The rise of the sharing economy

R. Basselier (*)
G. Langenus
L. Walravens

Introduction

The rapid technological developments are having an impact on the economy, particularly in modifying consumption methods. This article examines the so-called sharing economy. Apart from the strong growth of e-commerce, which has caused digital channels to become an integral part of the distribution chains, electronic platforms have emerged, which essentially link individuals with one another, offering them the opportunity to share goods or assets for which they have little or no use, without implying any transfer of ownership, and to exchange services. This "new economy" has recently gained importance such that it is now a real source of economic potential and opportunities meriting closer analysis.

In that regard, this article first attempts to define this new economy, as the literature contains numerous names for this form of consumption, ranging from the sharing economy to the digital economy and including the peer-to-peer economy and the collaborative economy. This study uses the first of those terms. Next, the article looks at the various factors which may explain the emergence – or rather, the expansion – of this form of economy, so as to gain a better understanding of its relatively rapid rise, and its future economic potential. In that respect, in order to assess how it will develop in the years ahead, it is vital to be able to estimate its current extent, notably in terms of activities, particularly in Europe and Belgium. Although this question is important, it is difficult to answer owing to the problem of defining its scope precisely and obtaining accurate statistics, but also in view of the current statistical accounting methods. The next part of the study describes how these activities are currently taken into account in the official statistics. The article also assesses to what extent the existing statistical methods need to be adjusted to ensure adequate coverage of these new forms of consumption and production. Finally, the article reviews the public policy implications of the sharing economy, as it has substantially increased competition on most markets where it exists. In fact, some concerns have already been raised recently, primarily in relation to the regulation that is required and the possibility that the sharing economy will merely oust conventional economic models via unfair competition.

1. Definition of the sharing economy

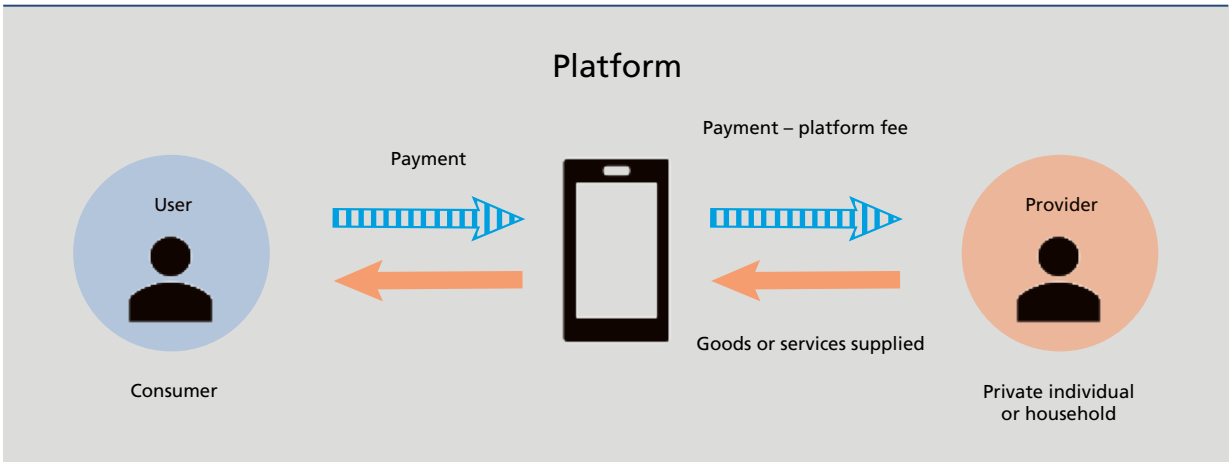
There is nothing new about the tendency to exchange and share goods or services such as cars, special tools, time or knowledge, but until recently these exchanges used to take place essentially on an informal basis, i.e. within the family, between friends or neighbours, or more generally, between acquaintances. However, the emergence and development of the digital economy, particularly the internet, has considerably widened the scope for the various

(*) The authors are grateful to Lotte Van Mechelen for her valuable contribution on the statistical treatment of the sharing economy and for conducting the two case studies.

players to arrange these different types of exchange, as nowadays they can easily be effected between people who were previously total strangers, and can be organised more efficiently owing to cheaper information and logistics costs.

The literature and economic analyses concerning this new form of economy, stimulated by digital developments, use a wide range of names and definitions. The sharing economy, the collaborative economy, the digital economy, the circular economy, the peer-to-peer economy and the gig economy[1] are just some examples of the names regularly used in the economic literature and in the media. In reality, this plethora of terms reflects the difficulty of establishing a precise definition of this new method of exchange and trade in goods and services (Botsman, 2013). Although the definitions are not entirely interchangeable, they nevertheless have some aspects in common, as they concern activities facilitated by digital platforms which enable individuals to share or exchange goods, services, resources, or skills which were previously unused or under-used. In other words, the sharing economy matches demand to the supply of under-used assets or skills via intermediaries, with the aid of digital technologies, and does so with speed and efficiency, and on a large scale. It also enables consumers to become producers or micro-entrepreneurs and to contact one another, thus resulting in the disintermediation of many traditional activities. In most cases, these transactions do not entail any change of ownership[2]; platforms such as eBay, used for selling goods on line, including second-hand items, are therefore excluded. The definition of the sharing economy adopted in this study is also similar to the one used by Goudin (2016) in his report for the European Parliament, and by Beck *et al.* (2017).

CHART 1 PEER-TO-PEER BUSINESS MODEL IN THE SHARING ECONOMY



This new form of economy encompasses a multiplicity of business models and a great variety of economic activities, ranging from the letting of a residential property (in whole or in part) to the booking of cars with drivers, or help with housework.

TABLE 1 ECONOMIC SECTORS IN WHICH THE BUSINESS MODELS OF THE SHARING ECONOMY ARE USED

Sectors of activity	Examples of businesses/platforms
Transport	Uber, Lyft, BlaBlaCar, Click&Boat
Tourism and hotel industry	Airbnb, CouchSurfing, HomeExchange
Food	ShareTheMeal
Financial sector	KickStarter, Funding Circle
Services	TaskRabbit, WeTasker

(1) The term "gig economy" refers mainly to the repercussions of the sharing economy on the labour market, where increasing numbers of people carry out successive jobs via the platforms which have been developed to act as intermediaries between individuals for the purpose of those activities, but which do not actually have any direct employees. More generally, the term is linked to the expansion of self-employed activity, with work being regularly carried out for different employers.
(2) However, services may be accompanied by a transfer of intellectual property rights.

In the consumer-to-consumer business model, known as "c2c" (or "p2p" for peer-to-peer), demand and supply are matched via a digital platform developed and operated by a third entity who usually takes a percentage of the payment with each transaction. That is typically the case with platforms such as Airbnb and Uber, two major players in the sharing economy. Similarly, as a result of the strong growth of this type of business, more traditional commercial firms are also in the process of adapting their economic model to incorporate this concept of "sharing". Although this type of business-to-consumer model ("b2c") implies direct contact with the customers via its own app or platform, these activities are not included in the definition of the sharing economy used in this article, because these business models are relatively similar to those of traditional traders. For example, ZipCar which uses an app to provide a fleet of cars that can be "shared" by individuals is not fundamentally different from the service offered by a traditional car hire firm. One last point is that firms are gradually also realising the benefits of the principle of sharing with one another (be it software, office space or highly-specialised equipment). For example, the online platform Stockspots which recently began operating in Belgium now offers on-demand warehouse space for businesses.

Finally, even though the term sharing economy is becoming ever more widespread, there is some resistance to its use (Bardhi and Eckhardt, 2015). It might perhaps be more appropriate to call it the "renting economy" or the "access economy", as the owners offering a property on Airbnb are not really sharing their home, but renting it out. Similarly, Uber is merely offering the hire of a vehicle with a driver in return for payment.

2. Factors behind the emergence and development of the sharing economy

As already stated, technological developments – and the advance of digitisation – are the driving force behind the emergence and rapid growth of sharing platforms. However, increasing urbanisation and growing environmental awareness are also decisive factors. Finally, financial motives may likewise be contributing to this development, both among consumers and among suppliers of goods or services.

