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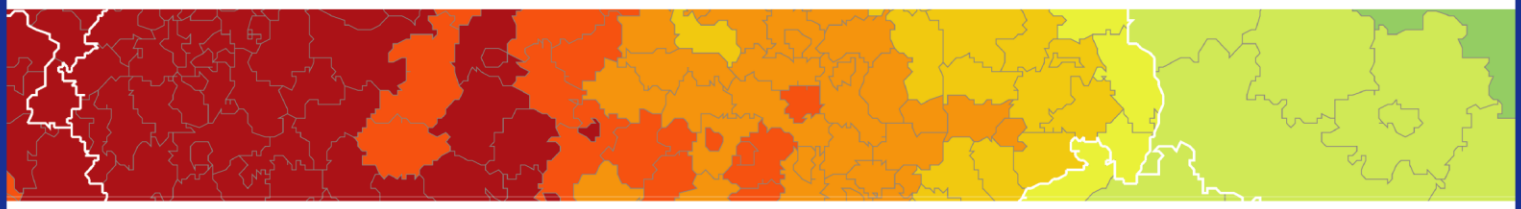

SHARING
Stocktaking and assessment of typologies of Urban Circular Collaborative Economy Initiatives

Annex 4 - Literature review

Final Report

01/04/2020

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Annex 4: Literature review

1 Methodological approach to the literature review

The main goal of the literature review is to explore the existing research on the circular and collaborative economy with a focus on existing definitions, typologies and assessment of impacts. It has also allowed to identify data sources in the EU and in the six territories as well as key stakeholders to interview in order to collect information on the initiatives and their impacts. The scope of the literature review goes far beyond the six stakeholders' territories to give a broader overview of the context in which urban circular collaborative economy initiatives take place. However, the results of this review will ultimately feed into territorial analysis.

The literature review has been performed in the following steps:

- **Step 1: Identification of relevant literature.**

In the inception phase, the research team has collected sources for the literature review. This has been done based on the literature identified at the proposal stage, suggestions from the stakeholders, and suggestions from our two experts from Lund University, Yuliya Voytenko and Jagdeep Singh. The main sources of information screened are academic and research institutes databases, European Commission publications, policy papers and publications, online sources. The full list of sources is available in Annex.

The literature identified in the search has been placed in a synthesis matrix (in Excel) as follows.

Table 1: Synthesis matrix

Ref No.	Author	Organisation	Year	Title	Link	Geographical scope	Collaborative/circular economy/both	Definitions and typologies		Influence and relationships with territories, policies and usage patterns				Evidence on indicators/impacts areas				Other			Comments
								Definitions	Typologies	Link of UCCE with territorial characteristics	Link of UCCE with cultural aspects	Influence of regulations	Usage	Environment	Economic	Social	Political	Related database/data sources	Stakeholders to interview	Best practices	
1																					
2																					
3																					
…																					

- **Step 2: Analysis of relevant literature.**

Once the list of literature defined, we have reviewed the selected data sources and extracted the relevant information in the synthesis matrix. The synthesis matrix's rows correspond to the headings of the present literature review, i.e. the main topics to enquire in our analysis. This allows to search in this database by topic, which facilitates comparative analysis and development of overall conclusions.

- **Step 3: Output.**

The literature review, in combination with the information on the stakeholders' territorial characteristics, allowed to elaborate the list of criteria that served to develop the typologies of Urban Circular Collaborative Economy initiatives and the list of impact indicators. The final output is presented in the next Chapters.

2 Existing definitions and typologies of circular and collaborative economy initiatives

2.1 Differences and commonalities in definitions and approaches to circular and collaborative economy

Definitions of the collaborative economy:

The **collaborative economy** has been described using many definitions and concepts. Several expressions have been used to describe the collaborative economy, such as the sharing economy, gig economy, peer-to-peer economy and access-based economy. The expression "collaborative consumption" has been coined by Botsman and Roger (2010) as *"systems that reinvent traditional market behaviours – renting, lending, swapping, sharing, bartering, gifting – in ways and on a scale not possible before the Internet."*

Organisations such as Nesta[1] or Ouishare[2] have been pioneers in defining the collaborative economy in early work from 2014. Their definitions introduce the different concepts gravitating around the one of the collaborative economy ("sharing economy", "peer-to-peer – P2P – economy", 'access economy') and make first differentiations between the activities of large collaboration ventures and smaller initiatives.

The European Commission (2016) defines the collaborative economy as *"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, who can be private individuals ("peers") or professionals (ii) users of these, i.e. consumers; and (iii) online platforms acting as intermediaries to connect the two. Collaborative economy transactions generally do not involve a change of ownership and can be carried out for profit or not-for-profit.

This definition partially overlaps with the one of the **sharing economy**, which key characteristics are: the exchange of unused or under-utilised assets ("idling capacity"), whether monetised or not and whether mediated through a platform (online or offline) or not (Finck, Hausemer, Rabuel, 2018). The authors argue that, contrary to collaborative economy transactions as defined by the European Commission, the sharing economy can also occur offline: for instance, the French initiative Lulu dans ma rue[3] uses old newsstands in the city of Paris as meeting points for consumers and providers willing to exchange small services, such as housekeeping or DIY.

[1] Stokes, K., Clarence, E., Anderson, L., Rinne, A. (2014). Making Sense of the UK Collaborative Economy. Nesta. Available at: http://www.nesta.org.uk/sites/default/files/making_sense_of_the_uk_collaborative_economy_14.pdf

[2] Cartagena, J. (2014). A better name for the "sharing economy". Available at: https://medium.com/ouishare-connecting-the-collaborative-economy/is-there-a-better-name-for-the-sharing-economy-2d7489e1f56d

[3] https://www.luludansmarue.org/

In general, the sharing economy is linked to broader concepts such as the ones of efficiency, sustainability and community (Rinne, 2017). Authors tend to include **multiple dimensions** in their definition of the sharing economy. For instance, Agyeman et. al (2013) define the sharing economy as sharing "things" (cars, tools, books etc.), sharing services (premises, places to sleep, etc.), and sharing activities (notably political activity, but also others such as leisure).

The definition above includes both sharing between private individuals, and the collective provision of resources and services for sharing: e.g. green space, sanitation, city bikes, child care. This double dimension is especially relevant in an urban context, where sharing can occur at different levels (individual; collective; local; national) in organisation of different kinds (public, private).

Voytenko Palgan et. al (2016) also define the sharing economy broadly as *"a variety of bottom-up initiatives, public-private-people partnerships, business start-ups and local government schemes, all of which utilise the idling capacity of our material world."* As emphasised by Frenken et. al. (2015), sharing economy transactions can be realised *"possibly for money"*, which implies that money can be part of the arrangement or not.

The definition of the collaborative economy used for this study will be broader than the one of the European Commission, and also take inspiration from the definitions of the sharing economy stated above. Its three characteristics are:

- The assets exchanged are unused or underutilised;
- Transactions are facilitated by platforms, whether online or offline;
- Transactions can be made for profit or not.

Choosing a broad definition for the collaborative economy allows to cover a variety of initiatives. The starting point is the use of idle resources, but transactions can be of many different kinds and involve different actors, from individuals to businesses and public authorities. Ultimately, the collaborative economy allows to bring people together and contribute to the creation of communities.

Definitions of the circular economy

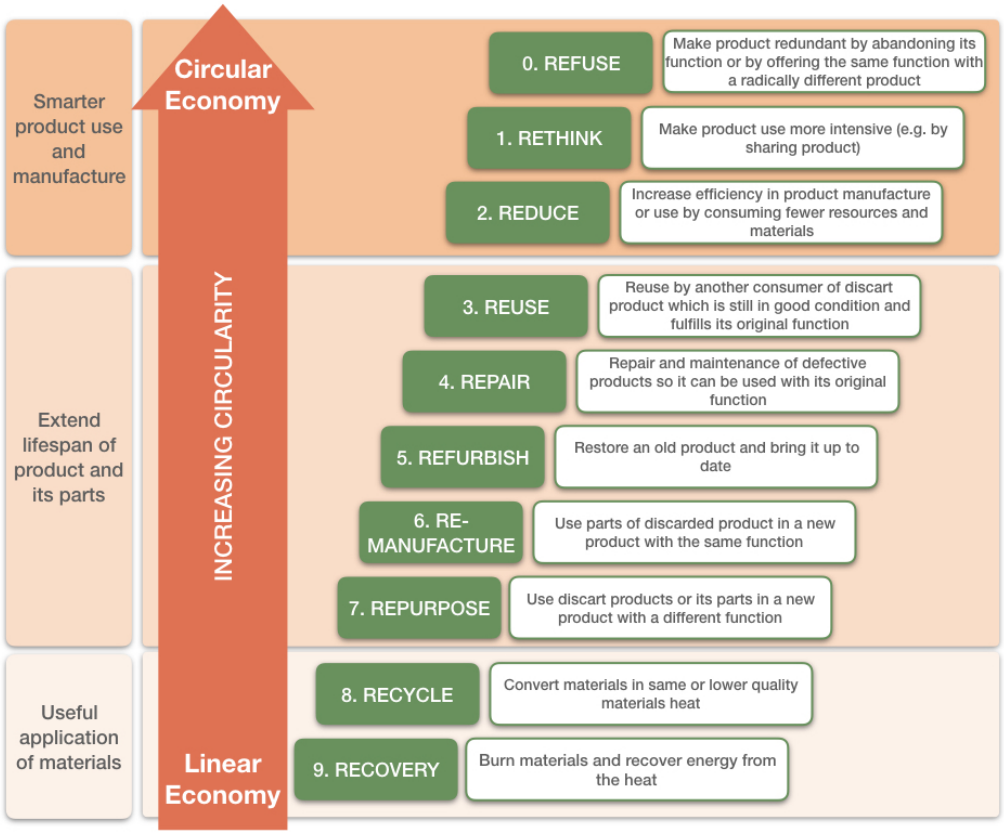
The **circular economy** concept has its roots in the field of industrial ecology. It was developed as an alternative to traditional linear consumption patterns (*"take-make-dispose"*), which in the long run constrain the availability of natural resources. It promotes sustainability in the use of resources and has the objective of closing loops in the industrial ecosystem by minimising waste (Cave, 2014; Stahel, 2016).

The circular economy is defined by the Ellen MacArthur Foundation (2013) as *"an industrial system that is restorative or regenerative by intention and design"* and that replaces the *"end of life"* concept with new concepts based on renewable energy and the elimination of waste.

A useful concept to define the circular economy is the 9R model. The 9R model defines the hierarchical levels between the linear and circular economy, from level 9 "Recovery" (waste is

burned and energy and heat are recovered from it) to level 0 “Refuse” (the product becomes redundant or is replaced by a completely different product) as the figure below shows.

Figure 1: The 9R model of the circular economy



Source: Changing Gears.

According to the European Environmental Agency (2015), the circular economy concept can be applied to all kinds of natural resources, including *“biotic and abiotic materials, water and land”*. The circular economy model encompasses both technical (restoration of products via reuse, repair, remanufacturing and recycling) and biological (composting or anaerobic digestion of biologically based material) cycles.[4]

Over the past years, some debates have emerged around the circular economy. Kirchherr et al. (2017) argue that the circular economy concept should be further linked to sustainable development, and its impact on social equity and future generations should be more regularly assessed. The authors also claim that the concept should analyse business models and impacts on consumers as they are the main enablers of the circular economy.

Further than a concept, the circular economy can be understood as a practice, promoting closed material cycles by focusing on multiple strategies from material recycling to product reuse, as well as rethinking production and consumption chains toward increased resource efficiency (Moreau et. al., 2017). The circular economy as new model for the production and consumption

[4] Ellen MacArthur Foundation website. The circular economy – Concept. Available at: https://www.ellenmacarthurfoundation.org/circular-economy/concept

of goods has therefore important political implications and has attracted wide political attention as a strategy towards sustainability (Bruel et. al., 2018).

The definition chosen for this study relies on three aspects:

- The use of less primary resources;
- The objective of capturing the highest value of materials and products;
- Trigger a change in production and consumption patterns.

This focus allows to take into account not only the ecological but also the economic and social aspects of the circular economy, which is useful when assessing different impacts of the circular economy.

Differences and commonalities between the two concepts

Both concepts – the collaborative economy and the circular economy – have their roots in other research fields, in particular in the industrial ecology and the product-service system. They both aspire to the more efficient use of resources.

In addition, the collaborative economy can trigger a change in the use of products or in processes which can lead to a more efficient use of resources. Collaborative economy initiatives can therefore be considered circular economy initiatives in this regard. For instance, an initiative allowing neighbour to borrow goods from each other (collaborative economy) ultimately optimise the value of goods by increasing their intensity of use (circular economy).

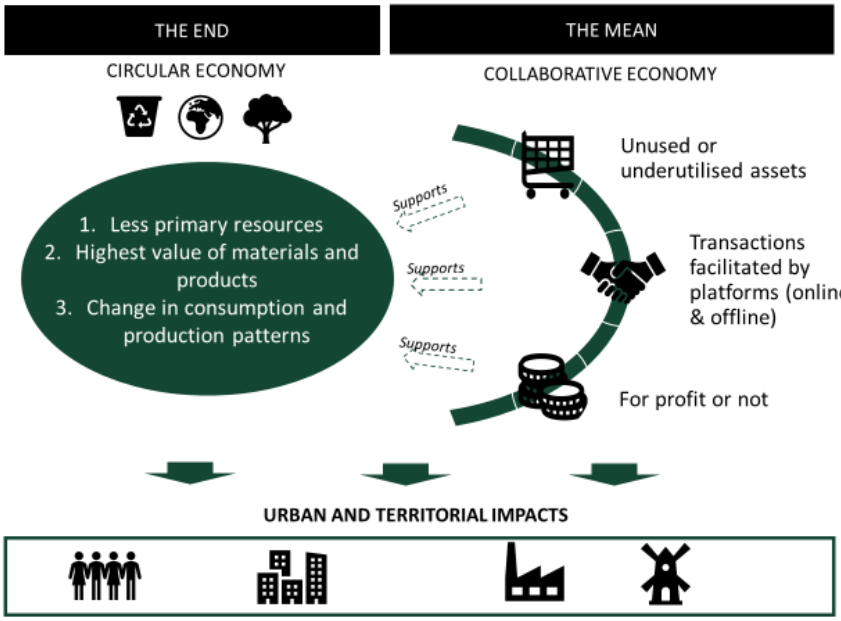
However, there are distinctions between the two concepts:

- The circular economy focuses on the product itself and on the resource use caused in production and usage. On the other hand, the collaborative economy mainly deals with the transactional relationship between consumers and providers, and involves the use of a platform (online or offline) as intermediary to enable the transaction among peers.
- At the resource productivity level, the circular economy delivers the resource productivity by managing the resources throughout a products lifecycle by slowing and closing the material loops. On the other hand, the collaborative economy involves shared use of (under-utilised) assets, thereby, contributing to avoiding new purchase cycles and increasing product utilisation.

Therefore, we can refer to the circular economy as “the end”, while the collaborative economy would be “the mean” to achieve it.

Such collaborative economy initiatives with an impact on cities and enforcing the circular economy are designated as **Urban Circular Collaborative Economy initiatives** and constitute the topic of this study. The Urban Circular Collaborative Economy embraces a wide array of initiatives, from the sharing of cars, objects and space, to energy and food cooperatives or community-supported agriculture. Their commonality lies in the fact that they create urban communities and networks through the optimisation of resources and use/re-use of local assets. The figure below shows the interrelationship between the circular and the collaborative economy, which brings to the concept of the Urban Circular Collaborative Economy.

