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Title

Co-movements and market integration in Port wine export prices: globalization and market segmentation between 1995 and 2017

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Conference Presentation

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Keywords

International trade; Export prices, Horizontal market integration; Cointegration; ARDL-ECM model.

Research Question

Are Port wine export prices horizontally integrated and verify the LOP? In this case, is there a unique global integrated market or markets can be segmented into different classes?

Methods

We use an ARDL-ECM model to analyse market integration, which is appropriate to deal with regressions where some series are stationary and others are nonstationary, as in our case.

Results

There are two segments of integrated markets for Port Wine exports: 1) Continental European markets and 2) Anglo-Saxon markets, which are horizontally integrated within each segment but not between segments.

Abstract

Globalization has greatly influenced all countries and their economic sectors in recent decades. The European wine industry is no exception, witnessing an impressive acceleration in its exports. As with other products, although wine is a 'good of experience', whose purchase decision depends on several objective and subjective attributes, price is an important variable in the purchase decision and, consequently, a variable of competitiveness. The price may be referred as FOB (free on board), at the exit of the country of origin, CIF (cost, insurance and freight), on entry to the destination country, or the final retail price, including taxes and fees of the various players in the distribution chain.

In this context of global economic integration, it is important to understand the spatial relation of prices based on market integration. The concept of price co-movement refers to the price behavior of one product in different locations, i.e., the extent to which price changes in one market are related to price changes in another. It is relevant to assess short and long-run trends in price co-movements because these trends provide information about the changes in demand and supply conditions to buyers and sellers (McChesney et al., 2004). Moreover, this information indicates if the markets are integrated or not according to whether the prices move in a synchronized rather than independently (Monke and Petzel, 1984).

The error correction model (ECM) is an econometric technique which allows for inspecting market spatial integration and it makes possible the distinction between short-run and long-run relationships, identifying which markets adjust to restore long-run equilibrium after a shock, and to determine the speed of its adjustment. Only a few studies have analyzed the level of spatial integration in the wine market. Castillo-Valero and García-Cortijo (2015) estimate the error correction vectors and find that on one hand, export prices of the 'old world' (France, Italy and Spain) exporting wine countries are homogeneous and share the same space of cointegration and on the other hand the 'new world' exporters (Australia, Chile, US, Argentina and South Africa) do not represent an integrated market.

Among European wines, Port wine can be seen as a case study of globalization, having been exported for more than two centuries and occupying a prominent place in international wine markets both historically and presently. In 2017, 76% of Port wine production was exported, and Port wine accounted for 39% of total Portuguese wine exports in value and 21% in volume. Although Port wine was exported to 120 countries, the top 5 importing countries received 73% of Port wine exports (by value) in 2017. France (FR) was the largest importer (24.8%), followed by the United Kingdom (UK), the Netherlands (NL), Belgium (BE) and the United States (US), with shares of 15.6%, 12.4%, 10.1% and 10.1% respectively.

The main objective of this study is to analyze the relationship of the export prices of Port wine in the five main importing countries (BE, FR, NL, UK and US). To achieve this, an autoregressive distributed lag error correction model (ARDL-ECM) is estimated between 1995 and 2017. Prices are monthly in €/l and have been obtained as the ratio between export values and export volumes. Port wine (code 22042189 and 22042195 of the Combined Nomenclature of the EU Product Classification System) exports (in value and volume) come from the Comext database (epp.eurostat.ec.europa.eu).

In what concerns the methodology, after confirming the long run equilibrium among export prices of Port wine, the short-run and long coefficients are estimated by ARDL-ECM. Compared with other cointegration approaches, the ARDL model has several advantages (Emran et al. 2007): among others, the bound testing can be employed irrespective of whether the variables are purely I(0), I(1), or mixed integrated. If the error-correction coefficient is negative and significant, then a long run relationship exists between independent and dependent variables. The long-run coefficients from the cointegration equation show the long run impact. The coefficient of the first differenced variable shows the short run impact.

The results show that there are two segments of integrated markets for Port wine export prices: 1) the continental european market (France, Netherlands and Belgium) and 2) the anglo-saxon markets (United Kingdom and United States), which are horizontally integrated within each segment but not between them. These results can be explained by preferences for more expensive Port wine categories (vintage or aged), in markets such as the United States and the United Kingdom, and the preference for standard Port wine in other markets.

This paper contributes to the literature on wine economics, being innovative in the sense that it applies the time series econometric methods to Port wine prices. Knowledge of the co-movements of Port wine prices in different markets is essential for the development of internationalization strategies and for the definition of policies in this sector.

In terms of structure, after an introduction, the paper presents a literature review on the spatial relation of prices based on market integration, followed by a section that includes data, model and results. Finally, some concluding remarks are presented

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