



**Anna Liedes**

**THE EU'S COMMON SYSTEM OF VALUE ADDED TAX AS A CONTRIBUTOR TO CIRCULAR  
ECONOMY**

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Unit Oulu Business School, Management Accounting			
Author Liedes Anna		Supervisor Kantola Hannele, postdoctoral researcher	
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Abstract			
<p>The current linear economic system has been found to be in direct conflict with the framework set by sustainable development. The accelerating growth of the world's population and new masses joining the middle-class are causing an explosive increase in demand for resources and the more dense presence of greenhouse gases in the atmosphere. Increasing of production efficiency cannot guarantee the adequacy of natural resources and the preservation of living conditions for future generations, and circular economy has been proposed as a solution. (Ellen MacArthur Foundation, 2012.) In the transition from the linear to circular economy, economic instruments are needed to accelerate and facilitate the transition. The European Commission has proposed staggering of the VAT system on environmental grounds by reducing the tax rate on repair services. This could potentially promote products to remain in circulation for as long as possible, which is one of the main objectives of the circular economy. (European Commission, 2019.)</p> <p>The thesis aims to examine how the VAT system could be utilized in the transition from a linear economic system to a circular economy. In particular, the study will look at the structure of the current VAT system and its potential, as well as the limitations of its application set by the Directive. The theoretical part is done as a literature review. Based on this theoretical basis, qualitative interviews have been conducted with six VAT experts from the Tax Administration. The interviews have been transliterated and a theory-driven data analysis has been performed. The interviews have been conducted anonymously and the answers of the interviewees do not reflect the policy of the Tax Administration in this regard. The results of the thesis are based on both a theoretical basis and expert interviews.</p> <p>The study revealed that VAT, as an indirect consumption tax, has a significant potential to influence consumer prices and thus consumption habits (Tikkanen et al., 2018). However, this potential is limited by the asymmetric impact of changes in tax rates on consumer prices, the boundary conditions set out in Annex III of the VAT Directive (2006/112 / EC), and the possible increase in administrative costs during the change in tax rates. Different tax rates have also been suspected to be in conflict with the principle of neutrality of the VAT system. (Mirrlees et al., 2011.) The price effect has been found to be weaker when lowering tax rates than when raising them, both in a study based on listed tax and price changes (Benzarti et al., 2020) and in a VAT reduction experiment conducted in Finland in 2007-2011. However, the more environmentally friendly attitudes of the 2020s and the possible deletion of Annex III to the Directive, with the change proposed by the Commission in 2019, give rise to the possibility of a renewed experiment in reducing VAT rates. The thesis could be used as a starting point for a more detailed study of the price effects of reduced VAT rates on repair services from a business perspective.</p>			
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<p>Nykyisen lineaarisen talousjärjestelmän on todettu olevan ristiriidassa kestäväen kehityksen asettaman viitekehyksen kanssa. Maailman populaation kiihtyvä kasvu ja ihmisryhmien keskiluokkaistuminen aiheuttavat resurssien kysynnän räjähdysmäisen lisääntymisen ja ilmastonmuutosta edistävien kasvihuonekaasujen tiheämmän esiintymisen ilmakehässä. Pelkällä tuotannon tehostamisella ei voida taata luonnonvarojen riittämistä ja elinolojen säilymistä tuleville sukupolville ja ratkaisuksi on ehdotettu kiertotalousjärjestelmää. (Ellen MacArthur Foundation, 2012.) Siirtymävaiheessa lineaarisesta järjestelmästä kiertotalouteen tarvitaan siirtymistä nopeuttavia ja helpottavia taloudellisia ohjauskeinoja. Muun muassa Euroopan komissio on ehdottanut arvonlisäverojärjestelmää porrastettavaksi ympäristöperustein siten, että korjauspalveluiden verokantaa alennettaisiin. Tällä tavoin voitaisiin potentiaalisesti edistää tuotteiden pysymistä kierrossa mahdollisimman pitkään, mikä on yksi kiertotalouden päätavoitteista. (Euroopan komissio, 2019.)</p> <p>Tutkielma pyrkii selvittämään, miten arvonlisäverojärjestelmää voitaisiin hyödyntää siirtymävaiheessa lineaarisesta talousjärjestelmästä kiertotalouteen. Tutkimus perehtyy varsinkin nykyisen järjestelmän rakenteeseen ja sen tarjoamaan potentiaaliin sekä direktiivin (2006/112/EC) asettamiin soveltamisrajoituksiin. Teoriaosuus on tehty kirjallisuuskatsauksena. Tähän teoreettiseen pohjaan nojautuen on tehty kvalitatiivisia haastatteluita kuudelle Verohallinnon arvonlisäveroasiantuntijalle. Haastattelut on litteroitu ja tämän datan perusteella on suoritettu teorialähtöinen aineistoanalyysi. Haastattelut on suoritettu anonymisti ja haastateltavien vastaukset eivät kuvasta Verohallinnon linjausta asiaan liittyen. Tutkielman tulokset perustuvat sekä teoriapohjaan että asiantuntijahaastatteluihin.</p> <p>Tutkimuksessa selvisi, että arvonlisäverolla on välillisenä kulutusverona merkittävä potentiaali vaikuttaa kuluttajien hintoihin ja siten kulutustottumuksiin (Tikkanen et al., 2018). Tätä potentiaalia kuitenkin rajoittaa verokantojen muutosten asymmetrinen vaikutus kuluttajahintoihin, arvonlisäverodirektiivin (2006/112/EC) liitteen III asettamat reunaehdot, sekä mahdollinen hallinnollisten kustannusten lisääntyminen verokantojen muutosvaiheessa. Eriävien verokantojen on myös epäilty olevan ristiriidassa arvonlisäverojärjestelmän neutraalisperiaatteen kanssa. (Mirrlees et al., 2011.) Hintavaikutuksen on todettu olevan heikompi verokantoja alennettaessa kuin niitä nostettaessa sekä listattuihin vero- ja hintamuutoksiin perustuvassa tutkimuksessa (Benzarti et al., 2020) että Suomessa vuosina 2007-2011 suoritettussa arvonlisäveron alentamiskokeilussa. 2020-luvun ympäristömielisemmät asenteet sekä mahdollinen direktiivin liitteen III poistaminen Komission vuonna 2019 ehdottaman muutoksen myötä antavat kuitenkin aihetta arvonlisäverokantojen alentamiskokeilun uusimiselle. Tutkielmaa voitaisiinkin käyttää lähtökohtana korjauspalveluiden alennettujen arvonlisäverokantojen hintavaikutusten tarkemmalla tutkimisella yritysperpektiivistä.</p>			
Asiasanat Tuotteen elinkaari, Lineaarinen talousjärjestelmä, Korjauspalvelut, Alennettu arvonlisäverokanta			
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## CONTENTS

<b>INTRODUCTION.....</b>	<b>7</b>
<b>1.1 Introduction to the Thesis Topic.....</b>	<b>7</b>
<b>1.2 Thesis Objective .....</b>	<b>9</b>
<b>1.3 Narrowing of the Research Topic.....</b>	<b>10</b>
<b>1.4 Research Method.....</b>	<b>11</b>
<b>1.5 Thesis structure .....</b>	<b>11</b>
<b>2 CIRCULAR ECONOMY.....</b>	<b>12</b>
<b>2.1 From Linear to Circular Economy .....</b>	<b>12</b>
2.1.1 The Challenges of the Linear Economy.....	12
2.1.2 Transferring into Circular Economy.....	13
<b>2.2 Circularity in Business.....</b>	<b>14</b>
2.2.1 The Principles of Circular Economy.....	14
2.2.2 The Five Business Models .....	15
<b>2.3 Circular Economy in the European Union .....</b>	<b>17</b>
2.3.1 The European Green Deal.....	17
2.3.2 The Commission’s Action Plan .....	18
<b>3 VAT IN CIRCULAR ECONOMY.....</b>	<b>21</b>
<b>3.1 Main Principles of Value-Added Tax.....</b>	<b>21</b>
3.1.1 VAT as an Indirect Consumption Tax .....	21
3.1.2 Activities Causing Liability to VAT.....	21
3.1.3 EU’s Common System of VAT .....	22
<b>3.2 Liability to Tax .....</b>	<b>23</b>
3.2.1 Sale of Goods and Services.....	23
3.2.2 The Reverse Charge Mechanism .....	23
3.2.3 VAT for Small Businesses.....	24

<b>3.3</b>	<b>Tax Base</b> .....	<b>25</b>
<b>3.4</b>	<b>Tax Deductions</b> .....	<b>27</b>
3.4.1	The Right to Deduct.....	27
3.4.2	Cost Allocation .....	27
<b>3.5</b>	<b>Different Rates of VAT</b> .....	<b>28</b>
3.5.1	VAT rates in the Directive.....	28
<b>3.6</b>	<b>VAT in Bookkeeping</b> .....	<b>29</b>
<b>3.7</b>	<b>Valued-Added Tax as an Economic Instrument</b> .....	<b>30</b>
3.7.1	Correctors of Market Disturbances .....	30
3.7.2	Economic Instruments of Circular Economy.....	31
3.7.3	Premature Obsolescence and Extending the Life-Cycle of Products .....	31
3.7.4	Studies advocating VAT as an economic instrument .....	32
3.7.5	Studies against reduced VAT rates .....	34
3.7.6	Taxation Shift from Labor to the Use of Natural Resources .....	35
<b>3.8</b>	<b>Lowered VAT Rate for Repair Services</b> .....	<b>35</b>
3.8.1	Neutrality versus Environmental Objectives .....	35
3.8.2	Finland’s VAT Experiment.....	36
3.8.3	Other Member States .....	36
<b>3.9</b>	<b>Limitations and Future Possibilities of VAT</b> .....	<b>37</b>
3.9.1	Annex III of the Directive.....	37
3.9.2	The Commission’s Proposal .....	37
<b>4</b>	<b>EMPIRIC RESEARCH</b> .....	<b>39</b>
<b>4.1</b>	<b>Methodology</b> .....	<b>39</b>
<b>4.2</b>	<b>Method</b> .....	<b>40</b>
<b>4.3</b>	<b>Interview Questions</b> .....	<b>42</b>
<b>4.4</b>	<b>Results</b> .....	<b>44</b>
4.4.1	Startup questions .....	44

4.4.2	Circular Economy .....	45
4.4.3	The Common System of Value-Added Tax.....	46
4.4.4	Reduce VAT Rates for Repair Services.....	49
<b>4.5</b>	<b>Analysis .....</b>	<b>57</b>
4.5.1	Backgrounds and previous knowledge on the topic .....	57
4.5.2	The structure and application scope of the VAT system .....	58
4.5.3	Changing VAT rates and their effect on consumer prices.....	61
4.5.4	Consumer habits and attitudes .....	64
4.5.5	VAT as an economic instrument.....	65
<b>5</b>	<b>CONCLUSIONS .....</b>	<b>67</b>
	<b>LITERATURE .....</b>	<b>70</b>

## INTRODUCTION

### 1.1 Introduction to the Thesis Topic

Economy and production have developed enormously for the past couple hundred years in terms of efficiency. However, the production methods are still based on the same take-make-dispose formula that has been used since the beginning of industrialization. This model of production is referred to as the linear economy model and it has been proven to be unsustainable. The lack of sustainability of the current model is heightened by the projected population growth, much of which will happen in the emerging markets. The demand of natural resources will skyrocket in the decades to come and working towards efficiency alone is not enough to guarantee that there are sufficient resources left to support the growing population. The situation calls for a global, fundamental change and the solution suggested is circular economy. This economic model is defined as an industrial economy that aims to preserve biodiversity and prevent climate change by transferring to renewable energies, minimizing and eliminating the use of toxic chemicals, and relaying on the zero-waste vision that states that waste or surplus materials from one production should be used as a raw material for another process (Ellen MacArthur Foundation, 2012).

Sitra (2017) has divided the circular economy business models into five different groups: product as a service, renewability, distribution platforms, product life-cycle extension, and resource efficiency and recycling. The most relevant business model for the thesis is the product life-cycle extension, which refers to keeping the products in their original use for as long as possible or as many times as possible through maintenance, repair and re-manufacturing. The lifespan of household appliances, among others, have almost without exception shortened in the 21st century (Prakash et al., 2016). In part, the change is due the occurred rapid technological development which has led to a reduction in the energy consumption of the equipment, but in part there are other reasons, such as deliberate shortening of the products' service life. Lower prices and easier access to repair and maintenance services could in part contribute to fixing this wide-ranging issue. (Tikkanen et al., 2018.)

This problem has also been addressed in the European Green Deal published by the European Commission in December 2019. The Green Deal sets out the means to achieve climate neutrality in the EU by introducing initiatives that aim to improve resource efficiency, reduce environmental pollution and greenhouse gases, and restore biodiversity. These objectives are to be achieved on the basis of the circular economy principles. The action plan set out by the Commission will define the means to move from a linear to circular economy in the fairest and most comprehensive manner possible. The action plan includes a number of initiatives, the most important of which from the thesis' perspective, is the use of economic instruments as an incentive for circular economy. The economic instruments mentioned include environmental taxes and the use of reduced value-added tax (VAT) rates for activities aimed at consumers, such as repair services. (The European Commission, 2019.)

Many have suggested that environmental staggering of VAT could serve as an economic instrument. De Camillis & Goralczyk (2012) suggested that because VAT is, before anything, a consumption tax it could potentially affect consumer behavior. The study concluded that by using life-cycle assessment (LCA) as a new VAT framework, environmental costs could be included in the prices of products and services. Timmermans & Achten (2018) take this idea a step further by introducing an entirely new VAT system (DaVAT), in which the tax rates are higher for industries and activities that have greater environmental impact. The argument is that today many environmentally friendly products are more expensive than those that cause greater environmental externalities. Consequently, the polluter pays -principle is not working and people are rather penalized than encouraged to make sustainable consumption choices (Tikkanen et al., 2018). For example, Nguyen et al. (2016) found that by reducing the VAT rates of renewable energy sources, the environmental costs related to energy sources based on fossil fuels could be internalized.

