

# Projecting Global Beverage Markets to 2025

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## **Abstract**

*Purpose:* to use a new model of the world's alcoholic beverage markets to suggest how those markets might develop by 2025 and be affected by alternative Asian economic growth rates.

*Methodology:* The model projects markets to 2025 for wine, beer and spirits. How that alters shares in global consumption volumes and imports of wine, beer and spirits are reported for a baseline case as well as for a scenario in which Asia grows more slowly.

*Findings:* Asia dominates the projected growth in wine consumption and imports, with China being especially prominent, but Africa also is projected to raise its share of global wine imports. South Asia dominates projected growth in spirits imports. Slower income growth in Asia, however, diminishes substantially the region's projected import values.

*Practical implications:* The US-China trade war that is eroding consumer confidence in Asia will slow the growth in the region's imports of alcohol, especially wine. China's wine imports also are vulnerable to non-tariff barriers, as witnessed by Australian exporters in late 2020.

**Key words:** Changes in beverage preferences, premiumization of alcohol markets; international trade in beverages

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## **1. INTRODUCTION**

Beverage markets are continuously evolving as technologies and preferences change with population and income growth and as producers, investors, traders and consumers respond also to changes in policies in their own and other countries. Projecting changes in such markets is a fraught business. Yet many participants in these markets need to do this intuitively all the time. There is thus value in aiding that process by providing a formal model that incorporates parameters summarizing knowledge of market behaviour, assembles up-to-date data, and projects those markets into the future under various assumptions. This is to provide not *predictions* of what *will* happen, but rather a business-as-usual scenario to compare with alternative scenarios one might envisage.

The purpose of this paper is to use a new model of the world's alcoholic beverage markets to suggest how those markets might develop by 2025 and be affected by alternative Asian economic growth rates.

The paper begins in Section 2 by summarizing our new model of global beverage markets that builds on an earlier model of global wine markets and is detailed in Wittwer and Anderson (2020). Section 3, in reviewing past trends in global beverage production, consumption and trade, hypothesizes that Asia's rapid rise in global beverage production, consumption and trade will continue, but be dampened if the region's income growth slows. Section 4 draws on that review of past trends to simulate prospects for these markets by 2025. The concluding section summarizes the findings and projections, and points to the potential implications of continued trade friction between the US and China in slowing Asia's prospective consumption and hence imports, particularly by China for wine.

## **2. METHODOLOGY: MODEL OF GLOBAL BEVERAGE MARKETS**

A model of the world's alcoholic beverage markets has been developed recently by Wittwer and Anderson (2020). It draws on a model of the world's wine markets first published by Wittwer, Berger and Anderson (2003) and revised by Anderson and Wittwer (2013), to which beer and spirits now have been added. In it, wine markets have been disaggregated into four types, namely non-premium (including bulk), commercial-premium, and super-premium still wines, plus sparkling wine. Commercial-premium still wines are defined by Anderson, Nelgen and Pinilla (2017) to be those between US\$2.50 and \$7.50 per litre pre-tax at a country's border or wholesale. Beer and spirits are not split into regular and craft categories, because the latter still have very small market shares in volume terms. The world is divided into 44 individual nations and all others captured in 7 composite regions.

The model's database is calibrated to the three years around 2017 (i.e., 2016-18), based on an update of the comprehensive volume and value data in Anderson, Nelgen and Pinilla (2017) and excise tax and import tariff rates in Anderson (2020). The model is projected forward to 2025, based on anticipated growth in aggregate national household consumption (a measure of real disposable income) and population together with anticipated changes in real exchange rates that are reported in Appendix Table 1 of Wittwer and Anderson (2020), plus a number of additional assumptions concerning trends in consumer preferences, production, technologies, and capital stocks.

Projecting eight years ahead is too short a period for long-term changes such as global warming to make a noticeable impression on wine or other alcohol markets, but far enough away for differences in income growth rates and changes in trade policies to show up as changes in market shares.

Concerning preferences, there is assumed to be a considerable swing towards all wine types in China, as more Chinese earn middle-class incomes. Previous modelling by the authors (Anderson and Wittwer 2015) revealed that without such a taste swing, income growth alone would have been incapable of tracing the rapid growth in China's wine consumption (and hence imports, which over the decade to 2018 accounted for one-quarter of the growth in the value of global wine imports). For the rest of the world, the long trend preference swing away from non-premium wines and toward commercial and super-premium wines is assumed to continue.

