Assessing the Employment and Social Impacts of Selected Strategic Commission Policies

Final report

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DG Employment, Social Affairs and Equal Opportunities of the European Commission

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1 Introduction

1.1 Background

As part of its "Better Regulation package", the European Commission has put in place a comprehensive system of ex ante impact assessment (IA), in order to improve the way it designs policy. A new, integrated approach to IA, encompassing the potential economic, environmental and social effects of proposed policies, was adopted in 2002\(^1\), replacing previous single-sector assessments. Guidelines for preparing impact assessments were first produced in 2003 and subsequently updated and revised\(^2\).

Impact Assessments must be undertaken for all major legislative and policy-defining initiatives included in the Commission Legislative and Work Programme and are produced as an integral part of the policy preparation process. An IA report must accompany all relevant proposals submitted to the College of Commissioners for adoption. Impact assessment, as defined in the Commission guidelines involves a set of logical steps, which structure the preparation of policy proposals:

1. What is the nature, magnitude and evolution of the problem?
2. What should be the objectives pursued; by the Union?
3. What are the main policy options for reaching these objectives?
4. What are the likely economic, social and environmental impacts of those options?
5. What are the advantages and disadvantages of the main options?
6. How could future monitoring and evaluation be organised?

The first step is to define clearly and precisely the problem or need that the Community seeks to address through a policy intervention. On this basis, clear objectives should be formulated and a range of possible policy options that could potentially achieve these objectives should be identified. A recent evaluation of the IA process in the Commission\(^3\) has reiterated the importance of identifying a range of realistic alternative options, to avoid the IA becoming simply an exercise to justify a pre-determined "preferred option". Once a set of policy options is in place, the likely economic, environmental and social impact of each possible way forward should be assessed.

This involves, firstly, identifying the possible impacts and causal relationships between factors (including who is affected and over what timeframe). Once the main possible impacts have been identified, the magnitude and direction of these should be assessed and, where possible, quantified.

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\(^1\) COM(2002)276
\(^2\) The current version of these guidelines is SEC(2005) 791 Impact Assessment Guidelines, June 2005, updated in March 2006. During the course of the project a new version of the IA Guidelines was drafted and a consultation on this was launched in June 2008.
\(^3\) Evaluation of the Commission’s Impact Assessment System, The Evaluation Partnership, April 2007
The depth and scope of this key phase in the IA is determined by the principle of "proportionate analysis" - the more significant the likely impacts of an action, the greater the effort required for the IA and the higher the expectation for quantification of potential impacts. In general terms, regulatory policies (legally-binding measures directly affecting individuals, governments and/or other entities) and spending policies (involving direct transfer of financial subsidies) require the most detailed impact assessments, with particularly attention paid to quantifying potential impacts where possible. "Softer" measures, which are not legally binding (such as Recommendations or other actions within the scope of the OMC), typically require less detailed Impact Assessments, not only because they involve fewer resources and typically affect fewer people, but also because of the comparative difficulty of identifying and quantifying the impacts of activities such as coordination or benchmarking.

The findings of the detailed analysis of the likely economic, environmental and social impacts of the different policy options are brought together in the next stage of the Impact Assessment, which involves a comparison of the different options and identification of a preferred option – which will typically be or become the proposal submitted to the College. The final stage involves considering the future monitoring and evaluation requirements of the preferred option. This whole process is summarised in Figure 1-1.

The focus of this study is on the question of how best to assess the likely social impacts of proposed EU policy initiatives (although these impacts are naturally inter-related with environmental and, particularly, economic impacts). Given the central role of work as a factor in wider social well-being, assessing of the impact of policies on employment is of critical importance.

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4 Largely corresponding to the "Dialogue" policies in the 2002 Study on the Potential of Community Policies for Employment Promotion
Figure 1-1  The Commission’s Impact Assessment Process

STAGE 1  What is the problem?

STAGE 2  What are the objectives?

STAGE 3  What are the policy options?

STAGE 4  Likely economic impact

     What are impacts? Who is affected? Why do they occur?

     Identify most important impacts

     Advanced analysis of impacts

Likely environmental impact

     What are impacts? Who is affected? Why do they occur?

     Identify most important impacts

     Advanced analysis of impacts

Likely social impact

     What are impacts? Who is affected? Why do they occur?

     Identify most important impacts

     Advanced analysis of impacts

STAGE 5  How do the options compare?

STAGE 6  How could future monitoring and evaluation be organised?

Source: Adapted from SEC(2005) 791
1.2 Aim of the study

The overall aim of the study, as stated in the Terms of Reference, is:

"to inform about and - more selectively – to apply standard and 'best available' methodologies to assess social effects on a number of new case studies"

As specified during the kick-off meeting, the underlying rationale for the project lies in a combination of:
1. The growing importance of Impact Assessment (IA) in the Commission;
2. Dissatisfaction with the quality of the assessment of social impacts to date and;
3. A desire on the part of DG EMPL to be able to comment more usefully on IA methodologies and advise colleagues from other services on suitable approaches to take (within the context of IA Steering Groups).

The case studies in this study have been selected from four Community policy fields, fixed by the Terms of Reference: Trade, Internal Market, Transport and Energy. These four case study sectors have been selected for two reasons. At first they are strategic sectors of high importance to the Commission in the next few years. Secondly, they are areas where DG EMPL would like to improve its knowledge about upcoming initiatives, the potential social impacts of these initiatives and about possible ways to measure these impacts.

The operational objectives of the study can be summarized as follows:
1. Identify and select case study initiatives in the four thematic areas
2. Review different methods and approaches to assess the social effects
3. Indicate the main direction of the impacts and how to assess these best
4. Provide some documented and possibly quantified results on social effects.
1.3 Methodology

The methodology for this study comprises five core steps, as shown in the figure below. This final report is the deliverable at the end of the project. Other documents which were produced during the study are indicated in the grey boxes (i.e. discussion paper and note on the kick-off meeting, first interim report, revised first interim report, second interim report, workshop minutes and minutes of all meetings with the EC-steering group). The final report encompasses the results of all intermediate outputs.

![Methodology in steps diagram](image-url)
1.4 Structure of the final report

The structure of this final interim report is as follows:

- Chapter 2 presents an overview of techniques which can be used to assess social impacts. This chapter provides information concerning a database which has been developed during the project. This database is a tool to select the most appropriate technique(s) for social impact assessment. Chapter 2 explains the set-up of the database and the sources used. The database itself is not included in this document\(^5\).
- Chapter 3 discusses the approach which was used to select case studies and the approach to review different methods for social impact assessment within the concrete case studies.
- Methodological guidance to the assessment of social impacts is presented in chapter 4. This chapter discusses some important findings and points of attention related to the execution of social impact assessments (e.g. which social effects should be taken into account, which techniques are most appropriate to assess or quantify social impacts, etc.).
- The annexes bundle the output of the case studies by policy field (i.e. transport policy, internal market policy (VAT), energy policy, trade policy). For each policy field the following subsections can be distinguished:
  - Scoping and identification of policy initiatives
    - Broad policy context and approach to select case studies
    - Long list of initiatives
    - Short list of initiatives
  - Case study x:
    - Context and policy measure
    - Identification of the impacts
    - Selection of the appropriate methods
    - IA results
    - Summary of the impacts
  - Fiches of the initiatives

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\(^5\) The database of techniques is developed in Excel, but the individual fiches are bundled in a Word-document. This document is currently distributed as a separate annex to this report.
2 Overview of techniques to assess social impacts

2.1 Introduction

The assessment of social impacts of strategic policies outside the social domain crucially depends on the availability of methods to assess these impacts. Hence, part of this project was to construct a database that provides an overview of existing techniques that are used both inside and outside the social domain to assess the social impacts of policy measures.

In this chapter we provide a brief description of the approach followed to collect relevant impact assessment techniques. Next an overview is given of the database content. The database is developed in Excel and its content is also available in a word document (distributed as a separate annex to this report). In this document a fiche is provided for each technique, whereby we specifically focus on the measurement of social impacts.

2.2 Approach to construct database

In order to collect techniques for the database the following steps were made. In this section we shortly describe the following issues:

- The criteria for selection of techniques;
- Search methods that were used to collect the techniques;

Selection criteria

For the database the following selection criteria were used:

- Quantitative as well as qualitative techniques
- Being able to measure (some) social impacts
- Within the category of models:
  - General as well as specific models
  - Global and local models
  - Sectoral and general models

Search method employed:

For the collection of techniques the following sources were checked:

- As a start the IA TOOLS\(^6\) was consulted. IA TOOLS is an online platform that provides Commission policy actors and impact assessment practitioners throughout Europe with a repository of guidance, information and best practices for the impact

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assessment of new policies and legislative measures. Besides IA TOOLS also provides a model inventory that helps to determine whether the impacts of a certain policy proposal can be assessed and quantified using existing models.

- The PSIA\(^7\) website of the World Bank. The website presents information on a series of tools and methods available for the analysis of poverty and social impacts of reforms. It presents summary information on the tools, drawing in particular on the Toolkit for Evaluating the poverty and distributional impact of economic policies and Tools for institutional, Political and social analysis (TIPS).
- The DIADEM project on disseminating on regulatory impact assessment.\(^8\) DIADEM aims to document the differing modes and degrees of implementation of assessment procedures in EU member states and at the EU level.
- The MEANS collection “Evaluating socio-economic programmes”, of the European Commission. This publication gives wider access to the lessons of the MEANS programme which the EC introduced with a view to improving and promoting evaluation methods for Structural Policies.
- Finally, we consulted the ECORYS experts on transport, internal market, trade and energy. The experts are all involved in this study. Among other an in-house document was used that provides an overview of impact assessment methodologies.\(^9\)

Next, the links to specific model websites were followed and these websites were examined generally and specifically for information on the technique or model and links to documentation (working papers, articles). Non-EU funded models (that aren’t described on the IATOOLS website) websites were directly visited. Articles on model applications or technical papers on models that were found through a models website or by searching the internet, were then analyzed specifically with regard to the assessment of social issues. Valid information for the database was extracted from the paper or article. Promising references or links to other sources of information on a model found in an article or paper were also investigated. For a limited number of the most promising models a web-based interview was sent to the model builders.

\(^7\) Poverty and Social Impact Analysis.  

\(^8\) See European network for Better Regulation: http://www.enbr.org/home.php

## 2.3 General description of the database content

Table 2.1 provides a complete overview of the content of the database of techniques.

<table>
<thead>
<tr>
<th>Name technique</th>
<th>General description of the technique</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selection criteria</td>
<td>Quantitative or qualitative</td>
</tr>
<tr>
<td></td>
<td>Model type (only for quantitative techniques)</td>
</tr>
<tr>
<td></td>
<td>Sectoral or general</td>
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<tr>
<td></td>
<td>Local or global</td>
</tr>
<tr>
<td></td>
<td>Stage in the evaluation or IA</td>
</tr>
<tr>
<td></td>
<td>Substage in the evaluation or IA</td>
</tr>
<tr>
<td></td>
<td>Regions</td>
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<tr>
<td></td>
<td>Assumptions</td>
</tr>
<tr>
<td></td>
<td>Specific limitations</td>
</tr>
<tr>
<td></td>
<td>Main policy field (e.g. transport, energy)</td>
</tr>
<tr>
<td></td>
<td>Data requirements (only for quantitative techniques)</td>
</tr>
<tr>
<td></td>
<td>Development and run time (only for quantitative techniques)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Specific aspects related to social impact assessment</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>General outputs</td>
</tr>
<tr>
<td></td>
<td>Social impacts:</td>
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<tr>
<td></td>
<td>- Employment</td>
</tr>
<tr>
<td></td>
<td>- Job quality</td>
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<tr>
<td></td>
<td>- Standards and rights related to job quality</td>
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<tr>
<td></td>
<td>- Social inclusion and protection</td>
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<tr>
<td></td>
<td>- Non-discrimination and equality of treatment and opportunities</td>
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<tr>
<td></td>
<td>- Access to and effects on social protection, health and educational services</td>
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<tr>
<td></td>
<td>- Public health and safety</td>
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<table>
<thead>
<tr>
<th>References</th>
<th>External link</th>
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<tbody>
<tr>
<td></td>
<td>Complementary techniques</td>
</tr>
<tr>
<td></td>
<td>Articles and references found</td>
</tr>
</tbody>
</table>
Some of the elements indicated in Table 2.1 require some extra explanation:

- **Stage in the evaluation or impact assessment**: the different techniques can be ordered according to the stage in the evaluation or impact assessment in which they can be used. Four key stages can be distinguished:
  - Structuring (identify expected effects or defining observation instruments)
  - Observing (defining field of observation or collecting data)
  - Analysing (comparing observations or estimating effects)
  - Judging (judging effects per criterion or formulating a synthetic judgement)

Some techniques can be used in several stages. For each technique, the most relevant stage (or stages) is/are indicated.

- **Specific limitations**: Each technique has its advantages and drawbacks. The general advantages and limitations of qualitative and quantitative techniques are summarised below (see also chapter 4). For some quantitative techniques additional limitations are indicated in the database fiches.

In general quantitative techniques have the following advantages:
- They permit generalizations
- Other researchers can independently replicate and verify the results
- They can establish a sense of causality
- The results are seen as ‘objective’ and impartial

At the same time, some drawbacks of quantitative techniques are:
- It is difficult to capture context specific issues with quantitative techniques
- They are designed externally, reflecting assumptions determined by the researcher developing or running the model

Generally speaking, qualitative techniques are capable of assessing the impact on social issues within a relatively short time-period. When quantitative data is unavailable, assessment of these social impacts is possible by using qualitative techniques. Moreover, these techniques can take fully account of context-specific issues. However, qualitative approaches do suffer from a number of important drawbacks:
- The individuals or groups being studied are usually small in number and/or have not been randomly selected, making it highly problematic (though not impossible) to draw generalizations about the wider population.
- Because groups are often selected idiosyncratically, e.g. on the basis of a judgment call by the lead investigator or on the recommendation of other participants, it is difficult to replicate, and thus independently verify, the results.
- Qualitative analysis often involves interpretative judgments on the part of the researcher, and two researchers looking at the same data may arrive at different interpretations.
- Because of an inability to “control” for other mitigating factors or to establish the counterfactual, it is hard to make compelling claims regarding causality.
• **Development and run time:** A priori it is not possible to indicate which techniques are more cost efficient. A model can be quickly run if all data is available and up to date. If this is not the case or if the model needs to be adapted high costs can be incurred and more time will be needed. The cost price of executing qualitative approaches can also vary a lot (e.g. depending on size of survey, number of interviews, etc.).

In the database fiches an indication of the development and run time is only specified for the quantitative techniques.

• **Model type:** the following distinction is made within the group of quantitative techniques\(^{10}\)
  - Computable General Equilibrium models
  - Partial Equilibrium models
  - Sectoral models
  - Macro-econometric models
  - Micro-models

• **Social impacts:** for each technique it is indicated whether social impacts can be assessed. This is done for each of the 7 domains (i.e. employment, job quality, standard and rights related to job quality, social inclusion, non-discrimination, access to and effects on social protection/health/education, public health and safety).

\(^{10}\) For more information on this typology we refer to chapter 4.
3 Case studies in 4 policy fields

3.1 Scoping and identification of policy initiatives in 4 fields

3.1.1 Approach

The first step of the study was a scoping exercise for the identification of policy initiatives that were to be used in a later stage to apply several impact assessment techniques. The aims of this step of the study can be summarized as follows:

- To identify suitable policy initiatives for the sector case studies;
- To make a preliminary assessment of the likely social effects of these initiatives;
- To provide a short list of possible policy initiatives for further analysis;

The policy identification exercise was conducted primarily by the sector specialists of Ecorys. The sector specialists started their research with a phase of desk review of policy documents. In addition, several Commission officials were contacted in order to get a general overview of future policy initiatives in the different fields. Once a long list of potential initiatives was set up, the sector experts made a first preliminary assessment of the main likely impacts of each initiative. A list of questions was used to assess the social effects. At this stage of the study the potential social effects are derived in a deductive manner. For each effect, the expert made a judgement of the likelihood that the effect will occur and intensity of the effect. A template has been developed to present the different initiatives and their likely impact in an uniform way (see fiches in annexes).

3.1.2 Refinement of the approach in the inception phase

The following refinements to the approach were made during the start-up of the study:

*Focus on upcoming policy initiatives at an early stage in the policy cycle*

The idea behind the Terms of Reference was that the study should look at upcoming policy initiatives, for which Impact Assessments are likely to begin in 2009 at the earliest. Given that the initiatives should be upcoming in the near future, it is likely that the initiatives selected will be at a relatively early stage in the policy cycle. However given the "gestation" period for EU policy initiatives, it is assumed that proposals to be launched in 2009 or 2010 will already have been discussed and the basic elements outlined.
Selection criteria for the policy initiatives

It was decided that the two most important criteria for the selection of policy initiatives are:

- the strategic importance of the initiatives for the Commission
- the potential scale of the social impacts

Focus on social effects of initiatives

The Commission’s Impact Assessment Guidelines highlight a range of key questions relating to the potential social effects of policy proposals, which are designed to assist those conducting impact assessments to identify potential impacts that are to be taken into consideration. These guidelines have a broad coverage of the concept “social impacts” (see further in chapter 4). In the course of the project it was decided that the impact on employment is the most important factor to consider followed by impacts on social inclusion.

3.1.3 Issues and problems encountered during the execution of the scoping exercise

During the execution of the scoping exercise the sector experts had quite some difficulties to find information about (strategic) future policy initiatives. It was therefore decided by the steering group meeting that artificial cases (policy options) may be described in those fields where real case examples which meet the selection criteria are not present (e.g. transport, energy, internal market). Most of the problems are linked with choices which were made at the kick-off meeting. The following issues can be mentioned as overall problems experienced by the sector experts:

- Identification of (strategic) future initiatives
- Concrete information about future initiatives
- Level at which the initiatives should be assessed
- Identification of quantitative techniques to measure the social effects

Barrier 1: Identification of (strategic) future initiative

A major problem faced by the sector experts was to identify future initiatives for which Impact Assessments are likely to begin in 2009 at the earliest. Existing policy documents rarely mention initiatives which have a longer time horizon then 2008/2009, given the appointment of new Commissioners (late 2009). In addition, some personal contacts with EC-officials were not successful in identifying future initiatives. Our experts got the response that all (or most) new initiatives are foreseen for the next year and that ongoing projects have been discussed and assessed in the past.

Barrier 2: Concrete information about future initiatives

The second problem is related to the first. Given the explicit choice that the study should focus on future initiatives, we faced the problem that many initiatives are still rather vague (not clearly defined and precise). In some fields it is difficult to find concrete...
information about future initiatives because the ideas are not worked out yet\textsuperscript{14}. The lack of concrete information also had implications for the next steps of the study. In order to assess the social impacts of initiatives, we needed enough concrete information concerning the initiative so that the right assumptions and parameters could be used in the assessment. The output and quality of the impact assessment is depending on the quality of the input. If the initiatives were insufficiently developed, we made additional assumptions ourselves in order to make the initiatives less vague.

\textit{Barrier 3: Level at which the initiatives should be assessed}

It is not always clear at which level the initiatives are best assessed, for example when the initiative consists of a policy package. If the impact assessment should be done at the highest level, it might become too complex and too vague. If the individual actions are considered as distinct policy initiatives, the impact assessment might come up with rather small effects.

\textit{Barrier 4: Identification of quantitative techniques to measure the social effects}

A last issue raised by the sector experts relates to the lack of quantitative models designed to assess the impact of certain (new) measures. So besides the future initiatives which are often not concrete at the moment, the experts face the difficulty that the impact assessment techniques are in some domains also under construction (e.g. the assessment of impacts of (removal of) non-tariff barriers). This issue had important implications for the next steps of the study. Hence, it will be difficult to come up with existing models that are able to assess the social impacts. As mentioned in the proposal, we will however also look at qualitative techniques which can be used as an alternative. Furthermore, we will regard the lack of existing models as an opportunity to incorporate the measurement of social effects in models which are under construction.

3.1.4 Output of the scoping exercise

In the 4 policy fields the scoping exercise resulted in:

- a long list of potential initiatives (with a preliminary assessment of the likely impacts)
- a short list of initiatives selected by the steering group as case studies for the next step of the study (11 case studies in total)

The output of this scoping exercise is bundled in the annexes (by policy field).

\textsuperscript{14} In trade, this problem is related to the nature of the activity. Given that the bulk of the activities and initiatives of DG Trade relate to developing and maintaining trade relations with third countries and negotiating agreements, it is not surprising that the Commission does not give detailed information about its position.
3.2 Case studies: methodological screening and social impact assessment

3.2.1 Approach

The aims of the following steps of the study can be described as follows:

• To give an indication of the main directions of the impacts linked to the different policy initiatives and how to assess these best
• To identify which qualitative and quantitative methods can be applied and which methods are most suited to assessing particular aspects
• To provide some documented and possibly quantified results on the initiatives analysed

The main objective of this study was to review different techniques to measure social impacts and to apply this review in concrete case study examples. The case studies thus have a double purpose. On the one hand, they provide insights in some strategic policy initiatives in 4 policy fields (transport, VAT, energy and trade). These initiatives may be artificial at the moment, but may become real policy options in the future. Each case study describes the initiative in a broader policy context, explains the content of the initiative and presents the main expected social impacts. Where possible, these effects are also quantified\(^{15}\).

While the first purpose of the case studies is related to the content, the second purpose lies on the methodological level. Each case study focuses also on the selection of the most appropriate techniques for social impact assessment. The pro and cons of the different options are described within the context of the concrete cases. Finally one or more technique(s) is/are suggested as the most appropriate. To test and illustrate the applicability of the selected techniques, the assessment of social impacts is carried out at the selected policy initiatives.

The analysis of the case studies was executed by a joint team of sector experts and labour market specialists. Most of the work was carried out through desk research based on knowledge and expertise acquired in previous impact assessments in the relevant fields, combined with new information collected (e.g. other evaluation or impact assessment studies, some interviews with stakeholders in the field, etc.). In each case study the relevant sources are mentioned either in footnotes or in a separate reference list.

During the execution of the case studies the research team encountered several problems and challenges regarding the appropriate selection of techniques for social impact assessment. The findings from this process are reported in a structured way in chapter 4 (methodological guidance to the assessment of social impacts).

\(^{15}\) Within the time span and budget constraints of this project, it was from the beginning clear that it was not feasible to execute full impact assessment on all case studies. This was however not the objective of this study.
## 3.2.2 Output of the 11 case studies

In consultation with DG Employment, 11 cases have been selected for further analysis. The table below presents an overview of the selected cases, as well as the main motivation(s) for selection. The majority of cases have been selected because they are of strategic importance and the social impacts are expected to be important. In a few cases other elements have influenced the final selection (e.g. balance in the type of measures, political importance of certain measures).

<table>
<thead>
<tr>
<th>Case study</th>
<th>Policy field</th>
<th>Motivation for selection</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internalisation of external costs in inland waterway transport</td>
<td>Transport Policy</td>
<td>- Strategic importance is high (greening of transport)</td>
<td>IA has been executed (but only transport effects assessed, no focus on social impacts)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Social impacts: high likelihood and rather strong impact expected</td>
<td></td>
</tr>
<tr>
<td>Further liberalisation of the aviation ground handling market</td>
<td>Transport Policy</td>
<td>- Strategic importance is high (to increase competition in transport)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Social impacts: high likelihood and strong impact expected</td>
<td></td>
</tr>
<tr>
<td>Coordination of national action plans on cycling promotion</td>
<td>Transport Policy</td>
<td>- Strategic importance is high (greening of transport)</td>
<td>Preference to select min. 1 case related to a coordination measure – interest in type of assessment techniques in this case</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Social impacts: medium to high likelihood and rather limited impact expected</td>
<td></td>
</tr>
<tr>
<td>VAT: combating fraud</td>
<td>Internal Market Policy (VAT)</td>
<td>- Strategic importance is high (tackling fraud)</td>
<td>Strategic importance was given more weight than expected social impacts - interest in type of assessment techniques in this case</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Social impacts: low importance expected</td>
<td></td>
</tr>
<tr>
<td>Reduced Fuel taxation in Transport</td>
<td>Internal Market Policy (VAT)</td>
<td>- Political importance is high</td>
<td>Case was proposed by Steering Group given high political attention and preference to have min. 1 case on oil prices</td>
</tr>
<tr>
<td>The steel sector and the EU ETS</td>
<td>Energy Policy</td>
<td>- Strategic importance is high (more CO2 reductions)</td>
<td>Case was proposed by Steering Group - other EU ETS case was suggested by expert (aviation), but this sector is already covered in another selected case</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Social impacts: high likelihood and high impact expected</td>
<td></td>
</tr>
<tr>
<td>EU Sugar Sector and the Energy Crop Scheme</td>
<td>Energy Policy</td>
<td>- Strategic importance is high (more renewables)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Social impacts: high likelihood and medium impact expected</td>
<td></td>
</tr>
<tr>
<td>Case study</td>
<td>Policy field</td>
<td>Motivation for selection</td>
<td>Remarks</td>
</tr>
<tr>
<td>-----------------------------------------------------</td>
<td>--------------</td>
<td>----------------------------------------------------------------------------------------</td>
<td>----------------------------------------------</td>
</tr>
<tr>
<td>Tighter requirements on building efficiency</td>
<td>Energy Policy</td>
<td>- Strategic importance is high (increase of energy savings)</td>
<td>IA has been executed in 2008 (but no social impact assessment)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Social impacts: high likelihood and high impact expected</td>
<td></td>
</tr>
<tr>
<td>Liberalisation of services: modes 1-3</td>
<td>Trade Policy</td>
<td>- Strategic importance is high (removing non-tariff barriers to EU external trade and investments)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Social impacts: high likelihood and high impact expected</td>
<td></td>
</tr>
<tr>
<td>Liberalisation of services: mode 4 (labour)</td>
<td>Trade Policy</td>
<td>- Strategic importance is high (related to future commitments on Mode4-trade in services)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Social impacts: high likelihood and high impact expected</td>
<td></td>
</tr>
<tr>
<td>Protection of Intellectual Property Rights through Trade Agreements</td>
<td>Trade Policy</td>
<td>- Strategic importance is high (removing non-tariff barriers to EU external trade and investments)</td>
<td>Type of measure was most important motivation - interest in type of assessment techniques in this case</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Social impacts: medium likelihood and some impact expected</td>
<td></td>
</tr>
</tbody>
</table>

For each of the selected case studies, the following activities were carried out and reported according to this structure:

- Description of the context and the policy measure, focussing on its strategic importance and on the assumptions made to define the policy;
- Identification of the impacts (focus on social impacts);
- Selection of the appropriate methods: reviewing different methods and approaches to assess social effects – starting from a set of alternative options and coming to a proposed technique (or set of techniques).
- Measuring the social impacts (provide some documented and possibly quantified results on the initiatives analysed)

The output of the analysis of the 11 cases is bundled in the annexes (by policy field).
4 Methodological guidance to the assessment of social impacts

4.1 The process of assessing social impacts

4.1.1 Analytical stages in an Impact Assessment Process

An impact assessment process consists of six stages as explained in chapter 1:
1. Identify the problem
2. Define the objectives
3. Develop main policy options
4. Analyse their impacts
5. Compare the options
6. Outline policy monitoring and evaluation

The focus of this project is on the fourth stage of the process in which the likely economic, social and environmental impacts are analysed. As the aim of this study is to inform about methodologies to assess social impacts in a number of case studies, we concentrate on the assessment of the likely social impacts.

4.1.2 Steps in assessing social impacts

The assessment of social impacts is done in three consecutive steps as also mentioned in the Commission’s Impact Assessment Guidelines:
1. Identification of social impacts
2. Qualitative assessment of which social impacts are the most significant
3. In-depth analysis of social impacts

We elaborate on each of these steps in the following paragraphs.

4.2 STEP 1: Identification of social impacts

4.2.1 What are social impacts and who is affected

The first step is to identify social impacts likely to occur as a consequence of implementing a particular policy.

In order to identify these social impacts, it is vital to understand what is exactly meant by social impacts. Guidance on this can be found in the Commission’s IA Guidelines as well as in the toolkit of DG Employment. Both documents contain a table summarizing
different types of social impacts that could occur. Each type of social impact can be identified by a set of key questions. It is important to note that the questions in the table are neither exhaustive nor definitive. Moreover, these questions should not be answered with a simple yes or no, but are meant as an aid to think about a wider range of potential impacts of policy options.

The IA guidelines have a broad coverage of the concept “social impacts” as they refer to the following nine domains:

- Employment and labour markets (e.g. new job creation, job losses)
- Standards and rights related to job quality (e.g. impact on access to training, protection at work)
- Social inclusion and protection of particular groups (e.g. effect on access to the labour market or transitions in/out of the labour market)
- Equality of treatment and opportunities, non-discrimination (e.g. gender equality)
- Private and family life, personal data (e.g. privacy of individuals)
- Governance, participation, good administration, access to justice, media and ethics (e.g. effect on the responsibilities of public institutions or administrations)
- Public health and safety (e.g. impact on life expectancy, health risks)
- Crime, terrorism and security (e.g. effect on number of criminal acts)
- Access to and effects on social protection, health and educational systems (e.g. effect on financing, organisation, access to social, health and education systems)

Of these, the first four relate specifically to employment and labour market issues, while the others cover other social dimensions. In the course of the project it was decided that the impact on employment is the most important factor to consider followed by impacts on social inclusion (impact on vulnerable social groups). The non-employment related social domains (the last 5 of the list above) were not focused on when developing a methodology for the assessment of social impacts. In the concrete sector case studies certain other (non-employment-related) social impacts are mentioned if they are relevant for a particular impact assessment.

For summarizing purposes, the social impacts relevant for this project were put in a table together with some illustrative topics as seen in Table 4.1. This table was also used at the end of each case study to provide a global overview of the social impacts assessed in the case study.
Table 4.1: Social impacts table

<table>
<thead>
<tr>
<th>Impacts</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment and labour market:</td>
<td>Total employment</td>
</tr>
<tr>
<td>• Impact on labour demand</td>
<td>Number of new jobs created, destroyed and transformed</td>
</tr>
<tr>
<td>• Impact on labour supply</td>
<td>Sectoral distribution of employment</td>
</tr>
<tr>
<td>• Impact on the functioning of the labour market</td>
<td>Geographical distribution of employment</td>
</tr>
<tr>
<td></td>
<td>Gender distribution of employment</td>
</tr>
<tr>
<td></td>
<td>Educational distribution of employment</td>
</tr>
<tr>
<td>Total employment</td>
<td>Level of remuneration/wages</td>
</tr>
<tr>
<td>Number of new jobs created, destroyed and transformed</td>
<td>Type of working contracts, working time arrangements</td>
</tr>
<tr>
<td>Sectoral distribution of employment</td>
<td>Access to training/career development</td>
</tr>
<tr>
<td>Geographical distribution of employment</td>
<td>Job satisfaction</td>
</tr>
<tr>
<td>Gender distribution of employment</td>
<td></td>
</tr>
<tr>
<td>Educational distribution of employment</td>
<td></td>
</tr>
<tr>
<td>Job quality</td>
<td>Health and safety at work</td>
</tr>
<tr>
<td></td>
<td>Balance between flexibility and security</td>
</tr>
<tr>
<td></td>
<td>Social dialogue and worker involvement</td>
</tr>
<tr>
<td></td>
<td>Employers rights and obligations</td>
</tr>
<tr>
<td></td>
<td>Minimum employment standards in the EU</td>
</tr>
<tr>
<td></td>
<td>Restructuring, adaptation to change and technological innovations</td>
</tr>
<tr>
<td></td>
<td>in the workplace</td>
</tr>
<tr>
<td></td>
<td>Work organisation and work-life balance</td>
</tr>
<tr>
<td>Standards and rights related to job quality</td>
<td></td>
</tr>
<tr>
<td>Health and safety at work</td>
<td></td>
</tr>
<tr>
<td>Balance between flexibility and security</td>
<td></td>
</tr>
<tr>
<td>Social dialogue and worker involvement</td>
<td></td>
</tr>
<tr>
<td>Employers rights and obligations</td>
<td></td>
</tr>
<tr>
<td>Minimum employment standards in the EU</td>
<td>Restructuring, adaptation to change and technological innovations</td>
</tr>
<tr>
<td>Restructuring, adaptation to change and technological innovations in</td>
<td>in the workplace</td>
</tr>
<tr>
<td>the workplace</td>
<td></td>
</tr>
<tr>
<td>Work organisation and work-life balance</td>
<td></td>
</tr>
<tr>
<td>Social inclusion and protection of particular groups</td>
<td>Information of the public</td>
</tr>
<tr>
<td>• Access to the labour market</td>
<td>Risk of poverty</td>
</tr>
<tr>
<td>• Access to placement services or services of general economic interest</td>
<td>Long term unemployment</td>
</tr>
<tr>
<td>• Access to goods and services</td>
<td>Healthy life expectancy</td>
</tr>
<tr>
<td>• (In)equality</td>
<td>Employment and activity rate of particular groups</td>
</tr>
<tr>
<td></td>
<td>Income distribution</td>
</tr>
<tr>
<td>Equality of treatment and opportunities, non-discrimination</td>
<td>Non-discrimination, equal treatment and equal opportunities for all</td>
</tr>
<tr>
<td></td>
<td>Equal impacts on particular groups</td>
</tr>
<tr>
<td>Access to and effects on social protection, health and education systems</td>
<td>Affordability of social security, health and long-term care</td>
</tr>
<tr>
<td>• Quality of services</td>
<td>Education of workers</td>
</tr>
<tr>
<td>• Access to services</td>
<td>Access of individuals to public/private education or vocational and</td>
</tr>
<tr>
<td></td>
<td>continuing training</td>
</tr>
<tr>
<td>Public health and safety</td>
<td>Changes in life expectancy (due to occupation, income position, working</td>
</tr>
<tr>
<td></td>
<td>environment,....)</td>
</tr>
<tr>
<td></td>
<td>Impact on health (of changes in environmental aspects, energy use &amp;/or</td>
</tr>
<tr>
<td></td>
<td>waste disposal,....)</td>
</tr>
</tbody>
</table>

Source: IDEA Consult/ECORYS NL
For each impact it is also important to identify who is affected and over what timescale. This will be the starting point to study distributional impacts, i.e. social impacts can differ between groups in society, regions or (sub)sectors (see 4.2.3 for more information about distributional impacts).

4.2.2 How to identify social effects

In all case studies a causal model was used to identify the social effects of the policy initiative involved.

A causal model is a bottom-up exercise that starts by identifying the first order impacts. These initially identified impacts arise if the policy initiative reaches its objectives. First order impacts can be economic, environmental or social in nature. In most of the presented case studies the first order impacts are economic or environmental impacts. These first order impacts then form the basis for second order impacts which can again be economic, environmental or social in nature. This process can continue with third order impacts and so on. A mapping of all impacts can then be done presenting the cause-and-effect linkages between the policy option and their impacts. The goal of a causal model is to create a clear picture of all impacts and their causes that can be used in further analyses.

Virtually all EU policies have the potential to have social impacts. Proposals which do not aim at improving the employment rate, social cohesion and equal opportunities, may nevertheless have significant impacts on one of these topics. For example liberalisation in a particular sector can lead to a decrease in price and an increase in quality of a certain good or service. These are first order economic impacts. The increase in quality can have second order social impacts, namely increased work pressure and increased flexibility in working hours affecting the job quality in a negative way.

Figure 4.1 illustrates how first order economic impacts (in the product market) of a policy initiative can create second order impacts in the labour market.

The labour market is an informal mechanism where demand for and supply of labour interact. The supply of labour includes all those who are participating in the labour force (either working or looking for work). The labour market participation rate and the supply of labour are influenced by demographic factors (e.g. number of working age people), wages, alternative income support (social security systems) and economic conditions. The demand for labour is a derived demand, derived from the output levels in the goods market. The most important drivers affecting labour demand are labour costs (wage and other costs), labour productivity, production and supply of human capital.

The interaction of labour demand and supply results in price (wage) and quantity (number of persons employed). In contrast to other markets (e.g. money market, goods market), labour markets are not always in equilibrium due to the influence of several labour market institutions. Governments deliberately intervene in the functioning of the labour market (e.g. to guarantee minimum income, to guarantee job security) through labour legislation (e.g. employment protection), social security system and social dialogue (e.g. union coverage).
4.2.3 Findings

The following findings concerning the identification of social impacts were discovered during the execution of the case studies:

**Finding 1: identify both intended and unintended social impacts**

Some social impacts will be intentional and thus will already be defined as objectives of the policy initiative. However, for policy propositions outside the social domain (as in the case studies executed in this project) most social impacts will be unintended as the main focus is on economic or environmental impacts. It is thus important to keep a broad scope when identifying the possible impacts and to look beyond the obvious and intended impacts. The identification of impacts should result in a comprehensive picture of all potential effects of a policy option.

**Finding 2: social impacts cannot be assessed in isolation**

In the case studies it became clear that there are very strong interlinkages between economic, environmental and social impacts. These three kinds of impacts hang inseparably together and cannot be assessed as stand-alone impacts. As such social impacts are often second order impacts from first order economic or environmental impacts. This is especially the case if the policy initiatives lie outside the social domain.
The other way around, first order social impacts can also have second order economic or environmental impacts.

**Finding 3: social impacts do not always point in the same direction**
In some case studies several identified social effects point in a different direction. For example, a policy change can induce the creation of a number of new jobs in a particular sector while at the same time decreasing the job quality of the persons already employed in the sector. The question then remains if the end balance of this policy change is positive or negative. To judge this, external expertise might be helpful (e.g. sectoral experts, labour market specialists).

**Finding 4: the significance of distributional impacts**
Identifying the impacts on different target groups, (sub)sectors or regions is crucial for a social impact analysis. Policy options can be beneficial to the economy or society as a whole, but might have positive and negative impacts unevenly spread across different sectors, target groups or regions. For example, a policy initiative can create new jobs in a sector while destroying jobs in another sector. This means that the initiative has winners and losers. Identifying both groups helps to foresee resistance and may point to mitigating measures reducing the negative impacts. A policy change may also have a distributional impact if existing inequalities are aggravated. If for example only high skilled jobs are created this could increase the inequality with lower skilled people who already have more difficulties to find a job.

**Finding 5: social impacts can differ between Member States due to different labour market settings**
Because of the different institutional labour market setting in each Member State, social impacts are likely to differ between countries. The functioning of the labour market (e.g. flexicurity, social dialogue, labour market legislation) plays an important role in determining the nature and the size of the social impacts of a policy change. For example, when a particular policy initiative is expected to have negative effects on job quality, Member States with strong union presence might be able to reduce these negative effects or secure mitigating measures. This means that the social impact will differ across Member States. It is thus vital to take into account the local circumstances and adapt the assessment method hereto (see also 4.4.3).

**Finding 6: distinguish between long-term and short-term effects**
It is important to consider both the immediate effects and those on the longer term. It is possible that the identified social impacts differ in the long versus the short-term. For example, a policy proposition could temporary induce lower wages, while in the long-term this negative effect might disappear.

**Finding 7: lack of a comprehensive framework**
There is a lack of a comprehensive (theoretical) framework to identify ex-ante all social impacts of a policy proposition. A common comprehensive framework would be a great advantage to execute a social impact analysis in practice.

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16 In this project, the term “distributional impact” refers to the impact on different regions, sectors or social groups (see also IA Guidelines).
4.3 STEP 2: Qualitative assessment of significant social impacts

4.3.1 Determine the importance of the impacts

The aim of this step is to determine which of the identified impacts are important and as such should be covered in the in-depth analysis of impacts. Following the principle of proportionate analysis, the depth and scope of an impact assessment is determined by the likely impacts of the proposed action. The more important an impact is judged to be, the greater the effort of quantification is generally expected. For impacts that are considered to be unlikely and/or low in importance efforts to assess them can be minimized to save resources (time, money).

Determining the importance or significance of impacts can be done by means of several qualitative techniques. We discuss two exemplary techniques below:

1. Qualitative assessment
   In this approach likelihoods of occurrence are first assigned to each impact (e.g. low, medium, high). Secondly, the magnitude of each impact (e.g. low, medium, high) is then judged. Finally, the importance of an impact is assessed based upon both the likelihood of occurrence and its magnitude. Impacts that combine a high likelihood with a large impact should certainly be further analysed in-depth. To assign likelihoods and magnitudes to the identified impacts extensive sector and labour market expertise is needed (see also 4.3.2).

2. Impact matrix
   The impact matrix provides a simplified overview of a given policy option. For this, a matrix is set up with the main actions of the policy option (rows) and the main expected impacts (columns). The expected impacts are organized according to a time horizon where possible (short-term versus long-term impacts). Each cell is then given a score according to the importance (based on likelihood and magnitude) of the specific impact for the specific action. The impact matrix thus ensures that all expected impacts are described, structured and considered before a selection is made for further in-depth examination.

4.3.2 Findings

**Finding 1: determining the importance of impacts in essential**
This second step in the assessment of social impacts should not be rushed neither overlooked. It is in fact an essential step as it is decided which impacts are important enough to be investigated further. When important impacts are missed, this has serious consequences for the success of the impact analysis. As resources (time, money, and personnel) are often limited, this step could avoid spending scarce resources on analyzing impacts which have a low importance.

**Finding 2: determining the importance of impacts requires expertise**
Although the techniques above appear to look simple, applying them is in fact not easy. In order to judge whether a social impact is likely to occur and with what magnitude, extensive sector and labour market expertise is needed (e.g. build up from similar
evaluation or impact assessment studies in the past). If impacts are wrongly classified this endangers the next steps in the impact analysis.

4.4  **STEP 3: In-depth analysis of social impacts**

4.4.1  **Introduction**

The third step in assessing social impacts consists of an in-depth analysis of these impacts which are considered to be important as a result of the analysis in step 2. These important impacts will be assessed in this final step.

The in-depth analysis itself has three sub-steps:
1. Selection of the assessment method
2. Data collection
3. Data processing and analysis

A first sub-step is to select the appropriate method to assess the important social impacts. Secondly, data is collected to be fed into the technique(s) chosen in the assessment method. Finally, this data is processed by applying the techniques and the results are analysed leading to an assessment of the identified impacts.

As the focus of this project is on how to assess social impacts of selected strategic Commission policies, we restrict ourselves to the first sub-step of selecting the assessment method. The other two sub-steps are not elaborated on, but techniques to collect and process data are described in the database which has been developed during the course of this study.

4.4.2  **What is an assessment method**

We define an **assessment method** as the application of one or more research techniques to assess the identified social impacts.

As the definition shows, an assessment method could include a single technique (e.g. a sectoral model) or a combination of two or more techniques applied sequentially or simultaneously.

A **technique** is a clearly defined and standardized procedure (with a name) to either collect, structure, analyse or judge data/variables relevant for impact of policies. These techniques can be quantitative or qualitative in nature.

For example a Computable General Equilibrium (CGE) model is a technique in which regression analysis is used as a tool. Likewise, stakeholder analysis is another type of technique in which for example a survey could be used as a tool.
As explained below, each technique has its pros and cons and no single technique is able to assess the impacts of policies outside the social domain capturing in detail the implication for employment and other social issues. For these reasons, an appropriate assessment method often combines two or more techniques.

We make the distinction between quantitative and qualitative techniques as done in the database.

**Quantitative techniques**
The quantitative techniques or models can be divided into macro models and micro models based on their level of aggregation.

**(1) Macro models**
In general, macro-orientated models use labour as one of the input factors for a production model. These models use as input aggregated data from national accounts or sector level information. These type of models are capable of assessing the impact on overall employment or employment by sector or region. Drawback of macro models is that they generally do not allow disaggregation at a lower level. Besides, macro models also ignore any quality or legal issues regarding employment. Since in most models a link can be made to prices, output in terms of GDP is also feasible using these models.

Four groups of macro models are deemed relevant to measure social impacts:

- **Computable General Equilibrium models (CGE)**
These are economic models that use actual economic data to estimate how an economy might react to changes in policy, technology or other external factors. A CGE model consists of equations describing model variables as well as a usually very detailed database. The equations tend to be neo-classical in spirit (e.g. assuming cost-minimizing behaviour by producers, average-cost pricing, household demands based on optimizing behaviour). This tool is usually used for policy reforms that are likely to play a large role in the economy and might have important impacts on other sectors and/or on the flow of foreign exchange or capital. CGEs are data-intensive and are constructed from combined national accounts and survey data that are first complied into SAMs, Social Accounting Matrices.

Examples of CGE models: EDGE, EDIP, LINKAGE

- **Partial Equilibrium models**
Partial equilibrium is a type of economic equilibrium where the clearance of the market of some specific goods is obtained independently from prices and quantities demanded and supplied in other markets. In other words, the prices of all substitutes and complements, as well as income levels of consumers are constant. The dynamics process is that prices adjust until supply equals demand. Partial equilibrium models thus consist of a system of demand and supply relationships for a few sectors of the economy. These type of models work best for evaluating policies that change the relative price of a specific good, such as the removal of a subsidy, tariff or quota. A clear disadvantage of these models is that their coverage is not economy wide.
Examples of Partial Equilibrium models: PRIMES, SAFFIRE, SIMAC

- **Sectoral models**

  Sectoral models are constructed for one specific sector of the economy. The advantages of sectoral models are the high degree of disaggregation and the detailed representation of specific economic and institutional factors. The most important drawback is the inability to capture the effects on other markets.

  Examples of Sectoral models: EPEDITE, TREMOVE, ASTRA

- **Macro-econometric models**

  This class of macro models also consists of an econometric method with equations. However, the underlying behavioural assumptions do not always rely on micro-economic theory.

  A specific type of macro-econometric models are the input-output models. Input-output models use a matrix representation of a nation's (or a region's) economy to predict the effect of changes in one industry on others and by consumers, government, and foreign suppliers on the economy. Input-output analysis considers inter-industry relations in an economy, depicting how the output of one industry goes to another industry where it serves as an input, and thereby makes one industry dependent on another both as customer of output and as supplier of inputs. Input-output models can be extended to incorporate employment statistics and hence to include social impacts.

  Examples of Macro-econometric models: E3ME, NEMESIS, QUEST II, RIOT (input-output model)

(2) **Micro models**

Micro models are based on micro-data, such as data from individuals, households or firms. A typical example of a micro-orientated model is a micro-simulation model. This type of model is specifically developed to assess distribution issues regarding the impact of policy measures. Micro-simulation models can be used to answer questions regarding specific target groups, the impact on the income distribution or poverty issues. Drawback of these models is that they are not suited directly to assess the impact of strategic policies outside the social domain.

Examples of Micro-simulation models: EUROMOD, ETA, TAXBEN

In general, we can indicate the following advantages and drawbacks of quantitative techniques.

Quantitative techniques have several advantages:
- They permit generalizations
- Other researchers can independently replicate and verify the results
- They can establish a sense of causality
- The results are seen as ‘objective’ and impartial
At the same time, some drawbacks of quantitative techniques are:

- It is difficult to capture context specific issues with quantitative techniques
- They are designed externally, reflecting assumptions determined by the researcher developing or running the model

**Qualitative techniques**

Qualitative techniques can be defined as techniques based mostly on soft information (e.g. opinions, experiences) rather than hard information (indicators, figures, multiplier effects). Although the qualitative techniques sometimes require a certain amount of mathematical processing e.g. when large-scale surveys are used to collect subjective opinions, they do not require mathematic or econometric modelling.

Table 4.2 provides an overview of the qualitative techniques that are included in the database. All techniques in the database are classified according to which of the four steps of a classic evaluation process they can be used (see chapter 2). This means the qualitative techniques can be used as:

- Structuring techniques
- Observing techniques
- Analysis techniques
- Judging techniques

<table>
<thead>
<tr>
<th>Table 4.2</th>
<th>Overview of qualitative techniques</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structuring</td>
<td>Colour vote, Impact mapping, Context indicators, Impact matrix, Logical framework, Objectives diagram and impact diagram, Problem diagram, SWOT analysis</td>
</tr>
<tr>
<td>Observing</td>
<td>Focus group, Individual interview, Questionnaire survey, Social Capital Assessment Tool, Stakeholder analysis</td>
</tr>
<tr>
<td>Analysis</td>
<td>Overlay maps, Case study, Causal chain analysis, Leopold matrix, Sorensen networking method, Delphi, comparison groups</td>
</tr>
<tr>
<td>Judging</td>
<td>Benchmarking, Risk analysis, expert panels</td>
</tr>
</tbody>
</table>

Generally speaking, qualitative techniques are capable of assessing the impact on social issues within a relatively short time-period. When quantitative data is unavailable, assessment of these social impacts is possible by using qualitative techniques. Moreover, these techniques can take fully account of context-specific issues.

However, qualitative approaches do suffer from a number of important drawbacks:

- The individuals or groups being studied are usually small in number and/or have not been randomly selected, making it highly problematic (though not impossible) to draw generalizations about the wider population.
- Because groups are often selected idiosyncratically, e.g. on the basis of a judgment call by the lead investigator or on the recommendation of other participants, it is difficult to replicate, and thus independently verify, the results.
Qualitative analysis often involves interpretative judgments on the part of the researcher, and two researchers looking at the same data may arrive at different interpretations.

Because of an inability to “control” for other mitigating factors or to establish the counterfactual, it is hard to make compelling claims regarding causality.

4.4.3 Selection criteria

The previous paragraph presented a wide range of techniques which can be combined into an appropriate assessment method to measure social impacts. As each technique has its pros and cons it is crucial to consider several important selection criteria when selecting the appropriate assessment method.

Criterion 1: the method should be able to measure the type of social impacts identified as important

The type of social impacts that were identified as important in step 2 above must be possible to measure with the chosen assessment method. For measuring employment effects you need different techniques than for measuring quality of work impacts or health effects.

Illustration: macro models are able to measure certain aspects of job quality, namely wage and income. If other aspects of job quality are to be assessed (e.g. working hours, job satisfaction) other techniques should be used (e.g. micro-simulation models, qualitative techniques).

Criterion 2: availability and timeliness of data

This criterion is very important for quantitative techniques (models). If the required data is not available, the econometric model cannot be run. Likewise, if the only data available is outdated, calculating the model will not lead to relevant results.

Illustration: input-output models have enormous data requirements because the expenditures and revenues of each branch of economic activity have to be represented. These data should be regularly updated to provide timely results.

Criterion 3: the relative importance of distributional effects

If the impacts that are to be measured largely differ across regions, (sub)sectors or target groups, techniques have to be selected which are able to capture these distributional effects.

Illustration: within the class of macro models, only the augmented CGE models are able to capture distributional impacts. In an augmented CGE with representative households a computable general equilibrium model is linked to a household module, allowing different household types to be taken into account.
Criterion 4: the role of the institutional labour market setting determines the level of analysis

If the institutional labour market setting (e.g. legislation, social dialogue) plays an important role in the impacts (intended or unintended) caused by the policy proposition, the level of analysis should be adapted here to. When large differences between Member States are expected because of different institutional labour market settings, the analysis should be conducted on national level instead of EU level. For other policy initiatives, the regional level might be more appropriate.

Illustration: qualitative techniques are in general better suited to take the context in account. However, the institutional labour market setting can also be explicitly modeled by macro-econometric models and micro-simulation models.

Criterion 5: amount of spillover effects on the rest of the economy

If the impacts of a certain policy initiative are estimated to have considerable spillover effects on the rest of the economy (other sectors, other countries), this calls for specific techniques to be used in the assessment method. If the impacts are fairly restricted to one (sub)sector, sectoral models can be used.

Illustration: partial equilibrium models model the clearance on the market of some specific goods independently from prices and quantities demanded and supplied in other sectors. As such, these models include limited spillover effects. In contrast, GCE models include all sectors of an economy or region and thus measure the impacts of a change in policy on the whole economy.

Criterion 6: aggregation level of the analysis

Another criterion is the level of aggregation of the analysis: should the impacts be measured in an aggregate way (macro level) or lies the focus on the change of behaviour of firms, individuals and households (micro level).

Illustration: macro models use labour as one of the input factors for a production model and are capable of assessing the impact on overall employment or employment by sector or region. In general, they do not allow disaggregation at a lower level. In contrast, micro-simulation models are based on micro data and as such allow measuring the impact of a policy proposition on individual households and firms.

Criterion 7: Appropriateness of the underlying assumptions of techniques given the problem to be analysed

Each technique (especially quantitative models) has underlying (limiting) assumptions which should be recognized when using the technique. If these assumptions cannot be accepted considering the problem being studied, a different research technique should be chosen.

Illustration: CGE models are based on an underlying economic model, often a model with neo-classical assumptions (e.g. assuming cost-minimizing behaviour of producers, average-cost pricing and optimizing behaviour of consumers).
In addition to the criteria above, the choice of techniques depends also on the available budget and time constraints. A priori it is not possible to indicate which techniques are more cost efficient. A model can be quickly run if all data is available and up to date. If this is not the case or if the model needs to be adapted high costs can be incurred and more time will be needed. The cost price of executing qualitative approaches can also vary a lot (e.g. depending on size of survey, number of interviews, etc.).

4.4.4 Applying the selection criteria in practice

When determining an appropriate assessment method for a particular policy initiative, the selection criteria presented above should be run through. An important distinction is the choice between quantitative or qualitative techniques. In essence, qualitative techniques can always be used to assess social impacts. But as explained above (see 0), qualitative techniques have a number of important drawbacks which makes it preferable to check if quantitative models can be used to measure the identified impacts. To do this, the selection criteria can be applied following the scheme in Figure 4.2.

![Figure 4.2 Applying the selection criteria in practice](source: IDEA Consult/ECORYS NL)
Criterion 1: can the important identified impacts be quantified?
The type of social impacts that were identified as important must be possible to quantify by a model. Table 4.3 summarizes which type of social impacts can be measured by the different techniques.

The table shows that:
- Several type of social impacts cannot be measured by quantitative techniques like standard and rights related to job quality and non-discrimination and equality. If these impacts are deemed important, the only solution is to use qualitative techniques
- Employment and to an extend quality of work can be measured by all quantitative models
- Micro-simulation models and (augmented) CGE models can cover a broad range of impacts
- Most macro models are not able to capture distributional impacts (incl. inclusion of vulnerable groups), except augmented CGE models

Criterion 2: is timely data for the model available?
If criterion 2 about data requirements is not fulfilled, the model cannot be run. The solution is then again to assess the impacts with qualitative techniques.

Criterion 3 till 7: which type of model to use?
If the impacts can be quantified by a model and timely data is available, the choice of model is influenced by selection criterion 3 until 7:
- If distributional impacts are important (criterion 3) augmented CGE or micro simulation model are appropriate
- If the institutional setting needs to be explicitly modelled (criterion 4) macro-econometric model, micro-simulation models or to a limited extent sectoral models are to be used
- If it is essential that spillovers are taken into account (criterion 5) CGE models, macro-econometric models, micro-simulation models or to a limited extent partial equilibrium models can be chosen
- If the aggregation level of the analysis (criterion 6) is high macro models are most suited. Micro models have a low level of aggregation.
- The underlying assumptions (criterion 7) are transparent for CGE models, partial equilibrium models and micro-simulation models. The underlying assumptions of sectoral models and macro-econometric models are not transparent

These five criteria should be weighed against each other to determine the most appropriate model(s) to be used in the assessment method.
Table 4.3: Type of social effects which can be assessed

<table>
<thead>
<tr>
<th>Method</th>
<th>Employment</th>
<th>Quality of work</th>
<th>Access to social services</th>
<th>Social inclusion</th>
<th>Health effects</th>
<th>Standards and rights related to job quality</th>
<th>Non-discrimination and equality</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Quantitative techniques</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computable General Equilibrium models (CGE)</td>
<td>Net overall employment</td>
<td>Wage, income</td>
<td>Yes</td>
<td>Only augmented CGE</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Partial Equilibrium models</td>
<td>Net overall employment</td>
<td>Wage, income</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Sectoral models</td>
<td>Net overall employment</td>
<td>Wage, income</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Macro-econometric models</td>
<td>Net overall employment</td>
<td>Wage, income</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td><strong>Micro</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Micro-simulation models</td>
<td>Yes (aggregation)</td>
<td>Wage, income, number of hours work (extension possible to other aspects)</td>
<td>No</td>
<td>Yes (aggregation)</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Qualitative techniques</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
4.4.5 Findings

The following findings concerning the selection of the assessment method were discovered during the execution of the case studies:

Finding 1: the assessment method is case-specific
Every case is unique and requires a different assessment method. This does not mean that it not useful to look at similar policy changes that have already been introduced in particular Member States or in countries outside the EU. Building up a good understanding of what has been done before, how it was done and which were the results can be very inspiring.

Finding 2: a combination of techniques is often promising
All techniques have their own pros and cons which should be carefully weighed against each other. Moreover, especially quantitative models are underpinned with assumptions of which the user should be aware of. For these reasons, a single technique will rarely be able to assess all identified social impacts. A combination of quantitative and/or qualitative techniques will often produce the best results.

Point 3: setting the right baseline
When comparing new policy options against a baseline scenario, attention should be paid to the definition of this baseline scenario. If the baseline is wrongly set, all results will be flawed too. It can also be the case that a different baseline has to be set for each Member State (or even region) if for example the institutional labour market setting differs.

4.5 Promising assessment methods for social impact assessments

In the previous section both quantitative and qualitative techniques were introduced that can be used to assess the impact on social issues. Besides, some criteria were identified that are relevant for the choice of evaluation method. This provides some guidance for the choice of assessment method. It also showed that an impact assessment using a single quantitative technique will in most cases not be feasible considering on the one hand the demand for analysis at a low aggregation level focussing on specific groups, sectors and regions. Hereby taking into account the specific institutional setting. At the same time this type of analysis heavily depends on the availability of data as well as of knowledge regarding the impact of changes in policy parameters on these specific groups. Hence, a conclusion was that an assessment method will in most cases be a mixture of different quantitative and qualitative techniques.
Although the assessment of social impacts is not as widely developed as the assessment of other impacts, both economically and environmentally, in the past decades a lot of progress has been made. Various assessment methods have been developed that aim at identifying the social impacts of policy proposals outside the social domain. Based on our findings in the literature the following promising assessment methods can be distinguished:

- (Combination of) qualitative methods;
- Mixed quantitative and qualitative methods;
- (Combination of) quantitative methods.

As we already stated above, a distinguishing feature of most of these methods is that they combine different research techniques. Different techniques are either to assess the impacts at different levels of aggregation, to in some cases to assess the impacts for different groups or regions, or to assess the impacts of specific issues that are not covered in the ‘traditional’ economic models, such as issues regarding access to services or standards and rights related to job quality. The actual choice of assessment method will depend on criteria that were discussed in section 4.3. For instance, the relative importance of institutions, the availability of data, type of techniques suitable to assess the impacts et cetera.

In this section we describe a number of promising assessment methods for Social Impact Assessment. The selection of these methods is made based on the findings in the literature. We will discuss the following:

1) Augmented CGE (CGE with representative households)
2) Combining quantitative techniques:
   - Macro models + input-output models
   - Macro models + micro-simulation models
3) Combining quantitative and qualitative techniques (e.g. macro models with stakeholder consultation)
4) A pure qualitative approach: 1 or more qualitative technique(s) (e.g. case study, survey)

In this section we will discuss these methods. Hereby we specifically focus on the use of these methods for the assessment of social impacts.

4.5.1 Augmented Computable General Equilibrium models with representative households

**General description**

Computable General Equilibrium models (CGE) offer a comprehensive way of modelling the overall impact of policy changes on the economy. They are completely-specified models of an economy or a region, including all production activities, factors and institutions, including the modelling of all markets and macroeconomic components, such as investment and savings, balance of payments, and government budget. These models incorporate many economic linkages and are used to explain medium- to long-term trends and structural responses to changes in policy.
Direct application of CGE models for policy purposes regarding social issues is limited. Outputs of CGE models are often in terms of net employment and income effects at the national level or the EU level. Examples of this type of models are for instance LINKAGE, GEM, EDIP. The assessment of social impacts may require an analysis at a lower aggregation level to identify the impact on different groups, sectors or regions in different ways. From a policy point of view it is interesting not only to see what the net impact is on employment but also how these specific groups are affected. Within the CGE framework, an augmented CGE model with representative households allows this type of analysis.

In an augmented CGE with representative households a computable general equilibrium model with representative households is linked to a household module. The CGE model incorporates markets for factors and commodities and their links to the rest of the economy. This generates equilibrium values for employment, wages and commodity prices as well as labour differentiated by skill, education, gender, region, and sector of employment. This “extended” functional distribution is mapped into the “size” distribution that is the distribution of income across different households. In this approach, the Representative Households corresponding to aggregates or averages of groups of households that appear in the CGE play a crucial role. The “size” distribution is generated by feeding data on the simulated outcomes for the Representative Household into a separate module that contains additional information about each household.

As with most CGE models, augmented CGE models are significantly affected by the assumptions that they are based upon. These can in turn impact the results. Another drawback is that CGE models are data intensive. They are constructed from combined national accounts and survey data that are first compiled into SAMs, Social Accounting Matrices. Besides, the augmented CGE model requires additional data on households.

**Measurement of social impacts**

CGE models are usually used for doing impact assessments of policy reforms that are likely to play a large role in the economy and might have important impacts on other sectors and/or on the flow of foreign exchange or capital. An augmented CGE-model with representative household allows different household types to be taken into account.

In this type of model a simulation can generate for each household type the following type of outputs:

- Incomes (total and disaggregated by source),
- Consumption (mean quantities, prices, and mean values), and
- Factors (mean employment, wages or rents, and mean incomes).

For instance, in a working paper by Küster et al\textsuperscript{17} a CGE model is used for evaluating energy policy measures with emphasis on their employment impacts. In the model a dual labour market is specified with respect to qualification, two different mechanisms for skill specific unemployment, and a technology detailed description of electricity generation. Non clearing of the dual labour market is modelled via minimum wage constraints and

via wage curves. The model is exemplarily applied for the analysis of capital subsidies on the application of technologies using renewable energy sources. Quantitative results highlight that emission reductions might actually partly result from negative growth effects induced by the promotion of cost inefficient technologies. Inefficiencies in the energy system increase unemployment for both skilled and unskilled labour.

Besides, augmented CGE is used for analyzing impacts of a policy proposal on issues related poverty and income distribution. A drawback of the approach is that the impact of policy measures on the distribution can only be assessed in so far it concerns the impact on the distribution between household types. The impact on the “within-cell” distribution is not taken into account. However, we need to be aware that these effects can be large.

Finally, in a project aimed at assessing the impact of setting the millennium development goals an attempt is made to include the impact of policy proposals on the access to education. This model also takes into account the impact of policy proposals on the reduction of infant and maternal mortality, as well as the access to drinking water and sanitary system. The analysis critically depends on the assumed effectiveness of the policy proposal with respect to these goals.

4.5.2 Combining quantitative techniques

In this section we describe the assessment methods that combine macro and micro models. These methods assume a sequential approach. In a first step, a macro model is used to calculate the economic impacts using for instance a CGE model. In a second step the outcomes of the macro-models are used to feed a micro-model to obtain outputs on a lower aggregation level.

**Macro-models in combination with Input-Output models**

**General description**

The input-output model uses a matrix representation of a nation's or region's economy to predict the effect of changes in one industry on others and by consumers, government, and foreign suppliers on the economy. Based on the assumption that each industry in the economy has two types of demands: external demand (from outside the system) and internal demand (demand placed on one industry by another in the same system), the input-output model represents the economy as a system of linear equations. Wassily Leontief is credited with the development of this analysis.

