

Impact of Chemical-related PRERs on Firms in Malaysia

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Introduction

Environmental and health-related regulations for products, or product-related environmental regulations (PRERs), that are imposed by importing countries have raised concerns among exporting countries. If exported products do not satisfy the regulatory requirements, these products cannot be placed in regulated markets and firms might face technical barriers to trade. The concern is especially relevant to countries in East and Southeast Asia, which have been the center of global manufacturing for decades and are where many parts and component suppliers of global assemblers are located. However, little examination has been done to gauge the impacts on these industries and assess how firms have adapted to PRERs. To assess the situation, the Institute of Developing Economies at the Japan External Trade Organization (IDE-JETRO) has conducted a survey of firms in Penang, Malaysia, where manufacturing industry agglomeration has occurred. This survey focuses on the impact of chemical-related regulations, such as the European Union (EU) Restriction on Hazardous Substances (RoHS) directive¹ and Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) regulation² in 2011-2012. The survey was sent to 7323 firms in the relevant industries, as identified from the Penang Industry Census of 2,116 firms, of which 369 firms responded. Among the respondents, 73% are domestic firms and 69% are exporting firms.

Most firms in Penang have taken actions to manage chemical ingredients

Among respondents, 61% have introduced chemical management related to their products. The share is higher for foreign-owned firms and lower for local firms, with 78% and 56%, respectively, reporting chemical management. The rate of product rejection due to improper use of chemicals in products by customers is 9% on average. Despite more management efforts being exerted by the foreign firms, the rejection rate is higher for the foreign-owned firms (18%) than for local firms (7%). This result suggests that the foreign firms that provide products to foreign markets, including those with tougher regulations, are facing higher pressure from customers in terms of chemical management.

Have PRERs hampered the market access of firms to the EU? The survey shows that only 2% of firms have changed markets due to chemical-related PRERs. However, 44% of firms have changed materials to meet the PRER requirements and 28% of firms answered that they use different materials depending on the market. These results are similar to those found in our Vietnamese survey (Policy Brief No. 9).

With regard to the motivations to adapt to PRERs, 45% of firms complied to avoid rejections by their customers. In their effort to adapt, 43% of firms suggested that supplier assistance is the most important factor to help them adapt to the regulations. These results suggest that tightly

connected supply chains supplying the regulated markets achieve higher levels of compliance.

Discussion

The results of our Malaysian survey suggest that enforcement of PRERs has affected a large number of firms, but that not many firms have lost market access. This is a result of firms' efforts, cooperation with suppliers and customers, and the assistance of industry organizations and governments (see Policy Brief No.7). However, the differences in the stringency of regulations between the unregulated domestic market and regulated markets (some foreign markets) have resulted in the pattern of firms as shown in Figure 1. As long as the differences in regulations across countries reflect the differences in the risks of chemical use in individual countries, firms' behavior leads to an optimal outcome in terms of the environment, health, and efficiency. However, there are some countries that have not collected enough information with regard to

domestic chemical use; hence, lack of information causes delays in setting proper regulations. The international community needs to assist such countries in collecting information so that under-regulated countries do not face the risks of becoming pollution havens.

1. The EU RoHS directive was implemented in 2006. It restricts six hazardous materials—lead, mercury, cadmium, polybrominated biphenyl, and polybrominated diphenyl ether—contained in electronic and electrical equipment.
2. EU REACH regulation was implemented in 2007. It regulates chemical substances as well as chemicals contained in products that cause serious concern for consumers' health and the environment without specifying product categories.

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Figure 1: Behavior of firms that have or have not adapted to PRERs, in regulated and unregulated markets