A study by Mirrlees et al. (2011) opposes the idea of environmental staggering of VAT, as multiple VAT rates have been traditionally avoided to assure the neutrality of the tax as well as the functioning of the taxational processes. The study concludes that reduced tax rates distort consumption, difficult administrative processes and create interpretational issues. In addition, a study by Benzarti et al. (2020) questions the effect the reduced rates have on actual consumer prices. The study has collected



data from the VAT changes that have occurred within the EU for the past decades and concluded that whereas the increasing of the VAT rates seem to have a fairly instant market reaction, the reducing of the VAT rates does not have as strong of a correlation with consumer prices. The study is related to a VAT experiment that took place in Finland between the years 2007 and 2011, during which the VAT rate of minor repair services and hairdressing services were reduced by 14 percentages (Tikkanen et al., 2018).

The application scope of the VAT Directive (2006/112/EC) is one factor that could potentially determine the efficiency of VAT as an environmental economic instrument. The reduced rates of repair services are currently limited by the Annex III of the Directive to only concern minor repair services of bicycles, shoes and leathery goods and clothing and household linen. However, the Commission (2019) has proposed a VAT Directive renewal, which would eliminate the current Annex III and replace it with a list of products and services that reduced rates are not to be used as opposed to the current list that presents the products and services that reduced rates can be applied to.

## **1.2 Thesis Objective**

The thesis aims to examine the potential of the current common system of value-added tax as a contributor to the circular economy and what factors might limit this potential. The previous studies regarding the environmental staggering of VAT are the base of the research. Above all, the thesis has been motivated by the combination of the author's two educational backgrounds, masters level studies in management accounting and bachelor studies in environmental engineering, as well as work within Finland's Tax Administration. In addition, the topic is current due to the Commission's Green Deal and the 2018 proposal to change the VAT Directive to make it less restrictive and as a consequence potentially a better option as a circular economy incentive. The thesis focuses especially on the reduced rates of VAT in repair services, as this is in use in some of the Member States and a similar experiment has also been carried out in Finland between 2007 and 2011. The thesis is done via literature review and by interviewing VAT experts working in the Tax Administration. The research questions are:

- How could VAT contribute to the transition towards circular economy?
- What limitations does the current VAT system impose on this type of application?

### **1.3 Narrowing of the Research Topic**

The research aims to increase the practical knowledge of a global phenomenon and to present it from a point of view of VAT experts. Where the previous studies have been focusing on the economic aspects of the matter, the thesis highlights the structure of the VAT system and how this effects its potential to contribute to circular economy. The thesis mixes theories and practices of accounting and taxation, law and economics while studying how VAT experts experience the benefits of the common system and what is the potential of this harmonized systems in the transition towards circular economy. Hence, the uniqueness of a multinational taxation system is recognized and looked from the grass-root perspective rather from the macroeconomics viewpoint as the previous studies have done. The study also focuses more on a specific industry, the repair services, whereas previous studies have had a broader lens.

When discussing the effectiveness of VAT as an economic instrument, the aspect of consumer price changes cannot be ignored. However, the price changes of a certain industry or service is a mix of multiple factors such as competitive strategies, organizational structure and environment, and other external factors such as current economic situation. The thesis does not aim to give a full disclosure on how the decreasing of VAT rate on repair service industry would effect the prices of these services. Nonetheless, the matter of pricing decisions is briefly mentioned in the analysis as this is a vital aspect to grasp the full picture of the matter. The purpose of the thesis is to highlight the qualities specific to the VAT system that could play a part in advancing circular economy. How organizations choose to respond to taxational changes is left out of the equation at this point.

## **1.4 Research Method**

The thesis combines the approaches of a literature review and qualitative expert interviews of six VAT experts working at the Finnish Tax Administration. The interview questions and structure depend on the theory presented in the previous chapters and the analysis is carried out based on the theory presented (Eskola, 2001). The several theories serve as a framework and the research aims to highlight the interviewees' interpretations of the phenomenon. The interviews are organized according to the theoretical chapters on a thematic basis (Hirsijärvi & Hurme, 2008, *Teemahaastattelun teoria ja käytäntö*). The transliterated interview material has been cropped in reference to the theoretical background and only the data relevant to the study has been included in the research paper. The amount of data is considered to be sufficient in terms of the number of the interviewees and the material produced based on the interviews and the analysis has been concluded successfully (Eskola & Suoranta, 2005, *Aineiston kattavuus*).

## **1.5 Thesis structure**

The thesis aims to answer these questions by studying first the literature and articles of circular economy and value-added tax. Empiric research is then carried out through qualitative interviews. The chapter after introduction discusses about circular economy as an economy model and views the guidelines set out by the Commission for the coming years. The third chapter examines value-added tax first through national legislation and after which through the VAT Directive and from the economic instrument perspective. The chapter defines the concepts needed in the interviews and especially in the analysis of which. At the end of the third chapter VAT is looked from the circular economy point of view and a number of advocating and opposing studies are presented. Expert interviews are based on the concepts and theories presented, and the interview analysis relays strongly on the theory.

## 2 CIRCULAR ECONOMY

### 2.1 From Linear to Circular Economy

#### 2.1.1 The Challenges of the Linear Economy

Since the industrial revolution, economy and production have taken enormous leaps. New methods of production focus on efficiency in terms of raw material use, energy consumption and labor hours. Nonetheless, the production methods still revolve around the same formula that has been used for centuries: take, make and dispose. Organizations manufacture products by applying energy and labor hours on raw materials and then sell these products to consumers, who dispose the product by the end of its life cycle. This model, often referred to as the linear economy model, leads to unnecessary losses of resources and has been proven to be unsustainable. The resource losses occur in the forms of waste mid-production, waste post-production, overuse of energy and over-consumption of the so-called ecosystem services. (Ellen MacArtur Foundation, 2012.)

Waste of raw materials occur both during the production process and after it. The waste of materials in the production chain refers to the billions of tons of material that never enter the economy but rather is lost during different stages of primary production and manufacturing processes. End-of-life waste means the materials left unrecycled after the product no longer serves its purpose. For example, in 2015 the EU countries produced 322 million tons of plastic materials of which only 30 percent was recycled. The recycling percent varies tremendously between the member countries, Finland being on the bottom end. (Ellen MacArtur Foundation, 2012; European Parliament, 2018.)

In addition to the waste of raw material, the residual energy in products is also left unused when the product is simply thrown away to a landfill. Overuse of energy refers to the fact that the amount of energy needed to produce products from scratch is a lot higher than the amount needed to produce them from recycled materials or reusable products. Over-consumption of the eco-system services relies on the same principle. Eco-system services refer to the various benefits provided by the nature. For example,

trees and other plants have multiple important tasks as part of the eco-system, such as absorbing carbon dioxide and producing oxygen into the air. Deforestation, which is a result of the linear economy model, is a sign of overconsumption of the eco-system services. (Ellen MacArthur Foundation, 2012.)

The linear economy model does not maximize the usage of raw materials and energy and this has affected not only the prices of these commodities but also the volatility of the prices. The increasing prices can be explained by the constantly increasing demand and the scarcity of the natural reserves. The world population in 2020 is 7,8 billion and it is expected to grow to 9 billion people by 2050. A lot of this population growth happens in emerging markets like China and India, which means that millions of people are about to join the middle-class. This means that the demand of natural resources will skyrocket in the decades to come. The rising demand together with the fact that natural reserves like oil and gas are being exhausted leads to a simple conclusion: the economic growth according to the linear model is simply not sustainable. (Ellen MacArthur Foundation, 2012.)

### 2.1.2 Transferring into Circular Economy

Like said, giant leaps in regards of efficiency have been made since the industrial revolution and the production processes use less and less resources per unit of output. However, working towards efficiency alone is not enough to guarantee that there are sufficient resources left to support the economy and growing demand in the decades to come. The situation at hand calls for a change of the entire business world and the solution suggested is circular economy. Ellen MacArthur Foundation defines circular economy as “...an industrial economy that is restorative by intention; aims to rely on renewable energy; minimises, tracks, and eliminates the use of toxic chemicals; and eradicates waste through careful design.” Circular economy is much more than efficient use and recycling of materials; it is a completely new model for the global economy. (Ellen MacArthur Foundation, 2012; Sitra, 2014.)

Circular economy has a zero-waste vision, which means that all left-over materials are inputs for another activity, operation or organization. Products are designed to be reusable and recyclable, non-renewable resources are replaced by renewable ones,

products are replaced by services and energy is produced from renewable energy sources instead of fossil fuels. Circular economy offers organizations a major opportunity for renewing themselves as well as vast potential for financial profits.

Pioneering companies are able to benefit efficiently from their material flows and from the new customer-driven business models. The business models based on the principles of circular economy could provide additional value to the customers by offering services instead of material goods. The companies who are the first to take advantage of this growth potential, are likely the ones with the biggest market shares in the future. The Finnish Innovation Fund Sitra assessed the potential of the circular economy in Finland alone to be around 2 billion euros. (Sitra, 2014.)

## **2.2 Circularity in Business**

### **2.2.1 The Principles of Circular Economy**

From the circular economy perspective, there are three key areas where the current operating model loses value. First of all, an unnecessary waste of material occurs in the manufacturing process due to lack of efficiency in production. As material efficiency is improved, fewer inputs produce more outputs. Second, much of the waste's raw material value and value in use is lost in the linear operating model due to lack of recycling and reuse. Third, the recycling of materials often takes place through a so-called low-value cycle. We often see recycling as the recycling of raw materials. However, when a product is recycled for reuse or remanufacturing, more of its remaining value stays in the economic cycle. (Sitra, 2014.)

There are five ways to promote the circulation of products and raw materials: 1) maintain, 2) reuse and distribute, 3) remanufacture and remodel, 4) recycle and finally, 5) utilize in another value chain. Products should be built to last longer without the need to repair and maintenance services should be provided to extend the life of products. Products can be reused for the same purpose and sold again in the retail markets or it can be first remodeled or remanufactured and then sold. This way the product has multiple life cycles instead of one. If the product cannot be reused, the materials should be recycled for reuse and redesign. Products should be designed in

such a way and from such materials that the materials can be easily sorted in the end of the product's life cycle. With biological materials, it is also important to consider how we can ensure that the nutrients end up safely and sustainably as part of the food cycle after the most efficient utilization. If the material cannot be utilized in its original sector, it may be beneficial to another value chain. (Sitra, 2014.)

To put the circular economy ideology into practice, it is essential that all parts and activities of the economy reflect the principles of the model. The principles, on which the circular economy is based on, are: *design out waste, waste is food, build resilience through diversity, rely on energy from renewable sources and think in systems*. Organizations do not produce waste, when they design the products and their components in a way that fits the biological and technical material cycles. Biological materials can not be toxic and have to be easily compostable whereas technical materials should be able to be reused without the loss of quality. Waste can be thought of as nutrients pure enough to be fed back into the biosphere. (Ellen MacArthur Foundation, 2012.)

In addition to quality, organizations should focus on diversity and adaptivity when designing and manufacturing products. This ensures the products resilience and survival in today's dynamic and constantly changing world. Beyond raw materials used, the design and manufacturing process should also consider the sources of energy, which should ideally be all renewable. A key objective of promoting renewable energy is to reduce greenhouse gas emissions and move away from the fossil fuel-based energy system. The linear economy model has pursued efficiency at the cost of diversity, complexity and, more than anything, context. Basically, the economy should be looked in a similar manner as an ecosystem: a system of interactive parts that influence one another instead of a straight-forward process separate from the environment. (Ellen MacArthur Foundation, 2012.)

### 2.2.2 The Five Business Models

New policies and procedures are needed to keep materials and value in circulation for as long as possible and to minimize waste. In a circular economy, companies add value to products with services and intelligent design. Increase of value might come from

product maintenance, reuse and remanufacturing as well as maximizing the degree of product utilization. Instead of focusing on minimizing the production costs, innovations and business models in circular economy are based on maximizing the performance of a product throughout its lifecycle and therefore maximizing customer value. Sitra has divided the circular economy business models into five different groups: product as a service, renewability, distribution platforms, product life-cycle extension, and resource efficiency and recycling. (Sitra, 2017.)

*Product as a service* refers to offering products as temporary services instead of exchanging the ownership of the products. For example, MaaS Global offers different transportation methods to consumers on a monthly fee basis. This decreases the consumers' need to own a car themselves, lessens traffic and, as a consequence, traffic emissions. *Renewability* as a business model means using renewable and recyclable materials as well as renewable energy while designing and manufacturing products. For example, Sulapac has designed a wood-based packaging as an alternative for plastic. Their licensed innovation is entirely biodegradable and free of microplastic. Companies that are currently producing plastic can use Sulapac's material and technology in their current manufacturing facilities without any major capital investments. The solution has major potential to reduce the carbon footprint as well as the amount of microplastic in the oceans. (Sitra, 2017.)

*Distribution platforms* as a circular economy business model means increasing the utility rate and lengthening the lifecycle of products and resources by offering them in different digital platforms in the forms of renting, selling, sharing and reusing. For example, Combi Works has created a globally operating AirFaas service, also referred to as "AirBnB for factories". The service allows factories, who are operating below their maximum capacity, to share their excess resources and by doing so it helps to decrease the need to build new manufacturing facilities. *Product life-cycle extension* as a business model means innovations that help keeping the products in their original purpose for as long as possible or as many times as possible. This is done via maintenance services, such as repairment, or remanufacturing. For example, the Lifecycle Care concept by Konecranes extends the lifecycle of machines by remote monitoring that allows real-time maintenance. The service predicts the need for maintenance and gives estimates for possible modernizations needed. (Sitra, 2017.)



