

THE CONCEPTUAL MODEL OF COLLABORATIVE ECONOMY

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***Abstract:** Sharing economy is a phenomenon which it is currently paid too much attention, both in positive and negative point of view. This concept is a relatively young in the economics, but the historical context of sharing principles can be observed from the beginning of the human community. The definition of a sharing economy requires a multidisciplinary approach for the complexity of the concept.*

The aim of the article is to introduce a new conceptual model of a sharing economy, which can be used in regulating of a part of sharing economy, which by its nature, causes unfair competition in the business environment, since traditional business models for the provision of the same services must bear the additional costs associated with the certification of services, safety training, etc.

***Keywords:** Collaborative economy, Sharing economy, New business models.*

***JEL Classification:** J46, O17, R21, O33, O35, O38, P41, K20.*

Introduction

Sharing economy is a phenomenon which is currently paid too much attention, both in a positive perspective (development of new forms of business using ICT) and negative (unfair competition when competition with standard services, which carry additional costs resulting from the regulations of the country e.g., sanitary and technical standards, safety regulations, etc.). The concept of a sharing economy is relatively very young in economics, but the historical context can be observed from the beginning of human community. In the article it is used a multidisciplinary approach that is required by the complexity of this concept, therefore, it is necessary to include a definition of economics and sociology and even a part of anthropology in addition as well.

The aim of the article is to introduce a new conceptual model of a sharing economy, which can be used in regulating of a part of sharing economy, which by its nature, causes unfair competition in the business environment, since traditional business models for the provision of the same services must bear the additional costs associated with the certification of services, safety training, etc. This model will be applied on the example of Airbnb and standard accommodation services in Prague.

1 Literature review

The principle of "*sharing*" and "*sharing economy*" [sharing economy], was completely overgrown with the everyday life of natural nations (Lévi-Strauss, 1996). Also in traditional societies, i.e. in Europe in the late 18th century and 19th century, sharing was strongly represented.

With the transition¹ to a modern society, with the disintegration of large families, and the forms of farming households have changed, the sharing is starting to have a closed character especially in the area of family relations (Keller, 2007). Also currently the society has clearly been transformed. For the causes of changes of the social structure of the population; it can be considered the development of communication and information technologies, population ageing, shifting the employees into the service sector, changes in organizational structures. Sociologists are trying to describe the new character of the society through a variety of attributes, which indicate certain features of acquiring importance. For example, it is the post-industrial society (Bell, 1973), where the services sector has a key importance², or the networks society (Castells, 1996). As even the principle of sharing, this is increasing the importance of the use of networks of relatives, friends and acquaintances³.

The concept of a **sharing economy** appears until after 2000, when Prof. Yochai Benkler, Harvard Law School, who is a strong supporter of the free sharing a priori in the field of information technology and as well as in the economy, used this concept in the publication "The wealth of networks" (Benkler, 2006). In the 1970s Marcus Felson and Joe I. Spaeth, established up with the concept of **Collaborative consumption**. A prerequisite for Collaborative Consumption is the existence of assets (or the potential capacity of the service), the willingness of the assets or service to provide to another user from the part of the owner (either that it is not able to take advantage of the period of their life, or even with the intent to do so), the existence of the subject (in particular, natural persons) that has the interest to take advantage of such assets or service, free of charge or for a fee (Felson, Spaeth, 1978).

Oxford Dictionaries **defines a sharing economy** as a „*An economic system in which assets or services are shared between private individuals, either free or for a fee, typically by means of the Internet.*“ (OUP, 2017).

According to Eckhardt and Bardhi (2015) more accurate than the sharing economy is a concept of the **access economy**. The authors of the above mentioned article argue that for a business model where there are things and services traded on the basis of the approach is the defining moment of access than just ownership. "*They perceive the sharing as a form of social exchange, which takes place between people (e.g. within the family, neighbours, friends) without any profit*".

¹ Sociologists have focused on the analysis of the process of moving the traditional society into the modern one. It is reported the four basic characteristics of modern society: individualisation, abstraction and generalization of social relations, the process of functional differentiation and process of subsystems. The transformation in the area of ownership — a generalization of the market, buying and selling formally free labour, the sale of land and resources, which had been outside of sale, a change in the area of production. (Keller, 2005, 16) Transformed and the principle of sharing, i.e.. on the basis of the individualization of the reduction range shared goods and services.

