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Evolution in grape and wine production in Argentina vs Australia

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Introduction

Australia and Argentina are two of the major non-European wine-producing and exporting countries – together with Chile, New Zealand, South Africa and the United States. In recent years Argentina has been the world’s seventh-largest in terms of both vineyard area and wine production; Australia ranks lower in vineyard area but has been the world’s fifth largest wine producer, well behind the US and just slightly ahead of Chile and Argentina (OIV, 2024).

This article reports results drawn from two new annual databases focused on viticultural developments this century in Australia (Anderson and Puga, 2023a) and Argentina (Anderson and Puga, 2024a), plus the latest update of the global wine markets database by Anderson and Pinilla (2023). The first two include detailed annual data from the start of this century and provide several indicators based on winegrape area, production, and price data by variety for all Australian regions and all Argentinian grape-producing counties.¹ The article compares and contrasts both viticultural developments in the two countries as well as their evolving roles in global wine markets and international trade.

An overview of the past two decades

Figure 1 compares the evolution of winegrape area and production over the past two decades for Australia and Argentina. Areas rose in both countries in the 2000s, peaking in 2008 in Australia and a little later in Argentina before both declined in the 2010s. Throughout, Australia’s winegrape area was about one-third (70,000 ha) below that of Argentina’s.

The bearing area expansion in Australia continued to 2008 despite its average winegrape price peaking in 2001. Apart from a blip after the drought in 2007 that price continued to fall until 2011, during which time Argentina’s price (when converted to AUD) was rising from a low level (Figure 2). Australia’s prices rose thereafter but least so in hot inland regions, before falling again after 2020 when China imposed prohibitive tariffs on imports of Australian wine (Anderson 2023). During most of this time Mendoza’s average price was below that for Australia’s hot inland regions, although it rose after Australia was excluded from the China market.

The area changes in Argentina in the 2000s are consistent with the slightly rising grape prices in that first decade of this century, and conversely in the 2010s (although in 2012, the government introduced restrictions on exchange rates and the purchase of US dollars, and inflation started rising rapidly so Mendoza’s post-2011 grape prices, while converted into AUD at the parallel (blue) exchange rate, are not very reliable).

¹ Argentina’s grape price data are available only for the counties of the province of Mendoza, but they account for more than 70% of Argentina’s winegrape area.

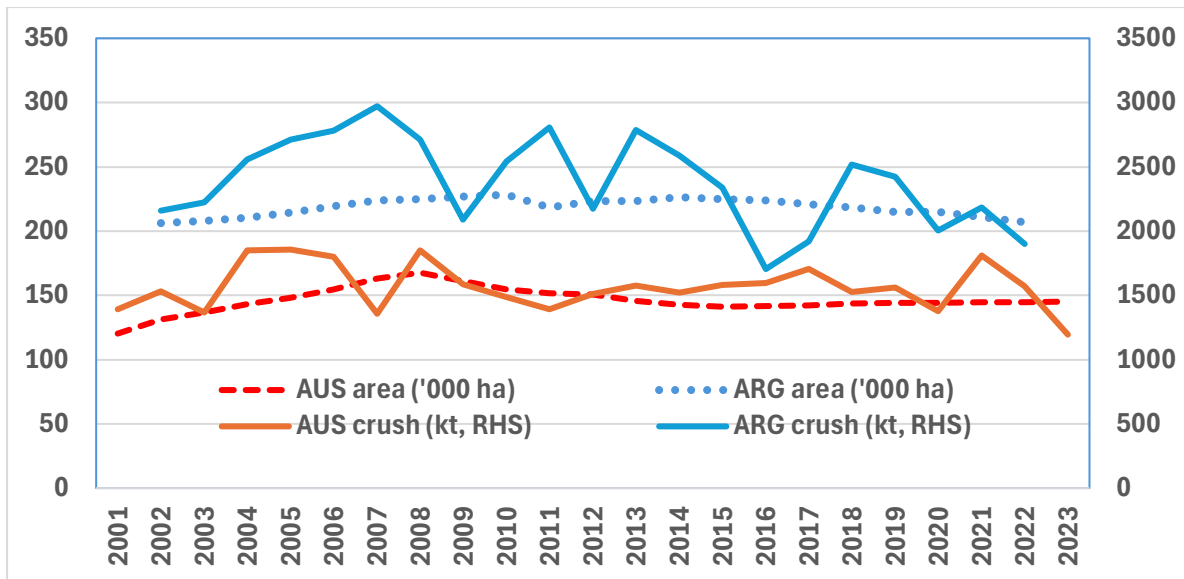


Figure 1: Vineyard area ('000 ha) and winegrape production, Australia and Argentina (kt)

Note: The area corresponds to bearing area for Australia and total area for Argentina. Both countries yielded an average over these two decades of 11 t/ha, over the range 8 to 13 t/ha.

Sources: Anderson and Puga (2023a, 2024a).