Both grape and wine industry total factor productivity is assumed to grow at 1 percent per year everywhere, while grape and wine industry capital is assumed to not grow net of depreciation. China's production is assumed to rise by one-fifth above its 2016-18 level, so well above its slumped 2018 level. If China's wine production were to remain at its low 2018 level, its wine imports would increase more than projected below.

This global model has supply and demand equations and hence quantities and prices for each of the grape and wine products and for beer and spirits, plus for a single composite of all other products in each country such that it has elements of an economywide CGE model. Grapes are assumed to be not traded internationally, but other products are both exported and imported. Each market is assumed to have cleared before any exogenously introduced shock to the baseline projection of 2025, and to find a new market-clearing outcome following each shock. The inclusion of exchange rate variables explicitly in the model enables a distinction between price impacts as observed in local currency units from those observed in US dollars. All prices are expressed in real (2016) US dollar terms.

The national beverage consumption data in this study are sourced from two annual global databases: one that includes wine, beer and spirits volumes and stretches from 2018 back to 1961 (Anderson and Pinilla 2020) by drawing on Euromonitor International (2019) data), and another that includes wine, beer and spirits average consumer expenditure data compiled for all countries since the turn of the century and for some high-income countries back to the 1950s (Holmes and Anderson, 2017). Import data are updated from the COMTRADE database (United Nations, 2019). Wine production and consumption data are revised and updated for China, Hong Kong and Japan by Anderson and Harada (2018). Consumer tax and tariff rates are from Anderson (2020).

### **3. HYPOTHESIS: ASIA'S RAPID GROWTH IN GLOBAL BEVERAGE PRODUCTION, CONSUMPTION AND NET IMPORTS WILL CONTINUE, BUT BE DAMPENED IF THE REGION'S INCOME GROWTH SLOWS**

Retail expenditure on each of beer, distilled spirits and grape wine has more than doubled in Asia so far this century, as has the overall volume of alcohol consumption. As a result, between 1998 and 2018 Asia's share of the volume of global alcohol consumption has risen from 31% to 46%, and of retail expenditure from a little over 20% to 34%.

Asia's recorded alcohol consumption in per capita terms has grown as average incomes have moved from low to middle and higher levels. Partly this results from substitution away from home production that is not officially recorded or taxed, but mostly it is a result of altered preferences as urbanization proceeds and incomes grow. For Asia as a whole, the volume of alcohol consumption has grown less rapidly than real income since 1960, not unlike in the rest of the world: Holmes and Anderson (2017) find that, across their sample of 80 countries, the peak per capita consumption of total alcohol occurs at a real per capita income (in 1990 International Geary-Khamis dollars) of \$16,900, which is just slightly above the average per capita income of Western Europe in 1990. The average per capita income in Asia reached \$16,900 by 2007.

Commensurate with its rise in average income relative to the rest of the world, Asia moved from less than one-quarter to two-thirds of the global average recorded volume of alcohol consumption per capita between 1961-63 and 2016-18, thanks especially to a large rise in China. Over the same period, the beverage mix has altered considerably: the share of spirits in Asia's consumption has fallen from 90% to 70%, beer's share has trebled from 9% to 27%, and wine's has risen five-fold – but only from 0.5% to 2.5%. While the shares of beer and spirits varied considerably between Asian countries in the 1960s, they are more similar now. By contrast, the share of wine was extremely low in all Asian countries in the early 1960s, whereas it is much more varied across Asia now. These changes translate to rises in Asia's shares of the global volume of alcohol consumption from 31% to 67% for spirits, from 4% to 33% for beer, and from 0.1% to 9% for wine.

In the rest of the world, the preference for spirits has increased, so it and Asia are converging. Asia's beer and wine shares also have converged on the rest of the world's, but from below. The change in wine's share of total alcohol is particularly striking in that Asia's is rising rapidly whereas the rest of the world's has fallen by nearly two-thirds. Within Asia, it is the more affluent economies of East Asia where the per capita level of and growth in wine consumption have been greatest (Anderson, Nelgen and Pinilla 2017).