²Services such as economic goods have a special character, for example they cannot be stored. For traditional services of personal needs may have been just in the places of consumption to personalized and in time to concerned, when the recipient meets with the of the service provider (Kovář, 1999, p. 107).

³ The first major publication is an essay by American sociologist Mark Granovettera of 1973 *The Strength of Weak Ties* applied to getting work. The strength of the ties is determined by the amount of time that the people concerned are in contact, the emotional intensity of this contact, the degree of mutual trust and services that members provide each other with the relationship. Granovetter distinguishes the ties on the strong and weak. An example of strong ties is ties that connect family members and relatives, but also the relationships between good friends. The weak ties by contrast link a man with his more or less random acquaintances, such as people with whom he once studied former colleagues from work. The strength of the weak relations is reflected in the fact that a person with a different and distant social environment, which can, if necessary, help more than support from his closest, even though they are to such assistance much more motivated. (Granovetter, 1973)

In a similar context there is used and the concept of the "*GiG economy*", which is the transition from the full time fixed jobs that are permanent to a particular place and time towards their time and local flexibilisation and the fragmentation into short-term contracts. (Benda, 2016).

This article contains the generic term "collaborative economy", while "the sharing economy" or the "peer-to peer economy" are considered synonymous. „*The collaborative economy is a relatively new economic system approach based on peer-to-peer transactions. It includes the shared creation, production and consumption of goods and services accessible for all through online platforms and smartphone applications.*“ (Beaumont, 2016:6)

In comparison with traditional models of distribution and use of goods and services are for many people the modern approaches of sharing more acceptable, the distribution system is, more transparent, more open for them, faster, freer, and often cheaper. You cannot overlook the fact that in order to meet a range of needs, it needs less material goods, which saves the consumption of materials and energy. On the other side; the transaction and the use of products or services through the sharing economy are much less regulated, which providers like, and the beneficiaries as well (ibid).

As mentioned above, the activities on the basis of the sharing economy in the world, and with some time delay even with us, have begun to appear in the last ten years. You cannot ignore, however, although it is a relatively new economic activity, it is developing extremely dynamically in terms of both scale and diversity of the offer.

Tab. 1: Segments of sharing economy

<p>Travelling</p> <ul style="list-style-type: none"> ▪ accommodation ▪ sightseeing ▪ guiding 	<p>Home</p> <ul style="list-style-type: none"> ▪ art crafts ▪ furniture ▪ tools ▪ Freecycling */ 	<p>Money</p> <ul style="list-style-type: none"> ▪ loans ▪ insurance ▪ investment
<p>Equipment</p> <ul style="list-style-type: none"> ▪ machinery ▪ tools ▪ sport accessories 	<p>Luxury goods</p> <ul style="list-style-type: none"> ▪ clothes ▪ sports ▪ weddings 	<p>Fashion</p> <ul style="list-style-type: none"> ▪ clothes ▪ accessories ▪ make-up
<p>Electronics</p> <ul style="list-style-type: none"> ▪ appliances ▪ cameras ▪ computers ▪ hi-fi 	<p>Culture</p> <ul style="list-style-type: none"> ▪ books ▪ games ▪ films ▪ music 	<p>Transport</p> <ul style="list-style-type: none"> ▪ cars ▪ bicycles, scooters, ▪ motorbikes ▪ share drives
<p>Pets</p> <ul style="list-style-type: none"> ▪ pets-sitting ▪ hotel ▪ services 	<p>Leisure time</p> <ul style="list-style-type: none"> ▪ camping ▪ winter sports ▪ summer sports 	<p>Children</p> <ul style="list-style-type: none"> ▪ babysitting ▪ clothes ▪ toys
<p>Food</p> <ul style="list-style-type: none"> ▪ supplies ▪ services ▪ cleaning and washing ▪ garden parties 	<p>Rent space</p> <ul style="list-style-type: none"> ▪ office ▪ shops ▪ warehouses ▪ parking 	<p>Services</p> <ul style="list-style-type: none"> ▪ messengers ▪ walking ▪ street cleaning ▪ repairs
<p>Education</p> <ul style="list-style-type: none"> ▪ languages ▪ textbooks ▪ tutoring 	<p>Labour</p> <ul style="list-style-type: none"> ▪ odd jobs ▪ LET System **/ ▪ consulting 	<p>Agriculture</p> <ul style="list-style-type: none"> ▪ exchanging, ▪ garden sharing***/

Source: (Authors with Collaborative Consumption (2017), the directory for 1 300 cases and you can get in touch with an operator for the sharing.)

