and pension funding.

Calculate employment for platforms with missing data	In order to calculate employment for platforms with missing data, a correlation between the calculated ratio and the platform's revenue was used. In order to calculate the platform's employment, the platform's revenue is divided by the ratio: $$Platform's\ employment = \frac{Platform's\ revenue}{Ratio}$$ Total platform employment is 4 276 persons.
Step 7: Calculating of number of service providers' persons employed	In order to calculate the number of people employed by the service provider, we assumed that employment is linked with the revenues of service providers. To calculate, we divided the revenue of the country's service providers with average turnover per person employed in the sector (using NACE K64): $$Number\ of\ people\ employed\ by\ the\ service\ provider = \frac{\text{Revenue of the country's service providers}}{Turnover\ per\ person\ employed}$$ The total number of persons employed by service providers is 62 995.
Step 8: Calculating the total number of persons employed in the collaborative economy in the financial sector in the EU	Summing up the number of persons employed by platforms and service providers, an estimated employment of collaborative finance in EU was calculated: $$67\ 271 = 4\ 276 + 62\ 995$$ The total number of persons employed in the financial sector is 67 271 persons.

Online skills

The collaborative online skills sector comprises 221 platforms in total. In 2016, via survey or desk research, data pertaining to revenues was available for 15 platforms, with data pertaining to employment available for 76 platforms.

We identified 19 international platforms operating in the online skills sector and originating from outside of the EU; however, we were only able to identify operation between EU Member States in the case of Pawshake and care.com (all U.S. origin). Due to a lack of data, other platforms were excluded from our calculations (see also Annex 3). In the case of Pawshake, we were able to find data about the platform's revenues in the EU and to identify the EU countries in which they are operating. Calculations are based on Pawshake's overall EU revenue divided between EU Member States on the basis of their GDP (see **Table 21**). In the case of care.com, we only knew their countries of operation in the EU, with revenues being extrapolated.

Table 21 Calculation of Pawshake revenues in EU (EUR million, 2016)

MS	UK	BE	AT	LU	IT	FR	DE	IE	NL	DK	FI
GDP 2016	2.393	423	353	53	1.680	2.228	3.144	275	702	277	215
Share of GDP (%)	20	3.6	3	0.45	14.3	19	27	2.4	6	2.4	1.9
Revenue	0.258	0.45	0.38	0.6	0.180	0.239	0.338	0.3	0.75	0.3	0.23

Source: Eurostat : http://ec.europa.eu/eurostat/data/database; http://www.pawshake.com

Table 22 Calculation methodology in online skills sector

Activity	Calculation
Summarising revenues reported by platforms	On the basis of survey and desk research, 15 platforms reported revenues in 2016 in the total amount of EUR 500 million.
Desk research for bigger international finance platforms	As a result of desk research, we were able to only identify the revenue of Pawshake (see Table 21). Revenues for care.com were extrapolated, as data concerning revenues was unavailable. Other platforms were excluded from the calculations as relevant data was unavailable.
Summarising web visits for platforms reported revenues	According to SimilarWeb, the average number of web visits to platforms that reported data about revenue is 62 000 visits.
Step 1: Calculating ratio how much revenue one web visit can generate	In order to link reported revenue with web visits, the ratio between reported revenue and the number of web visits (May – July 2017) was calculated: $$8.48 = \frac{527\,470}{62\,218}$$ The calculated ratio shows that every click on a platform's website equals EUR 8.48, on average, in their annual revenue. In order to also take the national income level into consideration, the reported revenues included in the ratio calculation was weighted with national GDP per capita.
Calculate revenues for platforms with missing data	In order to calculate the revenues for platforms with missing data, a correlation between the calculated ratio and the number of web visits was used. In order to calculate a platform's revenue the ratio is multiplied with the number of platform's web visits and weighted with national GDP per capita: $$ratio = ratio\ x\ number\ of\ platform's\ web\ visits\ x\ GDP\ per\ capita$$

