

Work package 3: Impact assessment on current and future scenarios for company mobility

Previous work packages focused on the situational picture (WP1), including the definition and ecosystem of company mobility, but also on the context, important trends and evolutions of company mobility (WP2a), and finally on potential future scenarios based upon these trends, policy measures and spatial planning best-practices (WP2b).

The objective of this work package is to develop an integrative impact assessment model and carry out the impact assessment of future scenarios established in the previous work packages for the different stakeholders. The present text proposes a structure for the contribution of all three research partners to the BSI Chair on company cars, namely *MOBI* (VUB), *CEREC* (USL-B) and *POLI* (VUB). The contributing partners acknowledge the comprehensive assessment of the issue at hand and welcome any collaboration and exchange with each partner on all parts of the proposal.

The proposal suffers from two important sources of uncertainty: the type of scenarios that will come out of WP2b and the availability of data (WP1). This will very much influence the outcome of the work package. However the methodology we propose to use is already clear and it can be applied. In the following sections, we will explain the build-up of this work package. The work package consists of the following research stages:

1. First, we will start by studying and analysing the particular Belgian context, which is necessary to make future estimations and to develop an evaluation framework for the fiscal aspects. *CEREC* will take the lead on this section.
2. Second, a competence-based Multi-Criteria Analysis (COMCA) will be applied in order to understand the impact of decisions in complex policy issues and to provide a participative integrative assessment framework through which stakeholders learn about the economic, societal and environmental impact of the various policy measures concerning company mobility. This section will be led by *MOBI*, with the cooperation of the other research partners since this part contains the bulk of the work package.
3. Finally, we will assess the behavioural and fiscal implications of policy reforms with regard to company cars and mobility. This last section will be led by *CEREC*.

Although this work package contains two different frameworks, namely a contextual fiscal evaluation framework and an impact assessment framework, the research partners clearly see complementarities between the different frameworks. Information and knowhow will be mutually shared, and the work will be coordinated to avoid overlaps.

1. Identification of the Belgian context (*CEREC*)

Based upon the findings provided by WP1 we want to highlight some ways in which Belgium is particular with respect to the international context. This should allow us in later stages to indicate in which direction international estimations should likely be adapted to fit the Belgian situation, in case the necessary data for Belgium are not available. We think of at least three ways in which Belgium is special from an international viewpoint. First, in terms of spatial organization Belgium is densely populated but in a rather diffuse fashion, due to a long tradition of subsidies to personal mobility and political choices (see e.g. De Block (2011) or De Block and Polasky (2011), or Driesen et al. (2013)). Second, a possible reform of the fiscal regime for company cars should be studied against the background of the Belgian overall tax regime, which stands out internationally in several ways, not in the least by a very high tax pressure on labour income (see e.g. OECD

(2017)). Third, the current fiscal regime reflects to some extent the particular political culture and organization of Belgium, not in the least its federal structure, and proposed reforms should take into account these particularities as well.

1.1. Evaluation framework

To set the stage, we first discuss the main principles in the economics of direct (personal and corporate income tax) and indirect taxation as well as social security contributions, and we discuss the special place of fringe benefits and personal mobility in this theoretical setting (See also Stiglitz and Rosengard (2015) or Hindriks and Myles (2013) for an introduction to the general framework of Public Economics and the normative assessment of public policies). In addition, we will present a brief sketch of the economic framework to assess transport policy (See, e.g., de Palma et al. (2006) and de Palma et al. (2011)). This will set out the positive and normative framework that will serve as a toolbox for our further analysis. What are the expected implications of a particular policy in terms of budget and consumer behaviour? And how can we assess different policies from the viewpoint of efficiency or equity? (See Zax (1988), Naess-Schmidt et al. (2010) or De Borger and Wuyts (2011) for the specific analysis of the treatment of company cars and fringe benefits.)

