

Position Paper

Brussels, 1 July 2020

Europe's economic recovery after Covid-19: help finance it by applying user-pays and polluter-pays principles in transport

Europe's economic recovery after Covid-19: help finance it by applying user-pays and polluter-pays principles in transport

Summary

Since March 2020, the EU and its member states have committed more than €3trn to support their economies against the Covid-19 pandemic's immediate economic fallout. Further public money will be spent for the post-crisis recovery. How to finance all that? This paper suggests one important tool: apply user-pays and polluter-pays principles in transport. Concrete measures include distance-based road charging, kerosene taxes and shipping-fuel taxes.

Tapping into this revenue potential, estimated at well over €300bn per year, would provide much-needed financing. It would also give clean and low-carbon transport like rail a fair chance to compete with more polluting modes, thereby supporting the long-awaited modal shift, in line with the European Green Deal's ambitions. Among citizens, businesses and academia there is strong support for a green recovery. Delivering it, also in transport, must be policymakers' main target.

1. Introduction

The **Covid-19** pandemic since March 2020 has been causing major damage to Europe's economy. To mitigate it, the EU and its member states have committed more than €3trn to support their economies against the pandemic's immediate economic fallout. Still more public money will be spent to stimulate the post-crisis recovery.

But what kind of recovery? Policymakers including the [European Parliament](#), [MEPs together with ministers plus organisations from business and civil society](#), [environment ministers of 17 EU member states](#), European Commission President [Ursula von der Leyen](#) and Executive Vice-President [Frans Timmermans](#), as well as [NGOs](#), the [International Energy Agency \(IEA\)](#), [businesses globally](#) and e.g. specifically [French](#) and [German](#) ones or specifically [banking and insurance](#), [influential financial journals](#), [leading economists](#) and indeed citizens¹ – they have all called for a **green recovery**, instead of reviving the old, unsustainable economy that has done so much damage to the climate, biodiversity and human health. Covid-19 has shown that governments must better plan for the worst. They must heed expert warnings about the need to be prepared, even if the threat seems remote. Today, we have neither the time nor the resources to address the Covid-19 and climate crises one after the other, so the recovery stimulus must address both at once.

How to finance the recovery? As part of the huge efforts required overall (see section 2), this paper suggests one particular tool that so far has often been overlooked: more widely **apply user-pays and polluter-pays principles in transport**, with suitable taxes and charges on infrastructure wear and tear and, respectively, on externalities like accidents, air pollution, climate change, noise and congestion. Tapping into this potential, estimated at **well over €300bn per year for EU27** (see section 3), would raise much-needed government revenue. It would also give clean and low-carbon transport like rail a fair chance to compete with more polluting modes, thereby supporting the long-awaited modal shift.

Proper charging in transport is not a new idea. The European Commission proposed it in its **2011 Transport White Paper**, initiative 39 on "Smart pricing and taxation":

*"Proceed to the **full and mandatory internalisation of external costs** (including noise, local pollution and congestion on top of the **mandatory recovery of wear and tear costs**) for road and rail transport. Internalise costs for local pollution and noise in ports and airports, as well as for air pollution at sea, and examine mandatory application of internalisation charges on all inland waterways on EU territory. Develop market-based measures to further reduce GHG emissions."*

According to the White Paper, this was meant to be "Phase II, 2016-20". Today, applying such measures is overdue. This paper makes **concrete proposals** in section 4, such as distance-based road charging, kerosene taxes, shipping-fuel taxes and robust carbon pricing in general.

¹ By mid-May, 1.2 million Europeans had [joined a petition](#) calling for a green recovery fund to rebuild Europe's economies, with the EU to launch "the biggest green investment plan the world has ever seen". Moreover, calling for a "European Pact for Climate and Jobs" for the recovery, ordinary European citizens [joined forces](#) with around 700 climate scientists, think tankers, NGOs, trade unionists, business representatives, artists, former heads of state and respectively EU and UN officials, political party leaders, MEPs, local and regional elected officials and others. Similar initiatives have been taken in EU member states, e.g. [in France](#).