*Resource efficiency and recycling* as a business model refers to innovations related to material and energy efficiency as well as the collection and recycling of end-of-life products and raw materials. For example, an application invented by Lassila & Tikanoja called “Hävikkimestari” is designed to reduce food waste produced in restaurants and hotels. The application offers real-time information of the waste amounts and by doing so, helps the staff to understand their supply-to-demand ratio and further, adjust the amount of food bought and prepared. Hävikkimestari cuts the restaurant’s expenses while decreasing waste and the unnecessary environmental costs that the production of the excess food produces. Fortum, on the other hand, collects recycled plastic packages and other plastic materials and uses new technology to produce reprocessed plastic that has all the qualities of virgin plastic for the exception of its significantly smaller carbon footprint. Using reprocessed plastic is not only cheaper for the manufacturer but it also decreases the amount of oil needed in production and produces 85 percent less greenhouse gases. (Sitra, 2017.)

## **2.3 Circular Economy in the European Union**

### **2.3.1 The European Green Deal**

The European Union climate policy guides both the region's joint efforts and the actions of individual member states to mitigate and adapt to climate change. The climate policy is based on the United Nations Framework Convention on Climate Change, the complementary Kyoto Protocol and the Paris Climate Agreement. At the core of EU climate policy are emissions trading, national targets for industries outside the emissions trading or the so-called effort-sharing, and the EU’s adaptation strategy. The EU is also an active player in the international climate negotiations and the largest donor of financial aid on climate action in the developing countries. EU is committed to reduce the greenhouse emissions from the level of 1990 by 40 percent by the year 2030. This commitment is also part of the Paris Climate Agreement. EU’s goal is to be the first climate neutral continent by the year 2050. (Ministry of the Environment, 2020.)

In December 2019, the European Commission published the European Green Deal, which sets out the means to achieve climate neutrality. As part of the European Green

Deal, the Commission has published proposals for the European Climate Law to enshrine climate neutrality in the law, as well as the European Climate Pact to involve all citizens and stakeholders in climate work. The Commission is also due to propose a tightening of the 2030 emissions reduction target in autumn 2020 and to present a number of other initiatives in the coming years. Finland considers that the EU's 2030 target should be tightened from a 40 percent reduction to a at least 55 percent reduction in comparison of the 1990 emission levels. In summer 2021, the Commission plans to present proposals to reform EU climate and energy legislation to achieve a more ambitious emissions reduction target. (Ministry of the Environment, 2020.)

### 2.3.2 The Commission's Action Plan

The European Green Deal presents an action plan that aims to improve resource efficiency, decrease environmental emissions and polluting, and restore biodiversity. These objectives are to be reached via the methods of circular economy. The action plan defines the investments and financing needed and presents ways to make the transition from linear to circular economy as just and comprehensive as possible. The initiatives listed in the action plan include developing a sustainable product policy framework, prioritizing key product value chains, generating less waste and more value, making circularity work for people regions and cities, crosscutting actions, leading climate efforts at global level and monitoring progress. (The European Commission, 2020.)

*Developing a sustainable product policy framework* is done by widening the existing initiatives and legislation to the broadest possible range of products and acknowledging their entire lifecycle from the design phase to production to reuse or disposal. In order to do this, the Commission has proposed to expand the already existing Eco-design legislation beyond energy-related products. Another vital element in building a sustainable policy framework is empowering consumers and presenting them ways to decrease their everyday expenses. Commission proposes to adjust the EU consumer law in a manner that ensures liable product information regarding their lifespan and repairability. Consumers need to be better protected against green washing by corporations and premature obsolescence of products. This can be done via reliable sustainability labels and information. The commission is also planning on

establishing new “right to repair” regulations which will widen the consumers’ rights regarding the availability of spare parts and access to repair services. (The European Commission, 2020.)

An essential part of the sustainable product policy framework is taking comprehensive and coordinated actions regarding the *key value chains* that present the biggest sustainability challenges. The Commission will work together with the stakeholders of the related organizations in order to pinpoint the bottlenecks and to find ways to address these obstacles. The key value chains mentioned in the action plan are electronics and ICT, batteries and vehicles, packaging, plastics, textiles, construction and buildings, and food, water and nutrients. Electronics and ICT, for example, is an industry that has one of the fastest growing waste flows and the waste output is currently growing 2 percent per year. Around 60 percent of the waste is simply disposed and less than 40 percent recycled. Circular Electronics Initiative is one of the proposals presented by the Commission in regards of the key value chain sustainability challenges. It includes recommendations and regulations regarding energy efficiency of the products, reparability and maintenance, and reuse and recycling. In addition, the initiative introduces a proposal for a common charger and an EU-wide take back scheme that allows consumers to sell their old mobile equipment. (The European Commission, 2020.)

The *less waste more value* initiative is closely tied to the abovementioned actions regarding product policies and key value chains. In addition to these, in order to decrease the still increasing waste streams the EU waste laws need to be improved and implemented and the legislation regarding problem waste like batteries, packages, end-of-life vehicles and other hazardous substances needs to be updated. The objective is to halve the non-recyclable waste by 2030. Beyond just trying to decrease the volume of the waste streams, the Commission aims to focus on the quality of the waste produced as well. In order to increase the recycling ratio and the quality of recycled products and material, promoting safer and cleaner waste streams is vital. By minimizing the substances that are harmful to health or the environment, circularity can be promoted in a toxic-free environment. The Commission has also proposed creating a dynamic market for secondary raw materials inside the EU. While coming up with ways to minimize the amount of waste and to maximize the value of it, the

Commission aims to address the waste exports across the EU borders to prevent burdening third countries with EU's challenges. (The European Commission, 2020.)

The Commission's objective is to *make circularity work in all levels of the economy* from regions to cities to individuals. The transition from linear to circular economy can have a positive effect on employment, if the employees are allowed and encouraged to update their skills to fit into this new economy model. The skill support tools need to be modified to better reflect the objectives of circularity by updating the Commission's Skills Agenda and introducing the Pact for Skills. A lead innovator in terms of job creation is the social economy sector, which includes organizations from various industries and legal forms that all have the mutual intention of making profits for people rather than owners or investors. The implementation of the European Pillar of Social Rights aims to further improve the potential of the social economy by participating these organizations in the green transition. In order to reach these goals, increased investments regarding education, lifelong learning and innovation needs to be promoted and different financing instruments directed towards the transition. (The European Commission, 2020.)

EU has set a goal to be climate neutral by the year 2050, which means that the *cross-sectional activities* within EU need to be headed towards a future where they will not alter the amount of carbon dioxide in the atmosphere. To do this the Commission aims to develop systematic ways to measure the environmental impacts of circularity and to enhance the modelling tools related to greenhouse gas reductions on union and national levels. To incentivize the transition towards climate neutrality, solid and transparent accounting system, that monitors carbon removals and relies on a regulatory framework, is needed. The data relating to circular economy performance should complement the financial data produced by organizations and the EU sustainability criteria should be visible in the corporate governance and strategy of businesses. The Commission has also set the encouragement of the use of economic instruments to promote circular economy activities as one of the objectives of the action plan. The economic instruments mentioned are environmental taxation, such as landfill and incineration taxes, and the application of value-added tax rates to the activities aimed at consumers, such as repair services. (The European Commission, 2020.)

### **3 VAT IN CIRCULAR ECONOMY**

#### **3.1 Main Principles of Value-Added Tax**

##### **3.1.1 VAT as an Indirect Consumption Tax**

Taxes directed towards the consumption of goods and services are called consumption taxes. Value-added tax (VAT) is a so-called general consumption tax, meaning that it is targeted at a wide range of products and services. This broad tax base ensures neutral taxation amongst competing products and services. Broad-based taxes also have broad deduction potential, which prevents the tax from multiplying. Value added tax is paid in every stage of the exchange process and therefore the taxable entities are producers and retailers of products and services. To avoid multiple taxation, the VAT system allows entities liable to pay VAT to deduct the amount of VAT included in their purchases. This way the final consumer pays tax in the amount of value added during the production and retail process times the tax rate. (Äärilä et al., 2017, p. 26, 30-31.)

The Finnish taxation system also categorizes taxes based on whether the tax is paid by the taxable entity or not. Direct taxes are reported and paid by the organization itself on monetary flows such as investment income or profit earned. VAT is an indirect tax added to the price of goods and services and paid by the final consumer. The company receiving the payment must separate the amount of VAT included in the price and report and deliver this amount to the Tax Administration. VAT is a self-assessed tax, which means that organizations must independently calculate and report the correct amount of taxes. (Äärilä et al., 2017, p. 30-31.)

##### **3.1.2 Activities Causing Liability to VAT**

Generally, VAT is paid on the sale of goods and services in the form of business. For the organization to be liable to report and pay VAT in Finland, the business activities must take place in Finland. Determining the tax liability therefore requires information on what is considered to be a sale of goods or services, whether the activity is considered to have been performed in the form of business, and when the activity is considered to have taken place in Finland. The Finnish Value Added Tax Act defines

product as a material object or as electricity, gas, heat or cooling energy or any comparable energy-related good. A service is everything else that can be sold in a business form. In practice, organizations' activities are considered business-like when they are for-profit, continuous, outward-looking, independent and involve typical entrepreneurial risk. The fulfillment of business characteristics is assessed as a whole. (VAT Act. 17 – 18 §; Äärilä et al., 2017, p. 34; The Finnish Tax Administration, 2014.)

Chapter four of the Value Added Tax Act lists the industries that are free of VAT under certain specific conditions. These industries include the selling and leasing of real estates, healthcare and social care services, education, and certain financial services such as securities trading. Activities outside the scope of the VAT Act are activities that are not provided for by the VAT legislation. The VAT Act and Directive do not consider such activities performed in form of business or in exchange of compensation. For example, passively owning stocks or performing as a holding company is considered as an activity outside the scope of VAT Act. (VAT Act. chapter 4; Äärilä et al., p. 34.)

### 3.1.3 EU's Common System of VAT

The practices of VAT differ between taxation on domestic sales, intra-Community trading and sales crossing the EU border. Intra-Community trading means sales between EU countries. With other than domestic sales, the practices also vary between products and services. Due to the fact that VAT is a consumption tax, tax on international product sales is paid to the country, where the product is consumed. This objective is carried out by regulating export tax-free and import subject to VAT. Taxation on international service sales is dictated by the place of supply. The place of supply is determined based on the nature of the service and whether the buyer is a consumer or a business. (The Finnish Tax Administration, 2019.)

The legislation and practices relating to VAT are harmonized within the EU for the most parts. The harmonization is necessary to ensure the implementation and functionality of the intra-Community trading. The Council Directive of 2006, which replaced the 1977 base Directive, sets a uniform taxation base for all EU member states. The purpose of the reform was to clarify the regulations and structure of the

base directive rather than modify its content. Directives are so-called secondary legislation, which offer guidelines to the content of national legislation. Some of the regulations given by the Council Directive are obligatory and some voluntary. In 1995, when Finland joined the EU, it became a part of this common system of VAT. (Äärilä et al., p. 27 – 28.)

## **3.2 Liability to Tax**

### **3.2.1 Sale of Goods and Services**

Liability to tax includes the obligation to report and pay value-added taxes related to sales and the right to deduct taxes in the purchases that have to do with the operations for which the organization is liable of VAT. As stated in the previous chapter, the main rule is that sales of goods and services performed in the form of business obligate the taxable entity to report and pay taxes in Finland. Exceptions to the general rule, that binds liability to tax to sales activities, are self-supply of goods and services, import and intra-Community acquisition of goods. Self-supply of goods means diverting products or services from deductible activities to a private or exempt use and in taxation practice it is treated the same as sales. Taxation of self-supply can be divided into four different case categories: diverting goods to a private use, gift of goods, diverting goods to a partly exempt use or diverting goods to fully exempt use. (Äärilä et al., p. 34 – 35; p. 432 – 433.)

### **3.2.2 The Reverse Charge Mechanism**

According to section 2 of the VAT Act, the taxable entity is the seller of goods and services, unless the law dictates otherwise. The reverse charge mechanism for VAT means, that in the sales of certain goods and services, the buyer is the one reporting and paying the taxes. Industries where the reverse mechanism is typically used is construction services (VAT Act 8 c §) and the selling of scrap (VAT Act 8 d §). The mechanism is also applied to the domestic sales of greenhouse gas emissions allowances (VAT Act 8 b §). The aim of the reverse mechanism for VAT is to reduce VAT losses due to fraudulent practices and improve the competitive position of law-abiding organizations in the sectors stated in the VAT Act 8 §. The purpose of the

legislation is to prevent activities where the buyer deducts the VAT which the seller fails to report and pay. (VAT Act 2 § and 8 §; The Finnish Tax Administration, 2014.)

### 3.2.3 VAT for Small Businesses

Even if the business characteristics were considered fulfilled, the activities performed do not cause a liability to VAT when the amount of sales does not cross the minimum amount of 10 000 euros. The minimum limit is dictated by the organization's income, which includes income from taxable sales as well as certain tax-free sales such as intra-community acquisitions of goods and financial services (VAT Act 3 §). The income is always calculated to an accounting period of 12 months. If the length of the company's accounting period differs from 12 months, the income for the accounting period is converted into 12-month income. Organizations with income under the minimum limit have the right to voluntarily register themselves liable to VAT. This possibility is given in order to prevent multiple taxation when small businesses sell goods and services to other organizations liable to VAT. (VAT Act 3 §; The Finnish Tax Administration, 2019.)

The small businesses, that voluntarily register, must report and pay taxes from all sales subject to VAT. However, the Tax Administer grants certain VAT reliefs for small-scale operations. If the company's income does not exceed the minimum limit of 10 000 euros, the entire amount of VAT paid will be refunded. If the income exceeds the minimum limit but is less than 30 000 euros, the company will receive a partial VAT relief and a percentual amount of VAT paid will be refunded. The final amount of VAT after the relief is calculated according to the formula below:

$$VAT - \frac{(income - 10\,000) * VAT}{2000}$$

The purpose of the VAT relief scheme is to further advance the growth potential of small businesses. The relief aims to reduce the burden of tax liability for companies, whose income is on the verge of crossing the minimum limit of 10 000 euros. This may lower the threshold of expanding one's business operations and reduce the



temptation of black-market activities. (Äärilä et al., p. 52-53; The Finnish Tax Administration, 2019.)