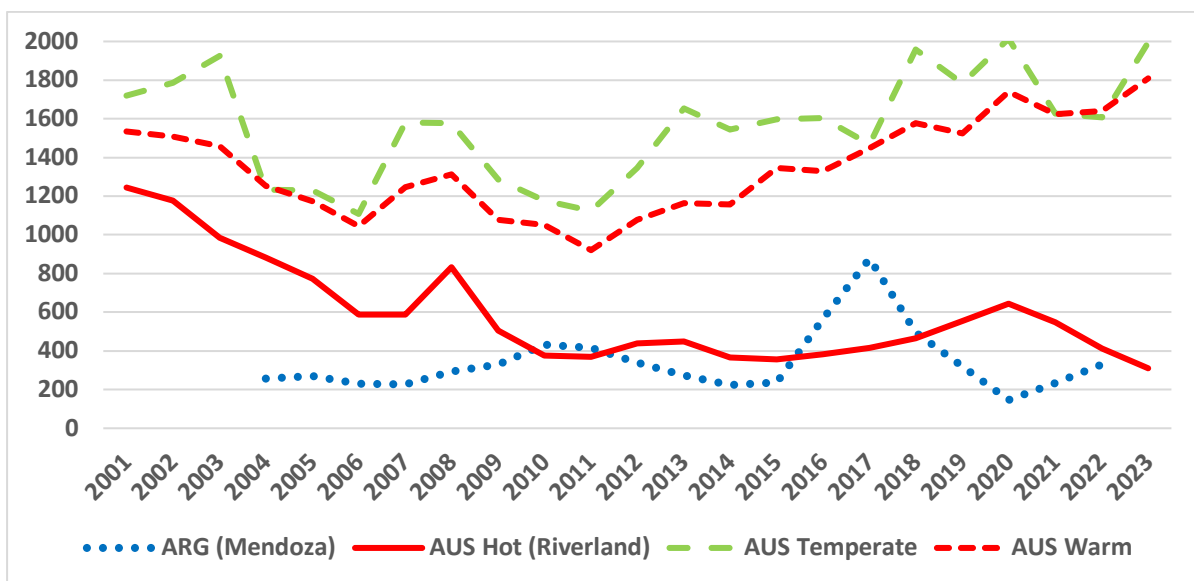


Figure 2: Winegrape prices, Australia and Argentina (AUD/t)

Note: After 2011 the inflation rate in Argentina rose rapidly and the official exchange rate greatly overstated the value of the currency. An unofficial market emerged and its much lower value is used to convert to AUD (the blue (parallel) rate from 2011, using data from Estudio del Alamo).

Sources: Anderson and Puga (2023a, 2024a).

The average yield during this century has been 11 tonnes per hectare for both countries. National average yields have oscillated between eight and 13 t/ha, with Australia exhibiting less variation than Argentina. Most of the Australian vineyards and virtually all the Argentinian vineyards are irrigated, meaning that growers can often alter the extent to which they irrigate their vineyards to achieve their target yields. However, this depends on water availability in the Murray-Darling basin or on precipitation for many growers in Australia, and on how much snow melts in the Andes mountain range during the growing season for most growers in

Argentina. In Australia, this century's grape yields have been affected by numerous extreme weather events that include droughts, floods, and conditions that led to huge bushfires (Anderson and Puga, 2023b). In Argentina, drops in production are mostly due to the impact of hail and diseases associated with summer precipitation, frosts, and in recent years, the European grapevine moth (Puga et al., 2020). Hence there is even less correlation between yields of the two countries' vineyards than might be expected given the distance between them.

Winegrape varietal mixes

Over the past two decades, Australia has grown over 200 grape varieties and Argentina over 180. Yet the top three varieties in Australia account for almost two-thirds of the nation's vineyard area, and the top 11 (each with a share greater than 1%) for 88% of the total (Figure 3, top chart).² By comparison, the largest 16 varieties in Argentina (each with a share greater than 1%) cover 85% of the nation's vineyard area (Figure 3, bottom chart).³ That is, Australia has a more concentrated varietal mix than does Argentina.

That difference is quantified using the varietal concentration index, which is the probability that if two vineyard plots are randomly chosen in a country, they will have the same variety. This index was 16% in Australia in 2023 and 9% in Argentina in 2022, confirming that the varietal mix of Australia is considerably more concentrated than that of Argentina.

In Australia, two-thirds of the vineyard area is planted to red varieties and the other one-third to white varieties. That distinction is not so straightforward in Argentina. Cereza, Criolla Grande, Muscat Rose (Muscat Blanc à Petits Grains (R)), and a few others, are locally known as 'rosé' varieties. These varieties are commonly used to make either low-quality white wine or concentrated grape juice. Argentina is a major exporter of concentrated grape juice, and often more grapes are destined for export as concentrated grape juice than are those that are exported as wine.

Because lower-quality white wine is usually cheaper than red wine, white wine is often mixed with red varieties such as Aspirant Bouschet or Ancellotta. These two varieties have a high colour concentration, allowing winemakers to turn white/rosé wine into red by mixing relatively small quantities of these red-colour-intensive varieties with white/rosé ones. In just two decades the area of Aspirant Bouschet increased ten-fold (from 0 to 2%), and that of Ancellotta nearly 200 times, from a total of 0% to 1% of the national total. In recent years, new plantings of these varieties have slowed down because these varieties' relative prices fell as new regulations were introduced in 2019 to force red wine to have a pre-determined percentage of wine from red varieties.⁴

Nine-tenths of the Australian vineyard area and more than half of the Argentinian area are planted to French varieties, most of them red (Figure 4). Indeed, Australia is internationally renowned for Shiraz (Syrah) and Argentina for Malbec (Côt), both French. Other widely-planted French varieties are Cabernet Sauvignon, Chardonnay, Merlot, Pinot Noir, and Sauvignon Blanc in both countries; Pinot Gris, Sémillon, Colombard, and Petit Verdot in Australia; and Bonarda (Douce Noire), Aspirant Bouschet, Cabernet Franc, and Chenin Blanc in Argentina. The share planted to these French varieties has increased this century in both

² The varieties in Australia with less than 1% of the total area but more than 1000 hectares are (in order) Colombard, Petit Verdot, Verdelho, and Muscat Blanc à Petits Grains.

³ The varieties in Argentina with less than 1% of the total area but more than 1000 hectares are (in order) Pinot Noir, Muscat of Alexandria, Sauvignon Blanc, Superior Seedless, Cabernet Franc, Chenin Blanc, Torrontés Sanjuanino, Fiesta, Sangiovese, Arizul, Sultaniye, and Trebbiano Toscano.

