Cross-border impact assessment 2017
Dossier 1: The potential effects of the German car toll on border regions

The Institute for Transnational and Euregional cross border cooperation and Mobility / ITEM is the pivot of research, counselling, knowledge exchange and training activities with regard to cross-border mobility and cooperation.
Cross-border Impact Assessment 2017

Dossier 1: The potential effects of the German car toll on border regions

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The Institute for Transnational and Euregional cross-border cooperation and Mobility / ITEM is the pivot of scientific research, counselling, knowledge exchange, and training activities with regards to cross-border cooperation and mobility.

ITEM is an initiative of Maastricht University (UM), the Dutch Centre of Expertise on Demographic Changes (NEIMED), Zuyd University of Applied Sciences, the City of Maastricht, the Euregio Meuse-Rhine (EMR), and the Dutch Province of Limburg.
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1. The potential effects of the German car toll on border regions

1. Introduction

As part of the German government’s coalition agreement (until September 2017), there was talk of a car toll in conformity with European law for owners of vehicles not registered in Germany who wish to use the German motorway network, in order to finance the additional expenses, without charging German-registered vehicles more than they currently pay.¹ The announcement of a tax exclusively for foreign-registered vehicle owners sparked a lively debate. Although the European Commission withdrew its concerns by ending infringement proceedings, significant doubts remain concerning the compatibility with EU law. There is also disagreement about whether the infrastructural charge (hereinafter: toll) can actually generate considerable revenue for German infrastructure. In the background to these fundamental points of criticism, this dossier deals with the main potential consequences of the toll on border regions. The potential effects of the German toll on cross-border activity will be studied, taking the Euregio Meuse-Rhine (hereinafter: EMR) as an example. Border regions are places where the European ideal can be experienced and the benefits of Europe can be felt in day-to-day life. There is so much personal and economic communication that travels across borders. Cross-border interdependence and interaction between the countries have become indispensable for the economy and cohesion. In regions like these, a toll can hinder progress in integration in the Euregio and in Europe as a whole. Will this dissuade Dutch and Belgian people from coming to Germany for shopping or holidays? Will businesses on the German side of the border lose revenue from customers from neighbouring countries? Will investment in the frontier region suffer? How will cross-border commuters and SMEs in Belgium and the Netherlands cope with the increased costs? Will Belgian and Dutch drivers switch from using motorways to secondary roads? What does the toll mean for integration in the Euregio?

2. The German toll: Timeline and concept

2.1 Timeline

One of the core issues for the CSU during the campaign for the German federal election in 2013 was the introduction of an infrastructural charge for foreign-registered vehicles driving on German motorways. The German government agreed to introduce a toll in the coalition agreement concluded between the CDU/CSU and SPD in November 2013 (see above). The bill to introduce an infrastructural charge was passed by the Bundestag in March 2015 despite the doubts surrounding compatibility with EU law and the revenue calculations. In May 2015, the national legislative procedure was successfully concluded following approval by the Bundesrat.

However, in September 2015, the European Commission launched infringement proceedings in view of the significant concerns by the EU with regard to potential discrimination created by the toll. At the time, the Commission argued the following:

The German legislation grants vehicles registered in Germany the benefit of a 1:1 deduction of the road charge from their annual vehicle tax bill. This would lead to a ‘de facto’ exemption from the charge exclusively for the cars registered in Germany. [...] Introducing a road charge for foreigners only, in law or in fact, would be discriminatory and run against the EU treaties.

In December 2016, German Transport Minister Alexander Dobrindt (CSU) and EU Commissioner Violeta Bulc reached an agreement, whereby changes were made to the scheme in order to ensure compliance with EU law. In essence, the changes involved increasing the scale for the short-term toll to five grades and tariffs rather than three, and to increase the tax relief for Euro 6 vehicles. The changes were approved by the Bundestag in January 2017, followed by the Bundesrat in March 2017. Nevertheless, the latter expressed its criticism in a statement:

The infrastructural charge creates barriers between Germany and its European neighbours. The areas that will suffer most are border regions, where multi-faceted commercial and day-to-day relations bring the European ideal to life. Even with the changes made in the latest bill, the introduction of an infrastructural charge is and remains a strain on cross-border cooperation and jeopardizes the success achieved in European integration thus far.

After the appeal by the federal states to the mediation committee between the Bundestag and Bundesrat which were opposed to the toll failed, the act became law and entered into force. In May 2017, the European Commission dropped the infringement proceedings against Germany, as Germany had overcome the concerns of discrimination against foreign nationals by making changes to the legislation. As it now stands (summer 2017), the toll is expected to be introduced in 2019 at the earliest.

2.2 Concept

Firstly, the car toll will be paid by owners of German-registered vehicles as well as foreign ones. Yet, car owners in Germany are reimbursed through their motor vehicle tax to the same amount that they pay for the toll. Owners of Euro 6 vehicles will actually profit, as the tax relief will be higher than the toll charge which they have to pay. Owners of German-registered vehicles do already have to pay an infrastructural charge, thus the toll applies to German citizens not just on the motorways. Therefore, it should be ensured that all owners of German-registered vehicles are actually subject to the tax, since motor vehicle tax is reduced at the same time for all owners of German-registered vehicles. German-registered vehicle owners should also be prevented from avoiding the toll by using secondary roads. Owners of vehicles that were not registered in Germany are only liable to pay the toll if they use the federal motorways. This is to ensure that the local border traffic with neighbouring countries is not affected.

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3 Source and further information: Bill to introduce an infrastructural charge for the use of federal highways, in conjunction with the first law amending the Infrastrukturabgabengesetz (Infrastructural Charges Act).
The cost of the toll for one year is calculated based on the size of the vehicle engine and its environmental characteristics. For each 100 cc of engine capacity, the following rates apply. As the size of the engine increases, so too does the cost of the toll for one year, up to a maximum of €130.

**Fig. 1: Calculation of the toll fee for one year**

<table>
<thead>
<tr>
<th>Emissions class</th>
<th>Fee per 100 cc of engine capacity (in euros)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Petrol engine</td>
</tr>
<tr>
<td>Euro 3 or below</td>
<td>6.50</td>
</tr>
<tr>
<td>Euro 4 or 5</td>
<td>2.00</td>
</tr>
<tr>
<td>Euro 6</td>
<td>1.80</td>
</tr>
</tbody>
</table>

Owners of vehicles not registered in Germany can opt to pay the toll for ten days, two months, or one year. The cost for the annual toll is calculated in the same way as for domestic drivers. The cost for ten days or two months depends on the amount calculated on an annual basis.

