

OPERATING LEASE AS A MEANS AND MOTIVATION FOR CIRCULAR ECONOMY

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Abstract:

Research background: The issue of circular economy is currently a very topical and discussed issue, which people are becoming increasingly aware of. There is no doubt that this growing trend attract the attention of the whole world, including policy-makers, industrial administrators, ecologists, or academics. Circular economy is a concept that is an integral part of sustainable development. It focuses on the ways how to improve the quality of human life and environment by means of increasing the productivity efficiency. Moreover, circular economy is considered essential in terms of protecting natural resources and environment. A means of sustainable development and product recirculation are leasing transactions.

Purpose of the article: The paper deals with the identification of positives and negatives of operating lease and determine whether it is a suitable tool to apply the principles of circular economy in the Czech economy. For this purpose, two research questions are formulated.

Methods: To answer the questions, statistical data of the Česká leasingová a finanční asociace (Czech Leasing and Financial Association) on the development of non-bank financing of business entities and consumers in the years 2017-2021 and phenomenological analysis of semi-structured interviews with respondents.

Findings & Value added: The results of the research show that operating lease is the most commonly used form of financing investment in tangible assets, despite the declining trend that could be caused by the COVID-19 pandemic. An interesting finding is that the respondents addressed perceive positives and negatives in completely opposite ways. The main contribution of the paper is that it opens up a new topic of financing and achieving the principles of circular economy. Although this study works with a smaller sample of data, further research from the perspective of manufacturers and lease products providers.

Keywords: Product recirculation, leasing, company, consumer, preference

JEL Classification: D22, G11, Q56

1. Introduction

The term circular economy (CE) first emerged in the 1970s, when people started to perceive fear of climatic changes that could lead to growing costs of natural resources (Garcia et al.,

2021). Currently, circular economy is becoming an increasingly discussed topic (Chamberlin and Boks, 2018). Liakos (2019) state that protection of the environment and natural resources, which are not infinite, is becoming a priority. According to Bastein (2013), CE is an industrial and economic system based on reusing raw materials and end-of-life products with a tendency to use natural resources. Adopting philosophy, principles and rules of circular economy and its approaches brings a suitable environmental solution (Farrelly and Green, 2020).

The Czech Republic is one of the member countries of the European Union (EU) with an average growth rate of their resources productivity, probably due to inefficient processes and policies (Robaina et al., 2020). Prague has already developed a strategic plan for the transition to circular economy approved by Prague City Council in January 2022 and supported by the EU and the United Nations (Vilamova, et al., 2019). The content of the plan includes also strategic goals for waste reduction in construction (where there is the largest volume of it), agriculture, and other sectors, which leads to the reduction of generated CO₂ greenhouse gases (Rybova and Slavik, 2017). With this plan, Prague aims to motivate the state and private sectors and the public. One of the means to protect natural resources and ensure sustainable development are leasing transactions, which represent a business model and a means that enables product recirculation (Ionascu and Ionascu, 2018). The introduction of circular models requires certain capital to finance the development, establishment of new technologies, infrastructure, and implementation of new or alternative renewable resources (Sariatli, 2017). This approach to investments is, however, restricted by the goal of all companies, which is the generation of profit (Schlosser et al., 2021). These financial barriers need to be addressed so that the capital investment in circular economy is more available (De Angelis et al., 2018). One of the options for financing capital is operating lease (Dias et al., 2020). Despite its difficulties, it has a positive impact on young growing companies, especially companies engaged in research and development (Cook et al., 2021).

The objective of the paper is to identify the pros and cons of operating lease and determine whether it is a suitable tool for applying the principles of circular economy in Czech economy. In order to achieve the set objective of the paper, the following research questions were formulated:

- 1) Can operating lease motivate the transition from linear to circular economy?
- 2) Will operating lease help achieve lower waste production and reduce greenhouse gas emissions?