China overwhelmingly dominates Asia's increase in aggregate wine consumption: it accounted for barely half of Asia's wine consumption in 2000, but in recent years it has accounted for more than three-quarters. Equally populous India, by contrast, had a wine market that is less than one-seventieth the size of China's in 2016-18, notwithstanding its very rapid income growth during the past decade or so. China's reduction in its wine import tariffs when it joined the World Trade Organization at the end of 2001, from 65% to 20% for bulk wine and to 14% for bottled wines, contributed to the surge in its wine imports over the past dozen years – at a time when India has retained its 150% import tariff on wine (and on spirits, and 100% on beer), not to mention its high sales taxes that vary across states. China's share of global wine consumption has risen from less than 2% prior to 2005 to 7% since 2015. As of 2016-18 it was ranked fifth in the world in terms of overall wine consumption and only a percentage point behind 4<sup>th</sup>-ranked Germany.

The consumption of beer and spirits in Asian countries has been mostly supplied by domestic production. A little bit of intra-industry trade occurs, and increasingly so in recent years, but generally net imports of both of those beverages, compared with levels of domestic consumption, have been very minor (2% for beer, 4% for spirits in 2015-17). By contrast, apart from China, almost all grape-based wine consumption in Asia is supplied by imports. Since early this century, the value of Asia's wine imports net of its exports has exceeded Asia's net imports of either beer or spirits). Since 1995, Asia's net imports as a share of global imports has varied between 0% to 5% for beer volumes and values, and between 2% to 8% for spirits volumes and a little higher for values of spirits.

Asia's shares of global imports of wine, however, have grown dramatically: in US\$ value terms from 2% in the mid-1980s to 6% in the mid-1990s and 21% in 2017-18. If intra-EU trade is excluded, Asia's share of the world's wine import value is now close to half. China represented around two-thirds of the volume and half of the value of those wine imports by Asia in 2018.

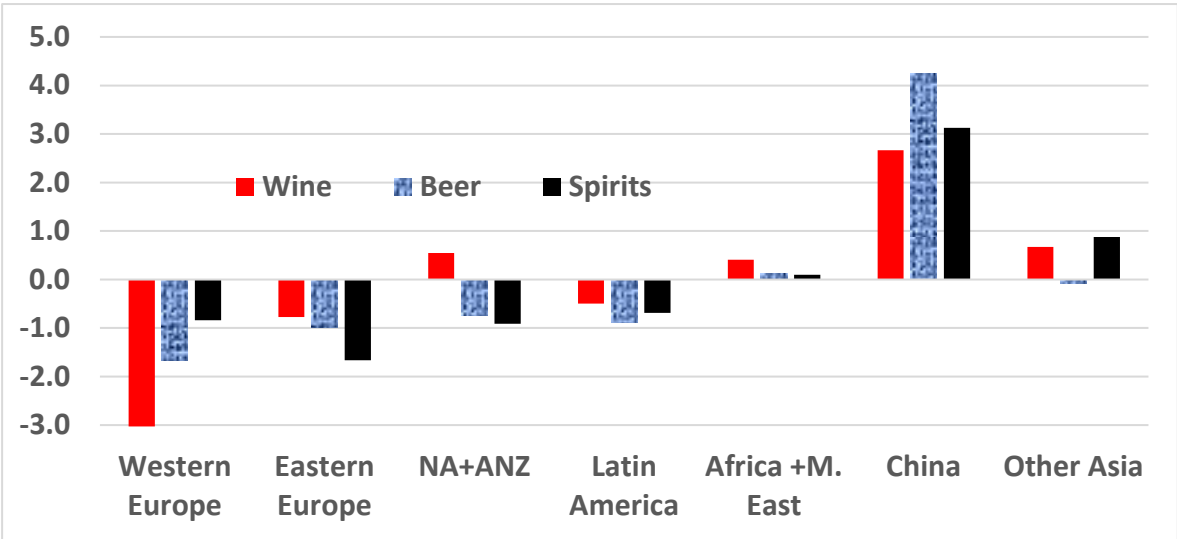
**4. RESULTS: PROJECTING BEVERAGE MARKETS TO 2025**

Since Asia is currently drinking less than half the per capita volume of alcohol consumed in the rest of the world, its consumption is expected to keep rising as its economic growth continues; and while its mix of alcohols is now much closer to the world average than it was in earlier decades, the share of grape wine in that mix is still very low. A key question in contemplating future global market growth is the speed and extent to which wine consumption will continue to increase in Asia. A glance at evidence from Western European countries that are net importers of wine is instructive. Only a very small share of their alcohol consumption was accounted for by wine in the early 1960s, but by 2016-18 wine accounted for around one-third of their alcohol consumption. A similarly rapid preference shift toward wine is thus possible in Asia. However, the following results err on the very conservative side as they project consumption in Asia to grow only a little faster for wine than for beer and spirits.

