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Executive Summary March 2015

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Executive Summary of the study "REACH - Evaluation of the impact on the affected industries and the whole economy in Austria"

Authors:

Denkstatt:

DI Dr. Christian Plas

DI Johann Schweighofer

DI Magdalena Schwärz

Institute for Industrial Research:

Dr. Bernhard Mahlberg

Vienna University of Technology, Center of Public Finance and Infrastructure Policy:

Univ.-Prof. Dr. Michael Getzner

Univ.-Ass.ⁱⁿ Mag.^a Denise Zak

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Environment and Water Management

Content and objective

The objective of this study is to analyse and quantify the impact of the Regulation (EC) no. 1907/2006 (REACH) on the Austrian economy so far, which came in force on June 1st 2007. In Austria the companies and authorities affected by the regulation are now already familiar with the requirements of the REACH Regulation, due to the almost six-year period of implementation. For this reason, experiences concerning the impact of this regulation, which is the focus of the study, are available.

The first part of the study deals with the impacts on the companies and their experiences on registrations and accrued costs.

As a first step, a direct stakeholder survey through interviews and a workshop was conducted. Within the study, companies of various industries were interviewed for a detailed survey. This ensures that the effects were queried directly by the companies concerned and thus the space for purely theoretical considerations has been minimized. The information from the companies is, along with the existing statistical and economic data, the base for the analysis.

As a next step and in addition to general research, statistics on registrations to the European Chemicals Agency (ECHA) were requested and cost scenarios for Austria are made.

In the second part of the study, the effects of EU chemicals policy on the whole Austrian economy are analysed and quantified as far as possible. The analysis consists essentially of comparative static comparison of the hypothetical situation without REACH Regulation and the currently given situation after the entry into force of REACH Regulation. As a central methodological approach, input-output analysis is used. The investigation focuses on static effects.

In the third part a benefit-cost-analysis framework is applied to determine the feasibility and economic efficiency of the REACH system by quantifying and monetizing all relevant benefits and costs that are associated with the implementation of this regulation. Public and occupational health benefits, environmental benefits and business benefits are foremost analyzed.

Implementation experience in Austria

To collect data about the impact of REACH directly by the affected companies, an initial workshop with participants of different roles within the meaning of REACH (i.a. manufacturers, importers, downstream users, distributors) was held.

The impacts of REACH are seen quite differently among the various groups. The picture of the differential exercise is confirmed in the workshop rounds: the group of producers sees REACH rather positive, the downstream-users remain also six years after the implementation of REACH skeptical and consider REACH as an additional burden. The workshop also points out that the size of the company has an influence in assessing the impacts of REACH. Unlike large companies, small and medium enterprises (SME) see themselves often overwhelmed of this new requirements and disadvantaged compared to large companies.

The participants reported the following positive aspects:

- Customer relationships have improved.
- More information is available.
- Knowledge Management has improved (circulation of studies).
- The awareness regarding SVHC substances has improved.
- Better communication along the supply.

Points of criticism were that there is still uncertainty about the completion of registration dossier, in the context of global competition more inspections are necessary, the effec-

tive implementation of REACH to the end consumer is missing and REACH is not yet in the minds of the employees

To obtain significant data for a qualitative and quantitative illustration of the impact of REACH on the effected branches in Austrian, a detailed survey among companies has been carried out. The companies interviewed represent different industries, company sizes and roles within the meaning of REACH. The general attitude of companies regarding REACH is very diverse. As already shown in the experience workshop the size of the company plays a major role on the general attitude of the company. Large companies tend to see REACH more positive than SME. A further part of the survey was to quantify the costs related to REACH accruing for the companies. As also stated by the participants of the initial workshop, i.a. the improvement of customer relations since the implementation of REACH, is considered as a positive development by the respondents. An increased exchange within the supply chain is seen. Other positive aspects seen by the companies are i.a. the preparation and standardization of safety data sheets according to REACH requirements which is considered to be very useful and important and also the general tendency to change the product range to replace hazardous substances. When asked about the possibility of developing new business models aligned with REACH, large companies state that the actual development is still below the expectations and competitive advantage and differentiation have not been detected yet. Additional costs for companies caused by REACH can only be partially passed on to the customers.

As part of this study anonymized data was provided from the European Chemicals Agency (ECHA 2014). Referring to this data, 644 registrations (excluding NONS¹) from 172 different companies were made in the period between June 1st 2008 (registration started) and June 27th 2014. These conducted registrations include different tonnage bands according to the register kept by the ECHA records, starting at 1-10 tons up to 1,000 tons and above, as well as intermediates. The share of SME on the registrations is about 11% the share on companies about 24%.

To perform a rough estimate of costs for all registrations of Austrian companies until June 27th 2014, costs were estimated in two different scenarios. Various companies provided information about external costs of registrations such as ECHA fees, preparation of dossiers and testing costs, cost of attendance at forums for Substance Information Exchange (SIEF) / consortia. Information on company-internal costs was mentioned only occasionally and is therefore not included in subsequent estimates of costs. From company details and the number of registrations (ECHA data 2014) "average minimum total costs" and "average maximum total costs" are calculated in a first step. For the scenario "average" the mean value of the already calculated average total cost (min, max) is formed. For the scenario "average max" the average maximum total costs are used. According to this, for the scenario "average" costs of approximately EUR 53 million, and for the scenario "average max" costs of approximately EUR 86 million arise within the observation period from June 1st 2008 to June 27th 2014. According to ECHA (2014) the costs for Austrian companies invoiced by ECHA since 1st June 2008 were specified at EUR 8.3 million.