2. Literature research

The transition to circular economy is a process that combines managerial practices and production (Vochozka and Rowland, 2015). Henrysson and Nuur (2021) focus mainly on available literature on the topic of circular economy (CE) and encourage innovative methods, emphasizing the necessity to replace established practices, the importance of instilling principles of circular economy using bottom-up approach in cities as well as at the regional level. In their analysis of regulations and initiatives supporting the disclosure of detailed data on public payments and sanctions, Nowaczek et al. (2021) point to the positive effect of transparency of corporate financial flows to public coffers and then to regions. Taxes thus become a financial tool in the form of penalties but also promoting positive perception of CE by individuals. The largest burden of CE is the production of waste in manufacturing. Rocha et al. (2021) brainstormed a series of important fundamental questions concerning the development of new design of small products combining CE for the development of sustainable industry and closing the principle of circularity between production, recycling and reuse. By

theoretical selection, Werning and Spinler (2020) present a list of 29 potential barriers to introducing changes prepared on the basis of case study evaluated by data triangulation. Seven of them are related to business and financial management models concerning performance-based selling, the willingness to adopt a long-term new strategy.

According to Horák et al. (2021), management decisions definitely include investment management and decisions on the form of financing. The implications of management decisions on investment financing through operating lease were examined by Eaton et al. (2021), who conducted extensive survey of 12,204 companies between 2001 and 2016 and by illustrating the changes in investments in rented assets, they identified the future upward trend of sales but downward trend of profits for the period of 3 years. Nechaev (2021) conducted a comparative analysis of the methods for calculating lease payments and proposed a method enabling a complex calculation of lease amounts, considering initiated payments, financial and property risks using the methods of reduced balance and acceleration coefficient.

In 2019, International Financial Reporting Standard for lease accounting (IFRS 16) was established by the EU. According to this standard, companies are obliged to report liabilities and assets related to leasing in their balance sheet (Wakil and Petruska, 2022). This standard unifies the preparation of annual accounts, thus facilitating the investment process (Gorowski et al., 2022). Pardo and Giner (2018) performed multidimensional analysis of the impacts of changes in accounting rules for operating lease. Based on a simulation study, they concluded that liabilities will increase by 4.81 % in balance sheets. IFRS 16 requires companies to report operating lease liabilities in the balance sheets. This change has significantly contributed to decisions on providing operating leases to financial analysts and bankers (van Kints and Spoor, 2019). Lima et al. (2020), however, based on a content analysis of financial statements and final accounts from the year 2018 and the expected financial statements after the introduction of IFRS 16, expect increasing financial costs and depreciation costs as well as lower financial independence and solvency of companies. Interestingly, Tumpach et al. (2021) analysed final accounts of 155 Slovak companies after the introduction of IFRS 16 and confirmed the findings by Pardo and Giner (2018), van Kints and Spoor (2019) on positive contributions of changes for investors, shareholders, creditors and companies. Gruber and Hartmann-Wendels (2021) also confirmed potential negative change in behaviour after the introduction of IFRS 16 in a very small percentage of companies. Rodrigues et al. (2021) conducted quantitative and descriptive research of leasing companies by comparing final accounts before and after the introduction of IFRS 16. The Wilcoxon test showed that there are no statistically significant differences between the compared final accounts. Endrizálová et al. (2018) examined the portfolio of airlines and found that these companies use operating lease to finance newer and greener fleets with lower environmental impact, and there are even companies that finance means of transport only through operating lease.

3. Methodology

The objective of the paper is to identify pros and cons of operating lease and to determine whether it may help adopt the principles of CE. As this is primarily qualitative research conducted to determine the behaviour of users of operating lease, the data from the Annual reports of Česká leasingová a finanční asociace (Czech Leasing and Financial Association - ČLFA) and data from semi-structured interviews will be used.

ČLFA is a member of the European Federation of Leasing Company Associations, bringing together about 39 companies which execute more than 80 % of all domestic leasing transactions and provides support to its members and those interested in concluding specific leasing

products. Information on non-bank financing of business entities will be removed from the annual reports entitled “Zpráva o stavu a vývoji nebankovního leasingového, úvěrového a faktoringového trhu v ČR” (Report on the Status and Development of the Non-Bank Leasing Credit and Factoring Market in the Czech Republic). The monitored period will include the years 2017, 2018, 2019, 2020 and 2021. For the purpose of the paper, only movable investment data will be used. They will be processed by the number of new and existing loan agreements, financial lease, operating lease, and full-service leasing. Credits and lease contracts will be evaluated according to the type of commodity in percentage. Moreover, there will also be used the share of operating lease in the total number of concluded lease contracts of movable investments in percentage, as well as the year-on-year increase or decrease.

The same data, except the division by commodities, are used for processing the results for consumers.

