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Winegrape similarities and concentrations: A description

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The aim of this article is to describe the mixes of winegrape varieties in the world's main wine-producing countries. In doing so, we summarise a recent scientific journal article[1], in which we used data on area by variety for virtually all wine-producing countries and did some statistical analyses based on two indexes that we computed with those data. One of these indexes measures varietal similarities between countries, and the other measures varietal concentration within countries.

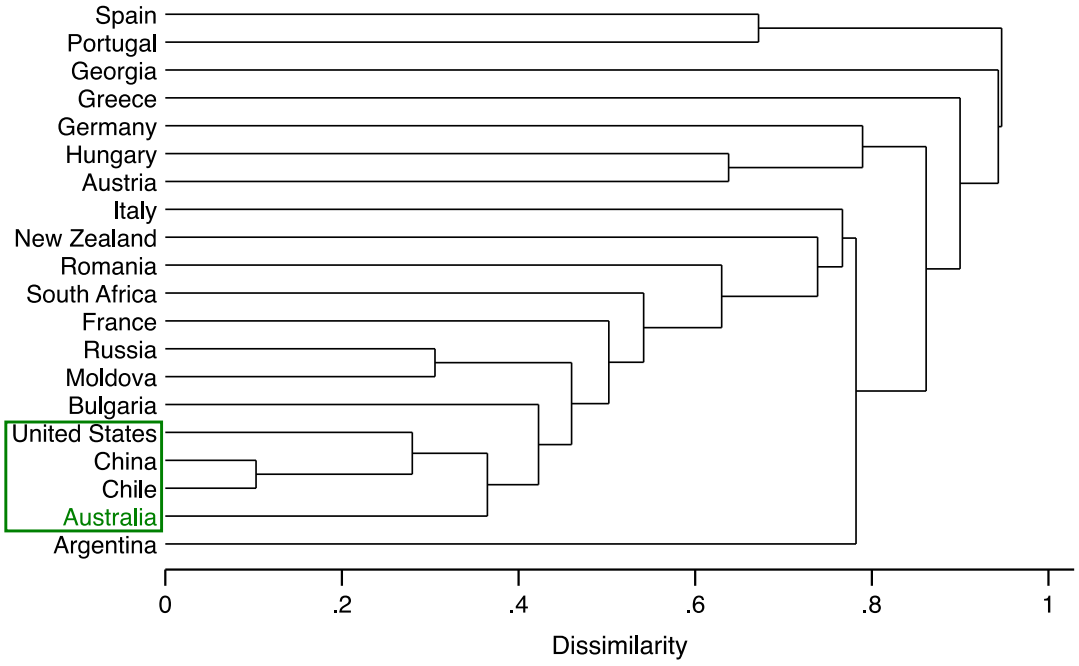


FIGURE 1. Dendrogram for the top 20 countries by winegrape area, based on their varietal similarities.

Notes: Authors' computation based on the analysis of Puga and Anderson (2023)[1] with data from Anderson and Nelgen (2020ab)[3 4]. Countries or groups of countries are united by vertical lines based on their levels of similarity in their varietal mixes. Shorter horizontal lines denote higher levels of varietal similarities. The green box shows a group of countries with a similar varietal mix.

Figure 1 shows the similarities in the varietal mixes of the top 20 countries by vineyard area, based on the varietal similarity index (see Anderson (2012[2]) for a definition of that index). The horizontal lines in this figure are united by vertical lines. The longer a horizontal line, the less similar two countries (or groups of countries) are in their mix of winegrape varieties.

For example, if we look at Australia, it has a varietal mix very similar to that of Chile and the United States. To a lesser extent, Australia also has a mix similar to a group of countries that includes France, South Africa, and New Zealand. But its mix of winegrape varieties is quite different to those of Argentina and the European countries that are in the top part of this figure, such as Spain, Portugal, Germany, and Italy.

The other index is the varietal concentration index, which has a very straightforward interpretation. It answers the question: If two vineyard plots are randomly chosen in a country, what is the probability that they will have the same variety? For some countries it is quite low and for others quite high. Italy has the lowest varietal concentration index (3 %). New Zealand has one of the highest (37 %), mainly because it is very concentrated in Sauvignon Blanc in Marlborough.

Figure 2 shows a classification of countries based on how similar their varietal mixes are with respect to the world as a whole and how concentrated their mixes are. There are three groups of countries.

The most important group of countries is the green one because four-fifths of the world's winegrape area belongs this group. These countries have a mix of winegrape varieties that is very similar to the one of the world and are not very concentrated. This group includes Australia, the US, Spain, France, Italy, Chile, and South Africa.

The orange group includes countries that are not very concentrated and have a varietal mix that is quite distinct to that of the world. Argentina, Portugal, and Germany are part of this group.

Last, the blue group includes countries that have a varietal mix that is quite different to the world's and are very concentrated in a few varieties. New Zealand and Georgia are probably the best examples.

We also used our two indexes for answering the question: Are countries becoming more or less similar and more or less concentrated over time? What we can see based on these indexes is that the varietal mixes are becoming more similar across countries

The translation of this article into English was offered to you by Moët Hennessy.