⁴ This regulation requires that, from 2019, at least 65% of the (non-varietal) red wine must be made with red grapes. That percentage is set to increase gradually to 80% by 2030.

countries. This has been a trend in Australia since the 1960s, with the Shiraz share rising from 15% in 1984-86 to 22% in 1999-2001 and 30% during 2020-23. In Argentina, changes have been widely driven by the share of Malbec rising from 9% in 2002 to 22% in 2022.

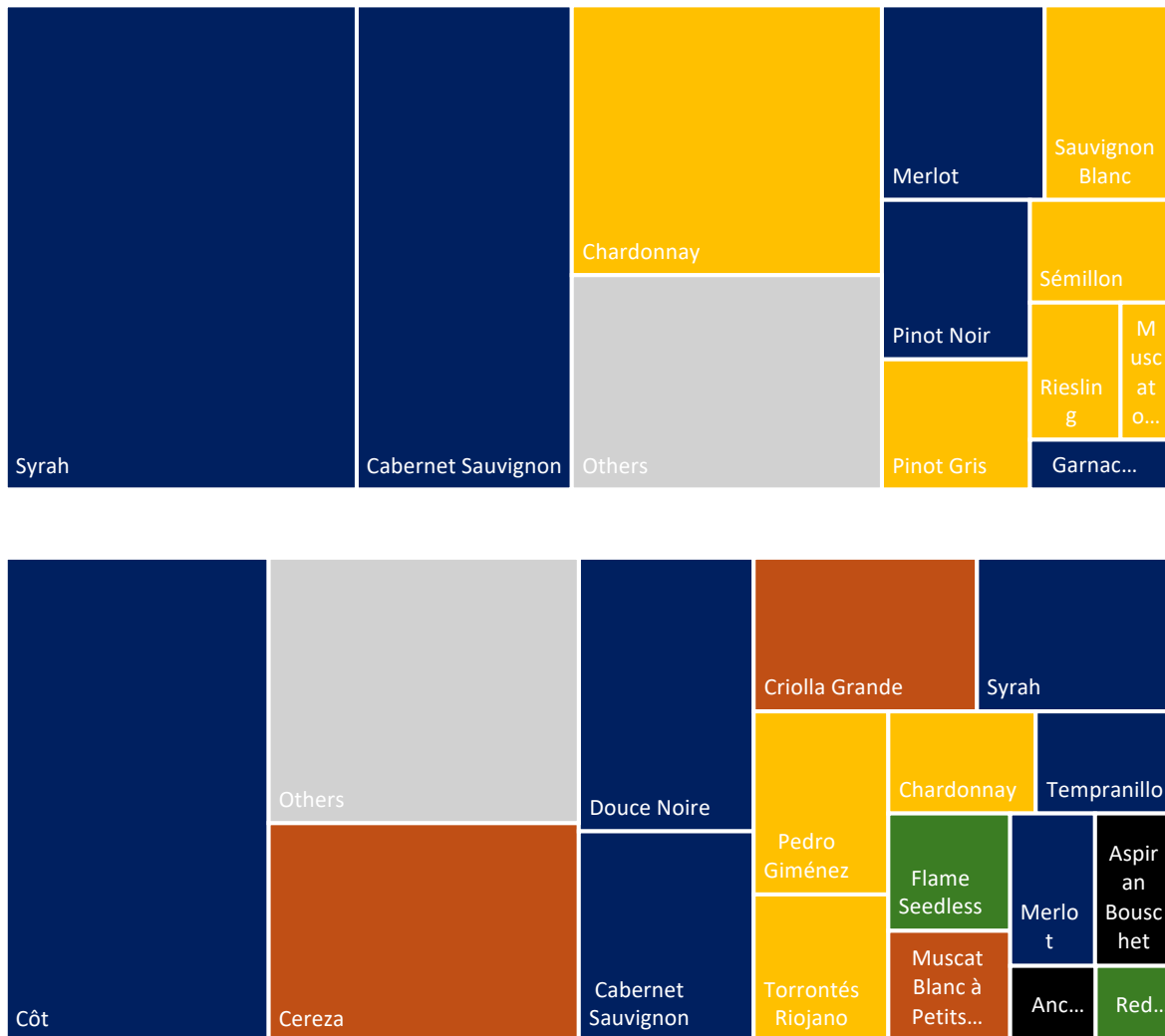


Figure 3: Vineyard area by variety for Australia (top chart) and Argentina (bottom chart)

Notes: Based on 2023 bearing area for Australia and 2022 total area for Argentina. All varieties that cover less than 1% of the national vineyard area are included in ‘Others’. Syrah is better known as Shiraz, Garnacha Tinta as Grenache, Côt as Malbec, Douce Noire as Bonarda, and Muscat Blanc à Petits Grains (R) as Muscat Rose. While the varieties in Anderson and Puga (2023a, 2024a) are either classified as red or white, this graph shows four different colours depending on whether they are *commonly* used **for red wine**, **for increasing the colour of red wine or even for turning white wine into red**, **for white wine**, or **for white wine or concentrated grape juice**.

Source: Authors’ compilation with data from Anderson and Puga (2023a, 2024a).

The biggest decrease in area share has been for Turkish varieties in Australia (due to a fall in Sultana) and for Argentinian varieties in Argentina. At the beginning of this century, the Argentinian vineyard area planted to its own grape varieties was larger than that planted to French varieties, but by 2022 the former had decreased by one-third. This was mainly due to Cereza declining by one-fifth, Criolla Grande by half, and Pedro Giménez by two-fifths. While many of these can be high-yielding varieties, their prices are usually much lower than for most of the above-mentioned French varieties, and hence so too are their gross revenues per hectare.