With this framework in mind, we present an overview of the structure of the Belgian personal and corporate income tax, and the role of company cars and personal mobility in this setting (see e.g. FOD Financiën, 2016 or Potter et al. (2006) for an international perspective). We summarize the Belgian company car regime and its budgetary implications. We also sketch the division of competences between the different levels of government in the Belgian federal system.

This brings us to the final step in setting the stage: a quantification of the status quo. This characterization of the present situation will serve as a reference point for the further analysis. We want to reconstruct this characterization ourselves, or at least summarize the calculations in detail, to ensure that we are consistent in our calculations when comparing our post-reform predictions to the current situation in order to assess the various merits of these reforms. Harding (2014) provides a general assessment of the budgetary implications of the current fiscal regime for company cars. We will confront these figures with the data that we can obtain from the other groups in the network, and our estimations of the budgetary implications based upon these data. Roy (2014) presents an estimation of the environmental costs of this fiscal regime (compared to a scenario in which all income sources are equally taxed) for the entire group of OECD countries (without distinguishing between the individual countries). Using the estimations of external costs used by Roy (2014) and estimations presented in a.o. Proost (2011) or Lim et al. (2012)

2. Stakeholder-based impact assessment model (*MOBI, CEREC & POLI*)

Specific to the Belgian context is its federal system leading to a multiplicity of institutional stakeholders, representing different administrative levels, who all play a role in the decision-making process on company mobility. Simultaneously, the Belgian political system is also characterised by the dominant role of political parties and subsequently of electoral and other partisan interests (Sinardet, 2011). Belgium's tradition of social dialogue in determining wage policy also gives an important role to trade unions and employer's organisations. Moreover, the involvement of numerous non-institutional stakeholders, who also have a significant voice in the debate, cannot be omitted. For assessing the social or political feasibility of the different scenarios, the interests of all these actors must be considered. To this end, we propose to apply a specifically designed methodology.

2.1. Methodology

Competence-based Multi-Criteria Analysis (COMCA) is a framework for assessing the impact of decisions in complex policy issues. Acknowledging that a single policy measure has different impacts on different stakeholders, the methodology assesses the political or social feasibility of decisions. Based on the MAMCA methodology (Macharis et al., 2012; Macharis, 2005), COMCA takes specifically into account the

institutional level of stakeholders and their corresponding role in the implementation of decisions. COMCA has been successfully applied in the *Rail 4 Brussels* project (FOD M&V/SPF M&T, 2015).

2.2. *Involving relevant stakeholders*

The feasibility of a policy measure depends on its support among the relevant stakeholders. These stakeholders have different competences that make the implementation or facilitation of the policy measures possible. Competences may include the tasks or capabilities at the various institutional levels, or in the corporate or civil domain, all of which are essential for a successful policy implementation. An approval assessment of the competent stakeholders therefore provides a feasibility assessment for the policy measure but also for the different tasks of which the policy measure consists. To this end, COMCA provides a classification framework for the stakeholders as identified in WP1, based on their competence within the various scenarios as identified in WP2.