### **3.3 Tax Base**

#### **3.3.1 Transfer of Ownership as a Divider**

The general rule is that all sales of goods and services are subject to value-added tax, if the law does not state otherwise. Sale of goods refers to transfer of ownership of said goods in exchange for compensation (VAT Act. 18 §). Transfer of ownership means the transfer of right of control related to the goods sold. Therefore, the transfer of right to use a good in exchange for compensation is not considered a sale of goods but rather a sale of services. However, a transfer of goods under a lease agreement, that includes a binding redemption clause on the transfer of ownership, is considered a sale of goods. All sales, that are not considered to be sale of goods, are sale of services. Payments, which are not compensation in exchange for the sales of goods or services, are not considered sales and are not therefore subject of VAT. These payments include, for example, capital investments and compensations paid by insurance companies. (Äärilä et al., p. 128-130.)

In order for a sale to be subject to VAT, the transfer of ownership of goods or the supply of services must happen in exchange for compensation. A direct connection between the goods or services supplied and the compensation is required. The compensation can be either money or an asset that can be expressed in money. For example, when a good or a service is supplied in exchange of another good or a service, it is considered a supply in exchange for compensation, even though no money is used. When determining, whether a payment is considered to be compensation, the form (monetary or not) of the payment is not as important as the nature of it. For example, a contribution in kind, which is a capital increase that is not in cash, is considered a compensation and therefore subject to VAT. But when a company raises capital, the investments received are considered to fall outside the scope of VAT and are not treated as compensation. (Äärilä et al., p. 131-133.)

#### **3.3.2 Sales Free of VAT**

Principally, sales are subject to value-added tax and sales free of tax are an exception to the rule. Usually tax-free sales do not entitle organizations to deduct the VAT relating their input purchases and the tax is treated as an expense. In these cases, the tax included in the input purchase prices stays hidden in the price of the seemingly tax-free final product or service. In some cases, the sales are not subject to VAT, yet tax deductions can be claimed. Such zero-rated sales include international commercial transactions of goods and services. International commercial sales can be divided into four main categories: imports, exports, intra-Community acquisitions and intra-Community supply. Intra-Community trading refers to sales between EU-countries, whereas imports and exports involve parties outside the EU. The VAT legislation and practices of international commerce varies depending whether the object of sale is a good or a service. Generally speaking, export and intra-Community supply are free of VAT, whereas import and intra-Community acquisitions are subject to VAT. (Äärilä et al. p. 455-520; The Finnish Tax Administration, 2019.)

### 3.3.3 Intra-Community Trade

The intra-Community trade of goods between organizations subject to VAT is based on the destination country principle. According to this principle, VAT is reported and paid in the country to which the product is transported to. Therefore, sales of products, that are transported to another EU-country, are free of VAT. The buyer of the products is obligated to pay VAT to their home country from the intra-Community acquisitions made. These acquisitions are often tax deductible, so no actual payment obligation arises. Export means sale of products across the EU-border and, like intra-Community supply, it is free of VAT. A sale is considered export for example when the seller or someone else on their behalf transports the product outside the Community or when a foreign organization, that is not registered for VAT in Finland, picks up the product and immediately exports it outside the Community. Import refers to the transportation of products from outside the EU into an EU-country and it is an activity subject to VAT. The importer is liable to pay VAT and has the right to deduct the taxes related to activities subject to VAT. (Äärilä et al., p. 455-520.)

Unlike with international trade of products, a bulk part of the regulations concerning international trade of services concern both intra-Community trade and trade with third

countries. The international service trade system is complicated by the country of sale regulations. These regulations are same for all products in international sale, but in international sale of services the regulations and the taxation practices vary from service to service. The service to be sold or purchased must be able to be placed in the correct service category in order to determine the regulations and practices in question. With service sales, the country of sale assigns which country's tax law is to be applied. Each EU-country has the exclusive right to tax transactions carried out in the country's VAT territory. (Äärilä et al., p. 520-521.)

### **3.4 Tax Deductions**

#### **3.4.1 The Right to Deduct**

The main rule in value-added taxation practices is that a sale subject to VAT includes a right to deduct VAT from the purchases allocated to that sale. The tax is passed on from a sale stage to another and each stage pays VAT only from the additional value created, or value added. However, in certain circumstances the right to deduct has been limited and the VAT Act appoints the VAT of some purchases non-deductible. Purchases related to sales that are not subject to VAT do not entail the right to deduct the tax included in the purchase price. Similarly, VAT on purchases related to activities outside the scope of the VAT Act is non-deductible. The right to deduct only includes the purchases made for the taxable entity's own business activities. In corporations, or groups of companies, each company is responsible for their own VAT payments and have right to deduct the VAT in the purchases made by the individual company. When company's business activities include both taxable activities and non-deductible activities, the taxable entity must be able to allocate the purchases to the correct activity. The right to deduct is determined on this basis. (The Finnish Tax Administration, 2016.)

#### **3.4.2 Cost Allocation**

A taxable entity is entitled to deduct VAT on purchases directly and immediately attributable to their deductible activities. The entity is not entitled to deduct VAT on purchases directly and immediately attributable to their non-deductible activities.

Activities that are not eligible for deduction may be either activities exempted from VAT under the VAT Act. or activities outside the scope of VAT Act. If the purchase concerns both activities subject to VAT and non-deductible activities, the purchase's tax is deductible only to the extent to which the purchase is related to activities subject to VAT (VAT Act. 117 §). The activities exempted from VAT under the VAT Act. are listed in the fourth chapter of the Act. These include real estate sales, financial services and security sales. The purchases directly and immediately related to these sales are not deductible. Activities that are not regulated in the VAT legislation are referred to as activities outside the scope of VAT Act. These activities do not fulfil the characteristics of business activities as described in the VAT Act. and VAT Directive. For example, acting as a mere holding company is an activity outside the scope of VAT Act. (The Finnish Tax Administration, 2016.)

In addition to costs that can be allocated to a certain activity, companies usually have overhead costs. Overheads consist of activities that serve the company's business as a whole. These costs usually include both deductible and non-deductible purchases. Overhead costs can be, for example, administrative costs such as costs related to bookkeeping. If all the company's activities are subject to VAT, they are entitled to deduct the VAT related to overhead costs in full. If some of the company's activities are non-deductible, the right to deduct VAT on overhead costs is determined based on the extent to which the costs considered as overheads are related to activities subject to VAT. There are several different ways to calculate the allocation criterion for the right to deduct VAT on overheads, the most common one being turnover. The allocation criterion can also be calculated using the square meters used or on the basis of working hours spent on deductible and non-deductible activities. (The Finnish Tax Administration, 2016.)

### **3.5 Different Rates of VAT**

#### **3.5.1 VAT rates in the Directive**

Each EU Member State must set a percentage of the value-added tax, that must be same for both goods and services. This tax rate is referred to as the general rate of VAT. To prevent the different general VAT rates applied in the EU-countries from

leading to structural imbalances within the Community and distortions of competition in certain sectors, the minimum general rate of VAT is 15 percent. The general VAT rate's objective is to ensure the effectiveness of the harmonized VAT mechanism. In Finland the general tax rate is 24 percent. This rate is applied to all goods and services subject to VAT, unless stated otherwise in the VAT Act. According to the VAT directive, the Member States may apply one or two reduced VAT rates. However, the reduced rates must be at least 5 percent and they may be applied only to goods and services mentioned in annex III of the Directive. Finland has two reduced tax rates, 14 percent and 10 percent. In addition, certain sales of goods and services are zero-rated. In addition, like many other Member States, Finland was allowed to exempt the VAT taxation of certain activities such as shipyard production and the work of authors and artists. (VAT Directive, article 98 & 379; VAT Act. 84 § - 85 §.)

### 3.5.2 VAT Rates in Finland

According to section 85 of the VAT Act., the reduced tax rate of 14 percent applies to sale of food and feed as well as restaurant and catering services. Food, as meant in the VAT Act, does not include living animals, tap water nor alcohol or tobacco products. The reduced tax rate of 10 percent includes the following products and services: passenger transport, accommodation, a service that provides an opportunity to exercise, cultural and entertainment event and establishment fees such as tickets to the theater or the zoo, certain monetary flows relating to state owned television and radio, medicines and certain medicinal products, books, newspapers and magazines, art and copyright compensations. When goods and services subject to different tax rates are sold at the same time, the sales invoice must indicate the tax bases allocated to the tax rates. Any possible costs related to invoicing surcharge, transport costs or other delivery costs must also be divided in proportion to the tax rates. (VAT Act. 85 §.)

## 3.6 VAT in Bookkeeping

Companies must keep their accounts in a way that allows information necessary for the assessment of value-added tax to be drawn from their bookkeeping. The accounts must be kept in chronological order as well as by subject matter. Transactions affecting the amount of tax payable and deductible per calendar month must be recorded in

chronological order on the basis of which the VAT is to be taken into account. Transactions of different tax rates must be easily distinguishable from one another. There must be a distinct and sufficiently detailed list of accounts, which describes the content of the accounts used, for every accounting period. The accounting period, however, is not always the same as the tax period. The taxable entity may choose a VAT period within the limitations regarding their turnover. If the annual turnover subject to VAT is maximum 30 000 euros, the company can choose a tax period of a month, quarter year or a year. If the annual turnover is between over 30 000 euros but less than 100 000 euros, the tax period can be either a month or a quarter year. If the turnover is over 100 000 euros, the VAT period is a month. (Ihantola et al., 2016, p. 53.)

### **3.7 Valued-Added Tax as an Economic Instrument**

#### **3.7.1 Correctors of Market Disturbances**

Economic instruments have traditionally referred to the direct and indirect financial incentives and penalties that influence the costs of different actors. The economic instruments of policies related to environment and natural resources can be divided into categories such as environmental taxes and payments, emissions trading, return deposit schemes, and financial schemes and various financial subsidies. Financial subsidies include, for example, a renewable energy feed-in tariff system and various financial and investment subsidies. The operating principle of these economic incentives and penalties is to correct market disturbances or situations in which the market does not allocate or produce commodities efficiently. The market may either be completely non-existent, for example in the case of natural resources, or simply ineffective. Common malfunction of the markets is the overlooking of the external costs produced by economic activities. Negative external costs include harmful effects to the environment or the public's health. Correcting externalities that are harmful to the society or the environment is economically justified in to optimize resource use. (Tikkanen et al., 2018.)

### 3.7.2 Economic Instruments of Circular Economy

The instruments of the circular economy can be divided into three areas: 1) sustainable and efficient use of natural resources; 2) keeping products in circulation for as long as possible; and 3) recycling of by-products and waste into raw material. The economic instruments currently in place in Finland are related to the efficient use of materials and recycling of waste. The use of natural resources is controlled through environmental taxation, EU emissions trading, pricing of water usage, mining fees and agricultural support schemes. The recycling of by-products and waste into raw material is controlled mainly by the waste tax, which is levied under the Waste Tax Act (1126/2010). Its primary objective is to reduce disposing waste in landfills and increase recycling. The waste tax applies to both public and private landfills and contributes to the waste targets of European Union environmental legislation. (Tikkanen et al., 2018.)

### 3.7.3 Premature Obsolescence and Extending the Life-Cycle of Products

The abovementioned economic instruments target the outer circles of the economy. The functions that are related to the inner circles of the circular economy include extending the lifecycles of products, maintenance and repair, remanufacturing and adding value to materials during cycles, and moving from products to service-based business models. In addition, the sharing economy, with its various platforms and functions, can be seen as extending the life of products and increasing their use by allowing more people use the same product. It is also essential that the processed material in the products is recycled. For example, the cement in a concrete element should be recycled as a material after the element has been dismantled. These inner circle functions are considered the very core of circular economy, yet there are no direct economic instruments directly targeting these functions in Finland. The only economic instruments related to keeping products in circulation for as long as possible, are business subsidies and financial instruments which indirectly promote these goals. (Tikkanen et al., 2018.)

Extending the life of products and limiting planned obsolescence is currently one of the most debated topics of circular economy in the EU and in Germany in particular.

According to a study conducted by the German Environment Agency, the lifespan of household appliances, among others, have almost without exception shortened in the 21st century (Prakash et al., 2016). In part, the change is due the occurred rapid technological development which has led to a reduction in the energy consumption of the equipment, but in part there are other reasons, possibly even a deliberate shortening of the service life. The German Environment Agency (2016) identifies four root causes of premature product obsolescence: “1) defects due to lack of performance of materials or components (material obsolescence); 2) lack of interoperability of software and hardware (functional obsolescence); the desire for a new item despite the fact that the old one is still functional (psychological obsolescence); and 4) refraining from carrying out repairs on grounds of cost, if the gap between the cost of repairing an item and the cost of a new item is too small (economic obsolescence).”

The causes of obsolescence vary from a product group to another and the appropriate economic instruments vary accordingly. There are many initiatives on their way some of which are on the implementation stage in a number of Member States and some are merely in the planning and preparatory phase. According to a study conducted by the Finnish Prime Minister’s Office, the most important economic instruments for extending the life cycle of products are reduced VAT rates, household deductions that aim to promote renting, swapping and lending of products, public investments that contribute to circularity, financing of research and development, funding of pilots that promote the transition from products to service-based concepts and various taxes and payments related to disposable products. The German Environment Agency on the other hand has recommended targeting premature obsolescence with minimum lifetime product standards, mandatory disclosures regarding information such as spare parts, mandatory lifespan guarantee, improved conditions for repairment such as available spare parts and instructions, reduced value added tax for repair services, tax deductibility of repair done on household goods and strengthening product appreciation. (Tikkanen et al., 2018; German Environment Agency, 2016.)

#### 3.7.4 Studies advocating VAT as an economic instrument

A number of studies are advocate the use of VAT as an economic instrument for environmental purposes. De Camillis and Goralczyk (2012) investigated the potential



of economic instruments as a solution to some of the challenges presented by sustainable development and of these instruments VAT was of particular focus due to its ability to alter prices. The study proposed a reformed fiscal framework that would be built around the concepts of value-added tax and Life Cycle Assessment (LCA). The new framework could offer means to affect consumption and production patterns by differentiating VAT rates based on the environmental footprint of the economic activities.