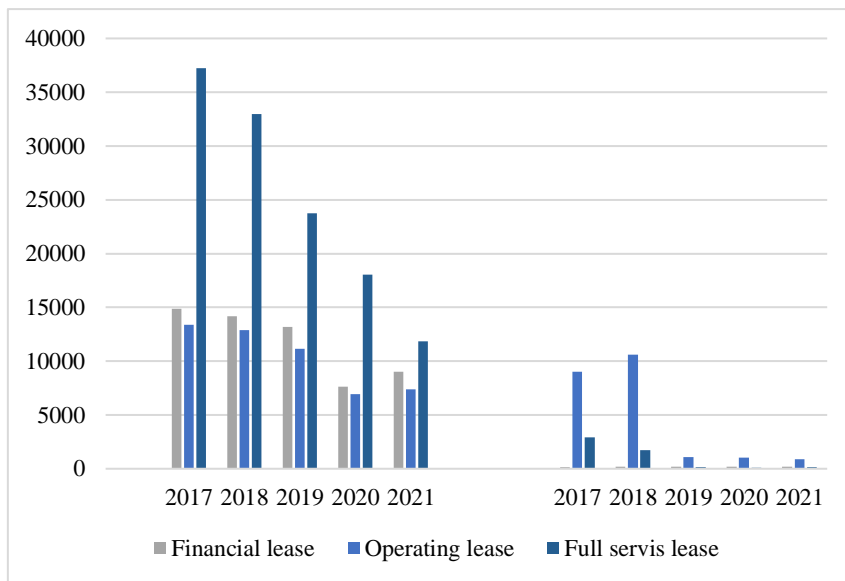
The data will be processed in Excel and evaluated using graphical representation in order to understand better the consumer behaviour when using non-bank financial products.

The research will also include word-of-mouth data for phenomenological analysis. The participant will be selected based on their differences and diversity so that the insight into the issue was gained from several perspectives. The addressed business entities are Axon Lab s.r.o. and Dopravní podnik hl. m. Prahy, which represent two opposite poles of wide business spectrum. A semi-structured interview will be conducted with the representatives of trading companies in their work environment. The interviews will be conducted in person, where notes will be made. The interviews will include thirteen questions, out of which some will be open, with the aim to determine the future development and trend of decisions on investment financing. If necessary, the personal interviews will be complemented to a smaller extent via communication in electronic form. After obtaining complete information, the interviews will be evaluated separately and then mutually compared.

4. Results

Graph 1 compares the number of new contracts in the years 2017, 2018, 2019, 2020 and 2021 negotiated by entrepreneurs and consumers for financial leasing, operating lease and full-service leasing. The number of existing contracts is compared by the same criteria in Graph 2. The graph representing new contracts shows a downward trend, which is also seen in the graph representing the existing contracts.

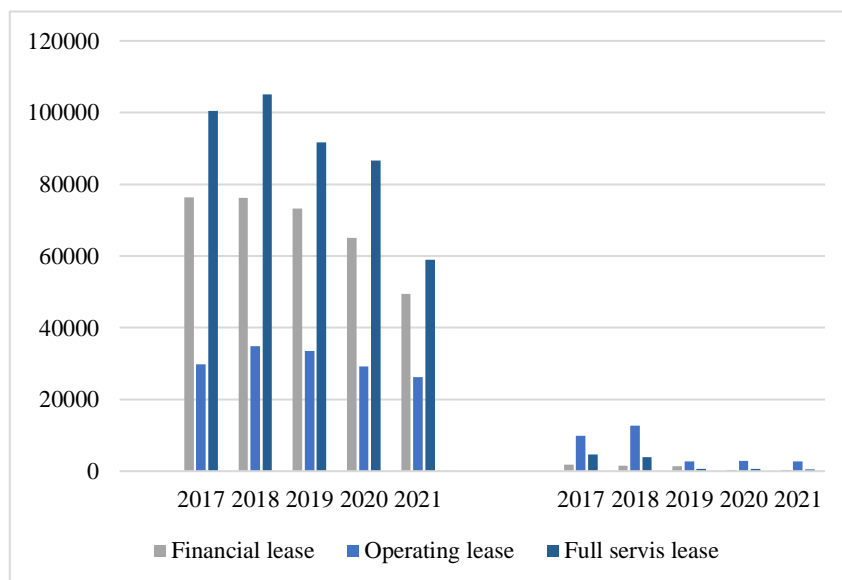
Graph 1: New contracts negotiated by entrepreneurs and consumers for financial, operating and full-service lease



Source: Authors.

