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## **Appendix 2**

### **Comments on Key Performance Indicators (“KPI”) Matrix and Statistical Validity**

We would note a number of concerns in relation to the approach that has been adopted in relation to assessment of the impact of the proposals and are concerned that the current approach will lead to conclusions that do not reflect the coherent views of those surveyed. This section sets out the reasons, covering:

- Theoretical framework applied to assess the robustness of the approach and methodology applied
- Tools used in the consultation to determine the impact of the VAT change
- Assessment of the information gathered from the consultation

The approach adopted attempts to assess only the direct impacts on operators, making no reference to wider implications across supply-chains and the dynamics between transport modes. Whilst it is appreciated that this is a high level assessment of the tax policy change implications, wider implications besides direct impacts should be considered and robust techniques should be applied.

In any option analysis, the Key Performance Indicators (KPIs) used should be specific (i.e. not introduce ambiguity amongst respondents) and measurable (clearly defined against an objective benchmark). Whilst not all KPIs can be quantitatively assessed, those items which represent specific cost impacts should be quantified where possible. Qualitative responses must be clearly structured against transparent criteria to enable fair comparison across policy options.

In addition, it would be expected that a more detailed assessment (e.g. a full Economic Impact Assessment) should not provide conflicting outcomes with respect to the high level study. This would not appear to be so in this case as the existing use of KPIs and scoring system could lead to biased, inconsistent and uncertain outcomes when compared with a more rigorous approach.

### **Theoretical framework applied to assess the robustness of the approach and methodology applied**

We would expect the consultation process to provide a robust assessment of the implications of the VAT change as the assessment will be based on an estimation of what the policy outcome is likely to be. Such robustness is traditionally evaluated under three main criteria:

- **Unbiasedness of the assessment.** A robust approach and methodology should lead to a result that on average provides unbiased indications of what

the expected policy outcome is likely to be. Therefore, the application of an incorrect approach and methodology to infer the policy outcome is very likely to lead to biased results and undermine the validity of the analysis.

- **Consistency of the assessment.** A consistent approach and methodology should lead to a highly precise and accurate policy outcome estimate when more high quality data is available. In other words, policy outcome estimates are usually produced in the form of a range. However, the higher the level of information available, the more precise the estimate tends to be, and therefore the smaller the range is. An approach and methodology that is not properly designed might lead to inconsistent results leading to an estimate that is still not able to properly infer the correct policy outcome irrespective of the amount of data available. This is likely to undermine the validity of the analysis performed.
- **Efficiency of the assessment.** An efficient approach and methodology should lead to a low level of uncertainty and high precision of the policy outcome estimates. Whilst uncertainty around the likely policy outcome depends also on the data quality and availability, an efficient approach and methodology should lead to a reduction in the degree of uncertainty around the most likely policy outcome irrespective of the characteristic and amount of data. The more the approach and methodology is able to mimic and represent the reality, the higher the degree of accuracy and precision of the estimate. High level approaches and methodologies that are not able to fully capture the complexity of the reality of a policy change are very likely to lead to estimates of the policy outcome with a very low level of precision, high degree of uncertainty and low confidence.

## **Tools used in the consultation to determine the impact of the VAT change**

### *Summary*

The KPIs used to measure the likely impact of each policy option are critical to meeting the objectives of the consultation. Invalid or ambiguous KPIs may lead to inconsistent and biased results as well as leading to a high degree of uncertainty around the policy outcome. In addition, the uncertainty and heterogeneity amongst respondents might generate unrepresentative conclusions.

- The description of KPIs provided gives some guidance to respondents but may also generate some ambiguity as they try to capture several distinct impacts in one measure. For instance, under 'non-distortionary' operators are asked to score implications for competition across modes and across 'on-board' and 'off-board' purchases. These are two distinct questions with different policy implications. Grouping these under one score could give misleading answers.
- There appears to be some overlap across KPIs. For instance, it is likely that the simplicity and certainty of a policy option will largely underpin the efficiency of that option (i.e. where a policy is simple to comply with and certain in terms of scope it is likely to be cheaper to implement for operators and more successful in terms of VAT collection). Asking the three questions

simultaneously may raise the risk of respondents providing unintuitive or contradictory statements.

- Reference to practical issues identified during the first consultation is provided. Whilst this aids the respondent in understanding those potential impacts of each policy option, we would have expected this information to generate more valuable conclusions were these asked as direct questions. This would directly address a key 'simplicity' issue and also allow policy makers to address specific concerns more effectively.

