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Title
THE WORLD EXPORTS OF WINE IN THE FIRST WAVE OF GLOBALIZATION, 1850-1938: AN ECONOMETRIC APPROACH

I want to submit an abstract for:
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Corresponding Author
Vicente PINILLA

E-Mail
vpinilla@unizar.es

Affiliation
Universidad de Zaragoza

Co-Author/s

Name	E-Mail	Affiliation
Maria Isabel AYUDA	mayuda@unizar.es	Universidad de Zaragoza
Hugo FERRER	hugo.ferrerperez@ceu.es	Universidad San Pablo-CEU

Keywords
Wine trade, Gravity models, Wine Economics, Wine history, First globalisation

Research Question
To study the main determinants of the world wine trade between 1850 and 1938

Methods
We explore country level data of wine exports and estimate gravity equations taking into account wine quality.

Results
Wine was not a homogeneous product: different dynamics according to different types of wine. As was mostly a luxury product in many countries, strongly affected by economic and political crises

Abstract
The first globalization integrated the international good and factor markets from about the middle of the nineteenth century to its collapse as a consequence of the crisis of 1929. Agricultural and food products played a key role in the first wave of globalization, as they represented around 50% of world trade during this period.
In the pre-industrial era, the international trade of wine was quantitatively small, as the problems related to conserving the product limited trade to short distances or to fortified wines, which, due to their higher alcohol content, withstood the longer journeys better. The amount of wine marketed internationally was very modest. In the mid-nineteenth century, world trade in wine still did not reach 5% of production.
The emergence and formation of an international wine market occurred, therefore, mainly during the second half of the nineteenth century. From 1850, trade in wine grew significantly, and by the beginning of the 1890s it accounted for around 15% of world production, which had also increased significantly. An expanding production, coupled with an even faster-growing trade, coexisted with a consumption which, during the whole of the first globalisation, was limited mainly to the populations of the European Mediterranean area or the economic elite,

mainly, but not exclusively, in countries with advanced levels of industrialisation.
The formation of a new international wine market during these decades was brought about by the following factors: the increase in the consumption of high quality wines by the high income groups in European countries where wine was not a product of mass consumption (Great Britain, countries in northern Europe,...); the mass transatlantic migration which moved millions of Europeans from traditional producing countries to new lands, who either continued their traditional consumption habits importing wine from their countries of origin or began to produce it in their new countries; the phylloxera plague which blighted the European vineyards and obliged France to import massive volumes of wine to maintain its growth in international markets and to supply its population; and, finally, France's colonial expansion which was also important as military personnel, civil servants and colonists moved and demanded wine from the mother country or, as in the case of the north of Africa, expanded vine growing. Furthermore, the drivers of the first wave of globalisation were also the key drivers of this process: the liberalisation of trade and the reduction in trade costs.
Low quality wine was fully integrated into the daily diet of the populations of the countries on the northern coasts of the Mediterranean, particularly in the west and of their emigrants who had settled in other continents. In countries such as France, Italy, Spain or Portugal it was by far the most consumed alcoholic beverage. In non-producing western countries, wine did not become an alcoholic drink that was consumed regularly by wide segments of the population until much after the Second World War. Therefore, increases in income did not translate into increases in consumption, contrary to what occurred with other Mediterranean horticultural products. Therefore, the expansion of wine exports was restricted by the limited progress in the globalisation of its consumption. An essential factor is the cultural traditions of different countries with respect to the consumption of other alcoholic drinks and their logical preference for them when the trade of wine was still insignificant. This cultural tradition can be explained by the specialisation of each country in beverages that could be produced at a lower cost. Furthermore, according to contemporary authors, the price of ordinary wine was much higher in non-producing countries than beverages with which it competed, such as beer or spirits, which may also have limited its expansion. Alcoholic drinks, such as beer or spirits, benefited from reductions in their production costs thanks to technological innovations derived from the Industrial Revolution. Other factors, such as fraud in the products or the limited success to create buyer-driven commodity chains also influenced demand .
On the contrary, the consumption of high quality wine was restricted to high-income groups, particularly in European or western countries. Hence, it can be considered as a luxury product.
The two markets emerged, integrated and grew in parallel throughout the first globalisation, although the widespread tariff liberalisation in the markets in the first wave of globalisation had a smaller scope in the case of wine. The high tariff barriers imposed on the trade of wine constitute a crucial aspect. The tariffs applied to wine when entering a wide range of countries were very high, for ordinary and high quality wine, and followed an upward trend from 1875 until the Second World War. The high excise and import taxes on wine frequently sought to protect local producers of beer or spirits.
Our objective is, consequently, to study the main determinants of the world wine trade between 1850 and 1938. To do this and, following Feenstra et al. (1998 and 2001) and Schumacher and Siliverstovs (2006), we use a gravity equation à la Bergstrand (1989) that includes "multilateral resistance" as suggested by Anderson and van Wincoop (2004), to examine the principal causes underlying the evolution and changes in the directions of World wine exports.
Applying logarithms, the functional form of the models is:

$$X_{ijt} = \beta_1^* + \beta_2 \ln GDP_{jt} + \beta_3 \ln POP_{jt} + \beta_4 \ln Y_{it} + \beta_5 \ln Y_{(it-1)} + \beta_6 \ln Y_{(it-2)} + \beta_7 \ln Y_{(it-3)} + \beta_8 \ln Y_{jt} + \beta_9 \ln Y_{(jt-1)} + \beta_{10} \ln Y_{(jt-2)} + \beta_{11} \ln Y_{(jt-3)} + \beta_{12} \ln TC_{ijt} + \beta_{13}\, \text{French Colony}_{jt} + \beta_{14}\, WWI_t + \beta_{15}\, Dep30_t + \beta_{16}\, \text{Soviet State}_{jt} + \beta_{17}\, \text{USA Prohibition}_{jt} + \beta_{18}\, GS_{ijt} + \beta_{19}\, \text{Languaje}_j + \beta_{20}\, \text{Time trend} + \beta_{21} + \varepsilon_{ijt} \quad (2)$$

Where X_{ijt} represents wine exports flows, by volume, from the exporter country i to the importer country j in year t, in 1913 U.S.A. dollars, GDP_{jt} represents the importer's GDP per capita at period t and POP_{jt} the importer population at period t, Y_{it} ,Y_{jt} are the wine production of the exporting country and the importing country (Anderson and Pinilla, 2017); $Y_{(it-1)}$, $Y_{(it-2)}$, $Y_{(it-3)}$, $Y_{(jt-1-1)}$, $Y_{(jt-2)}$ and $Y_{(jt-3)}$ are lagged values of wine production of the exporting and importing country, TC_{ij} is the transport costs between the exporting country and the country of destination; $Lang_{ij}$ is a dummy variable which takes the value of 1 if the countries share the same language and 0 otherwise. We will also add some dummy variables to control events that could affect exports as

the phylloxera plague, World War I, the USA Prohibition, the existence of the Soviet State and the depression of the 30s. Lastly, in line with the recent work by Anderson and van Wincoop (2003), the equation includes “multilateral (price) resistance terms”, which are proxied by dummy variables. This article, which has been highly influential in recent studies, demonstrates that the omission of price indices leads to an erroneous specification of the empirical model, which may bias the results. We use country-pair fixed effects (δijt) to account for the multilateral price terms (rather than a custom nonlinear least squares program), following the alternative proposed by Feenstra (2004). These variables reflect the effect of all the singularities of the exporting and importing nations that might affect trade between two countries and are not captured by the remaining variables specified in the empirical model. Finally, the model includes the error term (εt) which is assumed to be log-normally distributed.
World wine export flows were reconstructed annually in volume terms between 1850 and 1938 for Algeria, France, Italy and Spain from national foreign trade statistics. The quantities of wine exported each year to each destination in hectoliters, have been multiplied by their respective price (unit value of exports) in 1913. The wine exported by these countries accounted for more than 75% of world exports in the period analyzed.

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