

Taxes on Transport
*Smarter Instruments
for More Efficient
Transport Systems*

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Summary

How the transport system is used is heavily influenced by the taxes and fees paid by users, which is why pricing plays an important role in terms of both accessibility and economic efficiency. This report analyzes how taxes and fees in the Swedish transport sector can be designed to better reflect the social costs generated by transport. The aim is to provide a broad analytical foundation for understanding transport taxation in Sweden, to put the current rules in a broader institutional and economic context and, on the basis of research and economic theory, to discuss possible reforms. The analysis is based on a review of scientific literature and on public statistics on transportation, tax revenues and public expenditure.

We cover the most important taxes and fees in the transport sector: fuel taxes, vehicle taxes, congestion taxes, railway charges, parking charges, VAT and the taxation of company cars. The focus is on taxes and public fees imposed on users of infrastructure or that are directly linked to transport. Charges paid by passengers, such as public transport fares, are mainly outside the scope of the report, even though public transport subsidies are also addressed and analyzed based on similar economic perspectives.

The report discusses three fundamental reasons for taxation in the transport sector. The first is the marginal cost principle, according to which road users should pay for the external costs brought on by their travel and transport, such as congestion, noise, emissions, accidents and road wear. Ensuring that the price of transport better reflects these costs will improve the prospects for achieving an efficient scope and composition. This is the principle upon which the report mainly bases

its analysis of the current system.

The second reason is the self-financing principle (i.e., the notion that users should finance the infrastructure). Such a principle may intuitively be perceived as appealing. However, the substantial fixed costs in the transport system mean that complete cost recovery rarely coincides with efficient pricing. The self-financing principle was more common in Sweden in the past, and it still prevails in the United States and many other countries. The EU also applies this principle to some extent, but the marginal cost principle is also key for the EU. Accordingly, the report discusses the self-financing principle as a possible complement in certain contexts, but not as a general norm for how the transport system should be priced.

The third reason is purely fiscal taxation (i.e., using the transport sector as a tax base to finance public expenditure). We reject this rationale by referring to the theory of optimal taxation: the public sector is the most efficiently financed with general and uniform taxes, not with targeted taxes levied on specific sectors. Hence, transport should be subject to VAT, while taxes and fees should only be levied if they are justified by an external cost.

The report also describes the legal framework for transport taxation. An important point of departure is that Swedish regulations must be consistent with EU law. The Energy Taxation Directive, the Renewable Energy Directive, the state aid rules and the Eurovignette Directive, among others, set the framework for what Sweden can do at the national level. In addition, there is also the EU climate policy, which is gradually becoming more important for the governance of the transport sector. This means that the scope for action is limited in certain areas, but also that several key parts of transport taxation are moving in a common European direction.

The report presents the social marginal costs of various transport modes in Sweden. We compile available estimates of costs for factors such as greenhouse gas emissions, air pollution, noise, accidents, congestion and road wear. These estimates are also compared with the marginal costs reported in European handbooks. This comparison shows that the Swedish results are in many cases in line with the European estimates, but there are also differences.

The report also summarizes public revenue and expenditure in the transport sector. Public revenue from transport-related taxes

and charges is significant, particularly when it comes to road transport, while the level of cost recovery varies greatly between modes of transport. When it comes to road transport, revenue exceeds public expenditure, while rail transport is largely financed by public funds. With regard to shipping and aviation, the amounts are smaller and the relationship between revenue and expenditure is more balanced. At the same time, the report shows that these budget flows do not in themselves present an answer to the question of how to design taxes and charges. This requires assessing the marginal costs generated by different types of transport.

Road vehicles have for decades become increasingly fuel-efficient, and the vehicle fleet has become increasingly electrified in recent years. In the long term, EVs are expected to replace all petrol and diesel-powered vehicles, thereby gradually eroding this tax base. A question often raised in the political debate concerns the fiscal consequences of the climate transition, since the fuel tax base will shrink. The report shows that the electrification of road transport leads to lower revenues from fuel taxation, but that the lion's share of this process has already taken place and that the remaining fiscal effect appears to be limited in relation to public finances as a whole. The report thus concludes that the loss of fuel tax revenue, in itself, does not constitute a strong argument for maintaining or introducing transport taxes for purely fiscal reasons.

A substantial part of the report involves a review of individual taxes and fees. Here, the authors discuss cross-transport-mode tax legislation, VAT on passenger transport and VAT treatment of international passenger transport and car purchases by firms. The report argues that the VAT system should be made more uniform and less distortive. With regard to the commuting tax deduction, however, the current system is seen as working as a whole, since work trips can be seen as a cost for earning income.

Fuel taxes are key for regulating road traffic, but the report also highlights their limitations. They represent a relatively blunt instrument for dealing with external effects mainly arising in urban areas, such as congestion, air pollution and noise. At the same time, they are very important for the internalization of the costs of carbon dioxide emissions, and the price of these emissions is calculated based on the notion that Sweden will achieve its long-term climate goals. This means that if Sweden is to be able to achieve its climate goals, the price of fossil fuels

cannot remain at current levels. The new European emissions trading system, EU ETS II, will also affect the pricing by including emissions from road transport.

We propose a reduced vehicle tax for the existing stock as a compensation instrument for increased fuel taxes. This compensates motorists without making it cheaper to drive. However, we propose that the *malus* – the increased vehicle tax for new cars in the first three years – be retained to contribute to a transition of the vehicle fleet.