Note:

*/ **Freecycling** – giving away unneeded items from the home, furniture, electrical appliances, clothes, who is yet to be used, the place of their disposal as waste.

/Local Exchange trading system** – LET System (the local labour exchange) –it is the local community of people to each other assistants in various services, in particular related to repairs or reconstruction of flats. They do not pay each other's performances, but they register in the work units, you are recorded (having the character of credit), and that is paid for the work, when it is the other member of the community needs.

***/**Garden sharing** - It is the activity that we did not spread, but in the US and the UK is extended, the owner of the garden, or the adjacent plot of land (crofts) already does not want to cultivate this land, he shall agree with the people from the surrounding area, they will cultivate and from the proceeds of this growing activity of the owner gets a specific piece (in kind).

In the context of the regulation of the sharing economy, there are two opposite approaches. The first one is not to regulate, for example Allen, Berg, (2014:28) recommend:

- *Encourage bottom up self-regulation rather than top-down government control.*
- *Reduce occupational licensing.*
- *Reduce industry specific controls that entrench business structure.*
- *Provide an environment for platforms to develop private solutions.*
- *Reduce regulations to encourage entrepreneurship and flexible work practices.*

The second one focuses on the demarcation of the sharing economy section of the economy where a regulation is needed, for example Veber, Krajčák, Hruška, (2016). Also, the European agenda for collaborative economy notes that these new models may contribute significantly to employment growth in the EU, if they are supported and developed responsibly. The rapid development of the sharing economy elicits a response of national and regional authorities on this trend by a series of regulatory measures (EC, 2016). Follow the instructions to the European agenda for collaborative economy, the member countries should distinguish between citizens providing services occasionally, and professional service providers, such as by setting thresholds based on the level of activity. Professional service providers should be required to obtain a commercial permit or licence, if it is absolutely necessary to meet the objectives of public interest. The platform should not be subject to the permit or licence where it acts only as an intermediary between consumers. Absolute bans of the activities should only be a last resort measure.