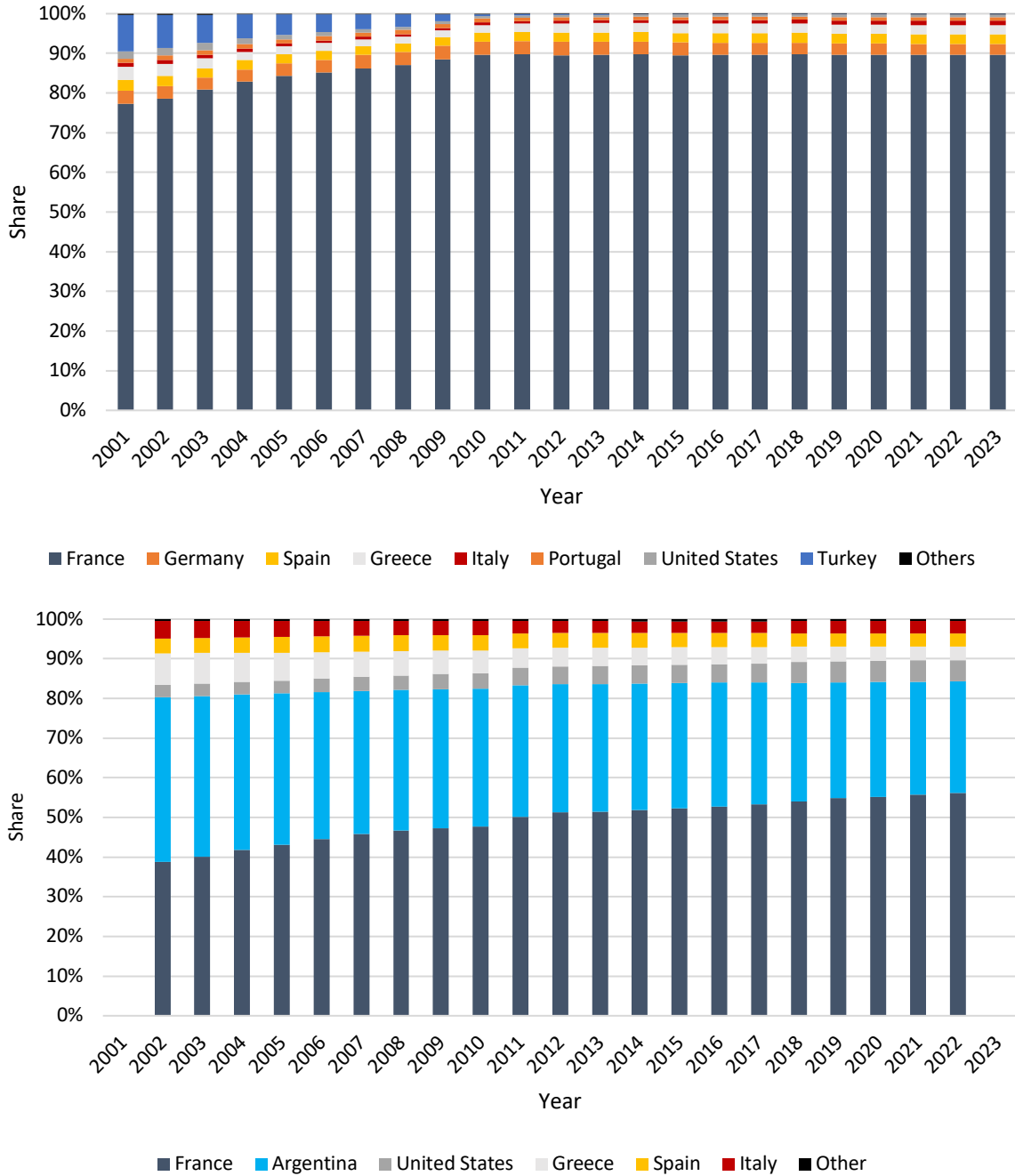


Figure 4: Evolution of the vineyard area by the country of origin of the varieties for Australia (top chart) and Argentina (bottom chart)

Notes: Based on bearing area for Australia and total area for Argentina.

Source: Authors' compilation with data from Anderson and Puga (2023a, 2024a).

Overall, the Australian and Argentinian varietal mixes are becoming more concentrated, something that is also occurring globally (Puga and Anderson, 2023). This is evidenced by the varietal concentration index, which has risen from 12% to 16% in Australia and from 7% to 9% in Argentina over these two decades.

Differences across states or provinces and regions or counties

Most of Australia's grape production takes place in the southeastern and southwestern parts of the country. South Australia accounts for half of the nation's vineyard area, followed by New

South Wales (one-quarter), Victoria (one-sixth), and Western Australia (one-twelfth). The area share of South Australia has increased considerably throughout this century at the expense of that in Victoria. While there is much interest in Tasmania, and even though this State has almost tripled its vineyard area in the past two decades, it still only accounts for 1% of the nation's vine area. Production shares by state are similar to the area shares for South Australia and Victoria, while New South Wales has a higher share of production and Western Australia and Tasmania have lower shares than their respective area shares.

The varietal mixes are not very different across states, but they are often different across regions. For example, Coonawarra and Margaret River are quite specialised in Cabernet Sauvignon (Anderson and Puga, 2024b). Even where there are not as many differences between regions in their varietal mixes, they often differ substantially in the characteristics of their production systems (Nordestgaard, 2019; Puga et al., 2022a). This is the case for the three hot inland regions, namely Riverland, Riverina, and Murray Darling-Swan Hill. These regions account for more than one-third of the Australian vineyard area and almost three-quarters of its grape production. Those high-yielding regions produce grapes that are on average lower priced than those of most other regions (see Figure 2).