**Fig. 2: Calculation of the toll fee for non-German registered vehicles**

<table>
<thead>
<tr>
<th>Annual (cost in euros)</th>
<th>Ten-day toll (cost in euros)</th>
<th>Two-month toll (cost in euros)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 20</td>
<td>2.50</td>
<td>7</td>
</tr>
<tr>
<td>20 to 39</td>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td>40 to 69</td>
<td>8</td>
<td>18</td>
</tr>
<tr>
<td>70 to 99</td>
<td>14</td>
<td>30</td>
</tr>
<tr>
<td>100 to 129</td>
<td>20</td>
<td>40</td>
</tr>
<tr>
<td>More than 130</td>
<td>25</td>
<td>50</td>
</tr>
</tbody>
</table>
3. Objectives and methods

This cross-border impact assessment aims to provide an ex ante contribution to determine the possible consequences of proposed legislation on border regions. In particular, the potential effects of the toll passed into German law will be determined. The parliamentary legislative process has been concluded and the toll is not expected to be introduced until 2019. Therefore, the effects on the border regions cannot actually be measured at this point, so only an ex ante assessment of the potential consequences can be made. This impact assessment intends to provide information about the consequences – positive or negative – which the German toll is expected to have on a frontier region, thereby contributing to the current political debate regarding the toll. It especially aims to provide citizens and policymakers in the German-Netherlands border regions with a vital assessment to stimulate further political debate and possibly prepare them for the potential consequences (such as shifts in traffic patterns). Moreover, it can support the European Commission and, in particular, the governments of the Netherlands and Belgium in their future considerations regarding the introduction of their own toll, by spelling out how the toll could affect mobility in a frontier region as indicated by the results of a survey among drivers. In addition, the study offers an overview of expert opinion in Germany, made accessible for non-German-speaking areas through the English and Dutch translations.

The cross-border impact assessment investigates the potential effects of the German car toll on border regions such as the Euregio Meuse-Rhine, which encompasses the south of the Province of Limburg (Netherlands), the Province of Limburg (Belgium), the Province of Liège (Belgium), the Region of Aachen (Germany), and the German-speaking Community of Belgium. Almost 4 million people currently live in the EMR.

Methodically, this is done both quantitatively and qualitatively. Firstly, an online survey among car drivers from the Belgian and Dutch parts of the EMR was carried out. 422 people responded to the survey between 10 June and 10 July 2017. The survey was distributed by us at the Institute for Transnational and Euregional cross border cooperation and mobility / ITEM and our partner institutes (including the EMR Secretariat, the Charlemagne frontier region, border information points, and politicians in the region). When interpreting the results, one thing to be aware of is that the survey reached respondents whose everyday lives involve cross-border interaction and who presumably have a positive attitude towards the European ideal. It is also worth noting that a disproportionately high number of respondents came from the Netherlands (81%), with a further 12% coming from the German-speaking Community of Belgium. The Province of Liège (1%) and Belgian Limburg (3%) were therefore highly under-represented. One reason for the stark differences in the respondents’ origin could be the physical geographical proximity to Germany, as people living in the Dutch Province of Limburg and the German-speaking Community of Belgium are more likely to commute to Germany owing to the closeness of the border. Furthermore, brief written interviews were conducted with experts representing the sectors and regions affected: Aachen Chamber of

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5 The questions asked in the survey can be found in annex. The survey was available in German, French, and Dutch between 10 June and 10 July 2017.
4. Research themes, principles, benchmarks, and indicators

The effect of the toll on border regions can be divided into the following categories:

1. Consequences which have an immediate effect on citizens, particularly with regard to the principle of non-discrimination as part of their citizenship of the Union;
2. Consequences on the sustainable, economic development of the Euregio;
3. Consequences on coherence in the Euregio and cross-border cooperation between citizens, associations, businesses, and administrations.

Fig. 3: Research themes, principles, benchmarks, and indicators

<table>
<thead>
<tr>
<th>Theme</th>
<th>Principles</th>
<th>Benchmarks</th>
<th>Indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td>European integration</td>
<td>Article 18 of the TFEU: Non-discrimination Any type of discrimination on the grounds of nationality is prohibited. A national toll must apply equally to nationals and foreign nationals. White Paper on Transport (EU Commission, 2011): The purpose is to create a Single European Transport Area.</td>
<td>Target situation: Uniform EU-wide toll system National toll systems apply equally to nationals and foreign nationals. A toll designed to help maintain national infrastructure is not paid solely by foreign nationals.</td>
<td>Will the introduction of the toll make it easier to create common EU infrastructural charges in the future? Are the introduction of the toll and the motor vehicle tax relief linked in such a way that they constitute a coherent measure? Are car drivers in neighbouring countries discriminated against on the grounds of their nationality? Is Germany really seeking to generate revenue to improve infrastructure by charging the toll to drivers of cars not registered in the country?</td>
</tr>
</tbody>
</table>

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6 An English translation of the initial questions can be found in annex. The questions were slightly modified in line with the sector concerned.
<table>
<thead>
<tr>
<th>Theme</th>
<th>Principles</th>
<th>Benchmarks</th>
<th>Indicators</th>
</tr>
</thead>
</table>
| Sustainable, economic development of the Euregio                      | **Preamble of the TEU:**
Decision by the Member States to continue the process of creating an ever-closer Union among the peoples of Europe. | Transport infrastructure forms part of the increasing economic interdependence in the frontier region. | What costs can those who commute across the border by car expect? What toll duration is chosen? |
|                                                                      | **Article 3(3) of the TEU:**
The Union shall establish an internal market. (...) It shall promote economic, social and territorial cohesion, and solidarity among Member States. | Residents of the frontier region can commute across the border by car as easily as nationals on the other side and take advantage of fundamental freedoms. | Increase in revenue in retail on the German side of the frontier region generated from Dutch and Belgian customers. |
|                                                                      | **EMR 2020:**
One of the core objectives of the Euregio Meuse-Rhine 2020 strategy for the future is to develop the economy in the Euregio. Sustainable development is a recurring theme in this strategy, one which is consistently taken into account in the different areas. | residents of the frontier region take advantage of the benefits enjoyed by nationals and go shopping on the other side of the border. The cross-border infrastructure facilitates sustainable, environmentally friendly mobility. | Increase in cross-border car traffic into Germany from the Netherlands and Belgium (EMR). Effects on commuter and SME mobility in the frontier region. Effect of the shift of traffic flows onto secondary roads on the environment and border communities. |
| Cohesion in the Euregio                                              | Functioning cross-border cooperation between citizens, associations, businesses, and administrations | A continuous decrease of the barrier effect that the border presents within the frontier region by building effective transport systems | Will introducing the German car toll strengthen the barrier effect on the cross-border interaction between people in the frontier region? Does the introduction of a national toll contradict the principle of unrestricted cross-border mobility within the Euregio? |
|                                                                      | **EMR 2020:**
One of the objectives of the EMR is to promote and develop cross-border mobility and infrastructure. | The transport infrastructure facilitates cross-border cooperation between citizens, associations, businesses, | |
5. European integration: breach of the principle of non-discrimination

The following section deals with the consequences that directly affect citizens. Does an additional national toll system run contrary to ever-closer European integration with the aim of introducing a uniform EU-wide toll system? Are owners of vehicles not registered in Germany put at a disadvantage when owners of vehicles registered in Germany enjoy vehicle tax relief at least to the same level as the toll? Is Germany seeking to generate revenue to improve infrastructure by only charging the toll to drivers of cars not registered in the country?