Specifically, in our baseline projection, by 2025 China’s shares of global beverage consumption are projected to be 2.7 percentage points higher for wine, 4.2 points higher for beer and 3.1 points higher for spirits than in 2016-18. The shares for the rest of Asia are up too for both wine and spirits, but only by about half of a percentage point. Africa also is projected to raise its share of global wine consumption. By contrast, shares of Europe, North America and Latin America are projected to be lower in 2025 than in 2016-18, especially Western Europe’s share of global wine consumption volume in our business-as-usual baseline projection (Figure 1).

Regional shares of world exports do not alter greatly over the projection period, but shares of world imports do change. Given the uncertainty associated with economic growth in developing Asia, including due to the current US-China trade war, we also explore an alternative, slower-growth scenario to the baseline projection to 2025. It assumes Asia’s aggregate household incomes grow only two-thirds as fast as in the baseline rates.

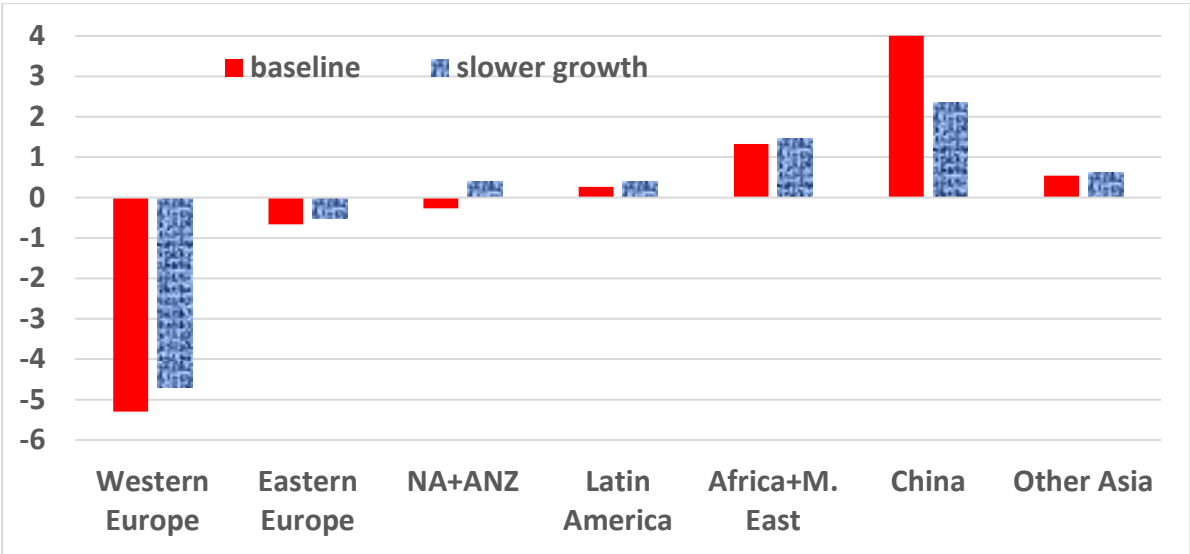
Figure 1: Projected changes in regional<sup>a</sup> shares of the global volume of consumption of wine, beer and spirits, 2016-18 to 2025 (percentage points)



Source: Authors’ model projections.

The effect this has on projected changes in the shares of the global value of imports of wine are shown in Figure 2. Again China stands out, with its domestic wine production continuing to grow slower than its wine consumption. In the baseline scenario, its share of global wine import value rises by 4 percentage points between 2016-18 and 2025, and the rest of Asia’s rises by half a percentage point. But in the slower-growth scenario in which Asia’s economies grow only two-thirds as fast over this period, China’s share of global wine imports would rise little more than half as much – thus boosting shares of other regions including Other Asia. Africa is the only other region projected to enjoy substantial growth in its share of world wine imports, while Europe is the region whose share is projected to fall, by around 5 percentage points for Western Europe and half a percentage point for Eastern Europe.