2 Research methodology

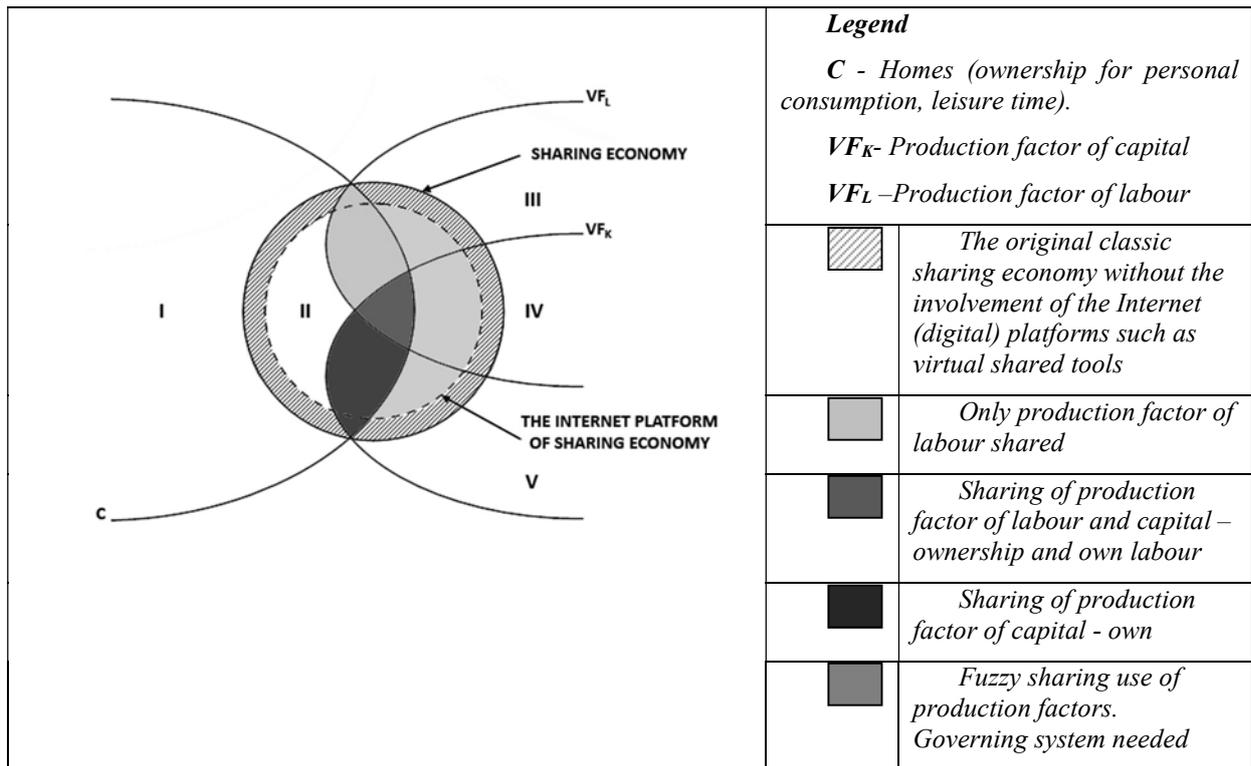
In the framework of article, there are applied theoretical procedures based on logical methods of induction for the creation of “The conceptual model of collaborative economy”, which is then applied to the concrete example. In the context of the application of the model is chosen the mixed research strategy, which combines quantitative data analysis with qualitative methods of research in the form of semi structured interviews, to supplement the quantitative analysis of secondary data, and provide interpretation in the context of a qualitative dimension. The aim of the mixed research strategy is based on the principle of complementarities to remove shortcomings of particular approaches, which, if used separately, they were not able to reveal some aspects of the researching of the subject.

3 Description of the cases

3.1 The conceptual model of collaborative economy (CMCE)

This is a generic model of behaviour and relationships of economic entities, which is based on the theory of economic subjects and describes the relationships of these bodies in the sharing environment of the economy. At the same time it gives a recommendation for regulatory measures in the context of the theory of public interest and promotes socially effective behaviour (including reducing the impact of negative externalities). The basic scheme is in the figure below.

Fig. 1: Model of CMCE



Source: Authors, 2016

Fundamental interaction in the model is the interaction between households and businesses. In the left part of the chart is personal household made up of consumption environment and the available free time, in the right part is a business environment. Home is characterized by private ownership, for example when a natural person is buying a car for his or her personal use and in principle he or she does not consider that part of this means of transport or to let out to co-consuming (sharing) to other entities. Similarly, in this part the households have free time to its free use. Firstly they do not think about sharing it with other objects (entities) in that system. On the right side of the model you can see a major effect of the theory of entrepreneurship and business. Here we have an enterprise that maximizes its benefits and uses of all factors of production, in order to maximise the benefits. Therefore, it involves all the factors of production to the business process (hires employees, uses its own capital in the process of production and service provision). For example, hotels are buying real estate as commercial used objects (for accommodation) and employ a workforce in the positions as receptionists, chambermaids, etc. This right part is already regulated by the government and its essence of laws of commercial business (commercial code, labour code, etc.).

The basis of the model is the largest concentric circle - custom sharing economy. The sharing economy and its description is based on the shared consumption, participation, community thinking. That means the economic model is based on sharing or renting products, in contrast to their exclusive and indivisible ownership.

Sharing economy is based on the sharing of information. Information can be shared either:

- In the same physical space, in which experiencing to the direct physical interaction between co-consumers. This is described in the model by the outer

circle (neighbours' assistance in working together in the garden, the share drive of the car on the way, to rent books on the streets). The outer circle is completed by the Internet platform complements (better e-platforms) of the sharing economy.

- In the different physical space. The inner concentric smaller circle (the Internet platform of the sharing economy is based on a different area of information sharing). Most often it comes to the use of the virtual space of an intermediary linking the supply and demand of goods and services of the sharing economy. This means that all Internet platforms are based on the fact that shares information, without the use of the same physical space (the direct interaction between two groups of people) who offers and who consumes a particular goods or service.