Figure 2: The concept of Urban Circular Collaborative Economy



Source: VVA.

Because the scope of the study strongly relates to urban development, the term Urban Circular Collaborative Economy can also be linked with the concept of *"urban sharing"* as coined by Zvolska et al. (2016) which encompasses *"a wide array of communal and commercial urban sharing organisations that employ information and communication technologies (ICT) to reduce transaction costs and make sharing of resources among peers easily accessible."* In our case, however, it is important to note that the Urban Circular Collaborative Economy does not necessarily use online platforms and that transactions can occur in real-word, creating a strong sense of community and networks.

Global implications and links with the Sustainable Development Goals (SDGs)

In 2015, the 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs) were adopted. The SDGs are the blueprint which aim at achieving a better and more sustainable future for all by addressing global challenges, notably poverty, inequality, climate, environmental degradation, prosperity as well as peace and justice.[5]

Circular and collaborative economy activities are of bottom-up nature and therefore are expected to have rather local-level impacts (creating local jobs, creating networks and communities, etc.). This being said, they can also contribute reaching global policy goals, such as the 17 SDG targets.

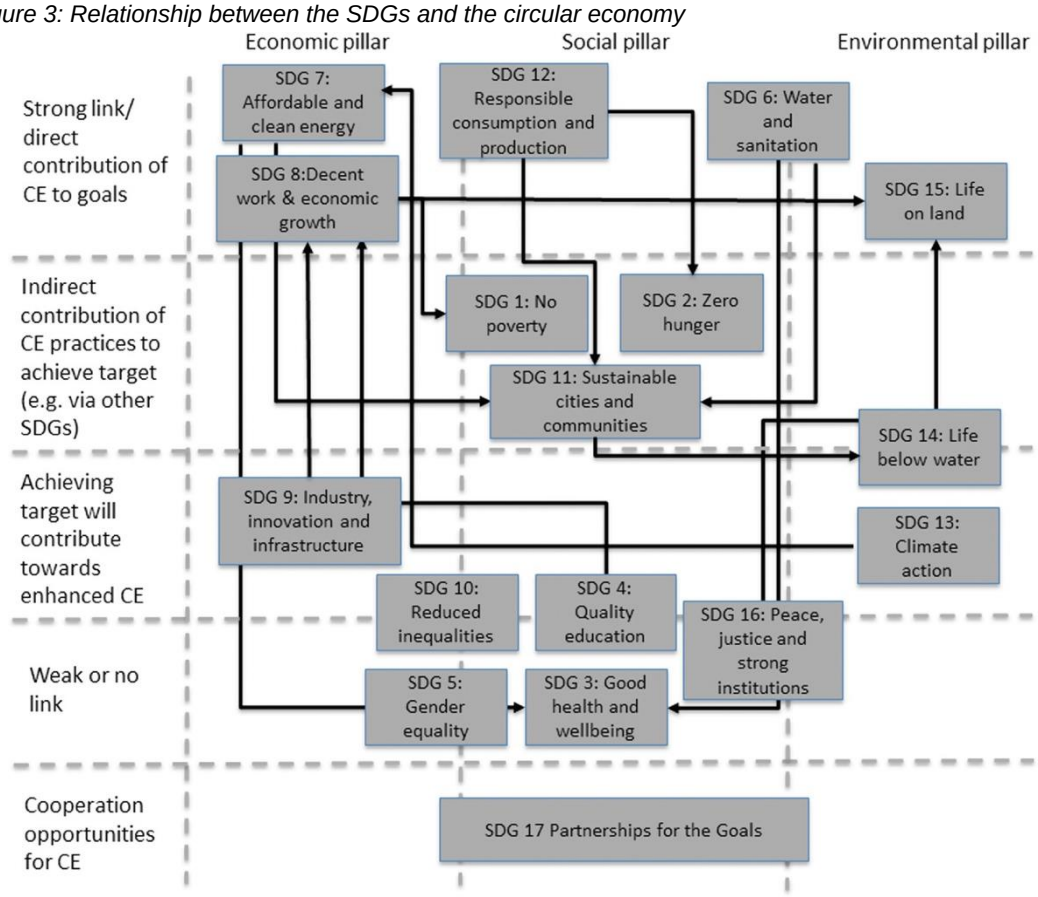
The literature notably shows that there is a strong relationship between the circular economy and the following SDGs' targets: SDG 6 (Clean Water and Sanitation), SDG 7 (Affordable and Clean Energy), SDG 8 (Decent Work and Economic Growth), SDG 12 (Sustainable

[5] United Nations. About the Sustainable Development Goals. Available at: https://www.un.org/sustainabledevelopment/sustainable-development-goals/.

Consumption and Production) and SDF 15 (Life and Land). The circular economy can also indirectly contribute to SDG 11 (Sustainable Cities and Communities), and to some social and economic pillars of the SDGs, i.e. reduction of poverty and reduced inequalities (Schroeder, Anggraeni and Weber, 2018).[6]

Especially, the recycling of household waste and e-waste, closed-loop systems for wastewater-recycling and reuse, industrial symbiosis (reuse of industrial waste), remanufacturing, repair and refurbishment (e.g. in construction sectors), reduction and re-use of product (e.g. efficiency in consumption and production and reduction of food waste) can directly and indirectly leverage the achievement of some SDGs, as illustrated in the figure below.

Figure 3: Relationship between the SDGs and the circular economy



Source: Schroeder, Anggraeni and Weber (2018).

Also, the collaborative economy can contribute to some social and economic pillars of the SDGs, i.e. reduction of poverty and inequalities. However, the interaction of the collaborative economy with labour laws could also have some negative impacts on the SDGs. Given the strong relationship between these concepts, this study will try to make linkages between the impacts of the Urban Circular Collaborative Economy at local level and the SDGs' achievement.

[6] United Nations. Circular Economy for the SDGs : From Concept to Practices : General Assembly and SCOSOC Joint Meeting. Available at : http://www.un.org/en/ga/second/73/jm_conceptnote.pdf

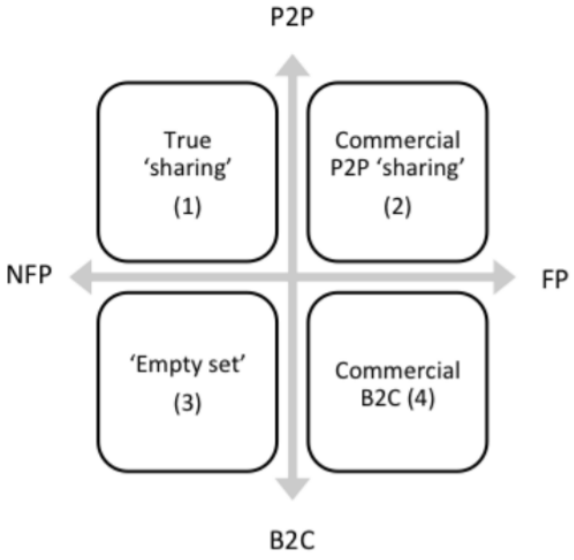
Taking into account these elements, our study will look at initiatives which will use collaborative economy approaches in order to support the reduction of resource use or the reduction of waste. The objectives and the indicators of the SDGs will be used to design the indicators for the different types of initiatives.

2.2 Different typologies

There has been plethora of attempts to categorise collaborative economy transactions according to their types, whether they are intermediated by platforms or not, or generate different types of impacts. This is less true for the circular economy literature, which rather focuses on impacts for society and sustainability, as further developed in Chapter 4. This section does not aim at providing a comprehensive review of all kinds of typologies presented in the circular and collaborative economy literature, but to present the typologies that are most relevant to our study topic, i.e. the ones focusing on collaborative economy transactions and their impacts on the circular economy in an urban context.

One way to differentiate collaborative economy activities is to distinguish the **persons involved in the transactions** (individuals, businesses, the public sector) and the **for-profit/non-for-profit nature** of the collaborative economy activity. One of the commonly-used typologies is the one developed by Codagnone and Martens (2016), which conceptually maps collaborative economy platforms in a two-dimensional matrix using for-profit/non-for-profit, and whether the transactions occurs between two individuals (peer-to-peer – P2P) or a business and an individual (business-to-consumer – B2C) as the main criteria, as shown in the figure below.

Figure 4: The four types of collaborative economy platforms

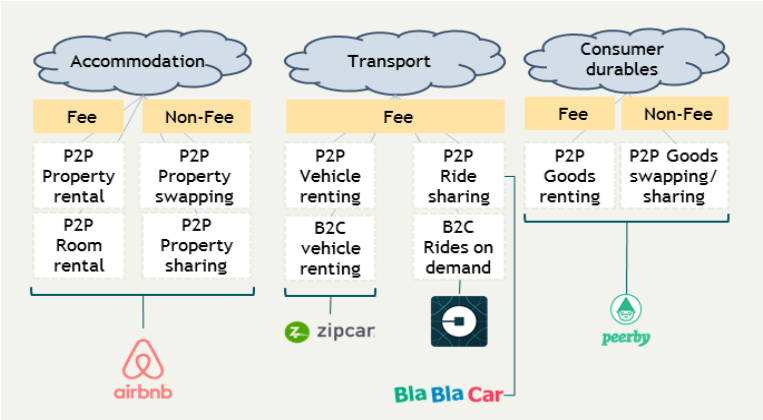


Source: Codagnone and Martens (2016).

Another common way to classify collaborative economy initiatives is to sort them according to their **business models**. A European Commission study on the environmental potential of the collaborative economy (2017) defines different business models according to the following characteristics: market or sector and underlying assets (accommodation, transport and

consumer durables); transaction relation (P2P, B2C, business-to-business – B2B); transaction mode (renting, sharing, lending, swapping).

Figure 5: Collaborative economy business model typology



Source: European Commission (2017).

Different business models and sharing areas imply different impacts in terms of value creation (economic), but also in terms of resource use (environmental) and for the society as a whole (society). Obert, Wruk et al. (2017) have developed the following collaborative economy categories activities in different sharing areas, as presented in the table below.

Table 2: Different categories and areas of the collaborative economy

Sharing Area	Sharing Category
Agriculture, Food and Gardening	Community Gardening
	Foodsharing
	Mealsharing
	Community-Supported Agriculture
Energy and Utilities	Energy Provider
Finance and Insurance	Crowdfunding
	P2P Insurance Services
	P2P Lending
Living and Accommodation	Co-living
	Accommodation platform
Mobility	Bikesharing
	Car and ridesharing
Renting, selling, swapping of goods	Online renting-/-selling platform
	Second-hand-/swapping platform
	Local swapping or second-hand shop
Work, Handicraft and Services	Coworking Space
	Maker Space, Fablab
	Repair café
	Platform Mediating Services
	Time bank, Local Barter Circle

Source: Ober, Wruk et al. (2017)

These categories are then plugged in an impact model aimed at quantifying impacts across the three dimensions of sustainability (economic, ecological and social). This impact model is presented in Chapter 4.

Other interesting pieces of research focus on the change that the collaborative economy generates on production and consumption patterns, which brings us closer to some common considerations with the circular economy. For instance, Cohen and Munoz (2015) maps five

groups of 18 sharing activities to create a “Sharing Cities-Sustainable Consumption and Production (SCP) Typology” comprised by five ideal types:

Table 3: Shared Cities-SCP classification

Sharing category	Subcomponent	Cases	Comments
Energy	Energy co-ops	Brighton Energy Co-op (UK)	Community-funded solar power
	Group purchasing	1BOG (S.F., multi-city)	One Block off the Grid is a group purchasing portal to facilitate discounted solar purchasing for residents
Food	Community gardens	Liz Christy Community Garden (New York)	Liz Christy Community Garden, founded in New York City in 1973, is recognized as the first community garden in the U.S.
	Edible communities	Incredible Edible Todmordon (UK)	Open community gardening and consumption
	Shared foods	Leftover Swap (San Francisco, multi-city)	Mobile app to facilitate the sharing of leftovers
	Shared food prep	Union Kitchen (D.C.)	Possess 4500 sq ft worth of kitchen facilities to support independent restaurants
Goods	3D printed goods & facilities	Blu-Bin (Burlingont, Vermont)	Oldest 3D printing house in US which uses locally recycled plastic
		3D Hubs (multi-city)	Intermediary connecting 3D printing facilities with local inventors
	Loaner products	Rent the Runway	Platform for short-term lending of luxury fashion
	Pre-owned goods	Craigslist (multi-city)	Ubiquitous, virtual marketplace for local used goods, services and job listings
	Freecycling	Island Re (Port Alberni, Canada)	Local store for redistributing items no longer needed to people who want them
	Libraries	Virtually every city in the world	Arguably the oldest form of the sharing economy
	Repair Cafés	Started in Amsterdam, now global	First Repair Café started in 2009 as a free place to come and fix broken household items
Mobility & Transport	Carsharing	Autolib' (Paris)	All EV project supported by the city and privately operated
	Bikesharing	Providencia (Santiago)	City owned and privately operated bikesharing
	Ridesharing	Uber (SF, multi-city)	Platform for connecting drivers and riders
	Crowdshipping	MeeMeep (Melbourne, Australia)	Connects approved drivers with users seeking to send something locally or within the country.
Space Sharing	Work space	Urban Station (Buenos Aires and selected cities)	Founded in Buenos Aires, Urban Station is a small chain of shared work spaces.
	Places to stay	Airbnb (S.F. and multi-city)	Airbnb, a sharing economy pioneer, is valued at $10 billion (USD) for its ubiquitous network of local/shared housing options.

Source: Cohen and Munoz (2016).

Each of these five types represents a form of SCP activity with the potential to directly impact SCP systems in the context of urban environments. The Sharing Cities-SCP model is interesting for our study as it provides a framework for understanding the emergence (and diversity) of sharing activities in cities and their contribution to a transformation of urban economies towards an increased sustainable consumption and production.

According to Owyang et al. (2014), the collaborative economy mixes the concepts of production and consumption by making consumers also producers, sellers and distributors. This brings, according to him, the collaborative economy concept as part of the sharing economy (focused on sharing) and the maker movement (aimed at producing goods and services): *"The collaborative economy isn’t simply a new way of buying or selling: it’s a powerful movement in which people are getting goods and services from each other (what people call the “sharing economy”), or even making them outright (also known as the “maker movement”)."* The authors develop a taxonomy of collaborative economy with five key categories: goods, services, transportation, space, money.

Another interesting dimension is that the article also provides a **taxonomy of users**: non-sharers (those who do not engage in the collaborative economy), re-sharers (those who buy and/or sell pre-owned goods using well-established services such as Craiglist, eBay, etc.), and

neo-sharers (those who are using the latest generation of sharing sites and apps, such as Etsy, TaskRabbit, Uber, Airbnb and Kickstarter)[7].

Figure 6: Taxinomy of the collaborative economy: categories and examples

Source: Owyang et al. (2014).

