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## SEAC'S APPROACH FOR VALUING JOB LOSSES IN RESTRICTION PROPOSALS AND APPLICATIONS FOR AUTHORISATION

### 1. Objective

The purpose of this note is to establish SEAC's approach for assessing the social cost of job losses that may occur in the EU as consequence of either the non-authorisation of the continued use of an Annex XIV substance or the restriction of a substance. The note might also be helpful to analysts who undertake or evaluate a socio-economic analysis (SEA) as part of either an application for authorisation or a restriction proposal.

Whilst the note summarises the approach, a background report<sup>1</sup> provides detailed explanations of the assumptions made and cites the relevant literature. Importantly, neither the note nor the background report seek to replace the "Guidance on Socio-economic Analysis in Applications for Authorisation". The approach is complementary to the SEA guidance, which takes a long-term perspective on employment effects when stating that:

*"Employment effects that are caused by a given activity, e.g. a production line or company closing down, or relocating production outside of the EU, should be estimated and included as a distributional impact."*

In the short run, however, a restriction or negative authorisation decision will affect the employment of production capital in a negative way and it is these frictional costs that the approach seeks to quantify, i.e. the social opportunity cost which accrues between the release and reemployment of a worker.

### 2. Summary of the approach

In general, three employment impacts might be associated with regulatory decisions on the use of chemical substances.

*Short-term impacts.* Job losses as a result of the closure and/or relocation of manufacturing plants outside the European Economic Area (EEA): Such job losses are generally included in the SEA as the changes in employment at these plants can be seen a direct result of the authorisation or restriction decision. In many cases it can be presumed that, in the medium to long run, new jobs will be created as a consequence of the applicant exiting the market. In the short run, however, frictional unemployment is most likely to be a direct consequence of a negative authorisation decision (or an agreed upon restriction) and this is the primary impact this note is concerned with;

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<sup>1</sup> Dubourg, Richard. 2016. *Valuing the social costs of job losses in applications for authorisation*. Report prepared for the European Chemicals Agency. Version 3, September 2016.

*Medium to long-term impacts.* Job shifts to competitors, which relate to changes in employment in firms and sectors competing with the applicant. An example is the closure of a firm's operations, with associated job losses, whilst a competitor expands their production and consequently increases their employment of workers. Such situations would not generally imply net employment effects as job losses in affected firms and sectors are balanced by job increases in other firms and sectors, albeit after some delay which reflects the time markets take to react to changes in demand;

*Knock-on impacts.* Job losses due to changes in production means, such as switches to alternative production technologies, which would result in additional costs and consequent changes in employment. An example is a new technology that does not require as much labour input (a direct employment effect) or raises the firm's production costs, making it less competitive and its demand for labour fall (an indirect employment effect). Employment impacts may also affect downstream customers and upstream suppliers. The difficulty here is likely to be in providing an accurate and convincing estimate of the size and nature of these impacts. However, where customers and suppliers are effectively dependent on the production of a firm or sector for their continued business, such knock-on employment effects might be justified to be included in the analysis.

### 3. Valuation of impacts

The proposed approach to valuing unemployment impacts comprises the following components:<sup>2</sup>

- the value of productivity loss during the period of unemployment;
- the cost of job search, hiring and firing;
- the impact of being made unemployed on future employment and earnings (a typical opportunity cost also referred to as 'scarring' effect);
- the value of leisure time during the period of unemployment.

The quantification of these components requires assumptions with regard to wage rates and labour costs, duration of unemployment, scarring effects, reservation wages and the value of leisure time, and the costs of job search, hiring and firing. Dubourg (2016) gives numerical examples to illustrate how the various bits of evidence, data sources, and components of cost could be brought together to estimate the value of the impacts of the loss of one job as a direct result of an authorisation decision.

### 4. Default value

The general conclusion that can be drawn from the approach is that the welfare cost of one job lost is about 2.7 times the annual pre-displacement wages (excluding taxes paid by the employer) of this job, with the variation largely driven by the average duration of unemployment in the individual EU Member States.<sup>3</sup> Concretely, if the gross wage of a

<sup>2</sup> Haveman and Weimer (2015, Journal of Benefit-Cost Analysis) identify two more components: i) the cost associated with decreased wellbeing of the unemployed individual on themselves and others; and ii) the externality cost of unemployment (e.g. in terms of health treatment paid for by taxpayers). The proposed approach refrains from quantifying these components because the current evidence on these components appears to scant to allow any meaningful quantification.

<sup>3</sup> Country-specific conversion factors are reported in column [F] of Table A7 in Dubourg (2016) and are derived from the information on total social cost per job loss (column [A]) and annual pre-displacement wage (column [B]). A theoretically perhaps even more appealing conversion factor (reported in column [G]) can be derived from the information on total social cost per job loss (column [A]) and annual gross wage (column [C]).

worker was €30,000 per annum, the social value of the job loss would be close to €80,000 in total. This relationship may serve as a starting point for estimating the present value of the social costs of unemployment. The specific unemployment duration in an affected Member State or of a particular sector may lower or increase this value somewhat. Country-specific values for that applicants and dossier submitters might use to better model their particular cases are presented in the appendix to the background report.

## 5. Requested action

Following SEAC's agreement on this note, it will be published together with the background report on the ECHA website under:

<https://echa.europa.eu/applying-for-authorisation/evaluating-applications>.

Annex: Dubourg, Richard (2016). *Valuing the social costs of job losses in applications for authorisation*. Report prepared for the European Chemicals Agency. Version 3, September 2016.