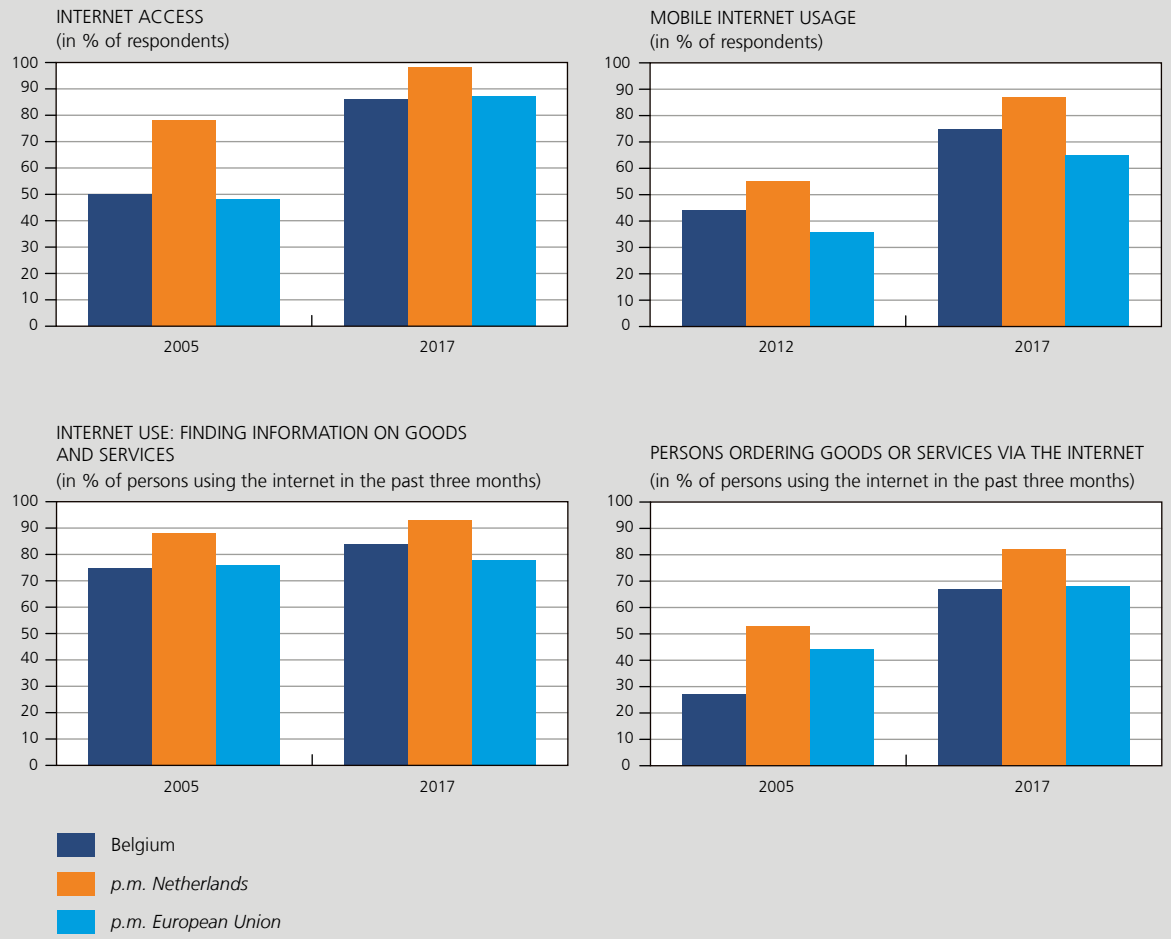
2.1 Digitisation

Many studies (Coyle, 2016) have shown that the sharing economy offers a quick and cheap way of matching supply with demand for goods and services. The main innovation in the business model of the sharing economy lies in the technological platforms and mobile apps which bring demand and supply together and group them in a way which was not possible before (quicker, cheaper and on a bigger scale), including in geographical areas or services sectors where the concentration of players is lower and where new commercial opportunities are now arising. Use of the internet makes it easier to carry out transactions by connecting those offering assets or services with those who wish to use them, and it does so on a large scale with instant matching. Today, the success of sharing businesses depends very much on this ability to make a material asset or service available to others efficiently, whether or not in return for payment.

The internet is therefore crucial to the development of the sharing economy. In that respect, measured according to the Digital Economy and Society Index (DESI)[(1)], Belgium was ranked sixth in Europe in 2017, with particularly high scores for connectivity and the integration of digital technology by firms aiming to boost their productivity and sales. Eurostat figures also show that the internet is widespread in Belgium: around 86 % of the population had internet access in 2017. Similarly, 75 % of the population used mobile devices such as laptops and smartphones to consult the internet when on the move. Furthermore, rapid search options are increasingly being used to obtain and compare information on goods and services online, often resulting in an online purchase. In fact, 67 % of internet users report having purchased at least one item online in the past year. Although Belgium is not yet doing as well as its neighbour the Netherlands, for example, it nevertheless scores well above the EU average. In principle, these factors create the ideal conditions for the emergence and rapid expansion of new online commercial players, such as the sharing platforms. Lobel (2016) also points out that the sharing platforms become more efficient the more people use them, since the probability of a match between supply and demand increases, bringing a further decline in transaction costs. That could also explain why the sharing economy can achieve exponential growth, particularly in its initial development phase.

(1) DESI is a composite index that summarises relevant indicators on Europe's digital performance and tracks the digital competitiveness of the EU Member States.

CHART 2 INDICATORS FOR USE OF THE INTERNET AND THE NEW TECHNOLOGIES



Source: Eurostat.
Note: This chart makes a comparison with the Netherlands because that is the EU country that scores highest for (almost) all the indicators considered.

2.2 Urbanisation

Apart from the said technological developments, increasing urbanisation has also made it possible to bring together a critical number of economic actors in order to develop shared activities. The concentration of people living in close proximity has indeed expanded the opportunities for exchanging a number of activities in the sharing economy, although digital progress has likewise facilitated contact between players located farther apart. Davidson and Infranca (2016) even assert that many of the initiatives in the sharing economy offer a specific response to the frustrations of living in a busy city. In fact, city dwellers can now avoid having to buy a car (and thus avoid the associated parking problems) by car-pooling or hiring a car with a driver.

2.3 Values (and eco-citizenship)

Similarly, cultural values and social norms have changed, and encourage the development of activities in the sharing economy. First, environmental considerations 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 sharing economy is beneficial. For instance, 43 % of the 1 000 Belgians polled agree with

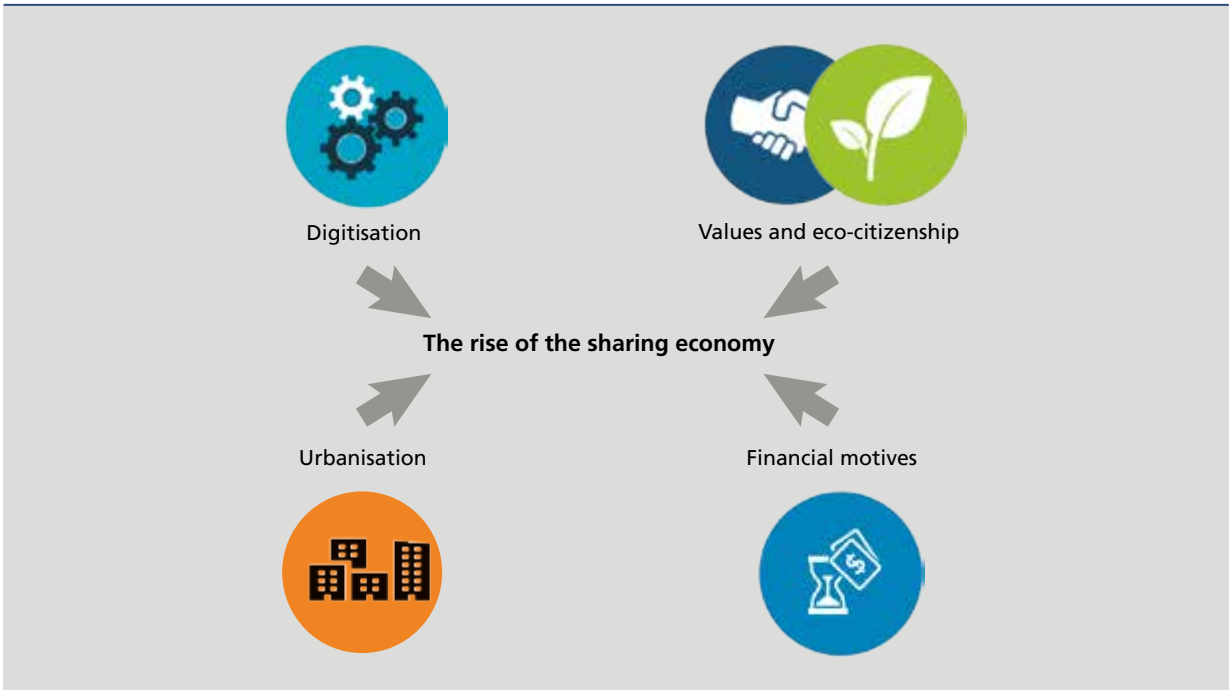
the statement that the sharing economy is good for the environment. Moreover, 36 % of Belgian respondents consider that the sharing economy strengthens communities.

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. However, that is not fortuitous, as these are typically goods that generally come with a high purchase price and are often under-used (or even not used at all). Although willingness to share is particularly marked among millennials, earlier generations also seem willing to follow the trend. Nonetheless, Europe still lags somewhat behind in this respect. At global level, an average of 60 % of the total of 30 000 respondents state that they are willing to share their goods with others.

Moreover, the willingness to share one's belongings with strangers is not so much a question of trust as an additional consequence of increasing digitisation, which has permitted the creation of online reputation and rating systems (Bergh and Funcke, 2016). As a result, in the eyes of consumers, the risks inherent in sharing are lower.

CHART 3 TRENDS UNDERLYING THE DEVELOPMENT OF THE SHARING ECONOMY



2.4 Financial motives

Apart from altruistic motives, financial aspects undoubtedly play a key role in the emergence of this type of economy. According to the 2015 ING survey, a large proportion (48 %) of Belgian respondents stated that their main reason for participating in the sharing economy was to earn money or to save money. De Coen and Vanoeteren (2017) arrived at a comparable figure of 46 % for a sub-group of Flemish consumers.

Similarly, the literature states that the financial aspect is the main incentive for participating in this type of transactions (Schor and Attwood-Charles, 2017). Use of the sharing economy may in fact make sense in economic terms, on the one hand because individuals avoid the need to invest in expensive items which are seldom used, while on the other, they can boost their income by "hiring out" under-used goods (Lobel, 2016). What is more, users (consumers) benefit from lower prices, one reason being that the platforms reduce transaction costs and do not require a significant marketing budget (Schor and Attwood-Charles, 2017). Just as goods are shared on line, opinions are also exchanged on the web. In that regard, the survey by Nielsen (2015) demonstrates the power of publicity by word of mouth. Thus, no fewer than 78 % of European respondents attach considerable importance to the recommendations of friends and family. A smaller proportion of those polled, though still 60 %, also pay attention to the opinions expressed online by consumers unknown to them. Consequently, people place far more trust in those opinions than in traditional advertisements on television or in newspapers and magazines.