2.3. *Crossing institutional borders*

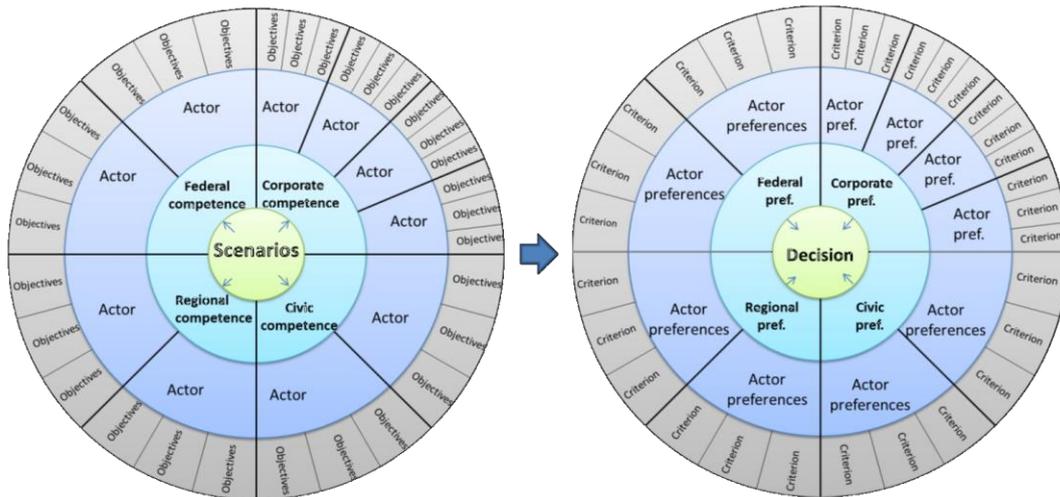
Typically for the Belgian situation is the necessary involvement of multiple institutional stakeholders, representing different jurisdictions and administrative layers. As a policy measure is likely to produce different impacts in different places, institutional stakeholders are likely to have different preferences regarding the policy measure in question, resulting in a policy deadlock. COMCA creates a framework in which the preferences of different stakeholders at the same institutional level are first confronted to one another, and subsequently to other institutional levels. Doing so, the framework provides an overview of stakeholder preferences on the local scale, but also on the common scale.

2.4. *Application and output*

The application of COMCA with regards to this specific project involves a process of multiple steps, each of which produces valuable output.

- The first step consists of the **identification of policy scenarios**, which will already be accounted for in WP2a.
- The second step involves the identification of **competences** that are necessary for implementing the selected scenarios.
- In the third step, the **stakeholders**, as identified in WP1, **are classified** according to their competence.
- In the fourth step, the stakeholders propose their individual **criteria**, by which they wish the scenarios to be assessed. Criteria might include any possible economical, societal or environmental impacts of policy measures, such as job creation, micro- or macroeconomic impact, spatial impact, etc. Each stakeholder is free to propose his own criteria set, but if needed, the project team will provide guidance in the formulation of the criteria, to ensure measurability and to avoid ambiguity.
- Subsequently, utilising MAMCA software (VUB-MOBI Research Centre, n.d.), individual **weights** will be accorded to the criteria by each stakeholder. The project team will either organise the procedure in which the stakeholders provide their weights online, or a workshop will be organised in which the stakeholders simultaneously provide their input.
- Next, the **scenarios are evaluated** on all the actors' criteria, using the insights, expertise and data collected in WP1.
- Using the evaluation and the actors' weights, **individual preference rankings** are established for each actor.
- In the following step, the individual preference rankings will be **aggregated by competence**, resulting in a preference ranking for each competence domain. This provides an overview of the feasibility of each of the scenario's constituent tasks, which in turn constitutes valuable input for final decision negotiations.

Figure 1: The wheels of COMCA



Following these steps, the project team will provide a **participative integrative assessment framework**, through which stakeholders learn about the economic, societal and environmental impact of the various policy measures concerning company mobility. Also, they will gain insight in their individual preferences and how they relate to the preferences of other relevant stakeholders. This provides stakeholders with a better understanding of the political and social feasibility, but also with an understanding of the roles to be played by each stakeholder during the implementation phase of the policy measure.

3. The assessment of tax reforms: behavioural and fiscal consequences (CEREC)

In a next step, we assess the implication of policy reforms regarding company cars and mobility. We focus on the policy measures proposed in WP2b and/or potentially on other relevant policy scenarios in coordination with other partners in the network. Changes in public policy usually imply direct and indirect effects. The direct effects concern the immediate consequences of the policy reform, whilst keeping the behaviour of consumers, companies and government agencies constant. The most immediate direct effects of a reform of the tax regime regarding company cars are a change in tax revenue and a change in the net incomes of households and companies. To the extent that the necessary data are available, quantifying these direct effects is relatively straightforward, although a full quantification of the implications for the entire population is well beyond the scope of this proposal. It would require data on a representative sample of tax payers (natural persons and companies as well as their present behaviour in terms of company car use) as well as the construction of a micro-simulation model to compute these direct effects. An assessment of these direct effects for a limited number of representative cases should be quite feasible, however. And to the extent that these data are available, we should be able to illustrate to what extent these few cases are representative. The exercise of Harding (2014) is somewhat similar to this proposal, but considers the effects for the entire population and thus entire budget of the state, and does not consider the effects for individual households or companies.

