

## **Exporting services to boost goods exports**

### **Theory and Evidence**

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More and more firms produce and/or export both goods and services. This phenomenon, sometimes referred to as servitization of the economy, is observed in various countries such as the US (Bernard et al., 2014), the UK (Breinlich et al., 2015), France (Crozet and Milet, 2014), Germany (Kelle, 2012) and Belgium (Ariu, 2015). Only 8% of exporters offer both goods and services, but they account for more than 30% of total exports (Ariu, 2015). Moreover, they are present in all industries (Breinlich and Criscuolo, 2001 and Kelle, 2012). While a growing literature describes this phenomenon and the relative characteristics of bi-exporters as compared to “pure” manufacturing exporters, little is known about the reason why some firms decide to engage in the production and exports of both goods and services.

This paper tries to fill this gap and develops a new theoretical model of oligopolistic competition featuring heterogeneous firms where goods and services are one-way essential complements: the product is essential to consumption while the service is optional. Consumers have a taste for variety and perceive goods provided with and without services as different varieties of the same good. Firms can decide to provide the good with a service or not, and the variety provided with the service potentially cannibalizes the variety without the service. The good and the service are priced separately. The model predicts that only the most productive firms are able to provide services with their goods. Given their productivity, firms are less likely to provide services with their goods to more competitive and more distant markets. Moreover, bi-exporters sell more of their good and at a higher price than standard exporters.

We then test these predictions by means of a detailed dataset on goods and services exports for Belgium. We develop an algorithm to determine the goods that are most frequently associated with services on export markets. Using the BOP classification of services, we also distinguish the services that correspond to our definition of “one way services” from the others. We find that more productive exporters are more likely to export services together with their goods (especially for one-way services, as opposed to transport and other services), and that this probability decreases with distance between Belgium and the destination market. Moreover, by associating services to goods firms can sell on a given market around 30 to 40% higher values, charge 6 to 10% higher prices and sell 25 to 30% higher quantities. These premia are robust to several controls and robustness checks, and mainly apply to one-way service exporters. Therefore, services that are one-way complements to goods act as a growth determinant for trade in goods.

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