3. Economic importance of the sharing economy

The various factors mentioned above have led to the rise of activities in the sharing economy over recent years. This section aims to determine the scale of these activities in general terms. However, that is difficult owing to the considerable number of (new) challenges to be addressed in order to arrive at an accurate assessment. The main challenges in terms of methodology and statistics hampering this analysis of the sharing economy's weight in the economy as a whole are discussed in a separate section of this article (see section 4).

3.1 Vigorous growth worldwide

Quantitative data on the scale of the activities of the sharing economy across the world are relatively scarce and limited. Nonetheless, the existing studies indicate that those activities have expanded considerably in recent years.

For instance, according to a study by PricewaterhouseCoopers (PwC) published in 2016, the value of the transactions and revenues of sharing platforms in Europe amounted to € 28.1 billion and € 3.6 billion respectively in 2015, and had more than doubled since 2013. However, despite this rapid growth, the impact of these platforms on the total economy is still relatively small so far. In fact, the figure of € 28.1 billion recorded for transactions in 2015 only represents around 0.35 % of the total final consumption expenditure of European households in that year.

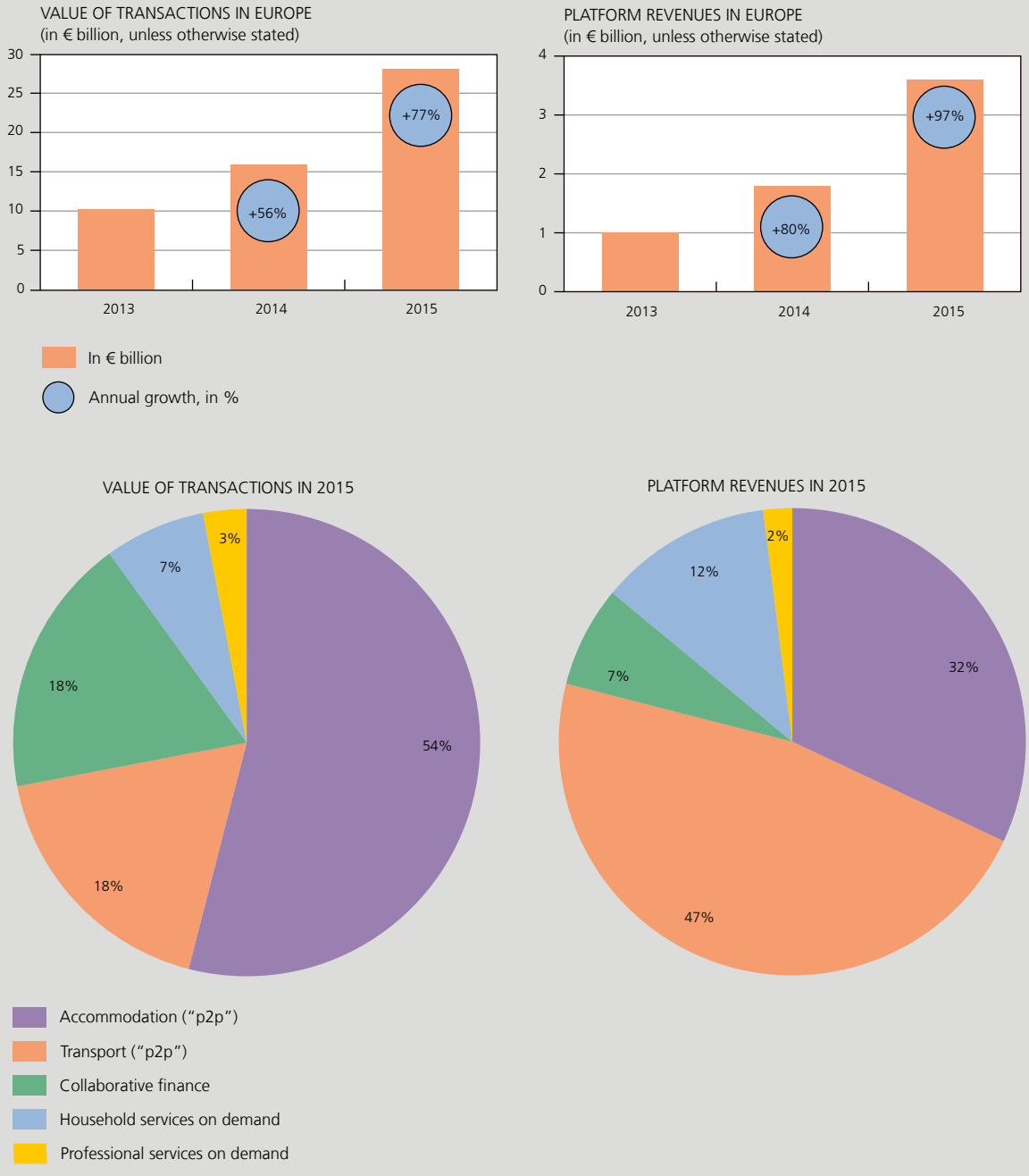
The growth of platform revenues is attributable mainly to activities relating to accommodation and transport, which expanded considerably between 2013 and 2015. Moreover, that is in line with the valuation of the two main companies active in those services transactions (namely Uber and Airbnb), which quadrupled and tripled respectively between 2014 and 2016 (PwC, 2016). There has been equally dramatic growth in the number of searches worldwide concerning these two best-known platforms. Data collected by Google Trends show how interest in these two companies has grown exponentially since 2011. Unsurprisingly, the number of searches targeting Airbnb also displays a clearly seasonal profile : in fact, interest in short-term accommodation systematically peaks in the summer months before subsiding in the autumn.

An exploratory study by the European Commission (EC, 2017) on "p2p" platforms also confirms the expansion of the sharing economy in Europe. Thus, according to this study there were around 485 "p2p" platforms active in Europe (+ Norway) in 2016 (from March to December 2016), of which 4 % were extremely significant with over 100 000 visitors a day. 323 of these online platforms (i.e. 67 % of the total) are directly classified as platforms relating to the sharing economy [1] [2].

(1) Of the 485 platforms identified in this study, only three (Airbnb, Uber and eBay) are established outside the EU and Norway. Nevertheless, they are included in the EC study on account of their popularity and because they have a registered office in an EU country (Ireland in the case of Airbnb and the UK for Uber and eBay).

(2) The EC study covers five "p2p" sectors of activity. According to the EC's definition, only the last four form part of the sharing economy :
- (re)sale goods : platforms used to for selling goods to or buying goods from other persons (e.g. Kapaza in Belgium).
- sharing/renting goods : platforms used for sharing goods and renting them to other persons (e.g. Peerby in the Netherlands).
- sharing/renting accommodation : platforms used for sharing accommodation or renting it to other persons (e.g. Airbnb).
- sharing/hiring rides : platforms used for sharing vehicles or hiring vehicles from other persons (e.g. Uber, BlaBlaCar in France).
- odd jobs : platforms used for recruiting non-professionals for the provision of personal services (e.g. tourist guide services).

CHART 4 VALUE OF TRANSACTIONS AND REVENUES OF SHARING ECONOMY PLATFORMS IN EUROPE (2013-2015) AND THEIR BREAKDOWN IN 2015



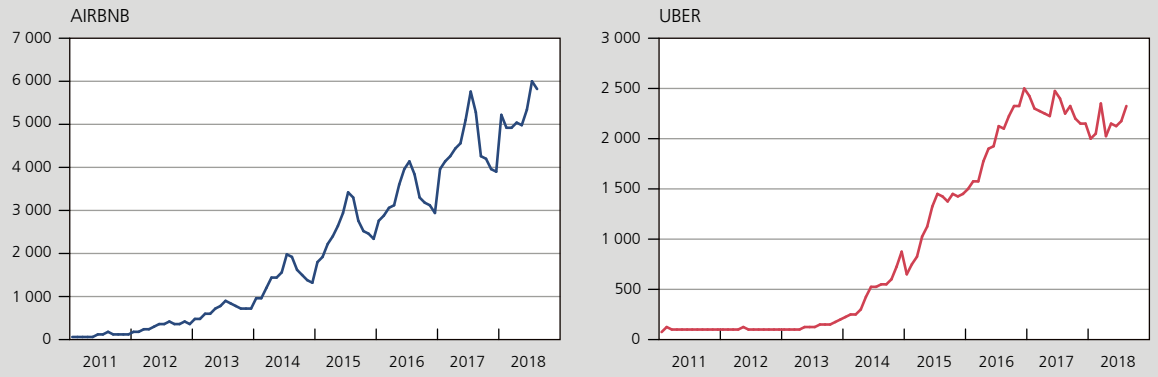
Source: PwC (2016).

Nevertheless, these digital platforms are less prominent in the European economic landscape than elsewhere in the world, as indicated, for instance, by a study on their worldwide development (Evans and Gawer, 2016)[1]. In fact, be it in terms of number, market value or number of workers employed, the European platforms identified by this study make up only a small percentage of the total. In geographical terms, the digital platforms considered actually seem

(1) However, the digital platforms discussed in this study cover a broader spectrum than our definition of the sharing economy. In particular, they include a number of e-commerce platforms such as eBay and Amazon, which are not captured by the definition used in this article.