Step 2: **Calculating total revenue for platforms**	Summing up revenue for platforms (reported and extrapolated) an estimated size of platform revenues in the EU was calculated: $$0.837b = 0.5b + 0.831b$$ Total platforms' revenue is EUR 837 million.
Step 3: Calculating service provider revenue	As service providers' revenues were only reported for two platforms, all service providers' revenues were extrapolated on the Member State level. Based on the platforms' revenues calculated per Member State, we assumed that about 85% of a platform's revenue goes to the service provider. In order to calculate the service providers' revenue, we used the formula: $$Provider\ revenue = \frac{MS\ total\ platform\ revenue}{0.15} x0.85$$ Total service providers' revenue is EUR 4.7 billion.
Step 4: Calculating total EU revenues	Summing up platforms' and service providers' revenues an estimated size of total revenue in EU is calculated: $$5.6b = 0.837b + 4.7b$$
Step 5: Turnover per person employed in the sector	As service providers' employment was reported only for ten platforms, we used top-down approach for extrapolation. An average of the closest NACE codes[355] number of persons employed, were used to calculate service providers' employment. We calculated an average EU turnover per person employed in the online skills sector using formula: $$turnover\ per\ person\ employed = \frac{Sector's\ GDP}{Sector's\ number\ of\ persons\ employed}$$
Step 6: Calculating the number of persons employed by platforms	In 2016, on the basis of survey and desk research, 76 platforms reported that they have an average of 5 employees per platform. In the case of platforms that reported the number of employees, the corresponding reported revenue was EUR 476 million. In order to link the reported number of employees with reported revenues, the ratio was calculated: $$92\,525 = \frac{476\,501}{5}$$ The calculated ratio shows that each platform employee produces, on average, EUR 92 525 annually.
Calculate employment for platforms with missing data	In order to calculate the employment for platforms with missing data, a correlation between the calculated ratio and the platform's revenue was used. In order to calculate a platform's employment, the platform's revenue is divided by the ratio: $$Platform's\ employment = \frac{Platform's\ revenue}{Ratio}$$ Total platform employment is 4 016 persons employed.
Step 7: Calculating the number of individuals employed service providers	In order to calculate the number of individuals employed by service providers we assumed that the employment is linked with the revenues of service providers. In the calculation, we divided the revenue of a country's service providers with the average turnover per person employed in the sector (using an average of NACE M, N, S95.2): $$Number\ of\ individuals\ employed\ by\ service\ providers = \frac{Revenue\ of\ the\ country's\ service\ providers}{Average\ turnover\ per\ person\ employed\ in\ the\ sector}$$

[355] The closest NACE codes for which all data was available were M (Professional, scientific and technical activities), N (Administrative and support service activities) and S95.2 (Repair of personal and household goods).

	Total number of persons employed by service providers is 85 467.
Step 8: Calculating total number of persons employed in collaborative economy in finance sector in EU	Summing up the number of platforms and persons employed by service providers, an estimated level of employment by the sector in EU was calculated: $$89\,483 = 4\,016 + 85\,467$$ Total number of persons employed in the financial sector is about 89 483 persons.

ANNEX 6 ASSESSMENT FRAMEWORK

Table 23 Categorisation of Member States on the basis of the main direct indicators and enabling factors

Country	Revenue	Employment	Platforms	Internet access	Household internet use	Mobile internet use	Bought online services
AT	0.152	0.152	2.28	85	84	65	48
BE	0.041	0.045	1.76	85	87	71	46
BG	0.105	0.096	1.55	64	59	45	11
CY	0.205	0.144	2.34	74	76	62	22
CZ	0.435	0.208	1.42	82	82	50	29
DE	0.080	0.084	0.74	92	90	68	64
DK	0.066	0.051	4.00	94	97	82	71
EE	0.878	0.739	22.04	86	87	62	45
EL	0.197	0.269	0.84	69	69	47	23
ES	0.243	0.175	1.40	82	81	72	35
FI	0.131	0.125	2.36	92	94	76	48
FR	0.294	0.129	1.28	86	86	61	52
HR	0.093	0.191	1.20	77	73	52	25
HU	0.155	0.075	0.82	79	79	58	27
IE	0.056	0.136	2.72	87	82	69	41
IT	0.082	0.056	0.94	79	69	29	20
LT	0.082	0.146	2.46	72	74	45	24
LU	0.437	0.450	5.08	97	97	78	69
LV	0.633	0.330	3.59	77	80	48	31
MT	0.178	0.242	4.54	82	77	63	41
NL	0.109	0.097	2.52	97	93	78	63
PL	0.642	0.386	0.68	80	73	32	31
PT	0.143	0.170	0.68	74	70	51	23
RO	0.052	0.072	0.71	72	60	44	8
SE	0.299	0.128	2.40	94	93	80	63
SI	0.043	0.059	0.48	78	75	54	30
SK	0.150	0.131	1.47	81	80	58	41
UK	0.194	0.217	1.14	93	95	81	78
EU-28 average	0.221	0.182	2.62	83	81	60	40
Below EU-28 average	0.107	0.109	1.50	73	71	50	30
Above EU-28 average	0.307	0.209	3.50	93	91	70	50

Source: Authors' calculations; Eurostat 2016

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