APPENDIX

The introduction of the motor vehicle tax mainly has an economic, living and natural environment and social impact.

1 Economic impact

1.1 Extent of impact

Major. All companies and persons using vehicles that are subject to tax under the Act are affected. The purchase and ownership of passenger cars will, on average, become more expensive than today, but a specific change for an owner or potential owner of a car depends very strongly on the type of car that is owned or planned to be purchased. Overall, the cost of owning a car will increase by 5 to 15 %. More polluting and heavy cars will be subject to a higher tax burden. As the vehicle ages, the tax burden decreases, and older vehicles are also subject to lower taxation at the time of purchase.

In general, higher prices will reduce demand for this benefit (although there are exceptions, such as luxury goods). It is difficult to estimate exactly how much the acquisition and ownership of cars will decrease in Estonia, but this behavioural elasticity has been analysed elsewhere.[1] On the basis of this, both the annual motor vehicle tax and the registration fee have a small impact on the ownership and mileage of cars and on the fuel thus consumed. The registration fee has a greater effect than the motor vehicle tax, although all estimated elasticities are below one, which means that a 1 % price increase reduces demand by less than 1 %. Rather, elasticity is expected in the order of magnitude between -0.1 and -0.3 in relation to the rise in the cost of cars. Long-term elasticity is higher. All in all, it can be expected that the effect of the introduction of the motor vehicle tax will decrease the pace of the increase in the number of vehicles and, overall, the Estonian car fleet will decrease by 1-3 % compared to the situation without intervention. This outcome should be seen as a new empirical equilibrium which cannot be explicitly defined in time. But it can be said that most of the expected change will materialise within 5-10 years, which is a typical cycle of business and private vehicle replacement. In addition, this concerns particularly those taxable vehicles of the car fleet that are in active use. An additional reduction in the car fleet may come at the expense of end-of-life vehicles.

The expenditure on fuel will decrease for the consumers who switch to vehicles with lower fuel consumption and correspondingly lower carbon emissions. The following section (6.2) provides an estimate of the carbon savings from vehicles following the introduction of the tax. Since carbon emissions are directly linked to the amount of fuel burned, the approximate cost savings on fuel can also be estimated, assuming that the fuel price remains at today's level. Accordingly, annual spending on motor fuel will decrease by EUR 70-100 million by 2030 compared to a situation without the tax.

The specific impact of the motor vehicle tax on economic growth is difficult to estimate. The impact will depend much on the overall economic climate and the ability of vehicle dealers to respond to the changed situation, as well as on the willingness of consumers to change their habits. Above all, the tax increase has a redistributive effect on the distribution of the private and public sectors, and the link between the size of the public sector and economic growth is not strong. The Ministry of Finance will make a more detailed assessment of the impact of motor vehicle tax on economic growth in the course of the preparation of subsequent

[1] https://taxation-customs.ec.europa.eu/system/files/2016-09/vehicle_tax_study_15-02-2002.pdf.

economic forecasts, after the draft of the taxation act has been adopted, taking into account the economic cycle and other policy changes.

1.2 Frequency of impact

The motor vehicle tax has to be paid once every year and therefore the impact of the motor vehicle tax is continuous. The registration fee for a motor vehicle must be paid once, upon entry of the motor vehicle in the register.

1.3 Size of the affected target group

According to the introduction to the Chapter, 505 111 cars are owned by natural persons and 232 121 by legal persons, including 100 992 by a leasing company. There are 52 881 unique legal persons who own at least one car. The number of individual car owners among natural persons is 425 258. In 2021, 14 companies were active in the production of motor vehicles in Estonia, with sales revenue of 17 million euros, which represents a very small part of Estonia's total economic activity. A larger sector is involved in the wholesale, retail and repair of motor vehicles and motorcycles. It comprised 4 209 enterprises (3.3 % of all) in 2021, with sales revenue of EUR 4.2 billion (5.2 % of total turnover) and value added of EUR 480 million (2.5 % of total value added). In 2021, 41 companies were engaged in retail sales of motor fuel, with sales revenue of EUR 1.4 billion (1.8 % of total turnover) and value added of EUR 110 million (0.6 % of total value added).