The Internet platform is trendy in time series of ever increasing circle that slowly begin to come on to the ring size of the original sharing economy. Fewer and fewer products and services that are provided and offered are located in the same physical space.

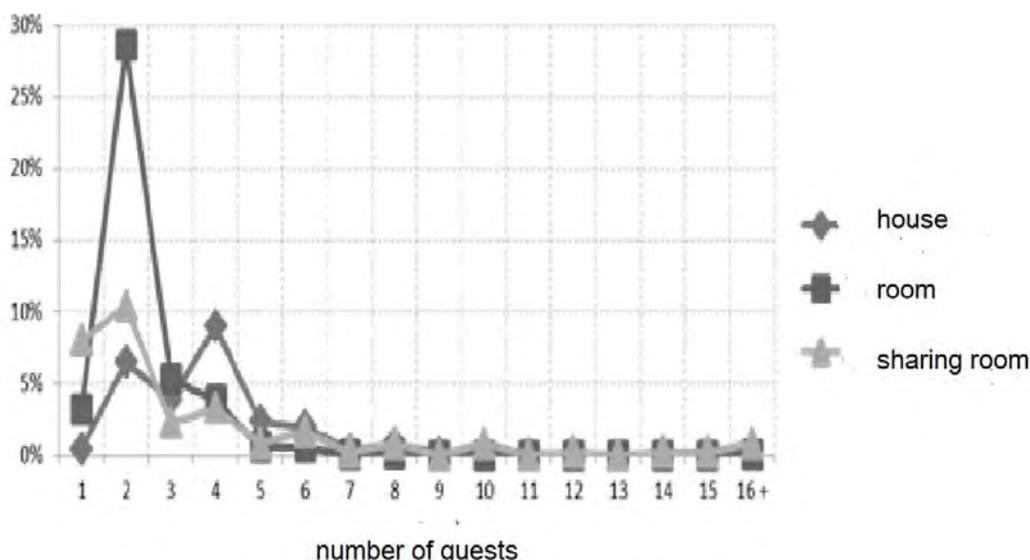
In the description of the behaviour of the model, it is worth mentioning two possible approaches of the operators of the Internet platform (model context). The first approach is concerned to upgrade the product or service. It comes to optimize purchasing behaviour, social efficiency. These are open platforms that do not have a reason to cover the information in some way, do not share them with other market participants, including government institutions. It is the innovative product development process, which is helped by the social order. For example; the company of Liftago, is the company operates in the sharing economy, but basically it has its service based on innovation of the product. Its customers are both operators of taxi services (trading business licence), and consumers who are searching for this service. The second approach is measured to control the market. From the theory of public interest in this concept occurs to significant limitations, as these platforms produce negative externalities. Classic hotels charge for accommodation (a local tax), that Airbnb do not charge. These fees are directed to the municipal budget, which typically subsidize local public activities and contribute to the attractiveness of the site and increase the interest and quality of the accommodation.

3.2 Application of the model

The model is applied to the accommodation property in Prague, i.e., there are compared the capacity and occupancy in mass establishments offering and occupancy of Airbnb. Based on the Czech Statistical Office database of „The mass accommodation facilities in the Czech Republic“ was in the year 2015 in the territory of the capital city of Prague, 91 059 beds in 41 854 rooms, which are located in 797 mass accommodation facilities. Since 2012, the overall decrease has occurred of 48 properties, especially in the category of Pension (Guesthouse) (a decrease of 30), Hotel, motel, boatel ** (decrease of 5 hotels), on the contrary, the increase shows the category of Hotel, motel, boatel **** (an increase of 19 hotels). It is evident the trend of decline in the number of beds, especially in other mass accommodation facilities (dormitories, hostels for workers) see annex. However, we can see a clear increase in superior quality. The largest concentration of bed places in tourist accommodation establishments is in Prague 1, and subsequently in Prague 2.