Macroeconomic effects

Furthermore, the effects of EU chemicals policy on the whole Austrian economy are analyzed and quantified as far as possible. The analysis consists essentially of comparative static comparison of the hypothetical situation without REACH Regulation and the currently given situation after the entry into force of REACH Regulation. As a central meth-

¹ NONS: All substances that have been notified under Directive 67/548/EEC are regarded as registered under REACH.

odological approach, input-output analysis is used. The investigation focuses on static effects. In all calculations, the direct as well as indirect effects are taken into account.

The external costs (i.e. registration fees and other expenses) are presented and interpreted in relation to the overall economic value added² and total gross wages and salaries³ of 2010 (the latest input-output table is for that year). The expenditures incurred so far for REACH amount to between approx. EUR 53 million and approx. EUR 86 million, with approx. EUR 36 million to approx. EUR 58 million for chemical products (incl. pharmaceuticals). Taking all affected commodities together, the shares in value added are less than one percent and as a share of the overall economy they amount to 0.03%. In the case of gross wages and salaries the expenditure reached more than one percent only for coke and refined petroleum products as well as for chemical products (incl. pharmaceuticals). Overall, this share is just up to 0.07%.

In order to estimate the total economic impact of REACH on Austria, in a first step, the effects of external costs on the price structure are investigated. The results show that the impact on the aggregate price level is low. The weighted average of individual price changes is 0.008 to 0.014%. The chemical products are by far the most affected. Their price changes ranges from 0.227 to 0.369%. For all other goods, inflation effects are found only in the range of tenths of percent.

In the next step, the impact of REACH on private consumption, production⁴, value added, gross wages and salaries and employment is examined. The estimates suggest that, in total, the decline in private consumption is between EUR 497 thousand and EUR 809 thousand, in production between EUR 927 thousand and EUR 1.5 million, in value added between EUR 417 and 679 thousand, in gross wages and salaries between EUR 149 thousand and EUR 242 thousand, and in employment from 7.6 to 12.4 jobs⁵ or from 6.2 to 10.0 full-time equivalents⁶. All these values are significantly lower than one-thousandth of the respective indicator of the Austrian economy.

Benefit-cost-analysis

A benefit-cost-analysis framework is applied to determine the feasibility and economic efficiency of the REACH system. Relevant health benefits (public and occupational health) environmental benefits and business benefits (competitive advantages and disadvantages) are assessed. In the field of health, respiratory and skin diseases relevant in the context of the exposure to chemicals, as well as cancer, multiple chemical sensitivity and cases of poisoning and burns (home and leisure sector only) are analyzed in the model. In the case of environmental benefits the development of hazardous waste and the efforts to remediate contaminated sites and to protect ground water are quantified and monetized. Due to a lack of data business benefits are only considered qualitatively. Cost estimates used in the benefit-cost-analysis are based on the developed scenario

² The production of goods involves not only the consumption of intermediate goods but also of production factors, which also have to be remunerated. These production factors can be viewed as services that are themselves not produced and include human labour, the use of land and of long-lived means of production such as buildings, machinery, etc. Their remunerations consist mainly of wages and salaries and depreciation. Together with other components such as net operating surplus, social security contributions and taxes they are referred to as value added.

³ Gross wages and salaries are the sum of current – i.e. regular – earnings from employment, including holiday and Christmas bonuses, holiday and Christmas bonus payments to construction workers and the termination benefits.

⁴ The production value is the total value of goods and services produced in the production process of Austria-based units.

⁵ Jobs are contracts (explicit or implicit) between a person and an institutional unit to perform work in return for compensation (or mixed income) for a defined period or until further notice.

⁶ Full-time equivalents are jobs converted to normal working time employment.

“average”. The scenario “average max” is part of the sensitivity analyses to account for the influence of direct costs.

Basically, the time frame for the model is defined from 2014-2044. As REACH has been incrementally implemented since 2008, cost estimates are considered from that date. In the model, the scenarios are based on Austria’s population forecast.

The results of the benefit-cost-analysis discussed here represent the “main scenario” and thus the most reasonably estimated mean values for all benefits and costs considered in the model. The main scenario shows that the adoption of REACH results in a considerable economic resource gain that amounts to about EUR 2.5 bn. The high efficiency of REACH is also indicated by the internal interest rate (about 35%) and the benefit-cost ratio amounting to about 9.

Sensitivity analyses are conducted to account for various uncertainties and to control for the influence of the discount rate, the positive health benefits assumed and the underlying economic estimates as well as the projected costs. However, the implementation of REACH results in positive net benefits, even if worst case assumptions are applied to the single cost and benefits measures:

- A fourfold increase of the discount rate (4% instead of 1% in the main scenario) results in a halving of the economic net benefits (EUR 1.2 bn instead of EUR 2.5 bn in the main scenario).
- If REACH only leads to a reduction of adverse health effects by 1% (instead of 5% in the main scenario), the net benefits amount to EUR 300 million.
- A doubling of direct costs results in a decrease of net benefits at the level of EUR 2 bn.
- An increase of indirect net costs corresponding to ten times the direct costs (instead of three times in the main scenario) results in a marginal reduction of the economic net benefits (EUR 2 bn instead of EUR 2.5 bn in the main scenario).