CHART 5 SEARCHES TARGETING AIRBNB AND UBER WORLDWIDE

(monthly data, indices, average 2011 = 100)

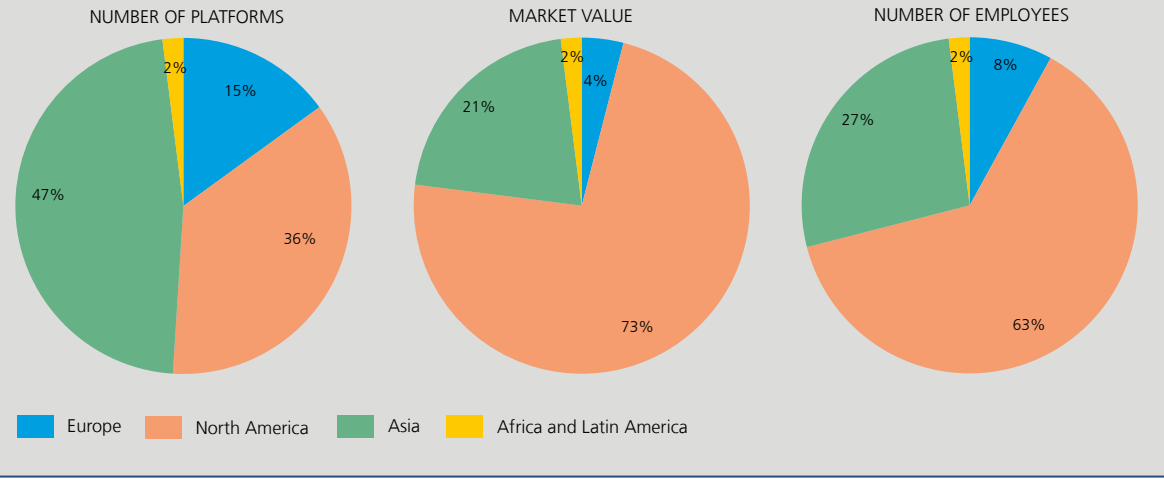


Source: Google Trends.

to be located mainly in Asia (47 %) rather than in North America (36 %) and Europe (15 %). Moreover, their market capitalisation seems to be much greater in North America (73 %) than in Europe (4.2 %), despite the extent to which such service platforms are used in Europe.

CHART 6 PLATFORMS OF DIGITAL INTERMEDIARIES ACROSS THE WORLD

(in % of the total number of platforms identified)



Source: own calculations based on Evans and Gawer (2016).

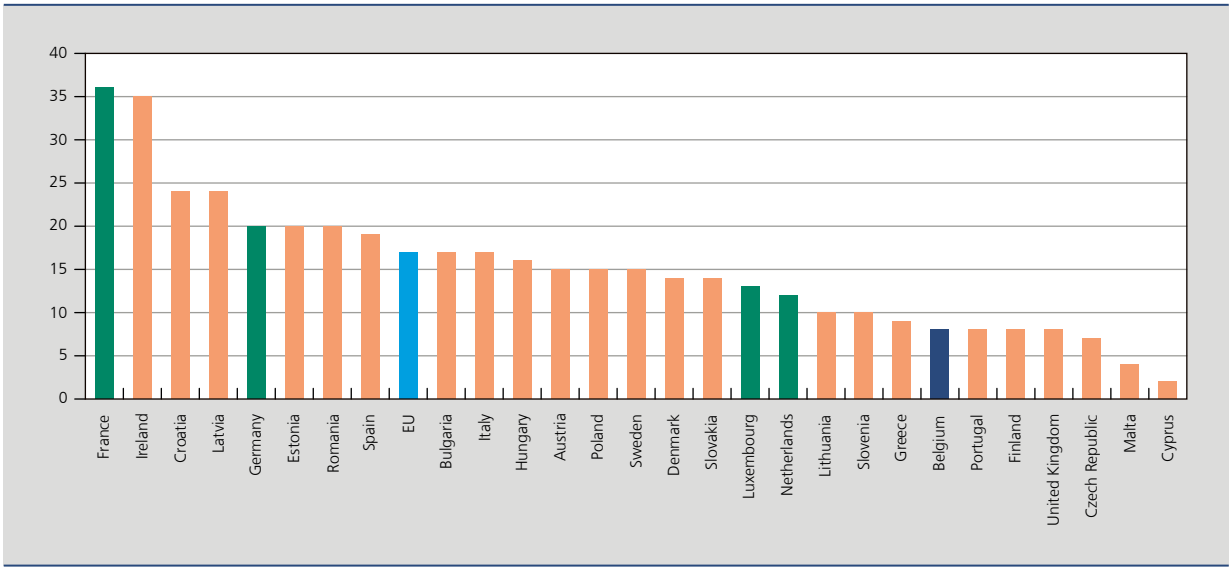
3.2 Focus on Belgium

The aforesaid study by PwC (2016) also revealed that more than 275 collaborative organisations had been set up in the nine European countries considered[(1)]. Most of them were based in France and the UK, with each of those two countries having over 50 companies. In Belgium, fewer than 25 collaborative businesses have been created. This finding, which indicates that Belgium is not in the forefront of European development of activities in the sharing economy,

(1) Belgium, Germany, France, Italy, Poland, Spain, Sweden, Netherlands and UK.

was also demonstrated by a survey conducted by the European Commission (EC, 2016). According to that survey on the use of platforms in the collaborative economy in Europe, only around 8 % of the Belgian population had participated in a form of the sharing economy, well below the participation rate seen in the four neighbouring countries. Belgium's participation is actually below the average for Europe, where almost 17 % of the approximately 14 000 people polled have used such platforms. Moreover, around a third of the European respondents who had used the services of these digital platforms had also provided a service at least once. That therefore suggests that the users of this new form of economy act both as consumers and as service providers.

CHART 7 USE OF A SHARING ECONOMY PLATFORM
(in %)



Source: EC Flash Eurobarometer 438 (2016) – The use of collaborative platforms.

In Belgium as in other European countries, those participating in this form of economy tend to be relatively young, well-educated urban dwellers. Their main reasons for using this form of economy seem to be concern for the environment or the wish to save money, motives which tally perfectly with the factors previously cited as the basis for the emergence and development of the sharing economy worldwide.

The prospects appear to be quite favourable, since 25 % of those polled in this study stated that in future years they were likely to participate in the sharing economy to a greater degree than at present. In addition, although Belgians' rate of participation in the sharing economy is still low, an ING study (2016) draws attention to the growth potential. Thus, according to the ING International Study, in early 2015, around 24 % of Belgians were familiar with the expression "sharing economy". A new poll conducted during 2016 revealed that the term was rapidly gaining acceptance, and that a third of those polled now gave a positive reply.

In this connection, on the basis of a survey of users of digital platforms linked to the sharing economy, a report by PwC (2018) estimated that the turnover of the sharing economy came to around € 2 billion in Belgium in 2017, or 0.5 % of Belgian GDP. Services to households and businesses accounted for the biggest share of that figure (25 %), followed by "accommodation" and "transport" which each represented 20 %. The rest was made up of platforms for "machines", "media and entertainment", and "retail and consumption goods".

3.3 Growing importance in the future ?

Although the sharing economy is currently still small compared to the economy as a whole, its recent rapid growth suggests that this phenomenon will persist in the future.

An estimate by PwC (2014) covering five key sectors of the sharing economy found that the revenue generated worldwide came to around $ 15 billion in 2013, and was expected to reach around $ 335 billion in 2025. This would put the incomes of players involved in activities of the sharing economy on a level comparable to that of the traditional players in the rental market (such as car hire companies, B&Bs, etc.). In the study which he conducted for the European Parliament, Goudin (2016) is even more optimistic, estimating at € 572 billion the potential future value of annual European consumption relating to the sharing economy. However, he repeatedly points out that this amount is a theoretical maximum which could only be achieved in ideal circumstances.

Similarly, the PwC study warns that a number of major challenges are emerging (concerning regulation and public opinion) which could halt the growth of the sharing economy (see section 5 of this study).

4. Capturing (the scale of) the sharing economy in the official statistics and the potential implications for economic analysis

Correct recording of the sharing economy, and in broader terms the digital economy, in the official statistics (value added, incomes, prices, employment, etc.) is essential since, as described in the previous section, these activities seem to have gained importance during the past decade. The question is therefore whether the existing statistical methods and the current method of collecting the data take proper account of these sharing economy activities.

This section aims to address the implications of the emergence and development of the sharing economy activities for the current statistical series and for a country's economic indicators, to identify how these activities are included and, if they are even partially missing, to discuss the current methodological considerations in order to gain a better understanding of these activities[(1)].

4.1 GDP and components in the national accounts

As regards the national accounts, there are still many statistical challenges to be resolved in order to measure and identify the sharing economy as a whole. Major challenges include the classification of these activities in existing or future statistical nomenclatures, the need to be able to identify transactions effected between consumers/households, and the feasibility of measuring non-monetary transactions.

In practice, some activities in the sharing economy are not fully recorded at present in the official statistics such as GDP, since the concept only measures transactions within what is called the production boundary. The reason is that current calculation methods are based on the traditional assumption that firms create value added as producers, while households/individuals are only consumers (or investors, where housing is concerned). As already stated, increasing numbers of individuals now participate directly as "producers" in activities relating to the sharing economy. The role of households as producers was previously limited, and the value added that they create is currently recorded in the national accounts via estimates of the informal economy. With ever more households offering goods or services in the sharing economy, thereby creating value added, the production boundary is liable to become blurred (Bean, 2016). This problem is an intrinsic element of the still broader discussion on GDP as a way of measuring wealth. In that connection, Coyle (2016) states that the impact of the sharing economy on the current statistics could even be negative, for example because the shared use of motor vehicles between individuals could mean that fewer people buy their own car. Nonetheless, that recorded decline in consumption need not imply a loss of wealth. Moreover, the efficiency gains and the time saved by the use of digital applications in the broad sense, and therefore also the sharing economy platforms, are not currently included – at least not in full – in the calculation of GDP.