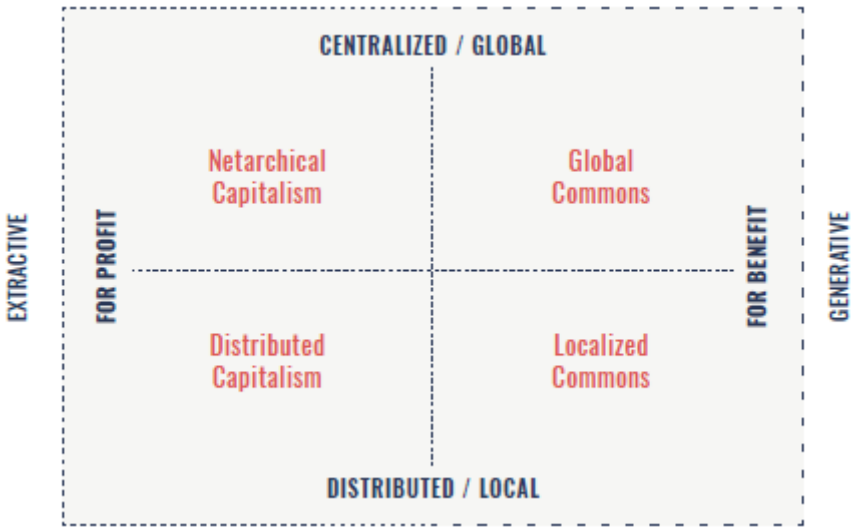
The research undertaken by the P2P Foundation around the concept of "Commons" is very close to the one of the Urban Circular Collaborative Economy. The terms Commons or "shared property" refer to property that is managed by users themselves. What is crucial about the term is not so much the shared property itself, but rather shared management. Commons are defined by three aspects: 1) a shared resource 2) the activity of "communing", and 3) rules and norms that must at least be partially autonomous from the public and private sector. The City of Ghent, has enquired about the topic with a study for a "Commons Transition Plan" in 2017.[8]

[7] It should be noted that the study is from 2014, therefore the platforms quoted here should not be considered as part of the "latest generation of sharing sites and apps" any longer.

[8] https://stad.gent/en/city-structure/ghent-commons-city/commons-transition-plan-ghent

One interesting added value of P2P Foundation research is the division of Commons into quadrants on the basis of whether they are for-profit or for-benefit, and local and global, as the figure below shows.

Figure 7: The Four-quadrant model of the P2P Foundation[9]



Source: P2P Foundation.

- A first model involves, at the upper left, implies centrally-owned and controlled corporate platforms: Facebook, Google and Uber, Airbnb.
- The model of distributed capitalism, at the bottom left, is made up of decentralised systems that aim to create permissionless usage of assets or knowledge by avoiding centralised gatekeepers e.g. Bitcoin. The aim however is to extract profits, despite the usage of opensource technologies and codes.
- At the upper right, the model of global commons designates open design communities that aim to create global common goods. These projects are often managed by non-profit and democratically-run foundations, e.g. Wikipedia, Creative Commons.
- The last part of the quadrant is perceived as the dominant model of urban commons. It is the one of **localised commons**, which involves creating commons for local production without aiming for a profit. This model is also called Small, Local, Open, and Connected, or "SLOC"[10] which resembles to the Urban Circular Collaborative Economy.

The latest report from the P2P Foundation[11] brings interesting insights on the relationship between the collaborative and the circular economy, as it focuses on the contribution of the Commons to environmental issues. In particular, the report outlines on the potential impacts or

[9] Bauwens M., Pazaitis A. (2019). *P2P Accounting for Planetary Survival. Towards a P2P infrastructure for a Socially-Just Circular Society.* Available at: http://commonstransition.org/wp-content/uploads/2019/09/AccountingForPlanetarySurvival_defx-2.pdf

[10] See notably Ezio Manzini (2011), *The New*

Way Of The Future: Small, Local, Open And Connected. Available at: https://pdfs.semanticscholar.org/2dce/b9b5ba8293a530ed0de01ea726afed648cc1.pdf

[11] M. Bauwens, A. Pazaitis (2019). *P2P Accounting for Planetary Survival. Towards a P2P infrastructure for a Socially-Just Circular Society.*

"externalities" of the Commons. According to the P2P Foundation, initiatives generate externalities that are not taken into account by the current economic system, in the sense that they are not reflected in market prices: positive social externalities (contributions that bring value to a productive project and that are generally not recognized, for example, domestic and care work); negative social externalities (social issues such as poverty and high inequalities), positive environmental externalities (initiatives having minimising resource use or pollution); negative environmental externalities (when harm is done to the environment).

The research outlines that there is presently no systemic way to finance such positive environmental and social activities generated by the Commons, i.e., those that produce positive outcomes or help repair or undo negative ones, except for financing through taxation (i.e. public money) and philanthropy, which are not structurally integrated in the production process itself. Coming back to the Urban Circular Collaborative Economy, it is therefore expected that the market will allow the development of those initiatives and that there will be a need for them to find alternative ways to sustain (making the case for public authorities' intervention).

The P2P Foundation also outlines the need for open and shared supply chains to instantiate a circular economy[12], so that all the players in the ecosystem can plan and coordinate their production and distribution activities. This is also one aspect where the circular economy and the collaborative economy can link to each other, as trust is a key component of the literature around the collaborative economy.

Our study has taken these typologies as a starting point to define our typology of Urban Circular Collaborative Economy initiatives. The goal is to make our typologies as comprehensive as possible by taking inspiration from the existing literature but also taking into account the reality of the initiatives in the territories.

[12] The P2P Foundation mentions the "perma-circular" economy. The expression is a composite of 'permaculture' and 'circular economy.' In a nutshell, I use it to designate a genuinely circular economy — one that not only insists on a generalized cyclical metabolism of the economy, but also on a culture of permanence: a deep questioning of the principle of economic growth. It's not an anti-growth concept per se. It merely follows common sense: What we need is selective and provisional growth of those things that are valuable for ecological and human viability; what we don't need is the across-the-board and unlimited increase of all things deemed valuable by those who see technological and financial capital as the primary drivers of social progress." - By Christian Arnsperger, https://carnsperger.wordpress.com/2016/06/15/welcome-to-perma-circular-horizons/

3 Influence and relationship with territories, policies and usage patterns

3.1 Territorial characteristics

Much of the existing literature has focused on the influence of circular and collaborative initiatives on territories (be them cities or urban agglomerates). However, the dialectic between territories and the emerging forms of the economy addressed here is bidirectional. It follows that not only circular and collaborative initiatives work as an agent of urban transformation, but territorial characteristics are likely to impact their implementation too.

A case in point is the recently published CIRCTER Report by ESPON (2019), which provides a thorough description of territorial factors that drive the development of circular economy initiatives and usage patterns. Accordingly, seven territorial factors have been identified:

1) Land-based resources, which represent the core of the circular flow;
2) Agglomeration factors, namely industrial and urban agglomerations. Whereas the former creates the right conditions for the interconnection of actors and activities, the latter ensure the provision of the necessary human capital able to develop collaborative schemes and circular business models;
3) Accessibility conditions, i.e. the presence of adequate infrastructures enabling the transport and re-allocation of goods and economic actors in an efficient way. As a result, those areas located close to transportation hubs are advantaged when it comes to triggering the economies of scale related to e.g. the processing of secondary raw materials;
4) Knowledge, which allows businesses to design products according to the circularity paradigm (or shift business models towards circular strategies), the workforce to learn technical skills to enable many of these new strategies, citizens to trigger behavioural change;
5) Technology, that, similarly to knowledge, holds the potential to improve material efficiency and, consequently, frees up additional resources for production by increasing the amount of end-of-life materials that can be recovered;
6) Governance and institutional actors, acting as transversal forces able to facilitate and create the necessary conditions for the transition towards new business models
7) Territorial milieus, which are intrinsically embodied in the human capital and relational networks and thus shape the outcomes of the labour market interactions.

As claimed by Davidson and Infranca (2015), sharing and collaborative economy practices provide value to consumers by leveraging specific factors of urban geography such as **proximity** (the nearness in space of actors) and **density** (the quantity of actors in a determined space and the thickness of the market). There are three general theories for how these two factors influence the establishment of innovative economic practices, which track back to

Marshall (*Principles of Economics*, 1890) and Krugman (*Increasing Returns and Economic Geography*, 1991). The first one emphasises that reduced transportation costs – due to urban proximity and density – increase productivity and enable economic growth; the second set of theories highlights the benefits that accrue from labour market pooling (larger markets can create opportunities for more suitable matching among buyers and suppliers or employers and employees). And a third strain argues that ideas spread more rapidly in dense cities where proximity facilitates interaction. Each of these urban phenomena has distinct relevance for understanding the emerging of innovative economic and social activities such as sharing and collaborative platforms. The collaborative economy has important impacts on cities (see Chapter 4), as urban citizens are more likely to use collaborative platforms: the aforementioned Eurobarometer survey shows that people living in urban areas are more likely than the average citizen to be aware of collaborative platforms and to have used the service at least once.[13] But the collaborative economy can also produce positive effects in more remote areas, for instance by connecting peri-urban and rural areas through the use of carpooling services.[14]

Certainly, territorial economic considerations should not play a secondary role when analysing the emergence of collaborative and circular activities. In the aftermath of the 2008 economic crisis, terms such as “sharing economy” begun to become more popular (Zervas, Proserpio, and Byers 2014). In those regions mostly affected, the crisis effectively caused a rethink of materialism, and collaborative and circular practices became a post-crisis antidote to overconsumption (Kaplansky et al., 2014). Many households were forced to rethink their consumption pattern as well as how to better utilise their existing physical assets (Olson and Connor, 2013). For some, it resulted in simply abstaining from new purchases, for others new options such as carsharing begun to become a very agreeable alternative. On the companies side, the rethinking of the traditional notion of capitalist consumption is taking the shape of local activities such as, among others, urban farms, community gardens, energy cooperatives. Finally, another driving factor at territorial level is represented by flexible and active city administrations. According to authors such as Zvolska et al. (2018), enabling cities administrations can provide the infrastructure via which sharing can happen and can have a immense impact on the way all other actors can participate in sharing by implementing regulations or by using communication and information tools, which can increase awareness about sharing options.

Some of the research on collaborative economy has also focused on the impacts of collaborative consumption on cultural aspects, such as social capital (see section 4.3). According to Belk (2007, 2010), sharing practices can foster communities and, in general,

13 http://ec.europa.eu/COMMFrontOffice/publicopinion/index.cfm/Survey/getSurveyDetail/instruments/FLASH/surveyKy/2112

14 European Commission (2018) Study to monitor the business and regulatory environment affecting the collaborative economy in the EU. Available at: https://publications.europa.eu/en/publication-detail/-/publication/79bee7ad-6d22-11e8-9483-01aa75ed71a1/language-en/format-PDF/source-71608133

contribute to the creation of social capital (Botsman and Rogers 2010). However, the change in cultural values and social norms (a “creation and disruption of institutions” as described by Zvolska et al. 2019) is also likely to encourage the development of different forms of economic consumption. Basselier, Langenus, and Walravens (2018) claim that firstly environmental consideration raised the question of use of resources and individual ownership of specific assets, favouring the development of a new form of consumption. In that connection, an ING survey (2015) shows that many consumers think that the collaborative economy is beneficial. As stated by Bardhi and Eckhardt (2017), the current generation attaches greater importance to experiences and quick access, rather than actual ownership. They see that as a new phenomenon within changing consumer behaviour, especially among the younger generations: “liquid consumption”, based on principles such as flexibility, transience, detachment and speed. In a way, this phenomenon was already predicted in 2000 by Rifkin, who stated that the traditional ownership economy would ultimately give way to a user economy (the age of access), in which just-in-time access to goods and services would be preferred to ownership. Rifkin also predicted that all (free) time and experiences would be offered for sale.

This ties in with the fact that increasing numbers of people are now prepared to share their possessions with strangers. According to a survey conducted by Nielsen (2014), 54% of European consumers are willing to share their own goods, while 44% are willing to use other people’s belongings. Electronic equipment, bicycles or vehicles, sports equipment and tools are the goods that most people are prepared to share. Although willingness to share is particularly marked among millennials, earlier generations also seem willing to follow the trend.

3.2 Influence of regulations and policies

Since the collaborative economy started expanding across countries, there has been an ongoing debate on how and to what extent it should be regulated. This debate is highly polarised between those in favour of regulation (e.g. Rauch and Schleicher 2015) and those who are against it (e.g. Sundararajan 2014). While there is a growing consensus that government action would be required, the challenge lies in approaching this in such a way that the downsides of the platform economy can be tackled while at the same time the opportunities that it brings can be pursued (Maselli et al., 2016).

The two following paragraphs (*Discouraging regulations* and *Encouraging regulations* and policies) are particularly relevant for those collaborative activities that generate revenue and produce employment, as they allow other individuals to sell/rent a good/service (e.g. Airbnb, Uber, coworking space, etc.) on their behalf. However, some collaborative practices such as meal sharing, community gardens, and tools exchange are not concerned to the same extent by current legislative frameworks, as they are small in size, and do not produce nor revenue nor employment.

3.2.1 Discouraging regulations and policies

Although being still an emerging phenomenon (Dølvik and Jesnes 2017 report that the collaborative economy has only recently been added to the public agenda in Nordic countries[15]), there is already a consistent body of literature highlighting the potential economic gains deriving from the collaborative economy. Geron (2013) has estimated that the revenue flowing through the collaborative economy directly into people's wallets is around USD 3.5 billion (ca. EUR 3 billion), while its value in EU-28 countries is of EUR 20 billion[16]. Vaughan and Hawksworth (2014) calculate that on a global basis the collaborative economy was worth USD 15 billion in 2014 (ca. EUR 13 billion) and could reach USD 335 billion (ca. EUR 296 billion) by 2025[17]. More recently, a study published by the EU Commission (2018)[18] 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).

However, according to Goudin (2016) economic gains linked to the collaborative economy could be even larger, if certain substantial regulatory barriers were removed[19]. More specifically:

1. **Regulations aiming at banning sharing and collaborative economy platforms**: it concerns collaborative activities that are not compliant with regulatory structures applied to established providers, or that are subject to regulatory requirements which most collaborative economy providers are not able or expected to meet.
2. **Regulations aiming at introducing administrative and fiscal burdens which deter self-employment**: to the extent that collaborative economy platforms allow people to more easily establish themselves as self-employed (and recognising that the employment status of those providing services via certain collaborative economy platforms has been the subject of legal dispute), any barriers to people establishing themselves as self-employed will become obstacles to the growth of the collaborative economy;
3. **Regulations aiming at introducing administrative and fiscal burdens which deter marginal transactions**: fixed costs of regulation are only diluted over a certain amount

[15] https://norden.diva-portal.org/smash/get/diva2:1072087/fulltext02.pdf

[16] https://www.forbes.com/sites/tomiogeron/2013/01/23/airbnb-and-the-unstoppable-rise-of-the-share-economy/#3a4e707baae3

[17] https://pwc.blogs.com/files/sharing-economy-final_0814.pdf

[18] https://publications.europa.eu/en/publication-detail/-/publication/0cc9aab6-7501-11e8-9483-01aa75ed71a1

[19] http://www.europarl.europa.eu/RegData/etudes/STUD/2016/558777/EPRS_STU(2016)558777_EN.pdf

of transactions thus are not convenient for a private letting a property for ten days a year;

4. **Regulations concerning intellectual property rules**: the development of platforms might be hindered by certain features of existing intellectual property rules. For example, geo-blocking (the practice of restricting access to content based upon the user's internet-determined location — which may not always, in practice, correspond to the geographical location) might mean that digital platforms and portals could not always operate effectively across borders.