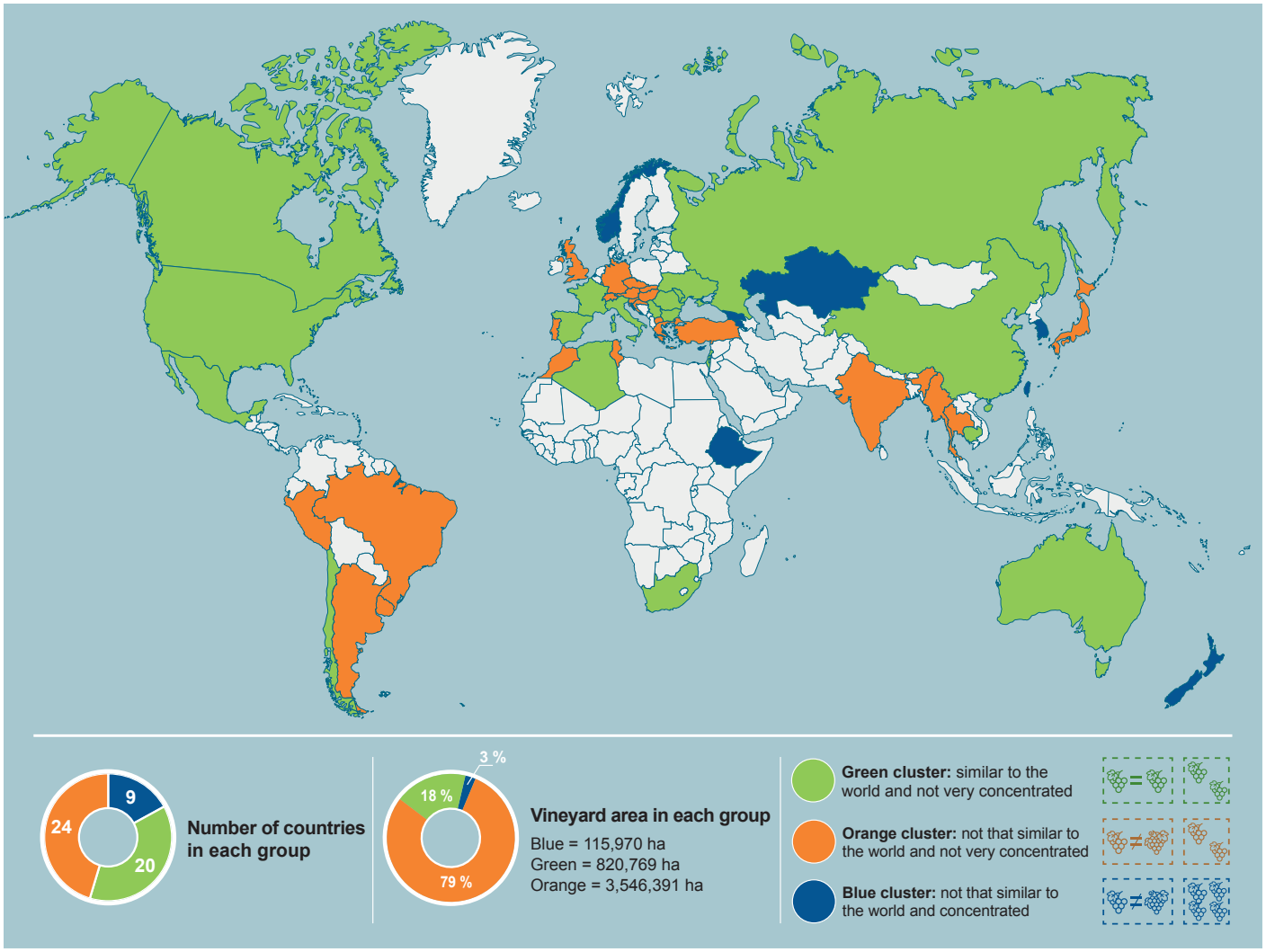


FIGURE 2. Groups of countries based on how similar their varietal mixes are with respect to the world as a whole and how concentrated their mixes are.

Notes: Authors' computation based on the analysis of Puga and Anderson (2023)[1] with data from Anderson and Nelgen (2020ab)[3 4]. Countries in green are similar to the world in their varietal mix and not very concentrated. Countries in orange are not that similar to the world and not very concentrated. Countries in blue are not that similar to the world and concentrated.

and with respect to the world as a whole, and that these mixes are more concentrated within countries and globally.

The implications of these changes are discussed in a subsequent article in this series. Most of the data used in Puga and Anderson (2023)[1], as well as in much of the other work cited here, are available on the website of the of the Wine Economics Research Centre of the University of Adelaide (https://economics.adelaide.edu.au/wine-economics). All these data can be downloaded for free as Excel files. ■

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1 Puga, G., & Anderson, K. (2023). Concentrations and Similarities across Countries in the Mix of Winegrape Cultivars. *American Journal of Enology and Viticulture, 74*(1). https://doi.org/10.5344/ajev.2023.22067

2 Anderson K. (2010). Varietal intensities and similarities of the world's wine regions. *Journal of Wine Economics*, 5, 270–309. https://doi.org/10.1017/ S1931436100000095X

3 Anderson, K., & Nelgen, S. (2020a). Database of Regional, National and Global Winegrape Bearing Areas by Variety, 1960 and 2016. *Wine Economics Research Centre*, University of Adelaide. (First version by K. Anderson and N.R. Aryal, 2013, revised 2014.) https://economics.adelaide.edu.au/wine-economics/databases#database-of-regional-national-and-global-winegrape-bearing-areas-by-variety-1960-to-2016

4 Anderson, K., & Nelgen, S. (2020b). Which Winegrape Varieties are Grown Where? A Global Empirical Picture (revised ed.). University of Adelaide Press.

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