(1) It should be noted that, in participating in various working groups at international institutions, the National Bank of Belgium's Statistics Department takes part in the ongoing discussions on this subject. For instance, in 2017, Eurostat set up a task force on measuring the prices and volumes of services activities. Among other things, the task force warned against the potential bias due to the introduction of new digital services, and recommended that each case be assessed individually. In practice, the sharing economy is not yet taken into account as such in Belgium's CPI or in the HICP, because it is unclear how much weight should be attributed to those prices. Eurostat needs to issue more specific guidelines on this subject. Also, in 2016, an informal discussion group on measuring GDP in a digital economy was set up by the OECD's Committee on Statistics and Statistical Policy (CSSP) in order to tackle the measurement problems posed by the digital economy. At a meeting of the UNECE Group of Experts on National Accounts held in May 2018, an initial proposal was put forward for creating a satellite account for the digital economy in the national accounts. That would permit the clear identification of digital transactions and, if necessary, could ensure that large transactions are duly recorded. However, the discussions on such a satellite account are still at a very early stage.

Leaving aside the discussion on what GDP is meant to measure, statisticians nowadays also have to contend with incomplete administrative sources relating to (the scale of) the sharing economy. As mentioned in an earlier section, the complexity of defining and delineating the activities of the sharing economy makes it even more difficult to capture them in the official statistics. Although some national accounts classifications[1] already contain categories concerning information and communication technologies, they do not provide a complete picture of the sharing economy platforms, the activities of which are classified in other economic sectors[2]. That is illustrated in the box by two practical case studies on the statistical treatment of Airbnb and Uber. These two platforms are not only the best examples (or pioneers) of the sharing economy : being very different from one another, they also lend themselves perfectly to a discussion of the statistical treatment of activities in this form of economy.

Box : Case studies – Uber and Airbnb

Since 2012, Uber has also been operating in Belgium in the form of a private limited company. Consequently, the firm has to submit detailed annual accounts to the National Bank of Belgium's Central Balance Sheet Office. These data can be readily consulted and reveal, for instance, that this firm employed eleven full-time equivalents (FTEs) in Belgium in 2016 and generated value added amounting to around € 2.2 million.

Nonetheless, since the Uber drivers are self-employed, they are not direct employees of this platform. In Belgium, these drivers are in fact required to register for VAT ; in that respect, they are no different from a traditional, self-employed taxi driver. Although the value added that Uber drivers create is duly included in the national accounts via their VAT figures, it cannot be separated from the total, as there is no distinct classification. The case of Airbnb is even less clear. Although this platform also operates in Belgium, there is no subsidiary registered in Belgium so that the company does not file any annual accounts here. Of course, there are certain registration obligations that apply to rooms or accommodation offered for rent via the digital platform, but once again, the offer via a sharing platform cannot be entirely separated from traditional forms of supply. In any case, the statistical authority has no single, centralised database. In other words, the known administrative data are insufficient, and the significance of this platform can only be estimated via information obtained from the media or on the basis of certain assumptions concerning the number of overnight stays recorded in the sharing economy and the average price charged. Moreover, if it is (part of) the accommodation occupied by the owner that is rented out, an adjustment should be made to take account of the production attributed to houseowners (the "notional rental value") in the national accounts. Owing to the great uncertainty surrounding such assumptions (and indications that the Airbnb platform is currently of negligible significance in comparison with the total Belgian GDP), the National Accounts Institute has opted at this stage not to include Airbnb in the estimates of GDP and awaits more formal guidelines from Eurostat. It seems that, at present, only a few OECD countries are capable of capturing activities concerning the rental of property via digital platforms in their surveys.

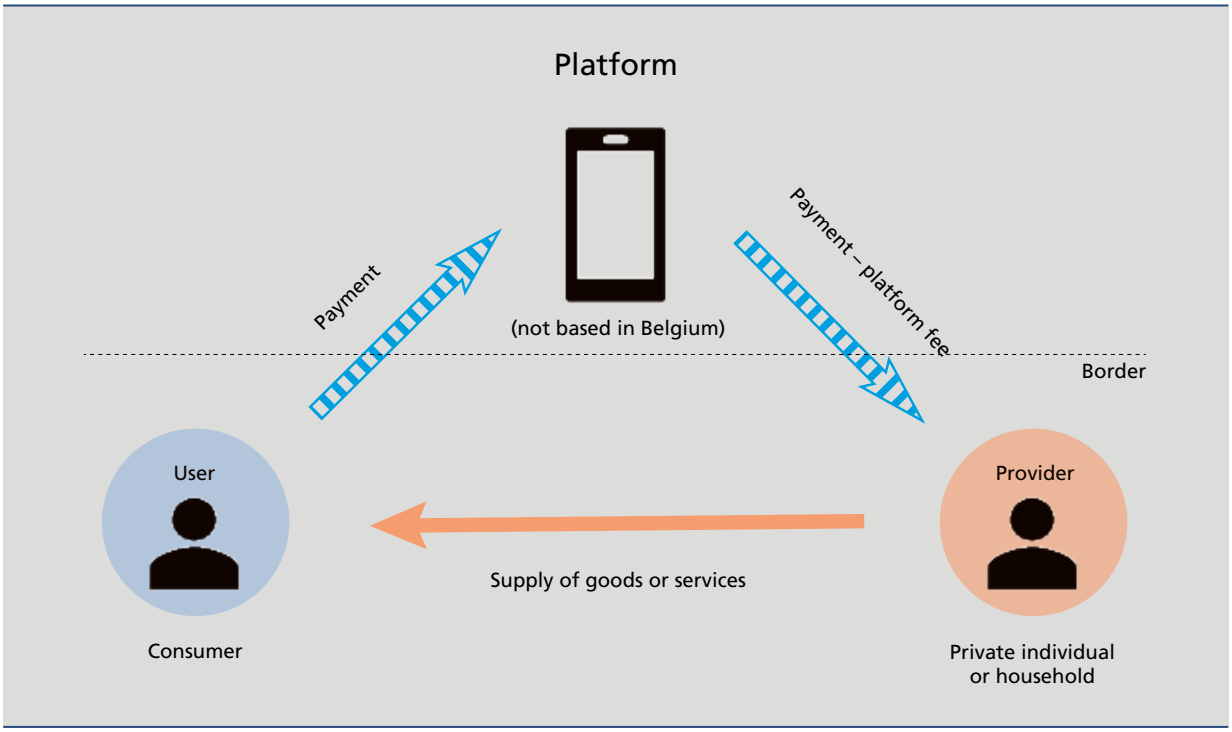
As demonstrated by the analysis in the box, it is possible that the current national accounts statistics, to which the GDP estimation pertains, do not record completely the activities of property rental platforms or transport platforms in Belgium, so that those activities are only partly taken into account, if at all. Also, the intermediation incomes generated by transactions effected via these digital platforms are still extremely difficult to measure and to take into account.

However, Bean (2016) points out that the problem does not exist solely as regards total GDP, but also at the level of its sub-division into demand components. In the example of a car bought to provide services via Uber, the question is whether that acquisition forms part of household purchases of consumer durables, or whether it should be classified, at least partially, as a business investment.

(1) For example, the latest version of the United Nations International Standard Industrial Classification (ISIC), the Central Product Classification (CPC), and the European Communities statistical nomenclature of economic activities (NACE).
(2) Uber's activities are classified under NACE 52.29 "Other transportation support activities".

Finally, the digitisation of the economy and the rise of sharing economy activities have also facilitated cross-border transactions, and that similarly has implications for the external statistics. Those statistics ought to include transactions which can take place via platforms located outside the borders of the national economy. As in the case of Airbnb, the platform where the user can contact the hirer may be located abroad.

CHART 8 EXAMPLE OF TRANSACTIONS INVOLVING INTERNATIONAL FLOWS



4.2 Prices and deflators

The problems of accurately measuring activities relating to the sharing economy and the associated incomes also arise when it comes to measuring prices, and hence the price indices useful for calculating the GDP deflator and other inflation measures. As already mentioned, the digitisation of the economy and the emergence of digital platforms have led to increased price competition on the market in goods and services, and the prices charged there are usually lower than in more traditional shops. This digitisation of the economy, and hence the development of the sharing economy activities, implies that the basket of goods used to calculate the consumer price index could contain a product weighting which no longer offers a complete and correct reflection of reality.

More generally, the emergence of e-commerce platforms, which usually offer products at lower prices, has changed people's consumption patterns so that they should now be fully included in the calculation of the price indices. New techniques, such as web-scraping, may prove useful or necessary for incorporating these data properly in the consumer price index.

In practice, certain measurement problems could arise. For instance, new goods are not included immediately in the basket of products that determines the consumer price index, because the index is not constantly updated. For example, the prices of the Netflix streaming service were only included in the basket of products from 2018, whereas that service has been available in Belgium since 2014. A further difficulty concerning digital goods and services also relates to the assessment of their quality. The price index is deemed to reflect prices for a constant quality so that, where the quality improves, the corresponding price index needs to be revised downwards. Finally, there is still the question of free online goods (such as newspapers or open-source software): in theory, they should likewise be reflected in the price index (Itkonen, 2017).

Furthermore, if the use of sharing economy platforms becomes an everyday reality, the calculation of the price indices must also take better account of that. If the use of services via sharing economy models takes over from traditional services – as in the case of Uber versus traditional taxis – then the price indices should reflect that change and the associated price differences. Nonetheless, the prices of some activities in the sharing economy are not currently reflected in the consumer price index. For instance, that index does not currently take account of transactions between individuals (Coyle, 2016). The scale of that omission or partial recording in the statistics nevertheless depends essentially on the significance of the sharing economy activities in the economy of the country in question.

4.3 Next steps

In the future, in order to evaluate the sharing economy on the basis of the national accounts, more data will be needed. However, before progressing to new methods of data collection and/or processing, we must first think about the conceptual aspects.

Digitisation undeniably leads to a shift in the production boundary, with more activities taking place within the household rather than via a third party (e.g. mobile banking services or online travel booking). The advent of the sharing economy makes that shift explicit. These "p2p" transactions should also be included in the official statistics (both in GDP and in the price index). Itkonen (2017) advocates using an "extended GDP concept" for that purpose.