On the basis of the data available till 22. 10.2016 in the online platform <https://www.Airbnb.cz/>, it was analyzed the accommodation offer according to the number of guests for Prague as a whole and for each part separately. If the number of quotes for districts is greater than 300, it shows only an indication of 300+. On the basis of the analysis there has been shown a cumulative counting of properties, i.e. if someone offers a property for two people, so the same property is offered for one person, therefore, the cumulative effects are subtracted and the result is shown in the following chart.

Fig. 2: Offer of Airbnb without the cumulative effects



Source: Airbnb, accommodation offer, figuring by authors. 2016

The differences are shown in different types of offers. In the category of shared rooms is the most preferred accommodation for two persons, the other preference is a room for one person. For private rooms significantly outweighs the preferences to accommodate 2 people (29%) followed by the preferences of 3 people. When you rent an apartment or house is preferred accommodation for 4 people and then two people. Logicity of distribution of these preferences confirms the validity of outputs.

3.3 Comparison of conventional model and sharing economy model

Based on the information of CSO about mass accommodation facilities and above estimates of Airbnb; it can be done comparing the physical capacity of the two models according to number of beds. There is not evaluated the quality of the offered services as well as there are not taken into account for Airbnb the beds in dormitories and private rooms, that have rather the character of a share.

Tab. 2: The number of beds

Number of beds	Shared room	Private room	Flat/house	Ratio
Airbnb	1 079	7 018	95 502	51%
Mass facilities			91 059	49%
Total			186 561	100%

Source: CSO, Airbnb, accommodation offer, figuring by authors, 2016

The ratio of current offer of Airbnb is 51% within the total capacity of the mass accommodation facilities in 2015. This comparison should be supplemented with an analysis of the use of these capacities. For this purpose, it is typically used in an existing bed capacity utilisation rate (i.e. bed occupancy rate of hotels and other accommodation facilities), which is calculated as follows: $= \frac{P}{L * D} * 100$, where O is the average bed occupancy rate; P – the number of overnight stays; L - number of beds; D – number of days in the year. In the table below there are the results of the mass accommodation facilities on the territory of the city of Prague. From the results, it is clear that the average bed occupancy rate is growing, but it is still below 50% of the annual capacity.

Tab. 3: The number of beds

Year	Number of overnights	Number of beds	Days per year	Average bed occupancy rate
2012	14 443 143	92 246	366	43%
2013	14 654 282	92 052	365	44%
2014	14 750 287	87 961	365	46%
2015	15 917 265	91 059	365	48%

Source: CSO, *Statistics of mass accommodation facilities, 2016*

For Airbnb, it could not be exercised in the same way as we do not have data for an entire year. Therefore, in each type of accommodation there has been chosen a random selection of 40 offers and the bed occupancy was calculated on the basis of the average the given date. It should be noted that some of the offers, and it was not the details, were occupied by long-term leases until the end of the year 2018, it was both shared and private rooms, this contributes to a hypothesis about the long-term rents.

Tab. 4: Estimate of average bed occupancy rate in Airbnb

	Till the end 2016	14 days	7 days	2 days
Share room	45%	45%	53%	59%
Private room	48%	58%	57%	64%
Flat/house	56%	72%	81%	88%

Source: Airbnb, *accommodation offer, figuring by authors, 2016*

Note: The calculation on the basis of offers in that category to 15. 10.2016 analysed until 31 December 31.12.2018.

On the basis of a comparison of the average results of the mass accommodation facilities and in view of the declining number of tourists in October, that can be estimated in terms of the availability of capacity is the accommodation in the form of Airbnb more successful than a traditional accommodation facilities.