5.1 Uniform EU-wide toll vs. chain reaction of national toll systems

While German politicians have opted for a national toll, the EU Commission is seeking a uniform Europe-wide toll system. In May 2017, the Commission presented a legislative proposal for a uniform electronic toll collection. Although countries would continue to be free to choose whether to apply a toll or not, they would have to comply with EU regulations should they decide to introduce a toll. These regulations provide for a distance-based toll, calculated according to the number of kilometres travelled and the associated emissions of the vehicle. Therefore, those vehicles that use the infrastructure more intensively would pay more accordingly, in line with the ‘polluter pays’ principle. Moreover, the toll fee charged should be related to the amount of CO₂ emitted by the vehicle. Time-based toll systems, as currently seen in Austria, Slovenia, Slovakia, the Czech Republic, Hungary, Bulgaria, and Romania, and as planned in Germany, do not meet this requirement. These countries should therefore be afforded a transitional period until 2027 at the latest. The distance-based systems currently used in Ireland, the UK, France, Spain, Portugal, Poland, Croatia, Greece, and Italy may continue to be used within the regulations mentioned above.

The introduction of the planned time-based toll system in Germany is far removed from a uniform Europe-wide solution. In the compromise between Mr Dobrindt and Ms Bulc, Mr Dobrindt agreed to support a European toll system. Thus, in its justification of the amending law of the Infrastrukturabgabengesetz (Infrastructural Charges Act), the federal government stated that it sought ‘a common interoperable European toll system without national barriers’.

However, in the short term, there is the danger that the introduction of the toll in Germany will cause a chain reaction across Europe. The German toll is a reaction by the CSU to the toll in Austria. But they are not comparable in this respect, as the Austrian toll applies equally to nationals and foreign nationals. There is reason to fear that other countries will also introduce a toll. Proponents of the toll argue that if foreigners want to use our roads, then they need to pay for it. This is a problem

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inherent in the system which can be resolved with a uniform Europe-wide solution. Once the German toll comes into effect, there is also the danger that the Netherlands, for example, will follow suit. Then Belgium could also decide to introduce a toll. This kind of chain reaction could have considerable consequences, especially on border regions such as the EMR. This is why the introduction of this German toll brings significant risks, since it does not make it easier to create a uniform European solution, rather it could even jeopardize it. Considering the fundamental objectives of European integration, a uniform Europe-wide system as proposed by the Commission is preferable to national systems. The majority of survey respondents seem to be aware of this problem. Just 19% of them believe that a toll should be introduced in the Netherlands and Belgium. 44% of respondents think that a uniform EU-wide toll system should be introduced, whereas 37% are against this.

Fig. 4: Which of these statements do you agree with? (1)

5.2 Breach of European law

5.2.1 Non-discrimination

Article 18(1) of the Treaty on the Functioning of the European Union (TFEU) provides that any discrimination on grounds of nationality is prohibited. This prohibits both direct (open) discrimination on the grounds of nationality, as well as indirect (hidden) discrimination whereby nationals and foreign nationals are treated equally in principle, but in reality are discriminated on the grounds of characteristics closely related to nationality such as place of residence, language, and place of birth, which produces the effects of discrimination on the basis of nationality, since mostly foreigners are affected by these characteristics. Unequal treatment does not breach Article 18(1) of the TFEU if it can be justified by overriding general public interest and the purpose is in reasonable proportion to the severity of the discrimination. According to the wording ‘without prejudice to the other provisions’, Article 18 is a subsidiary provision and only applies if the special prohibitions of discrimination – such as the four fundamental freedoms – are not relevant. It is conceivable in this specific case that someone invokes one of the fundamental freedoms and the law is then measured on its compatibility with this. Generally speaking, the compatibility of the toll with the general principle of non-discrimination will first be tested, which concerns the private transport of persons not acting in the exercise of an economic activity.

5.2.2 Discussion concerning the toll breaching European law
The German toll regularly comes under criticism precisely on the claim that it breaches the general prohibition of discrimination. A glance at the objective set out in the coalition agreement shows where this conflict lies: Can a toll target foreign nationals alone and still comply with EU law (i.e. without breaching the principle of non-discrimination)? At least 63% of survey respondents felt discriminated against by the toll. The financial burden of the toll lies solely on road users whose vehicles are not registered in Germany and are not subject to German vehicle tax. Critics say that this means nationals and foreign nationals are not treated equally. Proponents, on the other hand, argue that the toll can be introduced and vehicle tax reduced in two separately regulated pieces of legislation which are independent of each other. A decisive factor in assessing the compatibility of the toll with EU law is whether only the Infrastrukturabgabengesetz (Infrastructural Charges Act) is considered or whether a change to vehicle tax is also included as a related measure.

Despite the amendments, the toll remains a controversial subject in the German Bundestag. The opposition – consisting of The Left and Alliance 90/The Greens – is strictly opposed to the proposal on the grounds that it discriminates against foreign nationals and breaches EU law. However, the SPD political party supports the plan as it is laid down in the coalition agreement, despite its continuing concerns. Only the CDU/CSU believes the matter of conformity with EU law has been resolved once and for all through the compromise with the Commission. At a European level, the Commission has now officially closed infringement proceedings against Germany (see above), while the European Parliament continues to consider the toll as a form of indirect discrimination on grounds of nationality. From a legal point of view, there are various opinions made by distinguished professors of law, which produce partially contradictory results.

### 5.2.3 Legal argument

One the one hand, Prof. Franz C. Mayer of the University of Bielefeld, Prof. Walter Obwexer of the University of Innsbruck, and an opinion released by the specialist department for Europe in the German Bundestag agree that the infrastructural charge and tax relief for German nationals are not consistent with EU law. Mayer even speaks of a fundamental breach of European law which, through politically endorsed discrimination of foreign nationals of other EU countries actively driven by new legislation rocks the underlying legal structure of the European Union as a legal community. The overall concept of the legislation is said to breach firstly the principle of non-discrimination under Article 18(1) of the TFEU and secondly, in certain cases, the prohibitions on restricting the fundamental freedoms.

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While the infrastructural charge and vehicle tax relief are not discriminatory on their own, they are linked with each other in such a way that they should for all intents and purposes be considered as a single unit, as they are directly related both in terms of content and time and as both measures are connected in the way that they are regulated and take effect and thus form an overall package. The coalition agreement expressly states a desire to combine the two measures, which cannot be denied in retrospect. As a result, the toll will in reality be paid only by owners of foreign-registered vehicles. So, it is tied to the place where the vehicle was registered, which is closely related to nationality by way of the owner’s place of residence. Consequently, owners of cars registered outside of Germany experience an indirect form of unfair treatment due to their nationality. Even the changes made as part of the compromise with the Commission would not change anything, because German car owners continue to receive tax relief. Even with direct discrimination aside, the toll still conflicts with the restriction it imposes on the fundamental freedoms. The state’s measures contradict these freedoms, potentially or directly hindering or making less attractive intra-Community trade and, in turn, the exercise of fundamental freedoms. This makes it less attractive for people living in the Netherlands and Belgium to work in Germany, and puts Dutch and Belgian companies at a disadvantage in terms of their freedom to move goods if they are forced to pay a toll when German companies are not. It is important to note, however, that these breaches of EU law may be justified on the grounds of an overriding general public interest. But all exceptions should be interpreted narrowly. In this case, there are no relevant overriding reasons that could serve the general interest in proportion to the severity of the action. In particular, the environmental protection pursued with the additional relief for Euro 6 vehicles registered in Germany is not sufficient to justify the less favourable treatment of owners of vehicles registered outside Germany.