1.4 Risk of adverse effects

A significant proportion of the target group consists of legal persons. The impact will be greater on the companies where cars account for a significant part of the operating costs ((e.g. couriers, rental companies). At the same time, it is likely that these companies also have a higher usage rate of their cars and a shorter replacement interval, so they will be able to reduce their tax burden faster by choosing vehicles with a lower tax burden. Car dealers and financiers are another target group of legal persons that will be affected by the motor vehicle tax. The motor vehicle tax may affect competition between them depending on the types of cars that are mainly sold and how much of the increase in the tax burden will be borne internally in order to remain competitive with their range of models. As pointed out in subsection 6.1.1, vehicle sales are not expected to fall significantly, but a change is likely to occur in the types vehicles preferred by consumers – less carbon-intensive vehicles and lighter vehicles will be less affected by the motor vehicle tax, making them more attractive to consumers. A separate major negative impact could be felt by museums and car collectors who possess of a large number of vehicles. In cooperation with the Ministry of Culture, measures to alleviate the burden of the motor vehicle tax on officially operating museums will be developed before the Act is enacted.

The motor vehicle tax has an inflationary effect, the exact extent of which is difficult to estimate, as it depends on how much the introduction of the tax will affect the market price of vehicles. This, in turn, will depend on changes in consumer preferences and the ability of sellers to absorb tax increases, for example at the expense of profitability or by transferring it to the prices of other products and services offered (spare parts, consumables, maintenance, insurance, repairs, etc.).

With the introduction of the Act, there is a risk that vehicles will be registered in another country in order to avoid the tax burden. In order to mitigate this risk, the Ministry of Finance will, as a next step, develop measures to prevent circumvention and analyse the taxation of motor vehicles with license plates circulating in Estonia.

2 Impact on the living and natural environment

2.1 Extent of impact

Moderate. The impact on the living and natural environment will occur as a result of a change in vehicle owners' preferences in regard to vehicle ownership and usage as well as the types of vehicles used. As described above, the expected change as a whole is not significant in terms of the number of vehicles in use. In Estonia, there is a trend towards growth and the motor vehicle tax is likely to help slow down the growth trend. In the context of global warming, internal combustion engine vehicles are relevant primarily due to atmospheric carbon emissions from their use.

Based on the parameters of this draft Act, the impact of the tax on carbon emissions has been estimated in two ways. The aim of the first estimate is to find the impact of the increase in the cost of vehicles on their use as a whole, while the second estimate focuses on changes in the vehicle fleet. Carbon emissions are affected both by total mileage and the types of vehicles driven. The first estimate has been prepared by the Estonian Environmental Research Centre. It estimates the impact of the tax on the number of cars and thereby on mileage, from which a change in greenhouse gas emissions has been derived. The calculation is based on the motor register statistics for registered passenger cars (M1, M1G category) and vans (N1, N1G category) as at the end of 2021. Vehicles with suspended registration have been excluded from the dataset (it is assumed that such vehicles do not participate in traffic or no longer exist and the owner has not removed the vehicle from the register). In addition, vehicles with incomplete technical data (maximum mass, CO_2 indicator according to both standards) have been excluded. The CO_2 estimates for the remaining vehicles were based on the WLTP emission standard (representing the latest and most accurate approach). For those vehicles that have a value based on NECD (old standard) but not on WLTP, the WLTP value has been added by using an appropriate multiplier, given that the WLTP value is higher than that of the NECD. Next, vehicles were grouped in classes according to the CO_2 parameter and the number of vehicles in each class was calculated after the processing of raw data. Subsequently, the percentage of each class in % of the population was determined and used for a COPERT[2] data model, that was also applied in the National Greenhouse Gas Inventory for 2021, to provide an overview of the total vehicle fleet. Otherwise, due to incomplete register data, a considerable number of vehicles would be omitted from the estimate, particularly in the case of the motor vehicle tax.