In addition to studying the structure of national economies, input-output analysis has been used to study regional economies within a nation, and as a tool for national economic planning. An input-output model is widely used in economic forecasting to predict flows between sectors. Input-output tables have been constructed for over 90 countries. An

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18 Examples of poverty analysis using an augmented CGE modelling approach are the following:


A basic input-output model assumes that the inputs used in producing a product are related to the industry output by a linear and fixed coefficient production function (at least in the short run). One may argue against the application of so simple an assumption as the assumption of linear and fixed coefficients. However, the use of input-output economics can be justified on the notion that a technique of production will not change much over a short period and, even if it does change, the data collected on inputs utilized by an industry, which represent a new technology in an input-output column, can be obtained to replace the old column. In other words, specific parts of interest of an input-output table can be updated. The static character of this method can thus be largely countered.

Economic and social impacts
It is possible to expand an input-output model to include social impacts. In general, the possibility of including social impacts will depend on the availability of appropriate data. The following examples illustrate the possibilities of the input-output method.

For instance, the impact on labour demand by level of education, age or gender can be modelled (See e.g. Zwinkels, W. Education and labour market in an input-output model: employment analysis by education in the period 1985 - 2010, Dutch Scientific Council for Government Policy publication no 54, 1990). In the MITRE project\(^{19}\) a two-stage approach is taken in calculating the employment effects of policies on renewable energy growth. In the first stage, the SAFIRE energy model is used to project the future energy market and the market share of renewable energy. In the second stage, the RIOT (renewables enhanced input-output tables) model is used to calculate direct employment effects for the energy and agricultural sectors and indirect employment effect on other sectors.

Macro-models in combination with micro simulation
General description
We already mentioned that a drawback of an augmented CGE modelling approach was that it only allows the impact to be assessed in so far it concerns the impact on the distribution between household types. The within group effects on the distribution are not taken into account. This drawback can be overcome by using a CGE model in combination with a micro-simulation model.

\(^{19}\) MITRE - Monitoring and modeling Initiative on the Targets of Renewable Energy.
Micro-simulation models are developed specifically for ex-ante evaluation purposes. They use data at the household level. In the first stage, micro-simulation models were static in nature. They used calculation rules to assess the impact of policy measures at the household level. These models do not take into account any changes in behaviour due to the policy measure. Thereto, in a second stage, dynamic micro-simulation models were developed. These models include estimates of the effect of changes in policy parameters on the individual and household level.

As a third stage in the development of micro-simulation a combination is made between a macro model, such as CGE models, and micro-simulation models. In the literature three different approaches are used linking the micro-simulation module to the CGE model.
1. The module may be fully integrated with the CGE model, permitting full interaction between the two levels of analysis.
2. A sequential approach can be used where the CGE model supplies a separate micro-simulation module with data on employment, wages, and consumer prices.
3. A modelling approach where the outcome of the micro-simulation model is fed back into the CGE model.

The Figure 4.3 below shows the sequential approach.

![Figure 4.3 Sequential CGE-model and micro-simulation model](image)

In these models the size distribution of incomes is generated by a household module (typically estimated with econometric techniques) in which the units correspond to individual household observations in a survey. This allows the assessment of social impacts of policy proposals that impact on the macro-economic level.

Drawback of micro-simulation models is that they are very data intensive. The only EU-wide micro-simulation model is EUROMOD. It is a tax-benefit model covering 15 Member States of the European Union. It calculates disposable income for each household in the dataset by using elements of income taken from survey data (e.g. employee earnings) combined with components that are simulated by the model (taxes and benefits) and provides estimates of the distributional impact of changes to personal tax and transfer policy, either at the individual country or EU-wide level. The instruments which are simulated in all countries are:
- Income taxes,
- Social insurance contributions,
- Family benefits,
• Housing benefits,
• Social assistance benefits and other income-related benefits
• Some aspects of social insurance benefits as well as pensions can also be simulated.

The basic output of EUROMOD is the micro-level change in household income as a result of national or EU-wide policy changes. This provides the basis for the calculation of estimates of aggregate effects on government budgets, distribution of gains and losses, differential impacts on specific groups, effective marginal tax rates, and of inter-country differences in the costs and benefits of policies.

Social impacts
This approach is well-suited to take into account the impact of policies on social issues as identified in the impact assessment guidelines. Critically the assessment of social impacts will depend on knowledge of the net effectiveness of policy measures. Especially regarding policy proposals outside the social domain these type of effects will not be known. This approach is used often to assess the distributional impacts of policy proposals. Ahmed and O’Donoghue (2004) provide an overview application that uses a linked CGE micro-simulation approach for distribution analysis.

4.5.3 Combining quantitative and qualitative techniques

The choice of an assessment method will depend on a number of criteria. We mention data availability, techniques available and the type of policy measure. Also practical consideration such as time and budget may play a role in the choice of assessment method. To cover all social impacts in the case a combination of these restrictions hold, may lead to an assessment method that combines quantitative and a qualitative techniques.

This type of analysis is used often in assessing social impacts. A number of our case studies show the potential of such an approach. For instance the study liberalisation of services (Case 8) the LINKAGE model, a CGE model, is combined with a causal chain analysis. The causal chain analysis is used to further analyse primary and secondary impacts that stem from the CGE analysis. Also the case study on tighter requirements on building efficiency shows the potential of such a combined approach. In this case an existing model (the ECOFYS model) is used in combination with data from PRIMES to assess the economic impacts. An additional qualitative analysis is made of the impacts on public health.

Another argument to use qualitative methods such as stakeholder analysis is that it can be seen as part of the consultation. When stakeholders are involved in the process of the impact assessment itself and have insight in the assumptions underlying the tools that are being used and understand the outcome of different scenarios, this can attribute to the support for the policy proposal in the sector.

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This type of assessment method can be applied in most policy filed and for various policy issues. Within the process of constructing an assessment method one needs to identify what type of effects will be quantified. Such an assessment will include the criteria that were mentioned in section 4.3.

4.5.4 Qualitative methods

A final promising assessment method is a purely qualitative approach by using one or more qualitative techniques.

As explained before, qualitative techniques have a number of advantages when measuring social impacts. Firstly, all types of social impacts as defined in this study can be assessed by using qualitative techniques (including for example standards and rights related to job quality as well as non-discrimination issues). When quantitative data is unavailable, assessment of these social impacts is only possible by using qualitative techniques. Moreover, qualitative techniques are capable of assessing the impact on social issues within a relatively short time-period. Finally, these techniques can take fully account of context specific issues.

However, qualitative techniques do suffer from a number of important drawbacks:

- drawing generalizations about the wider population is highly problematic
- it is difficult to replicate, and thus independently verify, the results of these techniques.
- qualitative analysis often involves interpretative judgments by the researcher
- because of an inability to “control” for other mitigating factors or to establish the counterfactual, it is difficult to establish clear cause-effect relationships.

An example of this purely qualitative approach is found in the case study about the liberalisation of the aviation ground handling market. In this case, a stakeholder consultation on the potential impacts of the policy option is proposed. In addition, a case study approach is used to ‘extrapolate’ a number of representative cases (i.e. airports) to Europe as a whole.

4.5.5 Concluding remarks

In this section we have discussed some promising assessment methods for employment and other social issues. Each method has its pros and cons and will not be applicable in each assessment. For instance, methods such as augmented CGE do allow an assessment to be made on a lower aggregation level. However, if within group effects do matter, as in the case of poverty analysis, a different method using micro-simulation modelling may be preferred. The assessment of employment impacts can be done using existing methods. However, the assessment of employment will depend on knowledge regarding the size of the impact of specific policy proposals as well as the availability of data at a low aggregation level. In this respect, progress can still be made. Also with respect to quantifying the impacts of access to social services, progress is being made. In other fields assessment methods will in most cases have to depend on qualitative methods. The assessment practice shows that in these cases using a mixed qualitative and quantitative method is a promising alternative.
The following Table 4.4 summarizes these methods.

### Table 4.4 Overview of promising methods

<table>
<thead>
<tr>
<th>Method</th>
<th>Employment</th>
<th>Job quality</th>
<th>Standards and rights related to job quality</th>
<th>Social inclusion and protection</th>
<th>Non-discrimination and equality</th>
<th>Access to social services</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Quantitative methods</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Augmented CGE with representative households</td>
<td>++</td>
<td>+</td>
<td></td>
<td>+</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>Macro models in combination with input-output models</td>
<td>++</td>
<td>+</td>
<td></td>
<td>+</td>
<td>+</td>
<td></td>
</tr>
<tr>
<td>Macro models combined with micro-simulation</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>++</td>
<td>+</td>
</tr>
<tr>
<td><strong>Mixed methods</strong></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Macro models combined with causal chain analysis</td>
<td>++</td>
<td>+</td>
<td></td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td><strong>Qualitative methods</strong></td>
<td></td>
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</tr>
<tr>
<td>Different methods</td>
<td>+</td>
<td>+</td>
<td>++</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>
1 Scoping and identification of policy initiatives in the field of transport policy

1.1 Broad policy context and approach to select case studies

An initial step in the followed approach was to scan the DG TREN website, as well as the two main policy documents for Transport, and a general document for the entire Commission:


This has resulted in an initial scoping of policy initiatives. The main conclusion was that it was not possible to come to a set of 10 strategic initiatives for 2009 based on these documents. The two transport policy documents state generally the objectives. Additionally, the mid term review also states some actions, but these focus on 2007-2008, rather than on the end of the policy scope (2010). For 2009, the following set of actions were listed:

- Launch of a major programme for green propulsion
- Global dimension: achieve membership in relevant international organisations
- Maritime transport: deploy e-maritime systems
- Galileo: start of the concession
- European Rail Traffic Management System (ERTMS): implementation on certain corridors

However, these are either outdated (Galileo), or already close to deployment (ERTMS, e-maritime), or not considered strategic (global dimension). The green propulsion programme is the only one that can be considered strategic, as this one also appears in the work programme for 2008, without further specification though.

Next, we have looked into the Commission’s work programme. This identifies three types of initiatives:

- Strategic initiatives
- Priority initiatives
- Other initiatives
One can consider the strategic and priority initiatives as ‘of strategic importance’ in the context of this study. The other initiatives are mainly a set of actions that are on the agenda, but can hardly be considered of strategic importance.

However, this approach led to the following problem. The set of six initiatives are scheduled for 2008. Hence, this contradicts with the idea as discussed in the kick-off meeting that we should focus on initiatives that were not part of the policy cycle yet (i.e. scheduled for 2009). As far as we know, for almost all of these initiatives, studies and / or impact assessments are already ongoing.

Therefore it was decided, after deliberation with the client, to provide ‘artificial cases’, which still have to fit in the policy principles as set out in the policy documents mentioned above.

### 1.2 Long list of initiatives

In drawing up a long list of ‘artificial cases’, we started from the general policy principles of the Transport domain, which are the following:

- The greening of transport
- A safe and secure transport system
- Efficient infrastructure
- A competitive transport sector

From this, the following set of initiatives is proposed:

- Kerosene tax
- Internalisation of external costs in inland waterways
- Shipping in ETS
- TEN-T extension
- Improved safety standards cars
- Ground handling
- Coordination of national action plans on cycling promotion

These 7 measures have been elaborated in the summary fiches in section 5 of this annex. These include the rationale for proposing the initiative as well.

### 1.3 Suggested short list of initiatives

In Table 0.1 an overview is given of the long list of initiatives in the field of Transport, with an indication of the likelihood and intensity of their potential social impacts. Based on a discussion with the client 3 cases have been selected as case study, namely:

- The internalisation of external costs in inland waterways
- Further liberalisation of the aviation ground handling market
- Coordination of national action plans on cycling promotion
The main reasons for the selection of the first 2 cases are the strategic importance of the initiatives in EU-transport policy and the expected important social impacts. The third case has been selected in order to investigate which type of techniques can be used to assess the social impacts of a coordination measure.

Table 0.1  Scoring on screening criteria of 7 initiatives in the field of Transport

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Potential social impact</th>
<th>Selection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>likelihood (H/M/L)</td>
<td>intensity (1-5)</td>
</tr>
<tr>
<td>1. Kerosene tax</td>
<td>M-H</td>
<td>2-3</td>
</tr>
<tr>
<td>2. Internalisation of external costs in inland waterways</td>
<td>M-H</td>
<td>3-4</td>
</tr>
<tr>
<td>3. Shipping in ETS</td>
<td>H</td>
<td>3</td>
</tr>
<tr>
<td>4. TEN-T extension</td>
<td>H</td>
<td>4</td>
</tr>
<tr>
<td>5. Improved safety standards cars and trucks</td>
<td>M-H</td>
<td>3-4</td>
</tr>
<tr>
<td>6. Ground handling</td>
<td>H</td>
<td>4</td>
</tr>
<tr>
<td>7. Coordination of national action plans on cycling promotion</td>
<td>M-H</td>
<td>2-3</td>
</tr>
</tbody>
</table>
Transport case study 1: Internalisation of external costs in inland waterway transport

2.1 Context and policy measure

General and policy context
Transport is a key enabler for the development of economies and societies by facilitating the movement of goods and people. The transport industry accounts for 7% of European GDP and for around 5% of its employment. The growth of goods transport within the EU, at a rate of 2.8% per year, was broadly in line with economic growth, which was 2.3% on average in the period 1995–2004. Passenger transport grew at a lower rate of 1.9%. Overall, goods transport grew by 28% and passenger transport by 18% during the period 1995–2004. Inland waterway transport took account for 5.3% of total inland goods transport in 2006 (measured in tonne-kilometres). Although a major contributor to growth, transport generates negative externalities that involve a cost to society. Its environmental cost is estimated at 1.1% of GDP21.

For more than a decade, the European Commission has discussed in its transport policies the need to reflect these external costs of transport in the price of transport. The fact that only some of the costs arising from the use of transport infrastructure are passed on to users and, in particular, the uneven distribution of that burden were discussed in the Commission’s 1995 Green Paper Towards fair and efficient pricing in transport, its 1998 White Paper Fair payment for infrastructure use: A phased approach to a common transport infrastructure charging framework in the EU and its White Paper European Transport Policy for 2010: Time to decide adopted in September 2001. The subject was raised again during the mid-term review of European Transport Policy for 2010: time to decide, which took place in 2006.22

Directive 2006/38/EC (the Eurovignette directive) asked the Commission to draw up a model for the assessment of external costs23: “No later than 10 June 2008, the Commission shall present, after examining all options including environment, noise, congestion and health-related costs, a generally applicable, transparent and comprehensible model for the assessment of all external costs to serve as the basis for future calculations of infrastructure charges. This model shall be accompanied by an impact analysis of the internalisation of external costs for all modes of transport and a strategy for a stepwise implementation of the model for all modes of transport. The report and the model shall be accompanied, if appropriate, by proposals to the European Parliament and the Council for further revision of this Directive”.

This resulted in a Strategy for the internalisation of external costs, published on 8 July 2008 that laid down the Commission’s plans for internalisation in the next years24. The main issue for this case study is that external costs for road haulage transport will be

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23 Ibid
24 Ibid
internalised, while this will not be the case for inland waterway transport. Internalisation of external costs in rail transport is already allowed, but under conditions.

Description of the strategic policy initiative

The strategy on internalisation of external costs addresses the internalisation of the external costs of inland waterways transport by referring to the Naiades Action Programme\textsuperscript{25}, stating that this action plan envisages the internalisation of external costs of all modes including inland waterways by 2013. However, the action plan does not indicate any action towards the implementation of the internalisation of external costs in inland waterway transport.

Given the fact that both the Naiades action programme and the strategy on internalisation of external costs do not describe any concrete action or measure to implement internalisation of external costs in inland waterway transport, it can be concluded that such internalisation is not foreseen in the near future. However, given the policy history on internalisation, it can also be expected that such internalisation remains one of the longer term objectives of the Commission. After all, only if internalisation of external costs is applied to all modes, the polluter pays principle is adopted, and a level playing field is there.

Additional assumptions for the elaboration of the case

One of the reasons for not implementing the internalisation of external costs in inland waterway transport until now, is the existence of a number of legal barriers. Historic international agreements, such as the Mannheim Convention prevent such implementation. The Mannheim Convention is the oldest European treaty still in force. It was concluded in 1868 between the Rhine riparian states. The Convention in principle guarantees freedom of navigation on the Rhine, which also prevents inland waterway transport from charging. Currently 70\% of all inland waterway transport is carried on the river Rhine and its tributaries.

This case study concerns the internalisation of external costs in inland waterways transport. This implies that a key assumption for this case is that the current legal barriers have been solved.

Another important issue when assessing the impacts of implementing the internalisation in inland waterway transport is the level of internalisation in other modes. The recent Strategy for internalisation proposes to limit today to internalisation of external costs for road freight transport only. This means that when this scheme is extended to inland waterway transport in the future, the road haulage industry has had the time to adapt to the circumstances by means of e.g. fleet renewal. Hence, this is a different starting point compared with a situation in which the internalisation of external costs is applied to all modes at the same time. For this case, we adapt to reality, and the starting point is that by the time internalisation in inland waterway transport is introduced, the scheme is already running for a number of years in the road sector. This holds as well for rail transport, for which the current legislation already allows for internalisation of external costs under certain conditions.

The impacts that would result from a policy option are dependent on the actual design of the option. This concerns for example how the costs are internalised (via a levy, or fuel tax etc), and which costs are internalised (the use of infrastructure, the costs of pollution, the costs of unsafety). The strategy for internalisation from July 2008 addresses the internalisation of the costs from air pollution, noise pollution and congestion. In this case we will therefore build on this and limit ourselves to the same sources of external costs. In the recent impact assessment of internalisation of external costs\textsuperscript{26}, the external costs of inland waterway transport of noise, CO2 and air pollution were leading to a charge of €2.88 per vessel-kilometer. The same impact assessment mentions that a fuel charge is a likely option for inland waterways. Therefore we adopt both aspects in this case. This means that internalisation of costs for the use of infrastructure or for accidents is not included.

The implementation mechanism (charge, tax, etc), and the types of costs that are internalised (pollution, infrastructure costs, etc.) do in our view not affect the methodology how to assess the impacts of the option.

2.2 Identification of impacts

The employment impact of this policy proposition can stem from two dimensions:
- employment effect in the inland waterway sector after the introduction of internalisation (direct effect)
- employment effect in other sectors after the introduction of internalisation, through increased transport costs (indirect effects)

The latter effect is considered negligible, as inland waterway transport takes up only a limited share of freight transport, and transport costs take up only a limited share in total product costs.

The internalisation of external costs in inland waterways transport will increase the total cost for those operating in this transport mode. The main effects of higher costs are:
- Price increase for inland waterway transport
- Pressure on operating margins

From economic theory, it can be expected that both effects have an impact on employment and other social issues.

Price increase for consumers and reduction of inland waterway transport demand
Part of the charge as a result from the internalisation will be passed through to customers (depending on the price elasticity). This could lead to a general decrease of demand of transport. However, given the small share of inland waterways transport in total freight transport, and the need from customers to have their cargo shipped, it is not anticipated that this would happen. It is rather likely that part of the goods shipped by inland waterways transport shifts to other modes, such as road transport and rail transport. This

could happen directly on a certain route (Rotterdam-Ruhr area by truck instead of barge) or indirectly (Hamburg – Ruhr by rail, instead of Rotterdam – Ruhr by barge). This would lead to a different modal split in Europe. From this follows that employment shifts from inland waterway transport to road transport. Additionally, a shift from inland waterway transport to road transport implies an increase of pollution, noise and accidents.

Pressure on operating margins

As indicated earlier, it may be anticipated that inland waterway transport operators are not able to pass through the additional costs resulting from internalisation. In an earlier study, ECORYS adopted the assumption that the costs pass through rate amounts to 50%27. The costs that cannot be passed through must be absorbed in their operating results. This implies that transport operators need to increase their efficiency in order to keep operating margins at the required level.

The pressure on the operating margins may lead to one or more of the following effects:

- Bankruptcy
- Fleet renewal
- Increase in occupancy rate or reduce the degree of sailing empty
- Reduce labour costs (salaries, working conditions, composition of workforce)
- Increase of scale
- Violations of legislations

Bankruptcy

For those transport companies that are not able to increase efficiency and at the same time already have low operating margins, bankruptcy may evolve. Naturally, this has significant social impacts because those operators which go bankrupt will lay off their personnel. In this scenario, the internalisation of external costs results in job losses. Given the profile of the workers in inland waterways transport, it can be deduced that job losses occur mainly among lower educated and young people. The jobs in this subsector also require sectorspecific skills, which makes it harder for these workers to move to another type of job (need for retraining).

Fleet renewal programme

The additional costs resulting from the charge are expected to be an incentive for fleet owners to renew their fleet. The current fleet of inland waterway vessels in Europe is relatively old, 30-40 years. Because ships have a long life time, fleet renewal rates are low. It must be noted though that engine revisions have taken place. Nevertheless, the majority of ships and their engines do not represent the state-of-the-art technology, with subsequent impact on emissions. As the charge is dependent on the overall level of emissions, it may be anticipated that the charge is an incentive for an accelerated programme of fleet renewal and engine revisions. This will have a positive impact on employment in the European shipbuilding industry and at engine revision companies. In addition, it can be expected that operators switching to new vessels can increase their employment, while operators with old vessels may have to reduce their workforce. Fleet renewal will also imply shifts in the required skills of the employees working on the ships, hence retraining (or if impossible replacement) will be the consequence.

27 ECORYS, 2005, Effecten gebruiksvergoeding goederenvervoer (Impacts of a user charge in freight transport).
Finally, we want to mention other effects which might occur if operators are faced with heavy investment costs due to fleet renewal, such as lower budget for training or pay rise.

**Increase in occupancy rate or reduce the degree of sailing empty**

One of the sources for and improvements of efficiency may come from an increase in the occupancy rate of the vessels, by reducing the degree of sailing empty. However, this is only possible for some market segments. Occupancy rates in container transport are already high, as the vessels also transport the empty containers. The transport of some of the dry and wet bulk often impedes to take back cargo on the return trip, as the hold or tank first need to be cleaned before any new cargo can be loaded, which is relatively expensive. This concerns for example the transport of food products (e.g. grain) or oil products. New innovations could alleviate this issue, e.g. inflatable inner hulls.

It can be expected that an increase in the occupancy rate has positive employment effects (more hours to be worked, hence more labour demand). On the other hand it is very likely that the job quality deteriorates because the rise in the occupancy rate may imply longer working hours, more stress, irregular working hours, weekend work, etc.

**Reduce labour costs**

An alternative solution to reduce the pressure on the operating margins of the operators is to reduce labour costs. This can be done by changing the working conditions (e.g. longer working hours, shorter breaks, no pay rise) or changing the composition of the workforce (e.g. the employment of less qualified personnel). It is clear that these are significant social impacts.

**Increase of scale**

Efficiency of the operators can also be improved by increasing the scale of their activity. This can for example be done through a take over or merger. Increasing the scale of the activity in practice often results in job losses.

**Violations of legislations (unintended effect)**

Next to these ways to improve efficiency, it can also be expected that the pressure on the operating margins leads to more violations of the sailing time regulations or regulations on the number of staff on a vessel, in order to save on personnel costs.

### 2.3 Selection of appropriate methods

**Long list of techniques**

There are three major approaches for the assessment of the social impacts of the internalisation of external costs in the inland waterways transport:

- Using existing transport-economic models
- Using dedicated calculation rules, based on a set of elasticities and allocation rules etc, to assess transport effects and apply key figure calculations to translate the transport effects into employment effects
- Interviews
Each of the three methods will not provide all the required answers. For example:

- transport-economic models do not provide insight in social effects, and provide results on a highly aggregated level (i.e. produce results for the transport sector as a whole and not for the subsector of inland waterways transport)
- with using calculation rules it is generally difficult to address the social impacts to a large extent as well. These ‘models’ are usually more static.
- interviews are very suitable to get insight in the social impacts, but less for an assessment of the employment impacts.

The pros and cons of the techniques are further addressed in the next section.

Final selection of technique(s)

The choice of the technique naturally depends on the nature of the case. One could assess a case on three levels: (a) on the level of the overall economy, (b) on the level of the transport sector, and (c) on the level of the inland waterway sector itself looking for structural changes. Given the nature of this case, an analysis on the third level seems most appropriate, also given the focus on social effects. Therefore, in our view, the use of a general transport-economic model is less suitable, as the prime interest for this case lies in the effects in the inland waterway sector itself, rather than in the overall transport sector as a whole28.

Such approach would be more suitable when the case would concern the internalisation of external costs for the entire transport sector. The impact assessment supporting the Commission’s strategy for the internalisation of external costs follows this approach, as this intends to assess the effects for the transport sector as a whole29. It provides insight in the employment effects in transport-depending sectors (manufacturing, agriculture etc) as a result of internalisation in road haulage transport and in all transport modes. However, it does not address the employment impacts in the transport sector(s) itself.

Another important issue is the diversity of the inland waterway transport sector. Charging the sector as a result of internalisation is likely to result in a different impact in the transport of sand compared with the transport of oil. The existing transport-economic models do not accommodate this level of detail. However, some more detail seems to be required if such measure is introduced.

Using a set of calculation rules allows to include more detail. Such a set would consist of elasticities and allocation rules that are applied to an anticipated reference scenario for transport development. The price elasticity of demand for inland waterway transport indicates the impact of a percentage price increase on the transport volume shipped. The allocation rules indicate how modal shifts of transport are handled by other modes. These elasticities and allocation rules can be drawn from literature.

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28 The focus of the case is on the direct effects in the inland waterway sector. In addition, the indirect effect on another subsector of the transport sector is also looked into, namely the road sector. As other transport subsectors are unlikely to be a substitute for inland waterway transport, the level of the whole transport sector is too aggregated to analyse this case.

This results in transport effects that can be translated into employment effects by applying key figures, such as the number of staff per vessel. As said, such approach would provide more room for details, e.g. in terms of market segments, as the impacts of internalisation could differ significantly per segment. This is explained in the section on IA results below. It should be noted that this approach is a comparative static approach, well suited for these kind of analyses, but does not take into account long term dynamic features (such as the impact of internalisation on GDP, and the resulting impact on production trade, and eventually transport).

In order to have the required inputs for such static analysis, interviews are well suited. This concerns for example issues like possible reactions in terms of fleet renewal, the degree of passing on of costs to customers etc. Additionally, the interviews could also serve well for analysing the social impacts.

In summary, in order to assess the employment impacts of internalisation by means of dedicated calculation rules, the following steps are required.

1. Development of baseline transport scenario. This baseline should describe over a longer time frame the development of freight transport in terms of tonnes, tonne-kilometres and vehicle kilometers per mode.
2. Subsequently, it would be required to assess the increase of transport costs for inland waterways transport. In other words, it needs to be assessed which external costs are indeed internalised (air pollution, CO2, noise, accidents, congestion), and subsequently the external costs must be expressed in a price.
3. The next step would be to assess the extent to which the charge is passed on to the customers of the inland waterway transport enterprises.
4. Subsequently, collected data (elasticities, allocation rules) should be combined with the transport forecast and the transport costs increase in order to assess the transport impacts.
5. From the transport impact the employment impact needs to be derived by applying key figures based on the number of personnel per ship etc.
6. From the combination of the employment impacts and sector information on labour characteristics, qualitative employment impacts and/or social impacts can be derived.

In a full impact assessment one could consider to carry out a number of sensitivity analyses, to test the impact of relevant assumptions on the outcomes.

2.4 IA results

In this section, an analysis is made of the identified impacts of the internalisation of external costs in inland waterway transport. We focus the employment effect resulting from a modal shift (from inland waterways to road transport). We will therefore apply:

- an assessment of the increase of transport costs based on literature
- the application of this increase on price elasticities of demand from literature
- the application of allocation rules for modal shift from literature
- the assessment of employment effects by applying key figures
Increase of transport costs

As the scope of this case does not allow making a complete impact assessment, we illustrate this section of the case by drawing on results of an earlier study by ECORYS\textsuperscript{30}. This study addressed the introduction of a user charge in freight transport for all modes for the transport sector in the Netherlands\textsuperscript{31}. This user charge addressed the operating costs of infrastructure (maintenance etc), and thus is different from a charge for external costs. However, the impact chain that follows from such a charge is comparable with the possible effects as described above for the external costs charge. Additionally, the charge applied varies from €1.95 to € 8.64 per vessel-km (depending on the Inland waterway class), a range in which the indicated charge of €2.88 for external costs falls.

Elasticities

As indicated in the methodology section, we need to determine what the increase of transport costs is as a result of the charge. The charge implies an increase of transport costs by barge for shippers of 18\%-26\%, depending on the type of commodity. On this price increase, a set of elasticities are applied. These are provided in the following table. Based on these elasticities, the total shift of freight to other modes can be calculated. As an example: if the costs of international transport by barge of dry bulk increases by 10\%, then 6\% of the transported volume will shift to other modes.

Table 0.2 Elasticities for national and international inland waterway transport

<table>
<thead>
<tr>
<th></th>
<th>Unitised items</th>
<th>Dry bulk</th>
<th>Wet bulk</th>
<th>Containers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic</td>
<td>-0.9</td>
<td>-0.4</td>
<td>-0.6</td>
<td>-1.0</td>
</tr>
<tr>
<td>International</td>
<td>-0.8</td>
<td>-0.6</td>
<td>-0.7</td>
<td>-0.9</td>
</tr>
</tbody>
</table>

Source: ECORYS

Allocation rules

Subsequently, allocation rules are applied that define to which mode the freight volumes shift. To a large extent, the rule is that the freight volumes shift to road transport\textsuperscript{32}. This results in the following modal shift impacts.

Table 0.3 Modal shift from inland waterways

<table>
<thead>
<tr>
<th>Modal shift from IWT</th>
<th>Tonne (mln)</th>
<th>Tonne-km (mln)</th>
<th>Vessel-km (mln)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-17.1 (-5.5%)</td>
<td>-2,289.2 (-5.6%)</td>
<td>-8.9 (-16.2%)</td>
</tr>
</tbody>
</table>

The internalisation leads to a reduction of 17.1 million tonnes lifted by inland waterway transport, which implies a reduction of 2.3 billion tonne-kilometres. Note that this impact is for the Netherlands only. This shift to road transport implies an increase of pollution, as road transport emits more CO2 and NOx per tonne kilometre.

\textsuperscript{30} See footnote n°27.
\textsuperscript{31} This differs from our actual case, in which we assume the introduction of internalisation in inland waterway transport only, a few years after such charge has been introduced for road transport. However, as this case is meant to provide insight in a possible technique rather than to provide accurate results, it is chosen to use this comparison.
\textsuperscript{32} Therefore is no shift to rail foreseen due to the price difference with road transport (at the favour of road).
Key figures for employment effects

The last step is to assess the employment effect resulting from the modal shift. The modal shift will lead to a decrease of employment in inland waterways transport and to an increase in employment in the road transport sector. Therefore the following key figures have been derived. These figures are for EU27, for the year 2005.

<table>
<thead>
<tr>
<th>Mode of Transport</th>
<th>Vehicle km (mln)</th>
<th>Employment</th>
<th>Employment per million vehicle km</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inland waterway transport</td>
<td>536</td>
<td>2,754,215</td>
<td>77.6</td>
</tr>
<tr>
<td>Road transport</td>
<td>268,292</td>
<td>41,672</td>
<td>10.2</td>
</tr>
</tbody>
</table>

Source: EU Statistical pocketbook on transport

We remark that inland waterway transport is more labour intensive than road transport in terms of vehicle km. 77 workers are needed per million vehicle km for inland waterways, while only 10 are needed for road transport. Yet, this is not surprising as the total volume transported is not yet taken into account and this is relatively much larger in inland waterway transport. Labour intensity in terms of volume transported turns out to be larger in road transport.

Applying these key figures to the modal shift as provided above, it may be anticipated that the internalisation of external costs results in a decrease of employment of 690 jobs in inland waterways, and an increase of employment in road transport of 3,500 jobs. The measure would thus indeed lead to a net job increase, given that one would need significantly more truckloads than shiploads to transport the 17 million tonnes that shift from inland waterway transport to road transport.

Note again that these figures concern the Netherlands only. However, it may be assumed that these results apply to entire Europe, as the elasticities used are in line with international elasticities.
2.5 Summary of the impacts

Table 0.5 Social effects table

<table>
<thead>
<tr>
<th>Effects</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment and labour market:</td>
<td>Job losses will occur in inland waterways transport, while new jobs will be created in those transport sectors that benefit from the modal shift (e.g. road transport). The analysis for the Netherlands indicates a loss of 700 jobs in the inland waterway sector against an increase of 3,500 in road haulage transport. In case of fleet renewal it is also very likely that required skills shift (hence require retraining or replacement). Additionally there would be an increase of employment in the shipbuilding industry.</td>
</tr>
<tr>
<td>• Impact on labour demand</td>
<td></td>
</tr>
<tr>
<td>• Impact on labour supply</td>
<td></td>
</tr>
<tr>
<td>Impact on the functioning of the labour market</td>
<td></td>
</tr>
<tr>
<td>Job quality</td>
<td>Job quality may deteriorate (e.g. longer and more irregular working hours, more violations of regulations) as a result of increased pressure on the operating margins. Long and irregular working hours have a negative impact on the combination of work and family life. Violations of regulations may endanger the health and safety conditions at work.</td>
</tr>
<tr>
<td>Standards and rights related to job quality</td>
<td></td>
</tr>
<tr>
<td>Social inclusion and protection of particular groups</td>
<td>The shift from inland waterway transport to road transport results in an increase of emissions with subsequent negative impacts on health.</td>
</tr>
<tr>
<td>• Access to the labour market</td>
<td></td>
</tr>
<tr>
<td>• Access to placement services or services of general economic interest</td>
<td></td>
</tr>
<tr>
<td>• Access to goods and services</td>
<td></td>
</tr>
<tr>
<td>• (In)equality</td>
<td></td>
</tr>
<tr>
<td>Equality of treatment and opportunities, non-discrimination</td>
<td></td>
</tr>
<tr>
<td>Access to and effects on social protection, health and education systems</td>
<td></td>
</tr>
<tr>
<td>• Quality of services</td>
<td></td>
</tr>
<tr>
<td>• Access to services</td>
<td></td>
</tr>
<tr>
<td>Public health and safety</td>
<td></td>
</tr>
</tbody>
</table>
3 Transport case study 2: Further liberalisation of the aviation ground handling market

3.1 Context and policy measure

General and policy context
Liberalisation of the air transport market started in the eighties in Europe, and took place in three successive stages in 1987, 1990 and 1992. Three legislative packages established new rules and conditions on market access and competition in the European air transport market. The first package (1988-1990) and the second package (1990-1992) included measures to deregulate market access for airlines and established new rules for sharing of capacity, fares for scheduled services, competition between airlines and airline licensing specifications.

With the third package (1993-1997) the most important step towards full liberalisation of the EU air transport market was realised. This package introduced the freedom to provide services within the EU and, from April 1997, the freedom to provide ‘cabotage’: the right for an airline of one Member State to operate a route within another Member State. This single market was extended to Norway, Iceland and Switzerland in the following years.

In October 1996 the EU Council adopted a directive to liberalise the EU-market for ground handling services. This concerned a/o baggage handling, ramp handling, fuel and oil handling and freight and mail handling. Until that moment services like baggage handling and ramp services at most EU airports had been a monopoly operated by the airport authority or the dominant carrier at that airport. Airlines were complaining about the relatively high prices of ground handling services at EU airports and quality of service.

The Directive 96/67/EC sought to establish complete freedom for both self handling and third party handling. The scope of the directive is limited to some extent. Regarding third party handling, EU Member States may limit the number of handlers for several categories of services. They are however not allowed to limit the number to fewer than two for each category in order to guarantee a minimum choice to airlines. Furthermore, at least one of the handlers should be entirely independent from the airport and the dominant carrier at that airport. These restrictions (regarding the minimum number of service providers) are applicable to all airports with at least two million passengers or 50,000 tonnes of freight per annum. Similar limitations were introduced for self handlers (which mean that airlines provide the ground handling services for themselves), for which a threshold of 1 million passengers or 25,000 tonnes of freight. For these services at least two air carriers should be admitted on the airport.

It follows that for 2007 there were 95 airports with more than 2 million passenger movements or 50,000 tonnes of freight, and 49 airports were below that threshold but had annual traffic of 1 million passenger movements or 25,000 tonnes of freight. It should be

33 Council Directive 96/67/EC on access to the ground handling market at Community airports.
34 Baggage handling, ramp handling, fuel and oil handling and freight and mail handling as regards the physical handling of freight and mail, whether incoming, outgoing or being transferred, between the air terminal and the aircraft.
noted that the top 20 of airports in terms of passenger movements handle around 85% of total European passenger transport by air. These airports are all well above the 2 million passengers threshold.

**Description of the strategic policy initiative**

In January 2007, the European Commission published its airport package, consisting of three initiatives: a proposal for a directive on airport charges, a communication on airport capacity, efficiency and safety in Europe and a report on the implementation of the ground handling directive\(^{35}\). The latter contains an evaluation of the effects of directive 96/67/EC, and includes a way forward on the issue of ground handling. The Commission indicates that the course of action on ground handling is to be defined, and could in the future lead to a proposal for further opening up of the market.

Stakeholders have addressed the need for revision of the directive in consultation rounds in 2003 and 2006. Airports indicate that the 96/67 directive already achieved the objectives to a large extent. Only a number of technical revisions are required, such as on subcontracting and insurance provisions. Airlines call for more significant action, by further liberalising the ground handling market, as they perceive still “excessive invoices and sub-optimal standards of service”\(^{36}\). Handlers had problems with the relative shortness of the period for which they have been granted a licence, and independent handlers believe that the involvement of the airport operator in ground handling has given rise to various forms of abuse of dominant position. This all has until now not lead to a revised directive.

Also the European Parliament has called for additional action by the Commission on the ground handling regulation in order to overcome perceived shortcomings (concerning the quality of the services provided, and the transparency and user-oriented provisions concerning the choice of ground handlers for restricted services) in the current situation, as also pointed out by the airports. It may therefore be anticipated that the European Commission will come with a revised directive, for which the scope of revision is yet unclear.

**Additional assumptions for the elaboration of the case**

This case addresses the further liberalisation of the airport ground handling market by assuming that the existing limits to the number of third party handlers and self handlers are lifted for any airport above 1 million passengers or 25,000 tonnes cargo handled by 2012. We underline that this is an assumption for the purpose of this case study.

In practice, the European Commission could consider different options when revising their directive, e.g. distinguishing an option that increases the number of airports to which the directive applies, and an option in which the minimum number of handlers is increased. As this is a methodic study, and the selected techniques to measure social impacts are not considered to differ significantly, we have opted in the beginning of the


\(^{36}\) IACA, Rules for ground handling services at European airports: why wait?, press release, 13 November 2006.
project to focus on one policy option, namely widening the scope of the existing directive to airports with annual traffic above 1 million passengers or 25,000 tonnes cargo.

3.2 Identification of impacts

The policy initiative consists of a further liberalisation of the aviation ground handling market. This measure will increase the competition in this market (a rise in the number of third party handlers, more price competition, etc.) which leads to the following main effects:

1) The price of ground handling services will decrease
2) An increase in the quality of the ground handling services

These main impacts occur in a neoclassical economic model. Additional institutional aspects (e.g. lobbying of social partners) and imperfect markets (e.g. entry barriers like rules and regulations to access generalised or centralised infrastructure) can reduce effective competition and might lead to suboptimal impacts.

We now discuss these two impacts in more detail and also the social effects that they induce. Other impacts like on the access to installations by newcomers and the use of centralised infrastructure are not further discussed.

A decrease in the price of ground handling services

Increased competition in aviation ground handling will reduce the prices for this service. This has two effects. At first, lower prices reduce the operating margins of the ground handling companies. In order to stay efficient, incumbent firms (those who were already operational before the liberalisation) may be forced to alter the labour and working conditions (e.g. lower labour costs, lower investments in training, new recruitments by temporary rather than permanent contracts, higher pressure on the workers, etc.). If incumbent firms fail to increase their efficiency, they may close down (hence lay off their workforce). The latter is however an extreme scenario. It is more likely that the employment effects are rather limited, but that most impacts of the liberalisation are related to job quality aspects.

A second effect of lower prices for ground handling is a fall in the total costs for airlines. The size of this effect depends on the share of ground handling in the cost structure of the airline activity. Depending on the pass through rate, lower total costs will lead to lower ticket prices for the consumers. Lower ticket prices will have a positive impact on the demand for air transport (this effect depends on price elasticity), which in itself creates more jobs on the airport and in the airline industry.

An increase in the quality of the ground handling services

In general, it can be expected that more competition creates an incentive to improve the quality of the service (a better price/quality ratio). For ground handling a better service implies for example a faster and very flexible service taking into account the flight schedules of the airlines, a reduction of baggage lost and subsequent satisfaction of passengers.
Negative social effects may however occur. Providing more flexible and faster services may increase the work pressure, hence increase stress and possibly increase the incidence of absenteeism, work accidents, etc. Other negative effects can be related to the working hours. In Belgium the increased competition in the ground handling market let to increased flexibility in the working regime of the workers. Due to the nature of the aviation activity, ground handling services have a peak in the activity in the morning and (late) afternoon. As a result, more and more workers are forced to work split shifts (e.g., working 3 to 4 hours in the morning, having a break for several hours and a new shift in the late afternoon/evening). This could impact trade union negotiations on labour remunerations (e.g. trade unions might demand higher wages or supplements because of working in shifts).

3.3 Selection of appropriate methods

Long list of techniques
There does not exist any model on the ground handling market, nor is the ground handling market part of any transport or aviation model. This implies that the impacts of a further liberalisation of the ground handling market must be determined by means of other techniques. However, rather than a single technique such as a model, it is anticipated that the impact of such a detailed and specific policy option can only be determined by a combination of research techniques:

- Literature survey on the impact of liberalisation in general: this can deliver a draft set of assumptions which can further be tested.
- Literature survey of ex-post evaluation study of the impacts of directive 96/67/EC on the ground handling market. This will provide already insight in the type of impacts that can be anticipated of a further liberalisation, as well as insight in the magnitude of these effects.
- Stakeholder consultation on the potential impacts of the policy option. The stakeholders consist primarily of the private ground handlers, their customers (the airlines), the airports, and the workers’ representatives. These would have valuable information and data, and a clear view on the impacts. The risk however is that the views of the stakeholders do not match or the data is contradicting.
- Analysis of ground handling market in Europe. This needs to be done to get an overview of what the current status is: how many handlers are there at the major airports, are these self handlers or third party handlers, are there differences between the major hubs and regional airfields, between countries etc. Also the issue of the contestable market needs to be taken into account.
- Case study approach and when required the use of these cases to ‘extrapolate’ to Europe as a whole. As indicated, there are around 150 airports to which the policy option would apply. Usually it is impossible in an impact assessment to make a detailed analysis for all these airports. Therefore a selection of representative cases is envisaged. If the 150 airports are allocated to each of the cases, it could be possible to make an analysis of the (ranges of) impacts for the entire set of airports.
- Elasticity and key figure analysis of impact of reduced prices for ground handling services on transport demand, and subsequent employment impact.
Final selection of technique(s)
To apply all tools in the long list suggested above, is time consuming and expensive. Yet the combination of the techniques would be necessary to provide a full and rich impact assessment.

Within the scope of this project, this case will focus on two techniques, namely the case study approach and elasticity calculations. In a full impact assessment, the stakeholder consultation seems key to undertake.

3.4 IA results
In order to get an idea of the importance of the above identified impacts of a further liberalisation of the aviation ground handling services, we make use of a concise ex-post evaluation study (SH&E) dealing with an earlier wave of liberalisation (the impacts of directive 96/67/EC on the ground handling market)\(^\text{37}\). This already gives indications on the anticipated impacts. Additionally, we will apply elasticities and key figures to assess the impacts of price decreases on transport demand.

Employment effects: net job creation
The SH&E study indicates that prices generally have decreased, with ranges from 5%-50% mentioned in the survey. The majority of responses report a decrease in the range of 5%-20%. Unfortunately, the available information does not allow to distinguish between countries, or between airports that restricted service provides and those that did not. Ground handlers have indicated that the majority of their costs are labour costs-related: around 80%. This gives an indication of the impact on wages and secondary job conditions.

The price decrease can also be used to make a global estimation of the impact on demand. The first liberalisation has already took place, at airports that handle the majority of passengers. Therefore, it may not be anticipated that the further liberalisation will lead to impacts in the same order of magnitude. For this case we assume an overall 5% decrease of ground handling costs for airlines.

Ground handling costs take up approximately 17% of airline total costs\(^\text{38}\), which implies that prices may be decreased by 0.85% if these savings are passed through to passengers. The price elasticity of demand in aviation is around 0.7\(^\text{39}\), hence a demand increase of 0.6% may be expected. This would amount to an additional 4.2 million passengers carried in Europe\(^\text{40}\). Depending on the airport type, employment key figures range from 350 employees per million passengers for small holiday airports to 1,600 for hubs. We apply for this case a medium figure for larger regional airports of 975 employees per million passengers (direct effect, including airline industry) and a conservative multiplier of 1.5


\(^{38}\) Source: Association of European Airlines

\(^{39}\) Source: ECORYS, 2006, Impact assessment on the levying of charges for the use of airport infrastructure. From differentiation between short haul and long haul is refrained. Cargo traffic has not been taken into account.

\(^{40}\) Total passengers carried in 2005 amounts to 704 million according to Eurostat, 2007, Panorama of Transport.
for indirect effects at suppliers of the aviation industry\textsuperscript{41}. The additional employment as a result of lower ground handling prices then amounts to around 6,100 persons for Europe. Displacement effects from other sectors have not been taken into account here. It is recommended to undertake a sensitivity analysis on the used key figures on pass through rate and employment in a full impact assessment.

\textit{Other social effects: lower job quality}

The increased competition has lead to a number of social effects, which have been described in the SH&E report. However, these effects have generally been based on interviews and surveys, and sometimes there are different opinions on issues or the extent of the issues between workers representatives and employers. The following social effects were noted in this respect, without a quantitative substantiation:

- Lower salaries
- Deteriorating work and security conditions
- More pressure on staff to increase productivity
- Reduced job security

These effects were noted by workers councils at incumbent handlers to improve their position in the new competition. However, many of these issues also arose when there was a transfer of staff from incumbents to new entrants, as a result of tenders and ceased operations by incumbent handlers. Employment as a whole has increased, which is closely related to traffic growth. The impacts on profit rates of the handlers, and whether investments have been made in equipment to increase productivity are unknown.

In this case study, a further liberalisation is considered. It may be anticipated that a number of the above indicated effects will occur again, especially for those airports between 1 and 2 million passengers, as for these airports the number of potential new entrants on the ground handling market may increase significantly.

More empirical evidence from a recent study on the social developments in the EU transport sector\textsuperscript{42} confirm the above mentioned social effects as a result of liberalisation in the air transport sector.

However, in a full impact assessment, an analysis of the relevant market is also appropriate, in two aspects:

- Around 85\% of passengers is handled by the top 20 airports. It is relevant to take this aspect into account when assessing the effects.
- Is there sufficient room for new entrants given the amount of potential revenues that is to earn? In the SH+E study, some new entrants complained that the contestable market, i.e. the market share that is ready to be capture, is too small for a sustainable business.

\textsuperscript{41} Source: ECORYS, 2006, Impact assessment on the levying of charges for the use of airport infrastructure.

\textsuperscript{42} Social Developments in the EU air transport sector: a study of developments in employment, wages, and working conditions in the period 1997-2007, study executed by Ecorys for DG Energy and Transport, 2008. This study is a preliminary study on the impact of the Air Transport Single Market on Employment and Working conditions.
In a full impact assessment it is also recommended to assess the impacts on job quality and qualifications. After all, while the overall number of jobs may be the same or even increase, a change in job qualifications is possible. It would require an analysis of the general job profile at airports and compare these with the job profile of the groundhandling sector.

### Summary of the impacts

#### Table 0.6 Social effects table

<table>
<thead>
<tr>
<th>Effects</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment and labour market:</td>
<td></td>
</tr>
<tr>
<td>• Impact on labour demand</td>
<td>Gross job gains due to increased demand for air transport, offset against increased productivity at the groundhandlers. Additionally, displacement effects from other sectors have not been taken into account.</td>
</tr>
<tr>
<td>• Impact on labour supply</td>
<td></td>
</tr>
<tr>
<td>Impact on the functioning of the labour market</td>
<td></td>
</tr>
<tr>
<td>Job quality</td>
<td>Deterioration of the job quality could be expected due to increased pressure on operating margins and pressure to increase the quality of the service (faster, more flexible). Lower job quality can be noticed through more temporary contracts, more flexible working hours (e.g. split shifts), less training opportunities, more stress.</td>
</tr>
<tr>
<td>Standards and rights related to job quality</td>
<td>Important to control the application of labour law, job quality regulations, etc.</td>
</tr>
<tr>
<td>Social inclusion and protection of particular groups</td>
<td></td>
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<tr>
<td>• Access to the labour market</td>
<td></td>
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<tr>
<td>• Access to placement services or services of general economic interest</td>
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<tr>
<td>• Access to goods and services</td>
<td></td>
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<tr>
<td>• (In)equality</td>
<td></td>
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<tr>
<td>Equality of treatment and opportunities, non-discrimination</td>
<td></td>
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<tr>
<td>Access to and effects on social protection, health and education systems</td>
<td></td>
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<tr>
<td>• Quality of services</td>
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<tr>
<td>• Access to services</td>
<td></td>
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<tr>
<td>Public health and safety</td>
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</table>
4  Transport case study 3: Coordination of national action plans on cycling promotion

4.1  Context and policy measure

General and policy context

In the year 2007, for the first time in history, the majority of the world’s people live in cities. In the European Union, over 60% of the population lives in urban areas of over 10,000 inhabitants. And by 2020, approximately 80% of Europeans will be living in urban areas, while in seven countries the proportion will be 90% or more.

Cities are the drivers of growth across Europe – “In virtually all European countries, urban areas are the foremost producers of knowledge and innovation – the hubs of a globalising world economy. Slightly less than 85% of the EU’s Gross domestic Product (GDP) is created in European cities and towns, and these urban areas are magnets for investment and provide a large share of jobs. In short, towns and cities are the hubs and drivers of economic activity and welfare.

Given the importance of towns and cities to the economy of the EU, it is important that they continue to function smoothly. Unfortunately, there are signs that in the area of transport and mobility they are not functioning as smoothly as they could. The recent “State of European Cities Report,” lists environmental and urban mobility problems as two of the most pressing sets of problems being faced by European cities.

The costs of the delays and pollution that are caused by chronic congestion are almost 1% of the EU’s GDP according to the European Commission. Traffic in urban areas is responsible for 40% of CO₂ emissions and 70% of other pollutants from road transport. The number of fatal accidents in urban areas is also increasing; about two thirds of the accidents and one third of the road fatalities are in urban areas and affect the most vulnerable road users. The risk of being killed in a road accident is six times higher for cyclists and pedestrians than for car users.

Cycling represents a quick, efficient, healthy and sustainable mode of transport that can improve accessibility, especially in urban areas. Some facts on cycling:

- The average proportion of the total number of journeys made by bicycle in Europe is, according to the European Conference of Ministers of Transport (ECMT), 5%. But countries such as Denmark (18%) and the Netherlands (27%) prove that a much greater share is possible.

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47 Ibid.
48 Ibid. pp. 116
• The main growth potential lies in people switching from private car use to cycling for trips of up to 5 to 8 km. In Europe cars are used for more than half of these short trips. Even for trips of less than 2 km car use is still 30 %.50
• More than 30% of car trips in Europe cover distances shorter than 3 km and 50% shorter than 5 km.
• In many European cities, modal share of bicycle trips is less than 5% (all modes and motives counted).
• For few exceptions like Dutch, Danish and Swedish cities the bicycle modal share may reach between 20% and 30%, and even more (35% of commuter trips in Copenhagen, 50% of short distances trips up to 7 km in Groningen)51.

Description of the strategic policy initiative

Many EU countries have developed a national cycling strategy. A few years ago, the European Conference of Ministers of Transport (ECMT) commissioned a survey on national transport policy in the ECMT member states. It appears from this survey that only a few countries do not have any national policy for cycling. Of course, the scope, status and impact of the national policy differ in the various countries. 52

In September 2007, the European Commission published its Green Paper on urban mobility53. With this Green Paper, the Commission wishes to launch a broad public sector debate as to what a European policy on the issue of urban mobility might contain. The Green Paper will be followed by an Action Plan on urban mobility, which is scheduled for the end of 2008.

In the Green Paper the European Commission indicates why there is a need to intervene at a European level:

"While it is true to say that these problems [emissions, congestion, safety] occur on a local level, their impact is felt on a continental scale: climate change/global warming, increased health problems, bottlenecks in the logistics chain, etc. Local authorities cannot face all these issues on their own; there is a need for cooperation and coordination at European level. The vital issue of urban mobility needs to be addressed as part of a collective effort at all levels: local, regional, national and European. The European Union must play a leading role in order to focus attention on this issue. Europe has a capacity for reflection proposal-making and mobilisation for the formulation of policies that are decided and implemented locally."

It is considered that cycling can contribute to reducing the existing problem associated with urban mobility considerably, while the status of cycling policy development and implementation differs under member states. Therefore this case will address the coordination by the EU of the development of national action plans on cycling promotion.

50 Ibid
51 State of the Art of Research and Development in the Field of Urban Mobility, EURFORUM, FP6, February 2007, Coordination Action funded by the European Commission under the Sixth Framework Programme for Research and Development, (2002-2006), coordinated by UITP.
Additional assumptions for the elaboration of the case

The case as described above is conceptual, i.e. not existing policy. It is also anticipated that it will not become policy in the near future as well, at least not in the way as the case is formulated now, although the forthcoming action plan on urban mobility is likely to contain some action on cycling.

Some further assumptions for the elaboration of the case are necessary. Key in this respect are the words “co-ordination” and “national action plans”. The case implies that national action plans will be developed that can be co-ordinated by the Commission. We assume that the action plan development occurs on a voluntary basis by the member states.

When assessing the impacts of this case, or any policy option in general, it is important to define the baseline options, against which the policy option is compared. This case deals with the co-ordination of national action plans. The question is what would occur if this case would not take place: no national action plan development at all, or national action plans development but without a co-ordination between those? As there are already national action plans, we assume that for this case the baseline situation is that all countries will develop a national action plan, but that those would differ in quality and that countries do not learn from best practices in other countries. Increasing the quality levels of those plans and exchange information on best practices would thus be the main primary impact of the co-ordination in the case. This in turn would lead to better results of the national action plans.

4.2 Identification of impacts

As specified above, the baseline situation for this case study assumes that all countries develop their own national cycling plan. The coordination by the EU of these plans results in the following effects:

- A limited job creation effect (for those coordinating the national plans)
- An improvement of the quality of existing national plans leading to more cycling

Job creation at coordination level: limited effect

Coordination of national cycling plans by the EU requires human capacity at the EU-level. It can be expected that the required skills for these jobs are rather high. Furthermore, it should be noted that this direct job creation effect will be extremely small.

Improved quality of national plans leading to more cycling

The potential chain of impacts can be described as follows. EU co-ordination of national action plans could lead to an increased overall level of national action plans for cycling promotion in the EU27, as member states would learn from the best practices of other member states through the co-ordination. This should always be seen in comparison with the baseline where there is no EU co-ordination.

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54 Coordination at EU level could also create an incentive to set up a national cycling plan for those countries who haven’t done so far. In this case study it is however assumed that all countries have already their own plan.
This implies that the effectiveness of the national action plans should increase, which implies more cycling. Several social effects can be derived from this:

- Job creation as well as job destruction due to a shift in transport modes
- Positive health effects
- Reduction of the congestion improving mobility
- Better access to the labour market

**Job creation as well as job destruction due to a shift in transport modes**
Better cycling plans will create an incentive to cycle more. This will result in a higher share of the bike in the modes of urban trips, at the expense of car trips and public transport trips. This modal shift will also result in employment shifting from one transport sector to another.

At first, more cycling activity will increase the demand for bicycles. The size of the effect is uncertain, because it depends on the number of new users (those who had no bike before). It can however be expected that longer bicycle trips (e.g. for daily work-office trips) will increase the demand for more professional bikes. The demand will increase both in the production sector of bikes, as well as in the selling points (commercial sector) and bike repair services.

Depending on the state of cycling infrastructure (e.g. cycling lanes), countries may decide to invest more in this type of infrastructure giving the increased cycling activity. This also leads to job creation, for example in the construction sector.

When individuals shift from car to a bike, the demand for other transport modes will fall (e.g. car, busses, trains,…). If these effects are large, job destruction may occur. It can be expected that these negative effects are stronger in the fuel sector and car maintenance than in the car production or car selling sector, since it is not so likely that the measure will lead to the complete replacement of all car trips by bicycles.

**Positive health effects**
More cycling implies increased physical exercise, which leads to a better health situation for those taking the bicycle. There is however also a negative effect possible if increased cycling also increases the number of accidents and fatalities.

Due to lower congestion and CO2-emissions (from car and public transport use), more cycling also creates positive spillovers for all inhabitants of a region. If cycling replaces other transport modes (e.g. short trips by car), the measure will improve the air quality. This effect is however only significant if a large group of individuals switches from car to bicycle.

**Reduction of the congestion**
Congestion will reduce when more individuals take a bicycle rather than a car, especially in urban areas. For those not switching transport mode (and continuing to drive their own car – the ‘free riders’), this results in time gain (due to less traffic jams). If these effects are significant, we can expect some positive effect related to more qualitative aspects (e.g. less stress, better combination work-family life, etc.).
Better access to the labour market

Since bikes are a rather cheap transport mode, it can be expected that better cycling plans also improve the access to the labour market for disadvantaged groups. Especially those groups who have a low family income find it difficult to make use of other transport modes (e.g. buying a car, or even using public transport). Mobility is however a prerequisite for many jobs, especially if one lives outside cities or works at irregular hours (when public transport is not available). Improving the mobility also results in better access for placement services (e.g. labour intermediation, training courses), as well as access to all goods and services.

4.3 Selection of appropriate methods

Long list of techniques
There are a number of key steps in determining the impacts of a policy option as this case represents:

- the impact of co-ordination by the EU (versus no co-ordination): will co-ordination lead to better action plans that are more effective?
- the impact of the quality improvement of national action plans (first order effects): will better national action plans lead to more cycling?
- the impact of more cycling (secondary effects): what are the impacts of more cycling?

For each of these key steps, different techniques are required.

Impact of co-ordination
This step is the crucial step in an impact assessment as the current one. In order to assess the impact of co-ordination first a brief assessment of effectiveness of EU co-ordination in earlier initiatives is useful. Subsequently, the different national action plans must be compared. A benchmark of these plans is therefore required, that allows for a structured comparison to analyse whether there are structural quality differences between the national action plans. Subsequently it needs to be assessed whether there is a basis for co-ordination at the EC level. This can be done with stakeholder analysis by means of a questionnaire survey and/or individual interviews, and should result in a comprehensive view of the member states to which extent they are open for co-ordination by EU, and learning from other countries by means of best practices.

Impact of national action plans
Subsequently, it is necessary to assess the impact of national action plans (and its contents) in terms of increased cycling. One can start with a literature survey on best practice examples. Subsequently, expert panels can be set-up to structurally address the impacts. Alternatively or additionally, a set of interviews with experts can be developed, as well as a number of case studies. As the impact for entire Europe must be considered, and it is virtually impossible to assess the situation for each city in Europe on a one-by-one basis, case studies are considered helpful. One could select a number of cases based on some key characteristics (magnitude of the city, cycling culture, infrastructure
conditions) in order to get a better view of potential impacts per different type of city or country.

Models are considered limitedly helpful. The TREMOVE model does give results for cycling and walking. However it is considered that they are insufficiently reliable to base any conclusions on, given the scale at which the model operates. Significant aggregations are made, which make it impossible to distinguish between cities. Hence this model does not take into account differences in the share of cycling between cities in Europe or cultural differences in terms of attitude towards cycling.

**Impact of more cycling**

More cycling is expected to have a number of effects. It is expected that a quantitative causal chain analysis is best suited for such assessment. With such analysis, key figures (from literature) can be applied (e.g. on vehicle emissions) to assess environmental effects or impacts on health.

**Final selection of technique(s)**

As indicated above, there are a number of techniques available for assessing the impacts of the case. To complete a full and balanced analysis, the following techniques are required:

- Benchmark to compare national action plans.
- Stakeholder analysis to assess the basis for EU co-ordination and the potential room for improvement of national action plans
- Literature survey to make a basic assessment of the impact on cycling of the policy option.
- Expert panels to make a more in-depth analysis of the anticipated effects, combined with case studies to distinguish between types of cities.
- Quantitative causal chain analysis to deduce the impacts from increased cycling.

4.4 IA results

**Application of the selected methods**

EU-coordination can take different forms of intensity, which generally depend on the topic that is addressed. A formal approach is the Open Method of Co-ordination (OMC). It is a relatively new and intergovernmental means of governance in the European Union, based on the voluntary cooperation of its member states. The open method rests on soft law mechanisms such as guidelines and indicators, benchmarking and sharing of best practice. This means that there are no official sanctions for laggards. Rather, the method's effectiveness relies on a form of peer pressure and naming and shaming, as no member state wants to be seen as the worst in a given policy area. OMC has been applied in different policies with different outcomes. While it has been considered successful in the area of R&D\(^55\) and employment\(^56\), OMC initiatives regarding pensions\(^57\) and social inclusion\(^58\) were considered less effective.

\(^55\) European Union Scientific and Technical Research Committee, CREST report on the Application of the Open Method of Coordination in favour of the Barcelona research investment objective, 2006
Benchmarking can be applied to make an analysis of the national action plans that exist on EU27 level. This needs to be done to make a judgement of the quality and ambition of the national plans, and subsequently to assess the improvement potential if the EU takes up the co-ordination role. This requires the definition of quality of an action plan as well as robust indicators to measure this.

A stakeholder analysis should initially be addressed to the national representatives responsible for the development of cycling policy. It should address the issue whether they are open for a co-ordination role, and whether they subscribe to the objective to improve the share of cycling in urban transport and discuss with them how to achieve these objectives. The topic of implementation of best practices from other countries in their country should be addressed here.

If the stakeholder analysis results in an assessment that there is room for a co-ordination role of the EU, the next step is to assess the magnitude in terms of effects to be expected from co-ordination on the improvement of national action plans. A basic literature survey should be step one, followed by an expert panel. This expert panel should consist of cycling policy experts (policy makers, researchers etc), who have been active in the ex-ante and ex-post evaluation of cycling policy. The latter is important, as this should result in best practice examples of past initiatives, from which other countries can learn. Based on this input a number of case studies can be developed from different types of cities, that can give insight in the bandwidth for the potential improvements in the national action plans leading to a bigger share of cycling in urban trips.

Finally, a quantitative causal chain analysis is required to make an assessment of the second order effects, in terms of the impact on environment and health. This can be done by applying key figures from literature, e.g. on emissions (CO2 per vehicle kilometre etc).