On the other side of the coin, Dr Christian Hillgruber of the University of Bonn concludes that the regulations do comply with EU law, in an opinion issued on behalf of the German Federal Ministry for Transport and Digital Infrastructure (BMVI). Hillgruber argues that the German toll is consistent with the Eurovignette Directive, which allows appropriate relief for toll charges. In his opinion, the two measures should also be considered together, but they do not cause indirect discrimination because the owners of cars registered in Germany already contribute to the financing of transport infrastructure through vehicle tax, so nationals of other EU countries are not penalized more heavily as a result. Even if it were indirect discrimination, he argues that this can be justified under EU law on the basis of a necessity to compensate German nationals for the charges they pay compared to foreign nationals in financing German transport infrastructure as the overriding general interest.

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Critics of the toll, however, say that revenue from vehicle tax does not go towards transport infrastructure, so no comparable contribution is made towards financing transport infrastructure.

Finally, it can be stated that, by taking a coherent view of the charges under the Infrastrukturabgabengesetz (Infrastructural Charges Act) and the relief provided under vehicle tax law, the toll is open to legal challenges and there are serious doubts, at the very least, concerning its compatibility with EU law.

5.2.4 Proceedings before the European Court of Justice (ECJ)

It is expected that proceedings to challenge the car toll will be brought before the European Court of Justice in one way or another. Infringement proceedings could also be opened by another Member State as well as the Commission. Admittedly, this recourse is very rarely used by Member States, but in this case, Austria has already announced that it would be filing a complaint. Belgium, the Netherlands, and Denmark are considering doing the same. Furthermore, it is conceivable that a complaint could be submitted to a German court which has to deal with the infrastructural charge, as part of a preliminary ruling procedure. An owner of a vehicle registered outside Germany could bring action before a German court against the infrastructural charge or against a fine imposed for a failure to pay the toll. Only the ECJ can conduct a final binding assessment of compatibility with European law, so this remains to be seen. The current legal uncertainty could have a negative impact on border regions, especially in terms of potential investment decisions by companies as well as the issue of professional training in the neighbouring country.

The ECJ ruled on a similar case in as early as 1992. The EU Commission brought action against Germany before the Court of Justice in 1990 for lowering vehicle tax while introducing an HGV road usage charge at the same time. This meant that German HGV drivers were compensated for the charge. While the general principle of non-discrimination was not breached in this case, rather it concerned the specific provision in Article 76 of the EEC Treaty at the time, it can be concluded as a general principle that: tax relief to compensate for road usage charges is a form of indirect discrimination if only nationals of that country are compensated. The HGV toll was subsequently abandoned. 19

5.3 Arguments on revenue forecasts

Despite numerous protests from the border regions in the course of the legislative procedure, the German government has stuck to its plans. One of the BMVI’s main arguments is that the additional funds could be invested to improve infrastructure. Yet, the BMVI’s revenue calculations continue to cause controversy as well. The statement 20 assumes an annual revenue in the amount of 834 million euros from tolls collected from owners of foreign-registered vehicles, before the deduction of system costs in the amount of 211 million euros and the cost of tax relief for Euro 6 vehicles of 100 million euros, which gives a net income of 524 million euros. The revenue generated from owners of foreign-registered vehicles is calculated on the basis of the number of entries and internal journeys

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made by these cars, as well specifications in relation to emission class, engine capacity, and fuel type. The BMVI’s methods to determine the revenue have been criticized by various experts.

In February 2017, the German motoring association ADAC published a report by Ralf Ratzenberger, forecasting a loss of up to 71 million euros alone due to an incorrect basis for calculation in the first year at the current traffic level. Both the system costs as well as the cost of the tax relief were underestimated by the BMVI, according to Ratzenberger. After deducting vehicle tax relief, only 139 million euros remain, from which the annual system costs of 211 million euros must be deducted. Also considering the costs to introduce the system, at 380 million euros, this results in an annual loss of 147 million euros over a five-year period. One particular problem arises from the fact that Euro 6 vehicles registered in Germany will pay even less vehicle tax in future and the number of these vehicles will only increase. Thus, expenditure will grow and net income will fall. According to Ratzenberger’s calculations, the loss incurred from the toll will increase by a further 93 million euros between 2019 and 2023. The considerable differences in the results of the two studies are mainly due to the different bases used to calculate and forecast revenue from toll charges paid by owners of foreign-registered vehicles. Ratzenberger, for example, assumes that 7.8 million drivers of foreign-registered vehicles will cross the border (revenue: 276 million euros), unlike the BMVI, which assumes 19.2 million drivers of foreign-registered vehicles will pay the toll (revenue: 878 million euros). Ratzenberger’s figure seems plausible. A single vehicle often uses German roads several times in local border traffic especially, which is recorded by the BMVI as multiple vehicles.

On the same day, the Ministry of Transport published a study containing an opposing forecast. The opinion of Dr Wolfgang H. Schulz, Dr Nicole Joisten, and Sebastion Scheler (Schulz et al) contradicts the study carried out by the ADAC. According to the former, the BMVI’s calculations are conservative and revenue could even be up to 25% higher. The BMVI allegedly did sufficiently consider the uncertainty surrounding the actual number of foreign-registered vehicles by deducting 5% from the net income. In particular, the underlying figures for the proportion of diesel vehicles paying a higher charge than petrol vehicles are said to be highly cautious.

In a report from March 2017, Dr Alexander Eisenkopf of the Zeppelin University Friedrichshafen concludes that the opinion of Schulz et al exhibits “serious deficiencies”, breaches basic scientific standards, and therefore is unable to produce a relevant contribution towards a neutral, scientifically-sound validation of the revenue forecast for the planned infrastructural charge. In their opinion issued as part of the expert hearing before the German Bundestag, Dr Thorsten

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25 See Beckers, T., Winter, M., and A. Ryndin: Stellungnahme im Rahmen des öffentlichen Expertengesprächs im Deutschen Bundestag (Haushaltsausschuss) am 20.03.2017 über die Haushaltswirkungen und den Erfüllungsaufwand der Einführung einer Infrastrukturabgabe für die Benutzung von Bundesfernstraßen (Opinion within the public discussion in the German
Beckers, Dr Martin Winter, and Andrej Ryndin agree. They argue that Ratzenberger’s opinion is fundamentally plausible, traceable, and well founded, whereas the work of Schulz et al may be dismissed because of its significant errors and a lack of traceability of scientific discourse on the issue of revenue. The BMVI’s calculations to some extent do not satisfy the requirements regarding traceability and transparency.26