This regulative attitude towards the collaborative economy has been described by Leanerts, Beblavý and Kilhoffer (2017) as a common approach taken by European governments and judiciary authorities which consists in simply applying the legal, regulatory and policy frameworks that are already in place to the emerging economic practices. Their restrictive response has also been widely discussed by media with regards to: Uber[20][21], the sharing of private accommodations[22], private Wi-Fi[23] and private cars[24].

There are indeed several major issues of contention which regulators particularly tend to address in order to make the collaborative economy fit the current legislative framework. Often arguments for opposing and constraining emerging peer-to-peer practices concern the regulation of **employment** and **taxation**. Therefore, according to Munkøe (2017) one important question to resolve is whether collaborative economy service providers are to be considered employees of the sharing platform or independent contractors. This is a crucial question, because employees have certain rights with regards to working conditions, paid leave under various circumstances, etc. Furthermore, they are entitled to remuneration for expenses, whereas independent contractors are not. If collaborative economy providers are to be considered as independent contractors, we must in turn ask whether and under what conditions they should be considered business entities rather than simply private individuals (businesses are strictly regulated and must meet numerous administrative and regulatory requirements). Another major political issue with regards to sharing platforms is that of taxation. Income from sharing services should be declared and taxed, but one may well speculate that income accrued from collaborative economy platforms in reality largely escapes the attention of tax authorities, as service providers choose not to report it. Tax avoidance is of course an endemic problem,

[20] https://www.nytimes.com/2014/04/22/business/companies-built-on-sharing-balk-when-it-comes-to-regulators.html?_r=0

[21] https://www.nytimes.com/2014/05/01/opinion/the-dark-side-of-the-sharing-economy.html?_r=0

[22] https://www.ft.com/content/1e8299a0-d065-11e3-af2b-00144feabdc0

[23] https://www.theguardian.com/technology/2013/aug/04/internet-technology-fon-taskrabbit-blablacar

[24] http://business.time.com/2013/06/06/sharing-is-hard-legal-trouble-for-airbnb-relayrides-flightcar/

but as the collaborative economy rapidly expands, the magnitude of the problem is becoming significant[25].

Another issue of concern often evoked in the public debate, is how to secure a **fair competition** between traditional firms and those operating in the collaborative arena (Georgios Petropoulos 2017). Sharing and collaborative platforms are accused of disrupting existing regulatory models and changing the way businesses compete. For instance, while hotels are required to register and obtain municipal business permits, comply with strict fire, hygiene, and safety standards, home sharing hosts often only need to upload a description of the services and include their social media profiles (Albisson and Perera 2018).

3.2.2 Encouraging regulations and policies

It is increasingly becoming clear that simply applying the current framework to the platform economy is not a feasible approach, as it may not fully allow government to reap the benefits that the emerging economy brings. At the same time, a fresh regulatory approach can stimulate the development of the sharing and collaborative economy. Firstly, legislators should accept the fact that the collaborative economy has become an inevitable part of the global economy. Secondly, the regulators should acknowledge that the role of collaborative businesses models is gradually increasing and is going to affect every segment of national economy[26]. Thus, traditional regulatory frameworks need to be reconsidered, and new regulatory approaches should be designed specifically for collaborative economic activities.

According to the literature in the field, enabling regulation should focus on aspects concerning **consumers** by providing them with certainty. There are in facts gaps in the current legislative framework that give many consumers a certain feeling of uncertainty when using goods and services provided by the collaborative economy. In transactions within the traditional economy, consumers are protected by various rights bestowed on them by the regulatory framework which clearly define how transactions with companies must be carried out. In the collaborative economy, however, the responsibilities of each party involved in transactions are not usually well defined. Therefore, situations can arise in which consumers cannot claim a refund for a product, they do not have all the information regarding the nature of the product or service that they expect to receive, or in which the product or service does not comply with minimum health and safety requirements[27]. This latter situation could occur, for instance, in the case of platforms which allow users to share meals prepared in individuals' homes. Whereas one of the arguments to prevent over-regulation is that collaborative economy can self-regulate through reputation and certificate models which enable users to rate one another, thus ensuring minimum quality and safety standards in a decentralised and informal manner. However, there are limitations to these methods, since it is not always possible to verify the truthfulness of these

[25] Ibid.

[26] https://www.weforum.org/agenda/2019/01/sharing-economy/

[27] http://www.caixabankresearch.com/sites/default/files/documents/im_1807_38-39_dossier_4_en.pdf

ratings. This example highlights the need to define a regulatory framework to protect consumers, without discouraging innovation and the development of these business models.

Regulation should also be able to distinguish between transactions involving **non-professionals** and those involving companies that use the platforms to sell their goods or services while reducing their tax burden. In this regard, the non-binding recommendations of the European Commission (2016)[28] consider it good practice for member states to establish minimum thresholds, above which providers cease to be considered non-professionals and are treated as companies for the purposes of the legislation and taxation rules.

Box 1: Best practices

The case of Amsterdam

Amsterdam was one of the first cities in the world to introduce policies on home-sharing and is considered to be leader in regulating the industry. With regard to the divide between professional and non-professional providers, the city developed a tailored legislation as of 2014, with the aim of mitigating the disruptive effects of collaborative and sharing platforms in the traditional accommodation market. More specifically, the city promulgated the "Private holiday rental" regulation (Particuliere Vakantieverhuur)[29] which includes the following key rules:

- *the rented property must be normally resided in by the registered occupant;*
- *only the registered occupant can rent;*
- *the property cannot be rented for more than 60 days per calendar year;*
- *no more than 4 people can rent a property at a time.*

In 2016, Amsterdam and AirBnB announced an agreement to further tackle illegal hotels and promote responsible home sharing[30]. The agreement stipulated two main priorities:

- *new tools to tackle illegal hotels. AirBnB was required to introduce automated limits to ensure entire home listings are not shared for more than 60 days, unless hosts had a proper licence;*
- *new tools to promote responsible home sharing. Under this priority: AirBnB was required to introduce a day counter to track hosts, limit home sharing, follow local rules, and introduce a neighbour tool to share concerns about a listing, including noise complaints.*

Source: European Commission (2018) [31]

At the **tax** level, there is a need for greater harmonisation across Europe. On the one hand, it is well known that the lack of coordination between EU member states enables some companies to benefit from the more favourable tax regimes. On the other hand, the regulatory segmentation between countries makes it difficult for many companies linked to the collaborative economy to expand internationally. The scalability of these platforms is a key factor in their development and adapting to each member state's regulatory idiosyncrasies limits this scalability. As a result, online platforms in Europe are smaller in market capitalisation and scope than those in the US[32].

[28] http://europa.eu/rapid/press-release_MEMO-16-2002_en.htm

[29] https://www.amsterdam.nl/wonen-leefomgeving/wonen/bijzondere-situaties/vakantieverhuur/

[30] https://www.amsterdam.nl/nieuwsarchief/persberichten/2016/persberichten-1/amsterdam-and-AirBnB/

[31] https://publications.europa.eu/en/publication-detail/-/publication/8a7383b3-5269-11e8-be1d-01aa75ed71a1/language-en/format-PDF/source-70757485

[32] http://bruegel.org/wp-content/uploads/2017/02/PC-05-2017correct-image5.pdf

Regulation should also aim at reducing the **initial compliance costs** that new forms of businesses face when required to provide permits and necessary information upon their entrance in the market. This is one main reason that deter new players from entering into the market or delaying the entrance. Hence, in designing regulatory framework for collaborative economy, regulators should identify regulatory approaches that reduce burdens and maintain flexibility and freedom of choice for the developers of disruptive businesses (that do not exacerbate existing challenges). Regulators should aim to eliminate requirements which may be redundant, inconsistent, or overlapping. This would help reduce initial compliance costs for new market entrants who have the potential to offer a viable competition to existing market players operating at suboptimal levels[33].

Box 2: Best practices

The case of London

The Deregulation Act of 2015[34] aimed at mitigating the shortcoming of the Greater London Council Act 1973 (which prohibited the use of property as "temporary sleeping accommodation" without planning permission from the local planning authority). Therefore, the 2015 Act allow short-term holiday rentals for 90 days a year without any planning permission or other form of registration. The new law applies to the 32 London Boroughs and to the City of London. Local planning authority (i.e. the Councils, and the Mayor of London in some exceptional cases) or the Government Minister in charge could, however, exempt certain residential premises or areas from such rules. According to Member of Parliament (MP) Karen Buck, there has been a 126% increase in short-term lettings advertised on AirBnB across the city of London within one year after the Deregulation Act was passed (however, no evidence was found to support this view)[35].

Among other regulatory adjustments, the Tax and Customs Authority in the United Kingdom (HMRC) has taken initiatives to support the collaborative economy in the accommodation market, especially by recognising the additional revenue providers can generate. The HMRC initiatives resulted in the following adjustments:

- Since April 2016, the "Rent a room" relief (i.e. the tax allowance to individuals on the income they earn from renting rooms) has been increased from about EUR 5,700 to EUR 9,500 (GPB 4,900 to GBP 8,000). The tax allowance applies to individuals renting out rooms in their only or main residential property. The provision applies to guest houses, bed and breakfasts or similar if they are listed as main residences[36];

- In March 2016, the government introduced two tax allowances for property and trading income of about EUR 1,300 (GBP 1,100), that take effect in the fiscal year 2017-2018. The provision implies that individuals will no longer have to declare or pay property or trading tax under the set income threshold[37].

Source: European Commission (2018)[38]

As Urban Circular Collaborative Economy initiatives sometimes develop sporadically and via a bottom-up process, it is advisable to integrate them in regulations by linking the policy objectives of cities and regions with broader national and European policies, for instance the Sustainable

[33] https://hackernoon.com/regulating-sharing-economy-3-suggestions-to-promote-innovation-396eed7faa4a

[34] https://www.legislation.gov.uk/ukpga/2015/20/contents/enacted?view=plain

[35] https://www.parliamentlive.tv/Event/Index/a9834deb-28d1-468e-b748-92fa2baf61bc

[36] https://www.gov.uk/government/publications/rent-a-room-relief-increase/increasing-rent-a-room-relief

[37] https://www.gov.uk/government/publications/income-tax-new-tax-allowance-for-property-and-trading-income/income-tax-new-tax-allowance-for-property-and-trading-income

[38] file:///C:/Users/Francesco/Downloads/ET0418368ENN.en.pdf

Development Goals. A good example in this regard is the **city of Milan.** The city was the first European city to establish a strategy on the sharing economy around smart mobility in 2015.[39]

Box 3: Best practices

The case of Milan

The strategy of the city of Milan set objectives around different strands (citizens participation, energy efficiency of buildings, electric mobility) which then served as a basis for actions to be undertaken between 2016 and 2020 to achieve these objectives. In 2018, this Strategy has been updated with the Milano Collabora.[40] The 'Milano Collabora' ("Milano Collaborate") notice has been published for the selection of partners for the implementation of initiatives to support collaborative and circular economy in Milan. Through the Notice, the Municipality selected the partners to enter into collaboration agreements and implement common projects. The total financial allocation was 150,000. EUR for the 2019 year and 150,000.00 EUR for the 2020 year. Common projects will be carried out in priority areas, among others: 1) Projects to support workers in the sharing economy, to protect and safeguard their rights or aimed at promoting empowerment and cooperation between them; 2) Projects aimed at promoting the reuse and recovery of goods, to reduce waste and pollution from the perspective of the circular economy; 3) Projects in support of citizens' digital rights, aimed at ensuring the correct and safe use of the data provided by users to the managers of sharing economy activities; and 4) Civic crowdfunding projects, with related tutoring and mentoring activities in the fundraising phase[41].

The city of Milan has complemented its sharing economy actions also with the new strategy Circular Milan. The new strategy focused on the circular economy with the set of different targets to be reached by 2020 and 2030. The strategy explicitly mentions specific sharing categories (e,g, car sharing, fablabs and maker spaces). The city of Milan also explicitly linked its strategy with the Sustainable Development Goals notably by participating to a Horizon2020 call on re-localisation of production and reconfiguration of material flows at different scales (in relationship with SDG 11 on Smart and Sustainable Cities) alongside with the cities of Amsterdam, Berlin, Paris, Vejle and Cluj-Napoca. However, the link with the SDGs could be made more explicitly in the Strategy in itself.

Some cities have implemented a collaborative approach to those changes, in involving organisations from different kinds at all levels. The Theory of Commons introduces the 'public-common' political form of organisation, which gather citizens and public authorities with the purpose to auto-organise and co-participate in the political structure. The city of Barcelona established an informal structure bringing together the Municipality with the general public.

Box 4: Best practices

The city of Barcelona

BarCola[42] is an informal working group organised in Barcelona. The group is composed of Barcelona city council and the city's commons collaborative economy sector, represented by 20 enterprises[43]. The group organises big meeting called ProCommons every year. ProCommons has developed and proposed over 120 related policy recommendations for the city of Barcelona. The aim of proposing these recommendations is to promote fair, respectful and non-exploitative working conditions in the collaborative economy projects[44]. According to the stakeholders interviewed, the presence of such platform is crucial to increase knowledge from all sides. Similarly, the Chamber of Commerce of Paris (CCI Paris Ile de France) organises events to raise awareness to companies about the circular and the

[39] https://www.comune.milano.it/aree-tematiche/relazioni-internazionali/progetti-ue/sharing-cities

[40] https://economiaelavoro.comune.milano.it/progetti/milano-collabora-il-comune-cerca-partner

[41] https://economiaelavoro.comune.milano.it/progetti/milano-collabora-il-comune-cerca-partner

[42] https://comparteixbarcelona.ouishare.net/project/grupo-barcola/

[43] https://www.shareable.net/participatory-urban-planning-in-new-zealand/

[44] https://www.shareable.net/participatory-urban-planning-in-new-zealand/

collaborative economy.[45] They have notably created a network of entrepreneurs called "Plato" to help companies exchange ideas on the topic and accompany them in their discussions. Although the initiatives targeted here are companies, i.e. for-profit, the model could be replicated to non-for-profit initiatives.

In conclusion, as regulations can trigger the potential impacts of the collaborative economy, the literature provides some useful lessons for policy makers. Relevant for the goal of this study are those that can be drawn from the European Commission's *Study to Monitor the Economic Development of the Collaborative Economy in the EU* (2018). Namely:

1) Policy measures can have a significant impact on the development of collaborative economy in Europe and in the Member States. They should work together to remove unnecessary market barriers (regulatory, access to finance, SME support, access to international markets) for collaborative economy business models. However, in doing so, **sufficient attention should be given to the necessary regulations** (e.g. ensuring consumer rights, safety of service providers and service users, and how potential conflicts are managed), and 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;

2) Almost 40% of the EU-28 collaborative economy market revenues are generated by non-EU platforms. 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 platforms, the Commission should encourage the collaborative economy platforms to organise and, as an example, establish European Associations to facilitate dialogue, transferring good practices, and ensuring consumer protection;

3) 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. 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, in the conditions where it does not generate legal uncertainty nor create unfair competition.