Many of these techniques are labour intensive, and the application of these techniques to this artificial case goes beyond the scope of this case study. In the remainder of the case study we will focus globally on the primary and secondary impacts of the policy option, derived from literature. Needless to say that in a full impact assessment a broader and deeper application of the techniques is required.

**Quantification of impacts**

A full quantification would require the application of the whole set of techniques as described above. As said, this is considered outside the scope of this study. Here we limit ourselves to some potential effects based on literature. As indicated as well, the first step in an impact analysis would be to study whether EU co-ordination is deemed to be effective in terms of increasing the effectiveness of the national action plans (i.e. leading

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57 Natali, D. and C. de la Porte, Questioning the Effectiveness of OMC Pensions: Does Europe Co-ordinate the EU's diverse Pension Systems?, 2004

to plans that contain measures that are likely to be effective in terms of increasing the share of cycling). If this is the case, the following issues could apply.

A recent study from the UK indicates that a long term change of behaviour is possible by implementing an integrated package of measures such as improving the infrastructure for cyclists, financial incentives and good facilities for cyclists at the end of their trip (e.g. showers and changing rooms). The study estimates that implementing this package of actions to stimulate cycling could increase British cycling rates from 6% to almost 20% for commuting trips.59

Increase of cycling could result in a decrease of congestion. Studies in the Netherlands indicate that on some routes 25%-33% of car travellers in traffic jams consider the bike as a favourable alternative, and that an adequate bike route (comfortable pavement, with lights, separate from the car traffic and with less travel time then by car) could increase the number of cyclists from 20% to 35% at the expense of the car. Optimisation of favourable bike route could reduce travel time delay as a result of congestion by 2-6%.60

Most bicycle trips are short distance trips, i.e., under 7 km. Therefore, the effect of any increase in the non-motorised kms is unlikely to be very large. However, this small increase in non-motorised kms, and corresponding small decline in motorised kms (and short distance trips) has a disproportionately large impact on the volume of harmful emissions. The reason is that most harmful car trips are short distance trips, and the reason is that the starting and stopping of an engine causes a lot of harmful emissions; as a result each 1% shift in kms from motorised to non-motorised traffic reduces energy use and harmful emissions by 2-4%.61

There would be positive health impacts resulting from lower obesity levels and lower pollution levels. For road safety, the presence of more bicycles on the roads makes car drivers more aware of them and therefore also more careful. Moreover, development of dedicated infrastructure for the non-motorised modes can contribute to reducing the number of conflicts and hence the number of accidents and traffic fatalities. The results of a large study suggest that the risks of an accident while riding a bicycle are far outweighed by the health benefits of doing, at least for commuters who regularly use their bicycle to go to work.62

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60 MuConsult, Met de fiets minder file (Less congestion through bikes), September 2007.
## 4.5 Summary of the impacts

### Table 0.7 Social effects table

<table>
<thead>
<tr>
<th>Effects</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment and labour market:</td>
<td>There will be employment gains in production, repair and selling of bikes. Less demand for alternative transport modes (e.g. cars, public transport) will reduce the jobs in sectors depending on these modes (mainly fuel, car maintenance). Overall employment effects are expected to be rather small.</td>
</tr>
<tr>
<td>• Impact on labour demand</td>
<td></td>
</tr>
<tr>
<td>• Impact on labour supply</td>
<td></td>
</tr>
<tr>
<td>Impact on the functioning of the labour market</td>
<td></td>
</tr>
<tr>
<td>Job quality</td>
<td></td>
</tr>
<tr>
<td>Standards and rights related to job quality</td>
<td></td>
</tr>
<tr>
<td>Social inclusion and protection of particular groups</td>
<td>Positive incentives from more cycling, leads to better access to the labour market for certain disadvantaged groups (especially low-income families). Improving the mobility also results in better access for placement services (e.g. labour intermediation, training courses), as well as access to goods and services. More cycling has a positive impact on health and environment.</td>
</tr>
<tr>
<td>• Access to the labour market</td>
<td></td>
</tr>
<tr>
<td>• Access to placement services or services of general economic interest</td>
<td></td>
</tr>
<tr>
<td>• Access to goods and services</td>
<td></td>
</tr>
<tr>
<td>• (In)equality</td>
<td></td>
</tr>
<tr>
<td>Equality of treatment and opportunities, non-discrimination</td>
<td></td>
</tr>
<tr>
<td>Access to and effects on social protection, health and education systems</td>
<td></td>
</tr>
<tr>
<td>• Quality of services</td>
<td></td>
</tr>
<tr>
<td>• Access to services</td>
<td></td>
</tr>
<tr>
<td>Public health and safety</td>
<td></td>
</tr>
</tbody>
</table>
5 Fiches long list of transport initiatives
**Name of the policy initiative: Application of a tax on kerosene (fiche 1)**

<table>
<thead>
<tr>
<th>Field:</th>
<th>Transport</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source:</td>
<td>n.a.</td>
</tr>
<tr>
<td>Type of proposal:</td>
<td>Price based</td>
</tr>
<tr>
<td>Timing:</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

**Strategic importance of the proposal within the policy field/DG*: n.a.**

**Description:**
One of the current policy principles is that the internalisation of external costs should be started. This issue has been debated for decades, and the first movements are now made. This has a.o. been announced in the mid term review of the White Paper. By mid-2008, a legislative proposal is expected on the internalisation of external costs for road transport. Internalisation of external costs is not yet applied in aviation. National initiatives are now being developed, such as a ticket tax in the Netherlands and the aviation duty in the UK. On a European level, aviation will be brought into the emission trading scheme.

However, there are voices that the inclusion in the ETS does not represent a full internalisation of external costs, and that the national initiatives are treasury related rather than environment related.

Whereas petrol for cars is being taxed in every European country, this is not the case for kerosene. Kerosene is currently exempted from tax. The introduction of a kerosene tax has been debated various times in the national and international aviation policy domain, but has never been applied. In the light of the ongoing debate of internalisation and the anticipated growth of aviation in the coming decades, the kerosene tax may become a serious policy option in future.

**Objective(s):**
The intended effect is to internalise the external costs, which basically means an increase of the price of kerosene, and subsequently an increase of the price of a flight. Given the price elasticity for demand for aviation, it is expected that demand for aviation will decrease.

**Potential social effects:**

<table>
<thead>
<tr>
<th>Effect</th>
<th>likelihood**</th>
<th>intensity***</th>
<th>assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demand reduction, and subsequent reduction of employment in aviation industry.</td>
<td>H</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Increased cost of transport, leading to increase of prices of (European) goods, and subsequent impact on demand and trade.</td>
<td>M</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

**Suggestions for assessment techniques:**
Aviation model, e.g. AERO model
General equilibrium model

* Not be performed in the course of this study!

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* number between 1-5; with 1 least importance and 5 most important/strategic
** H=high / M=medium / L= low
*** number between 1-5; with 1 low intensity and 5 high intensity
### Name of the policy initiative: Internalisation of external costs in inland waterways (fiche 2)

<table>
<thead>
<tr>
<th>Field:</th>
<th>Transport</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source:</td>
<td>n.a.</td>
</tr>
<tr>
<td>Type of proposal:</td>
<td>Price based</td>
</tr>
<tr>
<td>Timing:</td>
<td>n.a.</td>
</tr>
<tr>
<td>Strategic importance of the proposal within the policy field/DG*:</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

#### Description:

The internalisation of external costs has been debated various times in the past. Historic international agreements, such as the Mannheim Convention however prevents such implementation. The Mannheim Convention is the oldest European treaty still in force. It was concluded in 1868 between the Rhine riparian states. The Convention in principle guarantees freedom of navigation on the Rhine, which also prevents inland waterway from charging. However, given the EC policy line into internalisation of external costs and towards a level playing field for transport modes, it may be foreseeable in future that new regulations will be drafted to allow for charging IWW.

It would then have to be assessed which kind of charging will be applied:

- the costs for maintenance of the inland waterways
- the external costs
- the investment costs for new infrastructure

For this case we propose the internalisation of external costs.

#### Objective(s):

To apply a fair pricing of infrastructure, and apply the polluter pays principle to reduce emissions.

#### Potential social effects:

<table>
<thead>
<tr>
<th>Effect</th>
<th>likelihd</th>
<th>intensity</th>
<th>assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decrease competitive position IWW, and modal shift.</td>
<td>H</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Reduce of demand through price increase.</td>
<td>M</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

#### Suggestions for assessment techniques:

Dedicated transport model with freight transport focus.
Dedicated calculations based on elasticities etc.
Name of the policy initiative: Shipping in ETS (fiche 3)

<table>
<thead>
<tr>
<th>Field:</th>
<th>Transport</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source:</td>
<td>n.a.</td>
</tr>
<tr>
<td>Type of proposal:</td>
<td>Quantity based</td>
</tr>
<tr>
<td>Timing:</td>
<td>n.a.</td>
</tr>
<tr>
<td>Strategic importance of the proposal within the policy field/DG*:</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

**Description:**
The Greenhouse gas emissions from shipping have grown significantly over the last decades. In 2000 EU-flagged ships emitted almost 200 million tonnes of carbon dioxide. This is significantly more than emissions from EU aviation. This has been recognised by the International Maritime Organisation and the European Commission who are both studying measures.

In January 2005 the European Union Greenhouse Gas Emission Trading Scheme (EU ETS) commenced operation as the largest multi-country, multi-sector Greenhouse Gas emission trading scheme world-wide. Various industries are included in the ETS, but not transport. It is foreseen that aviation is brought under the ETS in 2011 or 2012, depending on political agreement.

In the first half of 2007, Commission officials indicated in the press to consider to include shipping in the ETS. It was mentioned to draft legislation by the end of 2007. However, early 2008 the Commission presented its draft directive to amend (expand) ETS with additional sectors, in which was mentioned that shipping was not yet to be included.

**Objective(s):**
To reduce carbon dioxide from shipping.

**Potential social effects:**

<table>
<thead>
<tr>
<th>Effect</th>
<th>likelihood</th>
<th>intensity</th>
<th>assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase of the price of maritime transport, with subsequent impact on demand.</td>
<td>H</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Increase of transport costs in total production costs, with subsequent impact on trade.</td>
<td>H</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**Suggestions for assessment techniques:**
Transport modelling that includes maritime transport of goods and other modes
General equilibrium model?
<table>
<thead>
<tr>
<th>Field:</th>
<th>Transport</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source:</td>
<td>n.a.</td>
</tr>
<tr>
<td>Type of proposal:</td>
<td>Financial support</td>
</tr>
<tr>
<td>Timing:</td>
<td>n.a.</td>
</tr>
<tr>
<td>Strategic importance of the proposal within the policy field/DG*:</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

**Description:**
The trans-European networks for transport (TEN-T) were initiated in 1990. Currently, some 30 transnational priority axis have been identified, that need to be developed to facilitate future transport movements. The development is co-funded by the European Commission.

It is the EC’s intention to extend the TEN-T’s from the EU27 to its neighbouring countries. Currently studies on the future traffic on various axis from the EU to its neighbours are being studied. However, concrete projects have not yet been defined. We could take a potential future project as a case, such as a high speed rail link between Warsaw and Kiev or a Tirana-Thessaloniki motorway.

**Objective(s):**
Facilitation of future transport movements to prevent infrastructure bottlenecks.

**Potential social effects:**

<table>
<thead>
<tr>
<th>Effect</th>
<th>likelihood</th>
<th>intensity</th>
<th>assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional economic development, incl employment.</td>
<td>H</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

**Suggestions for assessment techniques:**
Dedicated models that included a relation between regional accessibility and regional economic development, e.g. SASI model.
| Field: | Transport |
| Source: | n.a. |
| Type of proposal: | Standard |
| Timing: | n.a. |

**Strategic importance of the proposal within the policy field/DG*: n.a.**

**Description:**
Technology advances in general and in the automotive industry as well. Cars from 2008 have significantly more features than cars from the seventies or eighties. Part of this advancement is the result of standard setting by the European Commission. This concerns standards regarding emissions and regarding safety. The catalytic converter and the airbag are examples in this respect.

Research in the last years have developed new features to assist the driver, the so called Advanced Driver Assistance Systems (ADAS). These systems add comfort and safety for the driver. Examples in this respect are the Adaptive Cruise Control (which slows down when distance to an other car decreases) or a forward collision warning system that which warns a driver or provides brake support if there is a high risk on rear-end collision.

The European Commission recently announced its plans to make some ADAS systems mandatory for cars and trucks. It foresees mandatory fitting of the following safety features: Electronic Stability Control Systems on all vehicles; Advanced Emergency Braking Systems and Lane Departure Warning Systems on heavy-duty vehicles.

It may be anticipated that the Commission will develop new proposals in a few years that will make the implementation of new ADAS systems mandatory, like it did a few weeks ago. This would especially be the case as systems present from a societal perspective a positive benefit-to-cost ratio, while from the perspective of the manufacturer or the car owner the incentive is insufficient to install or purchase such system voluntarily.

**Objective(s):**
To increase road safety.

**Potential social effects:**

<table>
<thead>
<tr>
<th>Effect</th>
<th>likelihood</th>
<th>intensity</th>
<th>assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improved safety.</td>
<td>H</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Increased costs of a car.</td>
<td>M</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**Suggestions for assessment techniques:**
Dedicated safety studies.
Name of the policy initiative: Further liberalisation of the groundhandling market (fiche 6)

<table>
<thead>
<tr>
<th>Field:</th>
<th>Transport</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source:</td>
<td>n.a.</td>
</tr>
<tr>
<td>Type of proposal:</td>
<td>Liberalisation</td>
</tr>
<tr>
<td>Timing:</td>
<td>n.a.</td>
</tr>
<tr>
<td>Strategic importance of the proposal within the policy field/DG*:</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

**Description:**
Groundhandling services make an essential contribution to the efficient use of air transport infrastructure. A distinction can be made between airside and landside services, the latter being passenger-related services such as ticketing and baggage handling at the check-in desks. Airside services comprise services such as ramp handling, fuelling and defuelling operations, aircraft maintenance and the provision of catering services.

The market in groundhandling services is covered by a Directive dating from October 1996 (Directive 96/67/EC) which gradually opened up the services to competition. This was necessary since the checking-in of passengers, baggage handling, the provision of catering services, etc. used to be a monopoly at many EU airports, and many airlines complained about the relatively high prices for the services provided and sub-optimal efficiency and service quality. Summarised the directive prescribes that at airports with more than 2 million passengers there must be a minimum of two service providers for each category of services. Additionally there are provisions for self handling by airlines and the involvement of airport operators in the handling.

In the January 2007 Airport package of the Commission, a study was included on the impacts of the Groundhandling directive. This indicated that competition has improved, and that the Commission may adapt the directive in future in order to improve market access. Apart from conditions for social protection of workers, these adaptations may also concern improved market access for service providers, from increasing the minimum number of service providers to fully opening up of the market. For the case study we propose to consider a fully open market for airports over 500,000 passengers.

**Objective(s):**
To improve competition in order to decrease prices and increase quality.

**Potential social effects:**

<table>
<thead>
<tr>
<th>Effect</th>
<th>Likelihood</th>
<th>Intensity</th>
<th>Assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact on working conditions.</td>
<td>H</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Impact on employment.</td>
<td>H</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

**Suggestions for assessment techniques:**
**Name of the policy initiative:** National cycling promotion action plans (fiche 7)

**Field:** Transport

**Source:** n.a.

**Type of proposal:** Coordination of national efforts

**Timing:** n.a.

**Strategic importance of the proposal within the policy field/DG:** n.a.

**Description:**
Where in some countries cycling has a high share in urban mobility, this is certainly not the case in every European country. However, the problem of a congested urban area with severe local emissions is emerging in nearly every European country. These problems are countered with charging schemes, public transport and other measures. An additional measure could be the promotion of cycling, which could be coordinated by the EC. This promotion could be in the form of improved marketing of the advantages of cycling, but as well in the form of construction of dedicated cycling infrastructure in cities.

**Objective(s):**
- To reduce congestion.
- To reduce emissions.
- To increase safety.
- To increase public health.

**Potential social effects:**

<table>
<thead>
<tr>
<th>Effect</th>
<th>likelihood</th>
<th>intensity</th>
<th>assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temporal employment on promotion and infra</td>
<td>H</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>construction.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improved public health.</td>
<td>H</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Improved safety.</td>
<td>M</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**Suggestions for assessment techniques:**
Annex 2: Case studies in the field of internal market policy (VAT)

1 Scoping and identification of policy initiatives in the field of internal market policy (VAT)

1.1 Broad policy context and approach to select case studies

VAT policy framework

The VAT has been quite harmonised in the EU since the introduction of the Sixth Directive (Directive 77/388/EEC). In fact, introducing a VAT, along rather specific lines, is compulsory when entering the EU, as it is part of the acquis communautaire. The various regulations that should be introduced into national legislation are, at present, consolidated in Directive 2006/112/EC.

Major differences remain, however, at the level of implementation in the various Member States. The most important differences are:

- The rate structure: one Member State has a uniform rate of 25% (Denmark), others have multiple rates (reduced, super-reduced, parking, zero). Since 1992, lower limits for standard (15%) and reduced rates (5%) have been introduced. These apply at least until 31 December 2010.
- The use of lower rates also differs between Member States. Annex III of the Directive provides an exhaustive list of these. Mathis (2004) shows that in the EU15, up to around 45% of the VAT base attracts a reduced rate (for reference: in Denmark this is 0%).
- The registration threshold for VAT purposes differs substantially between Member States.
- The VAT treatment of cross-border transactions still deviates substantially from domestic transactions. Language barriers make this even more of a burden for firms.
- The use of exemptions also differs between Member States, in spite of the essentially harmonised tax base, as originally specified in the 6th VAT directive.
- There is a transitional regime (ending in 2010) that allows Member States to impose the lower rate on labour-intensive services.
- Derogations apply in a large number of instances (for instance an optional regime for farmers, specific exemptions in Member States, varying thresholds, parking rates, etc.)

63 See for instance, Mathis (2004); Cnossen (2001).
For information purposes, several characteristics of the VAT systems applicable in the various EU Member States are shown in Table 0.1.

Although Directive 2006/112/EC is quite recent, no fundamental changes have been made over the past years. In fact the current Directive is mostly a rather comprehensive rewrite to make the Directive more transparent. Quigley (2007) has discussed the changes relative to the Sixth Directive (originating from 1977, but modified over the years. He concludes that although the Directive is indeed much clearer, no fundamental changes have occurred, mostly due to the fact that Member States disagree about the direction of changes. It has certainly not brought the goal set out to eventually move to a final regime, an origin-based system for intra-EU transactions, closer.

Table 0.1 An overview of some important characteristics of the VAT in EU Member States

<table>
<thead>
<tr>
<th>Country</th>
<th>Standard rate</th>
<th>Reduced rates</th>
<th>Typical registration threshold in €o</th>
<th>In national currency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>20</td>
<td>10;12</td>
<td>30.000</td>
<td></td>
</tr>
<tr>
<td>Belgium</td>
<td>21</td>
<td>0;6;12</td>
<td>5.580</td>
<td></td>
</tr>
<tr>
<td>Bulgaria</td>
<td>20</td>
<td>7</td>
<td>25.560</td>
<td>BGL 50.000</td>
</tr>
<tr>
<td>Cyprus</td>
<td>15</td>
<td>0;5;8</td>
<td>15.400</td>
<td>CYP 9.000</td>
</tr>
<tr>
<td>Czech Rep.</td>
<td>19</td>
<td>9</td>
<td>36.800</td>
<td>CZK 1 million</td>
</tr>
<tr>
<td>Denmark</td>
<td>25</td>
<td>0</td>
<td>6.700</td>
<td>DKK 50.000</td>
</tr>
<tr>
<td>Estonia</td>
<td>18</td>
<td>0;5</td>
<td>16.000</td>
<td>EER 250.000</td>
</tr>
<tr>
<td>Finland</td>
<td>22</td>
<td>0;8;17</td>
<td>8.500</td>
<td></td>
</tr>
<tr>
<td>France</td>
<td>19.6</td>
<td>2;1;5;5</td>
<td>76.300</td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td>19</td>
<td>7</td>
<td>17.500</td>
<td></td>
</tr>
<tr>
<td>Greece</td>
<td>19</td>
<td>4;5;9</td>
<td>10.000</td>
<td></td>
</tr>
<tr>
<td>Hungary</td>
<td>20</td>
<td>5</td>
<td>19.9</td>
<td>HUF 5 million</td>
</tr>
<tr>
<td>Ireland</td>
<td>21</td>
<td>0;13.5</td>
<td>70.000</td>
<td></td>
</tr>
<tr>
<td>Italy</td>
<td>20</td>
<td>4;10</td>
<td>n.a.</td>
<td></td>
</tr>
<tr>
<td>Latvia</td>
<td>18</td>
<td>5</td>
<td>14.250</td>
<td>LVL 10.000</td>
</tr>
<tr>
<td>Lithuania</td>
<td>18</td>
<td>5;9</td>
<td>29.000</td>
<td>LTL 100.000</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>15</td>
<td>3;6;12</td>
<td>10.000</td>
<td></td>
</tr>
<tr>
<td>Malta</td>
<td>18</td>
<td>0;5</td>
<td>35.000</td>
<td>MTL 15.000</td>
</tr>
<tr>
<td>Netherlands</td>
<td>19</td>
<td>6</td>
<td>1.345</td>
<td></td>
</tr>
<tr>
<td>Poland</td>
<td>22</td>
<td>0;3;7</td>
<td>10.000</td>
<td></td>
</tr>
<tr>
<td>Portugal</td>
<td>21</td>
<td>5;12</td>
<td>9.976</td>
<td></td>
</tr>
<tr>
<td>Romania</td>
<td>19</td>
<td>9</td>
<td>35.000</td>
<td></td>
</tr>
<tr>
<td>Slovak Rep.</td>
<td>19</td>
<td>10</td>
<td>44.700</td>
<td>SKK 1.5 million</td>
</tr>
<tr>
<td>Slovenia</td>
<td>20</td>
<td>8.5</td>
<td>25.000</td>
<td></td>
</tr>
<tr>
<td>Spain</td>
<td>16</td>
<td>4;7</td>
<td>n.a.</td>
<td></td>
</tr>
<tr>
<td>Sweden</td>
<td>25</td>
<td>6;12</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>United Kingdom</td>
<td>17.5</td>
<td>0;5</td>
<td>92.000</td>
<td>GBP 64.000</td>
</tr>
</tbody>
</table>

Not long after this rewrite, a reform package has been introduced. Van der Corput (2008) discusses these changes. These amount to:

- Replacement of the place-of-supply rules for services,
- Limited extension of the reverse charge mechanism\(^{64}\),
- Abolition of the principle of force of attraction,
- Introduction of the obligation to file a recapitulative statement in respect of reverse-charged services, and,
- Extension of the one-stop-shop arrangement ("mini one-stop-shop").

Some of these changes are more extensively described in Table 0.2.

**A final regime!?**

Article 402 of the directive stipulates: “[t]he arrangements provided for in this Directive for the taxation of trade between Member States are transitional and shall be replaced by definitive arrangements based in principle on the taxation in the Member State of origin of the supply of goods or services.”

In other words, for intra-EU trade, at some point in the future, an origin-based system should apply. The main appeal of this is that it does not differentiate between domestic and intra-EU transactions.

The deferred payment system has been introduced in 1991, just before the internal market (without border controls) was established (Directive 91/680/EEC). When goods and services cross the border, a zero-rate is applied, as is the case when a good or service leaves the EU altogether. This entitles the exporter to a tax refund. The tax is recovered (in the destination country) when it progresses through the value chain in another Member State. Purchasers of out-of-state goods and services declare the imports, apply VAT and take credit for the same amount. This deferred payment system is backed up by a VAT Information Exchange System (VIES), which requires taxable persons to file quarterly reports of out-of-state supplies and acquisitions. In addition, a statistical data collection system, referred to as the Intrastat system, has been set up to collect trade data on goods (not services) between Member States (Cnossen, 2001). This system opens the door for VAT fraud, see Keen and Smith (2007) for a general introduction and Swinkels (2008) for carousel fraud. Keen and Smith report evasion figures of over 10% of hypothetical revenue in a number of EU Member States.\(^{65}\)

When a good is sold directly to a final consumer, the tax rate applied is that of the country of origin. The latter conflicts with the destination principle applied for cross-border transaction to non-final consumers.\(^{66}\).

---

\(^{64}\) Normally, VAT rules prescribe that the place of supply is the place where the supplier’s business is established. However, in respect of certain taxable supplies, VAT rules state that the place of supply must or may be somewhere else. Hence the VAT liability may shift from one country to another. This is commonly referred to as a ‘reverse charge mechanism’.

\(^{65}\) Obviously, all taxes are to some extent evaded. Fragmented evidence suggests VAT evasion is not much out of line with evasion in personal income taxation.

\(^{66}\) All countries that have a VAT apply the destination principle. This stipulates that all exports are zero-rated (i.e. no VAT burden is attached to goods and services crossing national borders). At the moment of importation, the VAT system of the importing country starts to apply (Ebrill et al. 2001). Goods imported from outside the EU for private consumption purposes are taxed, with a limited exempt amount.
Moreover, the VIES system as well as the Intrastat system pose a burden on firms. This further discriminates between domestic and intra-EU transactions (Cnossen, 2001).

**Approach**

Our approach to the identification of a long list of initiatives and subsequent gathering of information for a preliminary assessment of these initiatives consisted of:

1) Screening of relevant information on the website of DG TAXUD, regarding both recently enacted and planned policy initiatives; e.g. annual work programme, the Commission’s Roadmap of Priority Initiatives ([http://ec.europa.eu/atwork/programmes/docs/clwp2008_roadmap_priority_initiatives.pdf](http://ec.europa.eu/atwork/programmes/docs/clwp2008_roadmap_priority_initiatives.pdf)), information on specific initiatives and issues (summarised below in tables), etc.

2) Screening of annotated ECOFIN Council agendas, as published by the Dutch Ministry of Finance. These agendas briefly comment on the topics discussed. This Council is, arguably, the most important actor in the field of VAT.

3) Screening of relevant literature on VAT, notably in the context of the EU and federations.

Various documents from the relevant part of the Commission’s website were consulted. Most notably, use has been made of:

- All of these proposals can also be tracked at: [http://eur-lex.europa.eu/Result.do?RechType=RECH_repertoire&rep=093010*&repinhm=Turnover%20tax/VAT](http://eur-lex.europa.eu/Result.do?RechType=RECH_repertoire&rep=093010*&repinhm=Turnover%20tax/VAT).

Moreover, use has been made of documents published under:

- [http://ec.europa.eu/taxation_customs/taxation/vat/key_documents/communications/index_en.htm](http://ec.europa.eu/taxation_customs/taxation/vat/key_documents/communications/index_en.htm): the communications page of TAXUD. This page provides an overview of potential (and some introduced) policy proposals of the Commission
- [http://ec.europa.eu/taxation_customs/common/consultations/tax/index_en.htm](http://ec.europa.eu/taxation_customs/common/consultations/tax/index_en.htm): a page that contains a number of consultations started by the Commission in the field of taxation (including VAT).

The latest annual activity report of DG TAXUD dates from 2006 ([http://ec.europa.eu/atwork/synthesis/aar/index_en.htm](http://ec.europa.eu/atwork/synthesis/aar/index_en.htm)). All activities listed there have by now resulted in some kind of policy change.

Furthermore, we consulted the sections ‘VAT News’, more specifically those on the European Union, from various issues of the International VAT Monitor, a journal published by IBFD.
In addition, the following academic literature has been studied:


Other reports/studies:

- Copenhagen Economics (2007), ‘Study on reduced VAT applied to goods and services in the Member States of the European Union’, Report commissioned by DG TAXUD.

Some of these documents are explicitly referred to in the main text, other documents are for more general referencing purposes.

**Issues and limitations to our approach**

Any change in the VAT on the European level requires unanimity at Member State level (Council) as well as approval of the European Parliament. Any policy package may change shape when discussed in these fora. As is indicated below, even for initiatives for which the opening bid of the Commission is rather clear, subsequent negotiations in the Council and in the European Parliament, may change these initiatives significantly.

Over the years, consultation of stakeholders and addressing issues raised by them in drafting and redrafting legislation of VAT, has become more important. This adds a fourth player to the game and creates more uncertainty about the nature and scope of policy initiatives.
DG TAXUD typically presents impact assessments when more fundamental changes to the policy framework are introduced. A large number of initiatives is, however, administrative and procedural in nature. This affects the potential of using more quantitative impact assessment tools. Often use is made of the results of a stakeholder consultation (typically involving businesses only) to infer the impact of proposals.

At the moment, three important policy initiatives are being prepared or modified at the Commission level. One of these has direct social impacts (re-assessment of the scope of reduced rates). The other two policy packages (tackling fraud; more uniform VAT treatment of financial and insurance services) will directly impact businesses (through administrative procedures) while having mainly indirect social impacts. But even if the social effects are indirect, this does not mean that they are unimportant. In fact, all VAT related issues have a broad redistributive impact as VAT is a regressive tax which affects poor people relatively stronger than richer ones.

In part due to the politically sensitive nature, the nearing of the final year for the current Commission and the lengthy process for new policies, no other substantial policy options could be identified. As the discussion below indicates, several policy options can nevertheless be defined. At the moment, for two of the three policy initiatives mentioned above an impact assessment already has been done (namely for financial services and reduced rates).

1.2 Long list of initiatives

Policies in the field of VAT are typically addressed by amending the VAT Directive. Derogations for Member States on specific issues may be included, if no objections are raised. Other policy actions include infringement procedures in case of non-compliance by a Member State.

Which policies have recently been agreed / discussed?

This section presents some policy changes recently adopted as well as some recently proposed. The latter category includes both formal proposals by the Commission as well as issues raised in consultations. Typically, these consultations eventually result in proposals drafted by the Commission for changes in the field of VAT. The recent policy changes enacted are included as these are representative of most of the policies in the field. Several specific policy issues for VAT are subsequently discussed in more detail.
Table 0.2 Legislation recently adopted in the field of VAT

<table>
<thead>
<tr>
<th>Year</th>
<th>Policy</th>
<th>Additional remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>Place of supply of services (<a href="http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:044:0011:0022:EN:PDF">http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:044:0011:0022:EN:PDF</a>)&lt;br&gt;This has to be gradually introduced in national legislation no later than January 1, 2010, whilst some (distance selling) no later than January 1, 2015.</td>
<td>Business-to-business supplies of services will be taxed where the customer is situated, rather than where the supplier is located. For business-to-consumer supplies of services, the place of taxation will continue to be where the supplier is established.</td>
</tr>
<tr>
<td>2008</td>
<td>New procedure for reimbursement of VAT (<a href="http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:044:0023:0028:EN:PDF">http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2008:044:0023:0028:EN:PDF</a>)&lt;br&gt;Procedures for reimbursement of VAT to businesses in Member States where they are not established will be replaced by a new fully electronic procedure, thereby ensuring a quicker refund to claimants. The current paper-based procedure is slow, cumbersome, and costly. It also lacks in legal certainty.</td>
<td>Procedures for reimbursement of VAT to businesses in Member States where they are not established will be replaced by a new fully electronic procedure, thereby ensuring a quicker refund to claimants. The current paper-based procedure is slow, cumbersome, and costly. It also lacks in legal certainty.</td>
</tr>
</tbody>
</table>

Source: Commission website (DG TAXUD), Van der Corput (2008).
<table>
<thead>
<tr>
<th>Year</th>
<th>Policy</th>
<th>Further remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>Fraud – tax evasion</td>
<td>COM (2008)147; This proposal concerns two of those measures, namely the reduction to one month of both the frequency of recapitulative statements of intra-Community transactions and the deadline for the exchange of information between tax administrations.</td>
</tr>
<tr>
<td></td>
<td>Derogations to the general rules for individual Member States</td>
<td>Member States specific measures</td>
</tr>
<tr>
<td>2007</td>
<td>Proposal for a COUNCIL DIRECTIVE amending Directive 2006/112/EC on the common system of value added tax, as regards the treatment of insurance and financial services.67 COM (2007) 747 final68 and COM (2007) 746 final69 IA has been performed (SEC/07/1554); the proposal is still under discussion in the council (Dutch Ministry of Finance, 2008) Consultation took place in 2006</td>
<td>Current version: The objectives of the proposal (COM (2007) 747) are twofold: – increasing legal certainty for economic operators and national tax administrations, reducing their administrative burden for correctly applying the rules for the VAT exemption of insurance and financial services; – reducing the impact of hidden VAT in costs of insurance and financial services providers. These objectives are achieved by the three measures contained in the proposal: – clarification of the rules governing the exemption from VAT for insurance and financial services; – broadening of the existing option for taxation by transferring the right to opt from the Member States to the economic operators; – introduction of a cost-sharing group which allows economic operators to pool investments and re-distribute the costs for these investments exempt from VAT from the group to its members. For COM (2007) 746: This concept includes the following elements: – it bases the conditions for applying the VAT exemption on objective economic criteria; – it clarifies that the exemption covers the supply of any constituent element of an insurance or financial service, which constitutes a distinct whole and has the specific and essential character of the exempt service concerned; – it introduces a common harmonised concept of intermediation for insurance and financial services.</td>
</tr>
</tbody>
</table>

67 Zee (2006) provides an overview of the issues at stake in taxing financial service operators (as opposed to rendering services and trading goods, a decomposition in the return to waiting and the service charge is often difficult to make) and various options to tax these services in a comprehensive way (inter alia, application of zero-rates, taxation on a cash-flow basis).

Comments from the business world and the Member States have demonstrated the need to amend several elements of Directive 2006/112/EC of 28 November 2006 on the common system of value added tax (hereinafter the “VAT Directive”). None of the amendments calls into question the guiding principles set out in the VAT Directive or is sufficiently important to justify on its own a separate proposal for a directive. It has therefore been considered expedient to incorporate into a single proposal the specific improvements that the VAT Directive seems to require. These amendments concern: the VAT scheme applicable to the supply of natural gas, electricity, heat and/or refrigeration; the tax treatment of joint undertakings set up pursuant to Article 171 of the EC Treaty; the taking into account of certain consequences of EU enlargement; and the conditions under which the right to deduct input VAT may be exercised.

No impact assessment was deemed necessary: “The proposal for a Directive contains primarily technical provisions that do not call into question the important principles on which Community VAT legislation is based.”

Table 0.4  Recent Consultation on VAT issues

<table>
<thead>
<tr>
<th>Consultation</th>
<th>Further remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>VAT treatment of Vouchers</td>
<td>2007; no actions taken yet, expected in 2008 (more is provided in the text below)</td>
</tr>
<tr>
<td>Possible introduction of a mechanism for eliminating double taxation in individual cases</td>
<td>Consultation in 2007; procedural in nature.</td>
</tr>
<tr>
<td>VAT and the Place of Supply of Services to Non-Taxable Persons</td>
<td>Consultation has taken place in 2003; 2005 (distance); partially taken on board in the new 2006 Directive.</td>
</tr>
<tr>
<td>Procedures (simplification and modernisation of obligations)</td>
<td>Consultation in 2003; partially taken on board in the new 2006 Directive. A background report was included.</td>
</tr>
<tr>
<td>One stop shop</td>
<td>Consultation in 2004; partially taken on board in the new 2006 Directive.</td>
</tr>
</tbody>
</table>

Source: Commission website (DG TAXUD).
The Commission’s Forward Programming for 2008 (http://ec.europa.eu/atwork/programmes/docs/forward_programming_2008.pdf) shows that a number of initiatives that are being prepared for 2008:

- Further action on the future of reduced rates. This includes a consultation and discussion in the Council. The annotated agendas of the ECOFIN meetings also show that the respective presidencies pay attention to this topic.
- Harmonisation of invoicing and e-invoicing requirements. A report has been published (http://ec.europa.eu/taxation_customs/resources/documents/taxation/vat/key_documents/reports_published/TenderXXI-98-CB-5010.pdf) showing the various national requirements.
- Establishing a more uniform application of VAT legislation across the EU to ensure more consistency.

**Fraud**

The proceedings from a conference organised by DG TAXUD on VAT and fraud in 2007 (http://ec.europa.eu/taxation_customs/taxation/vat/vat_conferences/article_3857_en.htm) show that there are essentially only two options that may be worthwhile. One is increased cooperation between national tax administration (more effective information sharing; also reflected in COM(2008)147, see Table 0.3 above). Joint audits and better risk management may complement this. This is an option that is feasible in the short run. In the longer run, a compensating VAT (CVAT) may be an option, see below. Such a system is in place in Brazil (a federal country). Other choices, most importantly an (optional) wider use of the reverse charge mechanism are not deemed to be conducive to the goal.\(^70\)

**Potential alternatives for the transitional regime**

As indicated in the current VAT directive, the current regime is still transitional. Eventually, an origin-based system should apply to intra-EU trade. As the Commission acknowledges\(^71\), most recent changes (up to 2003, but the same essentially applies to later changes) move the system closer to a destination-based system (cf. passenger transport, if taxed; services). The argument of the Commission is to consider not the place of taxation, but the place where revenues are eventually accrued (ibid). This may well be the place of origin. A system of intra-EU transfers, based on statistical information, could ensure this\(^72\).

In earlier documents prepared by the Commission (the first two options), as well as in the academic literature (the latter two options), several suggestions have been raised to move to an origin-based system. Cnossen (2001) has assessed the most important of these. His assessment is summarised below. Note that all of these systems are destination-based;

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\(^70\) At the time of writing (early June 2008), the findings of the consultation on the optional reverse charge mechanism are not public yet, see http://ec.europa.eu/taxation_customs/common/consultations/tax/index_en.htm.

\(^71\) http://ec.europa.eu/prelex/detail_dossier_real.cfm?CL=en&Dosit=186150

\(^72\) So far, only the CIS has featured an origin-based VAT for intra-CIS transactions. This system has been abolished in the meantime.
eventual revenue flows would be (could be) origin-based.

The first option is the clearinghouse under which out-of-state exports are taxed by the Member State of origin and importers would be entitled to a tax credit for the out-of-state VAT. To restore the revenue allocation of the destination principle, the VAT administration of the exporting state would remit the VAT collected on exports to the administration of the importing state. To settle net balances a central clearinghouse has to be formed. This could either settle actual balances, or settle balance on the basis of estimates of consumption.

The second option is home-state taxation: VAT is collected at the place of business establishment, instead of at the location of the transaction. Cross-border sales would be taxed similar to domestic sales; cross-border movement of goods within the same business would be untaxed. Importers would be able to credit the VAT on intra-EU exports against their own VAT liability. Balances could be settled on the basis of statistics.

The third option is compensating VAT (called CVAT), which would leave zero-rating of sales between Member States intact, but would impose a central VAT solely for the purpose of protecting the VAT chain in addition to the VATs of the Member States. No net revenue would be collected under the CVAT, because the VAT on exports would be cancelled by the tax credit of the VAT on imports. Obviously, the CVAT requires a central administration, including uniform laws (exemptions). Traders, moreover, would still have to make a distinction between domestic sales subject to the national VAT and out-of-state sales, which would be zero-rated under the national VAT but taxed under the CVAT.

The last option is the viable integrated VAT (VIVAT), which would preserve the VAT chain by imposing an EU-wide uniform rate on all cross-border transactions between registered traders. Exports would be taxed and importers would be entitled to a tax credit for out-of-state purchases. A Member State’s preference for a VAT rate higher than the common rate would be satisfied by permitting it to differentiate its rate for sales not made to registered traders (e.g., at retail).

Cnossen assesses these alternatives on the basis of the following criteria:

(i) operational autonomy of the Member States, particularly with regard to rate setting;
(ii) no distinction to be made between domestic and out-of-state sales (i.e. no break in the VAT chain); and,
(iii) compliance cost and enforcement symmetry between importing and exporting Member States (in decreasing order of importance).

He first argues that there is not much substantial evidence that the current (transitional) regime involves unmanageable fraud. In the mean time, this perception may have changed somewhat. One of the priorities of the Commission is to changes procedures

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73 The extent of fraud seems to have increased over the last couple of years. Moreover, some services (e.g. distance selling over the internet), are increasing in importance and may lead to additional possibilities for fraud. A larger EU, with 'less well developed tax administrations' of relative newcomers to VAT may aggravate the situation. There is an ongoing debate in
and regulations in such a way that it becomes easier to tackle fraud.

Second, the ideas underlying the initial choice for the origin-based system has been discredited. Not only is it more distortionary than the destination-based principle, it also suffers from administrative problems (like transfer pricing).

Third, the regimes for goods and for services may differ, as services, at least in part, would continue to be taxed via the reverse charge mechanism. This requires a form of information sharing that is equivalent to the current VIES/Intrastat system.

Fourth, the transitional regime with the VIES is equivalent in effect to the CVAT. But a central CVAT would probably be more costly to administer than a well-designed VIES, because it would require a central administration.

Cnossen (2001) concludes by arguing that, after a significant reduction in administrative costs associated with the VIES and Intrastat system, the transitional regime may warrant a long life. Certainly the Intrastat system is ill-targeted (services are not included, intra-company cross-border transactions are), and less relevant with the introduction of the euro. Joint audits may be able to do the trick. A similar observation is made in IVA (2007): “Europe’s first priority should be to strengthen fiscal cooperation between Member states. Information-sharing and coordinated action form the backbone of Europe’s VAT enforcement provisions. This remains the priority, however, Europe’s VAT architecture evolves over time.”

Overall, the observation in the Commission’s 2001 report on Tax policy in the European Union - Priorities for the years ahead that “it has become evident in the last few years that, because of the importance of VAT for tax revenues, most Member States are reluctant to agree to proposals designed to lead towards the definitive system”. Actually “[t]hey are not prepared, at this stage, to accept any further harmonisation of rates and structures, or the re-distribution of tax receipts, which the definitive system would require, for fear of suffering a loss of tax revenues”.74

Further rate harmonisation?

As has been argued above, a single uniform rate is economically more efficient than multiple rates. Rates do differ between Member States. The minimum standard rate is 15%, some Member States apply a 25% rate. This is a major stimulus for cross-border shopping.75 A uniform rate structure, or further rate harmonisation may reduce this stimulus. Most studies show that the extent of cross-border shopping is relatively low.76 When applying the destination principle, that could be the end of the discussion: goods and services leave a country free of tax, so production decisions are not affected by rates varying across the Internal Market. This does not hold the moment an origin-based...
system is applied. Apart from administrative issues (e.g. transfer pricing), rates cannot
diverge too much as production decisions will be affected (Cnossen, 2001). This would
impact on the autonomy of Member States to set their own rates.

Reducing the number of exempt activities
Cnossen (2001) has forcefully argued that most activities currently exempt could in fact
be taxed. New Zealand, for example, has only three major exemptions (financial services,
basic health care and education). He argues that most of the current exemptions are either
ill-targeted (e.g. cultural services), redundant (farming – increased scale an improved
administration have turned into a regular economic activity), distorting competition
(postal sector, non-basic health care), or could be tackled by a registration threshold that
is generous enough (small businesses).

List of initiatives
Table 0.5 presents an overview of how the potential initiatives score on different
screening criteria. Three options (initiative n°1, n°4 and n°8) are further explored and
presented in fiches (see section 6 in this annex).

Table 0.5 Scoring on screening criteria of 9 potential initiatives in the field of VAT

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Strategic importance</th>
<th>Potential social impact</th>
<th>Selection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1-5)</td>
<td>likelihood (H/M/L)</td>
<td>intensity (1-5)</td>
</tr>
<tr>
<td>Base harmonisation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. In specific fields (e.g. financial services; postal sector; cultural services) – to end current diverging treatment of these services between Member States</td>
<td>4</td>
<td>L/M</td>
<td>1/2</td>
</tr>
<tr>
<td>2. Ending (some) exemptions (e.g. health care, education)</td>
<td>2</td>
<td>L/M</td>
<td>2</td>
</tr>
<tr>
<td>Rate harmonisation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Ending reduced rates altogether</td>
<td>1</td>
<td>M</td>
<td>3</td>
</tr>
<tr>
<td>4. Partial reduction of the application of reduced rates</td>
<td>5</td>
<td>M</td>
<td>2</td>
</tr>
<tr>
<td>Other aspects</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Uniform, higher, registration thresholds</td>
<td>1</td>
<td>L/M</td>
<td></td>
</tr>
<tr>
<td>6. Full fledged reform (uniform base, single threshold, single uniform rate that may differ between Member States)</td>
<td>1</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>7. Definite, origin-based system</td>
<td>1</td>
<td>M/H</td>
<td>3</td>
</tr>
</tbody>
</table>
1.3 Suggested short list of initiatives

From Table 0.5 it can be concluded that it is difficult to come up with strategic VAT-initiatives with potentially significant employment/social impact. In the discussion with the EC-steering group it was decided to select 2 VAT-initiatives for the case studies. The first is the initiative to combat VAT fraud (initiative fiche n°9). Although the social impacts are expected to be rather limited, the strategic importance of this measure is very high (to tackle fraud).

The second one is an artificial case study in which EU-member states would be allowed to decrease excises to levels below the current minimum rates for all relevant propellants (gas oil and petrol). The main motivation for the last case is the high political importance of this topic and the preference to have at least 1 case on oil prices.
2 VAT-case study 1: Combating fraud

2.1 Context and policy measure

Introductory remarks
Carousel fraud (or missing trader fraud) is responsible for an annual loss of several billions of euros in VAT revenue. Carousel fraud, at the moment, is limited to cross-border trade of high value / low volume consumer goods. Other forms of fraud are believed to be responsible for even higher amounts of lost revenue (see below). Most commentators argue that fundamental changes to the current EU VAT regime are not necessary to tackle fraud. Increased information exchange, targeted (cross-border) auditing and better risk-profiling (e.g. in registration) are effective means of tackling fraud. Tackling carousel fraud may be hindered by the current EU wide VAT directive. The changes required will, however, be small and will have little impact on legitimate traders. The EU-wide effects on, inter alia, employment will therefore also be small.

How does a VAT work?
All transactions between firms and from firms to final consumers are subject to VAT. Notable exceptions are transactions from exempt taxpayers – due to an explicit exemption, or because turnover of the taxpayer is below the registration threshold – to other exempt or non-exempt taxpayers. The supplier of the good levies VAT and refunds this to the tax administration. The buyer pays VAT and can claim a refund, when he is not exempt. Final consumers cannot claim refunds and exports are typically zero-rated. Net government revenue is zero until a sale is made to an exempt taxpayer (firm or final consumer) as a payment by one firm entitles another firm to a credit.

General and policy context
The VAT has been quite harmonised in the EU since the introduction of the Sixth Directive (Directive 77/388/EEC). In fact, introducing a VAT, along rather specific lines, is compulsory when entering the EU, as it is part of the acquis communautaire. The various regulations that should be introduced into national legislation are, at present, consolidated in Directive 2006/112/EC. Although Directive 2006/112/EC is quite recent, no fundamental changes have been made over the past years. In fact the current Directive is mostly a rather comprehensive rewrite to make the Directive more transparent (see Quigley, 2007).

Major differences remain, however, at the level of implementation of the VAT in the various Member States. The most important differences are:
- The rate structure: one Member State has a single uniform rate of 25% (Denmark), others have multiple rates (reduced, zero, in some cases also super-reduced and parking rates apply). Since 1992, lower limits for standard (15%) and reduced rates (5%) have been introduced. These apply at least until 31 December 2010.

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77 See for instance, Mathis (2004); Cnossen (2001).
• The use of lower rates also differs between Member States. Annex III of the Directive provides an exhaustive list of these. Mathis (2004) shows that in the EU15, up to around 45% of the VAT base attracts a reduced rate (for reference: in Denmark this is 0%).

• The registration threshold for VAT purposes differs substantially between Member States.

• The effective VAT treatment of cross-border transaction still deviates substantially from domestic transactions: intra-Community supplies to businesses subject to VAT are zero-rated; on these intra-Community acquisitions, businesses should pay VAT on their imports, for which a credit applies.\textsuperscript{78} In addition, firms need to submit information on intra-Community transactions – the recapitulative statements. Language barriers make this even more of a burden for firms.

• The use of exemptions also differs between Member States, in spite of the essentially harmonised tax base, as originally specified in the 6th VAT directive.

• There is a transitional regime (ending in 2010) that allows Member States to impose the lower rate on labour-intensive services.

• Derogations apply in a large number of instances (for example, an optional regime for farmers, specific exemptions in Member States, varying thresholds, parking rates, etc.)

In spite of a degree of harmonisation, cross-border transactions are still treated different from domestic transactions. Domestic business to business transactions are fully taxed as long as the supplier is not tax exempt, whereas cross-border transactions are zero-rated. The tax is subsequently recovered through the. As Swinkels (2008) notices: “[t]he conditions to commit VAT fraud are, however, optimal where the obligation to account for input VAT and output VAT on the subsequent transaction are in the hands of the same persons, which is the case in respect of purchase transactions subject to the reverse charge mechanism, imports of goods under the system of postponed accounting, or intra-Community acquisitions of goods.”

The most prominent example of cross-border fraud is carousel fraud. The Commission, as paraphrased in Swinkels (2008) described carousel fraud in 2004 as follows: [a] so-called “conduit company” (A) makes a zero-rated intra-Community supply of goods to a “missing trader” (B) in another Member State. This company (B) acquires the goods without paying acquisition VAT and, subsequently, makes a domestic supply to a third company (C), called the “broker”. The “missing trader” collects the VAT on the supply to the “broker”, but does not pay the VAT to the tax authorities, and disappears. The “broker” (C) claims a refund of the VAT on its purchases from B. Consequently, the financial loss to the Treasury equals the VAT paid by C to B. Subsequently, C may declare a zero-rated intra-Community supply to A and, subsequently, A may make a zero-rated intra-Community supply to B, and the fraud pattern repeats. (…) Since B does not

\textsuperscript{78} This so-called postponed accounting system indicates that the buyer of the good or service is responsible for charging (and obviously crediting) the VAT on inputs, at the same time. The intra-Community supplier does not have to charge (and remit) VAT on these sales. This is materially not much different from the reverse charge mechanism, where the supplier (domestically) does not have to levy VAT, but the buyer is responsible for remitting VAT on these inputs (which can be credited against the VAT liability on outputs). Some Member States, notably the UK, apply this reverse charge regime to firms in high-risk sectors, to reduce the risk of intermediary supplies not remitting VAT.
actually have to pay VAT to his supplier (A), the VAT safety mechanism does not function and the VAT fraud produces an optimum result.\textsuperscript{79}

Carousel fraud is typically limited to goods as transactions with goods enable setting up a chain of transactions to blur the detection of the fraudster, the potential for setting up such a chain of transaction is less for services. Moreover, for services, the VAT regime differs somewhat from that for goods. Intra-Community service provision is taxed in the Member State where the service is performed. Exceptions are services rendered by banks, insurance companies, professional firms, advertising agencies, etc. These are effectively zero-rated and no credit is granted to the importer. As of 2010, the treatment of services will be aligned with that of goods, with a few exceptions.\textsuperscript{80} As transactions in which carousel fraud occurs actually do take place, it is typically limited to high value / low volume goods. Initially, fashion clothing was used, the focus shifted to computer chips and mobile phones. Currently, most carousel fraud is in CPU’s and increasingly other goods are used, such as software, bottled water, pharmaceuticals, chemicals, etc.\textsuperscript{81}

Other fraud mechanisms co-exist. In HM Customs and Excise (2004), four main types are described; carousel fraud (or missing trader intra-Community fraud, as it commonly called in the UK) is one of these. The other forms are\textsuperscript{82}:

- Shadow economy fraud: genuine businesses with a turnover above the VAT registration threshold that deliberately do not register for VAT.
- Repayment frauds: where fraudsters register for VAT, make false claims for repayments and then abscond.
- Suppression fraud: where genuine businesses with legitimate trading activity perpetrate a fraud by understating a portion of their sales or by falsely inflating their claims for the VAT on purchases to reduce their tax liability.

These mechanisms cost the various tax administrations up to 15% of potential VAT, or about 3-4% of total tax revenue (based on UK evidence, as reported in Keen and Smith, 2006). Of this, missing trader fraud or carousel fraud is responsible for up to 4% of potential VAT revenue, about 3% of actual VAT revenue. The other forms are claimed to be responsible for the remainder (HM Customs and Excise, 2004). For non-carousel fraud, domestic actions (by the tax administration) typically suffice, mostly in the field of registration and auditing.\textsuperscript{83}

\textsuperscript{79} Company B, registered for VAT purposes to enable a zero rated intra-Community acquisition to it, goes ‘missing’ (i.e. it may go bankrupt, or is asset-stripped and transferred to someone unable to pay the VAT due) but may reinstate under a different name to continue the chain of transactions.

\textsuperscript{80} See Cnossen (2008).

\textsuperscript{81} See, for instance, the various testimonies, notably those by the Paymaster General and by a representative of Cunningham Lindsay Marine in House of Lords (2007).

\textsuperscript{82} These forms of fraud can typically be addressed by domestic action (better procedures for registration, audit, changes to the refund system – all of these do not require a change of the VAT Directive), or could be addressed by a regime change (like reverse charging). That latter option has been discussed and a pilot project can start (some MS have started applying it in selected industries, notably the UK in building). Only reverse charging requires a change in the VAT Directive. All other forms of fraud could be addressed by individual Member States.

\textsuperscript{83} Some have argued in favour of more freedom for Member States to apply the reverse charge mechanism for some sectors. There are, however, potential issues in wider application of this mechanism.
Recently, in COM (2008)147, the following policy initiatives have been discussed: two measures to combat fraud in the context of VAT, namely the reduction to one month of both the frequency of recapitulative statements\(^{84}\) of intra-Community transactions\(^{85}\) and the deadline for the exchange of information between tax administrations.

This is in line with the observation that conventional measures, that is, non-fundamental changes to the VAT system, (IP/06/697, MEMO/06/221), are the most feasible.\(^{86}\)

This may be complemented by increased exchange of information between tax administrations, in the form of:

- Automated access to data contained in each others’ databases;
- Automated requests to 3rd Member States databases.
- And better validation of VAT numbers and registers.

This conforms to the observations by Keen and Smith (2006): “The first level of administrative response, quite naturally, is to do the usual things better, and if need be adapt the legal framework. One key focus of attention is registration, which is a prerequisite for these frauds: defensive measures might involve, for example, tighter checks on would-be registrants (for example, with an on-site visit and background checks), and requiring guarantees in dubious cases. Other administrative measures include adopting or strengthening joint and several liability rules by which traders can be held responsible for fraud elsewhere in the chain that they might reasonably have been expected to be aware of; and establishing better and quicker information exchange between national tax authorities (so that the country of import can promptly become aware that exports to it that have been reported in another member state have not shown up in its own VAT system).”

Swinkels (2008) reiterates these points: “The Commission emphasized that VAT fraud must, in particular, be combated by means of enhancing mutual cooperation and exchange of information between the Member States. In order to achieve that result, the VAT Information Exchange System (VIES) could be extended. In addition, the Member

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\(^{84}\) The recapitulative statement is a form on which the taxpayer provides summary information about the goods that were supplied by the taxpayer into another Member State at a zero-rate of VAT during the previous quarter. In the recapitulative statement the payer declares the following information concerning every acquirer of the goods:
- code of the country where the acquirer is registered,
- VAT Identification Number of the acquirer,
- total value of goods supplied to the acquirer in a respective quarter.

\(^{85}\) A study by PWC (2007) (ref TAXUD/2006/CC/087) has assessed this proposal in terms of, inter alia, administrative costs and cash-flow effects.

\(^{86}\) This is in line with the observations by Keen and Smith (2006): “There are, however, a number of difficulties with reverse charging. By eliminating part of traders’ output tax liability, it may increase refund claims, with consequent control difficulties and risk of fraud. If applied only in respect of particular commodities, it may simply displace current difficulties onto other items. That dynamic is thus likely to create pressure to extend the scope of reverse charging— which, in the limit, would, in effect, convert the VAT into an RST, with the attendant difficulties that creates: in particular, with tax suspended on business-to-business transactions, if the final seller for some reason fails to remit the VAT due then no tax is collected. If applied to wholesale, reverse charging would mean, to a large degree, the death of the VAT. For these reasons, the Austro-German proposal has been widely and strongly resisted.” Recently, Crawford et al. (2008) have suggested that a move to a CVAT – a system where all intra-Community transactions would be taxed (and credited) separately from domestic transactions, requiring a EU wide separate administration - or a VIVAT system – where transactions between taxable businesses are taxed at a uniform rate and Member States may apply an additional tax on sales to final consumers – would rid the EU of much of the current scope for VAT fraud. In his response, Cnossen (2008) has argued that the real solution is not in changing the system – which is likely to lead to new ways of committing fraud – but in audit, investigation and prosecution.
States should base their audit strategy on risk analysis. Increased control measures should make it almost impossible for missing traders to enter into the VAT system and, if they succeeded in setting up their fraudulent practices, they should be stopped earlier and punished more severely.”

Description of the strategic policy initiative and additional assumptions

For the proposals to reduce to one month of both the frequency of recapitulative statements of intra-Community transactions and the deadline for the exchange of information between tax administrations, an impact assessment has already been conducted. Therefore the content of this case will rather focus on the following measures:

- Increased exchange of information between tax administrations, in the form of:
  - Automated access to data contained in each others’ databases;
  - Automated requests to 3rd Member States databases.
- Better validation of VAT numbers and registers.
- More attention to risk analysis in audits.

2.2 Identification of impacts

The proposed policy initiative consists of two measures to combat VAT fraud:

- Intensified actions at the level of the various tax administrations leading to denser and more frequent information flows;
- Better targeted audits.

These measures have two main effects or impacts:
1) A limited job creation effect in the government sector;
2) Less VAT fraud in the EU;

We now elaborate on each of these two main impacts who can have further social effects as well.

Limited job creation in the government sector

Both measures of the proposed policy initiatives will create more jobs in the government sector. Firstly, intensified actions at the level of the various tax administrations to have denser and more frequent information flows, as well as proper monitoring and subsequent actions, require more manpower. Secondly, better targeted audits performed by the government, may require more manpower initially. In the longer run, better targeted audits may only require a different way of doing the work leading to no extra jobs. The jobs in the government sector will be created in the various tax administrations and audit departments. These are highly skilled jobs like auditors and IT specialists.

Less VAT fraud in the EU

The fundamental intended effect of the policy initiative is to diminish VAT fraud in the EU. Less VAT fraud leads to less revenue leakage and thus an increase in government revenues in all Member States. This extra budget may firstly be used to finance the extra jobs in the government sector needed to combat the fraud. Depending on the spending policy of the government these additional budgetary resources could be used to create specific employment or social effects (e.g. job creation initiatives, education policy, income distribution etc.).
Another consequence of less VAT fraud is that competition in the sector becomes fairer. This effect will be bigger in sectors where there is currently more fraud. In general, fraud is the simplest with goods which are easy to transport, possess a high value (e.g. computer equipment, mobile phones) and which are frequently traded within the EC. Companies who operated fairly will see their competitive position improve when fraudulent companies are punished.\textsuperscript{87} Fairer competition in the sector can lead to job creation in companies that will see an improvement in their competitive position. At the same time, some job losses may occur in fraudulent companies as they leave the sector or see their operation margin decrease as they pay VAT correctly. As the fraudulent firms typically do not employ (many) people, it is safe to assume that the net effect of these two employment effects will be positive.

2.3 Selection of appropriate methods

\textit{Long list of techniques}

The interventions consist of actions at the level of tax administrations. Some refer to domestic actions, others focus on increased cooperation between tax administrations (retrieving international information; potentially joint cross-border audits). In addition, better checks at the stage of VAT registration may delay the process of obtaining VAT numbers in high-risk sectors. Moreover, less fraud (if the measures are successful) increases revenue (decreases revenue leakage), which may improve the budgetary situation of Member States’ governments.

For these reasons, the following models may be of relevance:

\begin{itemize}
  \item QUEST II\textsuperscript{88} (EC)
  \item Standard cost model (administrative costs)
\end{itemize}

The reason to opt for the QUEST II is that, in spite of its’ limitations, it is one of the sole models that allows to capture the effects of changes in government spending on wages and salaries and associated tax measures or spending rationalisation. This is the core of the ‘input’ for the modelling exercise. An obvious disadvantage of the model is that the ‘inputs’, e.g. how much additional auditors are necessary, what is the additional spending on IT-equipment and maintenance, what is the success in terms of reduced fraud (lower refunds), cannot be modelled.

The standard cost model is often applied to analyse the impact of (information) requirements on the private sector. In this particular case, it appears to be less relevant as the policy proposal does not impose significant additional burdens on private parties.

\textsuperscript{87} Typically, a missing trader reports losses in order to allow profits to be made in subsequent transactions in the chain. This is likely to harm firms engaged in non-fraudulent transactions.

\textsuperscript{88} At the moment a third version of the QUEST model (QUEST III) has been developed. This model is even better suited to assess the identified impacts.
**Final selection of technique(s)**

Within the context of QUEST II (dynamic macro-economic model), or any other macro-economic model, the role of the government is typically limited to transfer, unproductive expenditures / wages and salaries, and a tax structure to finance expenditures. This is, however, enough to gauge the effects of the policy intervention. As it is a dynamic macro model, the effects on the broader economy can be captured.

### 2.4 IA results

As the inputs are hard to quantify (see above), it was outside of the scope of this study to execute a quantitative model. Yet efforts have been taken to describe the potential impacts, their direction and underlying mechanisms.

**Limited job creation in the government sector**

The amount of the jobs created in the tax administrations and the audit departments of the different EU Member States is likely to be limited. For example, a 3% increase in the workforce of the tax administration would amount to about 800 additional people in case of the Dutch tax administration.\(^89\) The Dutch (central) government employs about 120,000 people. Employment would thus increase by less than one percent. Technically, in the short run, government expenditures on wages increase. In the longer run, this may decrease to the original level as a rearranging of tasks could lead to structurally better (more targeted) auditing. The change in government expenditures is therefore likely to be small.

**Less VAT fraud in the EU**

Several elements in this impact need to be quantified. Firstly, combating VAT fraud will increase government revenues. A 10% reduction in carousel fraud could raise about 0.03% of GDP in revenue.\(^90\) As the spending of these additional revenues depends entirely on policy choices of the various Member States, it is impossible to further quantify effects caused by the spending of the additional revenues (e.g. employment effect, social effects, tax reductions).

The net number of jobs created by restoring fair competition in specific (high-risk) sectors is also difficult to quantify.

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\(^{89}\) For illustrative purposes, HM Customs and Excise employed in 2002/3 around 600 people are directly involved in intelligence, detection and prosecution of VAT fraud. These are supported by additional staff. Around 7,500 people work on VAT in Total. Source: HM Customs and Excise (2004).