It can be seen from the graph that new contracts for full-service leasing dominate at the beginning of the monitored period. At the end of the period, the number of contracts is about 10,000 for all categories. In the case of consumers, operating lease showed extreme values in the years 2017 and 2018 compared to other years.

Graph 2: Existing contracts negotiated by entrepreneurs and consumers for financial, operating and full-service lease

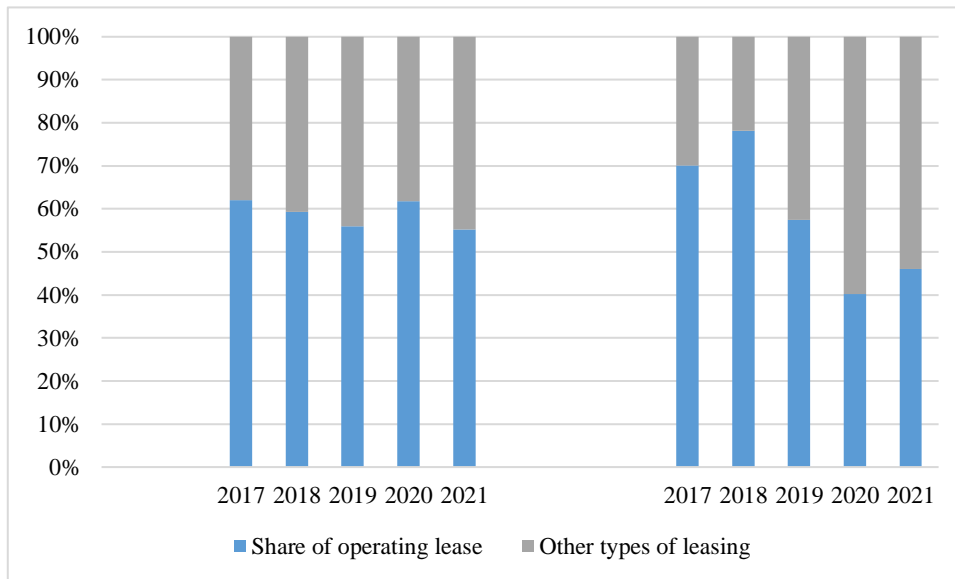


Source: Authors.

From the graph of the existing contracts both in the case of consumers and entrepreneurs, it can be seen that their number was highest in the year 2018. In general, the number of contracts decreases.

A more detailed analysis and share of operating lease can be seen in Graph 3. Its year-on-year development, increase or decrease in the number of contracts can be seen in Graph 4.

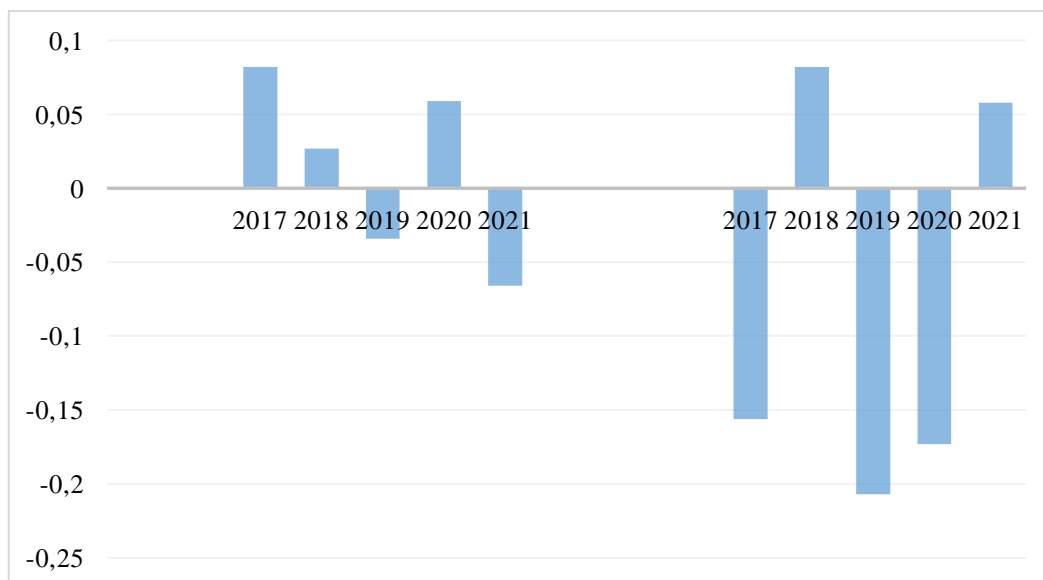
Graph 3: Share of operating lease in total leasing of movable investments of entrepreneurs and consumers



Source: Authors.