4) Regulation can be enforced by integrating the Urban Circular Collaborative Economy initiatives in their correspondent sectoral regulations. The Committee of the Regions expressed its support for sectoral-legislation and made some interesting additions for

[45] https://www.entreprises.cci-paris-idf.fr/web/cci78/accompagnement-demarche-ec2

smaller and common-based initiatives. According to the Committee of the Regions, the European Commission's approach focuses on the commercial and consumer aspects of the collaborative economy while leaving aside the non-commercial and commons-based approaches. The Committee of the Regions believes that sectoral regulation is necessary for the commercial aspects of the collaborative economy in order to ensure legal certainty and fair competition for operators, especially with respect to taxation. The institution also considers that any "hard" regulatory initiative should keep a sectoral approach and take into account the scale of the initiative as a criterion to draw regulatory lines. For that purpose, the Committee of the Regions asks for the European Commission to conduct further analysis in order to define the different forms of the collaborative economy, including the non-commercial and commons-based approaches.[46]

3.3 Different usage patterns of UCCE initiatives

In April 2018, the European Commission carried out a flash survey to identify citizens' perceptions, attitudes and practices in relation to the collaborative economy[47]. According to the results, there are several significant socio-demographic differences in the proportions of those who have used services offered via collaborative platforms:

- Nearly four in ten respondents aged 15-24 (37%) or 25-39 (38%) have used a service offered via a collaborative platform at least once or a few times, compared with just over one in ten (11%) among those aged 55 or more;
- Nearly a third (32%) of those who have finished education at the age of 20 or more have done so, compared with only 5% among those who have finished education at the age of 15 or less;
- Just over a third (34%) of respondents living in large towns have used services offered via collaborative platforms, compared with less than a fifth (19%) of those living in rural areas;
- Over a third of employees (34%) and of the self-employed (37%) have done so, compared with less than a fifth of manual workers (15%) and of those not working (16%).

[46] Available at: https://pes.cor.europa.eu/local-and-regional-dimension-sharing-economy

[47] http://ec.europa.eu/commfrontoffice/publicopinion/index.cfm/survey/getsurveydetail/instruments/flash/surveyky/2184

Figure 8: Usage of collaborative platform among socio-economic groups, 2018

D8 Have you ever used a service offered via a collaborative platform?
(% - EU)

	No, never	Yes, once or a few times	Yes, occasionally (i.e. once every few months)	Yes, regularly (i.e. once a month or more often)	Total 'Yes'
EU28	76	9	10	4	23
Age					
15-24	63	15	16	6	37
25-39	61	14	16	8	38
40-54	74	10	11	5	26
55 +	89	4	5	2	11
Education (End of)					
15-	94	2	2	1	5
16-19	83	6	7	3	16
20+	68	12	14	6	32
Still studying	61	16	16	7	39
Subjective urbanisation					
Rural village	81	8	8	3	19
Small/mid size town	78	9	9	4	22
Large town	66	11	15	8	34
Respondent occupation scale					
Self-employed	63	13	16	8	37
Employee	66	13	14	7	34
Manual workers	85	6	6	3	15
Not working	84	7	7	2	16

Source: European Commission (2018)

Among respondents who have used services offered via collaborative platforms, over half have done so in the accommodation (57%) and transport (51%) sectors. A third of these respondents (33%) have used collaborative platforms to access food-related services, and just over one in ten (14%) have done so to access household services. Fewer respondents have used these platforms to access professional services (9%), collaborative finance (8%) or spontaneously mention other sectors (6%). Usage patterns however differ from country to country. In 15 out of the 28 Member States, the largest proportion of those who have used services offered via collaborative platforms have done so in the accommodation sector, while in 12 countries, the largest proportion have accessed services in the transport sector. In Greece (67%), the Netherlands (61%), Italy (56%), and Belgium (54%) the most frequently used services offered via collaborative platforms are those related to accommodation. In Slovenia instead 64% of respondents mentioned the transport sector.

Socio-economic characteristics of users are also likely to determine the usage of collaborative platforms in specific sectors:

- Men are more likely than women to have used services offered via collaborative platforms in the transport sector (54%, compared with 47%), but less likely to have used such services in the accommodation sector (53%, compared with 60%).
- The age of the respondent seems to be inversely proportional to the likelihood to use services offered via collaborative platforms in the sectors of transport and food, with the youngest respondents the most likely to do so: for instance, over six in ten (63%) of those aged 15-24 have used services offered via collaborative platforms in the transport sector,

compared with 55% among those aged 25-39, 43% among those aged 40-54 and just less than four in ten (39%) of those aged 55 years or more. However, middle-aged respondents are more likely to use services offered via collaborative platforms in the accommodation sector: over six in ten of those aged 25-39 or 40-54 use these services (62% and 61%, respectively), compared with just over half (51%) of those aged 55 or more, and less than half (45%) of those aged 15-24.

- Those who live in large towns are more likely than those who live in rural villages to use services offered via collaborative platforms in the transport (57%, compared with 42%), food-related (38% vs. 28%) and household services (17% vs. 11%) sectors.
- The self-employed and employees (both 62%) are significantly more likely to use accommodation services offered via collaborative platforms than manual workers (45%) or those not in employment (47%).

When these results are compared with the 2016 flash survey on the collaborative economy[48], it can be noted to what extent new forms of consumption have become more popular among EU citizens. In 2016, the percentage of users aged 15-24 and 25-39 corresponded to 18% and 27%. The youngest cohort has thus more than doubled its usage of services offered by the collaborative economy nowadays. Education has instead become a stronger predictor of usage patterns: in 2016 only 21% of highly educated individuals (who have finished education at the age of 20 or more) had made use of collaborative services.

Another interesting survey is represented by the 2016 report *Sharing is the New Buying: How to Win in the Collaborative Economy*[49], by Vision Critical and Crowd Companies. It mainly focuses on two research questions: who are the people sharing in the collaborative economy, and what can businesses do to win in this emergent market? As claimed by the authors, the collaborative economy matters to established businesses because consumers have become funders, producers, sellers, and distributors. More specifically, by engaging 90,112 people in the US, Canada, and the UK, they uncovered two distinct types of people who participate in the collaborative economy:

- Re-sharers: Those who buy and/or sell pre-owned goods online (for example, on eBay), but have not yet ventured into other kinds of sharing.
- Neo-sharers: People who use the newer generation of sharing sites and apps, like Uber and Airbnb.

The two groups of sharers are in turn contrasted with what have been labelled by “non-sharers”, people who have yet to join the collaborative economy.

Findings on usage patterns and overall trends can then summarised as follows:

- The collaborative economy is an opportunity for both emerging and established businesses: 24% of the population now engages in neo-sharing and another third are re-sharing.

48 https://publications.europa.eu/en/publication-detail/-/publication/65f6b2d7-2d3d-11e6-b497-01aa75ed71a1/language-en/format-PDF/source-search

49 http://info.mkto.visioncritical.com/rs/visioncritical/images/sharing-new-buying-collaborative-economy.pdf

- Sharing is growing: 48% of neo-shares are aged 18-34, hence young and likely to extend their “sharing habit” to others. Neo-sharing could then double in the next 12 months: in all the collaborative categories analysed by the authors, there are roughly equal numbers of recent and prospective users.
- Sharing is mainstream: 27% of American neo-shares have income of USD 50,000-100,000, just like the overall population. Contrary to the image of sharers as tech-savvy urban hipsters, sharers are very much like the population as a whole.
- Sharing is pragmatic: 75% of sharers mention convenience as a reason for sharing and more than half mention price. The collaborative economy may be a movement, but that part of what makes this movement so powerful is that a lot of making and sharing is driven by the same pragmatic considerations that drive conventional forms of consumption and production.
- Sharing is satisfying: 91% of sharers would recommend the last sharing service they used, and customer satisfaction is what separates a durable shift in consumer behaviour from a trendy market failure.
- The collaborative economy affects mostly cities: 73% of neo-sharers use local networking sites.

Eventually, usage patterns are also influenced by the size of the service provider: big accommodation and transportation platform are then more likely to affect consumers’ habits to a larger extent and become dominant market providers.

In conclusion, based on the results of the both surveys here analysed, the following takeaways can be deducted:

- Collaborative economy consumers are usually young (below 40 years old), educated (high school or more) and established into urban areas; employees and self-employed are more likely to engage in collaborative activities than manual workers or unemployed.
- Accommodation and transportation are the two sectors were most of the collaborative interactions take place. Services connected to the former are more likely to be used by men, whereas services connected to the latter by women.
- The younger the consumers, the more likely the chance that they are neo-sharers, thus involved in next-generation sharing and collaborative activities (i.e. app and website-based).
- The collaborative economy is for everyone and is not restricted to a small portion of the society.

4 Measuring impacts the of the circular and collaborative economy

The collaborative economy generates important **economic, social, environmental and political impacts**. Driver of economic growth through platform innovation, it can also represent an alternative source of revenues, e.g. by renting a spare room on Airbnb, or offering a spare seat in its car for a journey on BlaBlaCar. From a social perspective, the collaborative economy allows people to meet each other (e,g, the platform Peerby allowing to borrow goods from neighbours) (World Economic Forum, PwC, 2017). In some cities, it has also started to trigger new forms of local-level governance, based on horizontal decision-making (e.g. the initiatives BarCola in Barcelona, CommonsGent in Flanders). Finally, the collaborative economy is associated with more sustainable consumption practices based on sharing and re-using of assets and is expected to have positive repercussions on the environment (Demailly, Novel, 2014).

Impacts are linked with direct and indirect benefits and losses generated by the collaborative economy (Finck, Hausemer, Rabuel, 2018). These have to be taken in:

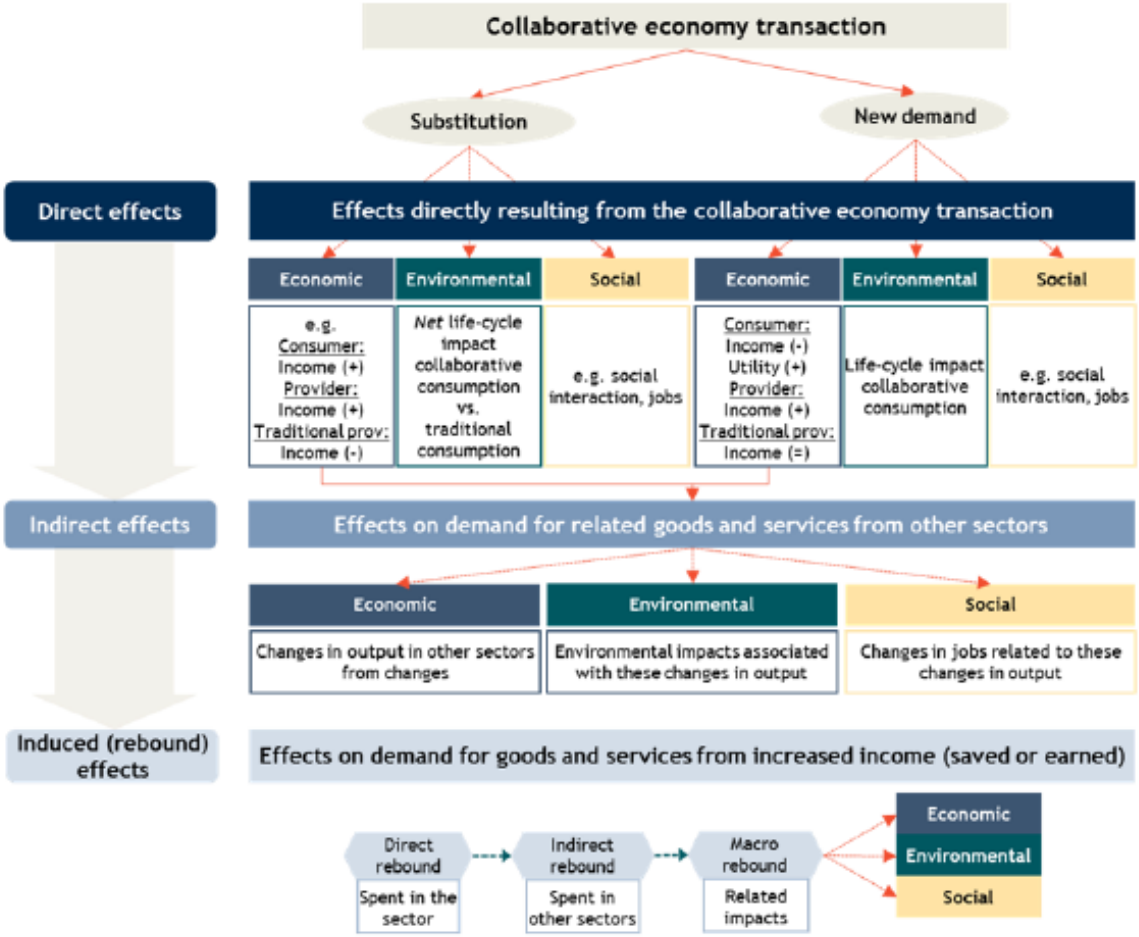
- Price reductions for services offered by these platforms – accommodation and travel became cheaper compared to the “traditional” providers of these services such as hotels, house rentals, buses, train, taxis, as such providing greater access to these services;
- Savings and revenues generated by users and providers, respectively – savings generated due to price reductions of such services, and additional revenues generated by offering an under-utilised good or service (a spare room, house/ apartment while away, ride sharing, unused car or products);
- Low transaction costs to exchange goods and provide services – this relates to the search costs and contractual costs, including online payment;
- Greater purchasing power to consumers – because of all the elements listed above, consumers end up with a greater purchasing power, which might lead to over-consumption or to different type of consumption.

Along creating new markets and expanding existing ones, collaborative economy businesses enter new markets that were so far used by traditional service providers, i.e. hotels, taxis, retail. This creates both threats (e.g. job losses, decrease in revenues due to competition with new providers) and opportunities for the traditional sector to adapt to more innovative ways of providing services.

Previous research has developed numerous models for assessing the impacts of the collaborative economy. For instance, one of the models has been developed by the University of Mannheim (Oberg, Wruk et. al., 2017), as introduced in section 2.2. The paper develops a conceptual model that captures the relationship between various factors, i.e. inputs, output, outcome and impacts. Then the authors devise a set of indicators to operationalise the conceptual model. Finally, they develops an empirical approach (using quantitative survey, expert interviews and existing databases and statistics) for capturing the impact of the collaborative economy across the different dimensions of sustainability.

The figure below presents another conceptual framework for understanding the potential impacts of the collaborative economy developed by Trinomics for the European Commission (2017). The sought impacts occur at the level of each transaction and they are determined by the transaction's type and the monetisation model. One important consideration is whether the collaborative economy transaction substitutes for a transaction in the traditional economy or whether it constitutes genuinely new (additional) demand. Flowing from this distinction, economic, environmental and social impacts materialise directly from the transaction (e.g. consumer and provider income, income effects for transitional providers, life cycle impacts, employment and social interactions). The direct economic impacts then also lead to second order (indirect impacts) on other sectors which reinforce the direct economic, environmental and social impacts. Finally, there may be a so-called **rebound effect** where any income earned through collaborative economy transactions is spent on other goods and services. The ultimate economic, environmental and social impacts of each collaborative economy transaction thus depend also on how economic gains resulting from these practices are spent.

Figure 9: Impact model of the collaborative economy



Source: European Commission (2017).

The same study emphasises the vast amount of literature discussing the economic, social and behavioural impacts of the collaborative economy, and notes that such assessment is often

based on self-reported figures by platforms or by “traditional industries” instead of independent empirical analysis.

The sections below present the main impact areas and drivers of impacts highlighted in the literature. When possible, we divided between the impacts of the collaborative and the circular economy.

