

## Tbilisi 2022 Abstract Submission

**Title**

Global Wine Trade

**I want to submit an abstract for:**

Conference Presentation

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**Keywords**

Wine trade, gravity model, varietal similarity index

**Research Question**

How can we compare the influence of variables on wine trade between 1962-1990 and 1991-2019? What is the influence of similarities in the mix of grape varieties on wine trade?

**Methods**

Gravity models.

**Results**

The impact of distance and other variables on wine trade seems lower for 1991-2019 than 1962-1990. Higher similarities in the mix of grape varieties relate to higher trade flows.

**Abstract**

Global Wine Trade

## Introduction

The great boom in wine trade over the past six decades can be decomposed into two 3-decade periods. The first period started in the 1960s, when traditional European wine-producing countries dramatically increased their wine exports, something that was influenced by a decrease in their domestic demand. The second period began in the 1990s, when the United States and several wine-producing countries in the Southern Hemisphere increased their exports at an accelerated rate.

The aim of this study is to explain, econometrically, the variables affecting wine trade since the 1960s. Our study is, to our knowledge, the first of its kind covering the second wave of globalization as a whole. Previous studies focusing on world wine trade use datasets that begin in the 1990s (Santeramo et al., 2019, Dal Bianco et al., 2016) or early 2000s (Balogh and Jámor, 2018). Starting our analysis in the 1960s allows us to provide further insights into the impact of globalization on wine trade. Specifically, it allows us to compare the influence of trade variables in two periods: 1962-1990 vs 1991-2019. Further, we analyse the influence of similarities across countries in the mix of grape varieties on wine trade, something that has not previously been analysed.

## Gravity Framework and Models

The gravity model constitutes the theoretical and empirical framework of our analysis (see Head and Mayer (2014) and Yotov et al. (2017) for reviews). In all models, the dependent variable is the natural logarithm of trade flows from country  $i$  to country  $j$ , in year  $t$  (FOB USD). We estimate two sets of models using the Poisson pseudo maximum likelihood (PPML) estimator, which works well in the presence of heteroskedasticity and a large proportion of zero trade flows (Santos Silva and Tenreyro, 2011).

In our first set of models, the independent variables of interest are the natural log of distance between country  $i$  and country  $j$ , and dichotomous variables that take the value of 1 (or 0 otherwise) if the pair of countries has a regional trade agreement (RTA), a common official or primary language, a common colonizer post-1945, and if they are contiguous. The models also incorporate exporter- and importer-year fixed effects that account for time-varying country-specific characteristics such as macroeconomic variables, exchange rates, and wine production. We estimate this first set of models for two periods: 1962-1990 and 1991-2019.

Our second set of models differs from the first set in that we incorporate a new independent variable, the varietal similarity index (VSI). The VSI between two countries takes values between 0 and 1, where 0 means that the mix of grape varieties (in terms of bearing area of these varieties) is totally different and 1 means that the mix of grape varieties is exactly the same for both countries. Anderson (2010) introduces this index and its formula, which is based on the formula for the angular distance. We estimate this second set of models for all countries, but also for those that have a wine self-sufficiency index higher than 33%, 50%, and 100%. We use data for the three years in which we have VSI data: 2000, 2010, and 2016.

## Data

We use export data from Harvard's Atlas of Economic Complexity available at [www.atlas.cid.harvard.edu/](http://www.atlas.cid.harvard.edu/). We use VSI data from Anderson and Nelgen (2020) and wine self-sufficiency data from Anderson and Pinilla (2020). The source of distance, common language, common colonizer, and contiguity is CEPII gravity database, available at [www.cepii.fr/cepii/en/bdd\\_modele/bdd.asp](http://www.cepii.fr/cepii/en/bdd_modele/bdd.asp).

## Results and Discussion

The first set of models reveals differences between the 1962-1990 period and the 1991-2019 period. The impact of distance, common language, and common coloniser post-1945 seem less relevant for the latter period. This is consistent with trade theory and the findings of previous studies (e.g., Borchert and Yotov, 2017), and it relates to a decline in trade costs over time (Anderson and van Wincoop, 2004).

The second set of models suggests that the VSI has a statistically significant positive effect on wine trade flows. This result is consistent whether the model is estimated for all countries or for those who have a wine self-sufficiency index higher than 33%, 50%, and 100%. The interpretation of these results is that countries that have a similar mix of grape varieties tend to trade more wine between them. However, our models do not allow us to imply causality.

Unfortunately, the wine industry does not have comprehensive data on intra-national wine trade. We believe that a dataset of this type would allow trade economists to estimate new more-robust models that may lead to different results from those that have already been used in gravity analyses in wine economics. Some of these models may allow wine economists to investigate the impact of varietal similarities on wine trade and been able to imply causality.

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