It is also noted that the 'challenges' listed for each KPI highlight only negative aspects of each policy option. This may lead to a more negative response from operators, encouraging the least worst option to be selected – whereas each policy option is likely to have benefits against a do-nothing benchmark (for instance, by improving certainty of the tax regime).

#### *KPI review*

We have set out our concerns below in relation to the application and potential drawbacks of each KPI.

- ▶ **Simplicity:** Simplicity of application affects operators cost base and the efficient recovery of tax receipts. It is a valid consideration but it is unclear how geographical considerations and supply chain network implications can be captured through the analysis. The conclusions drawn from the operators may not reflect wider industry impacts and therefore lead to biased and inconsistent results.
- ▶ **Efficiency:** Transaction volume, simplicity of compliance with local regulations and nature of existing systems (e.g. cash registers) will all impact upon overall efficiency. Whilst the approach taken in the consultation identifies these items there is some ambiguity as to whose costs should be referred to and whether pass-through type effects<sup>1</sup> should be considered. These should be assessed to understand the wider efficiency of each policy option. Without such considerations there is a high likelihood that the policy outcome assessment might be biased and inconsistent.
- ▶ **Certainty:** The certainty of the VAT application is a key consideration when assessing all potential impacts of the policy option, including the simplicity and efficiency. Responses to this KPI in isolation may reflect the respondents understanding of the relevant legislation rather than the overall implications for tax recovery and impact upon industry. Biases in the response led by a misunderstanding of the policy framework might therefore lead to biased and inconsistent estimates of the policy outcome.
- ▶ **Non-distortionary:** The application of this metric does not account for wider market implications and industry impacts. For instance, the application of certain policy options may affect existing business models/transport modes in different ways (depending upon operational characteristics), with upstream/downstream implications for suppliers/users (not explicitly included

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<sup>1</sup> Where a tax burden is passed on from one step in the supply chain to another

in the analysis). Without a quantitative economic assessment of market implications respondents may be unable to fully understand potential market distortions. Therefore, there is a high level of uncertainty around the true policy outcome (ie. low efficiency) as well as high risk of producing biased and inconsistent results.

- **Effectiveness and fairness:** This KPI is ambiguous in isolation of wider industry implications and a more dynamic view of tax recovery (i.e. short term versus long term impacts). The value of any response is also likely to be highly dependent upon the capabilities of those consulted in terms of tax policy and economics. Therefore this KPI is likely to lead to biased and inconsistent results depending on the capabilities and judgment of the individuals consulted.

### Assessment of the information gathered from the consultation

It is unclear how the information gathered will be collated and reviewed. However, an initial review of the input matrix suggests three key inherent restrictions to any impact analysis:

- **Meaningfulness of scoring system:** The use of a scaled number rating system provides a simplistic way of ranking policy options but limits the ability for respondents to specify specific implications for their business and the wider industry.

Certain KPIs would typically require a financial evaluation (e.g. efficiency) to allow for a valid comparison across options.

There is no clear objective measure as to what the scoring system represents. The choice of score by each respondent is likely to be highly subjective (i.e. one respondents 'bad' may be the same as another respondents 'very bad' in terms of actual impact upon industry) and dependent upon the personality and interpretation. If a scaled number system is used, each number should have a respective statement or qualification as to what it represents.

With a lack of wider quantitative evidence, it is difficult for respondents to rank options effectively, undermining subsequent analysis. This implies that although the answer might not be exposed to bias and inconsistency, the application of the scoring system might result in a disguised and biased indication of the policy outcome.

- **Lack of benchmarks:** In assessing the impact of a policy option an effective benchmark needs to be set, establishing which outcomes the respondent is attempting to compare. The scoring system used assumes 0 to represent no impact which does not reflect the dynamic nature of the industry – where an option does not directly affect the respondent (in relation to the KPIs used), there are likely to remain indirect impacts where supply chains or demand is impacted. Therefore, there is still a high degree of uncertainty around what the true policy outcome might be as well as lack of

any degree of confidence around the unbiasedness and consistency of the results.

The geographic coverage (i.e. 27 states) of the proposed policy options also create significant difficulties when forming any benchmark – i.e. against which existing regime do respondents compare policy options, especially where they operate across a number of jurisdictions.

- **Difficulties in the aggregation of results:** No information is provided as to how the results of this consultation exercise are to be aggregated and conclusions then drawn. By its nature, the consultation should include a wide range of operators (in terms of mode, size and geographic location). To avoid significant statistical error, any analysis based upon the scoring system used should adjust for varying characteristics of the respondent.