For over 90% of *European* citizens surveyed just *before Covid-19*, protecting the environment and climate is important generally, according to [Eurobarometer results](#) published in 3 March 2020. And according to results from a *German* survey regarding the *post-crisis recovery*, [published by NABU](#) on 5 May 2020, 84% of respondents said that, in response to the virus-related crisis, Germany should invest in measures that protect the environment and the climate and slow down climate change. 86% supported economic stimulus especially for climate- and environment-friendly companies.

2. Covid-19 has substantial implications for public budgets

The Covid-19 pandemic's implications for public budgets in Europe are substantial, both in terms of necessary support for people and businesses and of government income lost.

On the **spending side**, already by 9 April "the aggregate amount of Member States' discretionary fiscal measures amounts to 3% of EU GDP" and business liquidity support (e.g. public guarantee schemes and deferred tax payments) was "estimated at 16% of EU GDP", according to a [Eurogroup statement](#). By late April, a total of €3.4trn (€3400bn), i.e. about 25% of EU27 GDP in 2018, had been mobilised by the EU and members states, according to a [press report](#) and a [direct statement](#) by the European Commission. That includes EU initiatives worth €540bn, notably the new short-time work scheme SURE, business credit guarantees by the EIB and ESM credit lines to member states – all [endorsed](#) by member states on 23 April. It also includes numerous initiatives by individual member states (many of which listed [here](#)). By early May, national state aid schemes worth €1.9trn were [reported](#) as approved by the European Commission. On top of the previously agreed €540bn, a multiannual recovery plan for the EU was [proposed](#) by the European Commission on 27 May, with a "Next Generation EU" temporary reinforcement of the EU budget by €750bn as an EU crisis response, especially to support urgent investment for a green and digital transition.

Apart from extra spending, public budgets are suffering on the **income side**, from reduced tax revenue due to a crisis-reduced tax base: lower profits, wages and consumption. In [Germany, for example](#), while loan guarantees over €800bn and other crisis-related support (e.g. short-time schemes) of about €450bn have been announced, 2020 tax revenue is now forecast about €80bn or 10% lower than in 2019 and [€100bn below last year's forecast](#). Social-security revenues are also suffering, as is income from public services, especially at local level (e.g. public transport, museums, swimming pools).

Substantial extra spending is thus accompanied by a significant loss of tax revenue. Where to find new revenues for public budgets? Transport could be a revenue source, with better application of user-pays and polluter-pays principles.

3. Transport cost internalisation study suggests higher charges

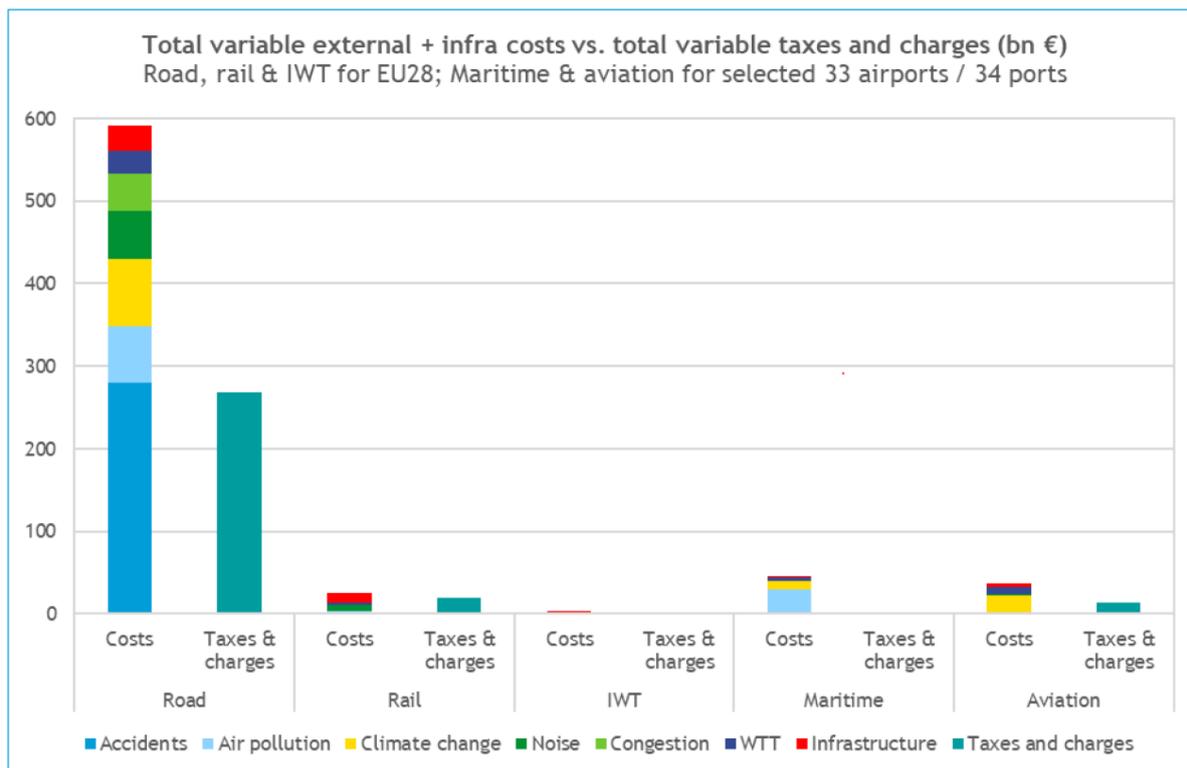
Operations subsidies of well over €300bn per year are currently enjoyed by EU transport, especially road transport, aviation and shipping – as this section explains.