In order to collect and analyse detailed data, a separate classification is needed for the platforms themselves, to permit differentiation between sharing economy activities and more traditional activities. Furthermore, it is not obvious how to treat platforms which do not file annual accounts in Belgium, even if part of their value added is actually produced there. It may be necessary to exchange more data internationally.

In the case of households, more information could be collected via surveys. For example, the labour force survey (LFS) could be used to check the extent to which people are active as suppliers of goods or services on sharing economy platforms. In the United States, for instance, an annex was added to these surveys in May 2017 with questions addressed to contingent workers, i.e. people who only expect their job to be temporary. That proved to be the case for 3.8 % of people polled, slightly below the figure of 4.1 % recorded in the previous edition of that survey in 2005 [(1)]. In the new edition, four extra questions were added. In particular, they try to identify the number of people accepting short-term jobs via mobile apps or websites. However, the results have not yet been published.

5. Policy implications of the sharing economy

The sharing economy appears to be rapidly expanding and the opportunities are legion ; nonetheless, there are still some major challenges ahead. On the one hand, online platforms and the new way of working that they imply are eliciting a great deal of protest from traditional players (incumbents), who often regard these new players as a form of unfair competition. Also, there is a risk that the continued growth of activities relating to these platforms will be undermined by opposition "from within" : for example, there has already been much discussion in the media about some of the drawbacks of these platforms for workers or neighbours. Finally, governments do not yet appear to be entirely ready to provide proper support for these new players, i.e. by means of appropriate guidance and regulation.

5.1 Protests from traditional players

In some sectors, the incumbents clearly feel what they call the adverse impact of the advent of sharing platforms. In particular, taxi drivers and hotel owners have already repeatedly expressed their concern that their competitors in the sharing economy do not (and need not) comply with the same regulatory framework. However, as already mentioned, the sharing economy is set to continue expanding rapidly in the coming years. According to an estimate by PwC (2014), the market value of the sharing economy as a whole may rise extremely rapidly in the next ten years to twenty times

(1) Although the decline in the number of contingent workers since 2005 seems at odds with the rising proportion of short-term jobs in the sharing economy, it should probably not be interpreted in that way, as this question is addressed only to workers who consider this (temporary) job as their primary income source. As mentioned later on in section 5.2.1, that only applies to a quarter of those offering goods or services in the sharing economy.

its current value, and would thus attain much the same estimated size as the "traditional" market, which is growing far more slowly.

According to Enders *et al.* (2015), traditional players made a mistake assuming that, owing to the vague regulations, the activities of the sharing economy would have been short-lived. Some success stories have already demonstrated the opposite, and traditional businesses are now struggling to come to terms with that competition. In fact, these two groups operate on the basis of totally different business models, and also have a different business culture. For instance, while the traditional hotel sector is obviously seriously constrained by limited capacity and high fixed costs, the sharing economy approach of firms such as Airbnb seems more flexible. Airbnb does not derive its revenue from the profit margin on overnight stays, but from fees paid by users of the platform. Furthermore, while traditional players have to respect strict standards concerning (fire) safety and hygiene, it is only recently that harmonised conditions were imposed on households offering accommodation via a sharing platform. Thus, since 1 April 2017, anyone in the Flemish Region wishing to offer a house or apartment for rent via an online platform must register the property and provide a fire safety certificate, a plan showing emergency exits, instructions in case of fire (in four languages) and third party liability insurance. The Flanders Tourist Office conducts sample checks. In the Walloon Region, anyone wishing to rent out their property via Airbnb has to submit a statement to the General Commission for Tourism, declaring that they do not let their property for less than one night at a time. They also have to obtain damage liability insurance and a certificate of compliance with the fire safety regulations. People who have been convicted of certain criminal offences are barred. However, the checks on compliance with these rules are not systematic. Customers are expected to report any accommodation shortcomings via the digital platforms to the General Commission for Tourism, which will then conduct an *ex-post* check. Finally, in the Brussels-Capital Region, before any rental takes place, it is necessary to submit a prior declaration to Brussels Economy and Employment, comprising a set of documents such as a certificate of good conduct, a third-party liability insurance contract and a certificate of conformity with urban policy as regards the use of the property to be rented out. Criteria have also been defined concerning the amenities that any property must provide before it can be let out. In that connection, an inspection unit has been set up which conducts checks on site in order to ensure compliance with these rules. In general, it therefore seems that control over the letting of accommodation via sharing platforms depends very much on the obligation to register the accommodation in question. However, there are signs that this obligation is not always respected (De Tijd, 2017).

Another striking point is that many of the best-known names among the sharing platforms make little or no profit, whereas their market valuation is huge (Pakciarz and Dutt, 2015). Airbnb has a stock market value of more than $ 30 billion, comparable to that of some major hotel chains. The reason could lie in divergent financial prospects, which may be due partly to differences in the regulations that apply to the sharing economy and traditional players.

Where the hotel sector is concerned, the defence of players in the sharing economy is based on the idea of market expansion. According to the CEO of Airbnb, there is no direct competition with the traditional hotel sector, since the two target groups are different, and the advent of Airbnb and other tourism-related platforms is expanding the market by attracting new groups of travellers (Chesky, 2017). The OECD (2016) sees young travellers, for whom the budget and quick access play a major role, as a particular target group for the activities of sharing platforms. Furthermore, the possibility of peer-to-peer interaction that these platforms offer is a unique advantage for those who appreciate contact with local residents during their stay. The greater flexibility that these platforms offer can also permit a speedier response to sudden peaks and troughs in demand, resulting in less volatile prices. Nevertheless, this idea of market expansion does not apply to all branches of activity. In the personal transport sector, the sharing economy is clearly generating direct competition with traditional taxi firms. That may account for that sector's very strong opposition to firms in the sharing economy.

Empirical studies of the sharing economy, examining whether it represents a substitute or a complement for traditional activities, tend to be very specific and therefore do not permit any general conclusions at this stage. For example, Zervas *et al.* (2016) consider that, in the case of the Texas hotel business, Airbnb can only replace the traditional hotel industry up to a certain point, and that the overall decline in traditional hotel revenues is fairly small, concentrated mainly on budget hotels and those accommodating few business travellers.

Finally, the OECD (2016) states that the threat from the new players could encourage traditional players to invest more in quality or innovation, or even to cooperate with sharing economy initiatives. For instance, the Hilton hotel chain has

established a cooperation agreement with Uber. Similarly, it was recently announced that the Belgian taxi sector (FeBeT) was entering into direct competition with Uber by launching its own app (Victor Cab).

5.2 Public opinion

Earlier surveys have shown that the people polled generally see a number of advantages in sharing platforms. Nonetheless, more recent information points to several issues concerning users, workers and outsiders which could erode public support for this form of economy.

5.2.1 Consequences for the labour market

The digitisation of the economy naturally implies a change in the traditional employment relationship. As a rule, workers operating in the sharing economy depend on a series of successive jobs (gigs), so that the connection with the sharing economy platform can be called "a continuous working relationship without continuous work" or "work on demand" (National Labour Council, 2017). In theory, this more flexible form of working may benefit groups of people for whom the traditional 38-hour working week is not possible or desirable. According to the report by the High Council for Employment (2016), the digitisation of the economy and the rise of the sharing economy offer career opportunities to "people whose skills were not recognised by the ordinary labour market".

The flexibility of this type of activity generally also creates some volatility (in job security and income). In that regard, it is not always clear on what basis households offering goods or services are linked to the sharing economy platform. For instance, are they covered by employment law? According to a study by the European Parliament (2017), in most cases, those offering goods or services via platforms are in fact self-employed. They are therefore not covered by the employment law protection measures applicable to employees, e.g. as regards working time, night work, wage protection, etc. However, for most of the 1 200 people polled who actively participate in the sharing economy, the income obtained via the platform is supplementary, although it is the main source of income for about a quarter of them. Policy-makers are therefore generally being called upon to consider whether the difference in status between employees and self-employed persons is appropriate, and in any case to provide a social safety net for those now known as micro-entrepreneurs (Sundararajan, 2016; Harris and Krueger, 2015).

In the absence of detailed data, it is impossible to determine the number of workers using these platforms. Indeed, estimates vary widely: while according to De Groen and Maselli (2016), this new group of workers currently comprises no more than around 100 000 people (or barely 0.05 % of the total number of workers) in the EU, Huws *et al.* (2017) conclude, on the basis of targeted surveys conducted in seven EU countries, that a high percentage of the population (ranging from 9 % in the Netherlands and the UK to 22 % in Italy) has already carried out work via a platform.

5.2.2 Nuisance

Activities linked to the sharing economy could lead to nuisance. In that connection, Frenken and Schor (2017) warned against the external effects of the sharing economy on third parties. For instance, in the case of accommodation sharing, this specifically concerns the neighbours, who may suffer nuisance (including noise) and perhaps a greater feeling of insecurity. Some large European cities such as London, Barcelona and Amsterdam have already announced that they want to curb the influx of tourists associated with these activities, and in particular have imposed restrictions on short-term letting.

5.2.3 Impact on house prices and rents

The steady rise in Airbnb business is attracting the criticism that use of residential property for short-term letting has an adverse impact on prices and rents in the case of housing intended for permanent occupation. Lee (2016) gives a detailed account of the problem in Los Angeles, where 64 % of accommodation offered through Airbnb consists of houses/apartments which have never been occupied by the owner and are therefore offered solely to tourists. This means that a smaller part of the residential property market is still available for more traditional letting, and that is inevitably driving up the rents. Lee therefore advocates, among other things, setting a limit in certain cities on the number of nights for which any one property can be let out on a short-term basis.