\(^{90}\) Based on the UK evidence above, a 10% reduction in Carousel fraud yields about 0.3% of additional VAT revenue. VAT typically yields about 25% of total tax revenue. This is equivalent to about 0.03% of GDP
2.5 Summary of the impacts

Table 0.6 Social effects table

<table>
<thead>
<tr>
<th>Effects</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment and labour market:</td>
<td>A limited number of high skilled jobs are created in government administrations. The restoration of fair competition will also create jobs as the competitive position of ‘fair’ companies will improve. On the whole, the job creation effect in the sectors involved will outweigh potential job losses. Employment effects will be bigger in sectors with more VAT fraud.</td>
</tr>
<tr>
<td>• Impact on labour demand</td>
<td></td>
</tr>
<tr>
<td>• Impact on labour supply</td>
<td></td>
</tr>
<tr>
<td>Impact on the functioning of the labour market</td>
<td></td>
</tr>
<tr>
<td>Job quality</td>
<td></td>
</tr>
<tr>
<td>Standards and rights related to job quality</td>
<td></td>
</tr>
<tr>
<td>Social inclusion and protection of particular groups</td>
<td>Possible social effects if increased government revenues are spent on social policy initiatives.</td>
</tr>
<tr>
<td>• Access to the labour market</td>
<td></td>
</tr>
<tr>
<td>• Access to placement services or services of general economic interest</td>
<td></td>
</tr>
<tr>
<td>• Access to goods and services</td>
<td></td>
</tr>
<tr>
<td>• (In)equality</td>
<td></td>
</tr>
<tr>
<td>Equality of treatment and opportunities, non-discrimination</td>
<td></td>
</tr>
<tr>
<td>Access to and effects on social protection, health and education systems</td>
<td></td>
</tr>
<tr>
<td>• Quality of services</td>
<td></td>
</tr>
<tr>
<td>• Access to services</td>
<td></td>
</tr>
<tr>
<td>Public health and safety</td>
<td></td>
</tr>
</tbody>
</table>

2.6 References


PWC (2007): “Study in respect of introducing a change in the requirements to recapitulative statements – Increased level of detail”, Final report to the European Commission, Order no. TAXUD/2006/CC/087.


3 VAT-case study 2: Reduced Fuel Taxation in Transport

3.1 Context and policy measure

General and policy context
High oil prices during the first half of 2008 have been a concern of the public and of policymakers. Fuel prices have risen to historically high levels, impacting on transportation costs. Higher costs of transportation have decreased purchasing power directly and have led to increased inflationary pressure. By the end of the summer, oil prices have reduced again to more sustainable levels, in part as a result of less favourable economic conditions in the EU and the rest of the world.

Some Member States, notably Belgium, provide for some kind of automatic relief in case of high (transport) fuel prices. Other policymakers have suggested to decrease excises or the VAT applicable to fuels.

The latter option seems unrealistic as the VAT is – to a large extent – harmonised and requires unanimity to change. The ongoing discussion on reduced VAT rates has shown that if anything is to happen, it requires extensive discussions and compromises. As rates applicable to fuels would have to go down, revenue would (potentially) drop, which is likely to raise opposition. Some policy competition already exists between say Luxembourg and Germany, and this would only be aggravated.

The story is slightly different for excises. There is a policy framework in the field of (fuel) excises, Directive 2003/96/EC. This directive specifies, inter alia, the following with respect to fuel taxation:

- Minimum levels of taxation apply to fuels;
- Some exemptions apply to particular Member States, these are of a temporary nature;
- Specific exemptions relate to, inter alia, local public transport vehicles;
- Some differentiation is allowed depending on fuel characteristics;
- Some sectors are exempt from specific levies. These sectors include air and sea navigation, other than for private pleasure purposes, where Member States may pursue own policies;
- Member States may differentiate between business and non-business use of fuels, as long as the minimum excise levels specified below are observed. For, inter alia, agriculture, a lower minimum rate applies;
- Other exemptions and reduced rates may apply if this does not impact on the functioning of the internal market.

Current minimum rates are:

- 359 € per 1000 litre for unleaded petrol;
- 302 € per 1000 litre for gas oil used as propellant (diesel);
- 125 € per 1000 litre for LPG used as propellant.

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91 This is the so-called reversed Cliquet-system. Also see: http://www.nu.nl/news/1448230/30/Belgi%EB_verlaagt_accijns_wegens_dure_benzine.html (in Dutch only).
Nearly all Member States levy excises that (far) exceed these minimum rates. For petrol, only the Member States recently acceded have lower excises, which are allowed for a transitional period. For diesel, Belgium, Luxembourg and Spain have rates that are equal to the minimum rate. Greece has a lower rate that may apply until 2010. LPG is used only infrequently as a propellant.

Table 0.7 shows current gas oil excises for a number of Member States.

<table>
<thead>
<tr>
<th>Country</th>
<th>Level (for lowest excisable category)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium</td>
<td>302</td>
</tr>
<tr>
<td>Denmark</td>
<td>364.72</td>
</tr>
<tr>
<td>Germany</td>
<td>470.40</td>
</tr>
<tr>
<td>Spain</td>
<td>302</td>
</tr>
<tr>
<td>France</td>
<td>428.4</td>
</tr>
<tr>
<td>Ireland</td>
<td>368.05</td>
</tr>
<tr>
<td>Italy</td>
<td>423</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>302</td>
</tr>
<tr>
<td>Netherlands</td>
<td>406.31</td>
</tr>
<tr>
<td>Austria</td>
<td>347</td>
</tr>
<tr>
<td>Portugal</td>
<td>364.41</td>
</tr>
<tr>
<td>Finland</td>
<td>364</td>
</tr>
<tr>
<td>Sweden</td>
<td>452.47</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>722.02</td>
</tr>
<tr>
<td>Greece</td>
<td>293 (special derogation until 2010)</td>
</tr>
</tbody>
</table>

15 of the 27 Member States apply a lower rate to industrial and commercial use (like agriculture). As is the case for tax policy in general at the EU level, unanimity is required for any changes in the framework.

**Description of the strategic policy initiative**

As indicated above, the scope for changes seems to be limited. Nevertheless, high fuel prices serve as an impediment to growth (due to higher costs of transportation and hence production) and may have a social impact for those with lower incomes.

Decreasing the excise rate on gas oil can achieve the quickest gains, as that potentially reduced effective prices for both the transport sector and for (some) households. One may miss out, however, on those households that rely on petrol-fired cars.

All in all, the most comprehensive policy action would be to allow Member States to decrease excises for transport, some sectors, like agriculture, and final consumption to levels below the current minimum rates for all relevant propellants (gas oil and petrol). This could be either temporary (i.e. with a specific sunset clause) or only in cases where the oil price exceeds a certain level (say 100 € per barrel).

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94 A separate regime applies to air and sea navigation.
**Additional assumptions for the elaboration of the case**

As indicated before, currently most Member States have applicable excises that (far) exceed minimum rates. In addition, policy competition may aggravate (e.g. between Germany, France and Luxembourg). The policy is much discussed on a political level and has an important strategic purpose. Yet, the chances of it being implemented in this form are influenced negatively by different Member State visions and strategic choices. It therefore seems unlikely that the policy will be introduced as such.

### 3.2 Identification of impacts

The policy initiative consists of decreasing the excise rate on gasoil in the different Member States. This will have three main impacts:

- The price of gasoil will decrease leading to lower transportation costs;
- Lower excise rates causes lower government revenues;
- There is an increased potential for policy competition between EU Member States.

We now discuss these three impacts in more detail and also the social effects that they have using logical chain analysis.\(^{95}\) The analysis differentiates between the impacts of temporary and permanent changes in excises, which temporarily or permanently affect prices.

**Decrease in the price of gasoil**

As excises make up a large part of the price of gasoil, lowering excise rates will cause tax inclusive gasoil prices to drop\(^{96}\). This means that, in relative terms, transport services will become cheaper. Depending on the share of transportation costs in total cost of goods or services, which is typically low, a wide range of goods and services will become cheaper as well. Lower prices will lead to a demand increase of which the magnitude depends on the price elasticity of the good or service. Thus demand will increase for both transportation services as well as for a large number of goods and services for which transportation costs are a major input. The induced effect of this is that employment will rise in the sectors in which demand increases. Demand will first of all increase in the transportation subsectors depending on gasoil (e.g. trucks, taxis, boats, etc.). Most jobs in these transportation sectors are for lower educated persons. Higher demand for transportation will also have negative environmental and public health effects.

But as demand for other goods and services also increases due to lower prices caused by lower transportation costs, many other sectors can see their employment increase (production sectors and services sectors). A sector will be more affected the higher the share of transportation costs in the good or service offered. In addition, the size of the job creation potential will depend on the labour intensity of the sector.

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\(^{95}\) A fuller exploration and quantification of the impacts should be done by a model. Running a model is beyond the scope of this study.

\(^{96}\) It can be assumed that in a competitive market, a decrease in taxes will lead to an equiproportional decrease in the price of petrol (by more than the decrease in the excise as the amount of VAT will also decrease – the VAT is levied on the excise-inclusive price).
The lower gasoil price will also increase the purchasing power of existing gasoil consumers. This increase in purchasing power can be used to buy more gasoil. For consumers, this means that people will more intensely use their car or even invest in a new car. This increased demand for gasoil can lead to job creation in the gasoil sector. Likewise, the larger demand for new cars can lead to more jobs in the car sector. If driving a car becomes cheaper, people might go and live further from their workplace (in suburban areas) causing changes in the housing market. If people make more use of cars, this can have negative effects on public health and the environment.

Alternatively, the increase in purchasing power caused by the lower gasoil price can be used to buy other goods or services (e.g. consumer goods and services, specifically travel, houses, etc.). This will increase demand in these different sectors. Depending on the labour intensity of each sector, this demand increase can result in job increases.

Reduced transportation costs also widen the access to transportation services to possible new users. In this way, it becomes affordable for more people to buy and use a car. This has a range of social effects. Disposing of a car leads to better access to the labour market, as a jobseeker has a wider range of jobs he or she can apply for. The mobility of these persons increases and this also widens their access to education, social activities, recreation, etc. This leads to better inclusion of vulnerable groups. Again, more cars being used will lead to negative environmental and public health effects.

If the price of gasoil drops, this also leads to decreased costs for the public transport sector. If this cost reduction is passed on to the customers, lower prices for public transport services will be the result. This brings about a higher demand for public transport from current as well as new users.

If decreases in excises are only temporary (e.g. the decrease is triggered by a high price of oil and is revoked when oil prices decrease again) the effects are likely to be small. Major investment decisions are based on long term perspectives, which will not be affected unless a permanent substantial change in oil prices is projected. However, for the purpose of this case the decreasing excise rate on gasoil is assumed to have a permanent nature.

**Lower government revenues**

As excise rates decrease, the revenues for the government will diminish accordingly leading to increased deficits or (equi)proportional decreases in spending. Depending on the spending policy of the government of the Member State, this might have negative employment or social effects (e.g. lower scope for subsidised jobs, less money to be spent on education). The decrease in revenue will be partially offset by higher tax collections (VAT and income taxes) if economic activity in general is stimulated. Moreover, VAT collections on fuels will also be affected. On the one hand, as prices decrease, VAT collections will decrease – in line with excise revenue – on the other hand, sales volumes will go up, which translates into higher revenues. The net effect is unclear, but a reduction in tax revenue is likely to result.

If the decrease in excises is only temporary, it is less likely that substantial changes in government expenditure will occur. Budgetary losses will be offset by slightly lower levels of spending in the future.
**Increased policy competition between countries**

If the decrease in the excise rate is not uniformly across EU Member States, this will result in price differences in gasoil between countries. Countries with low gasoil prices will experience more demand for gasoil from neighbouring countries (border effect) and also from transit traffic. These additional revenues will partly compensate for the revenue losses caused by lower excise revenues. Increased policy competition between governments could not only lead to a ‘race to the (new) bottom’, it may induce other policy reactions as well (e.g. subsidization of gas stations in border regions, decreasing excises on specific fuels only (e.g. diesel to attract professional transport services), changing other excises to attract cross-border shopping, etc). If the policy applies to a short period only, the scope for policy competition is lower.

As a result of lower transportation costs and increased production, labour demand will increase. This increase in labour demand is the most prominent effect. The effect of lower government revenues acts as the major countervailing force\(^{97}\).

### 3.3 Selection of appropriate methods

**Long list of techniques**

Economic / econometric models of economics of the transport sector are relatively abundant. These would capture the effects of reduced tax-inclusive fuel prices. As these tax reductions may be asymmetric, a substantial number of different Member States should be included. The use of quantitative models should have priority as these are available and allow for a variety of effects (both direct and indirect) to be addressed.

The models more or less readily available include ASTRA, EXPEDITE and SCALES\(^{98}\).

All of these three models have a rich level of detail in terms of mobility, emissions, road use, employment effects but are less rich in terms of broader social impacts.

Obviously, apart from the impact on fuel prices, budgetary resources for governments decrease as well as a result of lower excises. The current tax revenue associated with fuel excises is about 0.5% of GDP. Reductions in fuel excises could thus amount to about 0.1% in revenue. In addition, associated VAT revenue will decrease. This will be partially offset by increased sales of fuels and additional revenue due to increased economic activities.

A causal chain analysis could supplement the analysis to compensate for the potential lack of institutional detail in the quantitative economic models. In order to assess the social effects of lower excises on fuel, other qualitative techniques such as stakeholder analysis can also be useful.

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\(^{97}\) Unless government revenue increases substantially when oil prices soar. This happens in the Netherlands through the natural gas receipts.

\(^{98}\) More information on these models can be found in the database.
Final selection of technique(s)
As indicated above, quantitative economic models seem most appropriate. These are readily available – and have been applied to the analysis of harmonised fuel excises in the EU. As a logical supplement, a causal chain analysis could be used to substantiate on the effects typically not included in the economic models.

3.4 IA results
As indicated above, Member States have the freedom to set rates, and use this freedom to set rates above the minimum rates specified. If rates are reduced as a result of the policy action, it will be limited to a few Member States only. The input for a quantitative model is thus rather undefined and would require a great deal of assumptions in this stage. Data collection would become a very intensive activity, and it is therefore out of the scope of this study to execute a full quantitative model. Yet efforts have been taken to describe the potential impacts, their direction and underlying mechanisms. More in general, the effects would differ depending on the time-frame of the policy action (temporary or permanent).

Decrease in the price of gasoil
The magnitude of the resulting demand increase for transportation services, other goods and services (incl. gasoil, cars, consumer goods, houses) will depend on the price elasticity of the good or service in question. The induced employment creation effect depends on the labour intensity of the various sectors.

The social effects (e.g. better access to the labour market) should be further investigated by using qualitative methods like stakeholder consultation and expert panels. The negative effect on the environment and public health could be modelled if the increase use of transportation services is quantified.

Lower government revenues
As excise rates decrease, the revenues for the government will diminish accordingly. At the same time, the quantity of gasoil demanded will also increase, partly compensating the loss of excise revenues. Moreover, a higher level of economic activities will translate into a partial recovery through other taxes. The total loss in revenues could be modelled. As further employment or social effects depend on the individual spending policy of Member State governments, these effects cannot be quantified.

Increased policy competition between countries
The border and transit effects caused by having differing gasoil prices amongst various countries are difficult to quantify. This would also require insight into likely policy reactions by various governments.
## 3.5 Summary of the impacts

<table>
<thead>
<tr>
<th>Effects</th>
<th>Topics</th>
</tr>
</thead>
</table>
| Employment and labour market:  
  - Impact on labour demand  
  - Impact on labour supply  
  Impact on the functioning of the labour market | Job creation in the transportation sector and in linked sectors (e.g. car sector, consumers goods, services sectors, gasoil sector).  
  The effects depend on the longevity of the policy. |
| Job quality | No specific impact expected. |
| Standards and rights related to job quality | No specific impact expected. |
| Social inclusion and protection of particular groups  
  - Access to the labour market  
  - Access to placement services or services of general economic interest  
  - Access to goods and services  
  - (In)equality | Inclusion of vulnerable groups as more people as transportation services become cheaper (e.g. more people can afford a car). Wider access to the labour market, recreation, education and training etc. Employment rate of particular groups can increase.  
  The effects depend on the time-frame of the policy. |
| Equality of treatment and opportunities, non-discrimination | No specific impact expected. |
| Access to and effects on social protection, health and education systems  
  - Quality of services  
  - Access to services | No specific impact expected. |
| Public health and safety | More transport causes more traffic and more emissions. This has negative effects on public health. |
4 Fiches long list of VAT initiatives
**Name of the policy initiative:** VAT tax base harmonisation in a specific field (fiche 1)– for reference purposes, the postal sector is taken as an example – the general approach and the expected impact can be applied in similar cases

<table>
<thead>
<tr>
<th>Field: VAT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Source:</strong> see main text for general and some specific references</td>
</tr>
<tr>
<td><strong>Type of proposal:</strong> change to the directive (minor change would suffice)</td>
</tr>
<tr>
<td><strong>Timing:</strong> n.a.</td>
</tr>
</tbody>
</table>

**Strategic importance of the proposal within the policy field/DG**: 4

**Description:**
The VAT Directive specified that public postal services are exempt from VAT. In other words, no VAT is charged to both consumers and businesses. Refunds of VAT paid on inputs is, however, not allowed. At the moment, not all Members apply this rule. Notably, Sweden taxes all postal services. Currently, there are two main issues in this respect:

1. The scope of the exemption is not clear and applied differently in the Member States. Public postal services could refer to the postal operator owned (in part) by the government (which is the case in most Member States); to the universal service obligation (USO) imposed on a postal operator; or to the reserved area (RA) of a postal operator.

2. The variation in the application distorts the level playing field for postal activities in Member States. The exempt operator has a price advantage in providing services to exempt customers (final consumers as well as exempt businesses like financial service providers). Obviously, the reverse applies to taxable postal service operators providing services to taxable businesses.

Clarification of the scope of this exemption and introduction into national legislation will reduce uncertainty.

**Objective(s):** (intended effects of the proposal)
Increase certainty for businesses as to the scope of the exemption.
Level the playing field for different kinds of postal operators.

**Potential social effects:**

<table>
<thead>
<tr>
<th>Effect</th>
<th>likelihood**</th>
<th>intensity***</th>
<th>assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased price for final consumers if all postal products are taxed (i.e. the exemption refers to the USO).</td>
<td>M</td>
<td>1</td>
<td>Spending by households on postal services is typically quite limited. The more expensive services (courier, packages) are already taxed.</td>
</tr>
<tr>
<td>Increased competition in the postal sector: impact on wages and other work conditions.</td>
<td>M</td>
<td>3</td>
<td>A can be observed at the moment, competitor postal operators apply different wage packages than incumbent operators. Effective wages are lower and job certainty is lower. Higher market shares of competitors (and associated increases in employment) reduce employment at incumbent postal operators.</td>
</tr>
<tr>
<td>Increased competition in the postal sector: lower prices for postal services for mainly (some) businesses.</td>
<td>H</td>
<td>1</td>
<td>Lower costs of inputs for businesses impact on the financial performance of firms, this may indirectly affect the more general economic situation in a positive way.</td>
</tr>
</tbody>
</table>

**Suggestions for assessment techniques**
The indirect effects could be assessed by a macro-economic model that includes intermediate services.
The effects on the internal dynamics of the sector could be assessed by a micro-economic describing the sector.
The effects of prices on household budgets could be assessed by a micro-simulation model that includes spending patterns of households.
Name of the policy initiative: Future regime for the application of reduced rates of VAT (fiche 2)

Field: VAT

Source: see main text for references

Type of proposal: change to the directive

Timing: more elaborate proposal expected in 2008

Strategic importance of the proposal within the policy field/DG: 5

Description:
Currently, reduced rates are widespread throughout the EU Member States. Two aspects are important in this respect:
1. Reduced rates complicate the tax system and create distortions (administrative and compliance costs increase).
2. Reduced rates can successfully reduce prices of goods and services (with both social and merit characteristics); and may have positive economic effects.

Uncertainty with respect to the application of reduced rates and varying use in the Member States may affect the level playing field in the Internal Market.

Clearer rules, and stricter enforcement of the application of rules may attribute to a more level playing field in the EU.

Objective(s): (intended effects of the proposal)
Increase clarity on application of reduced rates;
Level playing field;
Potential social effects.

Potential social effects:

<table>
<thead>
<tr>
<th>Effect</th>
<th>likelihood</th>
<th>intensity</th>
<th>assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increased employment due to higher demand for labour-intensive services.</td>
<td>M</td>
<td>2</td>
<td>Targeted non-tax policies may be more effective and efficient.</td>
</tr>
<tr>
<td>Less DIY increases the scope for more productive formal time for employment. Higher productivity (and income levels) may result.</td>
<td>L</td>
<td>2</td>
<td>Reduced rates on activities that are often performed intra-household could ensure a substitution to a smaller informal sector.</td>
</tr>
<tr>
<td>The level playing field in Europa may benefit from clearer rules as to the application of reduced rates.</td>
<td>M</td>
<td>2</td>
<td>The effects are likely to be small; goods and services qualifying for a reduced rate are often quite local of nature.</td>
</tr>
</tbody>
</table>

Suggestions for assessment techniques

A general equilibrium model, covering a variety of sectors and countries may be used to determine the economic effects of changes in the VAT regime (in terms of employment and business activities).

The effects on the post-tax income distribution may be studied by using a micro-simulation model containing consumption patterns.

Note: some of these techniques have already been applied in this context in the study conducted by Copenhagen Economics (2007).
Name of the policy initiative: Tackling VAT cross-border fraud (fiche 3)

**Field:** VAT

**Source:** see main text for references

**Type of proposal:** Change in Member States’ administrative procedures and information exchange

**Timing:** 2008

**Strategic importance of the proposal within the policy field/DG:** 5

**Description:**
The most likely policy action in the field of tackling VAT fraud is increased administrative cooperation between Member States’ tax administrations, increased information exchange and joint audits. Most fraud is related to reverse charge mechanism applying to intra-EU transactions. A fundamental change to the current system (either some kind of community tax (CVAT) or a definite origin-based) is not likely to occur.

**Objective(s):** (intended effects of the proposal)
Reduce the scope for VAT-fraud;
Reduce the extent of VAT-fraud.

**Potential social effects:**

<table>
<thead>
<tr>
<th>Effect</th>
<th>likelihood</th>
<th>intensity</th>
<th>assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Potential for reduced tax rates if fraud is effectively reduced. This may result in lower taxes (VAT; labour; CIT).</td>
<td>M</td>
<td>2-4 (depending on which taxes are reduced)</td>
<td>Increased audit and information exchange activities increase costs of tax administrations; This is likely to be outbalanced by increased collection (less leakages).</td>
</tr>
</tbody>
</table>

**Suggestions for assessment techniques**

Some form of macro-economic model that allows to simulate the impact of changes in tax rates on employment and purchasing power.
Annex 3: Case studies in the field of energy policy

1 Scoping and identification of policy initiatives in the field of energy policy

1.1 Broad policy context and approach to select case studies

EU Energy Policy and Employment
Starting with the European Employment Strategy initiated by the Delors Commission in the early 1990s, to the Luxembourg process in 1997 and the Lisbon strategy in 2000, the European Commission has consistently recognized that energy policy plays a part in stimulating jobs and growth. The January 2008 Communication from the Commission regarding the so-called “20 20 by 2020” goals states that developing the EU’s energy policy is “at the heart of the European Union’s political programme: a guiding theme for the Union, central to the Lisbon strategy for growth and jobs”.

As such, a multipronged approach for fostering a competitive and sustainable energy policy for Europe is inextricably linked to the Lisbon’s principles of competitiveness, openness, and competition. The 2008 “Climate action and renewable energy package” reaffirmed the importance of sustainable development as a central variable in the overall EU energy equation. Employment consequently lies within these policy goals.

Links between energy policy and social impacts
Establishing a systematic link between a policy remit as broad as the EU energy policy and employment demands a careful and systematic compartmentalisation of the multiple facets of energy policy in order to evaluate the links between these specific aspects and employment. The former range from R&D thrusts for nuclear energy, to establishing sustainability indicators for renewable energy sources. As opposed to some of the policy fields explored in this report, energy policy spans a wide spectrum of areas, not least in light of the increasing nexus between energy and environmental policy.
**Approach**

Our approach for identifying initiatives as well as gathering information for an evaluation of these initiatives strived to be as holistic as possible. We thus relied on:

- The Commission website, specifically DG TREN and DG ENV for compiling a comprehensive view of current and future policy initiatives stemming from various the Commission;
- Consultation with Commission staff to identify reasonably well defined policy initiatives that had not yet entered the phase of formal impact assessment and decision making procedures.

The above sources provide sufficient input to compile a list of initiatives and make preliminary selections.

Documents consulted included:

- Energy & Climate Change Package (including 2-Year Action Plan) [March 2007 Council Conclusions]
- Presidency Conclusions of the March 2007 European Council
- Contribution of the Council (Energy) to the Spring 2007 Spring European Council – Council Conclusions. 6453/07.
- Key Issues Paper by the Council (Environment) to the 2007 Spring European Council. 6629/07.
- European Strategic Energy Technology Plan [COM(2006) 847]
- Labelling Framework Directive [92/75/EC]
- Energy end-use efficiency and energy services Directive (ESD) [2006/32/EC]
Challenges to be considered in our approach

The main objectives of the EU’s energy policy is to reduce dependence on imported energy, achieve a sustainable energy policy hand in hand with environmental objectives and foster a competitive internal energy market. As such, energy and climate change are increasingly being seen as two sides of the same coin. Because energy policy in the EU touches on varied policy areas, and because an ambitious policy for energy is in the works, there are many uncertainties in the outcomes of current initiatives. Uncertainties in outcomes include whether renewable energy targets will be met, what importance nuclear and coal generated energy will take in the next decades and how liquid, transparent, unbundled and interconnected wholesale energy trading will be. As such, assessing the employment effects of individual initiatives must account for the uncertainty in outcome of the very initiatives themselves. The latter’s ramification on labour markets must therefore account for the highly evolving nature of the EU’s energy policy.

1.2 Long list of initiatives

Policy context

The 2007 Spring European Council emphasized that the “EU is committed to transforming Europe into a highly energy-efficient and low greenhouse-gas-emitting economy”. The EU Council agreed to the following three objectives as the core of a comprehensive Energy Policy for Europe (EPE): (1) promoting environmental sustainability and combating climate change; (2) increasing security of supply; and (3) ensuring competitiveness and the availability of affordable energy supply. The Commission believes that a sound EPE will allow Europe to become a “thriving and sustainable energy economy that has grasped the opportunities behind the threats of climate change and globalisation, gained world leadership in a diverse energy portfolio of clean, efficient and low-emission energy technologies and become a motor for prosperity and a key contributor to growth and jobs.” Within the Commission, the cross-cutting issues of energy and climate change are not exclusively addressed by DG TREN, but are also increasingly covered in policies and programmes of DG BUDGET, DG ENVIRONMENT and DG RESEARCH.

In January 2008, the Commission put out a proposal for a new directive on renewable energies with the objective of fighting climate change and equipping the EU to build a solid sustainable development policy. Indeed, goals of deriving 20% of the EU’s energy use from renewable energies, reducing CO2 emissions by 20% and increasing energy efficiency by 20% by 2020 were first agreed on in March 2007 by the European Council and later reaffirmed by the Commission’s proposal for a Directive on the aforementioned issues. Following the European Council Action Plan (2007-2009) which was set out during the Spring 2007 European Council meeting, the recent Commission proposal on renewable energies updated and confirmed the core objectives set out in the EPE.

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100 COM(2007) 1 Final.
20% Renewables by 2020

Achieving the goal of deriving energy use from renewable energy is a pillar of the legislative package proposed by the European Commission. As such, it mandates each member state to increase its share of renewable energies - such as solar, wind or hydro - in an effort to boost the EU’s share from 8.5% today to 20% by 2020. Of interest to this study, it is worthwhile noting that the European Commission is explicitly conscious of the employment dimension of the renewable energy policy thrust:

The Community has long recognized the need to further promote renewable energy given that its exploitation contributes to climate change mitigation through the reduction of greenhouse gas emissions, sustainable development, security of supply and the development of a knowledge based industry creating jobs, economic growth, competitiveness and regional and rural development.

Furthermore, the Commission states that “renewable energy technologies already accounts for a turnover of €20 billion and have created 300 000 jobs. A 20% share for renewables is estimated to mean almost a million jobs in this industry by 2020.”

Three main sectors are concerned for implementing renewable energy measures: electricity, transport as well as heating and cooling. With regards to the electricity market, Directive 2001/77/EC on the promotion of electricity produced from renewable energy sources in the internal market drives the initiative. The following mechanisms have been put into place at the national level to support renewable electricity since 2005, an approach consistent with the subsidiarity principle:

- Quota obligations, whereby governments impose an obligation on consumers, suppliers or producers to source a certain percentage of the electricity from renewable sources;
- Green public procurement where a tender is announced for the provision of electricity from certain technology sources. Denmark and the Netherlands have put out such tenders for off shore wind projects;
- Feed-in tariffs and premiums, which are used in 18 Member States. These are granted to operators of eligible domestic renewable electricity plants for the electricity they feed into the power grid;
- Fiscal incentives, such as exemptions and reductions are also used in two EU Member States.

With regards to biofuels, Directive 2003/30/EC on the promotion of the use of biofuels and other renewable fuels aims to increase their use to 10% of transport fuel by 2020. To achieve these objectives, every nation in the EU-27 is required to increase its share of renewables by 5.5% from 2005 levels, with the remaining increase calculated on the basis of per capita gross domestic product (GDP). The following policy tools are in place in the EU to promote biofuels:

- The energy taxation directive (2003/96/EC), which allows member states to grant reductions and exemptions to biofuels in transport in order to promote their integration into the market for vehicle transport;

102 COM(2008) final
103 COM(2008)30 final
• Mandatory biofuel blending targets, which are in vigor in some member states. These oblige suppliers to use a percentage of biofuels (either ethanol or diesel) on the market. The UK, France, Austria, the Czech Republic, the Netherlands, Slovenia and Germany currently have renewable fuel obligations in place;
• The energy crop scheme, which was introduced during the CAP reform of 2003 and is a new aid supporting the development of energy crops. Covering a fixed area of two million hectares including the new member states (it was 1.5 million before 2007), an aid of €45 per hectare is available under the new ECS.

Because of the important role that heating and cooling play in energy consumption, the EU has pushed for proper certification (“guarantee of origin”) of heating and cooling produced from renewable energy sources.

Running parallel to the individual initiatives pushing for renewable energy sources in the transport, electricity and heating and cooling sectors, the Commission has been mindful to promote recognized certification schemes for energy produced from renewable sources. This has been all the more important in the biofuel sector, where sustainability criteria are deemed to be inextricably linked to biofuel production in the EU.

20% Increase of Energy Savings (mainly by more energy efficiency)
According to COM(2006) 545 final, the direct cost of our inability to use energy efficiently amounts to more than 100 billion euros (390 Mtoe at USD 48 / barrel net of taxes\(^\text{104}\)) annually by 2020. This would result in a saving of 205 € per citizen. Realising the savings potential in a sustainable way is thus a key element in Community energy policy. Energy efficiency is thus a spearhead in fighting excessive energy consumption. The EU’s ‘Action Plan on Energy Efficiency\(^\text{105}\)’ was endorsed by the EU energy ministers in November 2006. The plan lays out ten priority areas to achieve its objective of providing EU citizens with “the most energy-efficient buildings, appliances, processes, cars and energy systems in the world” by 2012. The ten priority action areas are:
• Create new appliance and equipment labelling and minimum energy performance standards for various product groups (from 2007) [new energy star label has just been approved];
• Make buildings more energy efficient;
• Make power generation and distribution more efficient (2007-08);
• Introduce legislation to limit CO2 emissions from cars to 120g/km by 2012 (in 2007);
• Facilitate bank financing for investments in energy efficiency by SMEs and energy service companies (2007-08);
• Boost energy efficiency in new Member States;
• Promote coherent use of taxation via the preparation of a Green Paper on indirect taxation (in 2007);
• Introduce awareness and education campaigns;
• Improve energy efficiency in urban areas through a “Covenant of Mayors” (created in 2007) who will exchange best practices;
• Promote international agreements to foster energy efficiency worldwide.

\(^{104}\) 1 barrel of oil equivalent (boe) contains approximately 0.146 toe (i.e. there are approximately 6.841 boe in a toe). That means that 390Mtoe energy savings amounts to 128 billion $ or 102 billion € (at a €/$ rate of 1.25). If the price for a barrel doubles (from 48$ to 96$), the saved cost also doubles (thus from 102€ billion to 205€).

The Eco-Design Framework Directive 2005/32/EC, The Labelling Framework Directive 92/75/EC, the Energy Performance of Buildings Directive (EPBD) 2002/91/EC and the Energy End-use Efficiency and Energy Services Directive (ESD) 2006/32/EC all constitute the legislative backbone in pushing for higher energy efficiency in the EU. Currently, several impact assessment studies are being led by the Commission to gauge the level of regulation and oversight needed at the national and supranational level to gain the maximum out of the current policy tools in place (e.g. efficiency certification and compliance requirements for boilers and water heaters). We bear in mind the current impact assessment studies in the pipelines when selecting the policy initiatives for analysis with regards to labour effects.

20% CO2 Reduction by 2020

Reducing greenhouse gas (GHG) emissions by 20% - even 30% if there is an international agreement committing other developed countries to “comparable emissions reductions” is a staple of the EU’s energy policy. Policy tools and initiatives in place to achieve GHG reductions are:

- The EU Emissions Trading Scheme (EU ETS), which has proven to be a pioneering market based instruments for incentivizing reductions in CO2 emissions by setting EU wide caps on CO2 emissions and providing a market place where carbon allowances can be bought and sold.
- A broadening of the scope of the EU ETS with regard to the economic sectors covered and the gases included. Covering areas like transports (notably aviation), buildings and agriculture would substantially strengthen the ETS. Granting EU companies access to the UN’s Clean Development Mechanism credits is also an option in a revised ETS.
- Ongoing technological research in renewable energy, e.g. carbon capture and storage (CCS), second generation bio fuels, efficient energy using products etc.

Therefore, energy efficiency goals are inextricably linked to achieving lower CO2 emission by 2020. Energy efficiency in buildings, transport and cleaner and more efficiency power generation are all important components of the 20% reduction of GHG of CO2 emissions. Thus, better product standards, energy labelling, and technological advances will give stronger leverage at the EU level for achieving these goals.

On top of the above policy initiatives, which all fall under the policy action lines contained in the Energy and Climate Change Package, the Energy Efficiency Action Plan and the Renewable Energy Roadmap, continuing to liberalize the EU energy market as well as focus on nuclear safety and security or two additional focal points of the current policy thrusts. Issues to be tackled in these fields include:

- Unbundling of network companies from the supply and generation companies to ensure choice for energy users and to encourage investment.
- Effective regulation for harmonisation among energy regulators and towards a well-functioning EPE.
- Transparency and competition to allow the market to function properly.
Infrastructure needs to be upgraded via the Priority Infrastructure Plan. This plan aims to identify the most significant missing infrastructure up to 2013; it appoints four European coordinators to pursue the four most important priority projects; it analyses the need to increase funding for the Energy Trans-European network.

- Binding minimum network security standards to increase the reliability of the EU’s electricity system and prevent black-outs.
- Adequacy of electricity generation and gas supply capacity – over the next 25 years Europe will need to invest €900 billion on new electricity generation and €150 billion in gas-fired power plants and an additional €250 billion on gas infrastructure.
- Investment to tackle energy poverty and to help the most vulnerable to receive this public service.

We have selected specific policy thrusts in the context of the described policy initiatives discussed above. We have taken into account the need for specificity and feasibility with regards to examining employment effects, as well as identifying initiatives where impact assessments have not been undertaken;

1. Liberalisation and unbundling of the EU energy market;
2. Higher physical power grid inter connectivity;
3. Eco-labelling requirements for boilers;
4. Eligibility of sugar beet for the energy crop scheme;
5. Inclusion of aviation as a sector covered by EU ETS;
6. The European Strategic Energy Technology Plan (FP7);
7. Introducing mandatory energy efficiency requirements in buildings;
8. The future of nuclear energy;
9. International energy cooperation and agreements;
10. Effective monitoring and reporting of EU energy developments.

Creating jobs is not an explicit objective of the above policy action initiatives. This is not to say that energy policy does not consider employment a factor in crafting policy lines. As mentioned previously, the Commission wholly recognizes and puts forth the positive employment effects of certain policy initiatives. As such, the implementation of the anticipated or desired actions may have employment effects. These are reviewed in the fiches in annex for each of the above 10 policy initiatives.
1.3 Suggested short list of initiatives

Table 0.1 lists the specific initiatives linked to the EU’s energy policy that deserve attention with regard to their impact on employment. The table specifies how each policy thrust fares in relation to impacts on employment.

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Strategic importance</th>
<th>Potential social impact</th>
<th>Selection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1-5)</td>
<td>(H/M/L)</td>
<td>√ = yes</td>
</tr>
<tr>
<td>1. Liberalisation and unbundling of the EU energy market</td>
<td>4</td>
<td>M</td>
<td>4</td>
</tr>
<tr>
<td>2. Higher physical power grid interconnectivity</td>
<td>3</td>
<td>L</td>
<td>1</td>
</tr>
<tr>
<td>3. Eco-labelling requirements for boilers</td>
<td>5</td>
<td>H</td>
<td>3</td>
</tr>
<tr>
<td>4. Eligibility of sugar beet for the energy crop scheme</td>
<td>5</td>
<td>H</td>
<td>3</td>
</tr>
<tr>
<td>5. Inclusion of aviation as a sector covered by EU ETS</td>
<td>5</td>
<td>M/H</td>
<td>4</td>
</tr>
<tr>
<td>6. The European Strategic Energy Technology Plan (FP7)</td>
<td>4</td>
<td>L</td>
<td>1</td>
</tr>
<tr>
<td>7. Introducing mandatory energy efficiency requirements in buildings</td>
<td>5</td>
<td>H</td>
<td>4</td>
</tr>
<tr>
<td>8. The future of nuclear energy</td>
<td>4</td>
<td>M</td>
<td>2</td>
</tr>
<tr>
<td>9. International energy cooperation and agreements</td>
<td>3</td>
<td>L</td>
<td>1</td>
</tr>
<tr>
<td>10. Effective monitoring and reporting of EU energy developments</td>
<td>3</td>
<td>L</td>
<td>2</td>
</tr>
</tbody>
</table>

Although each of the initiatives above cannot be considered in a vacuum, we are able to assess how each will fare with regards to employment. In some cases, net employment variations may not change, while intra-sectoral employment displacement may arise, especially for low skilled workers. For instance, the introduction of mandatory efficiency requirements in buildings has the potential to strongly reshuffle the intra and inter sectoral concerned labour force without affecting the net employment rate in the long run. With such issues as a higher regulatory requirement (energy efficiency standards, carbon capture etc…), employment displacement between sectors may occur, with losses of employment in one sector benefiting another. Active labour market programs (job training, retraining) may play an important part in avoiding employment losses in the event that labour demand shifts from one labour sector to another, especially if new skills are involved.
Conclusion screening exercise
Based on our screening, the three initiatives in particular will have impacts on labour markets and at the same time present features that make (some preliminary) measuring employment impacts possible, given the time and budget constraints of this project. These initiatives have been selected by the steering group for the case studies:

1. Eligibility of sugar beet for the Energy Crop Scheme
The 2006 reform of the sugar beet sector saw the crop made eligible for the so called energy crop scheme, which grants €45 per hectare for crops produced for energy purposes. Available EU wide data and the specific nature of the policy provide for a good case study of what labour impacts specific bio fuel producing sectors are subject to.

2. Inclusion of aviation as a sector covered by the EU ETS
The inclusion of aviation as a sector covered by the EU ETS, and consequently subject to caps on CO2 emissions will have measurable effects on the market position of the industry, both intra-regionally and between the EU and the world. The social impact on the sector will be in direct relation with the price impact and the way it will be implemented (geographic scope) which could have a serious competitive impact.

3. Introduction of energy efficiency requirements in buildings
The Energy Performance of Buildings Directive (EPBD) specifies that energy efficiency requirements are a central part of ensuring a clean and well performing EU building stock. Picking a specific range of buildings (e.g. lowering threshold from 1,000 to <500m²) and drawing on several EU studies on the issue of certification, inspection and requirements for EU buildings can help draw a picture on what employment effects certain regulatory requirements will have for the economic sector concerned.

The final selection of energy initiatives for the case studies deviated from the above mentioned selection. The steering group decided to select the following 3 energy cases:
- Eligibility of sugar beet for the Energy Crop Scheme
- Introduction of energy efficiency requirements in buildings
- The steel sector and the EU ETS (see next sections for more details on this initiative)

The main reasons for the selection of the first 2 cases are the strategic importance of the initiatives in EU-energy policy and the expected important social impacts. The second case (introduction of energy efficiency requirements in buildings) has been the subject of an impact assessment in 2008, but this was not seen as an obstacle given the fact that the social impacts have not been assessed.

The third case was proposed by the Steering Group as an alternative to the proposed case on EU ETS in the aviation sector. Given that the aviation sector is already the scope of a selected transport case study, the steel sector has been selected as an alternative.
Energy case study 1: The Steel Sector and the EU ETS

2.1 Context and policy measure

EU steel sector overview
Since the 1980s, the EU steel industry has developed from being a process- and product-oriented industry to becoming a market-oriented industry. This evolution is the result of a restructuring effort characterised by consolidation and closure of inefficient and obsolete plants as well as by selective investment in new technologies. In addition, privatisation was part of the restructuring process for the steel producing sector. During this transformation, the industry has become more capital intensive and less labour intensive. The EU steel sector is responsible for 6% of EU greenhouse gas emissions.

The past decade has been characterised by moderate growth in EU steel production, particularly in the new Member States where intensive restructuring and closures have taken place. From 1997-2007, total EU27 crude steel production increased by 7.4%. The contribution of the EU steel industry to the high world output growth has been modest, and its relative share of world crude steel output have decreased from 24.3% in 1997 to 16% in 2007.

The EU steel sector has been performing well in recent years. The spectacular increase of world steel prices until the second quarter of 2008 has played a significant role in the positive performance figures of the EU steel industry although the decline in prices in the second half of 2008 could seriously hamper such an outlook in medium term. Yet, total EU turnover has increased, and data on productivity and profitability also shows a positive development. Moreover, empirical studies find that profitability increases with concentration, and as such, the increasing concentration of the EU steel industry provides conditions for improved profitability. However, data also point to high profitability differences among producers.

EU Steel Production and the Rest of the World
Today, the EU steel sector is a modern customer-oriented industry with the majority of its customer base on the EU home markets, particularly in high-end segments, with focus on high quality products, product innovation and value creation supported by technological development, efficiency, and skilled manpower. The EU steel industry is dominated by large, multinational companies. Only iron and steel foundry production continues to be made by small- and medium sized specialised companies. As such the particular configuration and niche expertise provided by the EU steel sector sets it apart from the rest of the world with regards to specific technology us, labour skills and price elasticity of demand for its products.

References:
106 Steel Statistical Book 2007
107 World Steel in Figures
109 ECORYS, Study on the Competitiveness of the Steel Sector 2008
China has expanded its capacity and production radically while also leading world steel demand along with expanding its international engagements. In the EU, increasing demand has been satisfied by increasing imports\textsuperscript{110}. As result, the EU steel industry has been losing market share within the EU market and on external export markets\textsuperscript{111}.

While the EU steel industry is structured to produce and deliver all types and qualities of steel products, its competitiveness is mainly linked to high quality markets and often tailor-made products in demanding end-user segments. Consequently, the EU steel industry’s competitive position is strongly connected to product innovation and value creation, supported by advanced technology and technological development.

Furthermore, the specific nature of EU steel production differs, sometimes starkly with its global competitor China. As such it is important to emphasize that a loss of competitiveness in the EU, or high pass-through rates may not necessarily displace production from the EU to a non-EU producer given the know-how and specificity of the steel sector in Europe (see above). Thus, expecting the EU ETS to produce substantial carbon leakage in the steel sector assumes that production skills can be transferred out of the EU\textsuperscript{112}. In addition, a high price elasticity of demand for tailor made products from the EU may hint that pass through rates may not adversely affect the competitive position of the EU steel sector. However there is disagreement on this point in the literature, depending on scenarios, time horizons and assumptions on the form of what a Phase III EU ETS would look like\textsuperscript{113}.

**Employment in the EU Steel Sector**

The occupational structure of the steel industry’s labour force has changed during the restructuring period, and today it consists of a large proportion of multi-skilled workers, technicians, engineers, and managers. For some time, the industry as a whole has been attempting to attract more people with higher qualifications, but like many other industries the steel industry is faced with skills shortage. As discussed further below, the high skilled nature of the EU steel production implies that increased costs from EU ETS would not necessarily translate into production displacement outside the EU given the different production structure difference (labour skills, technology) outside the EU, namely in China.

Demand for high skilled labour is expected to continue to rise in the EU. This constitutes a serious challenge to the steel industry with a decreasing workforce in many European countries. In addition, the average age in the sector is high and retirement in the coming years may create demand shortage.

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\textsuperscript{110} Eurofer

\textsuperscript{111} Eurofer http://www.eurofer.org/index.php/eng/Facts-Figures/ Figures/EU-Crude-steel-production

\textsuperscript{112} The crux of the competitiveness issue that the steel sector faces due to the ETS lies in its global nature: while the European steel industry is forced to take on additional costs due to the mandatory nature of the ETS, in many other steel producing companies the reductions are mostly voluntary and thus not comparable.

\textsuperscript{113} See Demaily and Quirion *European Emission Trading Scheme and competitiveness: A case study on the iron and steel industry. Climate Change and Employment. Study for DG ENV and ETUC.
Complete statistical data on employment development in the EU27 steel industry does not exist. The available data only covers EU15 and the most recent is from 2004. Though incomplete, the data provides some indications of the overall development with regard to employment levels in the steel industry. The data is presented in the following Table 0.2.

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The total number of people employed in the EU15 steel industry in 2004 stood at 258,000. Total employment in the EU steel industry has decreased considerably in all European countries over the last three decades, i.e. Europe's steel employment in the EU15 has decreased from nearly 800,000 workers in 1980 to roughly 250,000 today.

In total, EU15 employment in the steel industry dropped by 72% from 1974 to 2000 with big annual decreases in the 1980s. The biggest single drop within the EU happened in 1980 when total employment decreased by 11%, equivalent to 70,000 persons (Fairbrother et. al., 2004).

While old Member States experienced a huge reduction in the total number of employees throughout the 1980s, the most significant job losses in the steel industry have occurred in Central Europe, i.e. the new German federal states, Poland, and to a lesser extent Hungary.
Description of the strategic policy initiative

Probably the single most important – and hotly debated – piece of environmental legislation expected to have an economic and social impact on the steel sector is the inclusion of the steel sector in the EU Emissions Trading Scheme (or ETS).

The ETS was launched in 2005 and is currently the largest multi-country, multi-sector greenhouse gas (GHG) emission trading scheme in the world. Although other countries and regions have started programmes for emission reductions as well, these are all voluntary.\textsuperscript{114}

The ETS is based on Directive 2003/87/EC, which established a scheme for greenhouse gas (GHG) emission allowance trading within the Community.\textsuperscript{115} The EU ETS implementation hinged on National Allocation Plans (NAPs), in which each member state decided on the total number of allowances to be created and their allocation to companies. In March 2007 the European Council set the EU targets for GHG emissions to 20 percent in 2020 (base year 1990) and 30 percent, provided other developed countries would commit themselves to comparable reduction targets.\textsuperscript{116} Subsequently, on January 23 2008 the Commission submitted a package of proposals - the ‘Climate Action and Renewable Energy Package’\textsuperscript{117} - to implement the conclusions of the Spring European Council 2007, which included a proposal for amendments to the EU ETS Directive, hereinafter referred to as ‘the Proposal.’

The Proposal moves more of the responsibility for European Climate policy to the European Level: it includes an EU ETS Sector Cap, implying that Member States will no longer have control over the location of the emission reductions in the ETS sector – in other words the NAPs will be abolished. It is worth noting there are also Non-ETS sectors, which have different mechanisms to reach targets. The basic principle for allocation of these allowances will be auctioning. It is proposed that full auctioning will be applied from 2013 to sectors for which it is assumed that they can pass on the increased costs to consumers (e.g. the power sector). According to the Proposal, installations from the manufacturing sector will receive a free allocation in 2013 at 80 percent of their share in the total allowances to be used. Thereafter, the free allocation will decrease annually, resulting in no free allocation in 2020 (Netherlands Environmental Agency, January 2008).\textsuperscript{118} However, considering that this is still a proposal, which is currently being debated in Parliament, the exact contours of the new ETS are not yet definite. The European Commission’s ambition – and that of the Council and European Parliament – is to pass the Proposal through Parliament and Council by early 2009. The steel sector is actively involved in consulting with the Commission on the

\textsuperscript{114} For example, Japan and the US have set up voluntary programmes and the US, Japanese, Australian and Canadian steel industries have engaged in the Asia-Pacific Partnership on Clean Development and Climate, which also includes India and China (International Iron and Steel Institute (IISI), 2007).
\textsuperscript{115} http://ec.europa.eu/environment/climat/emission/implementation_en.htm
\textsuperscript{116} http://ec.europa.eu/environment/climat/emission/ets_post2012_en.htm
\textsuperscript{117} http://ec.europa.eu/environment/climat/emission/ets_post2012_en.htm
\textsuperscript{118} Netherlands Environmental Agency (January 2008). Consequences of the European Policy Package on Climate and Energy – Initial Assessment of the consequences for the Netherlands and other Member States – Page 23
ETS, which it anticipates will have a major impact on the sector and specifically the most energy intensive sub-sectors within it.\(^{119}\)

**Additional assumptions for the elaboration of the case**

As mentioned above, the exact contours of the new ETS are not yet definite. It can be expected that the inclusion of the steel sector in ETS may put EU producers at a cost disadvantage versus their global competitors (outside EU). In addition to this measure, the Commission proposes to include additional sectors and GHG (i.e. not just CO2) in Annex 1 of the Directive, which will extend the scope of the ETS.

New regulation in general constitutes a risk for the EU steel industry, as the investment attractiveness of the EU steel industry is diminishing if a long-term stable framework cannot be assumed. Uncertainties in e.g. environmental policies may affect the investment environment negatively and constitute a threat to current investors. However, under the assumption of a well designed environmental policy approach, production and consumption losses for the EU steel industry is considered to be weak in the long run.

We assume that a post 2012 EU ETS and a so-called Phase III trading scheme will take place given the current context. In other words, regulatory constraints are assumed to extent beyond 2012 and are not constrained solely to a limited time horizon ending in 2012.

Further it is assumed that at a minimum, derivatives trading in the EU ETS will maintain carbon prices at a level where they present constraints on the steel sector. Assuming a retail price of € 400 per tonne of steel,\(^ {120}\) 1.5 tonnes of CO2 emitted per tonne of steel produced,\(^ {121}\) and a emission allowance price of € 50 per tones of CO2 under a Phase III EU ETS with no National Allocation Plans (all emission rights must be bought), additional costs on turnover would amount to roughly 19%.\(^ {122}\)

As mentioned below, further assumptions are the following:

- Steel prices will increase after the sector’s inclusion in EU ETS;
- Margins fluctuated in function of CO2 prices;

It should be noted that Phase I of the EU ETS provided the steel sector with a significant surplus of emission rights, which provided steel companies in the EU with a substantial windfall profit by the end of Phase I. However, the tightening of requirements after 2008 renders CO2 emission rights “a by product with a market price affecting the financial equilibrium of production and as such subject to arbitrage with the totality of production factors.”\(^ {123}\)

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\(^{119}\) It has been argued that the uncertainties surrounding the exact outcome and contours of the proposal have an impact on the industry, as it makes for an uncertain investment environment.

\(^{120}\) This is an average price for slabs, other products can be much more expensive.

\(^{121}\) Calculated in function of the emission levels of the two types: this is 400kg CO2 emission (per ton steel produced by electric furnaces, counting for circa 30% of total production) and nearly 2 ton for the classic integrated steel production line (with blast furnaces, counting for circa 70%).


\(^{123}\) Climate Change and Employment. Study for DG ENV and ETUC. p.117
2.2 Identification of impacts

Since the production of steel uses significant amounts of coke and coal (blast furnaces) or large amounts of electricity (electric arc furnaces), the steel industry emits significant CO₂ levels either directly or indirectly. Inclusion of the steel sector in the EU ETS will directly lead to higher (production) costs for the EU steel sector caused by buying of emissions rights and/or investments in new technology to reduce emissions. It has been argued that the basic Iron and Steel sector is one of the sectors which stands out in terms of maximum impact on costs relative to value added. These increased costs may affect the competitiveness of the EU steel sector in a negative way.

Two main impacts can be identified from the increasing costs the EU steel sector is faced with due to the ETS:
1) The price of EU steel might rise as increased costs are passed through to customers
2) EU steel producers are faced with declining operation margins if they have to bear (part) of the additional costs themselves

We now discuss these two impacts and their induced social effects as well as effect on the industry structure.

A rise in the price of EU steel product and employment

When faced with increased production costs, EU steel companies might try to pass some of these costs through to the consumer causing the price of EU steel to rise. The magnitude of this price rise depends on the pass-through rate and the price elasticity of the demand for EU steel.

Given the global nature of the steel sector and the fierce international competition in the sector, price increases will lead to reduced demand for EU steel. However, the issue of product substitution with non-EU producers is something to be investigated given the specialized and tailored steel products produced in the EU. If the price of EU steel rises, customers may be induced to buy steel outside the EU or – if possible – shift to other (cheaper) raw materials. This will lead to a decrease in demand for EU steel causing possible job losses in the EU steel sector.

Taken into account the specific characteristics of the workforce in the EU steel sector (average age is high, mainly men, geographically dispersed) job losses in the sector can also have social effects. The risk of long term unemployment is greater for older and less skilled workers. Depending on the location of the steel companies, job losses will be concentrated in certain geographical areas. As the steel sector is increasingly occupied with higher skilled workers, job losses might also affect higher skilled workers (e.g. technicians, engineers).

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124 The industry itself (e.g. through the IISI and Eurofer) has lobbied hard for a global sector approach to CO₂ emissions reductions, which takes into account the specific characteristics of the industry, such as for instance the fact that some of the larger producers self produce – through recycling – power, and have been highly successful in reducing emissions by itself (Chabanier, J. (2005) “Energy Challenges for Europe to 2010; How to improve European Competitiveness?”)

How many jobs are lost also depends on the labour intensity of the subsector. Large differences in labour intensity exist between subsectors of the steel sector (e.g. the casting sector is more labour intensive than the crude steel sector).

A study carried out by a consortium of partners for DG ENV entitled “Climate Change and Employment; Impact on employment of climate change and CO2 emission reduction measures in the EU-25 to 2030”, notes that by 2030 54,000 jobs could be threatened in the current context of the EU ETS. These figures must be interpreted carefully and deserve cross checking and recalculations, not least in elaborating various scenarios and being able to isolate the impact of a cap-and-trade scheme on jobs solely, leaving issues such as world price fluctuations, demand, other production costs, etc. aside.

Price increases in EU steel are subject to the ‘pass-through’ ability of producers (the extent to which extra costs can be passed on to consumers), trade sensitivity, allocation methodology and CO2 prices. This implies that the ETS will likely affect different steel sub-sectors differently, with crude steel production likely to be more affected due to its globally determined prices, leading to limited pass-through ability.

Finally, placing the EU steel sector under the constraints of a cap and trade scheme may foster higher investments in cleaner technology production (e.g. carbon capture) as well as research and investment. As has been seen in the buildings sector of the EU, peripheral production niches in services and products in the eco-industries may foster a tightening nexus with an EU steel sector constrained by a cap-and-trade scheme. Thus, positive outcomes may also occur.

**Pressure on the operating margins of steel companies**

The extra costs imposed by the ETS will affect the competitiveness of EU steel companies. Part of the costs that can not be passed through to the customer, have to be beared by the company thus decreasing its operating margin. The increasing concentration and privatization of the EU steel sector suggests that smaller, non-competitive businesses may be closed or absorbed by larger competitors. As such, it is less a reduction of the steel sector than an increased concentration pace that may be expected under the new regulatory framework.

The ETS thus puts EU producers at a cost disadvantage vis-à-vis their global competitors for similar products (e.g. EU and the US) –the so-called “carbon leakage” problem. In its most extreme form carbon leakage occurs when an industry is forced by international competitive pressures to relocate production to countries outside EU that do no impose comparable constraints on emissions. Relocation outside of the EU may result in an increase of global emissions without any environmental benefit. As such job losses should be expected inside the EU due to relocation of production.

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127 Hourcade, Demailly, Neuhoff & Sato (2008)
This impact is expected to be somewhat differentiated among subsectors. For instance, the integrated productions route, Basic Oxygen Furnace (BOF) is expected to be impacted in its competitiveness, leading to possible carbon leakage, while it has been argued that the mini-mill route Electric Arc Furnace (EAF) will be impacted only to a small extent, as according to the ETS Review (McKinsey, December 2006) 66 percent of the additional cost will be passed onto the consumers, compared to six percent of the additional cost in the BOF industry. Such nuances shall be accounted for when breaking the sub-sector where jobs are affected.

To prevent having to buy emission rights, companies can decide to invest in new technologies to reduce emissions in their production process or engage in carbon offsetting initiatives given that Joint Implementation (JI) and Clean Development Mechanisms (CDM) under the UNFCC and Kyoto Protocol may be eligible tools in the EU ETS in a post 2012 scheme. This would lead to an increase in demand for emission-reducing technologies and clean technology and development projects outside the EU through the use of CDMs and JI. This demand increase can bring about job creation in the sector that produces and develops energy saving and cleaner technologies.

The investment option forces companies to spend money on new technologies to lower emissions during the production process. These investments can have a temporary negative effect on the job quality of EU steel workers as less budget becomes available for education and training, remuneration, etc.

A more permanent effect of the investment in new technologies is that jobs in the EU steel sector can be transformed as new competences are needed to work with the new technologies. This means that the current workforce needs to be retrained or replaced by other higher skilled workers.

As the investment in emission-reducing techniques is costly and takes time to be completed, most EU steel companies will use a combination of both steel price increases and investment in new technologies to respond to the higher costs caused by the ETS.

2.3 Selection of appropriate methods

Long list of techniques
Addressing this case study requires several steps of analysis that must be clearly compartmentalised to have causal relations established in the final analysis. These steps are:

a) Determining the costs to the EU steel sector of being included in the EU ETS;
b) Assessing the impact of such costs on the competitiveness of segments in the steel sector;
c) Quantifying potential social impacts of the above two steps.
There are four main quantitative and qualitative tools that can be used to assess the social impacts of the inclusion of the EU steel sector in the EU ETS;  
- Use of existing models pertaining to competitiveness and social effects in the EU steel sector (e.g. RIOT, EDGE PRIMES);  
- Literature survey relating to the economic and competitiveness impacts of the inclusion of the steel sector in the EU ETS;  
- Firm specific analysis on the competitiveness effects of new regulatory constraints in order to extrapolate social-related impacts;  
- Stakeholder interviews.

The above techniques can all contribute to providing a clear picture on the social impacts of this case study. However, we see specific problems with using a model-based approach here as well as firm specific analysis.

Specifically, existing models are only indirectly linked to the specific problematic to be tackled in this case study namely, understanding the nexus between the steel sector in the EU and the social (including competitiveness) effects of the cost of complying with its inclusion in the EU ETS. It would cost time and money to adapt existing models, and results stemming from such models would need to be amended to account for the adjustments.

Firm specific analysis would be helpful in this case study as well, however, we believe that a combination of literature review and stakeholder analysis is sufficient to provide desired results in this case study.

**Final selection of technique(s)**

As mentioned above, there are a variety of models pertaining to the EU ETS and the EU Steel sector (competitiveness and employment). However, there is a substantial and informed literature database on which to base the impact assessment. Specifically, establishing links between existing studies to gauge social impacts is a wholly feasible approach given the rich amount of literature pertaining to the issue at hand. In addition, strategic stakeholder interviews can be complementary to an in-depth literature review. As such, we foresee the following techniques that we recommend for this case study:

- Literature survey relating to the economic and competitiveness impacts of the inclusion of the steel sector in the EU ETS;  
- Stakeholder interviews

### 2.4 IA results

Marginal additional cost imposed by the ETS on EU steel producers could be significant especially for small and medium businesses: the primary steel production could face an average cost increase on their marginal production in the order of 17 percent, which would act as an incentive to stop or reduce de-bottlenecking in Europe and to shift marginal production into areas without these costs.\(^\text{128}\)

\(^{128}\) 2008 ECORYS study on the Competitiveness of the EU Steel Sector.
A rise in the price of EU steel

The size of the price increase of EU steel depends on the pass-trough rate to the customer. This rate differs greatly between different steel subsectors. The drop in demand following the price increase depends on the price elasticity of demand for steel products. Consequent job losses in the EU steel sector are dependent on the labour intensity of the sector. Labour intensity also varies between subsectors (e.g. casting industry is more labour intensive).

A decline in the operating margin of EU steel producers

No a priori assessment of social impacts can be made before the full impact assessment is undertaken. However, it can be expected that carbon leakage effects may increase operating cost and consequently render steel production with small margin uncompetitive. This is a central point; concentrated and high end producers should be less concerned by an inclusion of the sector in the EU ETS given their size and the high price elasticity of demand of their clients. An outcome of this would be a higher unemployment level in the small sized and medium to low skilled labour steel sector after its inclusion in the EU ETS. Stakeholder analysis, as well as literature reviews of the competitiveness position of steel sector segments will inform this aspect of the study.

Similarly, demand for technology reducing emission may drive up demand and thus employment in the sector producing and installing these technologies. The magnitude of the job creation depends on the labour intensity of the sector in question.

The size of the temporary negative effects on job quality caused by investments in new technologies depends on the investment capacity of the company and/or subsector. This should be analysed using stakeholder consultations or expert interviews.

The more permanent effect of the investment in new technologies that new competences might be needed for steel workers and job losses can occur due to less labour intensive production processes can be investigated using expert interviews.
## 2.5 Summary of the impacts

### Table 0.3 Social effects table

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<tr>
<th>Effects</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment and labour market:</td>
<td>Some job gains in the energy saving and cleaner technologies sector caused by higher demand.</td>
</tr>
<tr>
<td>• Impact on labour demand</td>
<td>Job losses in small and low labour skilled EU steel sector due to demand decrease (caused by the higher price of EU steel) and possible relocation of production to non-EU countries.</td>
</tr>
<tr>
<td>• Impact on labour supply</td>
<td>Jobs losses might be greater in certain subsectors depending on different pass-through rates and labour intensity.</td>
</tr>
<tr>
<td>Impact on the functioning of the labour market</td>
<td>EU steel workers might need new competences to work with new and cleaner technologies. The role of national and EU funding to the steel sector may also play a role in limiting socio economic effects of the EU ETS.</td>
</tr>
<tr>
<td>Job quality</td>
<td>Job quality aspects can be temporary affected if steel companies invest in cleaner technology and have less budget for education and training and remuneration of employees.</td>
</tr>
<tr>
<td>Standards and rights related to job quality</td>
<td></td>
</tr>
<tr>
<td>Social inclusion and protection of particular groups</td>
<td>Job losses in certain segments of the steel sector could lead to long term unemployment in small production structure, especially for vulnerable groups like older and less skilled workers. However, mergers of small businesses into larger ones could offset this.</td>
</tr>
<tr>
<td>• Access to the labour market</td>
<td></td>
</tr>
<tr>
<td>• Access to placement services or services of general economic interest</td>
<td></td>
</tr>
<tr>
<td>• Access to goods and services</td>
<td></td>
</tr>
<tr>
<td>• (In)equality</td>
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<td>Equality of treatment and opportunities, non-discrimination</td>
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<tr>
<td>Access to and effects on social protection, health and education systems</td>
<td></td>
</tr>
<tr>
<td>• Quality of services</td>
<td></td>
</tr>
<tr>
<td>• Access to services</td>
<td></td>
</tr>
<tr>
<td>Public health and safety</td>
<td></td>
</tr>
</tbody>
</table>
3 Energy case study 2: EU Sugar Sector and the Energy Crop Scheme

3.1 Context and policy measure

The EU Sugar Sector

EU-25 production averaged 20 million tons of sugar beet yearly until 2006. The EU’s sugar sector (beet growers, mills and refineries) is one with few market players; it is controlled by 30 firms who run 135 sugar mills and 6 refineries throughout the Union. The EU sugar sector is characterized by very large agricultural holdings, with more than 45% of the holdings grouped in the size bigger than 100ha. In addition, EU sugar beet holdings are also characterized by a bigger economic size than the average for “all holdings”. At the EU level around 76% of holdings growing sugar beet have an economic size of more than 16 ESU, while the corresponding percentage of ‘all holdings’ is 23%. Holdings characterized by a higher economic size are more concentrated in the UK, France, Germany and the Netherlands. The largest sugar beet growers in the EU are the UK, France and Germany and represent over 60% of the EU sugar sector.

