Stellenbosch 2023 Abstract Submission

**Title**  
Grape Varietal Trends in Australia's Wine Regions

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

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**Keywords**  
Winegrape varietal mix, Global warming, Divergence of regional varietal mixes, Emerging exotic varieties

**Research Question**  
To what extent is the varietal mix of Australia’s winegrape regions changing in response to climate change and market developments?

**Methods**  
Compilation of a new database on annual winegrape bearing area, crush volume, yields and price for each variety in each region since 2001, hence also gross revenues per hectare.

**Results**  
The regional varietal mixes are becoming less alike and less like the rest of the world’s; and the share of the nation’s bearing area in Temperate regions is rising.

**Abstract**  
Over the past two decades, Australia’s vigneron has produced and exported around 180 winegrape varieties from 70+ regions and sub-regions. Unlike in the European Union, producers in Australia are not constrained in the varieties they choose to grow in particular regions. One would therefore expect them to be more responsive to changing conditions than their European counterparts. One might also expect the total bearing area of winegrape vineyards in each region to be responsive to changing conditions, which have been more extreme in Australia than
Europe this century. Reasons in addition to warming temperatures include major changes in the country’s currency exchange rates, in export demands (especially for red wine in China), and in the cost of irrigation thanks to severe droughts and then floods.

However, until now it has not been possible to analyse supply responses in Australia because of a breakdown in official data collecting: annual bearing area time series are incomplete for more than half the vintages this century for all but one State (South Australia). This paper reports on our effort to estimate variety-by-region area data for non-SA states for those years without official data, and then summarizes the findings for vintages 2001 to 2022.

With available data on winegrape crush volume and average price for each variety in each region, that then allows, again for each variety in each region, the calculation of average yield per hectare and gross revenue per hectare. Compiling these data now is important because the Australian industry is back in a state of considerable oversupply. Its wine stocks-to-annual-sales ratio rose above two in 2022, which is one-third above the average of the past four decades. More than two-thirds of those stocks are red varieties, an historic record (thanks to China imposing a near-prohibitive tariff on imports of Australian wine from the end of 2000).

To compile a database for wine regions outside South Australia (where half the nation’s winegrapes are grown), and thereby also for each of the other States and for the country as a whole, we have brought together available annual data from various sources for winegrape crush volumes and prices by variety and region, and then made a series of assumptions (detailed in the paper’s Appendix) to estimate the missing bearing area data. This new data set also includes some national varietal data back to 1956, building from and updating the historic varietal data reported in Anderson (2015). To validate the assumptions used to estimate the missing non-SA area data, we applied the same assumptions to the SA data and compared them with the actual SA area data by region and variety for those same vintages. As reported in the Appendix, there is a close match, which gives us confidence in our estimates for non-SA regions.

In total there are 72 regions in the database. Climate data are provided for each of them, allowing us to track changes over time in the proportions of area or production is in cool, temperate, warm or hot regions.

Bearing area, crush and price data are available for 118 ‘prime’ varieties (prime as defined by Anderson and Nelgen 2020 based on Robinson, Harding and Vouillamoz 2012 or otherwise www.vivc.de). There are also another 64 more-minor prime varieties whose data are aggregated into ‘other red’ or ‘other white’ for confidentiality reasons. Of that total of 183 varieties, 178 of them have been exported at some time in the past 22 years (but just five accounted for around four-fifths of the total volume of Australia’s wine exports in the past five years).

The paper first summarizes what this new data set suggests has been happening at the national and state levels leading up to and during the 21st century. It then focuses in more detail on varietal developments at the regional level from 2001. One finding is that while the national varietal mix has become more like the rest of the world’s (Anderson and Nelgen 2021), the regional varietal mixes are becoming less alike and, for many, less like the rest of the world’s. Another finding is that there are no longer any ‘Cool’ regions in Australia but the share of the nation’s bearing area and especially its value of winegrape production in Temperate regions is growing at the expense of both Warm and Hot regions (as defined by average growing season temperature over the three decades to 2019). A third finding is that even though there is much interest in experimenting with alternative varieties to those traditionally grown in Australia, the share of such ‘emerging’ varieties in the total remains very small at less than 5%.

References


Robinson, J., J. Harding and J. Vouillamoz (2012), Wine Grapes: A Complete Guide to 1,368 Vine Varieties, Including...
their Origins and Flavours, London: Allen Lane.

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