

Evaluation of the Tax on Chemicals in Certain Electronics

English Summary

Summary

Since 1 July 2017, a tax has been levied on certain electronic articles manufactured in Sweden or imported from another country (hereinafter referred to as the “Chemicals Tax” or “Tax”). The aim of the Chemicals Tax is to reduce the presence of hazardous chemical substances in people's home environments, especially those used as flame retardants, and to encourage the use of more environmentally and health-friendly alternatives (see prop. 2016/17:1 p. 330-332, 357 and 434). The Chemicals Tax is calculated based on the weight of the article and tax deductions can be made to various extents based on the chemical content of the taxable article. The Swedish Tax Agency and the Swedish Chemicals Agency have been mandated by the government to evaluate the Chemicals Tax and, if necessary, to propose changes to its structure. This report summarises the evaluation of the objectives and short-term effects of the Chemicals Tax, i.e. from its introduction in July 2017 to July 2020. Changes if any, to the structure of the Tax will be reported to the government in a separate report in March 2021.

The evaluation has not been able to establish that the presence of chlorine, bromine and phosphorus in flame retardants has decreased in people's home environments as a result of the Tax during the period studied. The chemical analyses of articles in selected product groups do not show any significant changes in the presence of the chemical substances which the Tax aims to reduce. However, some companies state that the Tax has partly been a driver for substitution in relation to the use of flame retardants that is not already restricted by legal instruments. Several companies are still on one of the first steps of the substitution ladder (illustrated in Chapter 3). The time for such product development in companies are around 18-24 months, and it is therefore likely that some of the substitution efforts achieved as a result of the Tax cannot be measured in this evaluation. In the longer term, the Tax may lead to reduced use of and thus reduced exposure to hazardous chemical substances, as new product models with less hazardous chemical substances reach the market.

A comparative analysis of the relevance of the different tax deduction levels has been carried out. It discusses the relevance of allowing, in some cases, higher tax deductions for substances that do not belong to certain groups of substances (brominated, chlorinated or containing phosphorus) and higher tax deductions for reactive substances than for additive substances. The analysis shows that the structure of the Tax for the groups of substances subjected to taxation should be evaluated. The halogenated flame retardants (containing chlorine or bromine) were to a relatively large extent replaced by phosphorus-based flame retardants already before the Tax was introduced and the focus has been on finding substitutes to these. At the same time, the electronics industry continues efforts to replace flame retardants containing chlorine and bromine. Only the group of halogenated flame retardants should be considered homogenous regarding their hazardous properties. Within the phosphorus-based flame retardants group, there are both substances with hazard properties that provide strong reasons for substitution and substances that do not give cause for substitution. Also, among the alternative flame retardants there are substances with hazard properties that provide reasons for substitution and substances that do not give rise for substitution. As a group though, the overall picture is that the alternatives are less hazardous to health and the environment than the phosphorus-based substances.

Furthermore, the evaluation shows that there are ambiguities and inaccuracies in the Annex to the Act (2016:1067) on taxes on certain chemicals in specified electronics that are probably due to ambiguities in the law's definition of "reactively incorporated compound".

The law defines a reactively or additively incorporated substance for the purpose of taxation. These definitions differ slightly from the generally established meaning of the concepts. As a result, chemical substances listed in the Annex as reactively incorporated are instead, in about 60 percent of the cases, additively incorporated into the polymer. There are also several phosphorus-based substances missing in the Annex which are currently used in electronics.

Many taxpayers state that they have not changed their behaviour with regard to the articles they buy and retail. The substitution carried out so far as a result of the Tax has thus been limited and resulted in high initial costs for society. Moreover, the Tax is not considered to be cost-effective as it is not designed to make the marginal cost of achieving a certain health effect equal for all actors on the market. A cost-effective tax would therefore impose a tax of the chemical substances and not the weight of the article and be more stringently limited to articles used in the home environment.