Until 2006, the Common Organization of the Market for Sugar was the last part of the Common Agricultural Policy which had not been reformed since the latter’s inception in 1960s. Indeed, price support is still the main transfer mechanism from the EU to sugar beet growers. The sugar sector is shut off from competition to the world market, given that high import duties are levied on foreign exporter (except for preferential agreements) while an EU fund for sugar beet farmer insures steady incomes. The EU sets a minimum intervention price for white sugar usually between two and three times the world market price. From 1993-2006 it was €631.90 per ton, while average world market prices for sugar averaged around €200. The Community budget for the CMO stands at nearly €1.8 billion a year.

The EU has been a simultaneous exporter and importer of sugar. Until the reform, 5 million tons were exported while almost 2 million tons were imported yearly. Production in the EU has been fixed by quotas. There are different types of sugar quotas. Quota A and B are allocated to EU members according to their capacities and are eligible for full price support, which was €631.90 until 2006. A and B quotas allowed for 17.4 million tons of production yearly and corresponded to the maximum production within support prices.

Quota C is the surplus produced in excess of the full price quotas and is not eligible for support. C quota are traded at the world prices for sugar, which have traditionally ranged between €200 and €300 a ton, and the beet used to produce it is bought at non-guaranteed variable prices (usually between €10 and €20 a ton for beet, the range of world market prices for beet) Its profitability as a crop is to be assessed by comparing its net return per hectare with that of an alternative crop, usually cereal. In other words, if an alternative crop can provide higher returns with similar production infrastructure and process, sugar beet may not be the economically optimal crop to cultivate. C sugar today stands at about

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129 Economic size of an agricultural holding is determined on the basis of its gross added value (Standard Gross Margin).

130 ESU is the European Size Unit and corresponds to € 1,200 of Standard Gross Margin (SGM).
2.6 million tons. Ethanol and bio-ethanol falls under category C and until recently received no subsidy as an ‘industrial sugar’. By that extend, ethanol production from sugar beets is unrestricted by quotas and until 2006 was not specifically encouraged in that sector (there was no regulation linking the sugar sector to biofuels).

The CMO Reform

A reform of the Common Organization of the Market for Sugar (CMO) was launched on July 1st 2006 (2006/318/EC), to bring this sector in line with the reformed Common Agricultural Policy (CAP). This involves cutting guaranteed minimum prices in the domestic market for sugar by 36% while a support scheme for exported sugar will be phased out. This reform comes as an effort by the EU to comply both with World Trade Organization (WTO) requirements and the EU’s own internal competition and single market rules.

A phased in 36% cut in intervention prices for white sugar (i.e. from sugar beets) that started on July 1st 2006 will take full effect after 2010, effectively bringing the price of white sugar down to €404 and the price of sugar beet to €26.2/ton, still substantially over world market prices (which have traditionally ranged between €200 and €300 a ton and €10 and €20 per ton of beet). A and B quota in the EU (17.4 million tons) are to fall to about 11 million by 2010 with no compensation for over production. A restructuring scheme has been put into place until 2010 and has made sugar beet eligible for the Single Farm Payment scheme. The scheme will allow sugar beet producers to claim compensation that will be calculated based on the amount of production renounced. This payment is of €730/ton from 2006 to 2008, €625 from 2008 to 2009 and €520 from 2009 to 2010 per ton of sugar not produced. Finally, in compliance with certain WTO requirements, the EU will drastically limit the amount of subsidized sugar it can export to world markets on a yearly basis. Until 2006, average sugar exports stood at 4.6 million tons per marketing year. After the reform in 2006, exports of white sugar produced in the EU will be limited to 1.374 million tons.

After two years in vigor, the amount of sugar beet production renounced did not reach the targets the Commission had expected. Production decreased by a mere 2.2 million tons compared to the estimated 5 million hoped for. The EU-27 currently produces just less than 20 million tons of sugar a year. As a response in 2007, more favourable buy outs have been put in place to help downscale the sector through higher prices paid for tons of sugar been production renounced.

Description of the strategic policy initiative

The 2003 directive on the promotion of the use of biofuels and other renewable fuels for transport (2003/30/EC) committed member states to achieve the goal of deriving 2% of EU transportation fuel from biofuels by the end of 2005 and 5.75% by the end of 2010. Until 2006, the sugar beet sector and all the production chain (growers, refineries) was not linked to the biofuel thrust of the EU by community legislation which could provide incentives or support for sugar beet cultivation to be refined into bioethanol. However, after the CMO reform, sugar beet production has been eligible for the so-called “energy crop scheme”, which is an EU fund supporting agricultural crops for the purpose of renewable energies.
Introduced during the CAP reform of 2003, the energy crop scheme (ECS) is a new aid supporting the development of energy crops. The ECS was initially intended to replace the non-food-set-aside scheme (NFSA) which is a CAP transfer scheme paying farmers producing non food crops or leaving a parcel of arable land in fallow. However, the ECS was voted by the European Council to be implemented alongside the NFSA. Both schemes hence now run in parallel. Covering a fixed area of two million hectares including the new member states (it was 1.5 million before 2007), an aid of €45 per hectare is available under the new ECS. If fully implemented, this program will cost the EU €90 million. The energy crop scheme is available to all EU member states. The profit margin of a farmer applying for the energy crop scheme is not taken into account when granting eligibility, meaning that large holdings with high margins are eligible for the scheme.

Of particular interest to this case study, under article 36 of regulation 318/2006, non-quota sugar beet is eligible for the ‘energy crop scheme’. Article 13 of regulation 318/2006 lists bioethanol as an industrial sugar and by that extent excludes it from production quotas. This thus places sugar beets used for bioethanol as a class C sugar in the EU. The energy crop scheme will provide sugar producers who produce C quota the opportunity to claim €45 per hectare for over quota production within the ceiling of 2 million hectares set aside for the energy crop scheme. Before the sugar sector reform was voted in 2005, sugar beet crops were ineligible for energy support scheme and were the only crop produced in the EU that could not apply for energy aid. After 2006 however, sugar beet became eligible for aid.

The EU Sugar Sector and Bioethanol Production

It should be noted that although sugar beet has significantly higher yields for bioethanol in the EU-27 compared to wheat (table 3.10), there are other crops in the EU that can render bioethanol production comparatively more affordable than sugar beet (table 3.11). EU. The prices assumed for the two crops in this table are of €26.2 per ton for sugar beet and €140 per ton for wheat. €26.2 corresponds to the price of unprocessed sugar beet (after the CMO reform is completed i.e. after 2010), given that such a price does not depend on market mechanisms, it is constant. The price of wheat given here, €140/ton represents a very high market price for wheat, which has been substantially lower in the 1990s and up until 2006. Ryan, Convery and Ferreira\textsuperscript{131} calculate that the cost of bioethanol expressed in €/1000 litres is of €736 for wheat and €829 for sugar beet respectively. The prices for sugar beet expressed here are grossly unchanged after the 2006 reform because the 36% price cuts in A and B quotas do not apply to C sugar, which is the category from which bioethanol is produced. In the latter’s case, world market prices apply, and they have been roughly stable between €180 and €220 per ton. Projected cost of bioethanol production as far as 2020 rank sugar beet as the most expensive feedstock base when compared to alternatives such as wheat or straw\textsuperscript{132}. The International Energy Agency (IEA) estimates that production costs for bioethanol in Germany, which is one of the two most efficient growers of sugar beet in the EU, are the highest for sugar beet when converted to dollar prices per litre. Sugar beet feedstock for


\textsuperscript{132} Haydock, J. (2003). International Resource Costs of Biodiesel and Bioethanol, AEA Technology
bioethanol is projected to cost $0.88 per litre compared to $0.81 for bioethanol produced from wheat.

Table 0.4   Bioethanol Yields from Wheat and Sugar Beet in Some EU-25 Countries

<table>
<thead>
<tr>
<th></th>
<th>Common Wheat</th>
<th>Sugar Beet</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Litres/ha</td>
<td>Toe/ha</td>
</tr>
<tr>
<td>France</td>
<td>2,554</td>
<td>1.31</td>
</tr>
<tr>
<td>Germany</td>
<td>2,620</td>
<td>1.34</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>2,686</td>
<td>1.38</td>
</tr>
<tr>
<td>Poland</td>
<td>1,215</td>
<td>0.62</td>
</tr>
</tbody>
</table>


In addition, the IEA compares the costs of bioethanol production in the EU with those in the US and Brazil, who are the two largest producers of bioethanol in the world. Against both countries, EU costs are substantially higher. The IEA notes that in the EU’s cost projections, ‘crop prices might be substantially below their cost of production, and therefore below their “true” market price (if there were no agricultural subsidies). The study estimates that the actual cost to produce a litre of ethanol in the EU is about 18 cents higher than reflected in cost estimates that accept crop market prices rather than crop production costs as an input’. The projections of employment creation in the EU from bioethanol production find that there is a more favourable outcome if wheat is used as opposed to sugar beet.

Table 0.5   Bioethanol production costs in the EU-27

<table>
<thead>
<tr>
<th></th>
<th>Wheat Based</th>
<th>Beet Based</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>€/L</td>
<td>€/GJ</td>
</tr>
<tr>
<td>- Feedstock (A)</td>
<td>0.40</td>
<td>18.9</td>
</tr>
<tr>
<td>- Co-product credit (B)</td>
<td>0.15</td>
<td>7.1</td>
</tr>
<tr>
<td>Subtotal Feedstock Cost (C = A-B)</td>
<td>0.25</td>
<td>11.8</td>
</tr>
<tr>
<td>Conversion Costs (refining) (D)</td>
<td>0.28</td>
<td>13.3</td>
</tr>
<tr>
<td>Blending Costs (E) (incl. adaptation of gasoline)</td>
<td>0.05</td>
<td>2.4</td>
</tr>
<tr>
<td>Distribution Costs (F)</td>
<td>0.01</td>
<td>0.5</td>
</tr>
<tr>
<td>Total Costs at Petrol Station (C+D+E+F)</td>
<td>0.59</td>
<td>27.9</td>
</tr>
</tbody>
</table>

Source: Biomass Technology Group

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Considering the poor comparative advantage that sugar beet has compared to a crop such as wheat, and in light of the small size of the sugar beet sector in the EU, the effects that bioethanol production from sugar beet in the EU might have on impacting ethanol (gasoline) prices, is negligible. Assumptions on the social impacts that ethanol production from sugar beet may have on other sectors (technology, bioethanol prices, related energy sectors) is thus marginal.

*Additional assumptions for the elaboration of the case*

Although some work has been done to assess the employment impacts of the 2006 CMO reform, there is no analysis of the concomitant eligibility of the sugar sector to the energy crop scheme. As such, projected job effect based on the sole CMO reform (a business as usual scenario) must also account for the new channels of state aid for energy that the sector is eligible for (due to the inclusion of the sugar sector after 2006 in the energy crop scheme).

It is also assumed that class C sugar will be used for ethanol production in the event that intervention prices for class A and B sugar are higher than world market prices (in other words, that producers will maximize marginal utility by claiming aid whenever possible). It is also assumed that the eligibility of class C sugar beet for ethanol will be used to the furthest extent possible within the confines of the energy crop scheme.

### 3.2 Identification of impacts

The proposed price subsidy for sugar beet producers in the energy crop scheme will increase revenues for sugar beet producers who produce C quota. Such a reform will also keep C quota as an uncompetitive crop for ethanol given the cheaper alternatives using wheat without the ECS. Making sugar beet production eligible for energy aid will slow the decrease and phasing out of the sugar beet market in the EU. Class C sugar is produced as a side effect from producers wanting to guarantee that A and B quotas are filled, and thus aid for those quotas paid. Ethanol produced from C class sugar will only limit the losses of producers, not necessarily push C class sugar into a competitive crop given the available alternatives in the EU (wheat).

Two impacts are observed:

1) Slow down in decrease of jobs predicted under the CMO reform, compared to a scenario where the ECS is not introduced

2) Income guarantees through an alternative channel to the CMO.

We discuss below these two impacts and their induced social effects.

*Minimizing job losses in the sugar sector*

If the sugar regime remained unchanged and sugar beet production was not eligible for the ECS, around 15,000 jobs would be lost by 2012 in the EU sugar sector (agricultural holdings, refineries)\(^{134}\). As class C sugar will be subsidized by the ECS, this will lead to a limited amount of lost jobs compared to a scenario where the ECS is not introduced to the beet sector. These jobs are mainly lower educated jobs (farming, processing). As sugar

\(^{134}\) In the period 1992-2004, job numbers in the processing sector fell from 58,546 to 31,862.
beet growers are largely geographically concentrated, the jobs will be created in these areas as well. Because the sugar sector is not competitive by any standards, and that ethanol can be produced more cheaply with alternative crops (namely wheat), making the sugar sector eligible for the ECS will under no circumstance render it competitive since even without the ECS, wheat is more competitive than sugar beet for ethanol production (see above).

**Income guarantees**

Seeing that there is weak economic support for bioethanol from sugar beet in the EU, both from comparing it to alternative crops, and from a demand point of view, the eligibility of the sugar sector for the ECS appears to be more of an income guarantee than a market stimulation tool. Before 2006, ethanol from sugar beet was listed as an industrial sugar by the EU, and by that token was excluded from production quotas. Therefore, sugar beets for that purpose received no subsidy since they were classified as C quota. Thus if a producer chose to grow sugar beet for bioethanol purposes, grown crops would not be eligible for the intervention price of €631, but rather, would be subject to world market price, which could be more than three times less than the intervention price. Currently, less than one percent of EU sugar beet production is used for bioethanol production. Such minimal use for the highest yielding crop of bioethanol points to the fact that before 2006, there were little or no incentives for bioethanol production.

Out of quota production of sugar beets (thus including bioethanol) is unrelated to direct market incentives; ‘the supply of C sugar can be affected by the in-quota sugar through three channels: the existence of fixed costs covered by in-quota sugar such that C sugar can be sold at prices covering marginal (variable) costs only, ‘overshooting’ behaviour as insurance against poor yields and the production of C sugar as ‘reference building’ in view of expected reforms’ In other words, C sugar and thus bioethanol from sugar beet, is not determined by its economic viability. Rather, considerations for maximizing quota A and B levels at the expense of overproduction, covering variable costs through economies of scale even if it implies dumping, and influencing the reference levels of production during the 2006 CMO reform drive the production of C sugar.

### 3.3 Selection of appropriate methods

**Long list of techniques**

The steps to be taken in this case study to assess the social impacts of the eligibility of the reformed CMO for the energy crop scheme are the following:

a) Social impacts of a BaU scenario under the 2006 reform (documented by the Commission);

b) Impacts of the energy crop scheme on the sugar sector and its competitiveness;

c) Social impacts in the sector linked to the energy crop scheme

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Given the small structure of the sugar sector, and the protected nature of the market, causal analysis, stakeholder interviews and a literature review can provide an adequate and clear mapping of the perceived social effects caused by the eligibility of the sugar sector for the energy crop scheme. In addition, because of the small scale of the sector, firm specific analysis can provide important indicators of social impacts in a sector that is confined to a cluster of several dozen operating refineries.

Thus, assessing the BaU social impacts can be done through a literature reviews that provides empirically based analysis to project social impact on the sector in the coming years. For gauging steps b and c stakeholder interviews and causal analysis can build on step a.

**Final selection of technique(s)**

The final techniques for this case study should thus include:
- Literature review to assess the BaU scenario without accounting for the sugar sector’s eligibility for the energy crop scheme;
- Stakeholder interviews to assess how a BaU linked with the energy crop scheme is affecting social impacts;
- Causal chain analysis where possible to have holistic grasp on the implemented regulations (CMO reform followed by the eligibility of the sugar sector for energy aid)

### 3.4 IA results

Based on initial analysis on the European sugar market and its potential nexus with the renewable energy sector two opposite trends can be deciphered. On the one hand the lower intervention price for sugar production, as well as the rationalization of the sector broadly is conducive to a reduction in employment, as well as a restructuring of production in the main producing countries. As such the Commission has stated that in a Business as Usual (BaU) scenario, jobs in the sector are expected to drop to less than 15,000 after 2012, a sharp decrease from the over 30,000 individuals employed in the sector in 2004.

However, no impact assessment or analysis of the social impacts of the eligibility of the sugar sector for the energy crop scheme has taken place. It should be expected that the continued availability of support funds for the sugar sector through alternative channels may offset projected job loss and sugar beet processing plant closures.

The size of the sector in the case study is crucial. Its small size renders stakeholder interviews a more central aspect of the analysis than in case studies covering broad market segments with various linkages to other industrial sectors. The sugar sector’s small size, and its relative closed nature in the EU and in relation to world markets render analysis at the firm level more relevant.
Related social impacts in the renewable energy sector, technology research and development will be probed although only second order effects should be expected in areas outside the sugar beet sector due to the small size of the industry.

Job effects and related social impacts (job quality etc) in this sector will tend to be confined to existing jobs. It should be stressed that this case study will take place against the backdrop of a Business as Usual scenario that has been explored by the EU Commission. Thus, available funds for renewable energy must be analyzed as an offsetting mechanism to job losses projected in the BaU scenario.

3.5 Summary of the impacts

<table>
<thead>
<tr>
<th>Effects</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment and labour market:</td>
<td>Limited loss of jobs compared to the projected shrinkage in size of the sugar sector projected by the Commission after the CMO reform of 2006. Continued form of income guarantees to the sugar sector.</td>
</tr>
<tr>
<td>• Impact on labour demand</td>
<td></td>
</tr>
<tr>
<td>• Impact on labour supply</td>
<td></td>
</tr>
<tr>
<td>Impact on the functioning of the labour market</td>
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<tr>
<td>Job quality</td>
<td></td>
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<td>Standards and rights related to job quality</td>
<td></td>
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<tr>
<td>Social inclusion and protection of particular groups</td>
<td></td>
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<tr>
<td>• Access to the labour market</td>
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<tr>
<td>• Access to placement services or services of general economic interest</td>
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<tr>
<td>• Quality of services</td>
<td></td>
</tr>
<tr>
<td>• Access to services</td>
<td></td>
</tr>
<tr>
<td>Public health and safety</td>
<td>Monocropping and loose environmental certification of biofuels may be detrimental to the environment.</td>
</tr>
</tbody>
</table>
4 Energy case study 3: Tighter requirements on Building Efficiency

4.1 Context and policy measure

The direct cost of our inability to use energy efficiently amounts to more than €100 billion annually by 2020 according to COM(2006) 545 final. Realising the savings potential in a sustainable way is thus a key element in Community energy policy.


The Directive is set to promote the improvement of energy performance of buildings with the following requirements to be implemented by the Member States:

1. the general framework for a methodology of calculation of the integrated energy performance of buildings;
2. the application of minimum requirements on the energy performance of new buildings;
3. the application of minimum requirements on the energy performance of large existing buildings that are subject to major renovation;
4. energy performance certification of buildings;
5. regular inspection of boilers and of air-conditioning systems in buildings and in addition an assessment of the heating installation in which the boilers are more than 15 years old;
6. requirements for experts and inspectors for the certification of buildings, the drafting of the accompanying recommendations and the inspection of boilers and air-conditioning systems;
7. consideration of economic, technical and environmental feasibility of alternative energy systems.

Within these general principles and objectives, it is the individual responsibility of each EU Member State to choose measures that correspond best to its particular situation (subsidiarity principle). However, it is clear that collaboration and information exchange can highly facilitate the implementation.

The action plan on energy efficiency specifically included proposals to extend and amend the Energy Performance of Buildings Directive (2002/91/EC) with the aim to increase its effectiveness. The action plan:

- proposes an expanded role for the public sector to demonstrate new technologies and methods (2009);
- proposes lowering significantly the threshold for minimum performance requirements for major renovations (2009);

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137 The deadline for transposing the Energy Performance of Buildings Directive (2002/91/EC) was 1/1/2009. In the beginning of 2009 it was not yet known by when the ‘recasted’ EPB should be transposed by the MS.
proposes minimum performance requirements (kWh/m²) for new and renovated buildings and some components with a target for new buildings to approach the level of passive houses from 2015 (2009);

considers proposing binding requirements to install passive heating and cooling technologies (by the end of 2008);

proposes measures for Member States to provide financing for highly cost effective investments (2009).

Specific policy options to assess

We will examine the social effects of possible new policy options in the EU buildings sector. Although subsections are assessed (e.g. employment, environmental and economic impacts), net outcomes are laid out in the time frame ranging until 2020. The following options have been discussed in stakeholder consultations with the Commission, as well as various studies projecting a possible recasting of the EPBD, a study that ECORYS led in a consortium of partners that included Ecofys and Bio-Intelligence in 2008. The selected options are the following:

• At present, the current EPBD requires that owners of buildings exceeding 1000 m² upgrade the energy performance of the building when they undergo major renovations, meaning that all building over this area fall under the regulatory requirements of the EPBD. We will assume that this threshold is lowered to 500 m², to include all medium sized buildings; out of the EU’s 20708 million square meters of buildings (both residential and commercial), the new threshold would include another 2649 million m² in addition to the 5965 million m² already covered.

• With regard to the energy performance certificates, we will assume that they are made a mandatory part of property advertisement and/or property transactions documents;

• With regard to the energy performance requirements, we will assume that EU-wide low or zero energy or carbon buildings/passive house requirements are set up. This would imply an EU wide definition of passive buildings. This could likely take the form of a national action plan stemming from each country rather than a rigid uniform definition given the widely varying characteristics of the EU building stock and climate.

A working definition of passive housing, as well as working inspections and certifications of buildings are the base of the option to lower the EPBD threshold to 500 m². In other words, without the latter two regulatory thrusts, a 500 m² is of little significance in practical terms given the difficulty to monitor and have benchmarks against which to gauge how energy efficient measures are implemented. Below, when discussing options below, it is implied that certification and definitions are in place at the EU level to better implement a recasted EPBD.

138 The EU Commission states that “major renovation are cases such as those where the total cost of the renovation related to the building shell and/or energy installations such as heating, hot water supply, air-conditioning, ventilation and lighting is higher than 25% of the value of the building, excluding the value of land upon which the building is situated, or those where more than 25% of the building shell undergoes renovation.”

4.2 Identification of impacts

The three measures specified in the policy initiative concerning tighter building requirements will have the following four main impacts:

1) The demand for energy saving building materials (e.g. insulation material) and for the installation of these materials will increase
2) The cost of owning a building will rise
3) Savings in energy costs will lead to increased income effects
4) Positive effects of increased energy efficiency on the environment and public health

We explain each of these impacts below and discuss their induced social effects.

Increased demand for energy saving building materials and for the installation of these materials

Due to the tighter building requirements, the demand for energy saving building materials (e.g. insulation material, special glass, more energy-efficient boilers, etc.) will rise both for renovations as well as for the construction of new buildings. This increased demand will lead to job creation in the sector of building materials. Job creation and demand should be calculated by isolating the policy change (tightened threshold alongside definitions of passive housing and institutional capacity for certification and inspection) as the only variable, in order to exclude other factors such as overall economic situation or technological advances. Although there is restructuring in the building materials sector (e.g. shrinking demand for low-skilled workers, higher demand for high skilled workers), the net outcome is employment growth in the building material sector.

At the same time, these energy saving materials need to be installed in the buildings, leading to more demand in the construction sector. A recasted directive would require an additional bulk of the EU building stock to comply with the EPBD (all buildings with a surface area above 500 m²). Thus upgrades would be undertaken in the building stock with a size between 500 m² and 1000 m² when these buildings undergo major renovations. This increase in demand will bring along new jobs in the construction sector. In this sector, workers are predominantly male and lower educated (manual workers). The construction sector is also occupied by workers from disadvantaged groups (e.g. migrant workers, illegal immigrants). When the installation of these energy saving building materials demands applying new techniques and technologies, retraining of the current construction workforce is needed (job transformation).

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140 This effect will be partly offset by higher costs in the building material sector. The higher demand for energy saving appliances such as insulation material, multi-glazed windows or more energy efficient boilers, heating and cooling systems together with higher investments in new technology and thus more expensive material (especially in the first couple of years) will result in an increased cost of these materials.

141 More energy efficient building material is a more technologically advanced product and requires as such more high-skilled workers (engineers, technicians) for both the development as well as the production process.
Owning a building will become more costly in the future

The tighter building requirements will all induce extra costs to building owners in the future (e.g. required renovations, mandatory energy performance certificates, more expensive materials for new buildings). Assuming that compliance with a new EPBD is mandatory (and implementation is flexible), building owners will be induced into upgrading their building to the energy efficiency standards laid out in the directive, when the building undergoes major renovations. Here we can distinguish between three different groups of building owners.

Firstly, owners who let their building will try to pass on the increased costs to their renters. If this is possible and by how much the rent can increase will depend on the local renting legislation and the price elasticity of the demand for renting. If rents are increased, this will lower the disposable income of persons (or companies) renting the building. This negative income effect can induce negative social effects if the renter cannot afford the rent increase. These persons can eventually be pushed into poverty, especially if they already belong to vulnerable groups (low income earners, migrants, illegal immigrants).

Secondly, building owners who do not let their building need to bear the increased costs of the tighter building requirements themselves. This will diminish their income which can also lead to negative social effects.

A third group of owners are potential building owners. These can be both persons seeking to buy an existing building as well as persons wanting to buy a new building/house. Due to the increased cost price of buildings (existing and new ones) caused by the tighter building requirements, demand to own a building will be reduced. People will postpone investments, keep on renting longer or decide to build smaller buildings due to the increased costs to own a building.

This will lead to a decrease in the demand to construct new buildings and in the demand to buy (and possibly renovate) existing buildings. This drop in demand can have negative job effects in the construction sector and in the real estate sector (job losses). Jobs in the construction sector are less skilled (male, manual workers) while these in the real estate sector are higher skilled. The size of the demand drop depends on the price elasticity of the demand for new and existing buildings.

The net job effect in the construction sector is assumed to be positive as job creation is likely to outweigh job destruction.

Increased income effects

As more buildings comply with the tighter building requirements, more owners and renters will profit from energy savings. This has a positive effect on the income of the building owners or renters. This income effect might have employment or social effects depending on the spending policies of individuals, companies and governments. The total

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142 In the very short term, i.e. in 2010, introducing a lower threshold will not have any decisive additional impact on the total costs savings, since only a small proportion of the buildings stock will by then have undergone major renovation. The impacts of this case are most visible in the medium to long term.
costs savings from lowering the threshold from 1000m² to 500 m² will amount to an additional (average) 4 billion euros per year (compared to those reached through the current EPBD)\(^{143}\).

**Positive environmental and public health effects**

When less energy is used to heat or cool buildings, this has positive environmental effects. Better insulated buildings also bring about positive health effects for occupants through cleaner air circulation, less noise pollution etc.

### 4.3 Selection of appropriate methods

**Long list of techniques**

The jobs effects of the threshold option laid out above relies mainly on data analysis and calculations, namely on models used in studies pertaining to the social impacts in the building sector (EURIMA, EuroAce...). This case study, given its highly technical nature, is mostly quantitative. Stakeholder interviews could complement the analysis, although the extensive data currently available (PRIMES data on the EU building stock) is amply sufficient for analysis. The biggest challenge in this case study will be to establish a benchmarking mechanism to harmonize the building stock of the EU given its high degree of diversity, as well as the differing methodologies for calculating energy efficiency in national building stocks.

The impact of energy efficiency measures on job creation is influenced by various dependencies and specific market situations, tax systems etc. per country. A detailed analysis would demand quite complex models including input – output analyses of all sectors, a task which would be out of the scope of the current assessment.

However, in this study a simplified method has been chosen that neglects smaller effects but still offers a good indication of possible employment related impacts of energy efficiency measures. Thereby the assumed additional turnover from energy efficiency projects is divided by the average turnover per employee in the construction sector and multiplied by a specific factor.

\[
\text{job} \_ \text{creation} = \frac{\text{additional} \_ \text{turnover}}{\text{turnover} \_ \text{per} \_ \text{employee}} \times \text{factor}
\]

This factor depends on the specific labour intensity of the measures carried out. Depending on exact kind of activities, this factor may vary between 0,5 (share of material costs of energy efficiency measures twice as high as the usual mix of construction material and labour costs as presently observed in the building industry of the EU27) and 1,0 (share of material costs according to usual mix). In this case study, the factor was therefore assumed to be 0,7.

\(^{143}\) See, http://www.fedarene.org/events/Fedarene_events/Promenlab/04-C.Hamans-Eurima.pdf
According to EUROSTAT, the average turnover per employee in the construction sector of the EU27 in 2005 was 103 thousand EURO per employee and year. New jobs are created with the additional investments triggered as from 2009 and can be maintained for several years. However, as the investments are decreasing over time (due to the fact that parts of the building stock will be renovated after a certain time) it is reasonable to calculate the average employment effect on basis of the additional investments in 2020. Applying the turnover per employee and the additional investments in 2020 the job effects in the EU27 can be estimated.

The quantity of the jobs created in the sector of energy saving building materials caused by a higher demand depends on the labour intensity of this sector and its subsectors.

The extent to which jobs are transformed in the construction sector could be analysed by conducting expert interviews.

In addition, other qualitative techniques (e.g. focus groups, stakeholders, literature review) should be used to assess the other identified social effects (like how rent increases lead to risk of poverty or the social effects if building owners absorb the higher costs themselves).

**Final selection of technique(s)**

We recommend the above mentioned calculations for assessing the social effects of laid out benchmarking options for tighter requirement for energy efficiency in the buildings sector. PRIMES data on core indicators of the EU-27 building stock (final energy consumption, CO2 emissions, rate of renovation etc) will be relied on. Available literature and data from associations and sector experts will also complement the core analysis.

### 4.4 IA results

**Increased demand for building materials and the installation of these materials**

Higher energy efficiency requirements in buildings in the EU, depending on the stringency of the requirements adopted in a new directive, have the potential to create jobs in the construction sector. The economic benefits for the building industry can be derived from a higher demand for energy saving appliances such as insulation material, multi-glazed windows or more energy efficient boilers, heating and cooling systems. As such the impacts of tighter regulations may extend outside the strict confines of the building sector per se, but may also have effects in the technology sector, tertiary etc

**Owning a building will become more costly**

The magnitude of the rent increase if owners pass though the increase costs to their renters depends on the local renting legislation and the price elasticity of the demand for renting.

If owners absorb the extra costs themselves, their income will decrease depending on the size of the cost increase. The nature and magnitude of the social effects created by the decreased income effect can be investigated using stakeholder consultations or literature reviews in a full impact assessment.
The size of the demand drop in the construction and real estate sector caused by the higher cost price of buildings depends on the price elasticity of the demand for new and existing buildings.

**Increased income effects**
The tighter building requirements lead to savings in energy costs which bring about wide income effects. An indication of this income effect is indicated in COM(2006) 545 final, which estimates the direct cost of our inability to use energy efficiently at more than €100 billion (390 Mtoe at USD 48 / barrel net of taxes) annually by 2020. As mentioned above, total costs savings from lowering the threshold from 1000m² to 500 m² will amount to an additional (average) 4 billion euros per year (compared to those reached through the current EPBD). Job creation in the building sector with a lower threshold would stand at 15,000 by 2020 (additional and maintained jobs) according to an Ecorys/Ecofys projection.

**Positive environmental effects**
Using energy more efficiently has large positive environmental effects. This could be quantified by applying specific environmental models and calculations. CO2 savings from a decreased threshold to 500 m² can be expected to range around 12 Mt/a by 2020\(^\text{144}\).

Better insulated buildings also bring along positive effects on the health of occupants. To get an insight into these effects, expert interviews can be used. Specific quantifications of impacts (e.g. household air quality, ventilation, humidity) is a delicate undertaking and should be based more on qualitative assessment than specific quantification.

\(^\text{144}\) Based on PRIMES data and internal analysis.
## 4.5 Summary of the impacts

### Table 0.7 Social effects table

<table>
<thead>
<tr>
<th>Effects</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment and labour market:</td>
<td>Jobs are created in the sector of building materials and the construction sector due to an increased demand for the installation of energy saving building materials. As the cost of owning a building increases, the demand for (new) buildings can decrease leading to possible job losses in the construction sector and the real estate sector. These job losses will be more than compensated by the job gains in the construction sector described above. If installing energy saving materials demands applying new techniques, retraining of construction workers is needed (job transformation) Job gains in the construction sector mainly involve male workers.</td>
</tr>
<tr>
<td>• Impact on labour demand</td>
<td></td>
</tr>
<tr>
<td>• Impact on labour supply</td>
<td></td>
</tr>
<tr>
<td>Impact on the functioning of the labour market</td>
<td></td>
</tr>
<tr>
<td>Job quality</td>
<td></td>
</tr>
<tr>
<td>Standards and rights related to job quality</td>
<td></td>
</tr>
<tr>
<td>Social inclusion and protection of particular groups</td>
<td>When owners of buildings pass through the extra costs of owning a house onto their tenants by increasing the rent, these tenants experience income loss. Depending on the disposable income of tenants, this can bring along the risk of poverty. This risk will be larger for vulnerable groups (unemployed, low income earners, migrants, illegal immigrants, etc.). At the same time, the policy initiative will result in energy savings for building owners and/or tenants. This will lead to positive income effects for these groups.</td>
</tr>
<tr>
<td>• Access to the labour market</td>
<td></td>
</tr>
<tr>
<td>• Access to placement services or services of general economic interest</td>
<td></td>
</tr>
<tr>
<td>• Access to goods and services</td>
<td></td>
</tr>
<tr>
<td>• (In)equality</td>
<td></td>
</tr>
<tr>
<td>Equality of treatment and opportunities, non-discrimination</td>
<td></td>
</tr>
<tr>
<td>Access to and effects on social protection, health and education systems</td>
<td></td>
</tr>
<tr>
<td>• Quality of services</td>
<td></td>
</tr>
<tr>
<td>• Access to services</td>
<td></td>
</tr>
<tr>
<td>Public health and safety</td>
<td>If less energy is spent on heating and cooling buildings, this has positive environmental effects. Better isolated buildings also bring also positive health effects for the occupants.</td>
</tr>
</tbody>
</table>
5 Fiches long list of energy initiatives
**Name of the policy initiative:** Liberalisation and unbundling of the EU energy market (fiche 1)

**Field:** Energy

**Source:** Commission website

**Type of proposal:** n.a.

**Timing:** Ongoing

**Strategic importance of the proposal within the policy field/DG:** 4

**Description:**
A package of initiatives to reinforce the EU Internal Energy Markets

1. Unbundling of energy production and distribution.
2. Better regulation by strengthening coordination at EU level (ERGEG+ model).
3. Introduction of minimum requirements for supply side market transparency.
4. Realisation of the Priority Interconnection Plan.

**Objective(s):**
Overall objectives are improved competitiveness resulting in lower prices, contributing to the sustainability of energy supply and improved security of supply: Action specific objectives:

1. Improved conditions for competition and stimulation of investment in (transborder) transport capacity.
2. More harmonised regulation and a more EU wide focus of regulation in particular pertaining to transborder capacity and coordination issues.
3. Improved competitiveness by reduced information asymmetry between (large) incumbent providers and (small) new entrants.
4. Improved competitiveness, better security of supply, and a stronger international negotiation position by improved physical integration of the EU energy markets.
5. Improved security of supply.
6. Collection of data.
7. Specification of consumer rights which could be leading for the imposition of Public Service Obligations to suppliers of energy.

**Potential social effects:**

<table>
<thead>
<tr>
<th>Effect</th>
<th>Likelihood</th>
<th>Intensity</th>
<th>Assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss of jobs in the energy sector caused by increased efficiency as a result of stronger competitive pressure.</td>
<td>M</td>
<td>4</td>
<td>Implementation of the policy package according to plan (unbundling, high physical interconnections).</td>
</tr>
<tr>
<td>Growth of jobs in the energy production sector due to increased innovation and investment.</td>
<td>M</td>
<td>3</td>
<td>The actions have the intended effects in the medium and long term (&gt;8 years).</td>
</tr>
<tr>
<td>Job growth induced by increased EU international competitiveness resulting from lower energy prices and improved security of supply.</td>
<td>L</td>
<td>1</td>
<td>The net effect of the interventions on energy prices will be zero or negative. Price volatility may rise in the short to medium term.</td>
</tr>
<tr>
<td>Stronger consumer position.</td>
<td>M</td>
<td>2</td>
<td>The net effect of the interventions on energy prices will be zero or negative. Price volatility may rise in the short to medium term.</td>
</tr>
</tbody>
</table>
Name of the policy initiative: Higher physical power grid inter connectivity (fiche 2)

Field: Energy

Source: Commission website

Type of proposal: several types of intervention

Timing: Ongoing

Strategic importance of the proposal within the policy field/DG: 3

Description:
Under the auspices of ERGEG (European Regulator’s Group for Electricity and Gas), national governments, the EU and private actors, an effort has been made in recent year to improve regulatory harmonisation in wholesale energy markets as well as physical interconnections. Important thrusts include:

• incentives to invest in national and cross-border transit capacity;
• harmonisation of market rules relating to TPA, balancing etc;
• high level minimum standards for infrastructure data disclosure.

With varying degrees of success the ERGEG regional market groups are addressing the following issues:

• interconnection and capacity including congestion and capacity allocation;
• transparency of supply and demand;
• integration and interoperability including balancing for gas and;
• the development of liquid trading points such as energy exchanges and hubs.

In addition the following issues are being addressed:

1. Measures to assist Member States that are strongly dependent on one gas supplier. The Commission will monitor implementation of the recently transposed Gas Security Directive and assess its effectiveness. Projects should be developed to bring gas from new regions, to set up new gas hubs in central Europe and the Baltic countries, to make better use of strategic storage possibilities, and to facilitate the construction of new liquid natural gas terminals. Ways to strengthen existing crisis solidarity mechanisms such as the Energy Correspondents Network and the Gas Co-ordination Group should also be examined. In addition, strategic gas stocks would help the security of gas supply. The considerable new investments in new storage and pipeline capacity that would be needed to ensure a higher degree of security will have to be balanced against the costs this will imply for the consumers.

2. The EU’s strategic oil stocks mechanism, effectively co-ordinated with stocks of other OECD countries through the IEA, has worked well and should be maintained. The manner in which the EU manages its contribution to this mechanism could however be improved. Reporting requirements on Member States should be reinforced, there should be more analysis of the sufficiency of the stocks, and there should be better coordination if the IEA calls for stocks to be released.

The Commission will make an analysis of these issues in 2007.

Objective(s):
Improved solidarity between Member States resulting in improved security of supply for oil, gas and electricity.

Potential social effects:

<table>
<thead>
<tr>
<th>Effect</th>
<th>likelihood</th>
<th>intensity</th>
<th>assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Better physical interconnections, political cooperations and harmonisation of standards</td>
<td>M</td>
<td>1</td>
<td>Implementation of an energy policy for Europe according to plan, and the actions have the intended effects (interconnected power grids, TSO cooperations, strengthening of power regions).</td>
</tr>
<tr>
<td>Job growth induced by increased solidarity among member states</td>
<td>L</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>
The Directive states that implementing measures may be introduced for all EuPs (except transport) that meet the following criteria. The product must:

- Have a sales volume of more than 200,000 units a year within the EU.
- Have a significant environmental impact.
- Present significant potential for reduction in environmental impact without entailing excessive costs.
- Have a wide disparity in the environmental performance of EuPs available on the market with equivalent functionality.

<table>
<thead>
<tr>
<th>Name of the policy initiative: Eco-labelling requirements for boilers (fiche 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field: Energy</td>
</tr>
<tr>
<td>Source: Commission website</td>
</tr>
<tr>
<td>Type of proposal: several types of intervention</td>
</tr>
<tr>
<td>Timing: Ongoing</td>
</tr>
<tr>
<td>Strategic importance of the proposal within the policy field/DG: 3</td>
</tr>
</tbody>
</table>

**Description:**
The Framework Directive for the Eco-design of Energy-using Products (Eco-design directive) was adopted in July 2005. The directive aims to reduce the environmental impact of energy-using products, therefore contributing to sustainable development and security of energy supply within the European Union while at the same time ensuring the free movement of products. The directive covers all energy sources and applies to all energy-using products (EuPs) except vehicles for transport. The directive provides a framework for setting eco-design requirements for EuPs before they can be placed on the market. The directive does not, however, contain any immediate obligations for manufacturers but will enable detailed implementing measures to be brought forward for specific products over time. Compliance will then be based on self-declaration, with the familiar EC marking being the mechanism for identifying compliant products.

**Objective(s):**
Ensure energy efficiency standards for EuPs.

**Potential social effects:**

<table>
<thead>
<tr>
<th>Effect</th>
<th>likelihood</th>
<th>intensity</th>
<th>assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss of jobs in companies / sectors that fail to remain competitive being confronted with the regulatory requirements of labelling.</td>
<td>M</td>
<td>2</td>
<td>Implementation of labelling requirements for boilers backed by enforceable inspections procedures.</td>
</tr>
<tr>
<td>Growth of jobs in companies / sectors that remain competitive taking into account the regulatory requirements of labelling.</td>
<td>M</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

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145 The Directive states that implementing measures may be introduced for all EuPs (except transport) that meet the following criteria. The product must:

- Have a sales volume of more than 200,000 units a year within the EU.
- Have a significant environmental impact.
- Present significant potential for reduction in environmental impact without entailing excessive costs.
- Have a wide disparity in the environmental performance of EuPs available on the market with equivalent functionality.
Name of the policy initiative: Eligibility of sugar beet for the energy crop scheme (fiche 4)

Field: Energy

Source: Commission website

Type of proposal: several types of intervention

Timing: Ongoing

Strategic importance of the proposal within the policy field/DG: 5

Description:

Introduced during the CAP reform of 2003, the energy crop scheme (ECS) is a new aid supporting the development of energy crops. The ECS was initially intended to replace the non-food-set-aside scheme (NFSA) which is a CAP transfer scheme paying farmers producing non food crops or leaving a parcel of arable land in fallow. However, the ECS was voted by the European Council to be implemented alongside the NFSA. Both schemes hence now run in parallel. Covering a fixed area of two million hectares including the new member states (it was 1.5 million before 2007), an aid of €45 per hectare is available under the new ECS. If fully implemented, this program will cost the EU €90 million. Genetically modified crops will be authorized to be grown for energy purposes.

The ECS runs in the backdrop of the Biofuels Directive 2003/30/EC and the broader initiatives aimed at promoting renewable energy sources. Under article 36 of regulation 318/2006, non-quota sugar beet is eligible for the ‘energy crop scheme’. Article 13 of regulation 318/2006 lists bioethanol as an industrial sugar and by that extent excludes it from production quotas. This thus places sugar beets used for bioethanol as a class C sugar in the EU. The energy crop scheme will provide sugar producers who produce C quota the opportunity to claim €45 per hectare for over quota production within the ceiling of 2 million hectares set aside for the energy crop scheme.

Objective(s):

Promoting biofuels in the context of reaching the 20% renewable energy targets by 2020.

Potential social effects:

<table>
<thead>
<tr>
<th>effect</th>
<th>likelihood</th>
<th>intensity</th>
<th>assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth of jobs in companies / sectors that benefit from the energy crop scheme.</td>
<td>H</td>
<td>3</td>
<td>Implementation of an energy policy for Europe according to plan, and the actions have the intended effects.</td>
</tr>
<tr>
<td>Growth of job caused by new and additional economic activity fostered by the measures.</td>
<td>M</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Averted loss of jobs thanks to the energy crop scheme in the sugar beet sector.</td>
<td>H</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>
Name of the policy initiative: Inclusion of aviation as a sector covered by EU ETS (fiche 5)

Field: Energy

Source: Commission website

Type of proposal: several types of intervention

Timing: Ongoing

Strategic importance of the proposal within the policy field/DG: 5

Description:

The EU Emissions Trading Scheme (ETS) was launched on 1 January 2005, initiating the world's first multi-country emissions trading system. There are two phases in the EU ETS: 2005-2007 (Phase I) and 2008-2012 (Phase II which overlaps with the first commitment stage of the Kyoto agreements). 6.57 billion tonnes of CO2 were allocated under National Allocation Plans during the first phase of the EU ETS.

Directive 2003/87/EC is the pillar of the EU ETS. The directive gives rights to the holder of one EU Allowance (EUA) to emit one tonne of CO2. The number of EUAs allocated to each emitter (i.e the number of tonnes of CO2 to be authorized for emissions) in the scheme are set out in National Allocation Plans prepared by the Member States and approved by the European Commission. However, there is currently an initiative to centralize the allocation of EUAs under one authority. Five sectors are covered by the Directive: Power and Heat Generation, Oil Refineries, Metals, Pulp & Paper, and, Energy Intensive Industry.

Close to 12,000 energy and industrial plants across the EU 27 are covered by the scheme which applies not only to utilities and industrials who are de facto covered by the directive, but also many major financial institutions who play an important role as liquidity providers and intermediates. These include investment banks, hedge funds, trading houses and brokerages.

Plans to revise the EU ETS may include the aviation industry as a sector subject to emissions caps. Although responsible for less than 3% of total CO2 emissions, labour and economic consequences may notable, especially in a context of high crude prices.

Objective(s):

Reduce CO2 emission through market based mechanisms. Broadening the scope of market instruments to curb GHG emissions.

Potential social effects:

<table>
<thead>
<tr>
<th>Effect</th>
<th>likelihood</th>
<th>intensity</th>
<th>assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss of jobs in companies / sectors that fail to remain competitive being confronted with the economic effects of the measures.</td>
<td>H</td>
<td>2</td>
<td>Inclusion of the aviation sector in the EU ETS.</td>
</tr>
<tr>
<td>Growth of jobs in companies / sectors that remain competitive taking into account the economic effects of the measures.</td>
<td>M</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Growth of job from new and additional economic activity fostered by the measures.</td>
<td>M</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>
Name of the policy initiative: Development and implementation of European Strategic Energy Technology Plan (fiche 6)

Field: Energy

Source: Commission website

Type of proposal: several types of intervention

Timing: Ongoing

Strategic importance of the proposal within the policy field/DG: 4

Description:
Development and implementation of a European Strategic Energy Technology Plan:

1. More efficient buildings, appliances, equipment, industrial processes and transport systems;
2. Developing biofuels, in particular second generation biofuels, to become fully competitive alternatives to hydrocarbons;
3. Getting large scale offshore wind competitive within the short term and paving the way towards a competitive European offshore supergrid;
4. Getting photovoltaic electricity competitive to harness solar energy;
5. Using fuel cell and hydrogen technologies to exploit their benefits in decentralised generation and transport;
6. Sustainable coal and gas technologies, particularly carbon capture and storage;
7. The EU should maintain its technological lead in fourth generation fission nuclear reactors and future fusion technology to boost the competitiveness, safety and security of nuclear electricity, as well as reduce the level of waste.

Objective(s):
1. By 2020, the 20% renewable target a reality by a sharp increase in the share of lower cost renewables (including the roll-out of off-shore wind and 2nd generation biofuels).
2. By 2030, electricity and heat are increasingly produced from low carbon sources and extensive near-zero emission fossil fuel power plants with CO2 capture and storage. Transport increasingly adapts to using 2nd generation biofuels and hydrogen fuel cells.
3. For 2050 and beyond, the switch to low carbon in the European energy system is completed, with an overall European energy mix that could include large shares for renewables, sustainable coal and gas, sustainable hydrogen, and, for those member states that want, Generation IV fission power and fusion energy.

Potential social effects:

<table>
<thead>
<tr>
<th>Effect</th>
<th>likelihood</th>
<th>intensity</th>
<th>Assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss of jobs in companies / sectors that fail to remain competitive being confronted with the economic effects of the measures.</td>
<td>L</td>
<td>1</td>
<td>Implementation of an energy policy for Europe according to plan, and the actions have the intended effects.</td>
</tr>
<tr>
<td>Growth of jobs in companies / sectors that remain competitive taking into account the economic effects of the measures.</td>
<td>L</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Growth of job from new and additional economic activity fostered by the measures.</td>
<td>M</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>
**Name of the policy initiative:** Introducing mandatory energy efficiency requirements in buildings (fiche 7)

**Field:** Energy

**Source:** Commission website

**Type of proposal:** several types of intervention

**Timing:** Ongoing

**Strategic importance of the proposal within the policy field/DG:** 5

**Description:**


The Directive is set to promote the improvement of energy performance of buildings with the following requirements to be implemented by the Member States:

8. the general framework for a methodology of calculation of the integrated energy performance of buildings;
9. the application of minimum requirements on the energy performance of new buildings;
10. the application of minimum requirements on the energy performance of large existing buildings that are subject to major renovation;
11. energy performance certification of buildings;
12. regular inspection of boilers and of air-conditioning systems in buildings and in addition an assessment of the heating installation in which the boilers are more than 15 years old;
13. requirements for experts and inspectors for the certification of buildings, the drafting of the accompanying recommendations and the inspection of boilers and air-conditioning systems;
14. consideration of economic, technical and environmental feasibility of alternative energy systems.

Introducing mandatory energy efficiency requirement, especially beyond certain threshold of buildings types may have important employment effects, assuming that non-compliance is verifiable and subject to sanctions.

**Objective(s):**

Improve energy efficiency in buildings through regulatory requirements.

**Potential social effects:**

<table>
<thead>
<tr>
<th>Effect</th>
<th>likelihood</th>
<th>intensity</th>
<th>assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss of jobs in construction/buildings sector due to regulatory requirement that render certain market segments uncompetitive.</td>
<td>H</td>
<td>2</td>
<td>A recasting of the EPBD directive will include mandatory energy efficiency requirement for a certain segment of the EU building stock.</td>
</tr>
<tr>
<td>Job creation due to stimulation of economic activity to comply with energy efficiency requirements.</td>
<td>M/H</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>
Name of the policy initiative: The future of nuclear (fiche 8)

<table>
<thead>
<tr>
<th>Field:</th>
<th>Energy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source:</td>
<td>Commission website</td>
</tr>
<tr>
<td>Type of proposal:</td>
<td>several types of intervention</td>
</tr>
<tr>
<td>Timing:</td>
<td>Ongoing</td>
</tr>
<tr>
<td>Strategic importance of the proposal within the policy field/DG:</td>
<td>4</td>
</tr>
</tbody>
</table>

**Description:**
In line with the Nuclear Illustrative Programme the role of nuclear energy will be reviewed. Considering the advantages and taking into account issues regarding waste. In order to make progress on this the Commission proposes to establish an EU High Level Group on Nuclear Safety and Security with the mandate of progressively developing common understanding and, eventually, additional European rules, on nuclear security and safety.

**Objective(s):**
Review nuclear energy policies

**Potential social effects:**

<table>
<thead>
<tr>
<th>Effect</th>
<th>likelihood</th>
<th>intensity</th>
<th>assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth of job from new and additional economic activity fostered by the measures.</td>
<td>M</td>
<td>2</td>
<td>Implementation of an energy policy for Europe according to plan, and the actions have the intended effects.</td>
</tr>
<tr>
<td>Job growth induced by increased EU international competitiveness resulting from lower energy prices and improved security of supply.</td>
<td>M</td>
<td>1</td>
<td>Implementation of an energy policy for Europe according to plan, and the actions have the intended effects.</td>
</tr>
</tbody>
</table>
Name of the policy initiative: International energy cooperation and agreements (fiche 9)

Field: Energy

Source: Commission website

Type of proposal: several types of intervention

Timing: Ongoing

Strategic importance of the proposal within the policy field/DG: 3

Description:
Development of effective energy relations with international partners, based on mutual trust, cooperation and interdependence. This means relations broadened in geographical scope, and deepened in nature on the basis of agreements with substantial energy provisions.

Objective(s):
The priorities to be pursued by an effective external EU Energy Policy during the next three years are:

1. The EC and its Member States are driving the design of international agreements, including the future of the Energy Charter Treaty and the post-2012 climate regime.
2. EU energy relations with its neighbours are fundamental to European security and stability. The EU should aim to build up a wide network of countries around the EU, acting on the basis of shared rules or principles derived from the EU energy policy.
3. To enhance relations with external energy suppliers, further developing comprehensive partnerships based on mutual interest, transparency, predictability and reciprocity.
4. To continue to develop closer energy relations with other major consumers, in particular through IEA and G8 or through intensified bilateral cooperation.
5. Develop the use of financial instruments, via enhanced co-operation with the EIB and EBRD and the establishment of a Neighbourhood Investment Fund, to enhance the EU’s energy security.
6. To improve the conditions for investments in international projects, working for example to secure a clearly defined and transparent legal framework and appointing European coordinators to represent EU interests in key international projects.
7. Promote non proliferation, nuclear safety and security, in particular through a reinforced cooperation with the International Atomic Energy Agency.
8. A comprehensive Africa-Europe Energy partnership creating a high level dialogue focussed on security of supply, technology transfer in renewable energy, sustainable exploitation of resources, transparency of energy markets and respect for good governance.
9. An international agreement on energy efficiency.

Potential social effects:

<table>
<thead>
<tr>
<th>Effect</th>
<th>likelihood</th>
<th>intensity</th>
<th>assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job growth induced by increased EU international competitiveness resulting from lower energy prices and improved security of supply.</td>
<td>L</td>
<td>1</td>
<td>Implementation of an energy policy for Europe according to plan, and the actions have the intended effects.</td>
</tr>
</tbody>
</table>
### Name of the policy initiative: Effective monitoring and reporting (fiche 10)

**Field:** Energy  
**Source:** Commission website  
**Type of proposal:** several types of intervention  
**Timing:** Ongoing  
**Strategic importance of the proposal within the policy field/DG:** 3  

**Description:**  

**Objective(s):**  
Assisting that Member States energy mix evolution contributes to the EU's energy goals.

**Potential social effects:**

<table>
<thead>
<tr>
<th>Effect</th>
<th>likelihood</th>
<th>intensity</th>
<th>assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Growth of job from new and additional economic activity fostered by the measures.</td>
<td>L</td>
<td>2</td>
<td>Implementation of an energy policy for Europe according to plan, and the actions have the intended effects.</td>
</tr>
</tbody>
</table>
Annex 4: Case studies in the field of trade policy

1 Scoping and identification of policy initiatives in the field of trade policy

1.1 Broad policy context and approach to select case studies

Trade Policy and the Lisbon Agenda
In its Communication “Global Europe, Competing in the World. A Contribution to the EU’s Growth and Jobs Strategy” the Commission sets out the main directions of its overall trade policy in line with the Lisbon Strategy goals, clearly linking it to internal issues and policies related to growth and jobs. The overriding principles of EU trade policy are achieving global trade liberalisation through the multilateral trading system, as the Commission believes that open markets are a powerful stimulus to competition, innovation and productivity growth.

By pursuing a high road to competitiveness and subsequently engaging the tools necessary to achieve such a high road the Commission is looking to implement a trade policy that contributes to growth and jobs. There is a need to adapt the tools of EU trade policy to new challenges, engage new partners, ensure Europe remains open to the world and ensure other markets stay open to the EU (i.e. to EU exporters and investors).

Links between trade (policy) and social impacts
The links between trade (policy) and employment and other social indicators have been described extensively in the literature.

“At its most basic level, the measurement of the effects of trade liberalisation on welfare generally involves comparison of welfare levels before and after liberalisation, and after all factors of production have found their new long-run occupations. However, such calculations need to be adjusted for possible losses during the transition to the new long-run situation, in particular if this transition takes a long time. That is, proper welfare calculus needs to allow for social adjustment costs.” (Francois, 2004)

Measuring the ex-ante impacts can be done both quantitatively and qualitatively, although it must be noted that particularly where these indicators fall outside the realm of economic analysis, quantitative analysis is very limited. Generally speaking, the more straightforward employment effects (increase/decrease in employment, division of labour in terms of high skilled and low skilled and across sectors) are captured more easily in analyses than social issues such as equality, poverty, working conditions, etc. The latter
are often assessed qualitatively. In all cases, it is important when assessing labour and social impacts of trade policy to establish the transfer mechanisms through which labour is affected.

Our approach to the identification of a long list of initiatives and subsequent gathering of information for a preliminary assessment of these initiatives consisted of:
1) Screening of relevant information on the website of DG Trade, regarding recent and planned policy initiatives; e.g. annual work programme, trade policy strategy, information on specific initiatives and issues, etc.
2) Screening of relevant literature on the links between trade policy and employment / social issues. Here we relied in part on our own studies on the sustainable development impacts of FTAs between the EU and a number of developing countries.
3) Short interviews with DG Trade officials for a first general overview of recent and future policy initiatives and further contacts related to specific issues and initiatives. These interviews have been spread across divisions and units within DG Trade.

These sources provided enough information to produce a long list of initiatives and make a preliminary selection of initiatives for the short list.

Documents consulted included:
- Selected papers presented at seminar on EC Trade Defence Instruments on July 11, 2006 in Brussels
- State of Play of work on trade restrictions affecting access to raw materials. 17 December 2007 (DG Trade)

146 Although it must be noted that there are some micro-level models that are better able to capture social issues quantitatively, such as standard simulation for measuring social inclusion impacts at household level. These models are not directly related to trade issues per se, but could be used in addition to the more general trade impact models.
• TWN Report by Martin Khor, Geneva 12 July 2003. “Services talks move slowly, developing countries skeptical on further liberalisation.”
• Reflection on the consultation process on trade defence instruments, statement by Mr. A. van Hoven of UNICE (renamed BusinessEurope in 2007), Brussels, 11 July 2006.

Issues and limitations to our approach
EU trade policy is one of the few areas where the Commission has a mandate to negotiate agreements and develop policies on behalf of the Member States. This is done by the Directorate General for Trade. Although DG Trade does engage in some drafting of legislation, the bulk of its activities and initiatives relate to developing and maintaining trade relations with third countries and connected to this are trade negotiations. The very nature of its activities thus has a number of implications for this study.

• First of all, it is not always possible to obtain information on the precise format and details of initiatives, as the Commission – understandably – does not want to give away its negotiating position ex ante.
• Secondly, as the final format of an initiative is dependent on the negotiating dynamics themselves, the initiatives are not carved in stone. Many of the initiatives included in this study should therefore be considered as strategies in the Commission’s development of external trade relations.
• Thirdly, before the negotiating dynamics commences it is important to have a mutual agreement and willingness by the EU and a potential (strategic) trade partner to engage in trade negotiations. A ‘wish-list’ of strategic partners from the EU side does not always materialise (e.g. due to political or other difficulties).

In addition it must be noted that DG Trade conducts regular impact assessments of its policies and initiatives. The methods and tools with which these impact assessments are performed are also in constant development and particularly in some specific areas are not yet fully developed – notably the assessment of costs and impacts of (the removal of) non-tariff barriers (NTBs), or a quantitative assessment of Mode 4 migration flows.

All in all this implies that both policy initiatives and the methods for assessing their impacts are, so to say, in flux.

Finally, it must be noted that it is not always clear at which level the initiatives are best assessed. For instance addressing NTBs involves addressing a number of specific NTBs and in turn is an integral part of the development of new generation trade agreements. This poses some challenges as to the impact assessments of initiatives: at the highest levels they are complex and at the lowest levels actual impacts may be very small. For instance trying to assess the impacts of the overall strategy to remove NTBs is complex
and time consuming. However the impact of the removal of one specific NTB, for example in the Ukraine, may be negligible in practice.

1.2 Long list of initiatives

**Overall policy framework**

Europe’s trade policy initiatives all fall under an overall trade policy strategy that is perhaps best summarised by the EU Commissioner for Trade, Peter Mandelson:

“Economic strength at home is essential to a strong European voice in the world. Trade is indispensable to creating and sustaining this strength. A changing global economy needs a new trade policy. An open market is not just a lowered tariff – it is a market in which European companies get a fair deal, with freedom to compete and legal protection when they do. Europe’s policy needs to be clear: rejection of protectionism at home; activism in opening markets abroad”

Since 1995, global trade has progressively liberalised through successive GATT\(^{147}\) and World Trade Organisation (WTO) trade negotiation rounds. The EU has been a strong proponent of this trade liberalisation. Trade liberalisation in these contexts has concerned mostly tariffs and quota, which as a consequence have been reduced and are becoming less important as barriers to trade.\(^{148}\)

“While the GATT and the WTO have been remarkably effective in removing tariff barriers to trade, and moved into areas such as the policing of sanitary restrictions on trade, there are still many areas where WTO rules need to be developed and evolve in order to address non-tariff barriers.

The nature of barriers to trade in the global economy has changed. Where market access once focused on border tariffs, non-tariff and other “behind the border” barriers in the markets of our trading partners are increasingly important. These new types of barriers are more complicated, technically challenging and time consuming to detect, analyse and remove.” (website DG Trade: [http://ec.europa.eu/trade/issues/sectoral/mk_access/global_europe_en.htm](http://ec.europa.eu/trade/issues/sectoral/mk_access/global_europe_en.htm))

Besides these direct trade related issues, increasingly – and in part as a consequence of public and civil society voices – it is argued that trade and trade policy should be considered in relation to sustainable development issues. This includes for instance initiatives linking trade to development, to environmental issues and to social issues such as migration.

Below we briefly elaborate on these different trade (related) policies. Subsequently we will present, in the form of fiches in annex, individual initiatives that may be considered for the continuation of this study.

\(^{147}\) General Agreement on Tariffs and Trade

\(^{148}\) The major exceptions to this being agriculture and the textiles and clothing industries
Global Europe Initiative (Trade and Competitiveness)

In what follows, we describe the competitiveness agenda for EU trade policy with a series of linked initiatives:

- The EU is committed to the WTO, and the multilateral trading system is its first priority. It will work to resume and conclude negotiations in the Doha Development Agenda.

- In parallel, the Commission will propose a new generation of bilateral free trade agreements with key partners to build on WTO rules by tackling issues which are not ready for multilateral discussion and by preparing the ground for the next level of multilateral liberalisation. The two key economic criteria for new FTAs should be market potential - particularly the emerging markets of Asia – and agreement with neighbouring countries (e.g. Commonwealth of Independent States (CIS) and Mediterranean countries falling under the MEDA programme of the EC).

- China will be the single greatest challenge for EU Trade policy in the years to come. The European Commission set out a comprehensive new strategy on China at the end of October 2006, which is still an ongoing process.

- The European Commission will launch the next stage of its global strategy for protecting intellectual property rights, with tougher benchmarks for cracking down on counterfeiting and new cooperation with key partners.