A [study](#) on "Sustainable Transport Infrastructure Charging and Internalisation of Transport Externalities" was published by the European Commission in June 2019. For each transport mode, it analyses to what extent the **principles of user-pays and polluter-pays** are implemented across the EU.

To measure how well a transport mode complies with these principles, one should **look at variable or 'marginal' cost**. That is what economists say. And that is what the European Parliament said in its [Resolution on low-emission mobility](#) of 14 December 2017, item 18: "Each transport mode should cover its marginal costs, both for infrastructure wear and tear ('user pays') and for external costs, e.g. for air pollution and noise pollution ('polluter pays') ... Applying those two principles EU-wide will help address the current charging discrepancy between transport modes." While public investment in building transport infrastructure can often be justified on efficiency grounds, permanent subsidies for transport operations cannot.²

² By contrast, *time-limited* schemes can sometimes be justified, e.g. when compensating rail "for the demonstrably unpaid environmental, accident and infrastructure costs of competing transport modes in so far as these costs exceed the equivalent costs of rail" (see art. 34(1) of Directive 2012/34/EU on the Single European Railway Area) – so exactly the situation of unpaid transport externalities that this paper argues should be ended.

The study's authors confirm this by highlighting **Marginal Social Cost Pricing (MSCP)** as first-best approach to internalisation, one "in line with the ambitions of the Commission to realise full internalisation of external costs, including wear and tear costs".³ However, they have found "little evidence of using marginal social cost pricing" in practice, where "variable external and infrastructure costs are generally not covered by variable taxes/ charges at the EU28 level, indicating that marginal social cost pricing in a simplified way is not achieved". This **scope for better applying user-pays and polluter-pays principles** is quantified in the study:



The following table shows the underlying sub-totals.⁴ For each transport mode, consider the variable social costs (infrastructure wear and tear, plus externalities suffered by society, e.g. air pollution) versus the variable taxes and charges it pays back to society, and their difference:

| Variable social costs vs. variable taxes and charges, for EU28 – in bn € per year (2016) | | | | | | |
|--|------|------|----------------------------|----------------------|----------|------------|
| | Road | Rail | Inland ship- ping (IWT) | Maritime shipping | Aviation | Total |
| Social costs | 592 | 25 | 2.8 | 44 | 37 | 700 |
| Taxes & charges paid | 269 | 20 | 0.4 | 2 | 14 | 305 |
| Difference (= subsidy) | 323 | 5 | 2.4 | 42 | 24 | 396 |

³ See the study's "Main findings" part, p. 15, 63-64, 83. Related discussion is provided in the annex of a [CER position paper](#).