In their study on behalf of the Alliance 90/The Greens parliamentary group in the Bundestag,27 Matthias Runkel and Alexander Mahler note that the vehicle specifications on which the toll charge is based are continually improving and, consequently, revenue will decline steadily. In a calculation example, there is a decline in the average annual toll charge from 74 to 70.31 euros between 2014 and 2016 alone due to a higher proportion of vehicles with improved specifications. Runkel and Mahler also criticize the BMVI’s revenue estimates determined on the basis of the data of the Kraftfahrtbundesamt (Federal Motor Transport Authority) on German-registered vehicles, which is therefore based on specifications such as emission class, engine size, and fuel type. They voice doubts concerning how representative the data on German vehicles is for other countries. Taking the Netherlands as an example, which at 29.2% makes up the largest proportion of non-German nationals on German motorways, there are considerable differences regarding the vehicle specifications in question. At 17%, there are significantly fewer diesel-powered vehicles in the Netherlands than in Germany at 29%. The average engine capacity of new vehicle registrations in the Netherlands in 2015 was 1455 ccm, less than in Germany at 1721 ccm. The Euro 6 emissions standard is also more widespread in Germany (69% of new registrations) than in the Netherlands (64%). This example clearly shows that an assumption that the specifications of vehicles registered in other countries are on par with those in Germany can produce erroneous results in the revenue forecast and can therefore lead to a considerable degree of uncertainty. Furthermore, Runkel and Mahler also criticize an overemphasis on the potential number of Euro 6 vehicles as being outdated and therefore unnecessary, since 95% of new vehicles registered (between January and November 2016) already comply with this standard. They also conclude that expenditure will exceed revenue within a few years at the latest.

Stakeholders in the German section of the EMR have also expressed criticism of the revenue forecasts. Michael Bayer, General Manager of the Aachen Chamber of Industry and Commerce, believes the BMVI’s revenue forecasts are unrealistic and critically notes that, even if this revenue were achieved, it would not make a significant contribution towards improving infrastructure in Germany, because in comparison to approximately 50 billion euros every year that the vehicles would generate in taxes, the new additional revenue would be negligible.28

Something that is especially problematic for border regions is the fact that revenue will be lost in Germany from the economic displacement effects in the border regions, which has not been taken

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into consideration. On the one hand, fuel tax revenue will fall, as some people from neighbouring countries who come to Germany to refuel will cease to do so. On the other hand, German entrepreneurs near the border fear a loss of revenue and therefore, to some extent, sales tax income will fall on products that people from neighbouring countries come to Germany to buy. In principle, there are no plans to compensate business and industry in border regions, even if the government generates more additional revenues than it had hoped.

In conclusion, it should also be noted that in terms of the revenue generated by the federal government through the toll, even further clarification is urgently required and the concern remains that, after a few years at the latest, the toll will cost more than it makes.

6. Sustainable socio-economic development

This section presents the possible consequences on the economic, sustainable development on the Euregio. Will the number of drivers from Belgium and the Netherlands crossing the border into Germany fall? Are German companies (in retail and tourism, for example) near the border right to fear a loss of revenue and investment? How will cross-border commuters and businesses react to the toll? Will traffic switch to using secondary roads and what are the potential consequences of this?

6.1 Positive: Toll is only payable for non-German-registered vehicles using the motorways

One positive aspect for the frontier region is that the toll is only payable for foreign-registered vehicles using the motorways, so minor border traffic on national, state, and local roads is not affected. In this context, it must be taken into account, on the one hand, that in some regions much of the cross-border traffic uses the motorway and, on the other hand, the toll will produce a psychological effect that makes the border more noticeable. Both of these aspects can nevertheless result in a decreased number of customers from neighbouring countries visiting German companies located near the border. The German government is of the opinion that restricting the toll to foreign-registered cars on motorways adequately addresses the concerns of the frontier region. The federal government rejected a regulation demanded by the Bundesrat whereby the specific motorway sections near the border would be exempt from the toll, on the grounds that this would increase the administrative burden and decrease revenue.29

6.2 Loss of turnover and investment for German companies

For the Aachen region, in the German part of the Euregio Meuse-Rhine, the Netherlands and Belgium are its primary foreign economic partners. People from those neighbouring countries gladly come to the region for shopping or leisure. Tourism therefore represents a vital economic factor for the frontier region, with the retail and tourism sectors drawing particular benefit. Matthias Glotz, Chair of the aachen tourist service e.V., estimates that day visitors from Belgium and the Netherlands on average spend 35 euros on retail, eating out, and services.

The results of the survey show that the main reasons for journeys to Germany are primarily to buy groceries (63% of respondents), recreation/leisure/eating out (58%), shopping (46%), and holidays (39%).

**Fig. 5: What are your reasons for travelling to Germany? (Multiple answers possible)**

![Bar chart showing reasons for travelling to Germany](image)

Ideally, people living on one side of the border in the frontier region should be able to enjoy the same benefits of retail afforded to nationals on the other side of the border, such as price differences, different opening hours, and a different range of goods, without any limitations. Prices sometimes vary considerably between Germany and its neighbouring countries. Discount stores and pharmacies, in particular, in Belgium and the Netherlands are often unable to compete with the low prices offered by their German competitors. This results in a higher proportion of revenue from Belgian and Dutch customers for German businesses near the border. At the Aquis Plaza shopping centre in Aachen, for example, customers from Belgium and the Netherlands are vital. On weekdays, Belgian and Dutch people make up 12% of its customers; on Saturdays, it could be as many as 25%, according to a 2016 survey. People living within the catchment area in neighbouring countries have been calculated as making up 20% of potential customers (+10% potential reserve), explains Kathrin Landsmann, Manager of the Aquis Plaza shopping centre. She fears that these customers will drop by up to 50%. There is the danger that the toll will cause people to reconsider doing their shopping on the German side of the border or going shopping in Aachen if they have to pay for the toll. Some people could instead save money by shopping in their own countries instead of paying the toll.

There is also the possibility that the number of tourists from neighbouring countries will decrease, as the additional cost makes it less attractive to go on holiday to Germany. This is especially true for short breaks and day trips, since the additional cost is relatively high in comparison to short holidays and day trips in their own country. In 2016, people from Belgium and the Netherlands were the main tourism markets in Aachen at 24%, spending approximately one million nights there.  

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30 2016: 13% overnight stays by Belgian people (130,000); 11% overnight stays by Dutch people (110,000) (source: aachen tourist service e.V.).
the number of tourists to decline once the toll is introduced, which, he believes, marks a step backwards for the region from a tourism point of view.

The potential reduction of customers concerns not only the retail and tourism sectors, but also catering, leisure, and cultural facilities in the German part of the frontier region. Cafés, restaurants, parks, theatres, and cinemas could all lose a part of their clientèle.