The results are consistent with a case study performed by Nguyen et al. (2016), which examines how different monetization models are able to internalize the environmental externalities into the price of unrenovable and renewable electricity. A reduced VAT rate was applied to the prices of renewable energy based on the low amount of external costs they produce compared to the energy produced from fossil fuels. The results show that the reduced VAT rate can monetize the external costs of a product as well as affect its ranking among similar products. In other words, by calculating the environmental costs into the VAT rates has an equalizing effect on the price differences between green products and the not-so-green ones.

A study performed by Timmermans and Achten (2018) adds on to the ideas presented by De Camillis and Goralczyk (2012) by introducing a damage and value-added tax (DaVAT), which is also based on LCA of goods and services. The research proposes a VAT modification that is based on three key concepts: uniform VAT (UVAT), global damage tax (GDT) and specific damage tax (SDT). UVAT is a single low rate tax applied to all goods and services. This uniform tax rate forms the base of the taxational framework. GDT or the global damage tax is a per-unit tax added on the uniform VAT based on the environmental costs assessed by generic LCA. The GDT will be automatically added on industries or products that are known to have high externalities. The SDT or specific damage tax reflects the external costs specific to a country. The new proposed consumption tax DaVAT is the sum of the three aforementioned concepts and it presents a shift in taxation from generic consumption to environmental and societal costs caused. It also takes into consideration the VAT's purpose as a source of revenue for governments by allowing the gradual increase of the first low UVAT rate as the economic activities with high external costs thin out.

### 3.7.5 Studies against reduced VAT rates

However, there are studies that have critical views of reduced VAT rates as an economic instrument. Mirrlees et al. (2011) have concluded that applying zero or reduced VAT rates generates difficulties in both governmental and organizational administrations, distorts the consumption and production patterns and discriminate consumers of a particular taste or consumption habits. The study presents that exemptions in VAT rates create market distortions by altering consumer behavior as opposed to consumer behavior with a single VAT rate. Reduced rates entail administrative costs when they have to be taken into account in tax returns and accounting systems. In addition, when assessing the applicability of a lower tax rate to a single product or service, situations of interpretation arise. This also poses the risk of the black market, when tax authorities cannot always control that a product is placed in the correct tax bracket. The study also argues that reduced VAT rates are an inefficient tool in combating inequality since high-income earners, who consume more, will benefit more of the reduction in prices.

Some studies have also questioned whether reduced VAT rates have an actual impact on consumer prices. In their recent study Benzarti et al. (2020) present that reductions in VAT rates are not transferred to consumer prices as well as increases in VAT rates. The study examined the two changes in VAT rates on hairdressing and barbershop services implemented in Finland in 2007 and 2012, first being a 14 percent decrease and the second 14 percent increase in the sector's VAT rate. According to the study, 60 percent of the prices did not change at all as a result of the VAT reduction, but the same percentage increase of the VAT rate led to price increases between 80 and 120 percent. The results were consistent in other sectors and other EU-countries as the research further analyzed all the changes in VAT rates that took place inside the EU between the years 1996 and 2015. On average, prices increased three to four times more as a result of tax increase than they went down after a tax cut. Benzarti et al. (2020) conclude that "First, prices respond more to VAT increases than to VAT decreases. Second, this asymmetric response results in an asymmetric pass-through of VAT changes to profits and markups. Third, the asymmetry persists over the long run." Regardless, whether the study recommends or discourages the use of decreased VAT rates as an economic instrument, most studies agree that the VAT directive in its

current form is not harnessing the full potential of VAT in regards of promoting circular economy (Tikkanen et al., 2018).

### 3.7.6 Taxation Shift from Labor to the Use of Natural Resources

The transition to a circular economy requires changes at the system level as well as wide-ranging guidance on the various stages and operating models of value chains. A comprehensive driver of change could be a shift in the focus of taxation from labor taxation to the taxation of use of natural resources and the causation of environmental impacts. At present more than half of the tax revenues in EU countries come from labor taxation. Environmental and natural resource taxes, on the other hand, account for only about 7 percent of total tax revenues. As production inputs, human labor and natural resources are thus subject to a very different tax treatment. The current tax structure supports the operating logic of a linear economic system, which overuses the relatively inexpensive natural resources and minimizes the use of costly human labor. Circular economy, however, aims to use virgin natural resources as little as possible and encourages services, that rely on human labor, as a business model. These changes in taxation and subsidy policies would encourage labor-intensive businesses such as repair and maintenance. (Tikkanen et al., 2018.)

## 3.8 Lowered VAT Rate for Repair Services

### 3.8.1 Neutrality versus Environmental Objectives

VAT is the most significant source of government tax revenue. The VAT base is shaped by the objective of making it as wide as possible. In order to make the tax neutral, divergent tax rates have been avoided. At present, reduced VAT is levied in Finland on products perceived as essential goods and on various cultural activities, as well as restaurant and accommodation services. On the other hand, VAT has often been proposed to be staggered on environmental grounds, for example in activities that aim to extend the life cycle of products. Keeping products in circulation for as long as possible is a vital part of the circular economy and one of the five business models mentioned by Sitra. Extending the life cycle of products includes various labor-intensive services such as product repairment and maintenance. For these services to

present themselves as an attractive option for consumers, the relatively expensive service prices should be competitive with the prices of new products. As a consumption tax, VAT has been proposed to alter the prices of repair services as part of the Commission's action plan. (Tikkanen et al., 2018; The European Commission, 2020; Sitra, 2019.)

### 3.8.2 Finland's VAT Experiment

Stahel (2016) suggests that the relationship between production of goods and the use of materials needs to be entirely reinvented in the attempts of saving resources and creating new jobs. Value-adding activities such as manufacturing of products should be subject to VAT, whereas value-preserving activities such as reuse, repair and remanufacture should not. The EU directive on the value-added tax system allows limited possibilities in regards of reduced tax rates on minor repair services. The reduced tax rate may be applied to minor repairing of bicycles, shoes and leather goods, clothing and household linen. From the beginning of 2007 until the end of 2011, Finland participated in an experiment, the objective of which was to reduce VAT on certain labor-intensive services, including the aforementioned repair services as well as hairdressing services. During the four-year experiment, the VAT rate for these services was lowered to 8 percent, the general tax rate being 22 percent at the time. However, The VATT Institute for Economic Research assessed that the experiment did not prove to be an effective means of lowering prices or increasing demand nor employment. (Stahel, 2016; Tikkanen et al., 2018.)

### 3.8.3 Other Member States

In the last ten years a number of other member countries have implemented a reduced VAT rate for minor repair services as a permanent addition to their national VAT legislation. In Sweden, reduced valued-added tax rate has been levied on repair activities to promote rental, exchange and lending of goods since 2017. The change in the VAT rate was halved at the time of implementation. Since the application of reduced VAT rates are significantly limited by Annex III of the Directive, the Swedish national VAT legislation only allows the reduced VAT rate to be applied to the repair of bicycles, shoes and leather goods, clothing and linen. A similar type of reduced

VAT has been in use in Belgium since 2000 as a trial and since 2011 on a permanent basis. In Germany the use of reduced VAT on repair activities is on a proposal phase based on the research done by the German Environment Agency. In addition, the European Parliament has encouraged all member states to use reduced VAT rates to promote the objectives of circular economy. (Tikkanen et al., 2018.)

### **3.9 Limitations and Future Possibilities of VAT**

#### **3.9.1 Annex III of the Directive**

The chapter two of the council directive on the common system of value added tax (2006/112/EC) defines the structure and level of the value-added tax rates for all Member States. Article 97 of the VAT Directive states that the standard general VAT rate should be at least 15 percent for all EU-countries. The Member States are allowed some exceptions to the standard rate they have chosen. Article 98 declares “1. The Member States may apply either one or two reduced rates. “and “2. The reduced rates shall apply only to supplies of goods or services in the categories set out in Annex III.” Point 19 of Annex III concerns minor repair services for certain goods. The products listed in the Annex that the reduced rate of VAT can be applied to are bicycles, shoes and leather goods, clothing and household linen. This means that the Member States are allowed to implement the reduced rate of VAT for minor repair services as part of their national VAT legislation, if they so choose. All the repair services that are not mentioned in the Annex III of the VAT Directive are subject to the standard rate of VAT. For example, the repair services done on electronic goods, such as smartphones or household appliances, must currently be subject to the general rate of VAT chosen by the country.

#### **3.9.2 The Commission’s Proposal**

The Commission (2016) has proposed an action plan on VAT that aims to further harmonize, simplify, and modernize the present system due to the fact that it is currently unable to face the challenges of the global, digital and mobile economy surrounding it. The Commission (2016) states that: “The current VAT system, which was intended to be a transitional system, is fragmented, complex for the growing

number of businesses operating cross-border and leaves the door open to fraud...To this end, the Commission plans to present a legislative proposal to put in place a definitive VAT system.” One of the points on the proposed action plan is a more modernized rates policy, which could be achieved through one of the two options presented: 1) extending the list of goods and services presented in the Annex III, or 2) abolishing the list entirely.

In their proposal for an amending Directive 2006/112/EC as regards rates of value added tax, the Commission (2018) suggested that instead of extending the list of goods and services that are eligible for reduced rates, the Annex III would be substituted by a list of goods and services to which the reduced rates cannot be applied. Instead of the one or two reduced rates that are allowed in the current Directive, the Member States would be given the opportunity to choose another reduced rate between zero and five percentage. However, the Member States would need to ensure that the reduced rates benefit the final consumer and work towards the Union’s general interest as well as make sure that weighted average VAT rate regarding activities for which deductions cannot be made is above 12 percent. This new system would be based on general rules rather than exceptions and could allow the VAT to be used in activities that support the objectives of circular economy, such as reduced rates for repair services.

## 4 EMPIRIC RESEARCH

### 4.1 Methodology

The empiric research of the thesis was done by qualitative interviews. Six VAT experts working at the Finnish Tax Administration participated in the interviews, the objective of which was to gain a practical perspective of how the structure of the VAT system might aid the transition towards circular economy. The approach of the analysis is theory-driven, meaning that the interviews are based on the theory presented and the analysis circles back to the theory. However, the thesis does not contain a single theory but several smaller ones and in cases such as this Eskola (2001) has recommended the research to proceed on a material or on a phenomenon basis and that these different theories serve as an interpretative framework. Methodologically, the research emphasizes the interviewers and interviewees' interpretations of the matters and how the meanings given to the related subject arise in the interaction between the interviewer and the interviewees. (Eskola, 2001.)

The research is not, nor does it aim to be, completely objective. In principle, objectivity is intended to ensure that the researcher does not confuse their own belief, attitudes or values with the research. Due to the motivating factors of the thesis, such as the writer's own interest in climate matters, it would have been impossible for the thesis to remain fully objective. However, the study has sought to identify and take into account the potential pre-assumptions regarding the phenomenon being studied and thus keeping the tone of the interviews as neutral as possible and present the questions in the least steering manner possible. Consequently, the study aims to create objectivity by recognizing the existing subjectivity. By acknowledging the pre-assumptions and attitudes included in the study, the thesis can be said to be free of hypothesis since it does not include any stone-set assumptions regarding the subject or the results of the empiric research. (Eskola & Suoranta, 2005, *tutkittavien näkökulma.*)

The choosing of the interviewees also occurred somewhat subjectively. The interviewer worked at the Finnish Tax Administration when the interviews took place and could therefor easily approach the VAT experts. The interviews were recorded for transliteration to which each expert gave their permission before the interviews started.

The interviewees have also been assured of the confidentiality and anonymity of the research, and no information from which the identity of the interviewees could be determined will be included in the work to be published. The interviewees will be referred to as letters from A to F and the answers to the startup question related to the interviewees' expertise will be presented in a such a manner that the educational background or work history cannot be connected to the letters assigned, unlike with the other themes. In addition, the interview answers and the analysis drawn from them only describe the interviewees' own opinions, assessments and experiences and should not be assimilated to the Finnish Tax Administration's policies as an organization. (Eskola & Suoranta, 2005, eettiset kysymykset.)

## **4.2 Method**

The structure of the interviews is a semi-structured thematic interview that is close to an in-depth interview in its openness (Hirsijärvi & Hurme, 2008, Teemahaastattelun teoria ja käytäntö). In other words, the interview will focus on pre-selected themes as well as some specifying questions that may arise. The main advantage of this type of interview is that the questions can be refined and opened more during the interview based on the answers received. The questions have been divided into three themes according to the sectioning of the theoretical chapters. The themes presented in the interviews are: 1) Circular economy, 2) The common system of value-added tax and 3) reduced VAT rate for repair services. In addition, each interviewee is asked the so-called startup questions, which have to do with the experts' educational and work background.

All VAT experts working at the Finnish Tax Administration were sent an invitation e-mail to the interviews, to which six participants replied. Before the interviews, the interviewees were also sent an e-mail including an introduction to the topic and the interview questions. The sending of the introductory text and the questions beforehand had the objective to improve the smooth conduct and efficiency of the interviews timewise. This also enabled the participants' informed consent, meaning that the interviewees knew what and why they were interviewed for (Eriksson & Kovalainen, 2008, chapter 6). Due to COVID-19 and the exceptional circumstances it has caused, the interviews were conducted remotely through Teams and all interviews were



recorded for later transliteration. The structure of the interviews is somewhere between an open interview and a structured interview (Tuomi & Sarajärvi, 2009).

The transliteration contains the essential parts and points made during the interviews. In qualitative research, the narrowing of the research data is carried out with the theoretical coverage in mind and the analysis does not consider the statistic attractiveness of a particular dataset, when aiming to answer the research question (Eskola & Suoranta, 2005, Aineiston rajaus). The data has been cropped in reference to the theoretical background presented and the analysis has taken into account only the aspects relevant to the thesis. However, the dataset is considered to be sufficiently comprehensive in terms of both the number of the interviewees and the amount of material. The analysis is believed to be successful, since the qualitative research does not seek statistical generalization (Eskola & Suoranta, 2005, Aineiston kattavuus).