Graph 3 shows the financial share of operating lease in % in the total leasing. For consumers, the share is between 55 and 65 %; in the case of consumers, the share is not that stable. In the year 2020, the share was about 40 %, which is a 50% share compared to 2018.

Graph 4: Year-on-year increase in the number of operating lease contracts in % negotiated by entrepreneurs and consumers

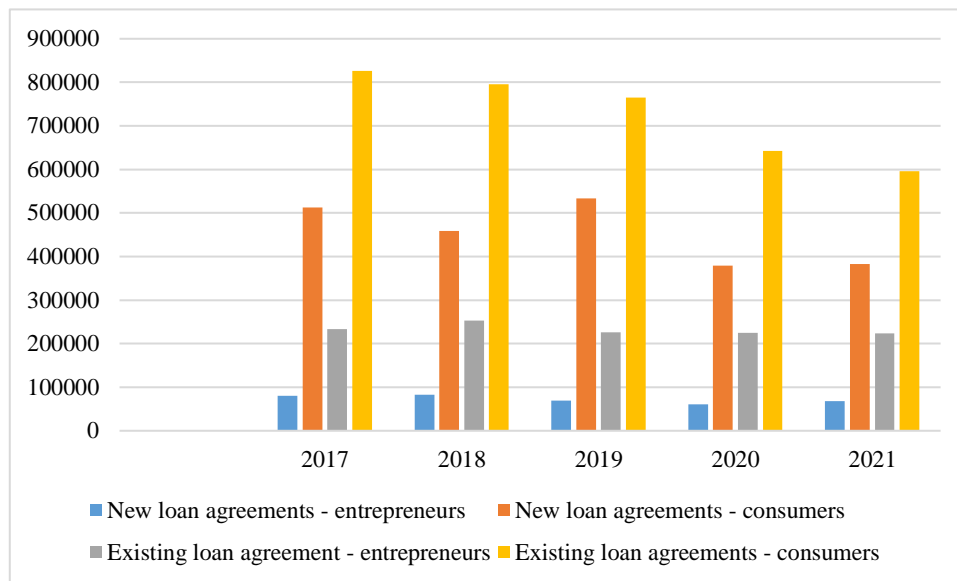


Source: Authors.

Graph 4 provides further information and specifies the trends in Graph 1 and Graph 2. Again, the year 2017 shows higher values in the case of entrepreneurs, the year 2018 shows higher values for consumers.

Additional information on the number of granted leasing contracts concerning the number of granted loan agreements can be seen in Graph 5.