**Fig. 6: How often do you cross the German-Dutch or German-Belgian border?**

<table>
<thead>
<tr>
<th>Frequency of Crossing the Border</th>
<th>Without a Car Toll</th>
<th>With a Car Toll</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every day</td>
<td>12.86%</td>
<td>10.58%</td>
</tr>
<tr>
<td>Once a week or more</td>
<td>43.93%</td>
<td>32.59%</td>
</tr>
<tr>
<td>Once a month or more</td>
<td>27.42%</td>
<td>10.31%</td>
</tr>
<tr>
<td>Now and again</td>
<td>16.53%</td>
<td>15.53%</td>
</tr>
<tr>
<td>Never</td>
<td>0.24%</td>
<td>6.41%</td>
</tr>
</tbody>
</table>

Figure 6 shows that respondents will rethink and/or change their driving behaviour after a car toll is introduced in Germany. They intend to travel to Germany less often and therefore spend less money there. In answer to the question ‘How often do you cross the German-Dutch or German-Belgian border?’, 13% of the respondents said they drive across the border every day, 57% once a week or more, 27% once or month or more, 16% only now and again, and 0% said never. However, the answers to the question ‘How often will you cross the German-Dutch or German-Belgian border once a car toll is introduced?’ paint a different picture. The proportion of those who drive to Germany once a week or more dropped by 11%, and once a month or more by 17%, while 40% of respondents would only want to travel to Germany now and again (an increase of 24%). 6% would never want to cross the border. In addition, 40% of respondents plan to travel to Germany as little as possible once the toll is introduced (see Fig. 11). These people also said they would refrain from spending money in Germany where possible. The proportion of people who drive to Germany every day decreased by just 2%. One reason for this may be that these people don’t have the option of travelling to Germany less often for professional reasons. After all, 94% of people who took part in the survey who answered ‘daily’ to the question of how often they currently drive to Germany cross the border because they work in Germany or attend meetings there.
The trends identified for the EMR are backed up by national statistics. In a study containing a survey of over 5000 Dutch people in 2014, the Dutch research office I&O Research concluded that the introduction of a toll in Germany would result in losses of income from Dutch customers worth around 1 billion euros. The study revealed that 64% of respondents would shop less in Germany and 44% would visit the country less often as a tourism destination. Given that some respondents indicated that they would change their habits after the introduction of a toll, the negative economic effects are undeniable. In 2014, Michael Bayer, General Manager of the Aachen Chamber of Industry and Commerce, also expressed fears that retailers in Aachen alone could lose 300 million euros because of the toll.

Added to this is the concern that the region could attract less investment. This would result in additional economic losses. Both Matthias Glotz and Kathrin Landsmann fear that investment in their industry could fall. Glotz argues that the toll provides a further disincentive for attracting business to the frontier region. Investment made on the basis of Belgian and Dutch tourists and customers could therefore be less forthcoming.

Consequently, there is every reason to fear negative effects by way of a loss of revenue and investment, in retail and tourism in particular, in the Aachen region. This is a significant problem for the economy of the frontier region as customers from neighbouring countries make up a vital share of the overall customer base. If account is taken of this in the overall considerations, the promise that Germans will not be worse off as a result of the toll cannot be kept in border regions, as German businesses near the border will be financially worse off with customers from the neighbouring countries staying away.

6.3 Negative impact on cross-border commuters and businesses

Could the German car toll have a negative impact on cross-border commuters and SMEs on the Belgian and Dutch side of the border which rely on cross-border trade? 14% of respondents stated that their place of work was in Germany. 29% cross the border into Germany for business meetings (see Fig. 1). In particular, for work-related cross-border commuters and businesses that regularly cross the border, the introduction of the toll means increased costs (by paying for the toll on an annual basis), which potentially makes it less attractive to work in Germany or maintain business relations with Germany. Individuals and small companies will bear a disproportionately high financial burden for the toll. It is likely that the relatively low monthly cost for cross-border commuters with new, low-emission cars (and potentially a good income) will not affect their job abroad and they may even also benefit from the German commuting allowance for tax purposes. However, cross-border commuters with low incomes, apprentices, and trainees (with older vehicles) will bear a relatively higher burden, to such an extent that they may have to question whether travelling to Germany is still financially worthwhile. In addition to the purely financial aspects, the psychological aspects can also come into it. These people could feel disadvantaged compared to their German counterparts. In the open question, ‘Do you have any other thoughts about the German toll?’, some respondents who work in Germany expressed the desire to be exempted or reimbursed through their income tax

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31 See I&O Research: Duitse tolplannen kunnen Duitse economie één miljard euro Nederlandse bestedingen kosten (German toll plans could cost the German economy one billion euros of Dutch spending). Enschede 2014.
32 However, in 2014, the toll plans also covered all German roads for non-residents.
declaration. The threshold for the ability to work in Germany will be raised even higher for employees who have never experienced it before. The toll will be added to the list of already existing problems, which includes having to deal with the different social security and tax systems.

In the future, a company that carries out orders destined for Germany will have to factor in the additional costs of driving into Germany for any vehicle. As a result of the toll, the border area, which is often seen as offering an advantage as somewhere to recruit employees and procure services, will now be seen as presenting a disadvantage due to the additional financial costs, despite the close proximity to employers and service providers. A survey conducted by the Aachen Chamber of Industry and Commerce in 2014 revealed that around 50 Dutch companies are expecting the toll to have significant negative effects on economic integration in the frontier region. Some of the companies also fear a halt to investment, a loss of image for the Euregio as a whole, and a deterioration of Euregional cooperation.34

6.4 Sustainability: the effects of traffic diverting via secondary roads

Since only owners of foreign-registered cars on motorways are subject to the toll, it is expected that these drivers will switch to using federal, state, and local roads that are not subject to the toll. The German legislature is also aware of this, it would seem, considering that the rules do not apply to domestic car drivers in order to prevent efforts to avoid paying the toll. 46% of the survey respondents indicated that they will use the federal, state, and local roads instead of the motorways after the toll is introduced. This diversion effect will therefore constitute a direct consequence in border regions, which will lead to the following problems: The toll runs counter to the idea of sustainability and environmental friendliness in that it will lead to higher fuel consumption, an increased volume of traffic, and higher emissions in local communities, through the displacement effects on secondary roads. It is also expected that inhabitants who live near alternative routes (for example, on the route between Maastricht and Aachen via Gulpen) will experience increased noise pollution. Because of the increased costs for the old, dirtier vehicles, it is likely that drivers of these vehicles will use these secondary routes more than anyone else. Drivers of Euro 6 vehicles, which are treated more favourably by the toll, are likely to continue using the motorway. In this sense, the environmental aspect of the toll, supported by the EU Commission, will have the opposite effect in the frontier region. First of all, there is also a general positive economic shifting effect since, as Euro 6 vehicles and cars with petrol engines are treated more favourably, which provides an incentive to buy these low-emission vehicles. However, Euro 6 vehicles have since become the standard choice when buying a new car (more than 95% of new registrations in 2016), so this could not act as an incentive any longer. An incentive to buy electric vehicles would be more sensible from an environmental point of view. As it stands, these vehicles won’t enjoy any benefit at all after the toll is introduced in Germany. A closer examination shows that tax relief is provided for even the maximum annual toll cost of 130 euros for very old and especially high-polluting vehicles, meaning there is no incentive for owners to replace these vehicles.

Sustainable development of an economic area also encompasses quality of life. The quality of life of the people living near the secondary roads could be affected by way of the displacement effects. As already mentioned, the increase in noise levels and an even greater burden on local roads must be taken into consideration. The likelihood of an accident occurring on secondary routes is also

34 Ibid.
significantly higher than on motorways. There is the risk that the number of accidents and accident casualties could rise, with border communities being particularly affected.