The analysis was preceded by the arranging of the transliterated material on a thematic basis. Quotes have been picked from the transliterations and connected to the relevant theme and interview question. The summary of answers of different interviewees has been presented below each theme. At this point, it should be noted that the summarization of the answers significantly increases the researcher's interpretation and might affect the analysis (Eskola & Suoranta, 2005, Haastattelut). The themes 1) and 2) support the understanding and analysis of the third theme that discussed the reduced VAT rates for repair services. Though the aforementioned themes carried the throughout the interviews and the answers are sorted accordingly, the analysis breaks this thematic structure into its various components in orders to thoroughly examine the concepts and their connections (Corbin & Strauss, 2008, Chapter 3).

The interview data is broken down and coded by asking questions and making comparisons in order to form conceptual meanings. These concepts are further divided into basic-level concepts and higher-level concepts. The lower-level concepts provide the definitions and details needed to comprehend the upper-level concepts. The higher-level concepts of the analysis are referred to as categories to differentiate them from the themes used at the data collection phase of the research. These categories are presented at the analysis chapter and they represent a certain aspect or phenomena relevant to the thesis topic. (Corbin & Strauss, 2008, Chapter 4.)

### 4.3 Interview Questions

This chapter presents the planned interview questions that were sent to the VAT experts alongside with the introduction chapter that was translated to Finnish. From these planned questions, the questions 4, 5, 6, and 7 from theme 1) were not asked from any of the interviewees since they were realized to be too specific for the purpose of these interviews. The planned questions were the following:

#### STARTUP QUESTIONS

The interviews are completely anonymous, and the empiric research will be carried out in a way that does not reveal the identity of the interviewees. The interviewees can be, for example, combined with letters from A to F (six interviewees), which would allow comparison and combination of answers from different participants. Before moving on the actual themes of the interview, the interviewees will be asked a few questions relating their educational background and work experience. These questions are not intended to be included in the study as such, but rather used as an expertise context to lay the foundation for the answers to the actual thematic parts of the interview. However, the background and experience are **NOT** to be connected a specific interviewee (SO FOR EXAMPLE **NOT** LIKE THIS: Interviewee A, Master of Economics, worked at the Tax Administration for 7 years).

1. What is your educational background?
2. How long have you worked for the Finnish Tax Administration and in what positions? How long have you worked as a VAT expert?
3. What is your work experience before arriving to the Tax Administration?

#### THEME 1: CIRCULAR ECONOMY

This theme discusses the concept of circular economy and it's the different forms it has taken in Finland. VAT experts are not expected to be experts of circular economy and this section aims to just open the dialogue between the interviewer and the interviewee. There are no wrong or bad answers!

1. How familiar are you with the concept of circular economy?

2. What association does the concept produce?
3. How do the different forms (business models) of circular economy appear in your everyday life?
4. How can the business models be seen at the Tax Administration?
5. Have you noticed any progress related to the subject in Finland over the past 10 years? What about over the last year?
6. How would you perceive the effects of Finland being part of the EU affecting the visibility of circular economy in Finland?
7. How does circular economy in Finland compare to other EU-states? What about the United States?
8. Any questions relating to circular economy?

## THEME 2: THE COMMON SYSTEM OF VALUE-ADDED TAX

This theme aims to discuss the benefits and possible limitations of the common system of value-added taxation in the EU.

1. How does Finland benefit from the common system of value-added taxation? What are the benefits from the point of view of a Finnish consumer?
2. In your experience, is the VAT system mutually fair to all EU countries?
3. Does the fairness of the system vary from industry to industry?
4. How wide is the scope of application given to the member states by the VAT directive?
5. Do you think the current VAT directive is up to date?
6. Is there any drawbacks to the common system of VAT? If so, what? Are these drawbacks repairable? If so, how?
7. Do the political systems and taxational frameworks of other member states have an effect on the common system of VAT for example from the point of view of potential renewals?

## THEME 3: REDUCED RATE OF VAT FOR REPAIR SERVICES

This theme focuses on looking at the VAT system as an economic instrument.

1. What opportunities does the VAT system offer in relation to the application of reduced rates in different Member States?
2. What restrictions does the system impose in this regard?
3. Do you think the restrictions should be lifted or the VAT Directive otherwise updated in this context?
4. What opportunities does the current VAT system offer for reduced VAT rates for repair services? For furniture? Textiles? Home appliances? Small electronics?
5. A reduced VAT rate for repair services is in place in a few EU countries (for example Sweden, Netherlands and Belgium). Between 2007 and 2011 Finland participated in an experiment to reduce VAT on certain labor-intensive services, such as the repair services for bicycles, shoes and leather goods, clothing and linen. However, the experiment was discontinued as it did not prove to be an effective way to lower the service prices or to increase employment. Why has the reduced VAT rate for repair services been found to be inefficient in Finland, but efficient in countries like Sweden?
6. How should the VAT directive be changed in order to make this type of reduced VAT rate for repair services effective in Finland as well?
7. How do you see the possibilities of the VAT system as a means of steering the circular economy?
8. Do you think some other taxational instrument would better fit this objective? Why or why not?

## **4.4 Results**

### **4.4.1 Startup questions**

This section summarizes the educational background and experience of the experts interviewed based on the answer given to the startup questions. The aim is not to identify individual backgrounds or connect them to the interviewees, but rather to provide context on what the answers relating to the theme sections are based on. The demographic of the interviewees is varied: they are both men and women from different age groups the youngest having graduated in the 2010s and the most experienced about to retire. Two of the interviewees have a degree in economics, one

has a bachelor's degree in administrative sciences, two have a master's degree in law and one has a degree in both law and economics.

The interviewees have worked for the Tax Administration for a total of up to 117 years, of which 54 years relate to VAT expert tasks. Two of the experts worked at the Administration already at the time of sales tax, the predecessor of VAT in Finland. As many as five of the interviewees worked at the Tax Administration during the VAT experiment that ended in 2011. The interviewees therefore have a comprehensive experience and knowledge in terms of taxation and the practice of VAT in particular. The answers to themes 2 and 3 are based upon this contextual background and the analysis should be done with this in mind.

#### 4.4.2 Circular Economy

The interviewees' knowledge of circular economy relates to topics heard from the news and read from the papers as well as to the increase of certain services among VAT. About the concept of circular economy, A said:

” Well, the concept is not very familiar but when it comes to recycling, our awareness has increased, and we recycle in our household and consider it important.”

The concept was not very familiar to any of the interviewees from before, while the content and other relating concepts, such as sustainable development, were relatively so. For example, F stated the following when asked about the familiarity of the concept:

“Yes, there are probably quite a few concepts to this matter, that describe kind of the same thing. –And it is evident in our VAT practices that there are new ways and phenomena which consider the limited nature of our natural resources. In a sense, being more interested in the future practices.”

In addition, B spoke of the increasing visibility of different distribution platforms in their work as an VAT expert and F of the increasing use of electronic services. In

addition to recycling, the concept brought to mind thoughts relating to minimal waste objectives and remanufacturing of products. In everyday life, circular economy was seen mostly as recycling and as the use of different secondhand stores and platforms.

#### 4.4.3 The Common System of Value-Added Tax

When asked about the benefits of the common system of value-added tax, the experts emphasized especially the fluentness of EU commerce, the functioning of the internal markets in general and the balancing of the tax competition between the member countries. A highlighted the non-application of customs formalities and thus less bureaucratic procedure in intra-Community trade. B referred to equal treatment and predictability:

” I suppose the benefits should be in the equal treatment, so that when a product or service is sold, the legal certainty to the seller or purchaser that taxation takes place in the same way in all countries.”

D stressed the need for common practices:

” It does make it terribly easier for companies, this common system. So, the starting point is that the buyer pays the VAT and, of course, when one is talking about consumer trade, the basic rule is that the VAT of the seller’s country is applied.”

F summarized:

” Efforts have been made to ease cross-border trade and to assure the uniform and just competition of the companies operating within the EU and to prevent VAT fraud.”

The questions relating to the timeliness and fairness of the VAT Directive, were answered with somewhat hesitation due to the fact that the interviewees do not use the Directive but rather national VAT legislation in their expert duties. However, the

overall opinion was that the VAT system at least aims to be equal. For example E replied:

” Well it creates a fair starting point, but then there are certainly differences as to how carefully the Directive regulations and the precedents of the Court of Justice are followed, which can create differences on a national level.”

D, on the other hand, highlighted the exceptions granted to the Member States at the time they joined the EU:

” There are these big countries and small countries in the EU, so it can probably be that the political influence may affect how the future models will shape out to be like, but I cannot say if there is anything like that here that would benefit someone more, when talking about the common system. The Directive does allow some exceptions, when countries have joined the union, if the country should have something, for example Finland has these water vessels and shipyard industries.”

F emphasized, in particular, the differences in interpretation between countries:

” A framework has been created to make it as uniform as possible. What has been the problem with these concepts is that when they relate, say, to a property and its services and the Member States have, since the change in the Directive, understood the concept of a real-estate a bit differently. Just as per usual, concepts and definitions are easy to be interpreted in different ways.”

According to the interviewees, the VAT Directive, like many national laws, is not as up to date as it perhaps could be. The experts compared the slow pace of change in legislation to the dynamic operating environment and B, for example, stated:

” Perhaps there is room left for improvement in the VAT legislation when considering today’s world and the constantly changing services and fast digitalization, but mainly it works just fine.”

D justified the need for update particularly in terms of clarity:

” I cannot say whether it should be updated because there would be something terribly primitive in there, but of course it would be nice if the VAT Act was a little clearer. It is after all somewhat old law and has been written at a different time.”

E referred to Annex III of the Directive:

” Well, in a way it may not give a lot of choices, because it has been defined in such a particular matter how the reduced rates are to be applied –Perhaps one could draw a conclusion that it does not meet the standards of today. If the goal was to get people to buy repair services, perhaps it would be better to remove these specific product groups and leave just the minor repair services and the countries could decide for themselves to which repair services the reduced rates are applied to.”

About the possible disadvantages of the common system of VAT the interviewees mentioned mainly the difficulty of decision-making and the slowness of change. In addition, C pondered the issues affecting tax evasion and fraud:

” Well, I have not worked in the black-market team, but I would think that it must have provided opportunities for tax evasion and fraud.”

In principle, the common system of VAT was considered only positive. F, for example, stated:

” Well, if we were to think that we would have a national VAT system, then the implementation of internal market and the transfer of goods would be extremely difficult. So, I do not see any other alternative under the



current circumstances than the current VAT system. Back in the days the world was a bit different, the goods and services moved in a different way. So, would it even be possible at times like these, when the objective is to transfer products and services across borders, difficult to say.”

A also pointed out that the common system of VAT had eased the practical work inside the Tax Administration.

#### 4.4.4 Reduce VAT Rates for Repair Services

When asked about the possibilities the VAT system offers in regards of reduced rates, the interviewees listed the minimum general rate of 15 percent and the allowed amounts of reduced rates. In addition, D mentioned the reduced rate for repair services:

” As such, the VAT Act no longer has this possibility, although the Directive surely would grant this possibility, which was in use here for a couple of years as well. Of course, if you think about the ten percent rate, it currently does not have this application option, so it is excluded currently.”

The majority seemed to think that the possibility of expanding the application scope of the reduced rates was an alternative worth of consideration but, however, not a simple matter. For example, A said:

” I think it could be looser. In that way the circular economy could be better taken into account on a national level –Afterall, VAT is an indirect tax and as such it was meant to be included in the price of a product or service and so it would be cheaper for the consumer to favor the products and services of the lower rate.”

According to A, the reduced rates should, however, consider the role of indirect taxes as a source of state revenue.

Relating the questions regarding the VAT experiment that took place between 2007 and 2011, the interviewees based their answers largely on their own practical

experience. However, when asked how Finland differs from Sweden, where the reduced rate for minor repair services has been permanently implemented as part of the national VAT legislation and practice, the experts were unable to point out an individual factor relating taxation policies or politics. A pondered the possible reasons as follows:

” I suppose they have as well monitored the impacts of the reduced rate on fiscal matters and tax revenues. I wonder if the attitudes are different or also I thought of the global aspect of marketing and how it tends to unify the attitudes and the consumption habits.”

B as well referred to attitudes:

” I would think that it might have something to do with the demographic structure of the population, the fact that we are not as enthusiastic to repair old products as people in Central Europe or why not in Sweden too. –I would think that certain things that work in Sweden just do not in Finland even though there is not any apparent reason for it not to, people here are so stuck in their own ways.”

C also believed that the unsuccessful experiment was partly due to people’s consumption habits:

” I think people’s mindsets would have to change quite a bit. I think it is connected to wanting to buy quality and then wanting to repair it as well and I think today it is still a pretty small minority who see it like that.”

Many of the interviewees brought up the potential impact of the passage of time on the different outcomes of the VAT experiment in other EU countries. The fact that Finland came to a certain conclusion in 2011 and Sweden to another in 2017, does not necessarily refer to differences between the two countries but rather to the global leaps that have been taken in environmental attitudes in the 2010s. F stated the following:

” I wonder if the fact that time has passed could have had an effect. Perhaps the result would be different if we were to try again, and everything would be a bit clearer this time around now that we already have some experience regarding the matter. It somehow just sort of slipped through our fingers and we woke up a bit too late to it, so perhaps with the current global

situation and all and the need for strengthening the economy, so perhaps it could be a thing worth trying again. I do not know if they have thought of trying it again, but surely it has an effect that the world is changing with such velocity, the change is exponential so what might not have worked in a certain time could work in another.”

A added on:

” If we were to try again this sort of reduced rate, the result could be a bit different since the collective mindset has changed a lot during the past five years.”