The report also discusses the relationship between petrol and diesel taxes. The fact that diesel exhibits a higher energy content and gives rise to higher carbon dioxide emissions per liter makes it reasonable to question the current structure, where the diesel tax per liter is lower than the petrol tax, at the same time as diesel cars are charged with a special surcharge in the vehicle tax. The assessment in the report is that fuel tax rates should be proportionate to energy content and carbon dioxide emissions. Against this background, a reform is being discussed in which the diesel tax is to be raised at a relatively higher level than the petrol tax, while the diesel surcharge in the vehicle tax is simultaneously abolished. The abolition of the higher vehicle tax for diesel cars is particularly important as large amounts of biofuels will be needed to achieve the climate goals, while diesel cars – but not petrol cars – can handle a high blend of biofuels.

The introduction of congestion charges in Stockholm and Gothenburg in the 2000s was successful and has resulted in better accessibility. This, however, does not mean that an increased or expanded congestion charge is automatically to be recommended. The congestion charge should be set so that an additional road user pays for the extended travel time he or she causes other road users – no more, no less. A congestion charge set too high reduces the improved accessibility that was initially the purpose of the tax. We conclude that we currently lack data for calculating the optimal congestion charge and that the methods need further development. Until this is the case, policymakers should exercise caution with regard to congestion tax increases.

We emphasize that administrative costs are particularly important when it comes to the issue of road traffic taxes and charges, since a large number of vehicles must be identified and controlled. The administrative costs of the congestion charge have decreased but still amount to 4 percent of tax revenues in Stockholm and 11 percent in Gothenburg,

which is significantly higher compared to essentially all other taxes. Proposals for more comprehensive road charges, especially a kilometers-travelled tax for light vehicles, must thus be weighed against the administrative costs, which tend to be high while also heavily influenced by scale and technical design.

Parking charges represent an important part of urban traffic policy. We propose that the system of subsidized residential parking be abolished. Instead, long-term tickets could be provided, as in public transport, and made available to everyone, not just residents. The regulatory framework should be tightened so that municipal parking charges cannot be higher than what is justified by scarcity. At the same time, we argue for higher parking fees along streets in central locations, where scarcity is the greatest and where the price has the greatest potential to increase accessibility for visitors while reducing traffic related to searching for parking.

Heavy vehicles give rise to greater external costs in the form of road wear and road safety risks compared to light traffic. This means that there are strong reasons for using road charges for heavy traffic in particular. Hence, the report advocates a distance-based Eurovignette charge that better covers the marginal costs of heavy traffic.

The substantial fixed costs and local capacity constraints associated with railways make pricing this mode of transport particularly complex. The report does not come to the conclusion that the railways should generally bear their full costs, but rather that track charges should be used to a greater extent where they may contribute to better capacity utilization, especially on routes and at times when capacity constraints and scarcity are great. This creates incentives to, for example, run longer trains and reduce the number of trains with few passengers. Higher and more differentiated track charges may thus be justified, but primarily as a way to better reflect marginal costs and manage congestion, not as a general requirement for full cost recovery.

With regard to shipping, we propose a shift to marginal cost pricing. The charges should to a greater extent reflect the costs generated by port calls and traffic, and the charge structure should be clear in terms of its link to external costs and marginal resource utilization. Such a shift aims to both make the governance more efficient and to reduce distortions compared to other modes of transport.

When it comes to aviation, we note that governance and pricing are

largely shaped by international and EU-related frameworks and that national freedom of action is thus limited. The self-financing principle is currently applied in aviation – meaning that the sector itself pays for the costs of airports and air traffic control – which we believe works well. We do not advocate for reintroducing the air passenger tax.

Overall, the report argues that transport sector taxes and charges should to a greater extent be designed based on the costs generated by different modes of transport, rather than being based on the goal that individual modes of transport should bear their entire average costs or contribute significantly to the treasury. Our reform proposals give the marginal cost principle a prominent role, while also taking into account practical limitations, administrative costs, EU regulations and uncertainty in the empirical data. The reform proposals should thus be seen as steps toward a more consistent and economically motivated pricing of transport, not as an expression of a single, simple principle that can be applied in all cases without further ado.

The reform proposals are:

- › Increase the VAT on passenger transport to 25 percent.
- › Work toward an EU agreement applying VAT to international passenger transport.
- › Allow a total VAT deduction on car purchases made by firms.
- › Increase the diesel tax in relation to the petrol tax so that the fuels are taxed equally in relation to their energy content.
- › Abolish the division of fuel taxes into carbon dioxide and energy taxes while replacing these with a more uniform structure.
- › Increase fuel taxes, which include EU ETS II, instead of the bio-fuel blending obligation so that they better cover the social costs of road traffic.
- › Lower the vehicle tax to compensate for the higher fuel taxes but retain the malus on new cars.
- › Abolish the diesel surcharge in the vehicle tax.
- › Design the congestion charge more accurately by using better methods.
- › Introduce a distance-based Eurovignette fee for heavy traffic corresponding to its marginal social cost.
- › Abolish residential parking.

- › Strengthen legislation so that parking fees cannot be higher than what is justified by scarcity.
- › Increase on-street parking fees in central locations and reduce them in locations where there is no shortage of space.
- › Abolish the advantageous fringe benefit taxation of environmentally friendly cars.
- › Tax older company cars in relation to the true market value.
- › Commission an inquiry into the purpose and level of the motor insurance tax.
- › Increase railway track charges and differentiate these to a greater extent, taking into account both congestion and wear and tear on the track.
- › Move toward more marginal cost pricing in shipping.

About the authors

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