- The European Commission will renew its Market Access Strategy to focus on non-tariff barriers and ask EU industry to identify key sectors and priority problems. The European Commission will also produce a new strategy for ensuring better access for EU companies to major public procurement markets.

- Reform of the EU’s anti-dumping and other trade defence instruments. Many European companies now have global supply chains and invest and produce outside of the EU market. The EU economic interests are global and highly complex. There is a need to ensure that trade defence instruments and EU use of them take account of these new realities.

The prime avenue for the EU to address market access obstacles is by encouraging third countries to negotiate substantial commitments with the EU. To the extent that the EU’s trading partners are prepared to do this, there is no need for any supplementary action.

The initiatives linked with this competitiveness agenda for EU trade policy are enumerated below. For the 10 most relevant initiatives, reference is made to the fiche in annex where it is further elaborated.

1. **Addressing and removing NTBs to EU external trade and investments**, such as:
   - b) Intellectual Property Rights (*fiche*1)
   - c) Government Procurement (*fiche*2)
   - d) Trade in services & Foreign Direct Investment (FDI) restrictions (*fiche*3)
   - e) Standards
   - f) Technical Barriers to Trade (TBT) and Sanitary and Phytosanitary Standards (SPS)
   - g) Regulations
   - h) Subsidies & State Aid
   - i) Export taxes
   - j) Rules of Origin
2. **Trade Defence instruments (fiche 4)**

Trade defence instruments include anti-dumping and anti-subsidy measures as well as safeguard mechanisms. Although the economic justification for trade defence measures remains controversial amongst economists, the basic argument runs that international markets are imperfectly competitive and there is no international competition authority to regulate anti-competitive behaviour between countries. Safeguard measures are not directly related to unfair behaviour, but can be implemented in case shifts in volume of trade are so swift and on such a scale that producers have too little time to adjust. Safeguard measures are of a temporary nature.

Ongoing globalisation has resulted in a changing structure of the EU economy. Many firms are now producing goods outside the EU, or dependent on imports for strategic inputs. In other words, they are increasingly operating in international or even global production and value chains. Therefore the Commission has engaged in a re-assessment of its use of trade defence instruments. An evaluation and public consultation process formed an integral part of this re-assessment.

3. **Ensuring access to raw materials and energy sources (fiche 5)**

Although the EU is still a substantial industrial producer, it has become increasingly dependent on imports for its raw material inputs and energy supply. This makes EU producers rather vulnerable to shocks in supply and prices of these inputs. The current situation is rather illustrative for this vulnerability. With industrialisation and booming demand for raw materials in China, India, Russia and Brazil, raw materials are becoming scarce and thus more expensive, while some production countries are placing restrictions on export of these raw materials or on possibilities for FDI in e.g. the minerals sectors.

4. **Engaging new partners: New generation of FTAs and bilateral agreements**

   a) FTAs with Asia (Korea, India, ASEAN)
   b) Partnership and Cooperation Agreement with China
   c) FTA with Mercosur
   d) FTA with Ukraine
   e) Common Economic Space with Russia (possibly an FTA)
   f) Transatlantic Partnership with the US (through the Transatlantic Economic Council (TEC))
   g) Future FTAs with CIS countries (fiche 6)
   h) Future FTAs with MEDA countries (fiche 6)

These partnerships will include – next to tariff and quota issues – most of the issues under points one to three.

For most of these FTAs and partnerships, impact assessments have been or are being conducted already (a through e). In the context of the Transatlantic Partnership (TEC) with the US, DG Trade is currently conducting a large study on NTBs in trade between the EU and US, to ultimately assess costs to business and possible impacts of removal.
Trade and Development

5. *Economic Partnership Agreements with African Caribbean Pacific countries (ACP)*
   Negotiations for such partnerships are ongoing. A large scale TSIA for these agreements is currently taking place.

6. *Communication 'Economic Development and regional integration in the ACPs’*
   The Communication is planned for 2008 and will look at how best to foster economic development and regional integration in the ACPs (including trade) with a strong focus on private sector development. The objective will be to develop a strategy to ensure complementarity of actions and instruments existing at EU and Member States level. This initiative does not relate only to trade (policy).

   Considering the fact that this initiative is only partially related to trade, it has not been included in a fiche.

7. *Everything But Arms (EBA) Agreement with Least Developed Countries (LDCs) – sugar and rice (fiche7)*
   Although the EBA agreement is currently in place for all 49 LDCs, two sectors are still excluded: sugar and rice. These will be included in 2009, implying sugar and rice from LDCs will have duty and quota free access to EU markets.

8. *Communication 'The EU, Africa and China: Towards trilateral dialogue and cooperation on Africa’s peace, stability and sustainable development'*
   This initiative is not necessarily directly related to trade, but includes trade related aspects. In addition, it links to the Commission policy of trying to ensure access to raw materials and energy sources.

   Being a dialogue facility, assessing its impacts will be extremely difficult. Considering the fact that this initiative is only partly related to trade, it has not been included in a fiche.

Trade and Migration

9. *Proposal for a directive on the procedures regulating the entry into, the temporary stay and residence of Intra-Corporate Transferees (ICT) and on the conditions of entry and residence of remunerated trainees.*
   As concerns the ICT, this scheme will set out common procedures to regulate the entry into, temporary stay and residence in the EU of ICT, in those fields which are not covered by the GATS\(^{149}\) negotiations. These procedures will therefore be without prejudice to international commitments entered into by the EC or by the EC and its Member States. As concerns the remunerated trainees, its main objectives concern the development of the circular migration policy, also with the view of supporting the EC development policy: allowing third-country nationals to acquire skills and knowledge through a period of training in Europe can in fact be a way to encourage brain circulation, beneficial for both the sending and receiving country.

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\(^{149}\) General Agreement on Trade in Services
10. Future commitments on Mode-4 trade in services under WTO or bilateral agreements (fiche8)
This initiative has in fact not been voiced as such yet. However, with an ageing population and increasing shortages of skilled workers, in the future such commitments could become more likely. It takes the previous initiative (under 9) a step further.

In addition, developing countries are increasingly demanding for concessions in Mode-4 from developed countries in return for concessions on their part in the other modes – of particular importance for the EU strategy of further liberalisation of trade and investment.

Trade and Environment
11. Implementation of the Emissions Trading Scheme (ETS)
Currently there are still many industries exempt from the scheme. The Commission is looking into the possibilities of introducing the scheme without these exemptions. However, the implementation of the ETS is not directly related to trade policy. This only becomes an issue when considering the effects of the ETS on the external competitiveness of EU industry.

12. Development of policy to mitigate negative impacts stemming from loss of level playing field for industries subjected to ETS (fiche9)
It is assumed that introduction of the ETS will create additional costs for energy intensive and/or relatively polluting EU industries, which their competitors outside the EU do not face. Therefore, initiatives are being considered to ensure that EU industries will not suffer from such additional costs. These initiatives should ensure a level playing field for EU producers.

Based on this list of initiatives, 9 fiches are presented in annex, with a screening of these initiatives in terms of the likelihood and intensity of their potential social impacts.

1.3 Suggested short list of initiatives

Based on the selection criteria listed in our inception report – strategic importance of the initiative and potentially significant employment/social impact – a preliminary selection of initiatives has been made that may serve as case studies for the next steps of the study. Table 0.1 presents an overview of how the different initiatives scored on our selection criteria and thus provides a justification for our preliminary selection.
Table 0.1  Scoring on screening criteria of 9 initiatives in the field of trade policy

<table>
<thead>
<tr>
<th>Initiative</th>
<th>Strategic importance</th>
<th>Potential social impact</th>
<th>Selection</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1-5)</td>
<td>likelihood (H/M/L)</td>
<td>intensity (1-5)</td>
</tr>
<tr>
<td>1. Intellectual Property Rights</td>
<td>5</td>
<td>M</td>
<td>3</td>
</tr>
<tr>
<td>2. Government Procurement</td>
<td>5</td>
<td>H</td>
<td>3</td>
</tr>
<tr>
<td>3. Trade in services (modes 1-3)</td>
<td>5</td>
<td>H</td>
<td>4</td>
</tr>
<tr>
<td>4. Trade Defence Instrument</td>
<td>5</td>
<td>M</td>
<td>3</td>
</tr>
<tr>
<td>5. Access to Raw Materials</td>
<td>4</td>
<td>M</td>
<td>3</td>
</tr>
<tr>
<td>6. FTA with CIS/MEDA countries*</td>
<td>4</td>
<td>M</td>
<td>2</td>
</tr>
<tr>
<td>7. EBA Agreement - sugar and rice</td>
<td>3</td>
<td>M</td>
<td>2</td>
</tr>
<tr>
<td>8. GATS Mode-4 Trade liberalisation</td>
<td>4</td>
<td>H</td>
<td>4</td>
</tr>
<tr>
<td>9. Mitigation ETS effects</td>
<td>4</td>
<td>M</td>
<td>3</td>
</tr>
</tbody>
</table>

* This may potentially include Georgia, Armenia, Azerbaijan, Morocco and Tunisia.

It must be noted that in terms of social impacts, the main links are with changes in employment, often differentiated by sectors. This in turn may lead to effects being more pronounced in certain regions or for certain groups (e.g. low skilled workers). In terms of the social indicators related to e.g. access and effects on social protection, health, social security and educational systems impacts in the EU will be relatively small as the EU in most cases has much higher standards in these areas than most of its trading partners. Often therefore, potential social impacts in these areas would likely be more pronounced in third countries as opposed to the EU.

In addition, in many cases trade policies may have a relatively small net effect on employment in the EU, especially if one takes into account the role of other factors, such as technological change (another important aspect of globalisation). Moreover, policies may not so much lead to employment creation, but rather to retaining employment within the EU, in other words preventing job losses as opposed to creating new jobs. Indeed, these are to be considered employment impacts as well.

Selected initiatives:
During a meeting with the steering group a final selection of cases was made for the next steps of the study. Given the complexity of some trade initiatives, it was agreed that 3 policy initiatives will be worked out in more detail:
- Intellectual Property Rights (fiche 1)
- Trade in services (Modes 1-3) (fiche 3)
- GATS Mode-4 Trade liberalisation (fiche 8)

The main motivation for the selection of the first case has been the type of measure (and the question which type of techniques can be used to assess the social impacts of this type of initiative). The 2 other cases were selected because they are of high strategic importance for EU trade policy and social impacts are expected to be important.
2 Trade case study 1: Liberalisation of Services (Modes 1-3)

2.1 Context and policy measure

General and policy context: Trade in services
With respect to services trade, we need to be careful to distinguish the different types in which services are produced and traded. This section focuses on trade in services for modes one to three and thus covers cross-border trade (Mode 1), consumption abroad (Mode 2) and (to a more limited extent) commercial presence (Mode 3). Mode 4, movement of natural persons will be addressed in the next case study. Table 0.2 below, we present a short overview of the four modes.

<table>
<thead>
<tr>
<th>WTO jargon</th>
<th>Official definition</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mode 1</td>
<td>Cross-border supply</td>
<td>Services that are supplied from one country to another. An example of this is certain distribution and communication services such as courier services, or business services, such as consultancy.</td>
</tr>
<tr>
<td>Mode 2</td>
<td>Consumption abroad</td>
<td>Making use of a service in another country. A typical example of this is tourism, which is a service often provided to foreign visitors entering a country with the specific purpose of consuming these services.</td>
</tr>
<tr>
<td>Mode 3</td>
<td>Commercial presence</td>
<td>To provide services in another country, a foreign company sets up subsidiaries or branches. For instances when a bank sets up overseas branches to serve its customers in this country directly. This mode is obviously closely related to FDI and its liberalisation is therefore dependent on investment regulations and conditions.</td>
</tr>
<tr>
<td>Mode 4</td>
<td>Presence of natural persons</td>
<td>Persons travelling from their own country, to supply services in another country. Often this is related to mode 3, when e.g. a foreign affiliate has some of its home country professionals working locally to provide services. In other cases it relates more closely to labour migration, with e.g. foreign construction workers being employed to work on building projects. This always involves temporary movement of natural persons.</td>
</tr>
</tbody>
</table>

Source: www.wto.org

In this chapter we will consider modes 1-3 in more detail. Due to the very specific nature of Mode-4 liberalisation, this is dealt with separately in the following chapter.

When considering trade and investments worldwide, we note that services are of the utmost importance globally as well as for individual economies; an ever larger share of countries’ and the world’s GDP comes from services value added, as illustrated in Figure 0.1.
However, as becomes clear from Table 0.3 and Table 0.4, cross-border trade in services (commercial, non-government) is still much smaller than cross-border trade in commodities. If we add the information from Figure 0.1 to this, indicating the levels of value added for services sectors per country, we can conclude that a large part – though not all – of the services sector involves non-tradable goods (e.g. haircuts, domestic legal services).  

Table 0.3 Total merchandise trade, US dollar at current prices (millions)

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exports</td>
<td>7,582,000</td>
<td>9,218,000</td>
<td>10,482,000</td>
<td>12,108,000</td>
<td>13,898,000</td>
</tr>
<tr>
<td>Imports</td>
<td>7,861,000</td>
<td>9,565,000</td>
<td>10,853,000</td>
<td>12,427,000</td>
<td>14,211,000</td>
</tr>
</tbody>
</table>

Table 0.4 Trade in commercial services, US dollar at current prices (millions)

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exports</td>
<td>1,833,000</td>
<td>2,209,900</td>
<td>2,469,400</td>
<td>2,765,700</td>
<td>3,257,300</td>
</tr>
<tr>
<td>Imports</td>
<td>1,782,900</td>
<td>2,123,300</td>
<td>2,361,300</td>
<td>2,627,000</td>
<td>3,059,100</td>
</tr>
</tbody>
</table>

When looking at employment, the services sector constitutes the bulk of jobs in an average economy, part of which is tradable and part non-tradable. The high GDP share of services versus the relatively low ratio of trade in services to goods shows that a large share of services is not traded. Despite this fact, even non-traded services are affected by internationalisation of services trade. This is partly because of effects through other

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150 Non tradable relates to the place of consumption of the good, i.e. if this cannot be separated from its production. Some services are tradable though, while there are also services sectors that are partially tradable, such as construction services, where the actual building activity (thus not including the production of the materials) can not be separated from the location of its final consumption. However, with pre-fab building at least part of the construction service can be done elsewhere and delivered to the final destination.
factors of production (e.g. labour mobility) and partly because of general equilibrium effects; i.e. if more resources go to tradable services, less resources are available for the non-traded sectors (and vice versa).

**Description of the strategic policy initiative: Liberalisation of trade in services in EU Trade Agreements**

**Rationale: the potential gains from services trade liberalisation**

The potential dynamic gains and benefits from services liberalisation are already widely accepted in academic circles and increasingly so in policy circles. In the EU, the Internal Market is all but established for trade in goods, and the focus has now shifted to services, as is exemplified in the EU Services Directive and e.g. the opening up of the EU postal market. Although liberalisation of services is a highly controversial subject from a social policy and redistributive perspective, there are clear benefits of liberalisation of services from an economic perspective. Within the EU, these benefits can be seen in terms of efficiency gains, higher quality levels, and stronger competitiveness of the sector and sub-sectors vis-à-vis external services providers. Through liberalisation of e.g. the postal market, the EU hopes to:

- get national monopolies to open up to competition in order to make postal services cheaper, faster, more efficient and more innovative – similarly to what was done in the telecom and energy sectors;
- harmonise performance across member states;
- improve the quality of cross-border services,

In addition the services sector is inextricably connected to other sectors, and the manufacturing sector in particular. Thus besides the services sector’s direct contribution to GDP and employment, an efficient service infrastructure also has many important indirect benefits of an economic nature. For instance:

- Producers and exporters of textiles, cars or computers will not be competitive without access to efficient banking, insurance, accountancy, telecom or transport systems;
- Access to world class (i.e. EU) services helps exporters and producers in developing countries to capitalise on their economic strength;
- Development and liberalisation of the services sector leads to consumer savings, faster innovation and technology transfer; and
- It contributes to long term investment.\(^{151}\)

Indeed, the balance of social impacts is more mixed, as structural adjustments bring with them short term adjustment pressures for certain groups or regions and not all consumers are likely to benefit equally. This will be addressed in more detailed when discussing the impacts of services liberalisation below. The common reasoning to counter these concerns is that retaining and strengthening competitiveness will also benefit employment and some social aspects issues as well, if not in the short-term then at least in the medium to longer term.

A similar – economic - reasoning holds for international liberalisation of services trade. While trade in goods has already been substantially liberalised at a global scale through successive GATTs and WTO rounds, trade in services remains highly protected. The

\(^{151}\) [http://ec.europa.eu/trade/issues/sectoral/services/index_en.htm](http://ec.europa.eu/trade/issues/sectoral/services/index_en.htm)
potential gains for the EU are deemed to be all the higher as it is particularly in the services sectors that EU companies have a competitive advantage. Given this competitive advantage in combination with the fact that the services sector is now the most important sector in the EU economy in terms of value added and employment, there is increasing recognition of the potential for growth through liberalisation of this trade. As several authors have argued, the economic gains from services trade liberalisation may in fact be much more substantial than the gains from further liberalisation of trade in goods, for several reasons. For instance Anderson & Winters (2008) point out that barriers to trade in services are likely to be more costly as they involve not just cross-border trade (mode 1), but also on supply by establishment (mode 3) and the movement of services suppliers (mode 4).

In recognition of the strategic importance of the services sector and the fact that major barriers to trade in services still exist, the EC has therefore embarked on an ambitious policy of seeking services trade liberalisation in both its multilateral and bilateral trade negotiations and agreements.

Achieving services trade liberalisation through EU trade agreements
In its Communication “Global Europe, Competing in the World. A Contribution to the EU’s Growth and Jobs Strategy” the Commission sets out the main directions of its overall trade policy in line with the Lisbon Strategy goals, clearly linking it to internal issues and policies related to growth and jobs. The overriding principles of EU trade policy are achieving global trade liberalisation through the multilateral trading system, as the Commission believes that open markets are a powerful stimulus to competition, innovation and productivity growth.

As such the core of the EU trade policy is formed by its market access strategy. The prime avenue for the EU to address market access obstacles is by encouraging third countries to negotiate substantial commitments with the EU. Therefore the Commission is proposing a new generation of bilateral free trade agreements with key partners to build on WTO rules by tackling issues which are not ready for multilateral discussion and by preparing the ground for the next level of multilateral liberalisation. These new generation trade agreements are ambitious both in depth and coverage implying they explicitly incorporate trade in services and investment, behind the border issues and so called Non-Tariff Barriers and require reciprocity of trade partners, while taking into account development issues.

Specific issues addressed in new generation trade agreement with regards to services liberalisation
Due to the specific nature of services, barriers to trade in services tend to be so-called non-tariff barriers (NTBs), rather than tariff restrictions. NTBs can be defined as:

‘all non-price and non-quantity restrictions on trade in goods, services and investment, at federal and state level. This includes border measures (customs procedures, etc.) as well as behind-the-border measures flowing from domestic laws, regulations and practices.’
In its recent trade agreements, the EU therefore explicitly tries to address these issues, e.g. by including commitments with regard to customs procedures, legal and regulatory approximation and harmonisation, certification and standards, etc.

In addition, as most services trade by EU services providers takes place through investments, addressing investment conditions in potential investment locations has become increasingly important as part of the EU’s overall trade policy strategy and as part of its services liberalisation strategy in particular. This implies that the EU seeks to include commitments with respect to the investment conditions and opening up of certain sectors to foreign investments under its recent trade agreements.

Finally, where issues cannot be addressed through trade policy directly, as they concern domestic policy issues, the EU tries to flank its trade agreements by setting up policy dialogues with its trading partners to achieve deeper cooperation on such issues, and by providing assistance where deemed necessary for developing countries in particular.

In all its recent trade agreements and trade negotiations, with the negotiations for an EU-India and an EU-ASEAN FTA as the latest examples, a focus on trade in services is present (an overview of the EU’s main trade agreements or agreements with a substantial trade component is included in annex A).

It must be noted that the services sector comprises a wide array of sub-sectors, each with their own specific characteristics. Annex B provides an overview of these sub-sectors. The scope and impacts of liberalisation will likely differ per sub-sector. For instance, in public and semi-public services sub-sectors, commitments will likely be less than in sub-sectors that clearly fall outside the public domain. Impacts will also differ between these two broad types of sub-sectors, while impacts on traded and non-traded services will also differ.

An important issue and source of heated debate relates to the question of the provision of universal services and measures that countries can use in order to ensure that the provision of universal service remains financially viable in a competitive market. It is often argued that the more competitive the market, the larger the downward pressure on quality of services and quality of work – and there are examples of such practice. The extent to which such a ‘race to the bottom’ materialises depends on other factors as well, such as the institutional structure to protect the quality of work, transparency of standards and knowledge and information regarding these standards (e.g. these are all but absent in rural India). Agreements on standards in the ILO – and maybe even WTO – can possibly prevent the worst excesses and - if combined with productivity effects – lead to higher wages, revenues and incomes without giving in on standards. But the confidence that this positive spiral takes place in practice is evidently not uniform.

Due to the broad scope of the services sector, in order to conduct an impact assessment it is necessary to consider impacts at sub-sector level. Moreover, although commitments are made at sector / sub-sector level, services typically involve activities, rather than clearly delineated products. An analysis of impacts should therefore look at activities, rather than the sector as a whole.
**Additional assumptions for the case study**

Taking into consideration the broad outlines of the services liberalisation initiative as presented above, we will focus on the social aspects related to the *FTA between the EU and Ukraine and the FTA between the EU and India* in more detail, assessing possible social impacts of substantial commitments with regards to *liberalisation of specific services sub-sectors*. Specifically we will consider the liberalisation of other business services trade in the context of the FTA between the EU and India in more detail.

We further assume the following with regard to the actual ‘modes’ of liberalisation:
- Reciprocal opening of services sectors to foreign investments;
- Limited or far-reaching harmonisation and approximation of legal frameworks and standards;
- National labour and employment standards are upheld.

### 2.2 Identification of impacts

In general liberalisation of trade in services leads to a more vibrant economy and is expected to have positive overall employment effects, in spite of increased competition or technological advances. This is a long-run effect while in the short-run adjustment costs will occur. The policy initiative of liberalisation of trade in services will lead to increased competition in the services sector with a focus on more competition between the EU on the one hand and non-EU countries on the other hand.

The liberalisation of trade in services will have several main direct impacts, mostly but not exclusively of an economic nature:\footnote{These are the expected impacts. They, however, do assume proper implementation and enforcement of the trade agreement and de facto liberalisation of the sector(s). In reality this sometimes proves challenging.}:

1. **Lower prices for services**
2. **Better quality of services provided**
3. **Higher inflows/outflows of FDI**
4. **Spill-over effects into the rest of the economy**
5. **Consumer effects**
6. **Employment effects**
7. **Effects on core labour standards**

We now discuss each of these impacts and their induced social effects.

**Lower prices for services**

The size of the decrease in services prices will depend on the type of services provided and the market structure of the (sub)sector in question. The lowering of prices for services will have two main effects on which we elaborate below.
Reduced operating margins for service providers

If prices drop, service providers receive less revenue and their operating margins decline. This happens both to EU service providers and non-EU service providers that offer services which are liberalised. At the same time, the increased competition can lead to market share loss for (incumbent) companies.

Lower operating margins force service providers to rationalize resources. This can have negative effects on job quality aspects in the services sector (e.g. lower remuneration, reduction on training and employment) as well as on standards and rights related to job quality (e.g. job security, worker involvement).

Reduced operating margins also induce service providers to make efficiency improvements in their processes. These improvements can consist of lowering the labour intensity of the process, leading to job losses. However, these possible job losses will be offset by bigger job gains described below.

Increased demand for services

Depending on the price elasticity of the demand for services, the lower price of services leads to an increased demand for services by customers (individuals and companies). Higher demand for services has a positive employment effect creating new jobs in the service sector. How much jobs are created depends on the labour intensity of the service in question and on the mode of liberalisation (more job creation potential in mode 3 compared to mode 1 and 2).

Jobs are created both in the EU as well as outside the EU. Thus on a world scale, more jobs are created as a result of services trade liberalisation. At the same time, jobs in the services sector can shift from the EU to non-EU countries or the other way around. It is therefore not clear if the net employment effect for the EU workforce in the services sector will be positive or negative. This depends on the competitive position of EU companies after the liberalisation.

At sector level, services liberalisation leads to a tendency towards comparative advantage production. This means – depending on local cost, technology, scale economy and wage conditions, some service sectors may benefit greatly from services liberalisation, while others may suffer. This is a relative picture that can be solved both quantitatively and fine tuned by additional qualitative analysis.

The geographical distribution of employment depends on the initial (primary) impacts of trade in services liberalisation on services sectors and where they are located. For example, if trade in transport services leads to a strengthening of a Dutch comparative advantage in logistics, centres like Rotterdam, Venlo and Amsterdam South-East will benefit, which increases their ‘magnet’ effect on workers. This CCA method is called ‘mapping’. Poverty effects at regional level can also be analysed this way and are likely to occur (depending on the policy in either direction).

For educational distribution of employment the impacts again – like in the geographical distribution – depend on the combination of what overall sectors gain and lose and how they are structured in terms of high- or low-skilled workers. There is a big difference in
also the qualitative aspects of work – depend on the sector effects that occur, i.e. the change in the production structure induced by policy. Human capital effects, gender equality, health and safety at work, inclusion and access to the labour market are all qualitative effects on which liberalisation of trade in services will have an effect. For example, if increased competition and subsequent (possible) consolidation in the banking sector leads to the application of international health and safety standards for personnel working in (formerly) domestic banks, positive health effects may be the result.

**Better quality of services**
In general, liberalisation also brings about better quality of the services provided due to the increased competition. This has positive effects for the clients and can also enhance the demand for these high-quality services. This higher demand leads again to job creation in the services sector.

A possible negative effect of better quality services is the threat of lower working conditions for the employees in the services sector. Higher quality might demand longer working hours and can lead to more stress on the job. In this way, job quality in the services sector can be negatively affected. The danger for this is the largest in non-EU countries were labour market legislations are underdeveloped or their enforcement is rather weak.

**Higher inflows/outflows of FDI**
With increased levels of incoming or outgoing FDI, returns are generated. Ideally, FDI leads to positive employment effects, inflow of technology and higher levels of productivity and therefore higher wages in the receiving country. For the sending country, FDI leads to higher returns on investment than domestic investments because of marginal productivity of capital in a labour-intensive country.

However, we need to see whether outsourcing does not lead to lower labour standards because of competitive pressures (which is one of the reasons for outsourcing by firms in the first place) and to simple profit extraction back to company headquarters. Also the potential gains in FDI for India and the EU with respect to other business services depends on the success with which nontariff barriers are reduced and on the way the financial flows benefit the Indian people – if the structure is such that a few benefit, but the majority not, effects of FDI for the economy overall are expected to be minimal with little effects on wages. However, if FDI is ‘pro-poor’, it may be a strong vehicle in India to alleviate poverty through higher (low-skilled) wages.

**Spill-over effects into the rest of the economy**
One of the important characteristics of service sectors is the fact they are (often) an enabling industry. This means that lots of other sectors (e.g. in manufacturing or agriculture) depend on the service sectors. In case the FTA between the EU and India leads to harmonisation of NTBs (nontariff barriers) and lower barriers to cross-border trade in services, quality of these services can go up and prices down. This will have a major effect on other sectors in the economy, for example trade or construction. The
latter, potentially, because architectural costs drop, lowering costs for design of new buildings – from which the economy as a whole and consumers in particular may profit. It is this link to other sectors, that makes the service sectors so important – both for manufacturing and for agriculture. Therefore, the employment effects may be much larger due to lower costs in other sectors as a consequence of lower costs in the other business services sector. Regarding the quality of work and decent work standards, there may be some pressure on wages and job security because of more competition. The effects on gender equality are not clear, but seem to hinge on the way part-time work is institutionalised in the economies – for India, employment in general is needed and gender issues relate especially to sectors such as textiles & clothing. For the EU, however, more competition in the other business service sector may facilitate gender equality.

Consumer effects
With the current financial crisis (Fall 2008 and onwards) it is difficult to say much about the consumer effects of an FTA with India. One aspect that needs to be kept in mind is that increased competition may have two opposing effects. On the one hand, if competition increases, prices will drop, making access to these services cheaper for consumers. Increased competition, if properly embedded institutionally, can also lead to higher quality of services – although this is by no means always the case or an automatic process.

Consumer protection and consumer information need to be watched closely. For competitive reasons, firms may want to use privacy data and also, if international players are in the game, how do consumers get access to good and needed information to base their decisions upon. The need for transparent and clear information increases with foreign competition, a fact that must not be underestimated. This also relates to information for policy makers in local and regional administrations.

Employment effects
A direct effect of increased competition and opening up of services markets may be closure of inefficient companies and restructuring of others, leading to job losses. However, such impacts must be considered carefully since on the one hand this may be a short term effect, while longer term new entrants and stronger companies experiencing stronger demand may in fact create jobs again, while on the other hand the jobs that remain and are created tend to be more sustainable. This is illustrated for instance by the experience of the UK’s Royal Mail, which, after liberalisation of the postal market in the UK, went from being a loss-making operator to a profit-making one in a period of three years. In addition, despite a loss of 55,000 workers, it was argued that Royal Mail’s workforce was now “happier, better paid and more efficient.” The job losses are likely to have in part been absorbed by competitors. It is of course not possible to extrapolate this result to other Member States – and one should bear in mind that the UK’s Royal Mail restructuring took place against the background of a growing economy which created considerable employment – allowing for more ready absorption of workers made redundant.
What should also be kept in mind is the extent to which services liberalisation can be solely attributed for restructuring and job losses in a sector. In some cases it could be argued that it merely enhances restructuring trends and consequent job losses that have been taking place for years as a result of technological developments (e.g. electronic substitution in the postal sector) and that flexible liberalisation is the only way to create sustainable jobs.

Employment impacts may also stem from easier access for FDI in external markets. This may encourage further outsourcing of activities by EU services providers or of services activities by EU producers (e.g. back office administrative activities, customer support centres, etc.). The effect may be a shifting of jobs overseas. This aspect has been frequently mentioned in the literature, although the actual proof that this leads to net job losses is not unequivocal. Again, here it is important to take a longer term perspective and consider dynamic effects, next to short term effects. International sourcing is not a zero sum game, and the largest importers of e.g. IT services and business process outsourcing also show the biggest trade surpluses in commercial services (UK and US). By focusing on the activities in which they have the biggest competitive advantage, in the longer term, jobs may in fact be created through trade increases.

**Effects on core labour standards:**

It has been argued that increased competition could put downward pressure on the quality of employment and increase the risk of social dumping through the exploitation of low-cost labour. In other words, a race to the bottom, which will eventually lead to lowering of core labour standards. Although this may seem a compelling argument, the empirical proof of this is not always easy to obtain, at least where it concerns core labour standards in the EU. Despite ongoing liberalisation of trade in goods, core labour standards in the EU have in fact improved, as indicated by the monitoring reports of the Lisbon Agenda. This should not be much different for the services sectors, although specific issues should be taken into consideration and monitored more closely. As services tend to be more easily traded informally, labour abuses may also be hidden. Those sub-sectors more prone to this (e.g. domestic aides) should thus be monitored more closely.

In general, trade agreements should be linked to national policy and assure the upholding of core labour standards. As the evidence of the new member states illustrates, the opening up of markets including service sectors has had a positive effect on labour, health and safety standards in these countries and the same is likely to hold true for trade agreements of the EU with external partners such as India and the Ukraine. Again, the truth can be nuanced.

### 2.3 Selection of appropriate methods

**Long list of techniques**

Various methods and approaches, being put to their best use, can be applied in order to analyse the impact of liberalisation of trade in services. One main limitation, however, comes up immediately: the lack of financial data, especially bilateral FDI data at sector level, to look at mode three trade in services (commercial presence).
Here we focus on two quantitative trade and employment related methodologies: gravity modelling and computable general equilibrium modelling, followed by more qualitative approaches. But before doing so, we need to acknowledge that there is yet another quantitative method available, namely simulations (micro-models), which are not directly related to trade policy analysis, but can be combined with such an analysis. Households provide a typical level of analysis for such simulations, allowing for the use of household budget surveys. In a recent study for the Commission on the impacts of an FTA between the EU and India, ECORYS conducted such an analysis in addition to the CGE modelling simulations and Gravity modelling (see below) to assess the impacts of the FTA on poverty reduction at household level. It must be noted that the methodology for doing so is quite developed but given the huge data requirements and lack thereof it is as of yet for most countries not possible to relate poverty reductions (or increases) back directly to impacts of liberalisation at sector level (i.e. distinguishing clearly between the impacts of trade in services and trade in goods liberalisation). What we can say is that as a consequence of the envisaged FTA, prices change (i.e. the cost of living) as well as wages (for high- and low-skilled workers). This means that with knowledge of changes in the cost of living and knowledge of changes in real income, poverty effects can be derived at the aggregate (household) level. For a more detailed description of this analysis, see annex B to this chapter.

Gravity modelling

Trade in services liberalisation can take place through tariff or non-tariff barrier liberalisation (reductions). Tariff liberalisations on trade in services can be estimated directly from gravity work through including the tariff rates as explanatory variables in a gravity regression. The impact of trade in services liberalisation through reduction of non-tariff barriers, however, is much more complex, though the focus of future trade policy and agreements (e.g. through regulatory cooperation). Examples of reductions in NTBs that facilitate trade in services are certification and diploma issues. The expected impacts of NTB liberalisation in services can be grouped into two broad sets of effects (Laird 1997).153 Some barriers, such as explicit quotas, generate quota rents. In this the rent is reflected in per-unit economic rent generated by a binding quota. This is because a binding quota effectively limits the supply of the good in the importing market, resulting in a price mark-up and giving economic rents to those suppliers who have access to the market (i.e. who are able to export inside the quota). This applies, for example, to agricultural quotas and some Tariff Rate Quota (TRQs). Other barrier reductions do not generate rents for importers, but nonetheless raise the costs of trade. This includes regulatory barriers, customs clearance delays, or anything else that adds time and cost to cross-border transactions. In both cases, the price impact of NTBs can be presented by a trade-cost equivalent (TCE). In the case of quotas with rents, the TCE can be used to estimate underlying rents. Otherwise, it still provides a measure of the direct impact on the cost of cross-border transactions (trade in services, modes one and two).

Because NTBs are an important feature of the policy landscape, estimates of the TCE of these quantitative constraints are critical inputs to the assessment of the welfare impact of trade policy. This includes any assessment of potential bilateral trade in services agreements. NTBs also influence the trade in services patterns at the core of the raft of recent econometric work based on the gravity model (Anderson and van Wincoop 2003).\textsuperscript{154} The literature on TCEs has largely followed one of three approaches. One is an econometrically based approach involving estimating the price effects using residual-based methods (Leamer 1990, Harrigan 1993)\textsuperscript{155}. A second approach involves examination of auction prices (Mlachila and Yang 2004\textsuperscript{156}; Andriamananjara et al 2005)\textsuperscript{157}. A third approach involves direct price comparisons (Cahill and Legg 1990; Tyers and Anderson 1992)\textsuperscript{158}. The auction and price comparison method potentially underestimates the full impact of quotas since auction prices may be depressed if the importing agents have sufficient market power. For this reason, the approach that can be best proposed, building on the standard gravity model with bilateral and multilateral resistance terms (Anderson and van Wincoop 2003), involves econometrically based estimates.

Specifically for services, gravity analysis builds on Francois, Hoekman, and Woertz (2007)\textsuperscript{159}, exploiting the bilateral detail of services trade data as much as possible. Because of limits to FDI data, more problems identifying bilateral elements of FDI restrictions can be expected. This could be partly compensated for by taking advantage of the OECD's regulatory database in gravity estimates to quantify the impact of variation in regulatory regime on apparent trade openness in services.

Sectoral gravity work yields information of the impact of trade in services liberalisation through tariffs or non-tariff barriers (e.g. regulatory differentiation) on growth – and if one wants – employment. These macro-economic outcomes form the basis for further analyses that we present qualitatively below.

**Computable General Equilibrium modelling**

There are many Computable General Equilibrium models (CGE models) that look at the impacts of trade policy in services for trade as well as social impacts. If provided with sufficient data on NTBs in trade in services and flows of FDI, preferably at sector levels, a lot of social impacts can be studied. However, as indicated above, data availability is a major concern. Currently, only the US and more recently the EU (through Eurostat) gather Foreign Affiliate Statistics (FATS) at more disaggregated level. For non-EU and non-US analyses, and often also for EU and US work, due to the need for bilateral panel


data at bilateral country level, not much can be said on modes three and four in a strict quantitative setting, neither in CGE nor in gravity.

One of the models that can be used, and is adapted to analysing trade policy effects (e.g. liberalisation in trade in services) is based on the Francois, van Meijl, and van Tongeren model (FMT 2005) and is implemented in GEMPACK – a software package designed for solving large applied general equilibrium models. The full model code for Francois, Van Meijl and Van Tongeren can be downloaded from the internet. This model builds on Francois (2000), and versions have recently been employed for studies for the EC of WTO negotiations, and prospective EU-Korea and EU-MERCOSUR FTAs, as well as a large-scale Asian Development Bank assessment of regional integration schemes in Asia (Francois and Wignarajan 2007). The model is solved as an explicit non-linear system of equations, through techniques described by Harrison and Pearson (1994). The model is a standard multi-region computable general equilibrium (CGE) model, with important features related to the structure of competition (as described by Francois and Roland-Holst 1997). Imperfect competition features are described in detail in Francois (1998).

Most recent data is captured in the GTAP version 7 dataset issued in the pre-release version in 2007 (data benchmarked to 2004). The database is the best and most up-to-date source of internally consistent data on production, consumption and international trade in goods and services, with social impacts included, by country and sector. For more information, please refer to Dimaran and McDougall (2007).

The GTAP data on protection incorporates the Macmaps data set, which includes a set of ad valorem equivalents (AVEs) of border protection across the world. The source information concerns various instruments, such as specific tariffs, mixed tariffs and quotas, which cannot be directly compared or summed. In order to be of use in a CGE model, these have been converted into an AVE per sector, per country and per trading partner. The CGE database also includes detailed information on input-output, trade and final demand structures for the whole world this year.

CGE has the great advantage that it allows to incorporate important changes to the trade policy environment that have happened or will happen. Therefore, before conducting any policy experiments, it is advised to run a pre-experiment to define a correct and realistic baseline. This is important since the focus of the analysis is on the marginal effects of a change in trade policy related to trade in services.

161 The internet site is: http://www4ide.org/francois/data.htm/.
The general conceptual structure of a regional economy in the model is as follows. Within each region, firms produce output, employing land, labour, capital, and natural resources and combining these with intermediate inputs. Firm output is purchased by consumers, government, the investment sector, and by other firms. Firm output can also be sold for export. Land is only employed in the agricultural sectors, while capital and labour (both skilled and unskilled) are mobile between all production sectors. Capital is fully mobile within regions. All demand sources combine imports with domestic goods to produce a composite good. Investment effects are also included, along the lines of Francois, McDonald, and Nordstrom (1996).166

Taxes are included in the theory of the model at several levels. Trade policy instruments are represented as import or export taxes/subsidies. This includes applied most-favoured nation (MFN) tariffs, antidumping duties, countervailing duties, price undertakings, export quotas, and other trade restrictions. The major exception is service-sector trading costs, which are discussed in the next section. The full set of tariff vectors are based on WTO tariff schedules, combined with possible Doha and regional initiatives as specified by the Commission during this project, augmented with data on trade preferences.

International trade is modelled as a process that explicitly involves trading costs, which include both trade and transportation services. These trading costs reflect the transaction costs involved in international trade, as well as the physical activity of transportation itself. Those trading costs related to international movement of goods and related logistic services are met by composite services purchased from a global trade services sector, where the composite "international trade services" activity is produced as a Cobb-Douglas composite of regional exports of trade and transport service exports. Trade-cost margins are based on reconciled f.o.b. and c.i.f. trade data, as reported in version 7.0 of the GTAP dataset.

A second form of trade costs is known in the literature as frictional trading costs. These are implemented to reflect NTB-generated TCEs that do not involve rents. They represent real resource costs associated with producing a good for sale in an export market instead of the domestic market. Conceptually, we will implement a linear transformation technology between domestic and export goods/services. For services barriers in addition work is done on the estimation of a gravity equation using panel data by Francois, Hoekman, and Woerz (2007).167

Based on this model, it is possible to run various trade in services liberalisation scenarios and look at the overall and sector-specific social impacts. Scenario definition depends on the context of the study, the countries and regions involved and the aims and level of ambition of the negotiating parties. In order to capture correctly the social effects of trade in services liberalisation of a specific policy initiative, the initiative needs to be clearly specified and diverging from a clearly defined base scenario (most likely future development).

CGE yields overall information for both short-run and long-run on:
- Employment creation and diversion;
- Wage effects (for high- and low-skilled workers split out);

CGE yields sector specific information for both short-run and long-run on:
- Employment effects at sector level;
- Wage effects at sector level (for high- and low-skilled workers);
- Migration pressures between sectors;

This answers part of the indicator question that needs to be addressed. In order to make the next step – the indirect social impacts of trade policy, we apply the ‘causal chain analysis’ (CCA) tool.

Derived from CGE, it is also interesting to look at mode three in services trade, commercial presence. As mentioned before, there are not sufficient data available to look at mode three directly, because of the Swiss cheese character of the FDI datasets that are available. However, a study by François and Fillat (2008) shows that trade and FDI are substitutes to each other, meaning that more trade also leads to more FDI and affiliate sales. If this is true, through projections of mode one and two effects, we can approximate mode three sales impacts and thus derive social impacts as well. This is the frontline of ongoing academic research.

Causal Chain Analysis
Gravity and CGE provide two quantitative tools for analysis of trade policy and its effects on trade in services. In order to analyse social impacts further, CCA is very useful. This is especially true, as CGE modelling does not take into account all distributional effects and can only to a limited extent take social indicators into account (even though at present a lot of attention is given to enlarging the models to incorporate these aspects better). Particularly the more qualitative aspects of employment and other social issues can not be covered through CGE modelling.

Rather, the (general) quantitative model should be seen as a first step that provides direction and guidance of likely effects in a (general equilibrium) setting as described above. From there, through logical arguing and combining data and other available information, we can deduce other likely social impacts.

CCA basically follows similar principles as logical framework analysis (LFA), in that it establishes through logical reasoning the main cause and effect relations. In contrast to LFA this is not just done as an ex-ante exercise. Once the logical cause and effect relations have been identified a number of techniques can subsequently be applied to ‘test’ these relations, for instance by comparing them with statistical or panel data, consulting the literature on ex-post evaluations of similar policy measures, inviting expert opinions and engaging stakeholder consultations.

168 More recently there is an increasing interest in such ex-post evaluations, which is mostly due to the fact that they are only just now becoming possible. For instance, the EU-Mexico FTA has been in place for almost 8 years now and since this is the first new generation FTA, results are only just now becoming ‘measurable.’
Final selection of technique(s)

Given the data limitations for services trade, and limitations to the models themselves, CGE and gravity techniques still are far from adequate to adequately assess social impacts. Additional analysis at household level can be added (see annex B) but these still present a rather aggregate picture. Data limitations mean a substantial number of assumptions must still be made, which should always be thoroughly checked empirically and through sensitivity analysis.

There is a great deal of ongoing work both in terms of data collection and development of the models, which should improve the quality of analysis in the future. However, until this is the case – and this may be a while – a combination of techniques is always advised, combining quantitative (CGE and Gravity modelling) with qualitative (empirical) analysis. This kind of work is currently undertaken in the context of a number of recent studies commissioned by DG Trade concerning trade sustainability impact analyses and the work on NTBs.

Even if CGE models are better apt at including services trade and predicting quantitative impacts, secondary social impacts – quality of work issues, equity and gender issues, etc. – will remain hard to quantify.

Combining findings of the different techniques with for instance sector and regional data and statistics (if available) and with expert opinions allows for a more comprehensive analysis through (logical) causal chain analysis. The specific techniques applied may vary per case. For instance if impacts are substantial in specific sectors, stakeholder and expert opinions on the sector may be opted for, and if impacts may differ per group, group interviews or debates may be organised.

2.4 IA results

Quantification is only possible for the variables that can directly be modelled through CGE or gravity, i.e. skilled and unskilled employment (not unemployment) and prices or variables that are closely linked. Other quantification can be derived if data are available on for instance regional shares of output and employment. Cost benefit analyses may be used to identify and possibly quantify how costs and benefits may be spread across different groups. An example is the question on the impact of the EU-India FTA on poverty in India. At first glance this is not a question that can be answered directly, because the measure for poverty is not presented in the CGE model. However, if we make good use of the variables that are in the model, we can definitely say more.

Below we present three short examples of how CGE, Gravity and CCA work combined to arrive at an impact assessment of specific FTA between the EU and third countries. The last example (Example 3) relates to the link between the FTA and (rural) poverty question raised above):
Example 1: Geographical employment impacts of the EU-Ukraine FTA
Geographical social and employment implications depend on the way industries are clustered in a country or region. From CGE or gravity we know that as a consequence of trade policy measures on trade in services, some service sectors are expected to create new jobs while others are expected to shed them. For example, an FTA between the EU and Ukraine has the potential impact that heavy industries and other business services will grow significantly and agriculture will decline relatively – also in employment terms. Since most heavy industry is in the (predominantly Russian speaking) east- and south-eastern part of Ukraine, most ‘other business services’ are in the urban areas and most agriculture is in the (predominantly Ukrainian speaking) west of Ukraine the social effects, including wage effects, migration pressures, quality of life implications are expected to be significantly negative for the countryside, especially in the west of the country, and positive for the east and urban areas.

Example 2: Trade in services between the EU and India
It is very difficult to generate direct human capital effects of liberalisation of trade in services. However, through CCA, we can deduce that the predicted growth of e.g. the communication services sector in India, will have important social effects. First of all, employment overall in the sector will increase and eventually an upward effects on wages may be the consequence. Second, investments increase and with these, new technologies and facilities will increase as well. Third, growth in these types of service sectors may have impacts on gender equality on the Indian labour market, especially since female labour tends to be dominant in specific services sectors. And, fourth, there may be significant impacts on educational levels and human capital formation due to the growth in these services sectors. These outcomes do come indirectly from the link between the CGE or gravity (or other) quantitative methodologies employed and additional data and sector specific characteristics available that give insights on the likely impacts.

Example 3: The impact of the FTA on poverty
An important question when assessing the impact of an FTA on developing and emerging economies such as India is how it will impact poverty. Often it is argued that this kind of FTAs has no effect on the poor in a country like India, for two main reasons:
- The FTA affects mostly sectors that are applicable to urban populations – and for India this means not the majority of the Indian population;
- The FTA may affect the agricultural sector in India a little (and thus 600 mln people) but when taking into account underemployment and hidden unemployment, the effects will be negligible.

These statements can be analysed. We have information from the CGE model on wage effects for high- and low-skilled workers. Arguably, the estimates will provide an upper limit on wage rises because of the hidden unemployment – an assessment that comes from sector experts that analyse the CGE data. We also have information on the price levels for goods (and services) in the Indian economy, so we know roughly what happens with the cost of living. If we combine these outcomes with available data (from another micro-CGE model) from household surveys, telling us about family incomes, wage effects and spending patterns, we can draw conclusions on the effects of the FTA. This happens through changes in prices and wages and through effects via manufacturing/services sectors on the agricultural economy, taking into account expert opinions on what
the CGE model is missing (i.e. defining upper limits of certain effects). The effect of the FTA EU-India is moderately pro-poor for rural agricultural India.

Reducing poverty in India, increasing income and wages there and promoting equality ultimately will positively affect the EU as well, as demand for its products increase and migration pressures ease (see also annex B).
### 2.5 Summary of the impacts

#### Table 0.5 Social impacts table

<table>
<thead>
<tr>
<th>Effects</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment and labour market:</td>
<td>Increased demand for services due to lowering of prices (and increase in quality) will lead to job creation in the service sector. Depending on the impact of liberalization on different service subsectors, the geographical, educational and gender distribution of the new jobs created will be different. Some job losses might occur due to companies losing market share and trying to cope with declining operating margins due to lower prices. These job losses will be offset by the larger job gains mentioned above.</td>
</tr>
<tr>
<td>• Impact on labour demand</td>
<td></td>
</tr>
<tr>
<td>• Impact on labour supply</td>
<td></td>
</tr>
<tr>
<td>• Impact on the functioning of the labour market</td>
<td></td>
</tr>
<tr>
<td>Job quality</td>
<td>Job quality might be negatively affected if the quality of services is forced to improve (e.g. long working hours, more work pressure). These negative effects are more likely to occur in non-EU countries.</td>
</tr>
<tr>
<td>Standards and rights related to job quality</td>
<td>Standards and rights related to job quality might be negatively affected if the quality of services is forced to improve (e.g. less job security).</td>
</tr>
<tr>
<td>• Social inclusion and protection of particular groups</td>
<td></td>
</tr>
<tr>
<td>• Access to the labour market</td>
<td></td>
</tr>
<tr>
<td>• Access to placement services or services of general economic interest</td>
<td></td>
</tr>
<tr>
<td>• Access to goods and services</td>
<td></td>
</tr>
<tr>
<td>• (In)equality</td>
<td></td>
</tr>
<tr>
<td>Equality of treatment and opportunities, non-discrimination</td>
<td></td>
</tr>
<tr>
<td>• Access to and effects on social protection, health and education systems</td>
<td></td>
</tr>
<tr>
<td>• Quality of services</td>
<td></td>
</tr>
<tr>
<td>• Access to services</td>
<td></td>
</tr>
<tr>
<td>Public health and safety</td>
<td></td>
</tr>
</tbody>
</table>
### 2.6 Annex A: Overview of Main EU Trade Agreements

<table>
<thead>
<tr>
<th>FTA’s and Agreements with FTA provisions</th>
<th>Entry into force</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC-Gulf Cooperation Council (GCC) Co-operation Agreement</td>
<td>1989</td>
<td>FTA under negotiation since 1990, resumed in 2002</td>
</tr>
<tr>
<td>EU – Andorra Customs Union</td>
<td>1991</td>
<td>Only industrial products, not agriculture</td>
</tr>
<tr>
<td>EU- Central America Framework Co-operation Agreement</td>
<td>1993</td>
<td>Association Agreement, including an FTA, under negotiation</td>
</tr>
<tr>
<td>EU- Andean Community Framework Co-operation Agreement</td>
<td>1993</td>
<td>Association Agreement, including an FTA, under negotiation</td>
</tr>
<tr>
<td>EU – Iceland, Liechtenstein, Norway: European Economic Area (EEA)</td>
<td>1994</td>
<td>De facto participation in internal EU market without being Member State.</td>
</tr>
<tr>
<td>EU – Turkey Customs Union</td>
<td>1995</td>
<td>Customs union, final phase: only industrial products, not agriculture, services, procurement. Turkey is candidate country since 1999; accession negotiations started in 2005. In addition, Turkey is part of the Euro-Mediterranean Partnership.</td>
</tr>
<tr>
<td>Partnership and Cooperation Agreements (Eastern Eur./Central Asian countries)</td>
<td></td>
<td>Under European Neighbourhood Policy. Preferential relationship between the EU and its neighbours. Includes most-favoured-nation treatment (tariffs and quotas) and differentiated progressive trade facilitation (regulatory approximation). Possibility of future FTA’s.</td>
</tr>
<tr>
<td>Armenia</td>
<td>1999</td>
<td></td>
</tr>
<tr>
<td>Azerbaijan</td>
<td>1999</td>
<td></td>
</tr>
<tr>
<td>Belarus</td>
<td>Signed 1995</td>
<td></td>
</tr>
<tr>
<td>Georgia</td>
<td>1999</td>
<td></td>
</tr>
<tr>
<td>Kazakhstan</td>
<td>1999</td>
<td></td>
</tr>
<tr>
<td>Kyrgyz Republic</td>
<td>1999</td>
<td></td>
</tr>
<tr>
<td>Moldova</td>
<td>1998</td>
<td></td>
</tr>
<tr>
<td>Russia</td>
<td>1997</td>
<td></td>
</tr>
<tr>
<td>Tajikistan</td>
<td>Signed 2004</td>
<td></td>
</tr>
<tr>
<td>Turkmenistan</td>
<td>Signed 1998</td>
<td></td>
</tr>
<tr>
<td>Ukraine</td>
<td>1998</td>
<td></td>
</tr>
<tr>
<td>Uzbekistan</td>
<td>1999</td>
<td></td>
</tr>
<tr>
<td>EU – Mexico Economic Partnership, Political Coordination and Cooperation agreement</td>
<td>2000</td>
<td>Establishment of free trade area for goods and services. Gradual dismantling of trade barriers in a broad range of fields. First successfully concluded ‘new generation’ FTA (based on reciprocity)</td>
</tr>
<tr>
<td>EU – South Africa Trade, Development and Cooperation Agreement (TDCA)</td>
<td>Provisionally 2000</td>
<td>Establishment of free trade area for goods and services. Gradual opening-up of markets over 12 years. South Africa is also member to the EU-ACP Partnership Agreement (subject to qualifications) and there is a separate agreement of wine and spirits.</td>
</tr>
<tr>
<td>EU – San Marino Customs Union</td>
<td>2002</td>
<td>Including agriculture</td>
</tr>
<tr>
<td>EU – Chile Association Agreement</td>
<td>2003</td>
<td>Establishment of free trade area for goods and</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FTA’s and Agreements with FTA provisions</th>
<th>Entry into force</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stabilisation and Association Agreements (Western Balkan)</td>
<td></td>
<td>Special relationship with a view to future accession (potential + candidate countries).</td>
</tr>
<tr>
<td>Croatia</td>
<td>2005</td>
<td>The Former Yugoslav Republic of Macedonia and Croatia are now EU candidate country.</td>
</tr>
<tr>
<td>Albania</td>
<td>2006 (interim)</td>
<td></td>
</tr>
<tr>
<td>Bosnia-Herzegovina</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Montenegro</td>
<td>Negotiation</td>
<td></td>
</tr>
<tr>
<td>Serbia</td>
<td>Signed 2007</td>
<td></td>
</tr>
<tr>
<td>Kosovo</td>
<td>Negotiation</td>
<td></td>
</tr>
<tr>
<td>Central European Free Trade Agreement (CEFTA)</td>
<td>2007</td>
<td>Since 2007, enhanced trade liberalisation under the CEFTA (including Moldova)</td>
</tr>
<tr>
<td>Algeria</td>
<td>2005</td>
<td>Euro-Mediterranean Partnership since 2007 fully part of ENP.</td>
</tr>
<tr>
<td>Egypt</td>
<td>2004</td>
<td>Preferential relationship between the EU and its neighbours.</td>
</tr>
<tr>
<td>Jordan</td>
<td>2002</td>
<td></td>
</tr>
<tr>
<td>Lebanon</td>
<td>2006</td>
<td></td>
</tr>
<tr>
<td>Lybia</td>
<td>Negotiation</td>
<td></td>
</tr>
<tr>
<td>Morocco</td>
<td>2000</td>
<td></td>
</tr>
<tr>
<td>Palestinian Authority</td>
<td>1997</td>
<td></td>
</tr>
<tr>
<td>Syria</td>
<td>1997</td>
<td></td>
</tr>
<tr>
<td>Tunisia</td>
<td>1998</td>
<td></td>
</tr>
<tr>
<td>EU – ACP Partnership Agreement (Cotonou Agreement)</td>
<td>2000 – ongoing negotiations</td>
<td>78 countries. Successor to Lomé Conventions. Now also Economic Partnership Agreements (EPA’s) with reciprocal trade preferences.</td>
</tr>
<tr>
<td>EU-MERCOSUR Association Agreement</td>
<td>Negotiation</td>
<td>FTA under negotiation since 2000</td>
</tr>
<tr>
<td>EU - South Korea Free Trade Agreement</td>
<td>Negotiation</td>
<td>FTA under negotiation since 2007; Framework on Trade and Co-operation now governing bilateral relations.</td>
</tr>
<tr>
<td>EU-India Free Trade Agreement</td>
<td>Negotiation</td>
<td>FTA under negotiation since 2007 – includes far reaching good liberalisation, trade in services (modes 1 – 4), outsourcing, TBT, SPS and trade facilitation and customs provisions.</td>
</tr>
<tr>
<td>EU-ASEAN FTA</td>
<td>To be negotiated</td>
<td>Preparations for FTA negotiations since 2007. On the table are substantial commitments in terms of services trade liberalisation and investment conditions.</td>
</tr>
</tbody>
</table>
2.7 Annex B: Household level simulations to assess poverty impacts of an FTA

Given the economy-wide nature of trade policy, its impact is not expected to be uniform. Computable General Equilibrium (CGE) models have been useful techniques to capture the inter-linkages of the economy and the complexity of the impact studies on the household poverty, as they involve wage rates, returns to capital, consumer prices, subsidies and taxes, but can benefit from further substantiation by combining outputs with household (income) surveys.

By looking at national household survey data (insofar available) it is often possible to categorise a population in different groups. As the consumption patterns of rural and urban and high-income and low-income households tend to differ substantially (with the poorer households spending a larger share of household income on food and commodities), vulnerability to price changes of different goods in the household consumption basket for these different categories also differs. In India for instance, National Sample Survey Organization (NSSO) data reveal that the rural population on average spends 55 percent of their consumption on food and the rest of their income on non-food, while the rural poor below the poverty line (PL) spend about 64-68 percent on food items. On the other hand, 43 percent of consumption on average is spent on food items by the urban population and roughly 57-65 percent of consumption is spent on food items by the urban poor.

Given the outcomes of the CGE modelling simulations for different scenarios, it is possible to make estimations of the aggregate poverty impacts of an FTA, by considering the net welfare effects of changes in consumer prices and income effects in the short and long runs.

By subsequently combining the model outcomes with household survey data, it thus becomes possible to give an indication of the different effects by household category, as the CGE model provides price and income changes at sector level, thus by different commodities and products.
3 Trade case study 2: Liberalisation of Services Mode 4 (Labour)

3.1 Context and policy measure

As explained in the previous section, services trade includes four different modes, of which Mode 4 relates to the “temporary presence of natural persons.” This refers to the entry and temporary stay of persons for the purpose of providing a service. It does not relate to persons seeking citizenship, permanent employment or permanent residence in a country. These persons may work for a foreign or local company and often the movement is related to e.g. setting up a branch or affiliate overseas and relocating some key staff their as well. In other words, mode 4 is often closely related to Mode 3 (commercial presence). In the latter case the persons involved are usually high-skilled workers. The interests of developed countries in mode 4 is often related to these kind of workers to migrate temporary for work reasons (both from receiving and sending perspective), while the interest of developing countries to promote mode 4 liberalisation lies more in the area of low skilled labour.

*General policy context*

In part as a consequence of the more general process of increased interaction across national borders enabled by technological and political advances, international migration has increased over the past few decades as well – albeit that migration flows are still relatively small compared to the transnational flows of other factors, goods and services. It has been estimated that at the turn of the millennium as much as 3 percent of the total world population resided in a country other than they were born (Moses & Letnes, 2004). A large part of this migration concerns labour migration.

The table below gives an indication of the inflows of foreign workers in selected OECD countries. Clearly, although flows may vary somewhat from year to year, the trend over the period between 1996 and 2006 has been a steady increase in the flows of such workers.

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<tbody>
<tr>
<td>Australia</td>
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<td></td>
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</tr>
<tr>
<td>Permanent</td>
<td>20.0</td>
<td>19.7</td>
<td>26.0</td>
<td>27.9</td>
<td>32.4</td>
<td>35.7</td>
<td>36.0</td>
<td>38.5</td>
<td>51.5</td>
<td>53.1</td>
</tr>
<tr>
<td>Temporary</td>
<td>15.4</td>
<td>31.7</td>
<td>37.3</td>
<td>37.0</td>
<td>39.2</td>
<td>36.9</td>
<td>33.5</td>
<td>36.8</td>
<td>39.5</td>
<td>48.6</td>
</tr>
<tr>
<td>Austria</td>
<td>16.3</td>
<td>15.2</td>
<td>15.4</td>
<td>18.3</td>
<td>25.4</td>
<td>27.0</td>
<td>24.6</td>
<td>24.1</td>
<td>24.5</td>
<td>23.2</td>
</tr>
<tr>
<td>Belgium</td>
<td>2.2</td>
<td>2.5</td>
<td>7.3</td>
<td>8.7</td>
<td>7.5</td>
<td>7.0</td>
<td>6.7</td>
<td>4.6</td>
<td>4.3</td>
<td>6.3</td>
</tr>
<tr>
<td>Canada</td>
<td>71.2</td>
<td>75.5</td>
<td>79.9</td>
<td>86.9</td>
<td>96.9</td>
<td>99.8</td>
<td>94.1</td>
<td>87.1</td>
<td>93.5</td>
<td>99.1</td>
</tr>
<tr>
<td>Denmark</td>
<td>2.8</td>
<td>3.1</td>
<td>3.2</td>
<td>3.1</td>
<td>3.6</td>
<td>5.1</td>
<td>4.8</td>
<td>2.3</td>
<td>4.3</td>
<td>7.4</td>
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<tr>
<td>Finland</td>
<td>..</td>
<td>..</td>
<td>..</td>
<td>..</td>
<td>10.4</td>
<td>14.1</td>
<td>13.3</td>
<td>13.8</td>
<td>14.2</td>
<td>17.4</td>
</tr>
<tr>
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<td>..</td>
<td>..</td>
<td>..</td>
<td>..</td>
<td>..</td>
<td>..</td>
<td>..</td>
<td>..</td>
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<td>..</td>
</tr>
</tbody>
</table>

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169 [http://www.wto.org/english/tratop_e/serv_e/mouvement_persons_e/mouvement_persons_e.htm](http://www.wto.org/english/tratop_e/serv_e/mouvement_persons_e/mouvement_persons_e.htm)

From Table 0.7 it becomes clear that the same trends hold true – albeit to a lesser extent – for the stock of foreign workers in selected OECD countries as a share of the total labour force.\footnote{The decrease in this share in some countries may indicate that temporary foreign workers have become permanent and taken up residency. On the other hand, in some countries stricter immigration policies may have also contributed to the decreasing share.}
<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Belgium</td>
<td>370.9</td>
<td>380.5</td>
<td>394.9</td>
<td>382.7</td>
<td>387.9</td>
<td>392.5</td>
<td>393.9</td>
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<td>427.7</td>
<td>435.3</td>
</tr>
<tr>
<td></td>
<td>% of total labour force</td>
<td>8.4</td>
<td>8.6</td>
<td>8.9</td>
<td>8.5</td>
<td>8.6</td>
<td>8.6</td>
<td>8.6</td>
<td>8.5</td>
<td>9.1</td>
<td>9.1</td>
</tr>
<tr>
<td></td>
<td>Czech Republic</td>
<td>143.2</td>
<td>130.8</td>
<td>111.2</td>
<td>93.5</td>
<td>103.6</td>
<td>103.7</td>
<td>101.2</td>
<td>105.7</td>
<td>108.0</td>
<td>151.7</td>
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<tr>
<td></td>
<td>% of total labour force</td>
<td>2.8</td>
<td>2.5</td>
<td>2.1</td>
<td>1.8</td>
<td>2.0</td>
<td>2.0</td>
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<td>2.1</td>
<td>2.1</td>
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<tr>
<td></td>
<td>Denmark</td>
<td>88.0</td>
<td>93.9</td>
<td>98.3</td>
<td>96.3</td>
<td>96.8</td>
<td>100.6</td>
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<td>% of total labour force</td>
<td>3.1</td>
<td>3.3</td>
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<td>3.5</td>
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<td>3.6</td>
<td>3.9</td>
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<td></td>
<td>Finland</td>
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<td>..</td>
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<td>..</td>
<td>41.4</td>
<td>45.4</td>
<td>46.3</td>
<td>47.6</td>
<td>50.0</td>
<td>53.0</td>
</tr>
<tr>
<td></td>
<td>% of total labour force</td>
<td>..</td>
<td>..</td>
<td>..</td>
<td>..</td>
<td>1.6</td>
<td>1.7</td>
<td>1.8</td>
<td>1.8</td>
<td>1.9</td>
<td>2.1</td>
</tr>
<tr>
<td></td>
<td>France</td>
<td>1 604.7</td>
<td>1 569.8</td>
<td>1 586.7</td>
<td>1 593.8</td>
<td>1 577.6</td>
<td>1 617.6</td>
<td>1 623.8</td>
<td>1 526.8</td>
<td>1 541.1</td>
<td>1 456.4</td>
</tr>
<tr>
<td></td>
<td>% of total labour force</td>
<td>6.3</td>
<td>6.1</td>
<td>6.1</td>
<td>5.8</td>
<td>6.0</td>
<td>6.2</td>
<td>6.2</td>
<td>5.6</td>
<td>5.6</td>
<td>5.3</td>
</tr>
<tr>
<td></td>
<td>Germany</td>
<td>..</td>
<td>3 575.0</td>
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Source: OECD International Migration Data 2007
These increases are remarkable as in contrast to earlier periods of globalisation (e.g. in the late 19th century) and in contrast to the openness of other factors, labour markets remain remarkably protected (Moses & Letnes, 2004). This was particularly true over the 1980s and '90s, when the developed world became less open to both migration and to temporary flows of labour.