4.1 Environmental impacts

4.1.1 Environmental impacts of the collaborative economy

The collaborative economy involves new market behaviours – renting, lending, swapping, sharing, bartering, gifting – which in eyes of many are more environmentally friendly as they tend to be less resource consuming. Hence, this study aims at assessing the environmental impacts of the collaborative economy models. This section discusses more in detail the concrete (measurable) environmental impacts of the collaborative economy.

Despite of the fact that many collaborative platforms advertising themselves as “green”, and particularly as carbon footprint reducing, the literature provides relatively small outlook on the results of the environmental impacts of the collaborative economy The available sources focus on one-sector analysis, namely the impact of carsharing in the transport sector, whereas other areas, such as accommodation, have been largely ignored in the analysis of the environmental impacts.

The common belief among participants is that sharing is less resource intensive. Furthermore, sharing is considered eco-friendly, because it is assumed to reduce the demand for new goods or the construction of new facilities (e.g.hotels or shared spaces) (Schor and Wengronowitz in Frenken and Schor, 2017). As mentioned, there are very few comprehensive studies available that provides quantitative evidence on the lower environmental impact of the collaborative economy, the only exception being carsharing for which studies on environmental effects have been carried out to a large extent.

There are several factors that contribute to the environmental benefits of carsharing. Firstly, the number of cars owned per person expectedly decreases with the increase in carsharing membership. In Europe, each carsharing vehicle replaces at least four to eight personal cars (Loose in Martin et.al., 2011). The analysis of the North American market (USA and Canada) has revealed that carsharing has taken between 90,000 and 130,000 vehicles off the road, equating to equates to nine to 13 vehicles being taken off the road for each carsharing vehicle (Martin et. al, 2011). Secondly, carsharing tends to decrease the kilometres travelled on a cumulative basis and thus fuel consumption. In North America, the kilometrage reduced between 27% and 31%. Ryden and Morin conducted a study in 2005 on the sample of some European cities. The study established that carsharing had reduced the kilometrage in the German city of Bremen by 45% and in Brussels by 28% (Ryden and Morin in European Commission, 2017). Thirdly, it is expected that carsharing causes a shift from private cars to public and non-motorised transport, as well as a shift from non-auto modes to shared cars.

Removal of car vehicles from roads realises lower CO2 emissions. However, Loose (2010) argues that it is not only the smaller number of cars on the roads that leads to lower CO2 emissions, but it is also because carsharing vehicles are on average smaller and newer than personal cars. On average, carsharing vehicles are newer than most personal vehicles, meaning that improvements in engine technology, in fuel efficiency and in emission levels on the road are faster in car sharing vehicles than in personal cars. Loose observes nine different European carsharing providers with more than 20 vehicles in their fleets. Cars of the carsharing providers showed specific CO2 emissions of 129.6 g/km, whereas the new cars sold in 2008 in 26 countries of the EU had specific CO2 emissions of 153.5 g/km, which is 15.6% higher than the existing car sharing fleets (Loose, 2010). The results coincide with some other studies. Ryden and Morin report study on Germany and Belgium found that average car sharing vehicle is 17% more fuel efficient than the average private vehicle (Ryden and Morin in European Commission, 2017). The same holds for the North American market. Martin et.al. (2011) reported that car sharing fleet average 13.9 km per litre and personal cars average 9.8 km per litre.

Environmental impacts of other sectors of the collaborative economy activities are less discussed than in the transport sector. For instance, there less information is available on accommodation sharing platforms. Most studies on the environmental impact of collaborative economy models for accommodation provide qualitative information. The usual conclusion is that accommodation sharing platforms allow using space more efficiently, which could lead to a decrease of new hotel buildings. On the other hand, availability of inexpensive staying may increase the carbon footprint due to an increase of trips and (air) travel (Loose, 2010). Nevertheless, Zvolska (2015) concludes that increases of greenhouse gas due to travelling to the accommodation sharing destinations are smaller compared to the gains resulted from the substitution of the traditional accommodation. Based on a cost analysis from an input-output database performed by Howe and Kudo (2016), a), a per-square foot of basis Airbnb shared accommodation space leads to lower greenhouse gas emissions, energy consumption, and water usage than hotels (Zvolska, 2015). Therefore, accommodation sharing is found to be less resource intensive than hotels and booking a trip through an accommodation sharing platform leads to a decrease in environmental impact (Loose, 2010).

The potential environmental impacts of community gardens include reduced air pollution through filtration of particulates, increased rainwater drainage, recycling of organic waste through composting and reduction of the urban "heat island" effect (Dilonardo, 2016). Gardens also promote biodiversity by providing habitat for a variety of native plants and animal species (Wang, 2016). Nevertheless, small-scale community gardens can have drawbacks too. The gardeners could use water, fertiliser and pesticides less efficiently than industrial agriculture operations. Additionally, especially in urban areas, more fuel is needed in situations where people drive to the garden instead of walking (Dilonardo, 2016).

Despite these measured impacts discussed above, Frenken (2017) warns, however, that based on minimal evidence of the environmental impact of the collaborative economy, it can be concluded that the environmental impacts of sharing are likely to be positive, but possibly much smaller than some claim or hope for. There is a clear need for a better understanding of the environmental impacts of the collaborative economy and rebound effects, and how its impacts compare to the impacts of related business models (second-hand, product-service, and on-demand economy). The environmental benefits of sharing are also by no means a technological given and cannot be predicted accurately in advance. Impacts will first and foremost depend on the evolving business models and user practices, as well as the design of complementary institutions which are still mostly underway. Industry analysts expect that new technologies like the Internet-of-Things, will lead to another wave of new business models and service innovations with important consequences for the collaborative economy. And only once many consumer goods will have a permanent Internet connection, sensors and smart locks, sharing of such goods through platforms will becomes easier, cheaper and safer. To assess the real environmental impact, it also necessary to exclude the potential of the "rebound effects". For example, if the used household item is sold for the purpose to be replaced by the new household item ("rebound effect"), the original sale will not reduce the carbon emissions or other environmental impacts.

The literature review on other Urban Circular Collaborative Economy Initiatives (energy cooperatives, food and waste cooperatives, swapping goods, coworking space or other types of ride sharing) did not expose any other potential social impacts.

4.1.2 Environmental impacts of the circular economy

As in the case of collaborative economy, efficient use of resources is typically referred to as an important environmental feature of the circular economy models. The literature discussion on the direct environmental impacts of the circular economy is also minimal, but nevertheless several studies that do measure impacts, typically focus on analysing environmental impacts from processes that fall within the scope of the circular economy, such as waste reduction or recycling. Most of the studies predict positive environmental impacts as result from recycling, reduced waste and food production and avoided land use.

It is estimated that by 2020 recycling may lead to CO2 reductions from 247 to 330 million tonnes (Okopol in Rizos, Tuokko and Behrens, 2017). Water-use savings, resulting from reuse of textiles, are predicted to reach 26.1 Ml to 52.2 Ml by 2025 and 34.8 Ml to 60.9Ml by 2030 (Rizos, Tuokko and Behrens, 2017). Textile reuse is also believed to lead to reduced fertiliser and pesticide use in cotton production. Fertiliser and pesticide use could decrease from 0.44 Mt to 0.88 Mt by 2025 and of 0.58 Mt to 1.02 Mt by 2030.

Several studies also foresee positive environmental impacts from avoided land use due to waste reduction. A study by the European Environmental Bureau (EEB) (2014) analysed the impacts of improved resource efficiency on greenhouse gas emissions reductions, in food waste reduction, avoided water use, avoided fertiliser use and avoided land use. The EEB

estimates that 56.5 Mt to 96.5 Mt of greenhouse gas emissions could be avoided by 2025 from reduced food waste and reuse practices in the textiles and furniture sectors, and by 2030 the savings could reach from 74.6Mt to 115.0Mt (Rizos, Tuokko and Behrens, 2017).

Similarly, the potential environmental impacts of initiatives such as community gardens include reduced air pollution through filtration of particulates, increased rainwater drainage, recycling of organic waste through composting and reduction of the urban "heat island" effect (Dilonardo, 2016). Gardens also promote biodiversity by providing habitat for a variety of native plant and animal species (Wang, 2016). Nevertheless, small-scale community gardens can have drawbacks too. The gardeners could use water, fertiliser and pesticides less efficiently than industrial agriculture operations. Additionally, especially in urban areas, fuel is needed in situations where people drive to the garden instead of walking (Dilonardo, 2016). However, the latter points remain on the level of discussion, without any provided quantifiable evidence.

Processes that fall within the circular business models such as recycling, manufacturing and reduced waste and food production, generate positive environmental impacts, hence the reason for this study to elaborate on these impacts further in details. As described in the paragraph above, transition to circular economy is believed to bring only positive environmental impacts, such as reduction in greenhouse gas emissions due to recycling, water-use savings due to reuse of textiles, reduces use of fertilisers and pesticides as well as savings in the use of land due to the decreased production.

4.2 Economic impacts

4.2.1 Economic impacts of the collaborative economy

In the literature, economic impacts of the collaborative economy are typically discussed as impacts on taxation, GDP, labour markets (workers' remuneration) or impacts on the revenues in the sectors most affected by the penetration of collaborative platforms, such as impact on the revenues of the traditional taxi sectors as result of Uber emergence, or hotel sector revenues as results of Airbnb, etc. Research on the of macro-economic effects of the collaborative economy however is generally lacking. Data on the size and growth of the collaborative economy available to date is still insufficient, making it difficult to assess the real economic impacts. Many of the (international) platforms do not provide data to the tax authorities on the intermediated activities and many of the workers do not declare the earnings themselves. Tax authorities therefore have limited oversight of the activities performed on the collaborative platforms or the size of the activities, therefore the data on the undeclared income are still mostly unreliable.

In 2016, de Groen and Maselli conducted a study for the European Commission, in which they analysed the impacts on the labour market. The authors compared the offline and online labour market in the similar sector of the services intermediated. The comparison of worker's earnings between the online and offline sectors could namely assess whether the online workers receive similar remuneration for similar work or at least respect the minimum wage that offline employees receive (European Commission, 2016).

The authors of the study assess that certain characteristics need to be first recognised before assessing the impacts of the online collaborative platforms. When analysing various online collaborative platforms from several countries[50], the authors identified that the impact of the online collaborative economy platforms on the remuneration depends on whether services intermediated involve high or low skills and whether the services intermediated are physical or virtual. Country characteristics, whether being a high or low-income country, is an important determinant of remuneration level as well in making global level impact analysis. For example, the earnings per hour on the service intermediated through a platform in Europe or USA might be below the minimum wage in these countries, but it could be way above the minimum wage in India. Thus, the assessment of the impacts on the remuneration of the collaborative platforms' workers cannot be uniformly assessed and contingencies of the global economic market must be considered.

As mentioned above, the nature of the services provided also plays a role. Suppliers of physical/local services earn more than suppliers of virtual services. The reason is that virtual platforms are a true example of labour globalisation, where European workers compete against Americans or workers from Asia for the same task performed, which ultimately lowers their remuneration levels. The study of de Groen and Maselli (2016) also reveals that earnings for high skills services in low-income countries tend to be higher, whereas earnings on the physical/low skilled online collaborative platforms are relatively high in high-income countries. For example, earnings per hour for Uber drivers in Belgium and USA are relatively high. The workers' average earnings are below the average earnings of all employee in the two respective countries but were higher than the average earnings on both low-skilled and high-skilled virtual services.

When comparing to offline market activities it has been identified that the type of service also impacts the renumeration. The hourly renumeration level for offering household personal services for example is higher on online collaborative platform than offline labour market. Babysitting on the other hand tends to be remunerated lower on online collaborative platforms than offline. Similarly, sectors such as event organising and computer science (e.g. installing software, creating websites) is still remunerated higher on offline labour market than on an online collaborative platform.

Overall, the main conclusion is that most of workers on collaborative platforms tend to earn less than the workers performing the same sector activity on an offline labour market. That is because to compare the incomes of earnings per hour, the number of hours performed needs to be calculated. Typically, most workers work on platforms when they want (e.g. Uber) or when there is a demand for a service (e.g. Crowdflower, Airbnb), which automatically leads to the lower income. The statistics from the Dutch statistical office show that the self-employed

[50] UK, USA, India, Italy, Serbia.

offering their services online in the Netherlands, on average, earn less than employees who perform a similar activity on the offline market (European Commission, 2016).

For the moment it is still believed that collaborative platforms do not have a large impact on the offline labour market, neither in a positive nor negative context. Only a small share of population has been estimated to have been working on online collaborative platforms, therefore the real (numerical) impact of the collaborative economy is not to be expected anytime soon. The Flash Eurobarometer field study on the use of collaborative platform in the European Union revealed low shares in the use and offer of the services via collaborative platforms across the Union. In 2018, 76% of interviewed Europeans in the study said to have never used any of the collaborative platforms and 94% of them said to have never offered a service via a collaborative platform (Flash Eurobarometer, 2018). The statistics show that the use of the collaborative economy remains small. It shows that the collaborative economy has not developed to the extent as to be compared with established incumbent sectors or to have a large impact on their market shares. The only exception identified is the taxi sector in some of the larger cities, where some collaborative economy platforms, in particular Uber, have gained large market shares. In New York, as of January 2019, 462,113 Uber rides took place per day, compared to 271,135 taxi rides, and 149,142 Lyft rides[51]. In 2017 Uber dominated 56% market share in the ground transportation expenses, category including also taxi and car rentals. On the other hand, car rentals presented in 2016, 33% of all ground transportation receipts/expenses, and in 2017, the share shrank to only 25%. Taxis accounted for 11% of ground transportation expenses in 2016, but slipped to 7% by 2017. [52]. Compared to USA, Europe remains a difficult market for Uber. Being named as a transportation service and not just an online application by the European Court in May 2017, Uber is subject to legal regulations across the Union. In some countries the company's services are banned (Denmark, Hungary, Bulgaria).

Nevertheless, it has been discussed that the real impact of the collaborative economy, particularly the online collaborative platforms, lies somewhere else. The flexibility, typically characteristic of the online collaborative platforms, seems to correspond to a wider trend of increasing flexibility on the offline labour markets as well, i.e. the online collaborative platforms could reinforce the new industry standards. Looking especially the younger population, the share of temporary/contingent workers is relatively high, moreover it has increased over the years. The share of young contingent workers has been gradually increasing in the past couple of years, from 44.0% in 2006 to 49.8% in 2014. This of course might be explained by the weaker economic conditions during this period in which youth unemployment also increased from 17% in 2006 to 22% in 2014.

Rather impacting the worker's renumeration, the rise of peer-to-peer collaborative platforms is expected to have greater cumulative indirect effects on other markets. For example, a study

[51] http://www.businessofapps.com/data/uber-statistics/

[52] https://www.forbes.com/sites/michaelgoldstein/2018/02/22/uber-and-lyft-pound-taxis-rental-cars-in-business-travel-market/#25ca9e16b5e7

performed in Texas, USA, showed that the hotel earnings declined in areas where Airbnb grew. In Greece, the Hellenic Chamber of Hotels estimated that the direct impact of the collaborative economy on the Greek hotel industry has been of about EUR 525 million a year in lost lodging revenue that go to short-term property rentals (Krinis, 2017). According to the findings of the Hellenic Chamber of Hotels, 13,860 job positions from the hotel sector have been directly lost due to the collaborative economy. Additionally, if Greek had hotels received the revenue lost due to collaborative shorth-term rentals, then the state would have seen an increase in its earnings of EUR 128 million a year (Krinis, 2017).The impacts however were found uneven across the industry, with lower-end hotel being specifically affected, which suggests that platforms like Airbnb are a partial substitute as they substitute mostly the cheaper segments of the hotel industry (Frenken and Schor, 2017).