The Argentinian wine industry is concentrated in a few of its western provinces. Mendoza covers 71% of the nation's vineyard area, followed by San Juan (one-fifth), La Rioja (4%), and Salta (2%). Except for Salta, whose small share has almost doubled since 2002, the shares of the other provinces have remained stable throughout the past two decades. Production shares by province are similar to area shares, although provinces such as San Juan produce large quantities of table grapes and raisins, and the nation's production for uses other than grape juice and must is consistently underreported. That is why estimated yields by variety in Anderson and Puga (2024a) are higher for San Juan than for Mendoza despite their growing conditions being quite similar.

Mendoza's varietal mix is like the national one in Figure 3b, but with a larger share of Malbec and a smaller share of varieties that can also be used as table grapes. San Juan, instead, is more concentrated in Cereza and table grapes. La Rioja has one-quarter of its surface planted to Torrontés Riojano, the same as Salta, although Malbec covers almost half of the surface in Salta. A high concentration in Malbec is common in those counties with higher grape prices, not only in Salta. In Mendoza, the share planted to Malbec in Lujan de Cuyo and the three counties of Uco Valley (i.e., San Carlos, Tunuyan, and Tupungato) is between one-half and two-thirds in each of these counties. The increasing concentration in Malbec that these counties have experienced since 2002 explains much of the increase in the varietal concentration index for Argentina. However, as in Australia, the most innovative producers are experimenting with alternative varieties, including for cooler regions, but as in Australia those alternative varieties still account for less than 5% of the national vineyard area.

Wine market differences

Australian and Argentinian winegrape prices closely followed their wine export prices, and those export prices moved in parallel up to 1994 and from 2010 (with Australia's being about 2.5 times those of Argentina in both sub-periods). But from 1995 to 2009 Australia's export price rose from 4.0 to 7.5 and back to 3.6 times Argentina's (Figure 5): an extraordinary if temporary divergence in Australia's apparent international competitiveness.⁵ That rise and fall

⁵ Chile's export prices also moved in parallel up to 1994 and from 2010 (with Australia's averaging 1.8 times those of Chile's in the first sub-period and 3.4 in the last), and during 1995 to 2009 Australia's export price rose from 3.2 to 4.0 and back to 3.6 times Chile's.

from the mid-1990s to the end of the 2000s is also evident in the volume of wine exports per capita and the share in the value of global wine exports: those indicators for Argentina rose much slower and then plateaued after 2012 when exchange controls were imposed (Figure 6).

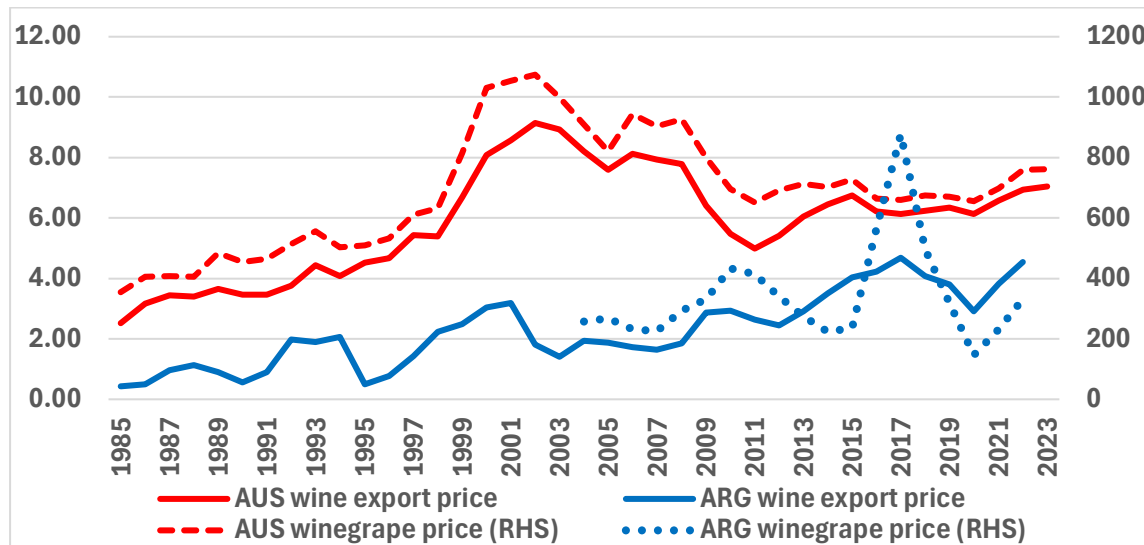


Figure 5: Winegrape and wine export prices, Australia and Argentina (AUD/tonne and AUD/litre)

Source: Anderson and Pinilla (2023).