B, on the other hand, believed that the change of attitude was dependent on the consumer’s age group:

” I should think that the younger generation is a lot more woke and recognizes the environmental aspect better than the more experienced generation does.”

D, on the other hand, did not believe that the changed attitudes would be enough under the current application scope granted by the Directive:

” It is hard to say, whether it would have an effect in the end. If we consider the options being household linen and what else there was...and then the other thing is that we have all sorts of flea markets and what not so you can basically buy something in a mint-condition for almost nothing. So, putting that next to the VAT reduction, I am not sure whether it would have an effect, maybe it could.”

In addition, many pointed out the inefficiency the reducing of the rates had on lowering the actual prices of services during the experiment. E replied:

” I do not know the reason behind it, these are usually political decisions. I think they brought up on the news that the lowering of the tax rates were inefficient and did not reflect on the prices.”

C highlighted the practical problems of the experiment:

” The prices did not really change and of course it produced a lot of extra work.”

The majority of the experts were, however, optimistic about the idea of retrying the reduced rates. F said:

” Nowadays these services are used in a different manner and a greater emphasis has been placed upon them. From the consumer’s point of view they are appreciated more and from the decision-maker’s point of view they are highlighted more. So, I understand the situation with Sweden and because they are indeed experiments, why not try again how it would work at this time and age.”

This cautious optimism was also reflected in the answers to the question of how the experts would see the potential of the VAT system as a contributor to the circular economy. A replied:

” Yes, I would see that the VAT system has good possibilities as an economic instrument steering towards circular economy by using the reduced rates, because it is after all an indirect tax, which taxes the consumption, and the VAT is paid by the final consumer in the end. And it would not necessarily be a bad thing for the state’s finances either, since tax revenue would be resulted from the lower rate goods and services as well, when people buy more of them. It could even be an alternative to try and get along without buying anything new, in which case the state would not get the tax revenues from new products but when old products would be repaired and maintained, the government would get the tax according to the reduced rate.”

B was on the same page with A:

” If you think about VAT, it is a nice and easy tax in the sense that it can be easily reduced and by doing so help these different means of circular economy. We only have the ten and fourteen as reduced rates, and those

are targeted to a pretty narrow group, so we do not have that (refers to environmentally staggered rates) in our selections at the moment.”

In B’s opinion, the current scope of reduced VAT rates allowed by the Directive is not wide enough:

” Well, it does include these minor repairs, but I suppose the possibilities are quite limited if we were to talk about the opportunities made possible by the Directive.”

B did agree with A about the reducing of the rates not affecting the state revenue in a negative way:

” I do not think it would have much of an impact, this is of course my personal opinion. I would want to believe that because the world is changing in such a fast pace, and people’s opinions and consumption habits as well, that the tax revenue would not be affected if we were to reduce the VAT rates for repair services, if it would not increase the tax revenues then it would probably not have any impact on it.”

C believes in the efficiency of taxation as an economic instrument in general but was skeptical about the functioning of the reduced VAT rate for repair services:

” I believe that taxation is certainly a very effective way to contribute to this (circular economy), that goes without saying. There are probably many alternative options and VAT is surely one of them. –I just do not see the reducing of VAT rates for repair services as an effective tool at the current state of the world and to add on the fact that it creates a lot of extra work. Afterall, it (the experiment) was not that long ago. I do not know to which direction the world has changed after that. But I do believe that taxation is the most effective means. I do not think there is a more effective tool than taxation, up to a certain limit, of course.”

D considered this from the point of view of VAT regulations and the purpose of VAT:

” Now because VAT is a consumption tax and it should be equal to all, how can it, as such, serve as an economic instrument for circular economy. It is hard to say, I am having a hard time connecting the two. Of course, if something is sold with an open tax, we have the sales of used products, to which marginal taxation can be applied to, so that is certainly one thing that could affect the pricing since the seller does not have to pay VAT except from the amount of the profit margin. And indeed, we have certain things set as completely free of tax, such as health care and medical services, which does not affect the sale of goods, but has a general impact. Because health care is not optional, it has been taken into consideration that the prices of these services will not increase too much and so they have been based on the objective that the services are to be made possible for everyone on this same lower price.”

According to E, the effectiveness should be derived from the EU level:

” Well I think EU should define the priorities, removing the Appendix III from the Directive alone could make enough room to consider the environmental matters. Surely there are many other ways to consider the environmental perspective on the EU level, so that they set the objectives that countries then try to pursue.”

E also pointed out that reducing the tax rates is not a matter separate from its surroundings:

” Tax decisions are also political decision, because the state must also provide services related to welfare state’s obligations, so there are other things affecting the tax rates. But thinking from a political point of view, if EU sets the environmental objectives, the states can take them into account in different taxational ways so that consumers are provided access to cheaper services.”

F believed the matter to be a question of values:

” It is certainly a possibility to start supporting the circular economy and to assure sustainable development in the sales of products and services. And it is a possibility to use taxation as a means of supporting this by reducing the tax rates of for example the repair services or certain products with environmental labels. It all comes down to what we are willing to do and what values we want to highlight in the taxation practices. –This will certainly be visible in Finland in the future now that Sweden has participated in this experiment. Usually where Sweden goes, Finland follows.”

F also raised the issue of EU ties:

” We have to think about the EU-level functionality at the same time. It is sort of a guiding star that is brought up constantly. The intra-Community market is, after all, one of the core pillars of the EU. We must keep in mind that we have these important values alongside sustainable development and we have to assure that the functioning of the internal market does not suffer. We would have to come up with a solution that benefits all and of course this would require everyone’s participation.”

With some of the interviewees the possibility of raising the VAT rates for products and services that are harmful to the environment was also discussed. However, this was not seen as an option as potential as the reduced rates. In A’s opinion, an increase in the tax rate would limit the consumption of certain consumer groups:

” The idea does not seem entirely impossible. Of course, this could arise difficult questions to consider. For example, oil heating for houses is now under the 24 percent rate. If this tax rate was to be increased, we would come across the problem that it is being used in many households, especially amongst the retired generation, so if the price of oil heating would be increased by taxational means, it would limit consumption and with pensions being what they are. –”

B also thought that an increase in VAT rates would not be worthwhile:

” The increasing of the rates is always difficult. If we consider the fact that the 24 percent rate already covers almost everything and that we would target some specific thing with a higher rate –reducing is always easier than increasing.”

When asked about economic instruments alternative to the VAT, the experts mentioned namely different incentives, waste tax and excise tax. For example, B said:

” We already briefly talked about excise taxation. So, if the taxation of harmful substances and materials could somehow be altered via excise tax, like increasing the tax on some primary producers. Yea sure why would that not work. –I suppose it would have to originate from EU legislation and we would need to get a uniform mindset about the environmental matters first.”

F, on the other hand, contemplated on whether the tax base of excise tax is wide enough for environmental purposes:

” Surely excise tax would work just fine but then again, does it cover all the services it would need to? So perhaps VAT as a consumption tax would be better. –Excise tax is a bit narrower, it is not applied to all services, so from a circular economy point of view the VAT might be alright. But it is really difficult to weigh the pros and cons, surely someone is doing it currently.”

However, many of the interviewees seemed to believe that precisely VAT would be the most suitable taxational option for contributing circular economy. D stated the following:

” I cannot say for certain but I think VAT will have a major role because it is a consumption tax. Income tax, for example, is only paid if there is something under the bottom line. Sure we have other indirect taxes, but I have to say that I am not that familiar with them, so I do not know whether they could be efficient. Sure we have taxes like the waste tax and others



like it, but I do believe VAT could make an impact because its applied to everything.”

D also discussed value-added taxation in labor-oriented service sectors:

” It is a good question, I have not really thought of t before. It is true that what is being taxed is namely labor and one could not deduct anything because the only thing you are selling is your own work. So it is left in the price and to be paid by the final consumer. The tax base is wide like this, so how could we change it, that would be really difficult to put into practice. It would have to originate from the Directive at least.”

## 4.5 Analysis

This section analyses the interviews on a category basis. The five main categories are divided into their own chapters and they each present a higher-level concept drawn from the coded data. Each category includes multiple lower-level concepts. The first category talks about the experts’ educational background, work experience and previous knowledge of the thesis topic. This section also seeks to draw conclusions on the interviewees’ attitudes and preconceptions towards circular economy, as these may have an impact on their view of VAT’s potential as an economic instrument driving circularity. This is not a matter of extreme importance, but worth consideration when carrying out the analysis. The rest of the chapter are focused on the interviews’ theoretical connections.

### 4.5.1 Backgrounds and previous knowledge on the topic

A thing worth noticing about the educational backgrounds is that many of the interviewees have a master’s degree in law, and thus it can be safely assumed that they are more than capable of reading and making interpretations regarding laws and directives. In addition, the experts have vast experience in taxational duties, most of which have been regarding value-added taxation. Two of the interviewees were working at the Tax Administration at the time of sales tax, which contributes to a broader perspective on the characteristics of its successor, the common system of

value-added taxation. Most of the experts also worked at the Administration during the VAT experiment that took place between 2007 and 2011 and can thus observe practical aspects and impacts the reducing of the VAT rate of the minor repair services might have had.

The experts were not thoroughly familiar with circular economy but had heard of it and were able to combine the issue with more familiar concepts such as sustainable development and recycling. The interviewees were also sent a slightly modified version of the thesis introduction chapter prior to the interviews. This so-called pre-reading assessment examined, for example, the five business models of circular economy and their connections to VAT. For the purpose of the interviews, the most important thing was to understand the link between the objectives of circular economy and repair services and further the link between repair services and the reduced rate of VAT. Based on the first theme, some conclusions can be drawn about the interviewees' interests and attitudes towards circular economy. Four of the experts seemed to have a very positive overview of environmental practices. They, for example, openly spoke how they tried to implement the principles of sustainable development in their everyday actions and were willing to hear more about circular economy. The remaining two of the interviewees were rather neutral on the subject. They recognized the concept and talked about recycling and sustainable consumption but seemed a bit more reserved on the matter.

#### 4.5.2 The structure and application scope of the VAT system

This category includes lower-level concepts such as purpose and values of the VAT system as well as the timeliness and application scope of the Directive. The common system of VAT was initially created to facilitate trade between the EU countries and to enable a deeper intra-Community cooperation. Finland too implemented this harmonized system at the time of its joining of the Union (Äärilä et al., p. 27-28) and like A stated during the interviews, the introduction of the common VAT system was almost a vital condition for the Union membership. The experts considered the advantages of the common system to be easier trade between EU countries, impartial tax competition and legal certainty. Although VAT acts differently in domestic sales and intra-Community trade (The Finnish Tax Administration, 2019), consumers and

entrepreneurs can still assess the VAT taxation of different member states with considerable certainty. Common rules in trade and especially restrictions regarding competition can ease the cooperation between the Member states as fear of taxpayer leakage may affect countries' decision-making in environmental matters.

The original Directive of 1977 has been amended multiple times to ensure that these common rules of trade and the Union's internal market are as up-to-date and harmonized as possible (Äärilä et al., p. 27-28). The last comprehensive change to the Directive was made in 2006, after which partial regulations have been altered. However, some of the regulations no longer seem to reflect the image of today, one of which is the application scope of reduced rates for minor repair services listed in the Annex III. The reduced rates are allowed for repair services concerning the following items: bicycles, shoes and leathered goods, clothing and household linen (2006/112/EC). According to the interviewees, the Directive and as an extension the national VAT legislation could benefit from a renewal as it no longer corresponds to its dynamic environment. Many relatively new issues, such as digital services, did not even exist when writing the law. E also mentioned the overly precise application scope on reduced rates defined in the Annex III and believed it to be incompatible with the objectives of circular economy.

Although the Directive aims at a fair and equal starting point for all Member States, experts say that there are several things that, on a practical level, distort uniform implementation. Firstly, when countries have joined the Union, they have been able to negotiate certain privileges regarding VAT Directive regulations. Finland, for example, was granted a right to apply zero tax rate for shipbuilding to ensure the survival and success of one of the country's main industries. Secondly, there are multiple ways to interpret the Directive, which leads to situations where the implementation of regulations vary from country to country. Such situations have arisen, for example, in the VAT practices that have to do with the definition of real estates. These incidents have caused the Union's Court of Justice to make series of clarifications that aim to unify the interpretation of the Directive.

The experts did, however, believe the common system of VAT to be the only viable option in today's global situation with increasingly harmonized trade. The

interviewees who had worked in taxation during the predecessor of VAT also mentioned that the current system had actually simplified a lot of the practices. The only inefficiency worth noting is the complicated decision-making resulting from cooperation of multiple countries with somewhat different political views. When modernizing the Directive, one must keep in mind the different political interests and possibly deviating values of the Member States.

The Directive (2006/112/EC) scope limitations can therefore be linked to the pillaring objectives of ensuring stable internal markets and balancing the competitive situation between countries. As F mentioned in the interview, when considering changes to the Directive, a number of parallel values affecting countries' decision-making must be considered. Whether the lifting of the restrictions placed in the Annex III would compose a risk to a balanced competitive situation is not clear.

For example, E would believe that repair services are, in principle, a locally provided service and the expanding of the reduced rate scope to concern all repair services would therefore not pose a threat to the competitive situation between countries. F, on the other hand, said that it could be possible that repair services would transform into an international industry, like so many other service fields have in the context of globalization. However, if the Directive were to allow equal opportunities to reduce the rate of repair services, the competitive would lay in the hands of national decision-makers and thus the starting point could be considered equal to all Member States.

As stated above, neither the Directive regulations nor the varying methods of implementation present themselves identically to all Member States. It is quite possible that the regulations that once aimed to unify trade and the internal markets have now become obsolete and too strict for the dynamic markets of the 2020's. Consequently, restrictions on the scope of reduced rates for repair services may rather create more practical difficulties for entrepreneurs, taxational experts and decision-makers than allow just and equal competitive situation within the EU. This conclusion is in line with the Commission (2019) proposal, that aims to update the Directive while taking into account its cooperative purposes. The proposal would delete Annex III of the Directive and replace it with a list of products and services to which reduced rates are

not to be applied. The proposal aims to protect the competitive balance by setting a weighted average of all VAT rates to at least 12 percent.