In economic circles, there is a general consensus that the potential benefits from free labour movement across borders are substantial. The reason that this line of thinking is not shared by others mostly has to do with the redistributive effects, indeed they are unevenly spread over time and space. Moreover, there is also strong evidence that trade in factors and trade in goods are complementary and this particularly holds true for services. Liberalisation of factor movement would, so continues the economic reasoning, thus further enhance benefits of trade liberalisation in goods and services (see also Anderson & Winters, 2008, p.4).

In recent years the temporary movement of labour at least has moved back onto the global trade agenda, and was recognised as one of the four modes under the Uruguay Round’s General Agreement on Trade in Service (GATS) as Mode 4 liberalisation. In the current negotiations, as part of the Doha Development Agenda (DDA), developing countries are seeking greater openness in their area of comparative advantage: the movement of providers unrelated to commercial presence abroad. At the same time, many multinational firms would like easier intra-corporate movement of their personnel (Chaudhuri et al, 2004).

At this moment, the barriers to trade in services through temporary cross-border movement of labour can be broadly grouped into four categories:
1. Immigration-related regulations governing entry and stay of services providers;
2. Regulations concerning recognition of qualifications, work experience, and training;
3. Differential treatment of domestic and foreign services personnel;
4. Regulations on other modes of supply, particularly on commercial presence.

Some of these regulations, particularly those concerning recognition, stem from public policy concerns such as consumer protection, public interest, and national security and thus lie outside of the direct domain of trade or migration policy (Chanda, 2002).

Moreover, the commitments that do exist under GATS mode 4 have their limitations (Chaudhuri et al, 2004; Chanda, 2002). First of all there is limited sectoral coverage. Sectors such as health services and legal and accountancy services where cross-border labour mobility is important have not been scheduled by many countries. Moreover, even where commitments have been made, they are subject to many market access and national treatment restrictions. In addition there are a number of more structural problems.

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172 The relation between trade and migration is two-way; increased trade in services between two countries or regions tends to increase the flow of migrant labour, while migrants tend to encourage trade and investment flows between host and sending countries.


with Mode 4 commitments. For instance, there is no separation of temporary and permanent labour under the existing framework of commitments, even though the GATS is meant to cover only temporary labour flows in services. The existing structure of mode 4 commitments also suffers from a lack of clarity and uniformity in the definition and coverage of the various categories of services persons; the personnel categories are not well defined and are thus subject to arbitrary interpretation by immigration officials and consular offices. Furthermore additional requirements such as economic needs and labour market tests have not been clearly specified and defined in terms of their criteria or administration, while lack of specificity in definitions and in some of the conditions lends itself to administrative discretion, discriminatory practices, and reduced predictability (Chanda, 2002).

**EU and labour migration**

Recognising the impact of demographic decline and ageing on the economy, the Commission highlighted the need to review immigration policies for the longer term particularly in the light of the implications which an economic migration strategy would have on competitiveness and, therefore, on the fulfilment of the Lisbon objectives.

In 2004 the Commission therefore launched its Green Paper on an EU Approach to Managing Economic Migration.175 In this Green Paper the Commission has stressed that, as a result of demographic changes in the EU, an overall decline of employment could be expected after 2010. At current immigration flows, the fall in the number of employed people between 2010 and 2030 will be in the order of 20 million workers for EU-25.176 Labour and skills shortages are already noticeable in a number of sectors and they will tend to increase. This decline has consequences for the dependency ratio (ratio of non-workers to workers), which has been projected will rise most significantly for Europe over the next decade or so (World Bank, 2006).177 The costs of such decline are obviously substantial.

Therefore the Green paper on an EU Approach to Managing Economic Migration argues:

“(...) while immigration in itself is not a solution to demographic ageing, more sustained immigration flows could increasingly be required to meet the needs of the EU labour market and ensure Europe's prosperity. Furthermore, immigration has an increasing impact on entrepreneurship. The EU must also take account of the fact that the main world regions are already competing to attract migrants to meet the needs of their economies.”

In addition the strategic initiative is seen as necessary because in its absence, migration flows are more likely to be able to bypass national rules and legislation.

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175 COM(2004) 811 final
176 This is a forecasts and average figure, to be considered with caution. Some Member States (Germany, Hungary, Italy, Latvia) are already experiencing a decline in the working age population, while in others it will happen later (i.e. Ireland from 2035). The ageing challenge – and its consequences on the national labour markets – will therefore not affect all Member States at the same time and in the same proportions, but it is nevertheless a common trend.
As a result of the Green Paper and following consultation, in December 2005 the Commission presented the EU Policy Plan on Legal Migration,\(^\text{178}\) which focuses primarily on economic immigration. It does not contain any legislative or operational proposal, but defines a roadmap for the remaining period of The Hague Programme (2006-2009). With this comprehensive package of measures, the Commission tries to address the need for a coherent, overall and balanced approach on migration issues, and the fact that setting up a clear and consolidated EU immigration policy adds to the credibility of the EU on the international stage and in its relations with third countries.

As a harmonized approach is necessary for the EU and the issue of temporary movement of natural persons may be less contentious than migration issues per se, opting for further commitments and improvement of GATS Mode 4 offers (for the EU’s offer on Mode 4, please see annex B)\(^\text{179}\) as part of EU trade policy may contribute to the overall objectives of the EU’s economic immigration policy.

Indeed, in order to increase efficiency of resource allocation and address (temporary or sector specific) labour shortages, more concrete policy initiatives in the area of liberalization of GATS Mode 4 – or its equivalent in bilateral trade agreements – are likely to emerge within the next decade.

**Rationale for Mode 4 liberalisation: expected benefits**

The debate about the costs and benefits from migration is often heated and not always based on arguments alone. Here we will try to be nuanced and precise, and look at the underlying mechanisms and dynamics of migration. First of all, it is important to recognise that both 'receiving' and 'source' countries can benefit from temporary movement of natural persons (TMNP) – primarily related to the resultant economic growth in the receiving country and the reduction in domestic unemployment and the remittances sent home by workers.\(^\text{180}\) A controversial consequence of the free movement of labour – without accompanying measures – is the wage equalising effect. Again, the economic thinking is that such an effect increases productivity and returns to capital (in developed countries in particular) which generally raises welfare at a global level. It must be noted that this effect is caused mostly by increasing wage levels in sending countries and less so by decreasing wage levels in receiving countries, which is why it tends to raise *global* welfare levels.

Several authors have demonstrated that especially the liberalisation of movement of *unskilled* workers will yield the biggest benefits, globally, but also for both developed (receiving) and developing (sending) countries (see e.g. Winters et al, 2002b; Chaudhuri et al, 2004; Moses & Letnes, 2004; and Hamilton & Whalley, 1984). It is particularly in these segments that labour shortages in developed countries are often highest.

\(^\text{178}\) COM(2005) 669 final

\(^\text{179}\) It should be noted here that the DDA is facing serious challenges and the likelihood of such complicated issues as Mode 4 being resolved anytime soon is low. Nonetheless choosing this policy initiative as opposed to the wider topic of immigration policy is done for the purpose of the case study and to illustrate that it may be simpler to tackle and form a stepping stone for a more comprehensive immigration policy. Moreover, Mode 4 commitments could relatively easily be applied and extended in the context of bilateral free trade agreements of the EU or in the context of the European Neighbourhood Policy

\(^\text{180}\) Workshop proceedings from the Dialogue on 'Can temporary migration solve Europe’s labour crisis? Hosted by the European Policy Centre (EPC) and the King Baudouin Foundation (KBF), in cooperation with the Global Commission on International Migration (GCIM). Brussels, 1 December 2005.
The mass migration of less skilled workers brings fears for cultural identity, problems of assimilation and the drain on public resources. However, these fears appear less relevant to Temporary Movement of Natural Persons. It has been argued that temporary workers pose less cultural or integration threats and only make a limited call on public services – of course depending on their length of stay and geographical concentration. The latter point is important, especially since within the context of Mode 4 liberalisation clear definitions in this respect are lacking (see above). Construction workers that are brought in for a specific project of say up to a year are likely to pose less social integration issues than do people who are given a two year contract. We will discuss this in more detail in section 3.2.

The biggest economic concern that TMNP raises is the competitive challenge to local less skilled workers. From an economic point of view, this is neither more nor less than the challenge posed to such workers by imports of labour intensive goods from developing countries, or outsourcing of services jobs to lower wage countries, which have been gradually overcome by the weight of economic gain that trade could deliver and by policies to ease adjustment (Winters et al, 2002b). As was discussed in the previous chapter, liberalisation of services is seen to yield substantial benefits from an overall welfare gains point of view. The social impacts of such liberalisation may, however, be more mixed and dispersed, as necessary adjustments affect different social groups to different extents.

Important negative effects – often politically charged – include issues of brain drain in sending countries – which can pose a real and long-term development threat to the sending countries. In addition, the above mentioned fear of integration and perceived loss of jobs and lowering of wages and even labour standards in developed countries needs to be mentioned. Whether real or perceived, such concerns need to be addressed by policy makers and analysts alike.

Although labour standards may not fall in the realm of trade policy, it is possible to address such standards in bilateral trade agreements to the extent that such agreements are flanked by other policy measures. In theory, if labour standards (quality of work, work hours, health, safety, etc.) are set in national legislation, they will also apply to temporary labour and the treatment of temporary workers by employers would be exempt from such regulations. In practice, it is not evident that this is the case and practices of migrants working below labour standards are not unusual, with a concentration in sectors such as for example horticulture and construction. The question of enforcement of labour standards and laws is thus also crucial and one where labour unions can potentially play an important role.

When outlying the specific assumptions and options of our case study we will address this issue of standards as well.

Description of the strategic policy initiative

In recognition of the need to solve increasing labour shortages in the EU and exploit the potential benefits from temporary labour movement, the EC has launched a strategy on economic immigration, described above. As immigration covers a different policy area, we consider here liberalisation of the temporary movement of natural persons as an option for addressing the kind of issues that the EU’s economic immigration strategy aims to address that does fall under the trade policy mandate. However, with the current deadlock in the Doha Round of WTO negotiations it seems unlikely that policy initiatives in this direction at the multilateral level will be very successful or even attempted.

Within the WTO GATS Mode-4 liberalisation is a fiercely debated issue. As the Third World Network argues: “Several developing countries have been pushing for improvement for increased market access in movement of natural persons (Mode 4). They point to the imbalance of developed countries piling on the pressure on developing countries to commit to give commercial presence to their firms in a wide range of sectors (under Mode 3 of GATS) not making any commitments on liberalising Mode 4.”

At the level of the EU GATS mode 4 liberalisation faces the problem that the member states are reluctant to give up sovereignty over national migration policy and this often includes temporary migration. In other words, negotiating a substantial commitment at the EU level by the EC is difficult.

If commitments are hard to achieve within the GATS, it is likely that third countries will request concessions in mode-4 in their bilateral negotiations with the EU.

Therefore, for our case study we have opted to consider the liberalisation of services mode 4 in the context of a bilateral trade agreement between the EU and the MEDA region. This option also allows us to address a number of specific issues relevant to social impacts:

1. All EU FTAs are aimed at achieving WTO+ scenarios, i.e. they look to achieve commitments between the two partners that go beyond WTO commitments, which in the context of Mode 4 allows us to address some of the definition and ambiguity issues in the current Mode-4 agreement.

2. As the EU will negotiate an FTA agreement as part of the wider partnership agreement it has with the region, there will be more opportunity to incorporate flanking policy measures and address non-trade issues within the broader cooperation agreement (e.g. in relation to standards)

3. Given the fact that distance still plays an important role in migration flows and this also holds true for temporary labour (see annex A), liberalisation of mode-4 between the EU and the MEDA region is more likely to have substantial impacts than it would in case of geographically distant regions, with little trade ties to the EU.

Additional assumptions for the elaboration of the case

We assume a horizontal approach, although we will also highlight possible impacts if sectoral approaches are taken.

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Although it is possible to distinguish between three types of flows - which have somewhat different outcomes – we will concentrate on North-South flows (put differently from developing countries to the EU and other Western countries) of skilled and particularly unskilled labour.\textsuperscript{183}

Agreements under Mode 4 relate only to the services sector, where restrictions on the movement of natural persons are seen as barriers to export rather than an issue of migration per se. The case thus explicitly refers to the temporary movement to provide services and not to permanent migration and entry into the labour market.

It is assumed that movement will be restricted to those services sectors where there are labour shortages, i.e. assuming there is an excess demand in the EU (host country).

It is assumed that the temporary labour working in the EU will comply with all labour standards as laid down in EU and national legislation and regulations. This assumption is obviously debatable but the justification for alternative assumptions is not evident either. Other standards and issues (e.g. professional qualifications, certification, etc.) are presented as options, which may be addressed under the wider partnership agreement. The different consequences of these options are then reviewed.

3.2 Identification of impacts

Below we shortly present the potential social impacts of Mode 4 liberalisation. We base some of these identified impacts on what has been found in previous studies.

Main expected impacts in terms of migrant and permanent workers and home and host region

The labour exporting or developing countries stand to gain most from the increase of quotas on the movement of labour. Most of this increase will be due to the higher incomes earned by the temporary migrants themselves. Permanent residents of the developing countries, on the contrary, stand to lose as the result of the outflow of temporary labour, who are often among the more productive in the labour force. As a consequence of the decrease in labour endowments, wages are likely to increase. In previous studies it was found that this is particularly the case for skilled labour. On the other hand the returns to other factors, such as capital, are likely to fall. In some cases the decline in capital income in developing countries may be compensated by remittances. Such effects are more pronounced if remittances are allocated to productive investments in particular. In addition, returning foreign workers often encourage skills transfer and as such contribute to development. More generally their productivity tends to increase as well.

\textsuperscript{183} As Winters (2002) argues “Within the general heading of labour mobility, it is useful to identify three particular dimensions: the flow of unskilled workers from developing to developed countries; the flow of skilled and professional workers from developed to developing countries; and the flow of skilled, professional, and particularly business workers from developing to developed countries. For the sake of the case study we will concentrate on flows from developing to developed countries (i.e. the EU).
For host countries, permanent residents are expected to gain substantially in welfare through increased returns to capital, resulting in an increase in real GDP. Terms of trade will deteriorate, as the outputs of local varieties increases. In addition, temporary migrants from developed countries are expected to gain substantially. Benefits tend to be bigger for further liberalisation of movement of unskilled workers than for movement of skilled workers.

Wage effects occur in that wages of temporary migrants tend to increase, while wages of permanent residents in host countries are likely to experience some decrease. This decreasing pressure will result in actual wage decreases only if the institutional framework allows so. Evidently, responses of member states will vary according to their labour market segmentation. However, this decrease is substantially less than the increase for sending countries. Moreover, assuming that Mode 4 pertains to services only, wages in non-services sectors in host countries may in fact increase. In addition, not only are jobs created in the services sectors, output increases in most manufacturing sectors is likely to have positive effects on job creation in these sectors as well (which are filled up by permanent residents).

**Total employment effect**

As we are considering only the services sectors and assuming labour shortages in host countries in this sector, total employment is set to increase and new jobs will be created. However, these new jobs do not directly affect permanent (host country) labour. There is no job destruction, however, and in other sectors, there will be increased job opportunities, which will only be open to local workers.

Most of the debate on temporary labour migration surrounds its supposed impact on particularly low skilled labour in host countries – often seen as a vulnerable group. Such fears should be taken seriously, however, if temporary foreign labour is restricted to those sectors in which there are shortages – which is assumed in our case – this effect will not so much translate into employment effects, but rather in wage adjustments. It has been found that a lowering of the wage rates in the sectors open to foreign workers may eventually lead permanent workers to shift to other sectors. Whether they are successful in doing so depends to a large extent on the ease and facilities available for such transition (e.g. retraining, vocational training, mobility to move to other regions within a country, etc.) and the investment climate in a country (World Bank, 2006).

It must be noted here that the impacts of temporary labour migration on employment and wages have been found to differ per country depending on flexibility of the labour market (institutions) and in any case have been found to be ambivalent (see box below).

**Box 1: Empirical studies of the impact of immigration on wages**

Most cross-sectional studies find that immigrants have no impact, or a very limited impact, on the wages or employment of natives. However, some studies using panel techniques that can discern the combined effects of time and cross-sectional effects have found a significant impact on the wages of unskilled natives, who in addition have suffered declines in wages due to skill-biased technical change and increased trade. For instance, studies have demonstrated the impact of immigration on the wages of native high school dropouts in the US (which showed a substantial decrease) and on the wages of
blue-collar workers. On the other hand, other studies have found that immigration has little impact on native wages (or employment) in the United Kingdom, including for the low-skilled. It has also been demonstrated (e.g. D’Amri et al, 2008) that if wages are relatively inflexible, an inflow of migrants may affect employment levels rather than wages. As particularly EU labour markets tend to be less flexible with respect to wages as the US, this effect is likely to be more pronounced in EU markets, although we must bear in mind here that the case concerns temporary foreign workers, in sectors with labour shortages. (World Bank, 2006; OECD, 2007b).

In any case it is likely that some friction will be experienced in the short run in host countries for the lowest skilled workers. In the medium to long terms such effects will be largely evened out, but the pains experienced by individual workers or groups of workers affected in the short run does warrant policies to ease the transition.

**Sectoral distribution of employment**
Since temporary labour will be permitted only in the services sector, main effects will take place in this sector. On the other hand, the positive effects on other sectors may lead to job creation in these sectors as well. Particularly in some services sectors, such as health care and construction, shortages can be resolved, which should lead to improvement of the quality of services in these sectors as well, given, of course that the qualifications of migrant workers and standards of work and services are adequate and upheld.

**Geographical distribution of employment**
The geographical distribution of employment depends on the spread or concentration of the services sectors receiving increased numbers of foreign workers. In reality, it has been demonstrated that where a large concentrated influx of foreign workers occurs, natives tend to move eventually. Although the individual temporary workers may be temporary, their jobs are not.

What should also be noted here is that although temporary labour does not bring with it the integration problems usually associated with permanent migration, considering temporary workers as completely detached from society and not engaging in any form of integration is unrealistic as well. Cultural aspects in the workplace for instance may play up, as permanent labour finds itself increasingly surrounded by foreign workers. We address this issue in more detail below.

**Gender distribution of employment**
The effects on wages for low skilled workers in case of low skilled temporary worker inflows are not expected to be different across gender. However, employment effects may be – also depending on the sector involved – more negative for females than for male workers (see also OECD, 2007b, p.10).

**Educational distribution of employment**
The number of unskilled workers will increase, allowing for a freeing up of permanent labour to higher skilled jobs. This will have implications for educational requirements of local workers, and their transition to other sectors may imply re-training and an adjustment of the education system (vocational training).
A major issue with the import of foreign labour are the potential differences in skills and quality of educational attainment and diplomas. This is more of an issue for high-skilled workers than it is for lower skilled workers, but plays an important role in for instance the health care sector.

**Qualitative aspects of work**

- Health and safety standards. These should not be significantly affected as long as the local standards are upheld and enforced. This may require additional training for temporary workers, as they often come from situations with lower health and safety standards. On the positive side, the working conditions for legal temporary workers are often better than those in their home countries or then the ones they would face if they had been illegal immigrants.\(^{184}\)

- Diversity and non-discrimination. Although temporary migration does not bring with it the integration issues surrounding permanent migration, on a smaller scale such issues may occur. If foreign workers are concentrated in specific sectors and areas and if they all come from the same host countries, this may create strong concentrations in specific areas, which could be seen as threatening and disruptive. Depending on the length of stay, some integration will have to take place for these workers to be able to function within the society in which they work. This would include basic language skills – also important in a number of jobs in the services sector, such as healthcare and hospitality industry – but also some form of engagement in social life. This may have substantial impacts on smaller communities. The possible reduction of illegal immigrants\(^{185}\) should reduce discriminatory practices.

- Balance between flexibility and security. Mode 4 liberalisation should yield more flexibility, although its impacts on security are more ambivalent. This would also depend on the specific form that Mode 4 liberalisation would take. Table 0.8 for instance, provides some options and their main advantages and disadvantages.

- Social dialogue and worker involvement. This aspect is one of legitimate concern in the case of increased inflows of temporary foreign workers. In general these tend not to be unionised, while local labour unions are often reluctant to consider them as part of their constituency. This could reduce their voice and involvement in work practices and issues. There is this need for specific attention on these issues and for local labour unions to also incorporate interests of foreign workers.

- Work organisation and work-life balance. In this area too, local labour laws should be upheld and some form of representation of foreign workers should be ensured to avoid exploitation of foreign workers and consequent ‘false’ competition for local workers (e.g. foreign workers working 60 hours). This obviously also relates to whether local labour laws are adequately upheld and enforced.

It must be noted there are a number of different options on how exactly mode 4 liberalisation would be given form. The main variables are (1) whether or not liberalization is limited to specific sectors, (2) whether numerical ceilings (quota) are imposed, and (3) whether safeguard mechanisms in case of un-anticipated shocks or

\(^{184}\) The implicit assumption here is that increasing the quota for legal temporary foreign workers will decrease illegal labour flows. This assumption is not always supported by evidence, see e.g. Amin & Mattoo, 2006.

\(^{185}\) idem
impacts are provided. These can of course be combined in different ways, as is illustrated in Table 0.8, which provides an insight into the possible implications of such options.

Table 0.8: Possible options for liberalisation of Mode 4

<table>
<thead>
<tr>
<th>Mode 4 scenario commitments*</th>
<th>Social / political issues host countries</th>
<th>Social / political issues sending country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive list of Mode 4 commitments with numerical ceilings</td>
<td>Advantage: Possibility to solve measured labour shortages in specific sectors and control influx of workers at overall and sectoral levels.</td>
<td>Issues/effects: Limited flexibility, danger of illegal movement if ceilings are set at low levels and/or certain sectors excluded; Danger of lobby interests determining lists and ceilings; Clear needs assessment has to be made for both selection of sectors and determination of ceilings. Difficult to realise.</td>
</tr>
<tr>
<td>Positive list of Mode 4 commitments without numerical ceilings</td>
<td>Advantage: Possibility to solve measured labour shortages in specific sectors.</td>
<td>Issues / effects: Flexibility for selected sectors; possibly unfair competition for sectors that are not included on positive list but complementary; Possible worker shortages in selected sectors in sending countries.</td>
</tr>
<tr>
<td>Free movement with safeguard clauses**</td>
<td>Advantages: efficient allocation of resources, with possibility to limit influx of foreign service suppliers if it is too large or to sudden and potentially causes negative social impacts.</td>
<td>Issues / effects: Need to agree on fair and reasonable clauses and criteria. Uncertainty for service suppliers as to the possibilities and duration of their stay.</td>
</tr>
<tr>
<td>Free movement without safeguard clauses</td>
<td>Advantage: Efficient allocation of resources and flexibility of firms to enter into contract with foreign service suppliers to work on specific projects.</td>
<td>Issues / effects: If large influx in specific sector and/or region social tensions among ‘threatened workers’ in host countries; difficulties in enforcing temporariness. Possibility of labour shortages in sending countries</td>
</tr>
</tbody>
</table>

Flanking measures

Whether or not mode-4 liberalisation will have the described impacts, will depend to a large extent on how certain of the current vagueres in the GATS mode-4 agreement will be dealt with in the context of an EU-MEDA agreement. If for instance a sector is in principle open to foreign workers, but the certification or certification procedures required are highly prohibitive, impacts will of course be close to nil. The same applies to acceptance of qualifications. In some cases such requirements relate to legitimate consumer protection or public concerns, in others they are driven by strong professional
lobby groups. Either way, the wider partnership agreements allow for closer cooperation on these matters, e.g. through capacity building, educational exchanges, mutual recognition agreements, etc., which could address such non-trade issues (i.e. they can not be dealt with in the context of the trade agreement per se) so as to achieve maximum impact.

3.3 Selection of appropriate methods

Long list of techniques
To date, no robust analytical model has been found to model Mode 4 (Chaudhuri et al, 2004). Analytically the TMNP can be viewed in two ways: in terms of (i) trade and factor rewards and (ii) factor mobility (migration).

Ad (i)
At one extreme Mode 4 can be seen as not analytically any different from cross-border services trade. Factor Price Equalisation (FPE) of wages would occur through complete free trade and trade and migration essentially can be seen as substitutes. As Winters (2002) argues “Intuitively, one can think of goods as bundles of their constituent factors: then trade in goods and the migration of factors are two means to the same end.” However, going beyond the strictly neo-classical theory of FPE, it has been demonstrated that trade and factor movement are complementary rather than perfect substitutes and even in the presence of complete free trade, in the absence of factor movement wage differences will persist, hence the incentive to migrate will persist.

Ad (ii)
TMNP can also be analysed by treating it as parallel to migration, although it should be noted that it is very specifically NOT the same as migration. The social and political dimension and consequences of the latter are often quite different from TMNP, but in terms of the quantitative economic consequences there is little difference. This is mainly due to the fact that the jobs created through the entry of temporary workers are usually permanent, even if the worker is not. This has been referred to as “revolving door mobility” (Walmsley & Winters 2002).

Considering Mode 4 liberalisation as migration, it is possible to employ a number of econometric modelling techniques to assess and quantify the impacts of TMNP on overall macro-economic indicators.

CGE Models
Computable General Equilibrium Models can be used to examine the potential effects of an increase in TMNP between developing and developed countries on wages, remittances, income and welfare. For an elaboration on CGE models see the section on liberalisation of services.

In the case of viewing Mode 4 essentially as migration for analytical purposes, one can assume that an increase on developed countries quota on inward movement of skilled and unskilled labour it is possible to estimate welfare increases at the global level and for
regions, e.g. OECD or EU, as well as changes in wage levels and return to capital (income) taking into account the effects of remittances.

Several models, all based on a simple GTAP Model, have been elaborated specifically to include migration aspects. These include the LINKAGE Model developed and applied by the World Bank and the GMig Model developed by Walmsley & Winters (2002) (see Annex C for a description of these models).

A general limitation to assessment of the impacts of Mode 4 liberalisation is the lack of reliable data on bilateral flows of guest workers, which implies the models must make use of aggregated data or develop estimations or proxies for the data. This of course reduces the reliability of preciseness of the model outcomes. According to the World Bank “[the CGE] model fails to capture some of the known costs and benefits of migration; (…) the results are dependent on the specifications of the model and its key parameters; and (…) the model cannot incorporate social or political considerations.” (World Bank, 2006 p. 25). Nonetheless, although the models are not able to give precise forecasts of the likely impacts of migration (and by extension TMNP), they do provide a framework that offers insights into the economic gains that can be expected from changes in policy and the channels through which migration affects a number of indicators. As such the results can then be used to further investigate and deepen the analysis through other techniques.

One of the main shortcomings of CGE analysis is that it gives little insight into the distributional dimensions of trade in services Mode 4. In general, trade reform is strongly redistributational, both between producers, governments and consumers, and within those groups. While widespread reform seems likely to benefit nearly everyone eventually there are likely to be short-term adjustment costs for some groups and even some ‘casualties’ in the long run. All of these issues are likely to be as relevant to Mode 4 as to goods market liberalisation. Therefore the literature on the by now substantial literature on the redistributional effects of trade reform (see Winters, 2002) may provide valuable lessons for Mode 4 liberalisation as well.

In addition, as Anderson & Winters (2008) argue:

"Labor markets are very crudely modelled in global CGE models, partly for simplicity but also because of the difficulties in compiling internationally comparable data on skill levels and occupations. This problem is compounded when one abandons the assumption of no international labor flows and seeks to model the effects of altering restrictions on immigration. The approach adopted [by] the World Bank (2006) (…..) is but a start to addressing this issue, and much scope remains for further work in this area. More empirical research is needed also on the costs associated with international migration to both the migrants and to (particularly host country) governments."

Finally, it must be noted that although CGE modellers have also begun to examine the effects of lowering barriers to temporary labour movements across national borders, virtually all such studies are in comparative static mode, and so are unable to capture the crucially important growth-enhancing dynamic effects of trade reform. It is therefore not surprising that they generate results for gains from trade reform that are only a small fraction of GDP.
Regression Analysis

Regression analysis may be used to analyse specific impacts of temporary labour migration. For instance, Iara (2006)\textsuperscript{186} uses an endogenous switching regression framework to address the issue of knowledge diffusion by temporary workers returning to the native countries. By thus analysing standard wage equations accounting for individual and job characteristics it is possible to assess whether workers that return from having worked as a temporary foreign worker in a developed country earning higher wages that those who ‘stayed behind.’ This can be seen as a proxy of skills transmission as returnees can command a premium for their work.

Causal Chain Analysis

Based on the CGE model that provides direction and guidance of likely effects in a (general equilibrium) setting as described above, though logical arguing and combining data and other available information, we can deduce other likely social impacts. CCA basically follows similar principles as logical framework analysis (LFA), in that it establishes through logical reasoning the main cause and effect relations. In contrast to LFA this is not just done as an ex-ante exercise. Once the logical cause and effect relations have been identified a number of techniques can subsequently be applied to ‘test’ these relations, for instance by comparing them with statistical or panel data, consulting the literature on ex-post evaluations of similar policy measures,\textsuperscript{187} inviting expert opinions and engaging stakeholder consultations.

In addition, through CCA specifically those areas not covered in the CGE models, such as redistributional effects, more qualitative social impact indicators and indirect effects can be traced – either driving them from the CGE or from existing literature and experts.

Causal chain analysis itself includes review of existing literature and expert interviews, techniques that can be revisited when trying to test the cause and effect relations.

Cost Benefit Analysis

Using the benefits derived from a CGE modelling exercise as described above as input, it is possible to conduct a cost benefit analysis that provides a more comprehensive picture, because temporary migration involves not just benefits, but also costs.

Cost-benefit analyses take into account both direct and indirect costs and benefits, quantified in monetary terms. This technique is usually applied to assess the net benefit of a project or policy initiative. If net benefits are positive, then a project or policy is considered viable, while a negative net effect gives ground for not implementing a policy or project. For the purpose of assessing impact of Mode 4 liberalisation the assessment of net benefit is perhaps less relevant, as it is not the intention of and IA to make a judgment on whether or not to implement, but rather to map all possible positive and negative effects. As such the process of conducting the cost benefit analysis may be useful for IA as well.

\textsuperscript{186} Iara, A (2006) “Skill Diffusion by Temporary Migration? Returns to Western European Working Experience in the EU Accession Countries.” Centro Studi Luca D’agliano, Development Studies Working Papers, N. 210

\textsuperscript{187} More recently there is an increasing interest in such ex-post evaluations, which is mostly due to the fact that they are only just now becoming possible. For instance, the EU-Mexico FTA has been in place for almost 8 years now and since this is the first new generation FTA, results are only just now becoming ‘measurable.’
An economic cost benefit analysis investigates the costs and benefits of a policy initiative from a broader, welfare economic perspective. This means that not only the direct costs and benefits of the policy are taken into account, but also all possible indirect effects in other sectors of the economy (including socio-economic impacts) or in the environment within the society concerned. The project is, in other words, judged from the perspective of the national economy and society rather than only from the narrow perspective of the few agents directly affected.

The economic viability analysis thus explicitly takes into account sustainable development issues and tries to quantify these as much as possible. From the cash flows thus generated, net cash flows can be calculated. In a full fledged economic CBA these cash flows are also used to calculate the economic internal rate of return (eIRR); a project can be found to be economically viable, if the eIRR exceeds the opportunity cost of capital (OCC). However, in the case of the impact analysis of Mode 4 liberalisation calculating the eIRR is less relevant.

**Gravity Analysis**

In some cases gravity analysis may be applied to uncover more specific impacts and aspects of Mode 4 liberalisation. For a description of this technique we refer to the case study on services liberalisation.

In the case of Mode 4 gravity analysis may be used to assess the impact of increased inflows of temporary workers on increased trade flows between the host country and the sending country. Dolman (2008)\(^{188}\) has demonstrated that countries tend to trade and invest more with countries from which they have received more migrants, especially if there are large language and other characteristics that distance those countries – and those greater trade and especially investment flows are not at the expense of flows with other countries. It must of course be noted that such effect will likely be less pronounced for temporary labour migrants.

**Final selection of technique(s)**

Considering data limitations and the fact that most techniques only cover specific aspects of impact and none are capable of covering all social impacts, it is advised to always use at least two (a quantitative and a qualitative) technique to assess the impacts of liberalisation of Services Mode 4. Despite their limitations, CGE models, particularly those versions that have been adapted to incorporate specific labour migration variables and build on the substantive work already done by Hamilton & Whalley (1984), Moses & Letnes (2004), Walsmley & Winters (2003) and the Worldbank (2006), remain the best instruments for quantification of impacts and provide a framework that provide insights into economic gains and the channels through which they may be expected. With increasing attention for the subject, these models and the data they used are continuously developed and updated, which should improve their usefulness. However, use of these models will always require close scrutiny of their specifications and key parameters.

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As CGE models fail to incorporate some of the known costs and benefits of migration and cannot incorporate social or political considerations, for a comprehensive impact analysis it is always necessary to flank this technique with more qualitative approaches. Here the choice really depends on the specific case being studied. Causal Chain Analysis provides a good starting point for such an analysis, where the initial impacts (direct) can be logically linked (based e.g. on existing studies and experiences) to more indirect impacts. Here we would recommend using panel data and expert opinions to test the links found. Once the main links are found, specific aspects could be further analysed and tested through other techniques, but this would be more relevant in the case of specific research questions as opposed a general impact analysis of main impacts.

3.4 IA results

CGE
Since the current study does not include a full impact assessment based on the running of a CGE model, it is not possible to describe here the precise application of such a model for the case underhand. However, based on the examples of Winters et al (2002b) and Walmsley & Winters (2002), the main simulation to conduct involves an increase in the quotas for the inflow of skilled and unskilled temporary workers into developed countries. Following this the effects of other issues, such as the relative importance of skilled versus unskilled and the sectoral allocation of the mobile workers can be examined. To run the simulations the work should be divided in a number of traditional labour importing regions supplied by temporary workers from a number of traditional labour exporting countries. In section 3.7 (annex A) we provide data on origin of foreign workers for a number of receiving EU countries. Although it is not be possible to include such data in the model, it does help identifying sending and receiving countries. Below we present an example of such a simulation conducted by Winters et al (2002) for developing and developed countries (this categorisation was established on the basis of net flow data).

The results of this simulation are presented in terms of absolute welfare changes by region and class of worker and in terms of percentage changes in real wages of skilled and unskilled workers, as illustrated in tables 0.9 and 0.10 below.

<table>
<thead>
<tr>
<th>Region</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>V</th>
<th>VI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Welfare of temporary workers</td>
<td>Welfare of temporary migrants</td>
<td>Welfare of permanent residents</td>
<td>Welfare by home region (III + IV)</td>
<td>Welfare by host region (II + IV)</td>
</tr>
<tr>
<td>Developed countries</td>
<td>175.96</td>
<td>68.58</td>
<td>6.98</td>
<td>75.56</td>
<td>182.94</td>
</tr>
<tr>
<td>Developing countries</td>
<td>-5.00</td>
<td>98.98</td>
<td>-20.69</td>
<td>78.30</td>
<td>-25.69</td>
</tr>
</tbody>
</table>

a. Permanent residents who do not move temporarily
b. Home refers to people originating in the specified country regardless of where they work or live
c. Host refers to people living in the specified country regardless of where they originated from

Table 0.10: Simulation results – percentage change in real wages of skilled and unskilled wages

<table>
<thead>
<tr>
<th>Region</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>V</th>
<th>VI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>% change in</td>
<td>% change in</td>
<td>% change in</td>
<td>change in</td>
<td>% change in</td>
</tr>
<tr>
<td></td>
<td>real wage of</td>
<td>real wage of</td>
<td>rental price of</td>
<td>in real GDP</td>
<td>terms of trade</td>
</tr>
<tr>
<td></td>
<td>skilled labour</td>
<td>unskilled</td>
<td>capital</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Developed countries</td>
<td>-1.02</td>
<td>-0.61</td>
<td>0.78</td>
<td>1.05</td>
<td>-0.24</td>
</tr>
<tr>
<td>Developing countries</td>
<td>5.13</td>
<td>0.12</td>
<td>-0.52</td>
<td>-0.91</td>
<td>0.53</td>
</tr>
</tbody>
</table>

a. percentage change in variable from base case
b. Weighted averages of results for the regions distinguished in the model – weights are skilled workers, unskilled workers, GDP, GDP and GDP respectively for columns II-VI
c. Refers to GDP as a measure of production, not welfare (welfare is a measure of the utility achieved from consumption, which depends among other things on remittances received).


Causal Chain Analysis

Based on the results of the modelling exercise and after review of expert views, it is possible to:

a) consider direct outcomes of the simulations and deduct possible indirect effects
b) consider effects not captured by the model, such as more qualitative decent work indicators.

Such cause and effect relations are best captured and visualised in a conceptual framework. Each link or relation should subsequently be ranked in order of importance. Further analysis of the links should be conducted according to importance, where links of lower importance may in some cases not warrant further analysis.

Cost Benefit Analysis

After having established the main causal links further qualitative assessment of these links is in order. For a number of effects, direct and indirect costs can be identified. In our case, for instance, there are the direct one-off costs to migrants of obtaining visas and work permits, transport and transitional expenses, costs of searching for housing, schooling, employment, etc. upon arrival, as well as the emotional cost of separating from extended family and in some cases temporarily breaking up the nuclear family.

There are also one-off costs to the host-country government of processing applications and providing initial help with housing, welfare payments and the like. In terms of adjustment costs in the workplace, in so far as migrants are attracted or recruited to positions for which there is excess demand, they will be reducing underemployment of capital in those industries. Since that is a significant part of the motivation for host countries seeking migrants, especially as their native population is aging rapidly, this may well offset the other costs associated with migration – especially if the skill mix and timing of immigration flows are designed to alleviate such labour shortages (Anderson & Winters, 2008). However, it is likely that there are net costs involved for both the migrants and the host governments’ taxpayers.

There exist a number of techniques to assess the cost of for instance job loss, transition to other jobs, improved health and safety conditions, etc. These may be applied to try to quantify some of the impacts of Mode 4 liberalisation.
### 3.5 Summary of the expected impacts

**Table 0.11 Social impacts table**

<table>
<thead>
<tr>
<th>Effects</th>
<th>Topics</th>
</tr>
</thead>
</table>
| Employment and labour market:  
  - Impact on labour demand  
  - Impact on labour supply  
  - Impact on the functioning of the labour market | Assuming labour shortages in host countries, total employment will increase due to the liberalization of temporary labour migration. Jobs in the host country will not be destroyed, but in other sectors there will be increased job opportunities open to local workers.  
  The number of unskilled workers will increase due to migration allowing for a freeing up of permanent labour to higher skilled jobs. This might imply retraining of workers and adjustment of the education system. |
| Job quality | In the short run, wage adjustments for low skilled workers could occur in the sectors of the host country in which there are shortages. This can lead permanent workers to shift to other sectors.  
  Exploitation of foreign workers should be avoided with regard to working time arrangements (e.g. long working hours) by upholding local labour laws. |
| Standards and rights related to job quality | Working conditions for legal temporary workers are often better than those in their home countries or the ones they would face if they had been illegal immigrants.  
  As foreign workers tend not be unionized and local labour unions are reluctant to consider them as part of their constituency, this could reduce their voice and involvement in work practices and issues. |
| Social inclusion and protection of particular groups  
  - Access to the labour market  
  - Access to placement services or services of general economic interest  
  - Access to goods and services  
  - (In)equality | Issues could occur if foreign workers are concentrated in specific sectors and areas and if they all come from the same host country.  
  The possible reduction of illegal immigrants should reduce discriminatory practices. |
| Equality of treatment and opportunities, non-discrimination |  |
| Access to and effects on social protection, health and education systems  
  - Quality of services  
  - Access to services |  |
| Public health and safety |  |
3.6 References


Workshop proceedings from the Dialogue on ‘Can temporary migration solve Europe’s labour crisis? Hosted by the European Policy Centre (EPC) and the King Baudouin Foundation (KBF), in cooperation with the Global Commission on International Migration (GCIM). Brussels, 1 December 2005
### 3.7 Annex A: Origin of foreign workers for selected OECD countries

#### Table 0.12 Stock of foreign-born labour by country of birth (thousands) - Austria

<table>
<thead>
<tr>
<th>Origin country</th>
<th>2004</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bosnia and Herzegovina</td>
<td>100.8</td>
<td>106.7</td>
</tr>
<tr>
<td>Turkey</td>
<td>79.3</td>
<td>82.3</td>
</tr>
<tr>
<td>Serbia and Montenegro</td>
<td>82.5</td>
<td>80.0</td>
</tr>
<tr>
<td>Germany</td>
<td>65.3</td>
<td>70.5</td>
</tr>
<tr>
<td>Poland</td>
<td>35.0</td>
<td>33.1</td>
</tr>
<tr>
<td>Romania</td>
<td>24.2</td>
<td>29.0</td>
</tr>
<tr>
<td>Croatia</td>
<td>26.5</td>
<td>25.8</td>
</tr>
<tr>
<td>Hungary</td>
<td>13.8</td>
<td>20.1</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>12.2</td>
<td>13.2</td>
</tr>
<tr>
<td>Slovak Republic</td>
<td>8.5</td>
<td>11.5</td>
</tr>
<tr>
<td>Macedonia</td>
<td>11.3</td>
<td>9.1</td>
</tr>
<tr>
<td>Italy</td>
<td>9.3</td>
<td>9.1</td>
</tr>
<tr>
<td>Switzerland</td>
<td>8.1</td>
<td>7.6</td>
</tr>
<tr>
<td>Philippines</td>
<td>9.6</td>
<td>7.6</td>
</tr>
<tr>
<td>Iran</td>
<td>6.5</td>
<td>7.6</td>
</tr>
<tr>
<td>Other countries</td>
<td>108.8</td>
<td>119.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>601.7</td>
<td>633.2</td>
</tr>
</tbody>
</table>

#### Table 0.13 Stock of foreign-born labour by country of birth (thousands) - Denmark

<table>
<thead>
<tr>
<th>Origin country</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2004</th>
<th>2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turkey</td>
<td>17.6</td>
<td>18.1</td>
<td>18.0</td>
<td>7.1</td>
<td>7.1</td>
</tr>
<tr>
<td>Germany</td>
<td>10.6</td>
<td>10.4</td>
<td>10.3</td>
<td>4.6</td>
<td>4.5</td>
</tr>
<tr>
<td>Bosnia and Herzegovina</td>
<td>8.1</td>
<td>8.4</td>
<td>8.5</td>
<td>3.7</td>
<td>3.8</td>
</tr>
<tr>
<td>Sweden</td>
<td>7.2</td>
<td>7.1</td>
<td>7.2</td>
<td>4.2</td>
<td>4.2</td>
</tr>
<tr>
<td>Norway</td>
<td>6.7</td>
<td>6.7</td>
<td>6.8</td>
<td>4.2</td>
<td>4.2</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>6.8</td>
<td>6.7</td>
<td>6.8</td>
<td>2.0</td>
<td>1.9</td>
</tr>
<tr>
<td>Poland</td>
<td>6.0</td>
<td>6.2</td>
<td>6.4</td>
<td>4.1</td>
<td>4.2</td>
</tr>
<tr>
<td>Former Yugoslavia</td>
<td>6.2</td>
<td>6.1</td>
<td>6.0</td>
<td>2.6</td>
<td>2.6</td>
</tr>
<tr>
<td>Iraq</td>
<td>3.9</td>
<td>5.2</td>
<td>5.9</td>
<td>1.4</td>
<td>1.7</td>
</tr>
<tr>
<td>Iran</td>
<td>5.6</td>
<td>5.9</td>
<td>5.8</td>
<td>2.0</td>
<td>2.0</td>
</tr>
<tr>
<td>Pakistan</td>
<td>5.0</td>
<td>5.2</td>
<td>5.2</td>
<td>1.6</td>
<td>1.6</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>4.9</td>
<td>5.1</td>
<td>5.1</td>
<td>2.3</td>
<td>2.4</td>
</tr>
<tr>
<td>Lebanon</td>
<td>3.8</td>
<td>4.1</td>
<td>4.2</td>
<td>1.2</td>
<td>1.3</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>4.2</td>
<td>4.2</td>
<td>4.1</td>
<td>1.8</td>
<td>1.8</td>
</tr>
<tr>
<td>Thailand</td>
<td>3.3</td>
<td>3.6</td>
<td>3.9</td>
<td>3.2</td>
<td>3.4</td>
</tr>
<tr>
<td>Other countries</td>
<td>54.5</td>
<td>57.9</td>
<td>62.6</td>
<td>26.5</td>
<td>28.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>154.4</td>
<td>161.0</td>
<td>167.1</td>
<td>72.4</td>
<td>75.4</td>
</tr>
</tbody>
</table>
### Table 0.14  Stock of foreign-born labour by country of birth (thousands) - Finland

<table>
<thead>
<tr>
<th>Origin country</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Former Soviet Union</td>
<td>19.0</td>
<td>20.6</td>
</tr>
<tr>
<td>Sweden</td>
<td>18.4</td>
<td>19.1</td>
</tr>
<tr>
<td>Estonia</td>
<td>5.8</td>
<td>6.6</td>
</tr>
<tr>
<td>Former Yugoslavia</td>
<td>2.4</td>
<td>2.6</td>
</tr>
<tr>
<td>Germany</td>
<td>2.1</td>
<td>2.2</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>1.8</td>
<td>1.9</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>1.9</td>
<td>1.9</td>
</tr>
<tr>
<td>Turkey</td>
<td>1.7</td>
<td>1.9</td>
</tr>
<tr>
<td>Somalia</td>
<td>1.7</td>
<td>1.8</td>
</tr>
<tr>
<td>Iraq</td>
<td>1.4</td>
<td>1.6</td>
</tr>
<tr>
<td>China</td>
<td>1.3</td>
<td>1.4</td>
</tr>
<tr>
<td>Iran</td>
<td>1.2</td>
<td>1.4</td>
</tr>
<tr>
<td>Thailand</td>
<td>1.1</td>
<td>1.3</td>
</tr>
<tr>
<td>United States</td>
<td>1.1</td>
<td>1.1</td>
</tr>
<tr>
<td>India</td>
<td>0.8</td>
<td>1.0</td>
</tr>
<tr>
<td>Other countries</td>
<td>19.5</td>
<td>21.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>81.3</strong></td>
<td><strong>87.6</strong></td>
</tr>
</tbody>
</table>

### Table 0.15  Stock of foreign-born labour by country of birth (thousands) - Sweden

<table>
<thead>
<tr>
<th>Origin country</th>
<th>1999</th>
<th>2000</th>
<th>2001</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>Of which: Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finland</td>
<td>103.2</td>
<td>101.7</td>
<td>96.7</td>
<td>98.4</td>
<td>94.4</td>
<td>90.7</td>
<td>52.7</td>
</tr>
<tr>
<td>Former Yugoslavia</td>
<td>51.2</td>
<td>61.4</td>
<td>64.9</td>
<td>62.4</td>
<td>64.6</td>
<td>65.8</td>
<td>27.1</td>
</tr>
<tr>
<td>Bosnia and Herzegovina</td>
<td>21.2</td>
<td>29.2</td>
<td>28.8</td>
<td>26.0</td>
<td>27.0</td>
<td>27.8</td>
<td>10.8</td>
</tr>
<tr>
<td>Iran</td>
<td>24.0</td>
<td>23.5</td>
<td>23.0</td>
<td>22.7</td>
<td>25.2</td>
<td>24.3</td>
<td>8.2</td>
</tr>
<tr>
<td>Iraq</td>
<td>12.1</td>
<td>13.3</td>
<td>16.3</td>
<td>17.6</td>
<td>21.3</td>
<td>23.4</td>
<td>5.8</td>
</tr>
<tr>
<td>Turkey</td>
<td>13.5</td>
<td>14.2</td>
<td>14.0</td>
<td>14.6</td>
<td>16.1</td>
<td>17.1</td>
<td>5.5</td>
</tr>
<tr>
<td>Poland</td>
<td>20.3</td>
<td>23.1</td>
<td>21.1</td>
<td>20.5</td>
<td>20.2</td>
<td>17.0</td>
<td>13.4</td>
</tr>
<tr>
<td>Denmark</td>
<td>16.0</td>
<td>17.3</td>
<td>16.0</td>
<td>14.5</td>
<td>13.0</td>
<td>15.8</td>
<td>6.5</td>
</tr>
<tr>
<td>Norway</td>
<td>17.9</td>
<td>17.2</td>
<td>15.6</td>
<td>15.1</td>
<td>14.6</td>
<td>15.5</td>
<td>9.5</td>
</tr>
<tr>
<td>Other countries</td>
<td>148.9</td>
<td>144.6</td>
<td>152.3</td>
<td>150.7</td>
<td>156.4</td>
<td>164.0</td>
<td>73.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>428.3</strong></td>
<td><strong>445.5</strong></td>
<td><strong>448.7</strong></td>
<td><strong>442.5</strong></td>
<td><strong>452.8</strong></td>
<td><strong>461.4</strong></td>
<td><strong>213.2</strong></td>
</tr>
</tbody>
</table>
### Table 0.16: Stock of foreign-born labour by country of birth (thousands) – United Kingdom

<table>
<thead>
<tr>
<th>Origin country</th>
<th>2006</th>
<th>2006 Of which: Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>329</td>
<td>128</td>
</tr>
<tr>
<td>Ireland</td>
<td>178</td>
<td>94</td>
</tr>
<tr>
<td>Germany</td>
<td>160</td>
<td>78</td>
</tr>
<tr>
<td>Poland</td>
<td>157</td>
<td>66</td>
</tr>
<tr>
<td>South Africa</td>
<td>131</td>
<td>61</td>
</tr>
<tr>
<td>Poland</td>
<td>101</td>
<td>17</td>
</tr>
<tr>
<td>Kenya</td>
<td>91</td>
<td>40</td>
</tr>
<tr>
<td>United States</td>
<td>90</td>
<td>44</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>86</td>
<td>13</td>
</tr>
<tr>
<td>Australia</td>
<td>84</td>
<td>41</td>
</tr>
<tr>
<td>Ghana</td>
<td>76</td>
<td>34</td>
</tr>
<tr>
<td>Nigeria</td>
<td>73</td>
<td>34</td>
</tr>
<tr>
<td>Zimbabwe</td>
<td>72</td>
<td>39</td>
</tr>
<tr>
<td>France</td>
<td>63</td>
<td>32</td>
</tr>
<tr>
<td>Jamaica</td>
<td>63</td>
<td>32</td>
</tr>
<tr>
<td>Other countries</td>
<td>1327</td>
<td>601</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>3081</td>
<td>1354</td>
</tr>
</tbody>
</table>

### 3.8 Annex B: EU Mode 4 Offer

**EU Draft Offer GATS (Mode 4) 6 February 2003**

The draft offer can be summarised as follows:

1. Contractual services supplier (CSS): CSS are employees who work for an overseas company that has obtained a service contract in an EU MS and who come into an EU Member State to deliver the service as part of that contract.

   The draft initial offer proposes to improve the EU's commitments in this category by extending the list of sectors to 15 sectors that all MS commit. In addition the following improvements are proposed:

   a) extending the period of the contract to 1 year (now: 3 months), and
   b) extending the period of stay to a cumulative period of 6 months (currently 3 months)

   These improvements address DCs requests for longer contract and stay periods.

2. DCs have also expressed a keen interest in improving access for independent professionals (IPs) (self-employed persons established overseas and entering the EU to provide services on the basis of a contract). On this, the proposal is to create a new subcategory of contractual services suppliers, covering IPs that have obtained a contract from an EU company. The IPs will be required to:

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a) Be primarily based in a country outside the EU,
b) Hold a relevant university degree or relevant technical qualification,
c) Hold professional qualifications where this is required by EU or MS law,
d) Have 5 years professional experience in the area,
e) 1 year maximum period for the contract with maximum stay of 6 months per year.

3. On intra-corporate transfers (ICTs) and business visitors (BV), an area of great interest to the European industry, the improvements suggested are principally aimed at:
   a) increasing transparency of the EU's existing commitments and
   b) taking commitments on a new category of ICTs for training purposes which is of interest to European industry and the EU has requested its partners to commit.

General: Scheduling language has been changed to improve the clarity.

3.9 Annex C LINKAGE and GMig Models

The WB LINKAGE Model

The LINKAGE model has been developed for use by the World Bank’s global economic projections team. It is a relatively straightforward CGE model but with some characteristics that distinguish it from standard comparative static models such as the GTAP model. A key difference is that it is recursive, so while it starts with 2001 as its base year it can be solved annually through to 2015.

The dynamics are driven by exogenous population and labour supply growth, savings-driven capital accumulation, and labour-augmenting technological progress (as assumed for the World Bank’s global economic prospects exercise, see World Bank 2004, 2005). In any given year, factor stocks are fixed. Producers minimize costs subject to constant returns to scale production technology, consumers maximize utility, and all markets – including for labour – are cleared with flexible prices. There are three types of production structures. Crop sectors reflect the substitution possibility between extensive and intensive farming. Livestock sectors reflect the substitution possibility between intensive versus pasture feeding. And all other sectors reflect standard capital/labour substitution (with two types of labour: skilled and unskilled).

As in the GTAP model there is a single representative household per modelled region, allocating income to consumption using the extended linear expenditure system. Trade is modelled using a nested Armington structure for each product, in which aggregate import demand is the outcome of allocating domestic absorption between the domestically produced good and aggregate imports of that product, and then that aggregate import demand is allocated across source countries to determine the pattern of bilateral trade flows.

Government fiscal balances are fixed in any given year, with the fiscal objective being met by changing the level of lump sum taxes on households. This implies that losses of tariff revenues are replaced frictionlessly by higher direct taxes on households. The
current account balance also is fixed. For example, if import tariffs are reduced, the propensity to import increases and additional imports are financed by increasing export revenues. The latter typically is achieved by a real exchange rate depreciation.

Finally, investment is driven by savings. With fixed public and foreign saving, investment comes from changes in the savings behaviour of the domestic household and from changes in the unit cost of investment. The latter can play an important role in a dynamic model if imported capital goods are taxed. Because the capital account is exogenous, rates of return across countries can differ over time and across simulations.

The model only solves for relative prices, with the numéraire, or price anchor, being the export price index of manufactured exports from high-income countries. This price is fixed at unity in the base year and throughout the projection period to 2015 (Anderson & Winters 2008).

The GMig Model

The GMig model and data are based on the GTAP model and database. The GTAP model, developed by Hertel (1997), is a standard applied general equilibrium model. It assumes perfect competition and hence there are no scale or clustering effects, which often figure in the literature on skilled migration. In each region, a single regional household allocates income across private and government consumption, and saving according to a Cobb Douglas utility function, and firms supply commodities to both the domestic and export markets, while minimising the costs of production. Notable features of the GTAP model include:

- the use of the Constant Difference Elasticity (CDE) system for allocating private consumption across commodities;
- trade flows by commodity, source and destination based on Armington assumptions; and
- international transportation margins.

A number of significant changes had to be made to the GTAP model and database to incorporate the movement of natural persons, but before describing them, we define the terms used to distinguish between the various groups within the population and the labour force (Table 0.17). We distinguish between temporary migrants and temporary workers. Each mobile person is a temporary migrant of one region and a temporary worker in another but the terminological distinction is useful if tracking these guest workers. The basic idea is that once temporary migrants cross the border into the host region they become temporary workers.

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home</td>
<td>Permanent Residence. Supplier/exporters of temporary workers</td>
</tr>
<tr>
<td>Host</td>
<td>Temporary Residence. Demanders/importers of temporary workers</td>
</tr>
<tr>
<td>Temporary Migrant</td>
<td>Permanent residents of the home region who work abroad</td>
</tr>
<tr>
<td>Temporary Labour/Worker</td>
<td>Temporary residents of the host regions</td>
</tr>
<tr>
<td>Permanent Labour/Worker</td>
<td>A person who is working/living in their home region</td>
</tr>
</tbody>
</table>
The alterations made to the GTAP model can be divided into six distinct features: productivity, allocation methods, income, welfare, sectoral allocation and balancing equations.

- **productivity:** the model takes differences in productivity into account, based on the wage data from GTAP (assuming that wage differentials are due to productivity differences). It is assumed that productivity of the temporary migrants is lower than that of permanent workers as productivity rates in developing countries are often substantially lower than those in developed countries. Once workers are in the host country their productivity will acquire some (though not all) of the host country productivity.

- **allocation methods:** As there are no data on bilateral flows of guest workers, the model postulates a global pool of labour, which ‘collects’ temporary migrants, mixes them up and then allocates them across host regions.

- **income:** the GMig model includes incomes earned on factors owned by temporary and permanent labour (in the GTAP model all factor incomes are included in the parameter income. In addition the model includes remittances, which are fixed as a percentage of temporary migrant wages. Income of temporary workers then consists of income on labour minus remittances, while permanent labour receives all other factor income (not just labour but also land, capital, etc.)

- **welfare:** welfare gains in the host region are divided by temporary and permanent workers and by host and sending countries.

- **sectoral allocation:** In the standard GTAP model labour moves across sectors to equalize wages – thus moves to the sectors with the highest demand. However, since Mode 4 is restricted to services, the GMig model divides sectors into two groups: those that employ foreign workers (A) and those that don’t (B). The supply of labour to each group must equal demand and labour can flow freely within them, but not between them. All temporary labour flows to A, while the supply of labour to B is kept fixed.

- **balancing equations:** In all equations the total number of temporary migrants from all home regions equals the total number of temporary labour in host regions.

The primary data used in the model come from the GTAP 5 database, supplemented with additional data on the labour force, numbers of temporary migrants and workers and their remittances and wages. These data were mostly derived from the ILO International Migration Database (Walmsley & Winters, 2002).

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190 Supply to this group is kept fixed to avoid that the inflow of temporary labour is merely offset by outflows of permanent labour. In reality it has been found that permanent residents do actually move from geographical areas that experience large inflows of migrants, which implies this assumption should also be considered with some caution for TMNP (Walmsley & Winters, 2002)
4 Trade case study 3: Protection of Intellectual Property Rights through Trade Agreements

4.1 Context and policy measure

*General policy context*

**What are Intellectual Property Rights?**

Intellectual property rights (IPR) refer to the rights associated with creations of the mind like inventions, literary and artistic works, symbols, and designs. Intellectual property is usually divided into two categories: *copyright* and *industrial property*. Copyright includes literary and artistic creations like novels, poems, paintings, music and photographs. Industrial property rights include patents for inventions, trademarks, industrial designs, plant variety rights, and geographical indications.

Intellectual property is considered a key driver of innovation and competitiveness, and, as Burke & Fraser (2005)\(^{191}\) argue “are often heralded as key components underlying the entrepreneurial economy.”

For the EU, with its relatively high labour costs, it is hard to compete globally on the basis of low cost, mass produced goods and services. Rather the competitive advantage of the EU – particularly of the old member states – lies in creativity, invention and quality. To capture the benefits from inventions and innovations, which are often achieved at high costs and under high degrees of uncertainty – not all investments into new products and designs will ultimately be successful and/or marketable – the commercialisation of the innovation must allow for sufficient returns to offset the costs of innovation and provide a premium for the risk taken. But commercialisation often implies competitors are able to imitate, and reap benefits without the investment cost; ultimately eroding the premium and often even the costs for innovativeness. In the case of copyright, royalties are in fact the main income of producers of literary and artistic creations.

Thus the existence and enforcement of IPR laws and regimes can be seen as important safeguards for innovation and entrepreneurial activity.\(^{192}\)

In a globalised economy IPR protection is not only a matter of national or EU laws and regimes, but is seen to require international agreement on what are IPRs and how it should be protected. At a general level, protection is provided through patenting and copyright laws. However, the problems with IPR infringements (i.e. imitation) often relate more to enforcement of these laws and/or respecting the laws (awareness). As a recourse against infringements cases may be brought to the WTO and dealt with through the dispute settlement system.

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\(^{192}\) It must be noted that this holds true mainly for large firms, while smaller firms and specifically self employed entrepreneurial firms tend to be more imitative than innovative; however, on aggregate, imitative activity is often more important, particularly where it magnifies and speeds up the diffusion of new technologies in the economy (see e.g. Burke & Fraser, 2005)
Considering the importance of IPR for the competitiveness of European (and US) businesses, the EU and US first raised the issue within the GATT Uruguay round and proposed what would eventually become the Agreement on Trade Related Intellectual Property Rights (TRIPS) under the WTO, which came into force in 1995.

Although the TRIPS agreement is one of the key agreements under the WTO, which in 2008 included more than 150 members, in recent years IPR issues have increasingly become integrated into bilateral trade agreements, in which trading partners attempt to achieve even further reaching commitments on IPR issues and harmonisation between their regulatory systems (see also Palombi, 2006)\(^\text{193}\).

**IPR infringement issues**

It is possible to distinguish between two types of IP violations (EC, DG Trade, 2007)\(^\text{194}\) in the context of international trade, which includes investment:

A. Patent infringements and violation of technology secrets
B. Counterfeiting of trademarks and the piracy of work protected by copyrights.