5.2.4 Inequality

Another consequence of the sharing economy is that, although cheaper prices are considered beneficial for low-income groups, the sharing economy may actually also lead to greater inequality. In fact, the supplementary income that it generates goes mainly to households with the most valuable assets – not only houses but also cars, boats, etc. – which tend to be concentrated mainly in the higher income groups. In that connection, Frenken and Schor (2017) refer to the "Piketty effect" of the sharing economy.

Moreover, it is highly likely that the benefits of the sharing economy – particularly the lower prices – cannot be enjoyed by everyone owing to unequal access to digital platforms, as it is essential to have an internet connection and, in most cases, a smartphone. In addition, the goods and services on offer are frequently concentrated in cities with a high population density. Consequently, people who live in more isolated areas have less opportunity to make use of them. For instance, in Belgium, Uber is currently only operating within the Brussels Region.

5.3 Regulation

The points made above identify a number of specific policy challenges. It is vital to endeavour to protect suppliers/workers in the sharing economy, either by according them special status or by improving the conditions for self-employed workers. There is also a need for a consumer protection system that applies equally to peer-to-peer relationships. The risk of the absence of a specific framework, and the resulting issues, is that *ad-hoc* measures may be taken at various levels of power, leading to a mish-mash of regulations that would be anything but conducive to growth. In any case, the various measures need to be consistent (Federal Council for Sustainable Development, 2017).

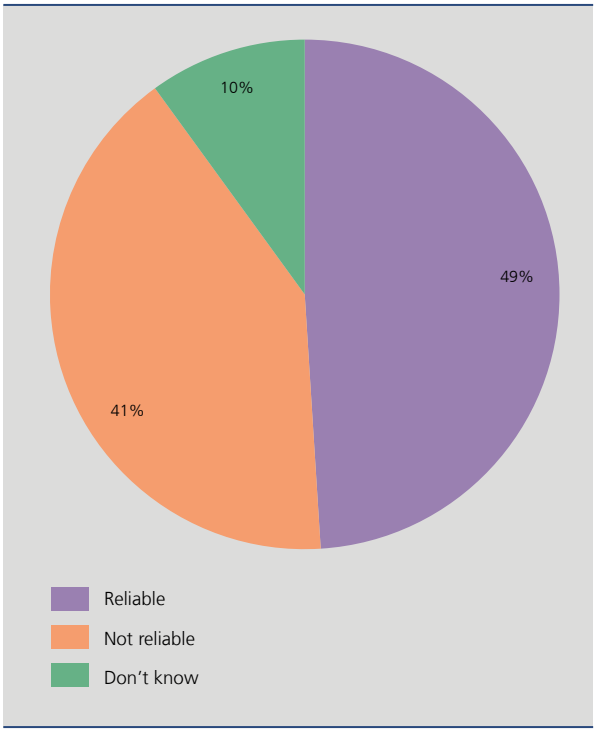
The Federal Council for Sustainable Development likewise points out the importance of creating a "level playing field" in regard to the regulations applicable to the various players (both for traditional businesses and for newcomers in the sharing economy), while taking care not to discourage innovation. A European Parliament Resolution of 15 June 2017 on online platforms and the digital single market stresses that "possible reforms of the existing regulatory framework should concentrate on the harmonisation of rules and reducing regulatory fragmentation". In that regard, Allendesalazar (2015) states that it is not enough just to extend the old rules to the new forms of market, because "one size does not fit all". He considers that it would be better to modernise or abolish obsolete rules – applicable to traditional players – rather than impose them on the new players.

Cohen and Sundararajan (2015) also draw attention to the potential benefits of self-regulation for the peer-to-peer economy. Transactions between two individuals are generally accompanied by asymmetric information: as a rule, the owner knows more about all the potential defects in the property than the person who is interested in buying it. Nevertheless, in the case of traditional transactions, it seems best for the government to deal with that asymmetry, e.g. by imposing conditions relating to a quality label or insisting on the provision of information certificates (such as the energy performance certificate in the case of house sales). Conversely, in the case of online platform activities, the internet can be used as a quick and easy way to find numerous reviews on the quality of the property or service being offered. In addition, as the permanence of these platforms depends very much on willingness to share and on trust in strangers, a reliable feedback system is crucial.

Nonetheless, Cohen and Sundararajan (2015) also recognise that a degree of self-regulation need not imply that the government should preferably not intervene at all. For instance, the accuracy of these review systems is questionable. According to the results of the Eurobarometer survey (2016) of online platforms, only half of respondents actually regard such a system as reliable. In the specific case of Airbnb, Fradkin *et al.* (2015) conclude, for example, that the reviews are generally very positive. The reason could be that they are voluntary: people who have a bad experience may simply prefer to leave the platform or stop using it, rather than leave adverse comments. In addition, it is probably a bit trickier to give a negative review after direct personal contact with the third party, or if a mutual feedback system is known to be in place, whereby both the supplier and the user are reviewed. Finally, there are no checks on which reviews are actually posted online by the platforms. Since their income is derived from the number of transactions (on the basis of fees), it is clearly in their interest to attract the maximum number of users, possibly by only publishing the most positive feedback.

Furthermore, the system of rating digital platform users takes no account of the potential negative externalities for third parties caused by (excessive) use of the platform (Cohen and Sundararajan, 2015). We have already drawn attention to the potentially significant nuisance caused to neighbours by the short-term letting of accommodation or the increase in rents and house prices. However, there may equally be positive externalities: for example, if the use of the sharing economy results in more cohesive communities or a reduction in environmental pollution. On the other hand, the government should, in principle, take account of these externalities when drawing up the regulations.

CHART 9 ASSESSMENT OF THE RELIABILITY OF THE REVIEW AND RANKING SYSTEM BY INTERNET AND PLATFORM USERS IN THE EU



Source: EC Special Eurobarometer 447 (2016) – Online platforms.

5.4 Taxation

As regards taxation, the Programme Law of 1 July 2016 aimed to remove the Belgian sharing economy from the grey area where it operated. It allows individuals to engage in an additional activity via an approved platform, so long as they comply with a minimum of formalities and pay a small amount of tax. However, this Law applies only to occasional suppliers of goods and services who are not thereby pursuing their own occupation and who offer their services to other individuals. A new provision effective from 15 July 2018 accords full tax exemption to supplementary income received via approved platforms up to an annual maximum of € 6 000. At the end of the year, the approved sharing economy platforms will have to notify FPS Finance directly of individuals' incomes (and any administrative expenses). Other people engaging in additional activities by providing services direct to other citizens without the intervention of a platform are also eligible for this tax concession, but are then obliged to register electronically (type of activity, period, and amount paid) (activitescomplementaires.be).

In order to be approved, a platform must satisfy a number of conditions. However, those conditions make hardly any distinction between activities and only concern registration, the registered office and the company number. Around thirty platforms have obtained approval since April 2017, but it is not obligatory to apply for such approval, so that some incomes are still liable to end up in the grey area. Nevertheless, as the sharing economy expands and generates more

(undeclared) income, that question will become increasingly crucial for public finances. Yet, since all the transactions effected via a platform are, by definition, electronically recorded and settled, the data that the tax authorities need are actually available, if only an agreement can be concluded for that purpose with the platforms in question. Ultimately, it might even be possible to levy tax more directly, or in real time, via the platform itself (Goudin, 2016). However, Goudin also warns that excessively high or complicated taxes could discourage suppliers from offering their services on these platforms, so that the potential of the sharing economy would not be fully used.

The specific tax treatment of platforms is as yet unclear. In fact, in many cases the registered office is located outside Belgium, leading to a loss of tax revenues on the profits made in Belgium. With the proposal for a common consolidated corporate tax base (CCCTB), the European Commission is taking steps to ensure that the taxes are paid in the country where the value added is created[1].

Conclusion

The progressive digitisation of everyday life has considerably expanded the opportunities for creating economic value. E-commerce applications are having a real impact on the distribution chain, either because sellers or producers add a digital channel, such as a web shop, to their existing infrastructure, or because new – generally very large – firms have specialised in the large-scale distribution of existing goods or services. Furthermore, as analysed in this article, various new business models have likewise emerged in the sharing economy. Originally, it was mainly a question of sharing or jointly using certain goods or assets which were under-used, and new businesses have created specific digital platforms which are efficient in bringing supply and demand into contact with one another.

A notable feature here is that households themselves are creating ever more value, and therefore becoming producers to some extent. Although part of the turnover that they generate is destined for the firms operating the digital platforms on which the sharing economy operates, they thus also secure an (additional) income. Moreover, the prices charged are often lower than for comparable products in the "traditional" economy, and that also enhances consumer welfare.

Sharing economy initiatives are evident in a wide range of sectors, although they are currently most significant in personal transport and tourist accommodation. Consequently, the success achieved in these particular niches is blurring the boundaries with the traditional economy, and with e-commerce, because traditional firms are now developing efficient IT applications, comparable to those of the sharing economy, in order to make their goods and services available to the general public and thus to protect themselves against this new competition. For that purpose, they sometimes also use sharing platforms, and that further blurs the original peer-to-peer relationship that was a feature of the sharing economy.

However, it is currently difficult to offer a complete picture of this "new" economy owing to the lack of exhaustive and comparable data. Nonetheless, for the moment, the sharing economy clearly does not represent more than a tiny fraction of total value added at macroeconomic level. That is certainly true for Belgium, where – according to the survey data – the sharing economy is taking longer to get established than on average in neighbouring EU countries. Nevertheless, this new form of economy has generally recorded dramatic growth in recent years – driven not only by technological developments but also by the changing value models in society – and most forecasts predict that it will continue to gain importance in the coming years. The economic influence of the sharing economy and, more generally, the activities concerning digital platforms, also extends beyond just its share of value added: the resulting increase in transparency and competition in the various branches of activity is curbing price rises and also boosting efficiency in traditional firms.