The components of the tax have been calculated by grouping (separately for passenger cars and vans). Based on the vehicle class, the average amount of the base and other components of the tax for that class were calculated. For each tax component and vehicle class, the average annual costs per energy class have been taken into account, calculating in the last step the weighted average annual motor vehicle tax and registration fee (taking into account the structure of the car fleet). The result indicates an annual reduction in greenhouse gases by 14.6 kt of CO_2 equivalent. Cumulatively, the result is a reduction in emissions by 203 088 kt of CO_2 equivalent.

This estimate has significant limitations. First, the elasticities used have not been updated and may no longer apply. Secondly, it is estimated that the impact on the environment will be higher if the structure of the car fleet changes in such a way that vehicles with a lower environmental load become preferable. The elasticity used in the model is primarily based on

[2] https://www.emisia.com/utilities/copert/

an overall decrease in vehicle usage after it becomes more costly for consumers. However, if the tax is primarily based on environmental characteristics, it can drive a change in the structure of the car fleet without necessarily reducing the level of vehicle ownership, mileage or other benefits of owning a vehicle. In short, it will be possible to make the same trips with lower emissions, but the elasticity used in the model does not take this into account. The focus here is primarily on carbon emissions, but other air quality indicators will also improve as a result of using more sustainable internal combustion engine vehicles or electric vehicles[3]. An additional impact assessment has been prepared to take account of the structural change in the car fleet, based on the experience of other countries and the expert assessment of the Transport Administration. The baseline indicators of the EKUK model have also been used.

In an analysis of Norway's automotive tax[4] the OECD found that taxation of vehicles based on the CO_2 emissions value for the respective vehicle is likely to reduce the emissions of vehicles purchased with an elasticity of -0.8. This means that if the price of vehicle carbon emissions is raised by 10 % through taxation, the consumers' preference will change towards buying vehicles with 8 % lower CO_2 emissions. This is a high degree of elasticity and indicates flexibility in consumer behaviour. Based on the above mentioned elasticity, the amount of the motor vehicle registration fee, the distribution of the vehicle fleet, the statistics on the first registration of vehicles, the mileage statistics of the vehicle fleet and other necessary assumptions, the approximate impact of making the vehicle fleet more economical on the greenhouse gas emissions from the road transport sector has been estimated. This is a very rough estimate based on average figures. The uncertainty of the estimate is sufficiently large, so that it should be treated as potential order of magnitude that might be achievable as a result of the introduction of this motor vehicle tax, based on the experience of other countries, but it should not be considered as the most likely scenario or target. The actual outcome will be highly dependent on the behaviour of consumers and sellers, on the success and details of the tax implementation, on the technological development of vehicles, on the economic climate and other factors that are difficult to model reliably. Consequently, a second scenario with a lower elasticity of -0.5 has also been estimated. This scenario is an estimate based on the assumption that Estonian vehicle users are less prepared to switch to more economical vehicles than suggested by the experience of other countries.

CO_2 emissions from road transport are part of regular national greenhouse gas reporting and projections. As a result of the introduction of the motor vehicle tax, carbon emissions of vehicles are subject to increased scrutiny in this process, both before and after the entry into force of the tax.

Vehicle taxation can also reduce the number of non-active vehicles by incentivising their owners to properly delete them from the register. This means proper handling of vehicles. A positive impact on the environment is achieved by reducing the risk of environmental pollution caused by unused vehicles and by increasing the possibility of re-using materials from previously manufactured vehicles.