### A. Patent and technology secrets violations

This kind of infringement is particularly relevant to companies investing in foreign countries where they are more or less forced to disclose and transfer technology and IP. In the case of China, for instance, the Chinese Government has developed industrial policies that aim to encourage the technological development of its indigenous companies and industries. Through such policies\(^\text{195}\) the Chinese Government in essence tries to further encourage and speed up the process of technology transfer that has often been associated with FDI.\(^\text{196}\) However, for EU companies looking to invest in China it creates a substantial risk of imitation and loss of competitiveness and thus ultimately it forms a barrier to investments.

### B. Counterfeiting and piracy

Counterfeiting, i.e. fake trademarks and names, designs, patterns, etc., affect virtually any product, while piracy affects a more limited set of products such as industrial reproduction, broadcasting and online diffusion of protected works without the authorisation of the rights holders or payment of royalties.

Such infringements affect EU businesses in both their foreign and home markets as counterfeited and pirated products are traded across borders and the IPR regime in many developing and emerging markets is weak. It is hard to gauge the actual scale of such trade, as it mostly takes place illegally and goes undetected. To give a rough idea, the European Commission estimates that between 1998 and 2002 the number of counterfeit or pirated articles intercepted at the EU's external frontiers increased by more than 800

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193 Palombi, L. (2006) “TRIPS, bilateralism and patents: how they are failing both the developed and developing world and what to do about it.” Electronic Journal in Communication, Information and Innovation in Health (RECIIS), vol.1, no.1, p. 71-81


195 Policies include for instance forced disclosure of secret data when applying for licences, or provisions in government procurement contracts that require entering into joint ventures with local companies and transfer of technologies to these companies.

196 This relation, as Palombi (2006) points out, is not undisputed in the literature.
percent. Figures published by the European Commission in November 2003 show that customs seized almost 85 million counterfeit or pirated articles at the EU’s external border in 2002 and 50 million in the first half of 2003. This illicit trade is worth the equivalent of more than 2 billion euro on the legal Community market (EC, DG Trade, 2004b).\textsuperscript{197}

These figures only reflect what is being caught at the Community borders. As is the case with other types of illegal traffic, seizures by the authorities often only represent the tip of the iceberg and give little information on the dimension and value of the illicit goods that end up being sold in markets and streets worldwide.

This is why it is extremely difficult to quantify the exact values involved in the global trade of fake goods. Some estimations point to figures representing between 3 percent and 9 percent of the total world trade, i.e., 120 to 370 billion euro a year. Studies carried out by the OECD in 1998 and by the International Chamber of Commerce in 1997, estimated then that counterfeits accounted for 5 to 7 percent of world trade and were responsible for the loss of 200,000 jobs in Europe alone (EC, DG Trade, 2004b).\textsuperscript{198} According to data cited by a 2007 OECD report, counterfeit and pirated items traded internationally amount to about US$176 billion. This represents about 2 percent of world trade in terms of goods imports and exports. Customs data on seizures provided the key evidence for the OECD report (OECD, 2007 in Rodwell et al, 2007).

**IPR regime**

To protect IP, what is needed is a strong overall IPR regime. There are various elements that comprise an IPR regime, including political systems, the laws and institutions, as well as a general familiarity with and respect for IPR related products. It is a well-known fact that creating the laws and institutions for IPR in itself are not sufficient conditions for protection of IP. In large part the success of such laws and institutions depends on their enforcement and the extent to which people – particularly consumers – are aware of the role and importance of IPR.

**Description of the strategic policy initiative**

In November 2004 the European Commission launched its ‘Strategy for the Enforcement of Intellectual Property Rights in Third Countries.’\textsuperscript{199} The strategy included an Action Plan, which focused on “vigorous and effective implementation and enforcement of existing IPR laws.” It proposed the identification of priority countries where enforcement actions should be concentrated, while it stressed dialogue, technical cooperation and assistance to help third countries fight counterfeiting, although it also made clear that the EC would not hesitate to resort to bilateral and multilateral sanction mechanisms against any country involved in systematic violations. The Commission further emphasised the


\textsuperscript{198} It is not entirely clear what these data are based on and they seem to discard the fact that the production of counterfeited goods creates jobs as well, although they are likely to be informal. It is therefore likely that the net job loss is a lot less substantial. However, the issue of legal and gainful employment is apparent, as labour abuses in the informal sector tend to be more common.

fostering of awareness raising of users and consumers in third countries and supporting the creation of public-private partnerships for enforcement.

The main thrusts of the strategy thus included:
1. Identifying the priority countries
2. Multilateral / bilateral agreements on IPR
3. Political dialogue
4. Incentives / Technical cooperation
5. Dispute settlement / Sanctions
6. Creation of public-private partnerships
7. Awareness raising / Drawing on our own experience
8. Institutional cooperation

This strategy is seen as an important part of the Lisbon Strategy for competitiveness and clearly links intra Community issues to the EU’s external environment. As former EU Trade Commissioner Pascal Lamy said:

“Piracy and counterfeiting continue to grow every year and have become industries, increasingly run by criminal organisations. This is a serious problem for us but also for third countries whose companies are also suffering the consequences of violation of their own intellectual property rights”. He added: “Some of these fakes, like pharmaceuticals and foodstuffs constitute an outright danger to the public, while others undermine the survival of EU’s most innovative sectors, confronted with the misappropriation of their creations. Adopting new legislation on intellectual property is one thing. But devising the right tools to enforce it is another. This is now our priority”.

In its Communication of 4 October 2006: ‘Global Europe: Competing in the World’ the EC announced a list of third countries on which to focus its activity and resources to address infringements of intellectual property rights (IPR). Among the priority countries China featured prominently as it has been estimated that the share of counterfeit articles seized at the EU’s external borders originating from greater China (China, Hong Kong and Taiwan) ranged between 60 to 80 percent (EC, DG Trade, 2007)

Following from its Strategy on enforcement of IPR in third countries, DG Trade has substantially increased its work in this field, creating specific dialogues with some of the major infringers – including China – introducing the issue at the WTO/TRIPs (Trade Related Aspects of IPR) Council, shifting technical assistance resources to enforcement and establishing reinforced cooperation with countries sharing the EU’s concerns.

The importance of China as a trade and investment partner for the EU and the challenges that the emergence of China on the global market poses for EU businesses, workers, investors, and consumers alike, prompted the EU to launch, in 2006 its trade policy paper

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200 http://ec.europa.eu/trade/issues/sectoral/intell_property/pr101104_en.htm
201 http://ec.europa.eu/trade/issues/sectoral/intell_property/ipr_epc_en.htm
‘Competition and Partnership: A Policy for EU-China Trade Investment.’ One of the priority areas identified in this policy paper was that of IPR.203

China and the EU have progressively built up their cooperation in the field of Intellectual Property that has developed in the framework of a structured Dialogue on IP as well as an IP Working Group allowing the participation of experts. This continuous exchange between the two sides is supported and complemented by technical assistance on intellectual property.204

The strategic importance of IPR to EU competitiveness was recently confirmed once more in the EC’s ‘Communication on a new industrial property rights strategy for Europe’ in which it is argued that “A strong and balanced IPR system is a driving force for promoting innovation and improving competitiveness. In the 2008-2010 cycle of the renewed Lisbon strategy for growth and jobs, the investment in knowledge and innovation is one of the four priority areas for focused actions. In order for Europe to respond to the challenges of the global economy, a strategy on industrial property rights is needed to ensure a high-quality, affordable, consistent and balanced system.” (EC: MEMO/08/509).205

Additional assumptions for the elaboration of the case

The focus of our case is on EU trade and investment with China.

The first assumption is that the EU is successful in concluding substantial IPR agreement with China (including Hong Kong and Taiwan) – laying down and harmonising rules, standards and procedures that are both simple, balanced and effective. The second assumption is that China improves its enforcement of agreements and its IP system, adequately protecting IP within its domestic markets and trade. This requires putting in place a system that manages to catch and penalise infringers and provides adequate information to companies and the public.

These assumptions are based on the fact that several policy initiatives in the area of IPR in EU-China relations are well underway, and progress in this field has been made. However, actual results are still relatively limited up to date, as IPR infringements and illegal trade of counterfeited goods continue to increase. Thus this case must be considered from the perspective of the policy initiative actually coming into fruition and bearing real results. Given that the Chinese private sector is also increasingly interested in IP issues – reflected e.g. in the increasing number of Chinese patents, it does seem plausible that further achievements will be reached.

204 http://ec.europa.eu/trade/issues/sectoral/intell_property/ipr_china_en.htm
205 Industrial Property Rights: Commission launches strategy to drive innovation from the laboratory to the marketplace (press release, 16-07-2008).
As becomes clear from the different thrusts that are part of the overall strategy, trade policy is but one of the areas through which IP can be addressed and a successful conclusion of both an agreement and its implementation is premised on engaging in all these forms of policy interventions, often simultaneously.

The quantitative measures for assessing the impacts of an improved IPR regime in China are limited to date due to both data and methodological constraints. We draw upon ongoing work that looks to develop the methodology for assessing the impacts of the removal of NTBs, of which IPR is considered but one. Subsequently in a qualitative analysis we provide an overview of possible impacts, for which quantification is not possible at this point.

As the case deals with EU-China trade, some of the hotly debated issues in the context of IPR, TRIPS and access to medicine (see e.g. Palombi, 2006) will not be considered in-depth. This is not to deny or downplay the issues, but merely to narrow down the scope of our case to a manageable level for the sake of this study.

4.2 Identification of impacts

In this section we discuss the potential impacts of IPR protection through an FTA with China. We give a brief indication of what the above overall impact assessment implies at the level of the specified indicators.

**Total employment, Number of new jobs created, Number of jobs destroyed, Number of jobs transformed**

The effects on employment form effective IPR protection in trade with China takes on different forms. As NTB removal and by extension the effective protection of IPRs tend to increase trade, output, employment and income, it can be expected that the policy initiative will lead to employment creation at the overall level. However, despite the fact that new jobs are thus created, there is also a possibility that some jobs will move overseas, as FDI becomes more opportune. We expect this effect to be limited (it is more likely that this will entail an expansion of activities as opposed to a replacement of activities in one location to the other), however, and in any case, more prominent in some sectors than in others.

In spite of problems with quantifying the extent of intellectual property infringements, recent studies based on extensive surveying, have made it clear that the theft of intellectual property has negative impact on European companies. The effect on the workforce stemming from loss of business due to IPR abuse mirrors the loss of sales. Even if jobs may not be actually lost, in case of serious IPR infringements, they are no longer created either.

**Sectoral distribution of employment, jobs created at sector level**

Sectors affected most strongly by IPR issues are likely to benefit most, so job increases will likely be concentrated in these sectors. This includes e.g. the luxury goods industry, biotech industries, pharmaceuticals, toys, etc.
The job creation effects in these various sectors are not necessarily all going to take place in the EU, however, as there is also a countering effect to be expected: technology intensive sectors and/or products may be more willing to take some of their activities to China, as the guarantees against patent and technology secrets violations will have reduced. To the extent that this entails a shift from the EU to China, it is likely to have some impact on employment in these sectors

**Geographical distribution of employment**
Positive effects can be expected in case the sectors that stand to gain most from IPR protection are strongly geographically concentrated. However, since IP relates to almost all products, this effect would likely be limited.

**Gender distribution of employment**
Gender effects are likely to be limited and only derived from employment effects (i.e. if sectors with high share of female employment increases, this has positive impact on gender distribution of employment).

**Educational distribution of employment**
IPR tends to affect the more knowledge intensive, design oriented sectors and products, which make it likely that positive effects will be mostly for higher skilled labour. On the contrary, the better protection of IPR in China may entice particularly more labour intensive IP industries to opt for shifting production to China, implying low skilled labour could experience some decreases in employment.

Despite estimations made by various organisations (see section 4.1), all of these identified impacts must be interpreted with some caution as it is hard to quantify precisely all of these effects, while we must also keep in mind that we are only considering IPR in the context of EU-China trade. China is obviously not the only country producing and trading counterfeit goods. Many of these products are made within the EU. In addition, if IPR enforcement leads to higher prices for certain goods in China, demand for these may in fact drop, implying the net benefit may be less than anticipated (see also the box below).

**Qualitative aspects of work**
- Health and safety standards should improve with better IPR protection, as pirated and counterfeit goods are often produced by anonymous entities that are less concerned with health, safety and quality requirements and provide no after-sales assistance, guarantees, operating instructions, etc. Illustrating this problem are growing seizures of fake medications, food (and even bottled water), car and plane parts, electrical appliances and toys (EC, DG Trade, 2004a). This concerns consumer health and safety issues, however and not so much health and safety in the workplace.

**The other side of the coin**
Here it is interesting to briefly consider the other side of the coin: Better IPR protection would imply loss of business for these counterfeiting companies, which would either have to resort to producing for other markets, ‘cleaning up their act’ and producing legitimately with for instance a licensing agreement or by paying royalties, or by closing their businesses altogether. The latter two would obviously have consequences for labour in China. Likewise in the discussion on TRIPS and access to medicine, opponents argue that the health impacts on poor populations in (in this case in China) may in fact be
substantial, as IPR may prevent the production of cheap generic (i.e. imitated) drugs. In the context of international trade, any impact assessment should take heed of the possibly differential effects of trade policy measures on the different trading partners and their workforce and overall populations.

- Diversity and non-discrimination. No specific/substantial effect to be expected
- Balance between flexibility and security: No specific/substantial effect to be expected.
- Social dialogue and worker involvement: No specific/substantial effect to be expected.
- Work organisation and work-life balance. No specific/substantial effect to be expected

**Other expected impacts**

DG Trade has identified a number of other negative effects of particularly counterfeiting and piracy, which would in part be eased due to the implementation of an effective IPR regime in China. These include public order and security and tax revenues losses. Although not directly impacting labour, through indirect effect on society they may be relevant to a number of social issues as well.

**Public order and security:** A growing concern in recent years is the increased involvement of criminal organisations and sometimes even of terrorist groups in major international trafficking of counterfeit and pirated goods. This is explained by the particularly lucrative nature of these activities and by the lower risk compared with other lucrative criminal activities. The scale of the problem and the sums of money involved render the situation regarding piracy as complex to tackle as drug trafficking or money laundering.

**Fiscal:** Being an illegal and clandestine practice by nature, and having lower prices it frequently deprives the state from tax revenue (VAT, revenue taxes, customs duties) (EC, DG Trade, 2004a). This implies fewer public resources for inter alia social programmes. Again, these impacts should not be overestimated, as they represent fringe effects for social issues at best.

### 4.3 Selection of appropriate methods

Although data limitations for this case are apparent and it is hard to ascertain with certainty the actual magnitude of impacts (which may not be that substantial), the fact that IPR protection has become an issue that has attracted increasing attention, also in the light of the decreasing importance of tariff issues, it makes sense to try and develop both the data and methodology to better assess the actual magnitude and impact of the issues. Although it is obviously beyond the scope of the current case study to achieve this, with this case study we aim to shed light onto the ongoing efforts that are being developed to do this, so DG Employment may also gain a better understanding of these. While the case pertains to IPR issues, the methodology being developed covers a range of other NTB as well.

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One approach to trying to quantify IPR impact, is to consider IPR infringements as creating certain losses. In a counterfactual analysis one could argue these are forfeited benefits, thus the positive impacts of improvement and enforcement of the IPR regime are equal to these costs. However, this is till a very crude and aggregate assessment, which requires additional analysis to uncover dynamic impacts.

In essence, IPR can be seen as a NTB to trade and investments, as it limits investments of EU in China and export of goods to the Chinese market. It thus reduces market access. At the same time, the inflow of counterfeited goods into the EU market implies EU businesses are losing out in their home markets as well.

The impacts of NTBs on trade flows has recently received a great deal of attention from policy makers and businesses alike considering the reduced (relative) importance of tariff barriers. This is also leading to development and improvements of the methodologies to measure and quantify these impacts, although data limitations in this area remain substantial (see also trade policy case on liberalization of services in this report). One of the main problems in assessing the impacts of NTB removal is the fact that it is still impossible to accurately measure the impact of each individual NTB, as NTBs collectively stand for a diverse array of issues and problems faced by companies when trying to conduct their business across borders. Even with further development of the methodologies to measure the impacts of NTBs, therefore, measuring the impacts of IPRs (on trade, employment and sectors) separately still remains a question of very rough estimations.

ECORYS, in consortium with a number of research institutions and advisory companies and with a team of renowned international experts, is currently working on a major study for DG Trade on the measuring of NTBs in EU-US trade and investments, which makes substantial contributions to the further development of the methodology to do so. To date this is the most advanced methodology available for measuring NTBs and quantifying their impacts As it also makes an attempt to incorporate the relative importance of different types of NTBs, moving away from the aggregate level measurements that are being used now in for instance CGE models.

The methodology applied for this study consists of:

- Literature review on NTBs and existing barrier estimations (by extension, for our case we would here try to assess the relative importance of IPR issues in EU-China trade).
- Short sector level analyses for each sector, including the role of NTBs and regulatory divergence
- Business surveys and structured interviews (focusing in our case on the difficulties of doing business for EU businesses in and with China and the role of IPR regime in this respect);
- Gravity modelling and border effects calculations to estimate ‘missing’ trade and investment to get a feel for where the largest potential gains may be;
- Price calculations from available data and possibly business surveys for the more homogeneous sectors.
• Identify sector level existing specific non-tariff barriers and regulatory divergence;
• Micro-economic modelling (CGE modelling) to estimate sector impacts of NTB reductions and regulatory convergence (for the current case focusing specifically on IPRs and their relative importance vis-à-vis other NTBs);
• More structured interviews with representatives and operators from each sector of industry to prioritise the results found;
• Sector synopsis including key factors for competitiveness, NTBs and regulatory differentiation, including policy tools;
• Aggregation to macro-economic effects from sector results, i.e. using the inputs from the first techniques (survey and gravity modelling) as an input for CGE modelling.207

NTBs can be addressed in CGE models in one of two ways. Some NTBs, like many of those in agriculture, generate rents. As a result, they operate much like import and export taxes. Based on price-wedge estimates, it is then possible to come up with summary measures of agricultural protection (as in previous years, GTAP data in agriculture include tariff equivalents for current regimes, like Tariff Rate Quotas, in the benchmark data). In other cases, such as services, trade costs can be modelled as iceberg-type trade costs208. In the first case, NTBs are modelled as import and export tax equivalents, while in the second they are modelled as change in the cost of trade (but without the rents). Once we are better able to model individual NTBs, it would become possible to start quantifying the impacts of an NTB such as IPR.

The outcomes of the modelling exercise could once again be used for further identification of (secondary) impacts and qualitative assessment of the importance and possible size of these impacts through causal chain analysis (CCA).

**Final selection of technique(s)**

Applicable techniques – which at this stage should all be used to gain a more precise insight into impacts of IPR - include:

• Business survey
• Structured interviews with experts and stakeholders
• Gravity analysis
• Statistical analysis
• CGE modelling
• Causal Chain Analysis

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208 Iceberg type transport costs are costs that are modelled as goods or services ‘melting away’ when being exported. For example, 100 T-shirts may be exported by ASEAN, only 95 T-shirts arrive in the Port of Rotterdam (EU). The 5 T-shirts that have ‘melted away’ show the height of transport costs.
4.4 IA results

Application of the selected methods

At the moment of writing, assessing the social impacts of IPR protection still relies almost exclusively on qualitative and statistical research methods, including issues identification and cost estimations through business surveys and panel data.

However, with further development and refinement of the methodology for assessing the impacts of NTB removal and the improvement of data\textsuperscript{209}, in the future, gravity analysis and CGE modelling may usefully be applied.

Quantification of effects

This case study focuses on the potential impacts of IPR protection through an FTA with China on employment and other social indicators. Because – due to time and budgetary constraints – we were not able to conduct a full impact assessment, the methodology as described above is still in development and hard data are generally lacking, we base some of these identified impacts on what has been found in previous studies and on qualitative analysis.

NB: Data limitations

Before conducting any analysis and particularly before trying to quantify these impacts it must be noted the overall degree of counterfeiting and piracy remains unknown and unknowable, which obviously has consequences for the analysis. For instance the 2007 OECD report on counterfeiting and piracy was based on customs data on seizures, of which the report notes “Unfortunately, the number of governments providing information was limited, [and] completeness of the responses patchy, so we can only have an extremely crude indicator of the role of counterfeit and pirated products in international trade” (OECD, 2007 in Rodwell et all, 2007).

Impacts of the removal of NTBs in general

In recent studies of the impact of FTAs\textsuperscript{210} it was found that removing NTBs through FTAs ranged from 15 to up to almost 80 percent of the impact in terms of national income increases. Impacts differ per country based on their baseline scenario. At sector level NTB removal will have stronger impact on services sectors, where NTB are generally higher to start with and in the case of IPR (as an NTB) for specific IP sensitive sectors, such as for example high tech industries, luxury goods and pharmaceuticals.

Rodwell et all (2007) identified the following impacts of the infringements of IPRs:
- Loss of business
- Loss of employment
- Damage to reputation and image
- Risks to health and safety

\textsuperscript{209} Often the improvement of methodologies and availability / quality of data go hand in hand, as data gaps are identified during methodology development and data collection ideally improved accordingly. Unfortunately this is a lengthy process.

\textsuperscript{210} These include the Trade SIA of the FTA between the EU and the Republic of India and the Trade SIA of the FTA between the EU and ASEAN, both commissioned by DG Trade and implemented by ECORYS (see www.tsia.ecorys.com).
• Loss of tax revenues\textsuperscript{211}
• Stifling of innovation, entrepreneurship and business initiatives
• Infrastructural leaking of IP, for instance due to the China Compulsory Certification (CCC) scheme\textsuperscript{212}

Although it has been argued that SMEs are not the main beneficiaries of IPR legislation such as patenting as they tend to be imitators, rather than innovators, due to their small size and consequent limited resources they are often also more severely impacted by IPR infringements: They have limited resources to comply and redress.

\textsuperscript{211} The counterfeiting 'sector' operates as a black market so losses are experienced at every stage — from corporate profits taxes unpaid by the manufacturer to value-added taxes uncollected when items are purchased. The scale of such losses is hard to quantify but it is undoubtedly huge; for example, in the textile and clothing sector alone, EU customs seized more than 30 million counterfeit goods in 2006. The figure for counterfeits not seized and traded on the black market is likely to be many times greater (Rodwell et al., 2007, p.13).

\textsuperscript{212} According to this scheme investors and contractors of infrastructural projects are required to provide a high level of detail, including drawings and answers to exhaustive technical questions, in order to obtain accreditation, while it is not certain that the IP revealed in the applications process is properly protected — amounting to an 'unwanted transfer of technology.'
### 4.5 Summary of the impacts

**Table 0.18: Social impacts table**

<table>
<thead>
<tr>
<th>Effects</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Employment and labour market:</strong></td>
<td>Overall employment is likely to increase, but this effect is expected to be limited. There are however strong distributional effects possible, given the concentration of IPR issues in particular sectors (with a dominance of higher skilled jobs).</td>
</tr>
<tr>
<td>• Impact on labour demand</td>
<td></td>
</tr>
<tr>
<td>• Impact on labour supply</td>
<td></td>
</tr>
<tr>
<td>Impact on the functioning of the labour market</td>
<td></td>
</tr>
<tr>
<td><strong>Job quality</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Standards and rights related to job quality</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Social inclusion and protection of particular groups</strong></td>
<td></td>
</tr>
<tr>
<td>• Access to the labour market</td>
<td></td>
</tr>
<tr>
<td>• Access to placement services or services of general economic interest</td>
<td></td>
</tr>
<tr>
<td>• Access to goods and services</td>
<td></td>
</tr>
<tr>
<td>• (In)equality</td>
<td></td>
</tr>
<tr>
<td><strong>Equality of treatment and opportunities, non-discrimination</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Access to and effects on social protection, health and education systems</strong></td>
<td></td>
</tr>
<tr>
<td>• Quality of services</td>
<td></td>
</tr>
<tr>
<td>• Access to services</td>
<td></td>
</tr>
<tr>
<td><strong>Public health and safety</strong></td>
<td>Better IPR protection will improve the health and safety standards of goods/services. In addition it is beneficial for the public order and security (international trafficking of counterfeit and pirated goods is increasingly executed by criminal organisations).</td>
</tr>
</tbody>
</table>

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**ECORYS**

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4.6 References


Palombi, L. (2006) “TRIPS, bilateralism and patents: how they are failing both the developed and developing world and what to do about it.” Electronic Journal in Communication, Information and Innovation in Health (RECIIS), vol.1, no.1, p. 71-81

Rodwell, S; Ph. van Eeckhout, A. Reid & J. Walendowski (2007) “Effects of counterfeiting on EU SMEs and a review of various public and private IPR enforcement initiatives and resources. FINAL REPORT” Study commissioned by the Enterprise and Industry Directorate under Framework contract B3/ENTR/04/093-FC-Lot 6.
5 Fiches long list of trade initiatives
**Field:** Trade and competitiveness

**Source:** Website DG Trade, interview DG Trade official

**Type of proposal:** Non-Legislative Action / trade negotiations

**Timing:** Ongoing

**Strategic importance of the proposal within the policy field/DG**: 5

**Description:**

Intellectual property (IP) has significant economic and social implications: it is a tool for the development of cultural creations, new technologies and new products that will eventually be available to the society. A balance must be reached between the need to encourage research and creation on the one hand and, on the other, the legitimate wish to make innovation and culture freely available to all. This is why most of the intellectual property rights are granted for a limited period of time.

DG Trade's policy in the field of intellectual property consists of:

- Promoting the implementation of effective standards for IP protection world-wide. The WTO Agreement on trade-related aspects of intellectual property rights (TRIPS) sets minimum standards of protection for each category of right. Each of the main elements of protection is defined: the subject matter to be protected, the rights to be conferred and permissible exceptions to those rights, as well as the minimum duration of protection. One of the EU's objectives is to reach a full implementation of these standards by each WTO Member, with due consideration to the necessary transition periods. Alongside this multilateral framework provided by the WTO, the EU negotiates and implements bilateral agreements with partner countries, which include IP provisions.
- Promoting an adequate enforcement of IPRs world-wide and participating in the fight against violations.
- Ensuring that IPRs are supportive to public health objectives, to innovation and to technology transfer.
- Cooperating with developing and least developed countries, for which the introduction and enforcement of intellectual property laws is quite a challenge (e.g. through TA programmes).
- Reaching specific objectives during the new round of negotiations at the WTO.

IPR violations are seen to deprive right-holders of the revenue of their investment and ultimately put at risk the viability of the EU's most innovative and creative companies. High levels of IPR violations also discourage foreign investment and transfer of technology and are an indicator of bad governance. In short, they harm development.

In addition, pirated and counterfeit goods can have a serious impact on health and consumer protection. Fake products are usually made by anonymous entities, that will not respect health, safety and quality requirements, not to mention, basic consumer rights. The ever increasing seizures at our borders of products like false medications, food (and even bottled water), car and plane parts, electrical appliances and toys are illustrative of the risks at stake.

The IPR Enforcement Strategy comprises of:

1. Identifying priority countries;
2. Awareness raising;
3. Political dialogue, incentives and technical co-operation;
4. IPR mechanisms in multilateral (including TRIPs), bi-regional and bilateral agreements;
5. Dispute settlement – sanctions;
6. Creation of public-private partnerships: supporting/participating in local IP networks established in relevant third countries.

**Objective(s):**

This Strategy sets the guidelines for the European Commission in the coming years towards a reduction of the level of IPR violations taking place beyond the EU borders, worldwide. It is a logical sequence of recent initiatives like the Enforcement Directive, that will harmonize enforcement legislation within the European Union, and the revision of the Customs Regulation, that provides action against counterfeit or pirated goods at the Community's border.

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213 Currently there are three categories of priority countries: (1) China; (2) Russia, Ukraine, Chile and Turkey; (3) ASEAN (particularly Thailand, Malaysia, Indonesia, the Philippines and Vietnam), Mercosur (particularly Brazil, Argentina and Paraguay) and Korea.
### Potential social effects:

<table>
<thead>
<tr>
<th>Effect</th>
<th>Likelihood**</th>
<th>Intensity***</th>
<th>Assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment and labour markets:</td>
<td>M</td>
<td>3</td>
<td>Reduction of IPR violations leads to increases in trade and investment, with positive effects on employment in the EU</td>
</tr>
<tr>
<td>positive effect on employment, particularly in specific sectors affected most by IPR infringements</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standards and right related to job quality:</td>
<td>L</td>
<td>1</td>
<td>IPR enforcement that does not discriminate between developing countries’ need in terms of e.g. access to medicine could be harmful to vulnerable groups in these countries in particular. Although not directly related to EU employment and other social indicators, EU trade policy increasingly tries to take into account social impacts on a global scale, linking the EU’s internal policies to its external environment.</td>
</tr>
<tr>
<td>None specific</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social inclusion and protection of particular groups:</td>
<td>M</td>
<td>3</td>
<td>IPR enforcement that does not discriminate between developing countries’ need in terms of e.g. access to medicine could be harmful to vulnerable groups in these countries in particular. Although not directly related to EU employment and other social indicators, EU trade policy increasingly tries to take into account social impacts on a global scale, linking the EU’s internal policies to its external environment.</td>
</tr>
<tr>
<td>None specific</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equality of treatment and opportunities:</td>
<td>L</td>
<td>1</td>
<td>This relates more to consumers, not necessarily to the labour force as such.</td>
</tr>
<tr>
<td>Applicable to companies, not necessarily employment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access to and effects on social protection, health, social security and education systems:</td>
<td>M</td>
<td>2</td>
<td>This relates more to consumers, not necessarily to the labour force as such.</td>
</tr>
<tr>
<td>Counterfeit products possibly have harmful effect on health and safety</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Suggestions for assessment techniques:

Impact assessment (IA) techniques that could be used to look at the impacts of IPR include computable general equilibrium (CGE) (non-tariff barrier costs), but it is also possible to use regression analyses to measure the effects of IPR on trade flows or employment. If a link to business is important, several survey methods (e.g. Delphi method, stakeholder analysis) can be employed. Finally, causal chain analysis is used to further analysed initial impacts on specific variables under investigation.

* number between 1-5; with 1 least importance and 5 most important/strategic

** H=high / M=medium / L= low

*** number between 1-5; with 1 low intensity and 5 high intensity
Name of the policy initiative: Liberalising and improving transparency of government procurement (fiche 2)

Field: Trade
Source: Website DG Trade
Type of proposal: Non-Legislative Action / trade negotiations
Timing: Ongoing; EC wants to prioritise this issue more than has been the case up to now.

Strategic importance of the proposal within the policy field/DG: 5

Description:
Government procurement (GP) is the term used for the purchasing activities of governmental and government-controlled entities. It covers purchases of everything from papers clips to computer systems, waste water plants, ship building or consulting services. A special regime applies to GP since it is not covered adequately in the view of the Commission by any multilateral WTO discipline. It is specifically exempted from the WTO national treatment obligation.\(^{214}\) This makes procurement arguably the largest trade sector sheltered from effective multilateral disciplines at this point.

Many of the EU’s major trading partners operate restrictive public procurement practices. As a result of such practices, EU suppliers are either outright disqualified from tendering, or can only tender on less favourable terms than their competitors. The absence of multilateral disciplines in this field means that - outside the scope of specific agreements - EU suppliers are not protected under international law against GP discrimination when tendering abroad. In contrast, EU procurement markets are among the most open in the world. It is crucial for EU prosperity that our own procurement is subject to competitive pressures, and that internal barriers that still exist are removed.

EU companies are world leaders in many areas such as transport equipment, public works and utilities. However, opaque and discriminatory procurement practices will often discourage them for participating in a call for tender. Since GP markets make up a significant part of national economies (up to 25% of GDP or even more in some cases), improving the terms of access to these markets outside the EU offers a significant untapped potential for EU exporters and the countries in question: For the exporters this relates to getting access to new markets, for the countries in question it involves achieving increased levels of competition and associated positive welfare effects.

The EC GP approach and strategy focuses on the one hand at achieving further commitments on GP within the GATS framework (Gats rules Group) and on the other hand on including GP as a main issue in its bilateral trade agreements (FTAs) with third countries and regions.

Objective(s):
Open Government Procurement markets outside the EU to EU companies and improving the transparency of procurement, so as to give EU companies easier access to these markets and increase their export possibilities.

Potential social effects:

<table>
<thead>
<tr>
<th>effect</th>
<th>likelihood</th>
<th>intensity</th>
<th>assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment and labour markets: positive effect on employment, particularly in specific sectors affected most by GP barriers, e.g. transport equipment, public works, utilities and services</td>
<td>H</td>
<td>3</td>
<td>Increased export possibilities will lead to increased exports and have a positive effect on employment in these sectors. The effects will not be very substantial, because projects implemented in third countries by EU companies, are often in part implemented with the help of local contractors.</td>
</tr>
</tbody>
</table>

\(^{214}\) In WTO GP is covered in the so-called Government Procurement Agreement (GPA), which in the view of the EC does not go far enough in terms of liberalisation and commitments.
| Standards and right related to job quality: None specific | L | 1 |
| Social inclusion and protection of particular groups: Possible effects for local companies and their employees in countries opening up their procurement markets | M | 2 |
| This effect is likely, but its effect on employment in these countries probably not as pronounced, as EU companies will likely also hire local workers and staff next to their own staff. |
| Equality of treatment and opportunities: Applicable to companies, not necessarily employment | L | 1 |
| Access to and effects on social protection, health, social security and education systems: None specific | L | 1 |

**Suggestions for assessment techniques**

Social GP impacts are hard to quantify and academics are only recently looking into quantification techniques for regulatory convergence. However, a qualitative analysis, based on the Delphi method can yield valuable insights. Also a balanced scorecard method and causal chain analysis are methodologies that can be applied to look at impacts ex-ante.
### Name of the policy initiative: Trade in Services (modes 1 – 3) (fiche 3)

<table>
<thead>
<tr>
<th>Field:</th>
<th>Trade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source:</td>
<td>Website DG Trade</td>
</tr>
<tr>
<td>Type of proposal:</td>
<td>Non-Legislative Action / trade negotiations</td>
</tr>
<tr>
<td>Timing:</td>
<td></td>
</tr>
<tr>
<td>Strategic importance of the proposal within the policy field/DG:</td>
<td>5</td>
</tr>
</tbody>
</table>

**Description:**

Services are important for the developed as well as for developing country economies. The rapidly expanding services sector is contributing more to economic growth and job creation worldwide than any other sector. The services sector is accounting for some three-quarters of the gross domestic product (GDP) for the EU and on average for 50% for the developing countries'. Additionally, over three-quarters of EU jobs are in the services sector. As such, international trade also increasingly involves trade in services, in which the EU is seen to have a competitive advantage. The EU therefore pursues a gradual liberalisation of the global trade in services both at multilateral level through the GATS negotiations in the WTO and at bilateral/regional level.

The GATS distinguishes between four modes of supplying services: cross-border trade (Mode 1), consumption abroad (Mode 2), commercial presence (Mode 3), and presence of natural persons (Mode 4)[215]. The main difficulties for liberalisation of services relate to modes 3 and 4, as these are sensitive areas. Mode 3 is linked directly to FDI, while mode 4 has major implications for the movement of labour across borders. As Mode 4 brings with it a whole set of issues quite different from those in the other three modes, this mode is included separately as an initiative to consider (see fiche 8).

The inter-dependence and complementarity between trade and FDI is widely recognized (Fillat & Francois, 2008). International rules on FDI contribute to improving the business climate by increasing legal certainty for investors and by reducing the perceived risk to invest. However, FDI flows also depend on a whole range of other factors such as political and macroeconomic conditions, infrastructure and human capital, domestic policies, and the bureaucratic environment. Domestic reforms are crucial in contributing to attract FDI, and their effectiveness can be enhanced if backed by international rules ensuring that the regulatory framework will remain stable, transparent and non-discriminatory.

The European policy on investment develops in consistency with the existing international rules that are most relevant to this area, i.e. the WTO General Agreement on Trade in Services (GATS), the Guidelines for Multinational Enterprises developed in the OECD framework, and other OECD instruments (applicable not just to FDI in relation to services, but also in relation to manufacturing, etc.). It also seeks to complement the bilateral investment treaties concluded by Member States.

Currently, the focus is on the negotiation of services liberalisation and investment rules in the context of preferential trade agreements that the EU negotiates with third countries, such as the one concluded with Chile. Provisions covering trade in services have also already been included in a number of bilateral agreements such as the Association and Stabilisation Agreements, Partnership and Cooperation Agreements with Russia and other CIS countries, as well as agreements with Mexico and Chile. Negotiations are ongoing with several other countries and regions (e.g. India, ASEAN, Mercosur, etc.)

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215 Mode 1 is defined to cover services flows from the territory of one Member into the territory of another Member (e.g. banking or architectural services transmitted via telecommunications or mail); Mode 2 refers to situations where a service consumer (e.g. tourist or patient) moves into another Member's territory to obtain a service; Mode 3 implies that a service supplier of one Member establishes a territorial presence, including through ownership or lease of premises, in another Member's territory to provide a service (e.g. domestic subsidiaries of foreign insurance companies or hotel chains); and Mode 4 consists of persons of one Member entering the territory of another Member to supply a service (e.g. accountants, doctors or teachers). The Annex on Movement of Natural Persons specifies, however, that Members remain free to operate measures regarding citizenship, residence or access to the employment market on a permanent basis.
**Objective(s):**
Liberalisation of trade (and investments) within the context of the WTO and bilateral trade negotiations, so as to ensure market access for EU exporters and investors in third countries.

**Potential social effects:**

<table>
<thead>
<tr>
<th>effect</th>
<th>likelihood</th>
<th>intensity</th>
<th>assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment and labour markets:</td>
<td>H</td>
<td>4</td>
<td>liberalising trade in services and FDI, improving transparency, will lead to increased trade and investments and related employment changes.</td>
</tr>
<tr>
<td>Employment impacts are highly likely, but directions may be somewhat ambivalent, e.g. increased trade in cross border services may lead to additional employment in the EU, while increased openness of third country markets to investments may also lead to shifts of activities from the EU to these third countries. Effects will also depend strongly on how exactly the policy will be implemented. E.g. if only through a number bilateral trade agreements effects will be less pronounce than if it is achieved at multilateral level.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standards and rights related to job quality:</td>
<td>M</td>
<td>3</td>
<td>Assuming that EU investors will adhere to international standards when investing overseas.</td>
</tr>
<tr>
<td>None specific in the EU; possibly in third countries through investments (EU investors may introduce higher labour standards when investing in developing countries)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social inclusion and protection of particular groups:</td>
<td>M</td>
<td>3</td>
<td>Assuming that EU investors will adhere to international standards when investing overseas.</td>
</tr>
<tr>
<td>See above</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equality of treatment and opportunities:</td>
<td>L</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>None specific</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access to and effects on social protection, health, social security and education systems:</td>
<td>M</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Indirect impacts of freer trade in services and investments could encourage increased cross-border interaction in general, including in terms of social services, cultural exchanges, etc.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Suggestions for assessment techniques**

Impact assessment techniques that are employable, differ, based on the services mode under consideration. At present, in computable general equilibrium (CGE) models, we can look at the impacts of trade policy on employment, also at sectoral level, for various services sectors (based on GTAP 7.5) in modes 1 and 2. For mode 3, at best we can use the complementarity of trade and FDI to get some insights. However, for modes 3 and 4 – related to FDI, we can – currently, given data restrictions – at best employ gravity analysis. Additional information through a Delphi method, causal chain analysis and stakeholder analysis, would be welcome complements. Also, surveys can be conducted, but this is more labour intensive.
Name of the policy initiative: Trade Defence Instruments (fiche 4)

Field: Trade

Source: Website DG Trade

Type of proposal: (unknown)


Strategic importance of the proposal within the policy field/DG: 5

Description:
Dumping is often seen to relate to any cheap or below-cost imports, but the reality is more complicated. The 1996 Anti-Dumping Regulation provides for the imposition of anti-dumping duties, but only when the following conditions are met:

- a finding of dumping: the export price at which the product is sold on the Community market is shown to be lower than the price on the producer's home market;
- a material injury to Community industry: the imports have caused or threaten to cause damage to a substantial part of the industry within the EC, such as loss of market share, reduced prices for producers and resulting pressure on production, sales, profits, productivity etc.;
- the interests of the Community: the costs for the Community of taking measures must not be disproportionate to the benefits.

The European Commission is responsible for investigating complaints and assessing whether they are justified. The Commission can also impose provisional measures, and definitive measures for coal and steel products. In all other cases, it is the Council of Ministers which imposes definitive anti-dumping duties.

International rules on subsidies were substantially strengthened by the World Trade Organisation’s Agreement on Subsidies and Countervailing Measures, negotiated as part of the Uruguay Round, which entered into force on 1 January 1995. The terms of this Agreement are incorporated in the European Community’s Regulation on protection against subsidised imports, which took effect on the same date. The EC regulation only concerns imports from outside the EC, providing for imposition of countervailing duties on goods which have been subsidised by the governments of non-EU countries and whose import into the Community causes or threatens injury to EC producers of the same product. Three conditions must be met before countervailing duties can be imposed:

- the subsidy must be specific: i.e. it must be an export subsidy, or a subsidy limited to a company, an industry or a group of companies or industries;
- material injury to Community industry: the import sales have caused or threaten to cause damage to a substantial part of the industry within the EC, such as loss of market share, reduced prices for producers and resulting pressure on production, sales, profits, productivity etc.;
- the interests of the Community: the costs for the Community of taking measures must not be disproportionate to the benefits.

As with Anti-dumping action, the European Commission conducts the investigation and imposes provisional measures. Definitive measures are imposed by the Council of Ministers. The complaint and investigation procedures are similar to those governing Anti-Dumping actions.

Safeguard measures, which may be applied to imports that increase in such quantities and are made under such conditions as to cause or threaten to cause serious injury to the Community industry, provided there is a Community interest to do so. At the request of a Member State or at the Commission's own initiative, an investigation may be initiated on the basis of which measures may be applied on a case-by-case basis. Industry may not directly request the introduction of these measures. These measures must respect the WTO Agreement on Safeguards.

Ongoing globalisation has resulted in a changing structure of the EU economy. Many firms are now producing goods outside the EU, or dependent on imports for strategic inputs. In other words, they are increasingly operating in international or even global production and value chains. Therefore the Commission has engaged in a re-assessment of its use of trade defence instruments. An evaluation and public consultation process formed an integral part of this re-assessment. However, the potential employment impact of TDI in the EU is ambiguous at best, as is expressed by UNICE.216

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216 Reflection on the consultation process on trade defence instruments, statement by Mr. A. van Hoven of UNICE (renamed BusinessEurope in 2007), Brussels, 11 July 2006
“The relationship of TDI to jobs is a complex matter as well. Clearly, companies that can overcome the injurious impact of unfair trade practices as a result of TDI contribute to saving and probably creating new jobs as the industry can come back to full strength. However, if a TDI case is going to have a seriously negative impact on, for instance, user industries, the EU must address that. I believe that it is already the case (e.g. salmon case affecting Danish canning industry; steel quota enlargements from Russia/Ukraine to take account of East European user industry imports) (…) it would be difficult to ascertain that TDI is either a major contributor or destroyer of jobs. Either approach would be exaggerated (…) TDI are micro-economic instruments and should not be expected to have macro-economic effects.”

**Objective(s):**

Use the TDIs strategically, so as to reflect a balanced approach to the different interests of EC companies and protect them from unfair competition.

**Potential social effects:**

<table>
<thead>
<tr>
<th>effect</th>
<th>likelihood</th>
<th>intensity</th>
<th>assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment and labour markets:</td>
<td>M</td>
<td>2</td>
<td>The companies that are experiencing pressures due to dumping or subsidies are affected in such a way that it may lead to downsizing, bankruptcy or relocation outside EU of the company. The number of cases is large enough/concentrated enough to have a noticeable effect on employment.</td>
</tr>
<tr>
<td>Standards and rights related to job quality:</td>
<td>L</td>
<td>1</td>
<td>Non specific</td>
</tr>
<tr>
<td>Social inclusion and protection of particular groups:</td>
<td>M</td>
<td>2</td>
<td>Possible effects for third countries affected by the TDI.</td>
</tr>
<tr>
<td>Equality of treatment and opportunities:</td>
<td>L</td>
<td>1</td>
<td>Non specific</td>
</tr>
<tr>
<td>Access to and effects on social protection, health, social security and education systems:</td>
<td>L</td>
<td>1</td>
<td>Non specific</td>
</tr>
</tbody>
</table>

**Suggestions for assessment techniques**

If it is possible to translate the TDI into a tariff equivalent, a wide array of impact assessment methodologies can be used: computable general equilibrium modelling, regression analysis, and some simpler correlation statistical techniques. Also use of the harmonic mass index would be possible here. If tariffication is impossible, then a qualitative analysis, using the Delphi method, or surveys to gather qualitative and quantitative data are needed. In specific country cases, the GSIM method (global simulation) – which is partial equilibrium – may be used.
Name of the policy initiative: Access to raw materials (fiche 5)

<table>
<thead>
<tr>
<th>Field:</th>
<th>Trade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source:</td>
<td>DG Trade</td>
</tr>
<tr>
<td>Type of proposal:</td>
<td>non-legislative / various</td>
</tr>
<tr>
<td>Timing:</td>
<td>Currently in assessments stage (assessing size and impact of issue); policy to be formulated in 2008/2009?</td>
</tr>
<tr>
<td>Strategic importance of the proposal within the policy field/DG:</td>
<td>4</td>
</tr>
</tbody>
</table>

Description:
DG Trade has launched the analysis in the form of an inventory identifying the type of measures, their economic impact, products affected, justifications, and options for removal. EU delegations and industry have given inputs to this exercise. For the purposes of this exercise, all products that serve as input in the industrial process have been considered as raw materials. They can be unprocessed, processed products (some even quite for down the production chain such as steel plate) or recycling products such as scrap.

So far, work has been carried out to identify existing trade restrictions with a number of selected European federations and associations. It is the intention to broaden and generalize this collect of information.

Protection measures can take different forms, concern different products, be introduced by different countries and for different reasons. Whilst the analysis on the economic impact is ongoing, one can conclude already that the size of the issue is not negligible (400 tariff lines affected) and that one can speak of a proliferation of measures introduced by third countries which have the effect of limiting access by European industries to raw materials and/or providing third country operators with competitive advantages resulting from cheaper access to such inputs.

Reasons for such trade restrictions may include: Industrial policy, environmental grounds, social and development justifications, or budgetary reasons.

Policy options to address the issue that may be considered include:
- Negotiations in WTO regarding an EU proposal for a discipline on use of export taxes
- Awareness raising in different for a including G8, OECD, UNEP
- FTAs: binding commitments and market opening: elimination of export duties, disciplines other areas relevant to access to raw materials (subsidies, competition, investment). Further precise justifiable exception grounds for restrictions.
- WTO accessions: binding commitments for export duties and dual pricing
- Bilateral (non preferential agreements, e.g. PCA): disciplines on export duties, investment, dialogue
- WTO dispute settlement: challenge measures which are believed to violate WTO rules
- Market access strategy
- Dialogues with countries imposing or been affected by restrictions (alliance building)

Objective(s):
Ensure access to essential raw materials for EU businesses.

Potential social effects:

<table>
<thead>
<tr>
<th>effect</th>
<th>likelihood</th>
<th>intensity</th>
<th>assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment and labour markets: Export taxes and restrictions by resource rich countries could provoke the delocalisation of EU Industries, their downsizing or even closures; ensuring access to these resources could prevent this from happening, in other words could save jobs in the EU.</td>
<td>M</td>
<td>3</td>
<td>Effects of export taxes and restrictions may be even more pronounced if there are also restrictions to investments in raw materials industries in third countries, implying EU firms can not invest in downstream activities so as to ensure access.</td>
</tr>
<tr>
<td>Standards and rights related to job quality: Non specific</td>
<td>L</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Employment and labour markets:
Export taxes and restrictions by resource rich countries could provoke the delocalisation of EU Industries, their downsizing or even closures; ensuring access to these resources could prevent this from happening, in other words could save jobs in the EU.

Standards and rights related to job quality:
Non specific
### Suggestions for assessment techniques

Direct effects of trade policy on raw materials use and related social (e.g. employment) effects can be assessed through computable general equilibrium modelling. Both for the quantities of raw materials as well as employments. For regional employment effects, we recommend overlay mapping, whereby CGE outcomes are projected on – for example – the EU geographical map that shows where raw materials are coming from or are used. This adds a regional dimension to the analysis. Furthermore, especially strategic considerations related to raw materials security, can be obtained through one or two Delphi rounds with experts.
**Name of the policy initiative:** FTA with CIS and MEDA countries (fiche 6)

<table>
<thead>
<tr>
<th>Field:</th>
<th>Trade</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Source:</strong></td>
<td>DG Trade website; ongoing ECORYS projects; interviews DG Trade officials</td>
</tr>
<tr>
<td><strong>Type of proposal:</strong></td>
<td>non legislative (trade negotiations)</td>
</tr>
<tr>
<td><strong>Timing:</strong></td>
<td>2008 onwards (with exception Ukraine, which is ongoing)</td>
</tr>
<tr>
<td><strong>Strategic importance of the proposal within the policy field/DG:</strong></td>
<td>4</td>
</tr>
</tbody>
</table>

**Description:**
Although the EC is committed to the WTO and the multilateral trading system is its first priority, it will also propose a new generation of bilateral free trade agreements with key partners to build on WTO rules by tackling issues which are not ready for multilateral discussion and by preparing the ground for the next level of multilateral liberalisation. These new FTAs will fit in with the EC strategy of negotiating deep and comprehensive trade agreements covering all aspects of trade, including all sectors and horizontal issues such as Government Procurement, IPR, Competition Policy, etc.

After having initiated such negotiations with a number of key partners in Asia, Latin America and with the Ukraine, negotiations with a number of other CIS and MEDA countries are expected to be conducted in the next few years, including Armenia, Georgia, Azerbaijan, Tunisia and Morocco.

The employment effects of such agreements are not expected to be big for the EIU, considering the relatively small trade flows between the EU and these countries. However, in certain sectors or regions, or for certain groups the effects may be more pronounced and migration issues (modes 3 and 4) may prove to be much more important.

Overall the impacts of such trade agreements offer long term benefits for both parties. Issues concern more short term adjustment costs.

**Objective(s):**
To further promote global trade liberalisation and market access by going beyond what is agreed in the WTO (WTO+ agreements)

**Potential social effects:**

<table>
<thead>
<tr>
<th>effect</th>
<th>likeliness</th>
<th>intensity</th>
<th>assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment and labour markets: Employment effects in particular sectors; possibly migration impacts.</td>
<td>M</td>
<td>2</td>
<td>Depending on the extent of liberalisation in mode 4 impacts will vary</td>
</tr>
<tr>
<td>Standards and rights related to job quality:</td>
<td>L</td>
<td>2</td>
<td>Labour standards in EU higher than in the countries with which FTAs concluded. Not likely to positively affect these issues in EU. The other way around there may be some positive effects through FDI and modernisation</td>
</tr>
<tr>
<td>Social inclusion and protection of particular groups: Non specific for EU</td>
<td>L</td>
<td>1</td>
<td>Possibly positive effects for CIS through regulatory approximation</td>
</tr>
<tr>
<td>Equality of treatment and opportunities: Non specific for EU</td>
<td>L</td>
<td>2</td>
<td>Possibly positive effects for CIS through regulatory approximation</td>
</tr>
<tr>
<td>Access to and effects on social protection, health, social security and education systems:</td>
<td>L</td>
<td>2</td>
<td>Possibly positive effects for CIS through regulatory approximation</td>
</tr>
</tbody>
</table>

**Suggestions for assessment techniques**
Trade sustainability impact assessment (TSIA) methodology, including: computable general equilibrium modelling, if needed supplemented for small sectors by GSIM partial equilibrium modelling. Further in-depth analyses can come from Causal Chain Analysis, Case studies and involvement of sector experts through a Delphi method. Migration impacts in modes 3 or 4 can be analysed using gravity analysis, again supplemented by a Delphi method. Regional impacts can be addressed using overlay mapping.
Name of the policy initiative: Everything But Arms (EBA) Agreement with Least Developed Countries (LDCs) – Bananas, Sugar and Rice (fiche 7)

Field: Trade

Source: DG Trade website.

Type of proposal: non legislative (trade negotiations)


Strategic importance of the proposal within the policy field/DG: 3

Description:
Given the great number of developing countries, differences between them – in terms of level of development – are huge. The rationale of the GSP is that developing countries cannot compete with developed countries. At present, some developing countries cannot even face the competition of other developing countries. Thus, there is a need to target the tariff preferences available under the GSP to these least developed countries, which need them most.

In February 2001, the Council adopted the so-called “EBA (Everything But Arms) Regulation” (Regulation (EC) 416/2001), granting duty-free access to imports of all products from least developed countries without any quantitative restrictions, except to arms and munitions. At present, 49 developing countries belong to the category of LDC’s. The provisions of the EBA Regulation (Council Regulation (EC) No 416/2001 of 28 February 2001) have been incorporated into the GSP Regulation (Council Regulation (EC) No 2501/2001).

Only imports of fresh bananas, rice and sugar are not fully liberalised. Duties on those products will be gradually reduced until duty free access without quantitative restrictions will be granted. For bananas this was supposed to happen in January 2006, however, this hasn’t materialised so far, for sugar in July 2009 and for rice in September 2009. In the meantime, there will be duty free tariff quotas for rice and sugar (see the latest regulations for sugar quotas No 1381/2002 and rice quotas 1401/2002 in the list of legislation).

The EBA Regulation foresees that the special arrangements for LDC’s should be maintained for an unlimited period of time and not be subject to the periodic renewal of the Community’s scheme of generalised preferences. Therefore, the date of expiry of Council Regulation (EC) No 2501/2001 does not apply to its EBA provisions.

Objective(s): (intended effects of the proposal)

To grant duty and quota free access to all LDCs for sugar and rice into the EU market.

Potential social effects:

<table>
<thead>
<tr>
<th>Effect</th>
<th>likelihood</th>
<th>intensity</th>
<th>assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment and labour markets:</td>
<td>M</td>
<td>3</td>
<td>The EBA will lead to increased import of sugar and rice into EU from LDC countries.</td>
</tr>
<tr>
<td>The sugar sector in the EU may be negatively affected. However, there is an ongoing process also related to the reform of the CAP, so the effects of the EBA alone will only contribute in part to overall effects. Moreover, this involves a relatively limited number of jobs. For rice and specifically for bananas the effects will more likely relate to trade diversion from other countries, thus effects on the EU will be limited.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Standards and rights related to job quality:</td>
<td>L</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>None specific</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social inclusion and protection of particular groups: Possibly positive effects for sugar farmers in LDCs. However, effects will likely only be positive for a relatively small number of producing countries.</td>
<td>M</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Equality of treatment and opportunities:</td>
<td>L</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Access to and effects on social protection, health, social security and education systems:</td>
<td>L</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

**Suggestions for assessment techniques**

A computable general equilibrium methodology can be used here to look at the effects of the EBA initiatives, and more specifically the liberalisation of bananas, sugar and rice policies. The economic overall welfare effects, as well as sector effects can be analysed directly, with additional social and environmental impacts through causal chain analysis (in line with the TSIA method used at DG Trade). Regional effects can be looked at through overlay mapping – to see where the sugar, banana and rice sectors are most important and then project the expected impacts disproportionately on those areas. Further qualitative analysis can be done by employing the Delphi and stakeholder methods to gather expert opinions.
**Field:** Trade

**Source:** Ongoing ECORYS projects.

**Type of proposal:** non legislative (trade negotiations)

**Timing:** (unknown)

**Strategic importance of the proposal within the policy field/DG:** 4

**Description:**

Within the WTO GATS Mode-4 liberalisation is a fiercely debated issue. As the Third World Network argues: “Several developing countries have been pushing for improvement for increased market access in movement of natural persons (Mode 4). They point to the imbalance of developed countries piling on the pressure on developing countries to commit to give commercial presence to their firms in a wide range of sectors (under Mode 3 of GATS) not making any commitments on liberalising Mode 4.”

With the stalling of the WTO DDA round in 2006 this issue was more or less pushed to the background.

However, with an ageing population and shortages of both skilled and unskilled workers in the Union, the issue may become more pertinent again. In the context of EU enlargement this was already the case and this has resulted in substantial flows of labour from the NMS to old member states (despite the fact that some old member states still have many restrictions).

It is possible that third countries will request concessions in mode-4 in their bilateral negotiations.

Overall impacts for host and sending countries of Mode 4 liberalisation are likely to be positive, although such liberalisation often provokes (legitimate) political and social concerns. However, actual commitments under Mode 4 are still limited, while at the EU level, labour migration policies are still over-ruled by Member States’ policies and even within the EU-27 there is still no complete free movement. Employment mobility effects will differ, depending on the type of Mode 4 liberalisation considered. Possibilities include for instance:

- Positive list of Mode 4 commitments with numerical ceilings
- Positive list of Mode 4 commitments without numerical ceilings
- Free movement with safeguard clauses
- Free movement without safeguard clauses

The table below is adapted from the ECORYS TSIA for the EU-Ukraine FTA and provides an illustration of possible effects and issues related to these different options for mode 4 liberalisation

<table>
<thead>
<tr>
<th>Mode 4 scenario commitments*</th>
<th>Social / political issues EU</th>
<th>Social / political issues sending country</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive list of Mode 4 commitments with numerical ceilings</td>
<td>Advantage: Possibility to solve measured labour shortages in specific sectors and control influx of workers at overall and sectoral levels.</td>
<td>Issues/effects: Competition among labourers for the limited positions available, danger of illegal trafficking.</td>
</tr>
<tr>
<td></td>
<td>Issues / effects:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Limited flexibility, danger of illegal movement if ceilings are set at low levels and/or certain sectors excluded;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Danger of lobby interests determining lists and ceilings;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Clear needs assessment has to be made for both selection of sectors and determination of ceilings. Difficult to realise.</td>
<td></td>
</tr>
<tr>
<td>Positive list of Mode 4 commitments without numerical ceilings</td>
<td>Advantage: Possibility to solve measured labour shortages in specific sectors.</td>
<td>Possible worker shortages in selected sectors in sending countries.</td>
</tr>
<tr>
<td></td>
<td>Issues / effects:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Flexibility for selected sectors; possibly unfair competition for sectors that are not included on positive list but complementary;</td>
<td></td>
</tr>
<tr>
<td>Free movement with safeguard clauses**</td>
<td>Advantages: efficient allocation of resources, with possibility to limit influx of foreign service suppliers if it is too large or to sudden and potentially causes negative social impacts.</td>
<td>Uncertainty for service suppliers as to the possibilities and duration of their stay.</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Issues / effects</td>
<td>• Need to agree on fair and reasonable clauses and criteria.</td>
<td></td>
</tr>
<tr>
<td>Free movement without safeguard clauses</td>
<td>Advantage: Efficient allocation of resources and flexibility of firms to enter into contract with foreign service suppliers to work on specific projects.</td>
<td>Possibility of labour shortages in sending countries</td>
</tr>
<tr>
<td></td>
<td>Issues / effects</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• If large influx in specific sector and/or region social tensions among ‘threatened workers’ in host countries; difficulties in enforcing temporariness.</td>
<td></td>
</tr>
</tbody>
</table>

**Objective(s):** (intended effects of the proposal)
Increase efficiency of resource allocation, address (temporary or sector specific) labour shortages.

**Potential social effects:**

<table>
<thead>
<tr>
<th>Effect</th>
<th>likelihood</th>
<th>intensity</th>
<th>assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment and labour markets: functioning of labour market may be affected, also certain sectors may be affected more than others.</td>
<td>H</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Standards and rights related to job quality: Possibility of a decrease of labour standards due to influx of labour that will accept lesser conditions</td>
<td>M</td>
<td>2</td>
<td>Depending on whether enforcement and implementation of core labour standards is adhered to, no effects should be noticeable.</td>
</tr>
<tr>
<td>Social inclusion and protection of particular groups: In specific sectors or regions possibly effects</td>
<td>M</td>
<td>2</td>
<td>idem</td>
</tr>
<tr>
<td>Equality of treatment and opportunities: See above</td>
<td>M</td>
<td>2</td>
<td>idem</td>
</tr>
<tr>
<td>Access to and effects on social protection, health, social security and education systems: This may be an issue for immigrant labour if equal treatment is not assured in national legislation</td>
<td>M</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**Suggestions for assessment techniques**

For Mode 4, we run into severe limitations regarding quantitative modelling techniques. In order to model the effects of mobility, we need information on FDI and Foreign Affiliate sales to look at affiliates of large multinationals. Since this data is not available, a qualitative approach is the most optimal available now – with some regression work or other statistical techniques based on the available quantitative data. Expert and stakeholder consultations as well as the harmonic mass index methodology may shed more light in this field.
**Name of the policy initiative: Mitigation of the ETS through trade policy (fiche 9)**

**Field:** Trade and energy

**Source:** Ongoing ECORYS projects for Commission

**Type of proposal:** not yet known

**Timing:** not yet known

**Strategic importance of the proposal within the policy field/DG:** 4

**Description:**
Implementation of the ETS in the EU, without exemptions for energy intensive / polluting industries, could place these industries at a cost disadvantage vis-à-vis competitors outside the EU. If import tariffs for the goods from these competitors are low to zero, this may affect EU manufacturers not just in their export, but even in their home markets. If they pass on cost increase to their buyers / consumers, this may lead to decreased demand, if they absorb costs, this will negatively affect profitability, hence possibilities to invest, etc. Likely effects of both these options are reductions in employment.

The Commission is considering how these effects may be mitigated, in other words, how it can assure a global level playing field for EU producers despite the ETS. One of the options is the levying of a tariff on products that have been produced in countries were pollution has not been compensated and reflected in prices.

The main difficulty with such a policy would be to determine which products are produced with a great deal of pollution and subsequently how to set tariff rates to create the level playing field (and if this is at all possible). Even if these issues are dealt with, issues of WTO compliance will also have to be addressed. However, as a policy initiative it is highly innovative and exemplary of the Commission’s desire to integrate environmental (and social) issues in all of its policies.

Likely effects on employment will be moderate: depending on the policy chosen, they would concern primarily the prevention of job losses. The method would determine to which effects direct and/or indirect ETS effects are mitigated.

**Objective(s):** (intended effects of the proposal)

(Re)create a level playing field for EU industries operating under the ETS

**Potential social effects:**

<table>
<thead>
<tr>
<th>effect</th>
<th>likelihood</th>
<th>intensity</th>
<th>assumptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employment and labour markets:</td>
<td>M</td>
<td>3</td>
<td>This depends on definition of environmental pollution, differentiation (or not) in import tariff schemes and possibility of doing so in a WTO compatible way.</td>
</tr>
<tr>
<td>Prevention of job loss</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Standards and rights related to job quality: | L | 1 |
| Social inclusion and protection of particular groups: | L | 1 |
| Equality of treatment and opportunities: | L | 1 |

**Access to and effects on social protection, health, social security and education systems:**

**Suggestions for assessment techniques**

It is possible to use computable general equilibrium (e.g. GREEN or TEQUILA) models for these analyses. This would yield employment effects of ETS and subsequently of trade policy, both overall as well as for specific sectors.

Additionally, this is a field where sector experts need to be consulted in order to get a sector-specific overview of the likely effects. Note that the uncertainty in the policy arena is big due to the need for WTO-compatibility. Furthermore, stakeholder analysis and a Sorensen networking method could be applied here to see the causal chains between policy and effects clearly.