It is a serious challenge for statistical institutes to incorporate this new activity properly in the national accounts. The value added created and the incomes received via sharing economy activities must be reflected accurately in the statistics. But at present, that is often not the case, particularly owing to the lack of available statistical sources. Traditional data collection methods need to be refined, and the use of new techniques such as web scraping could be considered. In addition, the obligation to report statistical data should take account of the fact that, in the sharing economy, private

(1) Companies that engage in cross-border activities and are subject to the CCCTB system would be able to complete a single, consolidated tax return for all their activities within the EU. The group's consolidated taxable results would then be apportioned among the group companies via a simple formula. That would enable each Member State to apply its own tax rates to the profits of companies resident in its territory.

households also produce value added, and the relevant data are often stored centrally by the foreign firms operating the IT platforms. Statistical reforms of this type could also form part of a wider debate on the impact of digitisation and this new form of economy on the relevance of GDP as a measure of wealth.

Moreover, the rapid rise of the sharing economy raises the question of the extent to which the regulatory framework needs to be adjusted or tightened up. That applies, of course, to the tax rules, for which a special framework was recently established in Belgium, but also, for example, to the social protection of workers and consumers. In general, the competent public authorities need to achieve the right balance between two objectives here. On the one hand, it is necessary to prevent unfair competition : ideally, traditional firms and sharing economy initiatives active in the same sector should be subject to the same rules. On the other hand, the dynamism of this economy must not be constrained by excessive regulation : in some branches of activity, the rapid entry of new players in the sharing economy may also be a sign that "traditional" businesses operating in those branches are struggling to achieve efficiency gains owing to excessive regulation that may lead to restrictions on supply. In that regard, the economic literature points out the potential advantage of (partial) self-regulation. For instance, in order to ensure confidence in the quality of what they offer, sharing economy platforms give their users the opportunity to share their experiences online with other users.

Bibliography

Allendesalazar R. (2015), *The impact of competition laws on e-commerce and sharing economy. A Spanish perspective*, European Seminar on Competition Law, 20 November (http://www.aedc.es/wp-content/uploads/2016/01/Panel-6-Presentaci%C3ESPACEFINE%B3n-2015-11-20_4ESPACEFINE%C2ESPACEFINE%AA-sesi%C3ESPACEFINE%B3n-R-Allendesalazar_FINAL1.pdf).

Bardhi F. and G. M. Eckhardt (2015), *The Sharing Economy Isn't About Sharing at All*, Harvard Business Review, 28 January (https://hbr.org/2015/01/the-sharing-economy-isnt-about-sharing-at-all).

Bardhi F. and G. M. Eckhardt (2017), "Liquid consumption", *Journal of Consumer Research*, 44 (3), 582-597.

Bean C. (2016), *Independent Review of UK Economic Statistics* (https://www.gov.uk/government/publications/independent-review-of-uk-economic-statistics-final-report).

Beck P., M. Hardie, N. Jones and A. Loakes (2017), *The feasibility of measuring the sharing economy: November 2017 progress update*, UK Office for National Statistics (https://www.ons.gov.uk/economy/economicoutputandproductivity/output/articles/thefeasibilityofmeasuringthesharingeconomy/november2017progressupdate).

Bergh A. and A. Funcke (2016), *Does country level social trust predict the size of the sharing economy?*, IFN Working Paper 1130.

Botsman R. (2013), *The Sharing Economy Lacks A Shared Definition* (https://www.fastcompany.com/3022028/the-sharing-economy-lacks-a-shared-definition).

Chesky B. (2017), "Q&A With Brian Chesky: Disruption, Leadership, and Airbnb's Future", *Fortune*, interview par Leigh Gallagher, 27 March.

Cohen M. and A. Sundararajan (2015), "Self-Regulation and Innovation in the Peer-to-Peer Sharing Economy", *University of Chicago Law Review Online*, 82 (1), 116-133.

Coyle D. (2016), *The Sharing Economy in the UK* (http://www.sharingeconomyuk.com/perch/resources/210116thesharingeconomyintheuktpdc.docx1111.docx-2.pdf).

Davidson N. M. and J. J. Infranca (2016), "The Sharing Economy as an Urban Phenomenon", *Yale Law & Policy Review*, 34 (2), 215-279.

De Coen A. and V. Vanoeteren (2017), "Vanuit de kinderschoenen naar de puberteit: de Vlaamse deeleconomie in kaart gebracht", *Over.Werk. Tijdschrift van het Steunpunt Werk*, 27 (2), 33-40.

De Groen W. P. and I. Maselli (2016), *The impact of the Collaborative Economy on the Labour Market*, CEPS Special Report, June.

De Tijd (2017), *Vlaamse Airbnb-verhuurders lappen regels aan hun laars*, 4 August (https://www.tijd.be/ondernemen/horeca/vlaamse-airbnb-verhuurders-lappen-regels-aan-hun-laars/9920001.html).

EC (2016), *Online platforms*, Special Eurobarometer 447.

EC (2016), *The use of collaborative platforms*, Flash Eurobarometer 438.

EC (2017), *Exploratory Study of consumer issues in peer-to-peer platform markets* (https://ec.europa.eu/newsroom/document.cfm?doc_id=45245).

Enders A., A. König and C. Grobe (2015), *The Sharing Economy: Upending Business as Usual*, Insights@IMD No. 53 (https://www.imd.org/research/publications/upload/53-The-Sharing-Economy-final-03-12-15.pdf).

European Parliament (2017), *The Social Protection of Workers in the Platform Economy.*

European Parliament (2017), *Resolution of 15 June 2017 on online platforms and the digital single market.*

Evans P. C. and A. Gawer (2016), *The Rise of the Platform Enterprise: A Global Survey*, The Emerging Platform Economy Series No. 1, The Center for Global Enterprise (https://www.thecge.net/app/uploads/2016/01/PDF-WEB-Platform-Survey_01_12.pdf).

Federal Council for Sustainable Development (2017), *Opinion proposing guidelines on the collaborative economy* (https://www.frdo-cfdd.be/sites/default/files/content/download/files/2017a02f_0.pdf).

Fradkin A., E. Grewall, D. Holtz and M. Pearson (2015), *Bias and Reciprocity in Online Reviews: Evidence From Field Experiments on Airbnb*, Proceedings of the Sixteenth ACM Conference on Economics and Computation.

Frenken K. and J. Schor (2017), "Putting the sharing economy into perspective", *Environmental Innovation and Societal Transitions*, 23, 3-10.

Goudin P. (2016), *The Cost of Non-Europe in the Sharing Economy: Economic, Social and Legal Challenges and Opportunities*, European Parliamentary Research Service.

Harris S. D. and A. B. Krueger (2015), *A Proposal for Modernizing Labor Laws for Twenty-First-Century Work: The Independent Worker*, The Hamilton Project Discussion Paper, 10.

High Council for Employment (2016), *Rapport 2016: Économie numérique et marché du travail.*

Huws U., N. Spencer, D. Syrdal and K. Holts (2017), *Work in the European Gig Economy*, FEPS, Uni Europa and Hertfordshire Business School.

ING (2015), *ING International Survey: What's mine is yours – for a price. Rapid growth tipped for the sharing economy.*

ING (2016), *"The sharing economy: time for a clear definition", ING Belgium Economic Newsletter*, 19 April.

Itkonen J. (2017), "How can we measure the economy in the digital era?", *Bank of Finland Bulletin, 3*.

Lee D. (2016), "How Airbnb Short-Term Rentals Exacerbate Los Angeles's Affordable Housing Crisis: Analysis and Policy Recommendations", *Harvard Law and Policy Review*, 10, 229-253.

Lobel O. (2016), "The Law of the Platform", *Minnesota Law Review 2016, San Diego Legal Studies Paper No. 16-212* (https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2742380##).

National Labour Council (2017), *Diagnostic des partenaires sociaux concernant la digitalisation et l'économie collaborative – Exécution de l'accord interprofessionnel 2017-2018*, Report n° 107.

Nielsen (2014), *Is sharing the new buying? Reputation and trust are emerging as new currencies.*

Nielsen (2015), *Global trust in advertising – Winning strategies for an evolving media landscape.*

OECD (2016), *Tourism trends and policies* (https://www.oecd-ilibrary.org/fr/industry-and-services/tendances-et-politiques-du-tourisme-de-l-ocde-2016_tour-2016-fr).

Pakciarz I. and I. Dutt (2015), *The "Sharing Economy": Good for Consumers, Bad for Investors*, Thinking Man's Approach No. 32.

PwC (2014), *The sharing economy: how will it disrupt your business?* (http://pwc.blogs.com/files/sharing-economy-final_0814.pdf).

PwC (2016), *Assessing the size and presence of the collaborative economy in Europe* (https://publications.europa.eu/en/publication-detail/-/publication/2acb7619-b544-11e7-837e-01aa75ed71a1/language-en).

PwC (2018), *Share Economy 2017 – The New Business Model* (https://www.pwc.de/de/digitale-transformation/share-economy-report-2017.pdf).

Rifkin J. (2000), *The Age of Access: The New Culture of Hypercapitalism Where All of Life Is a Paid-For Experience*, New York, J.P. Tarcher/Putnam.

Schor J. B. and W. Attwood-Charles (2017), "The 'sharing' economy: labor, inequality, and social connection on for-profit platforms", *Sociology Compass*, 11(8).

Sundararajan A. (2016), *The Sharing Economy, The End of Employment and the Rise of Crowd-Based Capitalism*, Cambridge, Massachusetts and London, England, The MIT Press.

Zervas, G., D. Proserpio and J. W. Byers (2017), "The Rise of the Sharing Economy: Estimating the Impact of Airbnb on the Hotel Industry", *Journal of Marketing Research*, 54(5), 687-705.