2.2 Frequency of impact

The impact of the motor vehicle tax will be felt both upon purchase and during use of a vehicle. It is assumed that the motor vehicle registration fee will incentivise people to choose motor vehicles subject to a lower tax, which means less polluting vehicles. In the case of

[3] For example, the emission-based car tax introduced in Ireland reduced the average CO_2 emissions value in the first year by 13 % — https://www.tandfonline.com/doi/full/10.1080/15568318.2022.2132562.
[4] https://one.oecd.org/document/ENV/WKP(2021)10/En/pdf

motor vehicle tax, individuals may similarly start opting for vehicles with a lower tax rate that are consequently more economical.

2.3 Size of the affected target group

All residents of Estonia. Slightly more affected are residents of urban environments (815 000 out of 1.33 million, or 61 % according to the 2021 census) and people working in urban environments (399 000 out of 642 000 people in employment, or almost 62 % according to the 2021 census). In urban environments, there is typically a higher concentration of direct air pollution from vehicles. However, all residents are affected, as the main environmental impact of vehicles in terms of carbon emissions concerns climate, and that has a global impact.

6.2.4 Risk of adverse effects

There are no undesirable effects in this area.

3 Social impact

3.1 Extent of impact

The social impact of the tax will be felt more on the livelihoods of vulnerable households. As vehicle costs become higher and people are unlikely to adjust their vehicle expenditure proportionally according to empirical conditions, people's disposable income available for other expenditures is expected to decrease, as described above (see subsection 6.1.1). This is a problem in particular for the poorest part of the population, who own vehicles and need them for transport in the absence of other suitable means of transport. It is worth stressing that people also have the ability to influence their tax burden within certain limits by choosing a vehicle with a lower tax burden. However, it is clear that most people have not planned to replace their vehicles before the tax is enacted. The introduction of the tax may lead to greater activity on the aftermarket of vehicles before the tax is levied, which may also change the market value of vehicles to some extent.

In the design of the tax, the livelihood of households is taken into account by providing for a significantly lower tax rate for older vehicles, which are generally cheaper and tend to be owned by households with fewer financial resources. This means that in most cases the extent of the impact of the tax is rather limited, being much lower than the cost of proper maintenance and active use of the cheapest vehicle. For example, the median annual tax for a 10-year-old vehicle is EUR 167 per year, i.e. EUR 14 per month, the median annual fee for a 15-year-old vehicle is EUR 85 per year, i.e. EUR 7 per month, and the annual fee for vehicles older than 20 years is EUR 50 per year, i.e. EUR 4 per month. In most cases, the cost of the annual tax is far below the fuel and insurance costs of a typical vehicle that is in active use.

3.2 Frequency of impact

In the case of the motor vehicle registration fee, the impact is felt when buying or replacing a motor vehicle if the registration fee is added to the price of the vehicle. A person can choose a motor vehicle with a lower fee. Similarly, the motor vehicle tax, which has a continuous impact, provides possibilities for decisions that keep the rate of the motor vehicle tax at a minimum level. Currently, a state fee of EUR 130 is charged upon registration of a motor vehicle, and this will no longer be applied after the entry into force of the registration fee.

3.3 Size of the affected target group

There are approximately 632 000 households in Estonia, including approx. 58 000 single-parent households, approx. 309 000 retired persons and approx. 15 500 persons receiving a

pension. Lower-income households have fewer vehicles, according to the 2019 Household Budget Survey. Of the 30 % of households with the lowest incomes about 33 % have a vehicle. The likelihood of owning a vehicle increases with income. Around 90 % of the richest tenth of households own vehicles. On average, they have more than one vehicle.

The proportion of people with disabilities is 8.7 % of the total population of Estonia. According to the Social Insurance Board, as of 30.9.2023, there are a total of 118 864 disabled people living in Estonia, of whom 12 203 (10 % of persons with disabilities) are profoundly disabled, 60 969 (51 %) are severely disabled and 45 692 (39 %) are moderately disabled.