In the EMR, for example, it is possible that traffic travelling between Maastricht and Aachen on the A79/E314 motorway (connecting to the German A4) will instead divert via the N278 secondary road through Margraten, Gulpen, and Vaals (connecting to the B1 between Aachen and Vaals). The same thing could happen to traffic between Liège and Aachen; instead of travelling on the Belgian A3/E40 motorway to join the A4 in Germany, drivers may take the N3 through Kelmis to Aachen, in order to avoid paying the toll. Border communities on both sides would be negatively affected by the effects of this diversion. Interestingly, in their revenue forecasts, neither the BMVI nor Ratzenberger takes account of the potential effects that diversions will have in terms of a reduction in the revenue.

![Fig. 7: Cross-border transport infrastructure in the Aachen-Liège-Maastricht region](source: Google Maps)

7. Euregional cohesion/cross-border cooperation

This section deals with the potential impact of the toll on cohesion in the Euregio. Will the toll reinstate the barrier effect of the border and thereby impede cross-border interaction between citizens, associations, businesses, and administrations?

Overall, the general feeling towards the German toll in the Dutch and Belgian parts of the EMR is a bad one. 88% of respondents are either negative or very negative about the toll, 9% are neutral, and only 2% are positive. This negative reaction in neighbouring countries could create a psychological barrier and have a negative impact on cross-border interaction between citizens, associations, businesses, and administrations. 84% of respondents said that cross-border mobility will be reduced by the toll. 83% agree with the statement that the border with Germany will be a lot more palpable again after a car toll is introduced.
The toll therefore seems to have a psychological effect on cross-border cooperation, which runs contrary to Euregional cohesion. The ‘open’ borders have to contend with different legal systems, language barriers, and cultural barriers, as local residents very well know. This divide will only be exacerbated by the introduction of a car toll in Germany. This creates an additional obstacle to cross-border interaction, which could mark a step backwards in building a common Euregional economic area. Not only are commuters, potential customers of German companies, and companies based in Belgium and the Netherlands operating across borders affected, but so too are day-to-day activities that affect every human being, such as visiting family and friends, going to cultural events, using leisure facilities, and so on. Having to pay a toll as an admission fee to enter German conflicts with the everyday actions of people living in border regions. Ever since the Schengen Agreement, residents of the frontier region have become used to being able to cross the border with ease and not having to plan it in advance. Deciding whether to go shopping, visit family or friends, or do other leisure activities on the other side of the border is usually done on the spur of the moment.

Once the car toll comes into effect, people will need to decide whether to pay the toll and, if so, what category, before they drive into Germany. They must also consider how often they will be
driving to Germany in the next ten days, two months, or year, so they know how long to pay the toll for. This means a real reduction in the sense of Euregional spontaneity. Being able to cross the border at will is a key achievement in the development of European integration, something which will be reduced by the introduction of the German toll.

As demonstrated by the response to the toll, the scheme has caused a certain degree of polarization. On the one hand, 48% of respondents said they would pay for the toll on an annual basis. On the other hand, 35% do not intend to pay for the toll at all. Just 16% would pay for the toll for ten days (12%) or two months at a time (4%). 38% say they would pay for the toll to use the motorway, whereas 46% would use German federal, state, and local roads instead of the motorways, and 40% would try to travel to Germany as little as possible.

**Fig. 10: For what period would you pay the toll?**

- I will not pay the toll: 35%
- I will pay the toll for ten days: 49%
- I will pay the toll for two months: 12%
- I will pay the toll for one year: 4%

**Fig. 11: The toll applies to foreign-registered cars on motorways only. What will you do?**

- I will pay the toll and use the motorways: 37.85%
- I will use other federal, state, and local roads instead of the motorways: 45.58%
- I will use public transport to get to my destination in Germany: 39.78%
- I will travel to Germany as little as possible: 3.59%
- I will not drive to Germany anymore: 2.45%
Accessibility and a common transport infrastructure in border regions is a fundamental challenge, with local public transport especially often requiring further development. Only 4% of respondents could envisage using public transport to get to their destination in Germany after the toll comes into effect. With the introduction of the toll, there is now the danger that, because of the rising cost of crossing the border, cross-border mobility and mutual accessibility will also be affected.

Such a step backwards in Euroregional integration is particularly serious, since we are talking about Germany after all – a country right in the middle of Europe, sharing a border with nine other states, which is typically considered to be an advocate of European integration. This is something that also concerns the survey participants. In the open question, ‘Do you have any other thoughts about the German toll?’, some respondents said: “Duitsland pretendeert voor een sterke EU te zijn maar intussen vult men met Duitse heffingen haar eigen zakken. Een dubbele moraal heet dat.”, 35 “Is Duitsland nu wel of niet de drijvende kracht achter de Europese eenheid?”, 36 “Een daad die in strijd is met het door Duitsland zo geprezen Europese gedachtengoed”. 37

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35 English: Germany pretends to support a strong EU, but now the German government is lining its own pockets with taxes. That’s called a double standard.
36 English: Is Germany still a driving force for European integration or not?
37 English: A move that conflicts with the European ideal which is so heavily pushed by Germany.
8. Conclusion

The German car toll can therefore, as demonstrated, have especially negative consequences on the EMR – the frontier region between Germany, the Netherlands, and Belgium – something which was not considered in the federal government’s assessment. This relates especially to the unresolved legal issue of discrimination against EU citizens (1), the possibility of influencing future EU measures on tolls (2), the issue of financial losses for certain sectors in Germany and for the regional economy (3), the negative effect in terms of emissions and noise from traffic avoiding the toll (4), and the fundamentally negative effects on regional cohesion (5).

1. There are still many uncertainties surrounding the German toll. There are doubts as to both its compatibility with EU law and the revenue projected by the BMVI. Continued legal uncertainty can be especially detrimental to border regions, particularly when it results in drawn-out legal proceedings. Notably, there is criticism from the public that the toll would disadvantage foreign nationals (specifically owners of vehicles with foreign number plates). But those who would be especially penalized are the border regions and their inhabitants, not only in neighbouring countries (such as commuters and businesses), but also in Germany, as residents will suddenly find their local roads very busy and business owners will be the ones to bear the brunt of the adverse consequences of the toll.

2. The German toll could, in principle, hinder rather than facilitate the introduction of the EU-wide, distance-based solution proposed by the Commission. As the German toll follows a different model (time-based charging), completely changing to another system a few years after the toll is introduced does not seem to be straightforward. This is especially true if the toll will not come into effect until 2018 or 2019, after many years of internal political debate. In this sense, it certainly does not fall within the idea of a common transport policy and European integration. This can have an especially negative impact on border regions, who suffer the most from uncoordinated systems and whose economic development is thereby hampered.

3. The survey suggests that people from neighbouring countries will change their driving habits as a result of the toll, limiting their journeys to Germany. After the toll is introduced, 11% of respondents who currently cross the border at least once a week and 17% who cross at least once a month intend to do so less often. The number of respondents who will only cross the border into Germany now and again rose by 24%, whereas 40% of people say they will drive into Germany as little as possible. Therefore, the retail and tourism sectors in particular could expect sales to fall and investment to decline, because a significant proportion of their potential customers could disappear. In addition, there are potential negative consequences for the people on the other side of the border: cross-border commuters and businesses which operate across the border will need to factor in additional costs to pay for the toll. Commuters on a low income and small businesses will be hit particularly hard by the charges. Germany will become a less attractive place for them to work or to do business.