Changes in public policy also induce economic agents (consumers, companies, other government agencies) to adapt their behaviour to the new situation, and the understanding and assessment of these indirect effects of policies, in terms of changes in individual or aggregate behaviour, are the core business of economists. Predicting the entire chain of behavioural adaptations, however, is a very difficult question, and typically plays on different time scales. For instance, a change in the cost of a company car can in the short term give rise to a change in the number of trips consumers use their car for, their choice of transport mode, as well as to other changes in the remainder of their consumption pattern due to changes in their income, and companies can try to reorganize work in order to adapt the trips their employees need to make. In the medium run, the households may change the number and types of cars they own, change jobs or their

Research partners

VUB-MOBI

The Mobility, Logistics and Automotive Technology Research Centre (MOBI, VUB) is leader in sustainable mobility and logistics. It develops electric and hybrid vehicles technologies, and implements pragmatic urban solutions that are socio-economically & environmentally validated. MOBI aims at a better and safer mobility of people and goods, to reduce congestion and environmental impacts in urban and inter-urban areas, and to improve operational efficiency. With a multidisciplinary team of over 70 specialists, it gathers expertise in engineering, economic, social, environmental sciences and policy issues enabling the holistic approach needed in smart cities projects. MOBI provides sound advices to policy makers and concrete solutions to the industry. The participation to an increased number of projects oriented toward business results allows the team to develop innovative business models for sustainable mobility projects that ensure their long-term viability. Its track records over the past 5 years include 18 major European projects, 53 direct contracts with the industry, and 52 projects funded by national organizations.

The MAMCA decision-making methodology (developed by Prof. Macharis) enables the simultaneous evaluation of alternatives while explicitly including different stakeholders' opinions at an early stage. The External Cost Calculator translates the externalities of transport imposed on society into monetary terms. MOBI also studies transport user behaviour and recommends how to overcome the barriers to adoption by the citizens of new sustainable solutions and technologies.

The following researchers from VUB-MOBI will be involved in the project: Prof. Dr. Cathy Macharis (director of the research centre, chairwoman of the Brussels Mobility Commission), Dr. Imre keseru, Nils Wuytens and Geert te Boveldt.

USL-B - CEREC

The Center for Research in Economics (CEREC) collects micro- and macroeconomists with a strong expertise in game theory, industrial organization, public economics and growth theory. Gilles Grandjean, Tom Truyts and a PhD student will work on the project for CEREC.

POLI - VUB

The Department of Political Science (VUB, POLI) groups all the people involved in political science teaching and research at the Vrije Universiteit Brussel. Most of the research conducted in the Department falls under four major themes: Political participation and representation, Nations, nationalism and ethnic conflict, the politics of the European Union, Chinese politics and society. Several projects and PhDs also focus on gender studies, urban and local politics, international security, political theory and ideologies, and discourse analysis. The Department collaborates closely with the Institute for European Studies IES and with the Brussels Institute for Contemporary China Studies BICCS. The Department is a member of the European Consortium of Political Research.

For VUB-POLI, Prof. Dr. Dave Sinardet will be involved. Sinardet's research concentrates on themes such as federalism, multi-level governance, nationalism, consociational democracy and political communication. He is also an expert on Belgian politics and more specifically on the Belgian state reform process. His PhD dealt with the question of how a public sphere can function in a federal multilingual country such as Belgium.

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