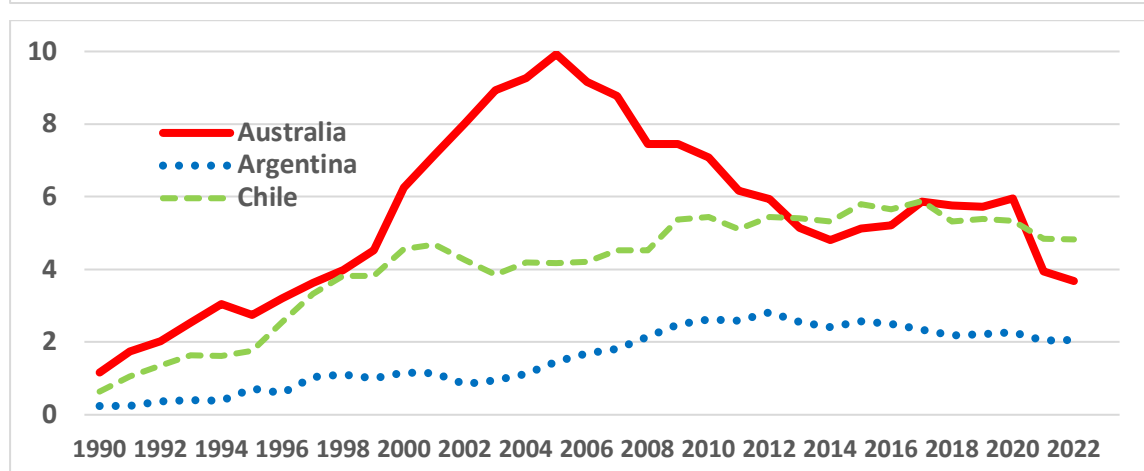
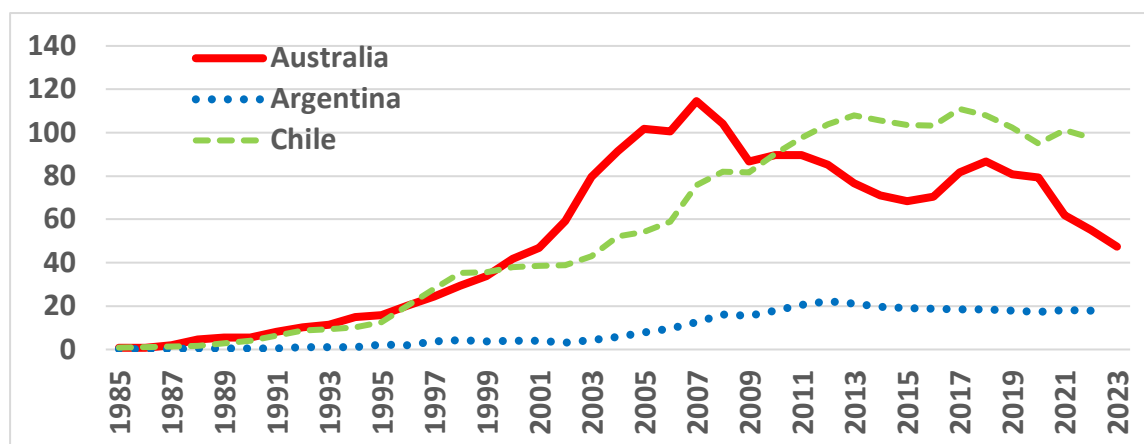


Figure 6: Litres of wine exported per capita (top chart) and % share in the value of global wine exports (bottom chart)

Source: Anderson and Pinilla (2023).

Exports took off in Australia even though per capita consumption of wine was increasing, whereas in Argentina domestic wine consumption had been rapidly decreasing since the 1960s (Figure 7), and exports provided a vent for disposing of the surplus both as wine and – often equally important last century – as concentrated grape juice (Figure 8). Even so, the share of Argentina’s wine production volume that is exported has remained well below Australia’s and far below that of Chile and New Zealand (Figure 9).

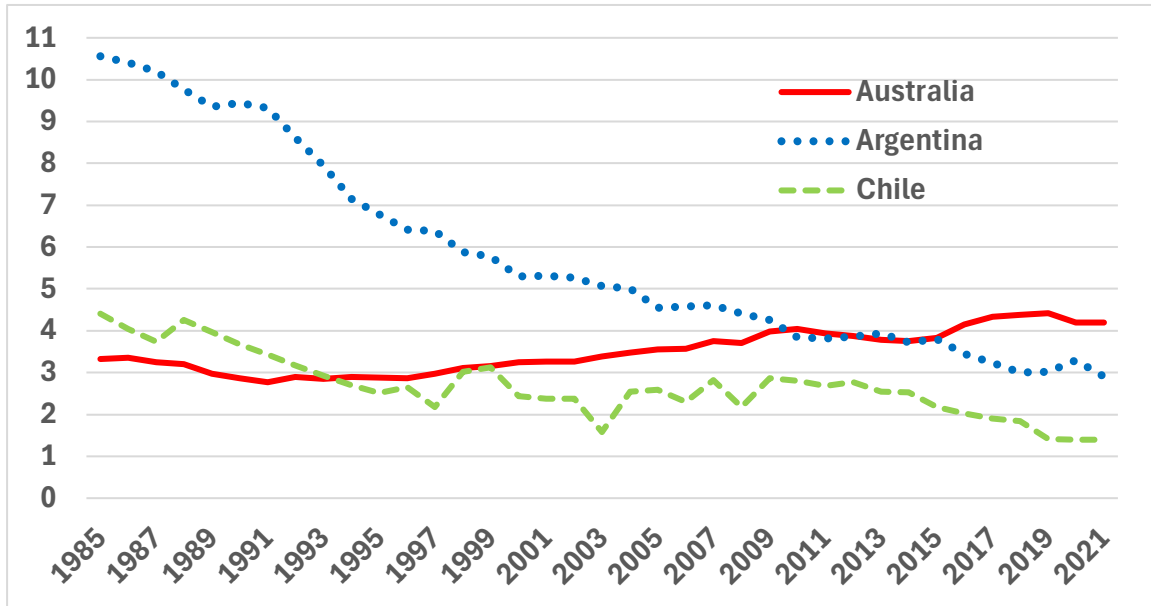


Figure 7: Alcohol consumption from wine per adult (litres)

Source: Anderson and Pinilla (2023).