4. There could also be problems caused by drivers seeking to avoid paying the toll. 46% of respondents intend to use secondary roads instead of motorways once the toll is
introduced, so they do not have to pay the toll fee. This will put a significant additional strain on these routes and reduce the quality of life for people living near these roads. The toll also contradicts the principle of environmental protection as a result of traffic diverting via secondary routes, increasing pollution from noise and emissions in local communities. The financial grading according to pollution class will also provide a financial incentive for owners of older vehicles to use secondary routes instead. In this case, the environmentally friendly aspect of the toll in border regions could actually have the opposite effect.

5. By introducing the toll, Germany also risks a resurgence of the psychological barriers that make the presence of the border felt again by the people and inhibits their cross-border interaction. 83% of respondents state that the border with Germany will be more palpable with a toll. This runs contrary to the progress made in European integration and cross-border cohesion.

Overall, it is doubtful that the operating expenses and the considerable damage to border regions that is feared, as well as the negative impact on European integration, are in reasonable proportion to the benefits of the toll. Even if the expected revenue can be generated by the toll, there will be little financial benefit to infrastructure in Germany. Also, there have been no compensation measures thus far for the financial losses incurred in border regions. In general, the unique situation of border regions has not been a central issue in designing the toll. Even well-intentioned regulations, such as restricting the toll to German motorways, can result in significantly negative environmental and health effects. This suggests that the frontier effects have not been thought through.

In future cross-border impact assessments, it will be of interest to study the actual impact of the toll. Once the toll has come into force, an ex-post analysis of the impact will further provide answers.
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I&O Research: Duitse tolplannen kunnen Duitse economie één miljard euro Nederlandse bestedingen kosten (German toll plans could cost the German economy one billion euros of Dutch spending). Enschede 2014.


Annex

Survey questions:
Germany has decided to introduce an infrastructural charge (toll) for cars. As a driver of a foreign-registered vehicle, you will be required to pay a charge to drive on German motorways from 2019 (provisionally). Drivers of German-registered vehicles will also have to pay the toll. However, they will receive relief on their vehicle tax to at least the same amount as the toll they pay.

This survey is aimed at drivers from the Dutch and Belgian parts of the Euregio Meuse-Rhine and forms part of the research work conducted by the Institute for Transnational and Euregional cross border cooperation and Mobility / ITEM at Maastricht University on the possible effects of a German toll on our frontier region. Thank you for taking part!

1. Country of residence
   - Netherlands
   - Belgium

2. Region
   - Province of Limburg (Netherlands)
   - Province of Limburg (Belgium)
   - Province of Liège (Belgium)
   - German-speaking Community (Belgium)
   - Other: __________________________

3. How often do you cross the German-Dutch or German-Belgian border?
   - Every day
   - Two to five times a week
   - Once a week
   - Two to five times a month
   - Once a month
   - Now and again
   - Never

4. What are your reasons for travelling to Germany? (Multiple answers possible)
   - Working in Germany
   - Business meetings
   - Buying groceries
   - Going shopping
   - Recreation/Leisure/Eating Out
   - Holidays
   - Visiting family or friends
   - Travelling through to get to another country
   - Other: __________________________
Owners of vehicles not registered in Germany can opt to pay the toll for ten days, two months, or one year. The cost of the toll for one year depends on the size of the vehicle engine and its environmental characteristics. The charge is limited to a maximum of €130.

<table>
<thead>
<tr>
<th>Emissions class</th>
<th>Fee per 100 cc of engine capacity</th>
<th>Fee per 100 cc of engine capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Euro 3 or below</td>
<td>6.50 euros</td>
<td>9.50 euros</td>
</tr>
<tr>
<td>Euro 4 or 5</td>
<td>2.00 euros</td>
<td>5.00 euros</td>
</tr>
<tr>
<td>Euro 6</td>
<td>1.80 euros</td>
<td>4.80 euros</td>
</tr>
</tbody>
</table>

The charge for ten days or two months depends on the amount calculated on an annual basis.

<table>
<thead>
<tr>
<th>Annual toll (cost in euros)</th>
<th>Ten-day toll (cost in euros)</th>
<th>Two-month toll (cost in euros)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 20</td>
<td>2.50</td>
<td>7</td>
</tr>
<tr>
<td>20 to 39</td>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td>40 to 69</td>
<td>8</td>
<td>18</td>
</tr>
<tr>
<td>70 to 99</td>
<td>14</td>
<td>30</td>
</tr>
<tr>
<td>100 to 129</td>
<td>20</td>
<td>40</td>
</tr>
<tr>
<td>More than 130</td>
<td>25</td>
<td>50</td>
</tr>
</tbody>
</table>

5. **What emission standard does your car meet?**
   - Euro 3 or below
   - Euro 4 or 5
   - Euro 6
   - Don’t know

6. **What fuel do you use?**
   - Diesel
   - Petrol
   - Plug-in hybrid
   - Electric
   - Don’t know

7. **For what period would you pay the toll?**
   - None
   - Ten days
   - Two months
   - One year
8. How often will you cross the German-Dutch or German-Belgian border once a car toll is introduced?
- Every day
- Two to five times a week
- Once a week
- Two to five times a month
- Once a month
- Now and again
- Never

9. Which of these statements do you agree with? (Multiple answers possible)
- The planned toll makes sense.
- I feel discriminated against by the German toll.
- The toll will restrict cross-border mobility.
- The toll will make the German border much more palpable.
- A toll should be introduced in the Netherlands and/or Belgium as well.
- A uniform EU-wide toll system should be introduced.

10. The toll applies to foreign-registered cars on motorways only. What will you do? (Multiple answers possible)
- I will pay the toll and use the motorways.
- I will use other national, state, and local roads instead of the motorways.
- I will use public transport to get to my destination in Germany.
- I will travel to Germany as little as possible.
- I will not drive to Germany any more.

11. What is your general feeling towards the German toll?
- Very negative
- Negative
- Neutral
- Positive
- Very positive

12. Do you have any other thoughts about the German toll?
Expert interview questions:

1. How does cross-border traffic fit into economic life in the region?
2. How high is the proportion of Dutch and Belgian purchasing power in the Aachen region?
3. How much do you think companies in the Aachen region depend on customers from the Netherlands and Belgium?
4. Has the proportion of Dutch and Belgian customers increased or decreased in recent years?
5. Do you expect the proportion of Dutch and Belgian customers to fall once the toll is introduced?
6. If so, by how much?
7. How high is the proportion of Dutch and Belgian employees in the Aachen region?
8. Are you worried that investment in your sector in the region could fall because of fears that the proportion of customers from the Netherlands and Belgium could fall?
9. In your opinion, what effects does the toll have on economic integration in the Euregio?
10. Do you have any other thoughts about the German toll?
ITEM is an initiative of Maastricht University (UM), the Dutch Centre of Expertise and Innovation on Demographic Changes (NEIMED), Zuyd Hogeschool, the city of Maastricht, the Meuse-Rhine Euregion (EMR) and the (Dutch) Province of Limburg.

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