Figure 2: Projected changes in regional shares of the real value of global wine imports, 2016-18 to 2025 (percentage points)

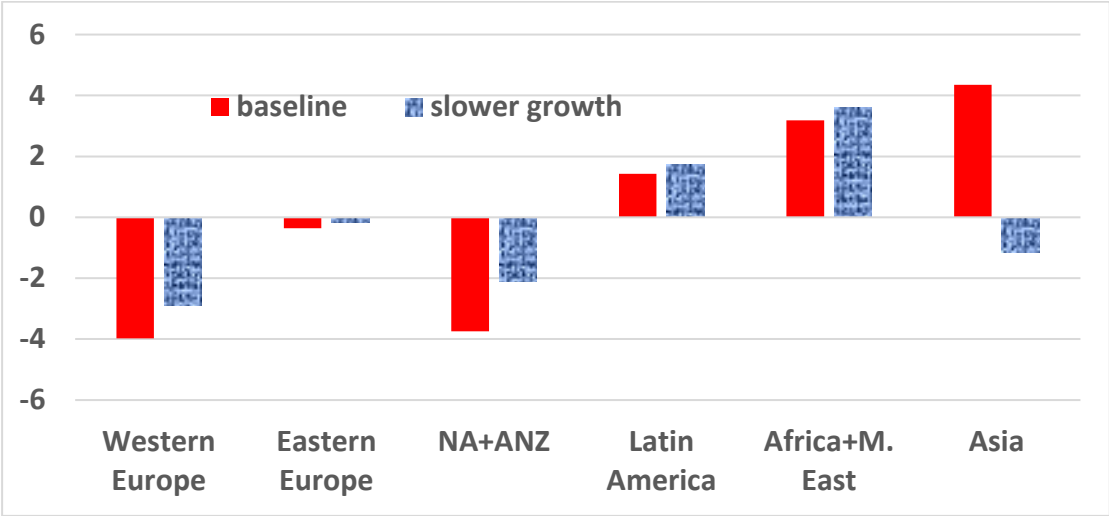


Source: Authors’ model projections.

The projected changes in the shares of the global value of imports of beer and spirits are shown in Figures 3 and 4. The overall patterns are similar to that in Figure 2 for wine. However, China’s growth in importance in global imports increases less for beer and spirits than it does for wine – despite our conservative growth in wine consumption in China over the projection period. In the case of spirits, South Asia dominates projected import growth.

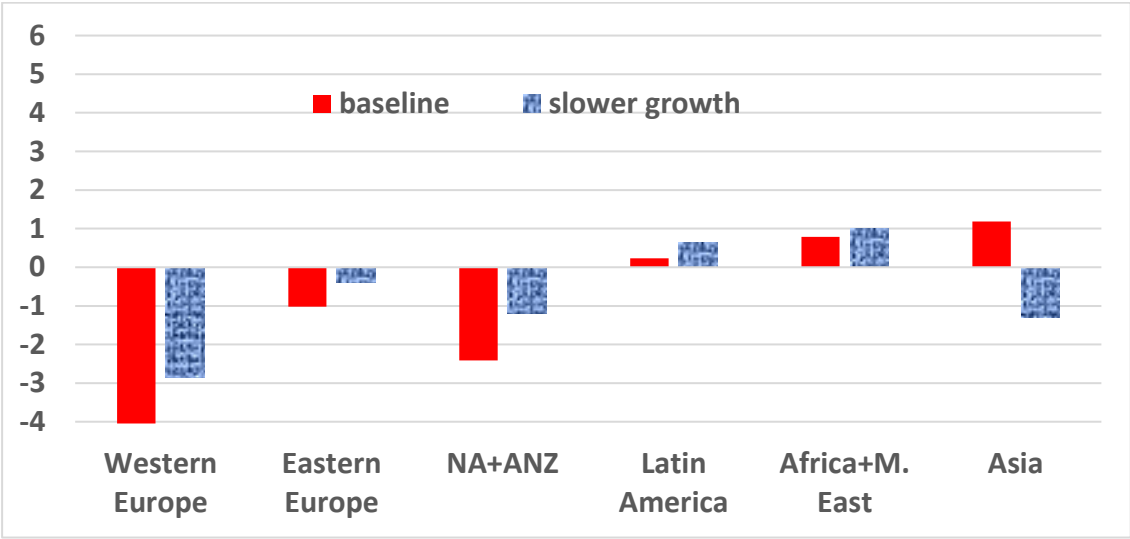
Were we to have assumed a larger preference swing towards wine relative to beer and spirits consumption in China, that country’s importance in global wine imports would have been even higher than that shown in Figure 2. That would not have been unreasonable, given that in the above projections shares of alcohol consumption in China alter very little from 4%, for wine, 41% for beer and 55% for spirits.