The collaborative economy, through its impacts on local economies, is believed to have positive impacts on local communities. According to a study on collaborative accommodation by the European Commission (2018), the offer of short-term rentals is more dispersed than hotels, which tend to be concentrated in the city centre. The collaborative accommodation offer also targets different kinds of travellers, with a lower budget, seeking local experiences, and who tend to stay longer and to spend money in local shops. According to a study by Airbnb, 42% of guest spending occurs in the neighbourhood they stay in, primarily on food services and shopping, and Airbnb guests stay 2.1 times longer than hotel guests (Airbnb Economic Impact).

Community gardens, the recent popular initiative, can offer many of the same economic benefits to the communities and neighbourhoods as other collaborative platforms. Community gardens cannot just transform a vacant lot into a community space and statistically reduce social costs, but evidence also show a positive relationship between proximity to community gardens and property value (Mikolajewski in Flachs, 2010). A 2006 study by Been and Voicu found that New York City gardens had a statistically significant positive impact on residential property within 1000 feet of the garden and an impact increased over time. What is more important is that this impact was highest in the lowest income neighbourhoods studied (Flachs, 2010). Community gardens are also economically advantageous for the users. A survey of Newark gardens saw that vegetable gardens produced an average of USD 504 worth of produce with a USD 25 investment. (Patel in Flachs, 2010). This represents almost 20-times the value of the initial investment. Particularly in low-income neighbourhoods of the large cities, the economic aspect of the community gardens filled a necessary gap in fresh, healthy, and affordable food. The economic benefits of community gardens underlie the vast majority of garden initiatives. For example, the gardeners in Greece recently saw their efforts as supplementing their income in the recession.

The literature review of the potential economic impacts of the food collaborative initiatives did not expose exact figures. What has been estimated so far are the impacts of the food waste. Food and Agriculture Organisation of the United Nations (FAO) estimates that roughly one third of the food produced in the world for human consumption every year, approximately 1.3 billion

tonnes, gets lost or wasted, and 60% of those food losses comes from the USA and Europe. These food losses and waste amount to USD 680 billion in industrialised countries and USD 310 billion in developing countries (FAO, 2019). The pattern of food waste differs among the developing and developed/industrialised countries. Whereas the developing countries food waste and losses occur mainly at early stages of the food value chain, the food losses in the industrialised countries occur mainly at later stages in the supply chain. The behaviour of consumers therefore plays a huge part in industrialised countries (FAO, 2019).

In conclusion, the data on the size of the collaborative economy are lacking, making it difficult to make concrete quantifiable estimations about potential macro-economic impacts of the collaborate economy. The studies that do try to assess the economic impacts of the collaborative economy typically focus on a particular sector, on which online collaborative platforms have the biggest impacts, such as tourism in case of Airbnb or taxi services in the case of Uber. For example, the Hellenic Chamber of Hotels estimated in its 2017 study that the direct impact of the collaborative economy on the Greek hotel industry amounts to EUR 525 million a year. The quantifiable effects of the collaborative economy on the labour market are assessed by being compared to the offline market in the similar sector of the activities intermediated. When comparing to the offline labour market, the type and nature of the service plays a role. For example, suppliers of physical/local services earn more than suppliers of virtual services. Additionally, the stage of the economic development of the country must be considered when making a global level analysis of the impacts of the collaborative economy. Earnings of workers working on collaborative platforms in high-income countries could be below the minimum wage, but earnings of workers in low-income countries could be above the minimal wage levels. Overall, however most workers on collaborative platforms tend to still earn less than the workers on the comparable offline markets, simply because on average they work less hours. For that reason, currently it is still believed that collaborative platforms do not have large impact on the comparable offline labour markets. The impacts of the collaborative economy though are believed to be bigger on local and concentrated economies.[53] For example, Airbnb estimates that 42% of their guest spending occurs in the neighbours the guests are staying. The literature review on other Urban Circular Collaborative Economy Initiatives (energy cooperatives, food and waste cooperatives, swapping goods, food sharing, coworking space or other types of ride sharing) did not expose any other potential social impacts.

4.2.2 Economic impact of the circular economy

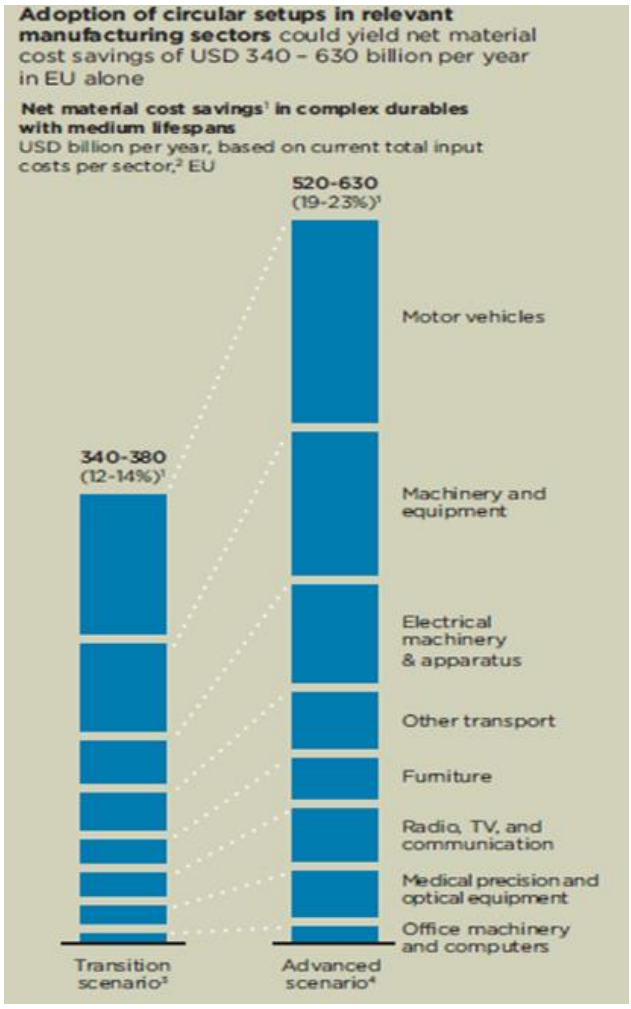
As in the case of the collaborative economy, the economic impacts of circularity can be distributed among national economies, economic operators (companies, initiatives and platforms) and consumers. Impacts are related to the elimination of waste from industrial chains, leading to the production cost savings and less resources dependency. The benefits

[53] https://press.airbnb.com/airbnb-estimated-direct-economic-impact-exceeds-100-billion-in-one-year/

are not just operational, but also strategic; not only source of efficiency but also a source of innovation and growth.

A 2014 study by the Ellen Macarthur Foundation finds that economies will win from substantial net savings on material and energy costs and improved mitigation of commodities price volatility. The Ellen Macarthur Foundation calculated approximate net material and energy costs savings in the case of two scenarios: 1) “transition scenario” assumes transition to circular economy model in line with current technologies and capabilities (the scenario envisages a 30 percentage point shift to refurbishing and remanufacturing, which is in line with some strategies of some governments today); 2) “advanced scenario” foresees more radical change by assuming the world had further developed reverse technologies and infrastructure and other enabling conditions such as customer acceptance, adapting of legal frameworks and cross-chain and cross-sector collaboration (the scenario foresees additional 5-10 percentage points to remanufacturing of the “transition scenario”). The report estimates an annual material cost saving opportunity of USD 340 billion to USD 380 billion in the EU for a “transition scenario”. For the “advanced scenario” the potential net material savings opportunities are even bigger and amount from USD 520 to 630 billion. The estimates for the two scenarios were based on calculating material costs savings from products of those sectors that hold the most potential for success. This includes products of medium complexity and of products that contain products of medium-term usage periods (3-10 years). The products were chosen, because adoption of circular processes would affect their material balance over the next 15 years. Additionally, these medium-live products represent little less than half of the EU’ s manufacturing contributions to the EU’s gross domestic product (see Figure 10).

Figure 10: Net material costs savings opportunities



Source: Ellen Macarthur Foundation (2014)

Reducing the downstream demand is expected to affect the upstream demand. This could avoid material loss. For example, reducing one ton of final steel demand could save over 1.3 tonnes of iron ore and over five tonnes of earth being moved (Ellen Macarthur Foundation, 2014). According to the same study volume changes would likely have a calming effect or commodities prices and their volatility. In fact, the circular economy developed partly as a result of the reduced availability of some raw materials. The upward trend in commodity prices as result of their scarceness, and their price volatility are of major concern for governments who fear that these trends might reduce economic growth. Almost a third of profit warnings issued by 350 companies in 2011 were related to rising resource prices, and 80 per cent of manufacturing firms saw materials shortages as a key risk to their business. Commodity prices face reduction since 2011, but they nevertheless remain higher than their 1985–2004 average in real terms (Gower and Schroeder, 2016).

Adopting circular business models is believed to bring improved innovation. The exact GDP benefits are difficult to quantify, nevertheless the benefits of more innovative economies include higher rates of technological development, improved material, labour and energy efficiency and

new profit opportunities for companies. By addressing its current fundamental challenges circular economy is believed to bring lasting benefits for a more resilient economy.

Companies are believed to benefit from new profit pool opportunities in creating circular activities. Reselling and product's component recovery could reduce significantly the companies' material bills. In the case of mobile phone industry, remanufacturing is estimated to bring reduction of material costs by 50% (Ellen Macarthur Foundation, 2014). Interactions between companies and customers are expected to improve as well. Instead of one-time transaction, the companies will develop life-time service relationships. With deeper customer insights companies will be able to improve personalisation, customisation and retention. Less product complexity will bring about stability and companies will be able to better manage the challenge of shorter product life cycles. Component manufacturing and product refurbishment are the biggest challenges in the shift to a circular business model due to the specialised skills and process know-how required. Existing manufacturers and their subsidiaries might have an advantage over the smaller or less-established companies. Nevertheless, the long-term benefits (material costs reduction) are expected to outweigh the short-term costs (investment in new remanufacturing process and technology, reorganisation etc.).

Consumers and users will benefit from reduced costs of products obsolescence, increased choice, and secondary benefits. Reduced obsolescence with reusable products will improve budgets and quality of life. The ownership costs for the customer, overcoming premature obsolescence will go down total and deliver higher convenience due to avoiding hassles associated with repairs and returns. Secondly, choice of products will increase as producers will be able to adjust duration, type of use, and product components to the specific customer. Standard purchase will be replaced with a broader set of contractual options. Customers will also enjoy also the secondary benefits, such as reduction of environmental costs associated with circularity (reduced packaging, etc.).

In conclusion, due to the circular economy, economies are expected to enjoy net savings on material and energy costs and will better handle the volatility of the commodities prices due to their scarceness. The medium "transition scenario" predicts savings of about USD 340-380 billion for Europe until 2025, and the more ambitious "advanced scenario" predicts savings of about USD 520-630 billion. Transition to circular economy is also expected to create more innovative economies, with higher technological development, and material, labour and energy efficiencies and new business opportunities for companies. All of this will help economies to become more resilient and adaptable to new global economic changes. The biggest benefit companies can expect new business opportunities are arising from the "circular" business models, and material savings due to improvements in their supply chains. For example, mobile industry is expected to have 50% savings due to remanufacturing. Better relations between business partners are expected as well, as one-transaction based relationship will be replaced by the life-time service relationships. Lastly, consumers will enjoy from more durable products of lower price due to the savings in the production.

4.3 Social impacts

As collaborative economy inherently involves peer-to-peer interactions, the aim of this study is to assess the potential impacts on the closer social interactions between the participants in the collaborative economy business, as well as potential wider impact on the society. Increased social interactions are commonly mentioned as the important social impact of collaborative economy. The benefit of meeting people, making friends and getting to know others is often mentioned as the central reason for participation in the collaborative economy platforms. Certain platforms, such as carsharing platforms, have potential for better use of space and thus better quality of life. Nevertheless, negative impacts have been identified as well. Most commonly mentioned negative impacts involve risk of discrimination against certain groups of collaborators, tailoring city's neighbourhoods exclusively to the needs of the tourists and uneven distribution of income and welfare.

Collaborative economy is said to strengthen the sense of belonging to a community and enhances local community life. This is the rhetoric of the Paris-based platform "Lulu dans ma rue"[54] , which brings together people for the provision of small services (DIY, housecleaning, etc.) The platform's ambition is to create communities of neighbours. To do so, the initiative re-uses old newspaper kiosks into "*conciergeries de quartier*" (neighbourhood concierge services) where platform users can meet and exchange in person. The social motivation is usually mentioned also on the example of accommodation sharing sites. Airbnb is believed to be the most successful site at creating social ties. For half of the Airbnb hosts social interaction was central to their motivation for their participation on the site (Schor in Frenken and Schor, 2017). These hosts socialised with their guests, ate with them, took them out, and in some cases became friends with them. A 2016 study from Böcker and Meelen found that people that are willing to share their homes often have social motivations next to the economic ones. Similarly, Parigi et al. found in their study on the Couchsurfing site, that the participation often resulted in new friendships (in Frenken and Schor, 2017).

Several studies did however start to raise the question on whether the social benefits will continue to play the central role also in the future as they were in the starting years of collaborative platforms. Some scholars believe that social interactions will decline, as the new users are less open to socialising and making new connections as was the case in of the early collaborative platforms' users. Frenken and Schor foresee the decline in social interaction as result of the increasing codification of trust reinforced by the system of ratings, which is a common feature of several collaborative platforms. As participants acquire more ratings over time, trust is secured and there is less need for face-to-face interactions. This is also reinforced by technological and business development, such as "smart locks", where for example the owner of the apartment in case of sharing accommodation offers digital access to the renter by a temporary pin code and other supporting services that include check-in or key handover

[54] https://www.luludansmarue.org/.

(Frenken and Schor, 2017). The authors do not exclude even the possibility that collaborative platforms may become harmful to social cohesion as reflected in existing social ties. Idle capacity, such as accommodation, cars etc., was previously generally available to family and friends for free and some researchers have expressed concern about the viability of non-monetised sharing within networks as people typically prefer the option of earning money. So far, there is only anecdotal evidence on this issue. For example, one Airbnb host said he will now require his friends and relatives to transact with him via the platform, to insure against damage to his apartment and possessions. Another host reported being unhappy about having his/her family relatives for an extended period because of the money lost (Frenken and Schor, 2017).

Additionally, peer-to-peer discrimination has been mentioned as a possible consequence of the collaborative economy platforms. Some evidence studies have recognised the behavioural pattern, where people engaged in a variety of exclusionary behaviours in their choice of trading partners or collaborators. Edelman and Luca (2014) in their analysis of Airbnb in the United States found that male Afro-American Airbnb renters earn on average 12% less than other hosts for the same type of house in the same type of location. Cansoy and Schor (2016) report that more than 200,000 Airbnb listings across USA were subject to racial disadvantage in ratings, reviews and prices charged. Similarly, cases of racial disadvantage have been reported in case of Uber drivers of Afro-American origin, as they experienced longer average waiting times and more frequent cancellations (Frenken and Schor, 2017).