#### 4.5.3 Changing VAT rates and their effect on consumer prices

Even if the Directive modification would allow the implementation of reduced rates to the repair services of all products, there is no certainty whether the reduction would positively add to the objectives of circular economy. This category aims to examine whether a reduced rate for repair services could in fact contribute to extending the life-cycle of products. The section can be divided into five lower-level concepts: VAT as a consumption tax, market distortions, the impact of rate reduction on consumer prices, repair services as an industry and effects of the economic situation.

Value-added tax is an indirect consumption tax, meaning that companies are allowed to deduct the amount of tax included in their purchases and the tax added to the price of goods and services is left paid by the final consumer. (Äärilä et al., 2017, p. 26, 30-31.) The VAT base is shaped by the objective of making it as wide as possible. In order to make the tax neutral, divergent tax rates have been avoided. At present, reduced VAT is levied in Finland on products perceived as essential goods and on various cultural activities, as well as restaurant and accommodation services. (Tikkanen et al., 2018.) Some of the experts also raised the issue of neutrality when talking about VAT's potential as an economic instrument. D for example said: "Now because VAT is a consumption tax and it should be equal to all, how can it, as such serve as an economic instrument for circular economy. –"

The study by Mirrlees et al. (2011) concludes that applying zero or reduced VAT rates generates difficulties in both governmental and organizational administrations because they need to be taken into account in tax returns and accounting systems. C backed up this statement by mentioning how much extra work the reduced rate experiment that ended in 2011 created for VAT experts working in the Tax Administration. The study also suggested that when assessing the applicability of a lower tax rate to a single product or service, situations of interpretation arise. This also poses the risk of the black market, when tax authorities cannot always control that a product is placed in the correct tax bracket. The experts had noticed questions relating the definitions of

services applicable to the reduced rates, such as “what is considered a leathered good”, becoming more frequent at the time of the experiment. F also mentioned how concepts and definitions are often open for interpretation and can create situations where the Directive is implemented differently among the Member States. It is probable that the more exceptions the Directive allows, more likely the different interpretations are.

The study (Mirrlees et al., 2011) also presents that exemptions in VAT rates create market distortions by altering consumer behavior as opposed to consumer behavior with a single VAT rate. However, the operating principle of economic instruments is to correct market disturbances or situations in which the market does not allocate or produce commodities efficiently. Common malfunction of the markets is the overlooking of the external costs, such as negative impacts on the environment, produced by economic activities. (Tikkanen et al., 2018.) The aim of reducing the VAT rate on products and services that serve the objectives of circularity would be just that: to alter consumer behavior and, by doing so, to correct market disturbances. The majority of the VAT experts seemed to think that the possibility of using reduced rates for repair services was worth consideration and the fact that it is an indirect consumption tax means that reduced rates could, at least in theory, affect consumer behavior. But in order for the reduction of VAT rates to affect consumer behavior, the reduction needs to reflect on the actual prices of products or services.

Although some studies (Camillis, 2012; Nguyen, 2016) advocate the impact of VAT rate reduction on consumer prices, the practical experiment performed between 2007 and 2011 found little change on the prices of the services of which the reduction was targeted towards. When asked the VAT experts, the majority of whom were working at the Tax Administration at the time of the experiment, of the potential reasons for ending the experiment, many raised the issue of ineffectiveness to prices. The answers were in line with the study by Benzarti et al. (2020), which presents that reductions in VAT rates are not transferred to consumer prices as well as increases in VAT rates. The study compared the effect on prices by the 14 percent reduction and later the 14 percent increase on the VAT rate on hairdressing and barbershop services implemented in 2007 and 2011.

According to the study (Benzarti et al., 2020), 60 percent of the prices did not change at all as a result of the VAT reduction, but the same percentage increase of the VAT rate led to price increases between 80 and 120 percent. The results were consistent in other sectors and other EU-countries as the research further analyzed all the changes in VAT rates that took place inside the EU between the years 1996 and 2015. On average, prices increased three to four times more as a result of tax increase than they went down after a tax cut. This asymmetry in price changes could lead to the assumption, that VAT would be more efficient of an economic instrument when used to increase the prices of those products and services that are harmful to the environment. However, the experts were quite unanimous about the challenges of increasing the VAT rates as a means of affecting consumer behavior. A, for example, raised concerns about the neutrality of the tax if the increased rates were to be targeted towards product groups that are currently in favor of lower-income households. The only way that the VAT could be used as an economic instrument that would be in balance with its values relating neutrality, would seem to be the decreasing of the rates since this would be more of a carrot rather than stick towards the consumers.

Even though the study by Benzarti et al. (2020) and the evidence visible from the experiment conducted in the late 2000's give the impression that using VAT to reduce the prices of certain services would be inefficient, many Member States have implemented the reduced rates of minor repair services in their national VAT legislation. This raises the question, whether repair services could be the exception that proves the rule. A factor worth considering is that repair service sector competes with service providers of the same sector as well as with the companies that produce new products of similar price range. Often, consumers willing to repair their old products end up buying a new similar one because of the higher or equal price of the price of the repair. For this reason, the repair service providers could potentially benefit from taking the reduced VAT rate into account in their consumer prices. However, any deeper analysis of the potential impacts external factors have on the pricing strategies of companies operating in the repair service industry will not be concluded as the thesis aims to examine VAT's potential as a framework for contributing to the circular economy rather than the market responses.

However, a thing worth noticing regarding market reactions is that during the experiment the world's economies, Finland included, were recovering from the aftermath of the 2008 financial crisis and this could have had an impact on the result of the experiment. Some of the interviewees also recalled that at the time of the experiment the pressure to raise prices had long been severe for service providers and this could have affected the prices not going down alongside with the VAT rate. However, the study by Benzarti et al. (2020) has taken the effects of the financial crisis into account by extending the scope of the research by including all the sectors affected by VAT reductions within the EU between 1996 and 2015. In addition, the economic effects of the current COVID-19 pandemic are still left unclear and it cannot be said with certainty what the situation would be if there should be another VAT reduction experiment in Finland. However, many sources (Stahel, 2016; The European Commission, 2020) suggest that transitioning into circular economy would create new jobs and this could help with the recovery process.

#### 4.5.4 Consumer habits and attitudes

A number of other factors, that could possibly affect the efficiency of VAT as an economic instrument, were also raised during the interviews. When asked why Sweden, for example, had decided to implement the reduced rate for minor repair services when Finland decided against it in 2011, experts highlighted consumption habits and attitudes. The demand for repair services can be partly connected to the concept of psychological obsolescence (The German Environment Agency, 2016), and as environmental attitudes develop, this type of product replacement due to immaterial reasons could lose importance in consumer decisions. Some believed that the environmentally friendly attitude of Swedish consumers may have been the factor that allowed the reduced tax rate for repair services to take a permanent place in the national legislation. On the other hand, the majority of the interviewees did agree that enormous leaps have been taken in the attitudes of Finnish consumers during 2010's and if the experiment were to be repeated, the results might be in line with this trend. It would appear that the different experiment outcomes of the Member States are not believed to be due to the differences between countries but rather to the different point in time.



If legislation and policies were to be seen as a reflection of general population's mindset, the European Green Deal published in 2019 by the European Commission would definitely paint a picture of a more environmentally positive atmosphere in the EU. The Green Deal presents an action plan that aims to improve resource efficiency, decrease environmental emissions and polluting, and restore biodiversity (The European Commission, 2020). Many of the objectives set out in the Green Deal are to be achieved through methods of circular economy, and especially by extending product life-cycles. The Commission has emphasized empowering consumers by updating the consumer law in regards of mandatory information concerning the lifespan and repairability of products. The commission is also planning on establishing new "right to repair" regulations which will widen the consumers' rights regarding the availability of spare parts and access to repair services and has encouraged the use of economic instruments, such as value-added tax rates, as a means to promote the activities related to circular economy (The European Commission, 2020). This seems to confirm the idea of changed attitudes towards climate matters and repairing instead of buying new.

#### 4.5.5 VAT as an economic instrument

When asked about the overall suitability of VAT as an economic instrument, the majority of the interviewees were for a new experiment. Some, however, did raise concerns regarding the effectiveness of VAT, its purpose as a neutral source of government revenue and the complication of VAT procedures as a result from several exceptions to the general VAT rate. The effectiveness of VAT for an industry as specific as repair services at an increasingly eco-friendly time would have to be tested with another experiment to know whether the rate reduction would reach the consumer prices. The prior studies are not conclusive on this specific industry and in addition the potential Directive modification could significantly alter the results of another experiment.

The interviewees were on the same page on the matter of VAT being the most potential taxational instrument out of the current options available. The general nature and the wide tax base of VAT allows it to reach multiple products and services and the fact that it is an indirect tax makes it a very potential tool to effect consumer behavior,

given that the entrepreneurs consider the tax reduction in their prices. The competitive pricing is, however, outside the scope of the thesis and the matter is therefore left without any further remarks. The analysis concludes that the purpose of VAT could be in alignment with the objectives of circular economy and with the update proposal made by the Commission, the application scope could allow for the VAT to contribute to the lengthening of product life-cycles.

## 5 CONCLUSIONS

The transition from the current linear model to a circular economy is necessary to ensure the earth's carrying capacity and the adequacy of natural resources. This transition can be smoothed through various economic instruments, such as taxation. The circular economy is an economic model that strives for the sustainable use of resources, carbon-neutral production and, above all, the preservation of the diversity of nature and life. The model's carrying idea is a zero-waste vision, which is achieved by keeping resources and raw materials in circulation for as long as possible, for example by maintaining and repairing products more efficiently. Supporting entrepreneurs in the repair service sector could facilitate access to repair services for consumers. (Ellen MacArthur Foundation, 2012; Tikkanen et al., 2018.)

As a broad-based indirect consumption tax, VAT has been proposed to be staggered on environmental grounds in order to internalize external environmental costs. In practice, this could be done by reducing the tax rates for activities that support the circular economy, such as production of renewable energy or repair services (Tikkanen et al., 2018). However, the VAT Directive (2006/112/EC) limits the application of reduced rates, and there is no certainty about the price effect of reduced rates. The thesis sought to answer the following questions:

- How could VAT contribute to the transition towards circular economy?
- What limitations does the current VAT system impose on this type of application?

VAT is a broad-based consumption tax that has been harmonized in the European Union (Äärilä et al., 2017). Due to its wide scope, both in terms of tax purposes and geographical area, VAT could in theory be an ideal economic instrument. Economic instruments seek to correct market distortions by altering the behavior of organizations, and ultimately consumers, (Tikkanen et al., 2018). As a consequence of the broad deduction rights, in most cases VAT is ultimately paid by the final consumer and the taxable entity acts only as an intermediary. Several studies (De Camillis & Coralczyk, 2012; Nguyen et al., 2016; Timmermans & Achten, 2018) have advocated the idea of environmental staggering of VAT in order to internalize the external costs

of environmentally harmful products and services, and by doing so realizing the polluter pays principle. As a circular economy tool, VAT has been proposed to be able to guide consumers towards repair services, making these services a more attractive alternative to buying a new product.

The ultimate purpose of VAT has been to streamline the functioning of the internal market and balance intra-Community competition, and thus divergent tax rates have been avoided (Tikkanen et al., 2018). However, the analysis of the thesis shows that VAT merely seeks to create a fair starting point for all Member States and, if environmental staggering were to be allowed by the VAT Directive, the competitiveness ground could still be considered level. However, different tax rates have been found to increase different interpretations and ways of applying the tax as well as increasing the administrative burden for both companies and tax administrations (Mirrlees et al., 2011). However, differences in interpretation have been rectified by rulings and guidelines of the European Court of Justice. Thus, when considering possible VAT reforms, the neutrality of the VAT and its other values must be weighed with other values, such as the environment, in mind.

To be able to promote circular economy, the reduction in VAT rates must be reflected in consumer prices. A study by Benzarti et al. (2020) shows that lowering tax rates does not have as much of an effect on prices as raising tax rates. However, increasing VAT rates as a control instrument is in direct conflict with the VAT neutrality objective, as it restricts the consumption of certain consumers. Instead, lowering the tax rate encourages a certain type of consumption. Previous studies have not focused on the rate reduction on repair services per se, although Benzarti et al. (2020) partly dealt with the VAT experiment conducted in Finland. Repair services are a unique industry, as these service providers compete not only with each other but also with manufacturers of new products.

However, the VAT Directive (2006/112/EC) does not presently allow rate reductions for repair services other than for the so-called minor repair services. The Annex III of the Directive defines minor repair services as the repair of bicycles, shoes and leather goods, and clothing and linen. As a result of the Directive reform proposed by the Commission (2019), the entire Annex III may be removed and the application of

reduced VAT rates may be facilitated. In this scenario, the price effects of lowered rates for repair services or otherwise environmentally staggered VAT rates may be very different from those presented by Benzarti et al. (2020) or the result from the previous VAT experiment in Finland.

The outcome of the experiment renewal might also be influenced by the more environmentally friendly attitudes of the 2020s. Consumers' environmental awareness and willingness to favor ecological consumption opportunities could enable repair service providers to benefit from reduced prices, and thus reduced tax rates would be able to increase demand for repair services. In this sense VAT does show great potential as an economic instrument for circular economy. However, whether a reduced VAT rate will affect the prices of repair services and thus demand should be determined through a new experiment.

The thesis is limited most by the mandatory narrowing of the topic. The topic has been deliberately limited in a manner that excludes the organizational point of view and the thesis only discusses the possibilities created by the structure of the VAT system for promotion of circular economy objectives. To be able to properly determine whether reduced VAT rates can increase the demand for circular economy business models, it should be known whether rate reduction affects consumer prices. As stated above, companies' pricing strategies are affected by multiple factors and thus determining the actual price effect would require an examination of the business side of the case. The pricing strategies of repair service providers within the framework set by the circular economy could therefore be considered as a natural topic for further research.

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