Graph 5: Number of loan agreements negotiated

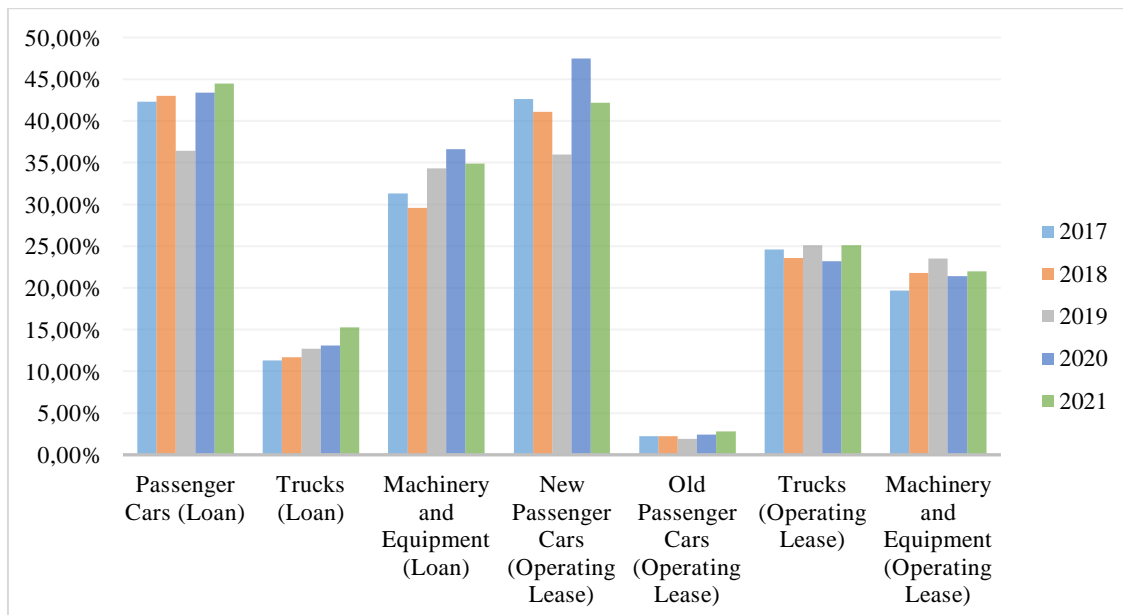


Source: Authors.

The number of new loan agreements is about 50,000 for consumers. However, it shows that compared to Graph 1 and Graph 2, loan is not a preferred financing option for entrepreneurs.

Graph 6 shows the use of funds in percentage obtained in the form of a loan or operating lease by commodities. The data are available for business entities only.

Graph 6: Loan and leasing contracts concluded by entrepreneurs by commodities



Source: Authors.

Graph 6 shows commodities funded by means of loans or operating lease. Most often, these were passenger cars; in the case of operating lease, they were divided into new and used cars. The second most common commodity are machinery and equipment financed by loan and trucks financed by operating lease. The proportional distribution between commodities does not change over the years.

Semi-structured interviews were conducted with two business entities. One of them is Axon Lab, spol. s r.o., whose line of business is the production and sale of laboratory equipment. Axon Lab, spol. s r.o. is a part of holding with headquarters in Switzerland. The interview conducted with the representative of the company can be divided into several parts. The first part concerned the information about the company, its culture, and use of operating lease. The company uses operating lease for its fleet of 10 passenger cars. It negotiates leasing contracts with the company LeasePlan Česká republika, s.r.o. for a period of 3 years. These contracts include amendments on mileage and the conditions of returning the used car. In the second part of the interview, the interviewee was asked whether the company plans to continue in operating lease. Due to financial advantages, no service-related requirements, and minimal assets, the company will continue to use this type of financing to fleet financing. After answering the closed questions concerning the current situation, the interview is focused on motivation and potential changes enhancing the idea of CE. Axon Lab spol. s r.o. prefers new cars. In terms of tax benefits, subsidies, ecology, and economics, the company prioritizes the interests of its sales representatives. It is particularly interested in their road safety and comfort. "The priority is to keep sales representatives safe on long journeys." A possible change can be using cars with alternative fuels.

Dopravní podnik hl. m. Prahy, a.s. (DP) is a company operating in Prague. Its line of business is primarily public transport. Information on operating lease was provided by the head of the department for passenger cars and vans ensuring in-house transport. The company has experience with operating lease, full-service lease, short-term and long-term rental of passenger cars and vans. The first operating lease negotiated with the company Sixt Leasing Franchisee; Speed lease a.s., included about 160 vehicles. After the expiration of the operating lease agreed with the provider in the year 2014, the agreement was not prolonged due to unfavourable conditions. Specifically, the payment for Škoda Fabia 1,2 was double excess. The second operating lease was negotiated for 32 passenger cars and 13 vans. Following previous experience, this change applied only to emergency vehicles, with the agreed mileage is observed. After the expiration of the contract, the company completely abandoned the idea of operating lease. "We are a large company; departments are changing and have great dynamics of needs to which operating lease is not able to respond." DP always used financing through operating lease and always preferred new vehicles. In terms of ecology, the company is pro-environmental. It owns 10 electric cars for which it got purchase subsidy and the company would welcome further benefits. The use of alternatively powered vehicles revealed new obstacles in the form of charging stations that needed to be built. However, it turned out that there are very few strategic places for charging, as specific conditions need to be met, such as conditions related to construction, it must not disrupt the smooth working regime, and need to be situated in places where electric cars are used.