⁴ The chart is taken from the study's "State of play of Internalisation" part, p. 52. The underlying sub-totals in the table can be found in an Excel [annex](#) (file "Annex D Final_total_avg_Cross Modal Comparisons.xlsx", sheet "Variable_ext_infra_CC", area A3:K18).

Transport thus receives an estimated implicit **operations subsidy** of €396bn per year for EU28 incl. the UK or **well over €300bn per year for EU27**.⁵ Governments should **end this subsidy** by properly applying user-pays and polluter-pays principles in transport.

As explained in detail in a [CER position paper](#) (with a summary factsheet), the study shows that **European railways** comply with these principles better than any other motorised transport mode, both for passengers and freight, as rail excels in covering its variable infrastructure costs and other externalities, with smaller cost-coverage gaps in € per passenger-km or ton-km than other modes. The above chart and table show a related result of the study, but for passengers and freight combined.

One reason for rail's good cost coverage is a requirement in EU law⁶: for each train run, the operator must pay at least the 'direct' (i.e. variable or 'marginal') cost caused in the form of infrastructure wear and tear. A similar requirement should be introduced for road transport (see section 4).

The study also shows that rail's externalities are small in comparison with other modes, both for passengers and freight, suggesting a big role for rail in helping to reduce transport externalities. A **shift to rail** would benefit the environment and citizens in Europe.

4. Implications for transport policy: recommended measures

CER's general recommendation is to apply user-pays and polluter-pays principles in transport: marginal social cost pricing both for infrastructure wear and tear and for externalities like accidents, air pollution, climate change, noise and congestion.

Before the Commission proposed the European Green Deal in December 2019, CER made a number of [recommendations](#), including one to implement **robust carbon pricing for transport across the EU**, at least at 180 € per ton CO2 equivalent. Low oil prices like today provide an excellent opportunity to better align carbon pricing with transport's climate externalities. Carbon pricing should be a key ingredient of the European Green Deal so that a modal shift to rail can materialise.

Measures for specific transport modes should include the following:

On **roads**, distance-based charging (tolling) should be applied across Europe (to all vehicles, and not just to trucks on around 20% of major roads⁷) so that 'direct' or 'marginal' costs are covered. Tolling could be designed in a way that also "improves the internalisation of the (marginal) external air pollution, noise, climate change and congestion costs", as pointed out in the study referred to in section 3.⁸ In Germany, long reluctant to introduce comprehensive tolling, government advisers now [recommend](#) it even for cars.

A meaningful revision of the so-called Eurovignette Directive on road charging in the EU, as proposed by the European Commission in May 2017, would be a major step. The European Parliament agreed a position well in line with user-pays and polluter-pays principles in October 2018. Member states still need to agree theirs in the Council of the EU. CER has formulated [clear expectations](#) for this. Member states should in any case quickly ensure proper road charging on their territory, for fair competition with rail.

⁵ The study gives such numbers for EU28 only, without a split by member states. Given the UK's 2018 GDP share of nearly 20% of EU28, one might estimate the total transport subsidy for EU27 at roughly €320bn per year. For maritime shipping and aviation, the study's figures are likely to understate the true figures, as the study only considers a selection of 33 major airports and 34 major ports in Europe, neglecting smaller sites.

⁶ Art. 31(3) of Directive 2012/34/EU on the Single European Railway Area

⁷ Percentage reported by the European Commission, in its questionnaire for the 2016 public consultation for the Eurovignette review, available [here](#) or specifically [here](#), see section B.1.2.

⁸ See the study's "[Main findings](#)", p. 84.

In **aviation**, proper charging must account for its climate externalities. A kerosene tax could help achieve that, via bi- or multilateral agreements already today, or once the EU's Energy Taxation Directive has been revised to allow it generally.⁹ Also end other subsidies for flying, such as EU ETS free allowances and the exemption from value-added tax (VAT) on cross-border flights. As a transitional measure, flight ticket taxes can be implemented easily and unilaterally by each member state.¹⁰

For **maritime shipping**, like for aviation, existing exemptions from energy tax and the EU ETS must end. Charging should also address air pollution. Similar rules should apply to **inland shipping** (inland waterways transport, IWT).