3.4 Risk of adverse effects

The tax may have the greatest negative impact on people with disabilities who need vehicles to move around. The absolute poverty and deprivation rates of persons with disabilities are significantly higher compared to the rest of the population, and the Convention on the Rights of Persons with Disabilities obliges Estonia to find the necessary solutions to support the coping of persons with disabilities. In order to mitigate the impact of the additional tax burden on the most vulnerable target group, the Ministry of Social Affairs analysed additional needs-based support measures for people with special needs, and the aim is to implement them in 2025. It is planned to increase the allowance for children with severe and profound disabilities and the allowance for working-age persons with profound disabilities, as well as to harmonise the allowance for severely disabled persons of working age in such a way that the amount of the allowance would not depend on the type of disability. In addition, public subsidies are planned for the purchase of aids irrespective of the degree of disability and the existence of reduced capacity for work, and an increase the share of the price contributed by the state is planned for selected aids.

Additionally, undesirable effects are possible for disadvantaged families and individuals living in remote areas. Decreased livelihood capacity is a potential adverse effect.

A certain theoretical risk associated with the registration fee for the owner of the vehicle concerns insurance events and damages. The registration fee and the annual tax will have an impact on the market value of vehicles, making both new and aftermarket vehicles with higher fees or taxes more expensive. The exact rate and extent of market price adjustments cannot be known in advance. This may make it difficult to determine the market price during the adjustment period and create disputes between insurers and policyholders.

4. Impact on data protection

The DPIA was based on the assumption that processing will be limited to data that are already being collected. For this reason, the likelihood of the occurrence of risks is low. The use of motor register data for the determination of the motor vehicle tax and the registration fee is proportionate to the objective of taxation of motor vehicles. The motor register already includes the necessary basic data.

The arrangements for exempting diplomats who have been granted exemptions under international law will be developed separately.

4.1 Extent of impact: minor. The Tax and Customs Board will develop, as part of the register of taxable persons, a register of the motor vehicle tax, which will include the minimum

amount of information required for determining the amount of the motor vehicle tax and any tax exemptions. The Tax and Customs Board will receive information from the Transport Administration only on the persons who own a vehicle subject to the motor vehicle tax. Only the person's name, personal identification code and, in addition, the parameters of the vehicle required for calculating the tax (specific CO_2 emissions, mass, engine volume and other components listed in the formula of the Act) will be forwarded to the Tax and Customs Board. This is a limited volume of data on a person. The data will be transmitted once at the beginning of the year and, in case of new vehicles, the data concerning that particular person and vehicle will be transmitted immediately after the respective entry is made in the motor register.

The collection and keeping of records of the registration fee will not lead to significant reorganisations in the motor register, except for the display and creation of the corresponding part of the register.

4.2 Frequency of impact: medium. For the calculation of the motor vehicle tax, the data of vehicles entered in the motor register and their owners will be sent to the Tax and Customs Board once every year. Limited additional submissions of vehicle and owner data will be made during the year when a vehicle is entered in the motor register. Thus, the transmission of data is not a one-time event but an annual operation.

4.3 Size of the affected target group: As of May 2023, the motor register contains data on 505 111 unique natural persons who own at least one vehicle and who are directly affected by the entry into force of this Act.

4.4 Risks of adverse effects

Risk: Access to data by unauthorised third parties. The General Data Protection Regulation (GDPR) sets strict criteria for authorisation, and data may be transferred only on the grounds laid down in the applicable law. The data will be transferred over a secure X-Road solution.
Probability of occurrence: low.
Impact of risk: minor.
Management: A secure way of transmitting data has been agreed, e.g. using best techniques and applying the best security requirements.

Risk: The controller processes personal data without having a basis. The controller must ensure the lawfulness and regularity of the processing.
Probability of occurrence: low.
Impact of risk: minor.
Management: Processing is carried out on the bases and pursuant to the procedure provided for in the General Data Protection Regulation; rules for data processing (data, including storage media) will be included in the statutes of the database.