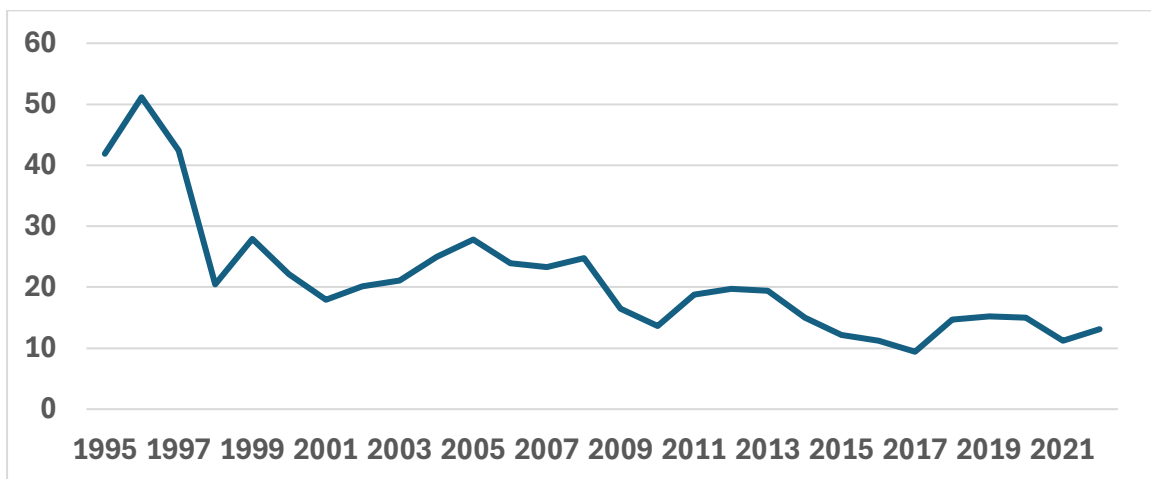


Figure 8: Share of value of grape juice concentrate exports in the total of it plus wine exports of Argentina (%)

Source: Authors’ compilation with data from Anderson and Puga (2024b).

Argentina’s export destinations differ considerably from Australia’s (Table 1). The United States dominates, but other Latin American countries are the next most important destination region, while Europe is equally as important as it is for Australia (although the United Kingdom less so) and Asia and the Pacific are far less important than for Australia.

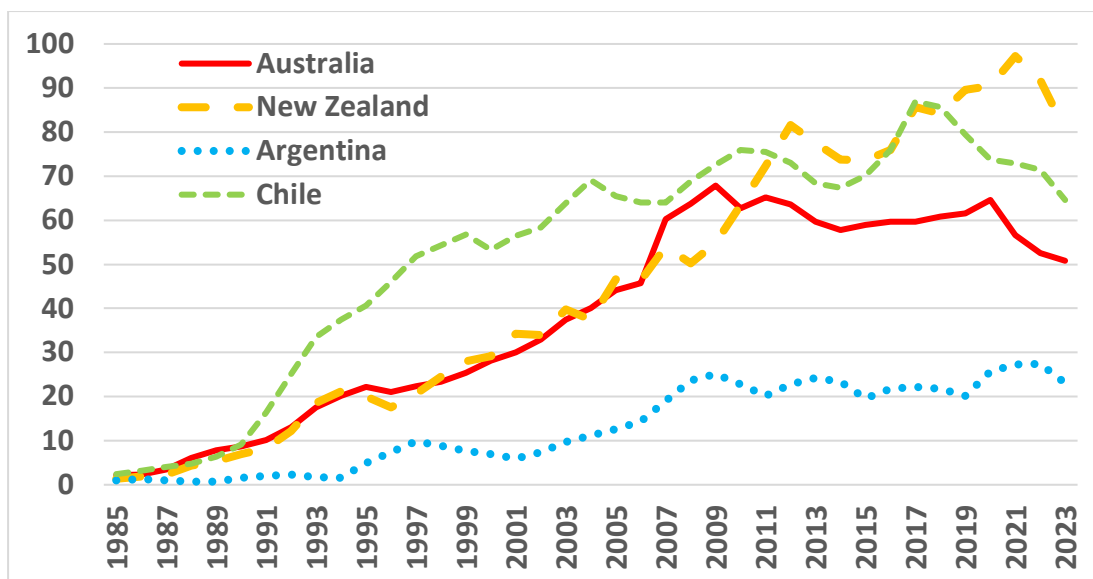


Figure 9: Exports as a % of wine production volume (3-year averages to year shown)

Source: Anderson and Pinilla (2023).

Table 1: Direction of wine exports by value (%)

(a) Australia

	United Kingdom	Other Europe	US and Canada	Asia	New Zealand	Other
1990-95	40	20	23	8	9	1
1996-01	44	14	29	7	5	1
2002-07	35	13	41	7	4	1
2008-11	27	14	37	17	4	1
2012-15	20	12	34	29	4	1
2016-20	15	8	24	48	4	1
2021-23	21	10	28	34	5	2

(b) Argentina

	US and Canada	Latin America	United Kingdom	Other Europe	Asia (incl. NZ)	Other
1995-99	15	15	11	21	21	17
2000-04	25	12	24	22	8	9
2005-09	34	15	8	30	6	7
2010-14	48	15	6	18	7	6
2015-19	42	15	12	17	8	7
2020-22	36	20	15	17	7	6

Source: Authors' compilation with data from Anderson and Puga (2024b).

The share of the volume of wine that is exported in bulk has fluctuated a lot for Argentina, ranging between 20% and 50% around a flat trend. The same is true for Chile except its range has been just 30% and 45% this century. By contrast, Australia's share has grown rapidly throughout this century, rising from 10% to almost 70%. New Zealand's has grown too, from less than 5% to more than 40% (Figure 10).