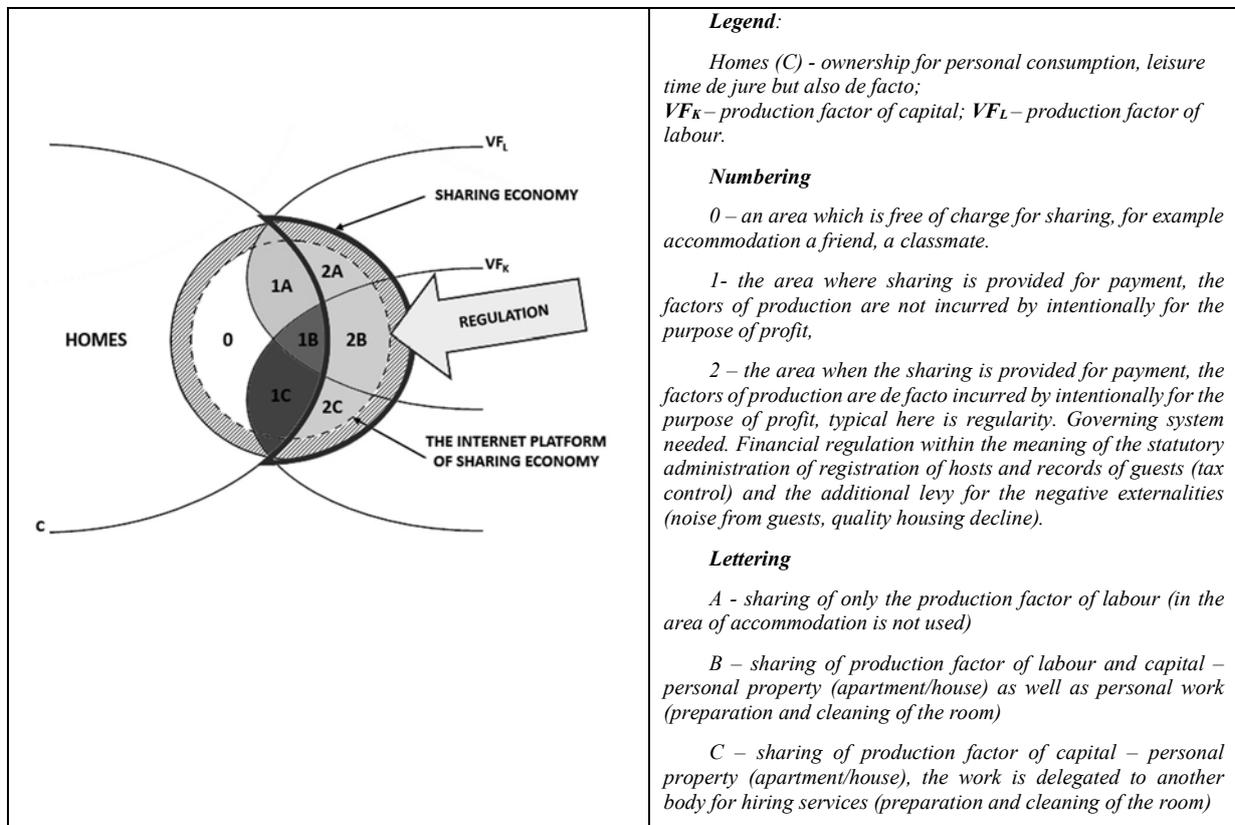
4 Findings

Based on the above mentioned analyses of Airbnb, it is important in the regulation focusing on the largest sector, which consists of flats/houses. This sector is most closely to the business (i.e., area 2b in the chart below), although the ownership of the object is used for the private purposes i.e. the characters of the business are not completed. There are two options of regulation:

1/ variant is similar to Berlin to disable areal rent of the entire facilities (apartments or houses) under the threat of high penalties, including exemplary retribution that will be sufficiently publicized.

2/ variant that are necessary to establish the intent of the business for each offer, including the regularity of the income, and this will populate the merits of entrepreneurship, i.e. business de facto.

Fig. 4: Application of CMCE model to Airbnb in Prague



Source: Authors, 2016

Conclusions and implications

The sharing economy is a reality that we cannot bury our heads in the sand, we could identify:

- to perceive the activity associated with the sharing economy as an alternative model for service offering, the use of free capacity in the use of the products, etc.; do not prevent of these activities by government or regional level, even if they prove their meaning as well as to encourage them;
- at the level of the national economy to create clear rules for differentiate, whether it is a casual sharing or a professional sharing, including the determination of the threshold limits for granting the income from this activity, and thus their taxation (e.g., amount to 6 thousand CZK as is currently case, or that amount increased to 12 thousand CZK per year);
- no need to create a new accounting or tax tools for the purpose of capturing the sharing economy, the existing tools are adequate, it's just a willingness to admit all the sharing revenues;
- wherever the risk of non-compliance with the safety, endanger the hygiene or any other problem of consumer protection

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