5. Discussion

From the data obtained from ČLFA examined by means of graphs, it follows that loan and operating lease are widely used for financing. The number of contracts concluded by entrepreneurs concerning operating and full-service lease is significantly higher, as seen from Graph 1 and Graph 2. Moreover, there is a clear declining trend of covering costs by leasing. This can be seen in Graphs 3 and 4, which are focused on one product only, specifically operating lease. Although the business entities almost steadily achieve around 60 % of the total financing of movable investments without major fluctuations, consumers show certain decline, which is very pronounced in the year 2020. In spite of this, more than 40 % of consumers decide

to use operating lease in the year when the Czech Republic experienced the first two waves of COVID-19 pandemic. When comparing Graphs 1 and 2 with Graph 5 showing the number of loan agreements, it can be seen that the number of loan agreements is up to ten times higher and even higher in the case of consumers than the number of leasing contracts. However, the statistics did not specify the commodities. The last graph (Graph 6), which was used to simulate the overview of commodities, shows that there is a highest number of passenger cars and machinery and equipment.

A part of the research is information and data obtained from semi-structured interviews with two business entities. Both were asked the same questions. The interview consisted of factual and theoretical part. Both companies have experience with operating lease. The research has shown that the smaller company financed mainly from equity does not need to find new solutions that would combine ecology and economics. These barriers were formulated by Werning and Spinler (2020). In contrast, the large company, with regard to all the difficulties encountered, has completely abandoned from operating lease and is currently not considering this topic. The idea of ecology is supported by purchasing new vehicles; the economic aspect is considered by the fact that vehicles are owned, they are depreciated and finally sold off by means of FPSBA method. The pros and cons of operating lease are identical for both companies but on the opposite poles. The smaller company sees provision of service agreed in the operating lease agreement as positive. On the other hand, the large company, which has its own workshops, large number of employees of all manual professions, does not see service provided outside its premises as benefit. Neither of the companies perceives the use of leasing or management of movable asset negatively from the accounting perspective.

As for the research question concerning the motivation to the transition from linear economy to circular using operating lease, it shall be stated that the research sample is small and the results cannot be generalized. From the results obtained from ČLFA, it can be stated that a part of the second research question can be answered positively. Operating lease can help reduce the generation of greenhouse gases and emissions. In principle, the finding is in line with the conclusions by Endrizálová et al. (2018), according to which operating lease as a means of financing the purchase of new and innovative means of transport has a lower impact on the environment. ČLFA statistics indicate that a small share of operating leases is used also for purchasing used cars; we thus know the answer to the second part of the second research question of whether operating lease may help reduce waste production.

6. Conclusion

The objective of the paper was to identify pros and cons of operating lease and determine whether it is a suitable tool to apply the principles of circular economy in Czech economy.

The objective was achieved. In the chapter “Results”, two ČLFA statistics were processed for this purpose. Using a phenomenological analysis, information about two companies concerning the use of operating lease were obtained. In the chapter “Discussion of Results”, the use of operating lease was evaluated and compared with other products intended to finance investments, both from the perspective of entrepreneurs and consumers. The business entities addressed provided an insight into the practical experience with operating lease. Their responses obtained from theoretical questions provided information about their motivation for circular economy and described pros and cons of using operating lease. Neither of the entities uses operating lease to satisfy societal demand for ecology and sees any economic advantages of using it. An interesting finding is that the entities did not agree in terms of positives and negatives of operating lease. This means that each company needs different contractual

conditions adjusted individually to the companies, which are not offered by any of leasing companies.

The research questions and the answers obtained are only partial. The contribution of the paper is that it reveals unexplored possibilities of how to further support CE. Why are new vehicles manufactured but used vehicles financed by means of operating lease are not remanufactured by replacing engines? Why is not waste and scrap eliminated this way? Why there is a lack of cooperation of manufacturers, leasing companies, and end consumers or state? To answer these questions, it is necessary to conduct further research that would extend the obtained data from the perspective of end consumers, companies, and manufacturers, as well as from the perspective of financial institutions that provide operating lease to find out whether they are willing to adjust or change their product in order to support CE.

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Data Availability Statement: Publicly available datasets were analyzed in this study. This data can be found here: <https://www.clfa.cz/o-nas/vyrocní-zprávy>

Conflicts of Interest: The authors declare no conflict of interest.

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