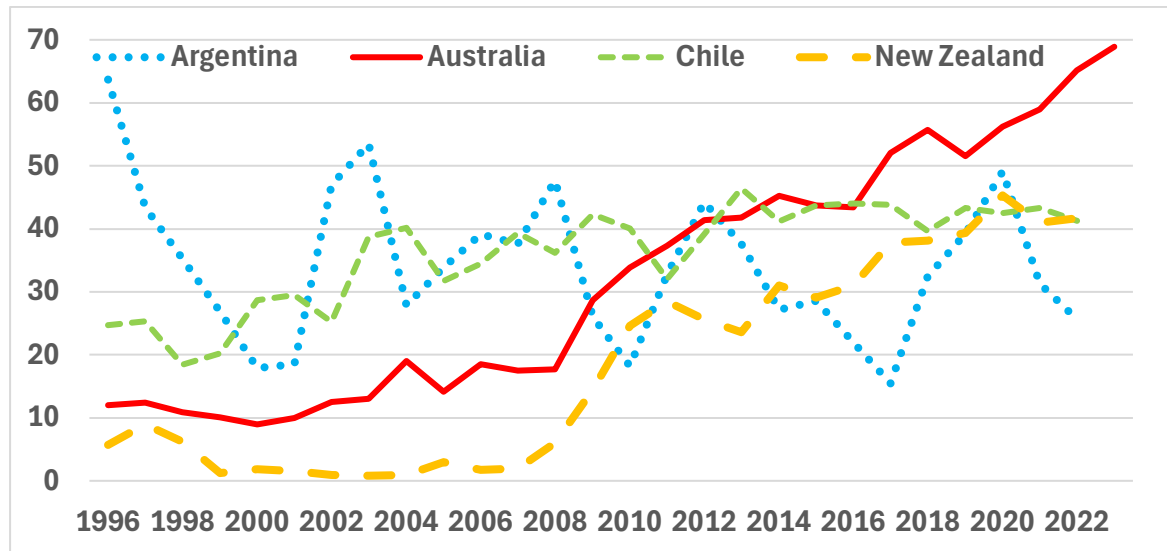


Figure 10: Share of the volume of wine exported in bulk (%)

Source: Authors' compilation with data from Anderson and Puga (2024b).

In view of these differences in bulk's share of the total volume of wine exports, the average wine export price in Figure 5 hides differences in the prices of bottled versus bulk wine exports. The latter, shown in Figure 11, reveal that Argentina's bulk price fluctuates more and averages a bit lower than Australia's, perhaps because of the greater irregularity in volumes of bulk exports from Argentina. As for the average nominal bottle price in US\$, it grew much more rapidly for Argentina (from a very low base) than for Australia in the two decades from 1995, before levelling out. The bottle price rise for Australia during 2016-20 was associated with the number of bottles exported from Australia halving between 2017 and 2023.

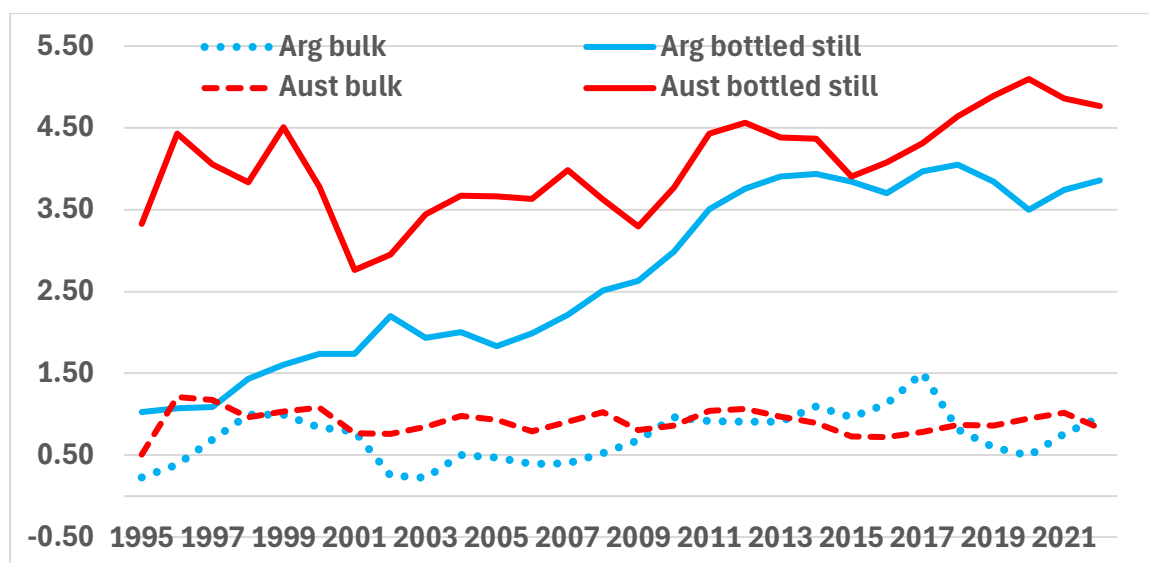


Figure 11: Average price of still wine exports in bottles and in bulk (current US\$/litre)

Source: Authors' compilation with data from Anderson and Puga (2024b).

Climate similarities and risks

There is a parallel between both countries with regards to the climates of the regions and the characteristics of their production systems. In Argentina, higher-altitude cooler regions have lower yields but higher prices. This is similar to what happens in Australia, where hotter regions have higher yields and lower prices than cooler regions. Both countries have a relatively high share of vineyards planted in regions with temperatures that are too high for producing the highest-quality wine from their mainstream (mostly French) varieties. Climate change poses an imminent threat to both countries due to (among other issues) the negative impact that higher temperatures could have on high-quality wine production (Puga et al., 2022b), as well as potential water availability problems due to more-severe droughts in Australia and less snowmelt water in Argentina.

Final word

This article summarises only a tiny part of two recently compiled databases for the Australian and Argentinian wine industries (Anderson and Puga, 2023a, 2024a). The database for Australia includes 189 tables and the one for Argentina has 118 tables. The database for Argentina follows a similar structure to that generated for the Australian wine industry, therefore facilitating country comparisons. These databases, and the global wine markets database, are freely downloadable as Excel files from the website of the University of Adelaide's Wine Economics Research Centre (<https://economics.adelaide.edu.au/wine-economics/databases>).

Acknowledgements

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