In line with user-pays and polluter-pays principles, **railways** are also willing to carry their share of external costs the sector is responsible for. That could affect existing tax reductions for rail diesel. As CER [stated](#) with regard to the European Green Deal, such "reductions for rail could be removed *if, when and to the extent that they are removed for all other motorised transport modes*". That would include diesel tax reductions for road and shipping and kerosene tax exemptions for aviation.

5. Conclusions

Europe is suffering massively from Covid-19. The crisis has already triggered public spending commitments of more than €3trn. Still more public money will be spent to stimulate the post-crisis recovery. This paper argues that, in order to help finance all that, governments should more widely **apply user-pays and polluter-pays principles in EU transport**, i.e. apply marginal social cost pricing, as section 3 explains. Section 4 makes concrete proposals such as distance-based road charging, kerosene taxes, shipping-fuel taxes and robust carbon pricing in general.

Such pricing could help raise extra **revenue of well over €300bn** – not just once, but **per year** (although perhaps decreasing over time as transport becomes less polluting). Hence a substantial contribution to mitigating the crisis-related burden on public budgets.

Such pricing would also level the playing field for transport modes, thus making clean and low-carbon transport like rail more competitive and **greening transport** overall. So it could be a key lever to Europe's green recovery – the idea that is attracting so much support.

Infrastructure investment represents fixed costs, not marginal costs, and as such can be justified on efficiency grounds (see section 3). Therefore, marginal social cost pricing in transport is fully compatible with **public funding of clean-mobility infrastructure**. The former even could, and should, contribute to the latter – a virtuous circle where charges on the operations of more polluting modes would help finance infrastructure for less polluting modes, **supporting the modal shift** to clean mobility. This would be in line with the European Green Deal and also the purpose of the "Next Generation EU" funds: boosting the green and digital transition for Europe's future prosperity and resilience.

Rail system development, with **improved corridors across Europe**, could help the continent's supply chains to become more diversified and resilient against future crises. 'Re-shoring' critical supplies into the EU's internal market would entail the added benefit of

⁹ Such bilateral (or multilateral) agreements are allowed by the EU's Energy Taxation Directive (2003/96/EC), art. 14(1)b with 14(2). They have been [promoted](#) by Transport & Environment, with a recent [reiteration](#).

¹⁰ Aviation's extra tax potential is significant, as a [dedicated Commission study](#) showed in 2019. EU-wide impacts are summarised in table 48 (from p. 113). For example, levying VAT of 19% on all tickets would increase tax revenue from currently €10bn to €39.9bn. Just introducing a kerosene tax of €330 per 1000 litres (normally the minimum excise duty according to the current Energy Taxation Directive) would increase it to (at least) €26.9bn. – These numbers are bigger than aviation's subsidy in the table above, partly because the latter does not look at all EU airports, but just 33 major ones.

Position Paper

Europe's economic recovery after Covid-19: help finance it by applying user-pays and polluter-pays principles in transport



more jobs and growth in Europe. Rail corridors could also support cross-border passenger travel by rail, as flying, especially frequent short-haul flying, is hardly sustainable. Deploying **ERTMS**, the new European rail signalling system, is another priority.

Europe's economic recovery must be green, with sustainable transport like rail as a key part. It is a golden opportunity for the EU and its member states to redress the situation in transport. They should use it – so that in 2021, the "**European Year of Rail**", EU transport can start a new era.

* * *

About CER

The Community of European Railway and Infrastructure Companies (CER) brings together railway undertakings, their national associations as well as infrastructure managers and vehicle leasing companies. The membership is made up of long-established bodies, new entrants and both private and public enterprises, representing 71% of the rail network length, 76% of the rail freight business and about 92% of rail passenger operations in EU, EFTA and EU accession countries. CER represents the interests of its members towards EU policy makers and transport stakeholders, advocating rail as the backbone of a competitive and sustainable transport system in Europe. For more information, visit www.cer.be or follow [@CER_railways](https://twitter.com/CER_railways) on Twitter.

This CER document is for public information.

Although every effort is made to ensure the accuracy of the information in this document, CER cannot be held responsible for any information from external sources, technical inaccuracies, typographical errors or other errors herein. Information and links may have changed without notice.