Figure 3: Projected changes in regional shares of the real value of global beer imports, 2016-18 to 2025 (percentage points)



Source: Authors’ model projections.

Figure 4: Projected changes in regional shares of the real value of global spirits imports, 2016-18 to 2025 (percentage points)



Source: Authors’ model projections.

**5. DISCUSSION, IMPLICATIONS AND CONCLUSION**

The findings in this paper can be summarized as follows:

- Alcohol consumption has been growing more rapidly in Asia than in the rest of the world, more than doubling since 1998 and raising the region’s share of global alcohol expenditure from one-fifth to one-third;
- Between the early 1960s and 2016-18, Asia’s shares of the global volume of consumption have grown fastest for wine but from a very low base (from 0.1% to 9%), and slowest for spirits but from a very high base (from 31% to 67%, compared with

beer's rise from 4% to 33%), such that Asia's mix of alcohol consumption has converged on the global average mix;

- Wine's share of alcohol consumption in Asia is rising in all Asian economies, especially the more affluent economies of East Asia, but it has yet to reach 4% in any of them;
- China is dominating the growth in Asia's total wine consumption, raising its share from half in 2000 to more than three-quarters in 2018 – while India's wine consumption remains less than one-seventieth that of China's;
- Imports account in volume terms for barely 2% of Asia's beer consumption and 4% of its spirits consumption, but for almost 100% of its wine consumption (except in China), such that the annual value of Asia's wine imports now exceeds that of spirits or beer imports;
- China's shares of global consumption of all three alcohols are projected to be 2 to 4 percentage points higher in 2025 than in 2016, and the rest of Asia's about half a percentage point higher, assuming incomes continue to grow moderately fast;
- However, if incomes in developing Asia during 2016-25 were to grow only two-thirds as fast as in the baseline projection, Asia's wine imports would be only half as large.

While the recent and projected rates of increase in per capita wine consumption in China are slower than what occurred in several northwestern European countries in earlier decades, it is the sheer size of China's adult population of 1.1 billion – and the fact that grape wine still accounts for less than 4% of Chinese alcohol consumption and domestic wine production has been unable to keep pace with domestic demand growth – that makes this import growth opportunity unprecedented. It would be somewhat less if China's own winegrape production increases faster than currently assumed, but that is unlikely to be able to reduce the growth in China's wine imports very much over the next few years, especially at the super-premium end of the quality spectrum. Of course slower income growth in Asia than assumed in the baseline projection dampens projected growth in wine, beer and spirits imports.

Projections are not predictions. How exchange rates move, and how fast various countries' wine producers take advantage of the projected market growth opportunities in Asia, will be additional key determinants of the actual changes in market shares over the coming years. So will any future bilateral and regional free trade agreements or new unilateral trade restrictions. Also important are taxes and other regulations on alcohol consumption (Meloni et al. 2019; Anderson 2020). India potentially could be much more important as an importer of beverages, but very high internal and external trade restrictions and excise taxes on alcohol have to date greatly confined the growth in sales in that populous country. In the more-immediate future, the US-China trade war and the novel coronavirus that are eroding consumer confidence in Asia will slow the growth in the region's imports of alcohol, especially wine.

A final word on China's much-more-dominant role in the recent and prospective growth of global imports of wine versus beer and spirits. This difference arises predominantly because (a) 2016-18 baseline shares of China in global imports are so much greater for wine than for other beverages and (b) the baseline share of imports in China's consumption is nearly ten times



greater for wine (at around 40%) than for beer and spirits. This is even more the case in other Asian countries where none of them are significant producers of grape-based wine. Our sensitivity analysis of previous model results have revealed that changes in assumed parameter values and in trade taxes have relatively minor impacts on results compared with these basic share variables that are incorporated in our model's database. It is that fact which drove us to invest so much time in compiling reliable data, especially for countries in the fast-growing Asian region. Even so, unilateral trade restrictions can cause bilateral trade patterns to diverge from the above projections. China's non-tariff barriers imposed informally on Australian wine imports in late 2020 (just as the writing of this paper concluded) are a case in point.

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