In relation to accommodation sharing platforms, another negative impact has been recognised. Short-term vacation rentals are increasingly becoming an investment opportunity. And as the rise of vacation rentals might have promoted the housing repairs in old city parts, it has also led to the different forms of displacement as housing has become increasingly oriented towards Airbnb tourists, which are considered as more lucrative than the long-term renters. As a result, many big cities have become subject to touristic gentrification (Liu, 2018). The gentrification refers to the capital investment process in the built environment to cater the needs of tourists and gradually replace the local residents (Lees et.al in Lui, 2018). Barcelona is one example of touristic gentrification in a big city. In the old city centre neighbourhood Gòtic, almost 1/6 of the households is occupied by Airbnb house renters. Anti-tourism protests have been organised in Barcelona, San Sebastian and Mallorca. Householders in the neighbourhood are reluctant to give a chance to long-term residents to rent the flats, just because they can get more profits from short-term renters (Lui, 2018). This only increases the situation of gentrification, because only upper-middle or upper-class residents can afford long-term rents in such neighbourhoods. The gentrification in this case leads to the phenomenon of exclusionary displacement. Given this phenomenon, the residents lose their chance to get flats, and more and more communities are being replaced by short-term tourists (Lui, 2018). According to this process, the final buyers will always be tourist inventors and tourism will replace residential life, leading to a complete changing of the city's identity. Incidents of gentrification have been reported in other European cities, such as Amsterdam, Paris and Berlin.

Airbnb, as the most frequently mentioned platform has responded to the claims about the large shares of rooms and apartments being leased in touristic city centres. Airbnb claims that 74% of its listings are outside of the main touristic zones. According to Airbnb, its economic impact consists also on the money that guests spend at the local area (42% of guest spending is spent in the neighbourhoods where they stayed, and on the income that hosts earn, strengthening by this way the local community and economy (48% of host income is used to pay for regular household expenses, like rent and groceries) (Katsoni, 2017).

A positive impact on spatial planning though has been identified on the example of carsharing platforms. Carsharing creates potential for better use of space and thus better quality of life. The reduction of car ownership through carsharing decreases pressure on parking space in neighbourhoods. Loose (2010) calculates that the space required to park one personal car replaced by the carsharing vehicle takes least 40 to 80 m^2 of public street space or at least 80 to 160 m^2 of space in car parks or on private land. The gained space through carsharing can be reused for other urban uses. It can be transformed into space used for non-motorised modes, such as biking lanes or pedestrian zones, or could be used for any other purpose for improvement of the quality of life in neighbourhoods. Lastly, any “unbought” personal car also results in the saving of resources. Raw materials and energy are saved when fewer vehicles need to be built.

Space is an important element in strengthening community ties and especially this holds if the space is green, including trees and grass. A study from Kuo analysed the effect of neighbourhood environment on the development of neighbourhood social ties in an inner-city of Chicago (in Ohmer et. Al, 2009). The study revealed that common areas with more vegetation and greenery were significantly associated with stronger neighbourhood social ties among residents occupying that space. For that reason, community gardening and urban agriculture have been employed as important components to revitalising communities and community ties among the inhabitants, especially among the inhabitants of the urban areas (e.g. cities). In 2004, Saldivar-Tanaka and Krasny conducted a study to analyse the effects of community gardening on open space, civic agriculture, and community development in Latino community gardens in New York City (in Ohmer et.al, 2009). The study showed that community gardens were not only used for growing food, but served also as cultural and social neighbourhood centres, where residents celebrated special community events and socialised with their family members, neighbours, new residents, and even visitors. Community development was recognised as the most important role of the community gardens by both gardeners (volunteers) and garden support organisations (Ohmer et. al, 2009). Provision of open space and production of food were named only as the secondary benefit. For the socially deprivileged groups, community gardens also represent a way of empowerment by reclaiming and transforming devastated areas in their neighbourhoods and thus becoming more active members in their communities.

Similarly, the role of community gardens in Greece, a country that experienced a surge in the community gardens across the country in order to cope with economic and food insecurity of citizens, is primarily to strengthen social inclusion. Outcomes from fieldwork in Greece showed that for the gardeners the fact of being involved in gardening is not just coping with economic hardship through growing their own food, but it is mostly a way to rebuild social bonds, reshape space of belonging and improve self-esteem of the people who experienced the recent economic hardship (Anthopoulou, 2016).

Fear remains that collaborative economy platforms might distribute the increased income and welfare in an uneven way. With collaborative economy platforms, consumer can easily turn their consumer goods into capital assets to earn rents, and typically such consumer goods (e.g. apartments to rent, cars, etc.) are concentrated in the hands of small group of well-off people. This is most applicable for home sharing, but also applies to renting out parking spaces, cars and boats in times and places where such goods are scarce. Frenken and Schor have also argued in their 2017 study that sharing on-demand platforms could potentially lead to an increased inequality within the bottom 80% of the income distribution, as highly educated providers capture market opportunities like driving, cleaning and household tasks that were once the specialisation of lower-educated blue- and pink-collar workers. Overall it can be concluded that participants in the collaborative economy can benefit from increased consumer welfare originating from lower prices and greater variety, however at the same time economic inequality driven by supplier side is likely to increase as well.

As collaborative economy inherently involves peer-to-peer interactions, the section above tried to explore the potential impacts on the closer social interactions between the participants in the collaborative economy business, as well as potential wider impact on the society. The literature review on the social impacts of collaborative economy has exposed that there exist both positive (increased social interaction, better use of space) and negative impacts, such as social gentrification in cities, peer-to-peer discrimination and potential uneven distribution of welfare. The literature review on other Urban Circular Collaborative Economy Initiatives (energy cooperatives, food and waste cooperatives, swapping goods, food sharing, coworking space or other types of ride sharing) did not expose any other potential social impacts.

4.4 Impacts on policies and governance

Chapter 3, in particular section 3.3 of this literature review, discusses the impacts of policies and regulations on the collaborative economy. On the other hand, this section enquires about the impacts of the collaborative economy on the development of new policies and governance models. New governance schemes related to the collaborative economy have been more prevalent in cities, where in some cases the acceptance of collaborative models affected the governance structure of the cities. This happened in Barcelona and it is currently being planned in the city of Ghent. However, the take-up of this kind of approach is still in the inception phase; cities still tend to govern in a traditional way and thus fail to develop more collaborative and participatory schemes.

Impacts of the collaborative economy can be reflected in new ways of governing, which are increasingly becoming more horizontal and local-level oriented.

While sharing has always been a part of city life – through for instance public libraries and community spaces – the recent years have seen a significant revival and acceleration in sharing across many sectors as well as among individuals, institutions, businesses and communities. Especially the latter, communities, are facing new forms of local-level governance, based on horizontal decision-making (Foster and Iaione, 2016). Some cities are analysing and evaluating the possibility for the development of the commons-oriented model within the collaborative economy in the context of their respective cities. The notion of the *"city as a commons"* has recently taken ground. The terms *"commons"* or *"shared property"* refer to property that is managed by users themselves. What is crucial about the term is not so much the shared property itself, but rather shared management. The Commons is manifested in a variety of initiatives linked to production and consumption that strive for more sustainable communities (Eurocities, 2019). Commons are defined by 3 aspects: 1) a shared resource 2) the activity of *"communing"*, and 3) rules and norms that must at least be partially autonomous from the public and private sector (City of Ghent, 2019)[55]. The Commons essentially revolve around the question of how cities govern or manage resources to which city inhabitants can lay claim to as common goods, without privatising them or exercising monopolistic public regulatory control over them.[56]

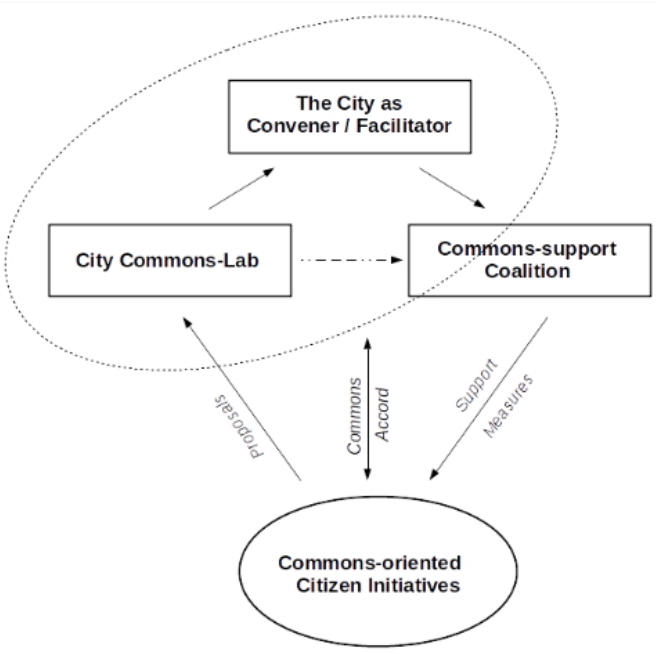
Examples of the attempts of creating "city as a commons" include the cities of Barcelona in Spain and Ghent in Flanders. In Barcelona, unique situation occurred, where political representatives aligned with activist movements. Barcelona's leading governing political party is Barcelona En Comú ("Barcelona in Common"), a former activist movement. Besides fostering greater participation in governance, Barcelona En Comú hopes to strengthen and expand what it calls the "commons collaborative economy" – cooperatives, commons and neighbourhood projects that comprise 10% of the city economy through 1,300 ventures (CSG, 2016). For example, there is a Guifi.net, a broadband telecommunications network that is managed in common for the benefit of ordinary Internet users and small businesses. The city also developed Som Energia Coop, which resells energy bought from the market and at the same time develops its own renewable energy projects – wind turbines, solar panels, biogas plants – to produce energy for its members. Boosting the commons collaborative economy is a co-creation of commoners and it is not a governmental project alone. The city has also established new systems to run dialogues. BarCola, a group council, convenes leading players in the collaborative economy and commons-based peer production to assess the progress of this sector and recommend helpful policies. There is also an open meetup called Procomuns.net,

ttps://digitalcommons.law.yale.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=1698&context=ylpr

and Decim.Barcelona (Decide Barcelona), a web platform for public deliberation and decision-making (CSG, 2016).

Ghent, city in the Belgian region of Flanders, is the first city in the world to specifically request a “Commons Transition Plan”. The Belgian transition theorist Michel Bauwens and project manager Yurek Onzia engaged in 2017 in a three-month long participatory research on the possibilities for and role of Ghent as a Commons city for the future (The City of Ghent, 2019). The report provided an underlying logic for transition infrastructure for the city of Ghent. As it can be observed from the plan, the crucial feature is the collaboration between the commoners and the city authority who make a deal as equal partners. According to the transition infrastructure, commons initiatives can forward their proposals and need for support to a City Lab, which would prepare a “Commons Accord” between the city and the commons initiative. Based on this contract, the city would then set-up specific support alliances, combining several stakeholders: the commoners, civil society organisations, the city itself, and the generative private sector, in order to organise support flows (see Figure 11).

Figure 11: Underlying logic for the transition infrastructure for the city of Ghent



Source: A Commons Transition Plan for the City of Ghent

It remains to be seen how these cities and newly created bodies will evolve. Some concerns already exist. It is clear that their purpose is to strengthen the commons collaborative economy as a self-aware, active sector of the city’s life, but some worry, especially in case of Barcelona, that the existing political party could superimpose the commons ethic and language onto a conventional politics and that the political system could eventually “capture” the commons and use it for its own political and commercial ambitions. Other critics are worried that the re-

municipalisation of the city's utilities system will ultimately fail and result in it becoming privatised once again.[57]

Potential negative impact on governance could be the significant lobbying efforts exercised by some firms on public authorities. As a result of the efforts, some public authorities responded by removing or significantly limiting local authority to respond to the collaborative economy. This has been particularly the case in the realm of ride sharing. In USA at least 37 States have reportedly, to some degree, preempted local regulation of Transportation Network Companies, and some states have preempted other aspects of the collaborative economy (Davidson & Infranca, 2017). This kind of state preemption as result of lobbying could curtail potential benefits of the collaborative economy on local governance – increased political creativity.

Despite the new approaches to the local governance, the cities in majority still tend to restrict themselves to the traditional role of regulators, rather than to the role of providers, enablers or consumers (Zvolska et al., 2017). "City as a regulator", as most commonly known type, refers to a city authority imposing regulatory mechanisms such as laws, taxes, bans, policies etc, to regulate the establishment of collaborative initiatives. In addition to the regulatory measures "city as provider" offers financial and /or infrastructural services to support development of collaborative initiatives. As a step further, "city as enabler" "City as enabler" coordinates collaboration among different partners of the collaborative initiatives or helps developing partnerships with municipal actors, organising events, competitions or recognise the best collaborative practice. Finally, "city as consumer" refers to municipalities adopting urban sharing practices in their own operations, such as procurement. For example, the city of Malmö in Sweden developed an online platform where public organisations can share idle furniture and office equipment and so reduce the economic and environmental costs. Some examples of proactive approaches initiated by cities do exist (as seen with Barcelona and Ghent), but typically the cities still rarely expand their roles in the realm of the collaborative economy.

Inter-field or intra-field unionisation of urban sharing organisations is therefore necessary, according to Zvolska et. al. (2017) because it could enable more inclusive and efficient collaborative governance processes, where the voices of city's sharing organisations could be heard or even take part in city councils. Additionally, cities also tend to approach the urban sharing organisations in rather "selective" way and in the same way as they are approaching business start-ups. Berlin, which tries to establish itself as the "sharing capital of Europe", or London for example, offer support to urban sharing initiatives for which they consider the potential impact in terms of innovation and economic development to be the greatest. Both cities support the sustainable innovation as part of their smart city agendas, but their support for relevant urban sharing organisations remains fragmented and even more often, the urban sharing organisations get combined with smart and innovative start-ups. Being counted as any other start-up, the risk exists that the sustainable potential of the sharing organisations will be

[57] http://commonsstrategies.org/barcelonas-brave-struggle-advance-commons/

untapped. As it was observed by the authors, both Berlin and London were active in regulating any disruptive activities related to sharing organisations, but they failed to counterbalance these imposed limitations with any new enabling provisions or support mechanisms for the sharing organisations that could develop environmental and social sustainability in the city. If the focus of municipalities remains on larger sharing organisations that support smart city's agendas, without considering smaller and maybe less "attention worthy" sharing organisations, the risk exists that collaborative economy will be streamlined to a primarily "making money" activity. As being closer to the citizens, the city governments can play special roles in the collaborative economy and for that cities should go beyond their typical role of a "regulator" and assume more proactive roles.

As the collaborative economy includes as well local governance schemes, the section above tried to explore the potential impacts of the collaborative economy on governance. Impacts of the collaborative economy on governance can be reflected in new governing ways, which are increasingly becoming more horizontal and local-level oriented. The spread of new governing ways was particular evident in some cities, which took upon the idea and are now in the process of transforming their governance models (e.g. Barcelona, Ghent). However, the idea of new governance models is still rather unknown and majority of cities in Europe still follow the traditional governance models. Cities in majority still see themselves in the role of regulators, and rarely take upon the roles of enablers, providers or even consumers. The literature review on the political/governance impacts does not mention the impact of particular types of Urban Circular Collaborative Economy initiatives on governance structures, however it can be assumed that certain types of initiatives have a greater impact on the governance structure or are at least more commonly applied. For example, energy cooperatives introduce new decision-making structures that can relate to the principle of the commons.

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