The evaluation shows that neither corporate profits nor employment rates among the companies subjected to the Tax have been affected. This indicates that the cost of the Tax is instead borne by consumers in the form of higher prices of the electronic articles they buy. Consumption of electronic articles has not decreased since the tax was introduced, but rather increased in 2018. The evaluation cannot determine whether the increase in consumption would have been even greater if the tax had not been introduced.

The Swedish Tax Agency administers approximately 98 percent (SEK 1.447 million, 2019) of all tax revenues, while Swedish Customs administers the tax revenues that arise when a company that is not an approved stockist imports articles from third countries (SEK 28 million, 2019). The Swedish Tax Agency's administrative cost linked to the Tax was SEK 0.17 per SEK 100 tax revenue in 2019. The administrative cost of Swedish Customs amounted to SEK 2.7 per SEK 100 of tax revenue in the corresponding period. All in all, the administrative cost of the authorities totalled SEK 0.22 per SEK 100 of tax revenue (total SEK 3.3 million, 2019).

The administrative burden on taxpayers is perceived by many companies as onerous. There are essentially two factors contributing to this. First, a large part of the administrative procedures connected with the Tax are handled in manual processes and, second, obtaining information about the chemical content of a product is a time-consuming and costly process.

The tax revenues from the Chemical Tax administered by the Swedish Tax Agency was SEK 1,347 million and SEK 1,447 million in 2018 and 2019, respectively. The increase in revenues is largely due to the Tax increase that occurred in August 2019, which increased the Tax rate by just over 30 percent. Total deductions have increased from SEK 775 million in 2018 to SEK 1.022 million in 2019. The increased proportion of deductions is thought to be due mainly to companies' learning curve in relation to how the Tax works rather than increased substitution.

In order to assess whether the Tax has had any additional effect in relation to other instruments in the field of chemicals, a survey of other instruments that may also have affected the presence of hazardous chemical substances in electronics and/or flame retardants have been conducted. Regulations at EU level restrict the use of some chlorinated and brominated flame retardants. The Tax does not affect the use of substances subject to these restrictions since these substances are not permitted and should therefore not be present in articles. The Tax therefore has no additional effect in relation to these restricted

substances. In relation to other flame retardants, the Tax provides an economic incentive for substitution with alternatives that are subject to a lower tax rate. In addition to restrictions, other instruments are also applied in the field of chemicals which, like the Tax, aim to reduce the presence of hazardous chemical substances that can be used in electronics, including the candidate list in the REACH Regulation, public procurement rules, eco-labelling and companies striving to profile themselves as environmentally sustainable. The presence of different instruments makes it difficult to assess the extent to which companies' substitution activities have been affected by the Tax.

Since the evaluation has been carried out at a relatively early stage, it has not been possible to assess the long-term effect and impact of the Tax, which must be evaluated at a later stage, for example, in the context of the in-depth evaluation and follow up of the environmental quality objectives. Even then, it may be difficult to distinguish the effects of the Tax from the effects of other instruments.

In summary:

- The evaluation has not been able to establish that the presence of chlorine, bromine and phosphorus in flame retardants has decreased in people's home environments as a result of the Tax during the period studied. Industry data indicate that companies have started substitution activities partly because of the Tax but that many are still on one of the first steps of the substitution ladder.
- The existence of several different instruments in this area makes it difficult to determine to what extent the Tax has affected substitution activities.
- The Tax is not considered cost-effective.
- The evaluation shows that the Tax has been passed on to consumers in the form of higher prices for electronic articles.
- The administrative burden of the Chemical Tax on taxpayers is perceived to be relatively high compared with other instruments.
- Only the group of halogenated flame retardants should be considered homogenous regarding their hazardous properties. The phosphorus-containing group and alternative flame retardants are less homogenous and include substances with wide variations in terms of hazardous properties. The groups of substances that should be taxed needs to be evaluated.
- There are ambiguities and inaccuracies in the Annex to the Act on the Tax that are probably due to ambiguities in the definition of "reactively incorporated compound". The definition in the Act and the Annex should be evaluated.

The full report is available in Swedish at the Swedish Tax Agency website: [Utvärdering av skatten på kemikalier i viss elektronik](#).