

Quality in Exports

The measurement of quality is a difficult task. Since quality is typically an unobserved product characteristic in the data, this requires a structural theory model with an identifiable quality parameter that can be estimated. In this paper we apply the methodology proposed by Di Comité, Thisse and Vandebussche (2014) and introduce a new “Quality Indicator”.

This new approach allows for a clean separation of quality from taste effects which are both affecting market shares. This cannot be achieved under any other alternative approach of quality measurement. Separating quality from taste to get a "clean" quality metric therefore rules out the use of market shares to identify high quality goods.

Also, in contrast to previous studies, the quality metric used in this study is not just a function of unit values (prices). The theoretical model that we use suggests that we need to complement information on the willingness-to-pay with the cost of a product to correctly determine quality ranks. Competition effects and market structure, which may impact both prices and costs of products and generate noise in the quality measurement, are controlled for by considering quality ranks of exports to a common destination market.

The empirical implementation in this paper consists of using country-product (CN8) data of all EU member states to a common EU-15 destination market in every year from 2007 till 2011. For each of these products we obtain a price

and a cost indicator. This is sufficient to apply the algorithm proposed by Di Comite, Thisse and Vandenbussche (2014) and to construct a product-level quality ranking for each export product. It is important to note that quality ranks obtained this way are only meaningful within the same detailed product category (CN8). Thus quality ranks always refer to a ranking of countries within the same product category.

With a quality indicator for each exported product in hand, we can then construct quality rank distributions for each European member state's exports to the EU-15 destination market in the period 2007-2011. For benchmarking purposes we also study the quality rank distributions of non-EU world competitors that are selling products on the EU market such as Japan, the US and China.

Our results show that some of the non-EU competitors on the EU market, like Japan and the US, are systematically present in the high-quality segment. China, in contrast, is systematically present in the low quality segments. The quality distributions of EU member states cannot be summarized so easily since they display substantial heterogeneity.

Only a few EU countries have a clear specialization in top quality products. In the period that we consider (up till 2011), countries with a "right-hand side peak" in the quality distribution are the Nordic countries like Finland, Sweden and Denmark. The majority of *traditional* EU member states, however, display a rather "hump shaped" quality distribution with many of their export products belonging to the middle quality category when benchmarked against other countries exporting the same product category.

The *new* EU member states i.e. former Central European countries as well as the Iberian countries, are characterized by a quality distribution with a clear "left-hand side peak", which is an indication of many low quality goods exports.

Strong quality dynamics are going on in the European market over the period 2007-2011. These quality dynamics appear strongest in the Baltic States where initially "left-hand side peaked" quality distributions are changing in shape over time as these countries are rapidly upgrading their exports towards higher quality goods.

From product-level quality indicators and product-level prices, we estimate the price elasticity of quality and find it to lie around 0.5. This number appears robust across several alternative specifications. This suggests that quality upgrading is a successful strategy to escape cost competition. The positive and significant price elasticity implies that higher quality is typically associated with a higher willingness to pay by consumers. Profit-maximizing behaviour by firms implies that quality upgrading generates higher markups and results in higher profits for firms.

These results are important findings for policy. Previous studies have shown that external balances are not just a function of price competitiveness but that non-price competitiveness has a clear role to play. The evidence presented in this paper reinforces the available evidence on that. Moreover it tells us which countries amongst the EU member states are present in the low quality segment and are most likely to face competition. Low quality countries will be forced to rely heavily on cost controls and wage moderation to face the tough cost competition that characterizes the segment of low-quality goods.

This paper shows that quality upgrading corresponds to moving into products with higher markups, which in turn generates additional profits that can be used to compensate workers and to invest in future innovation.

A justified policy concern is that higher quality products only appeal to a richer but smaller segment of consumers and may require higher skilled workers. Moving towards higher quality products may thus imply less jobs for low-skilled workers. However, as long as the value-added generated at country level allows for the compensation of this group of workers, a strategy of quality upgrading could potentially offer a good way to deal with global competition.