Projecting the World Wine Market to 2005

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Abstract

This paper begins by addressing the question: What will the global wine market look like by 2005, when a much greater volume of premium wine from recent plantings will be ready to market? It does so using a newly developed World Multisectoral Wine Model which distinguishes premium from non-premium grapes and wine. After describing the model, we present results of projecting it from 1999 to 2005 to estimate the impact of known winegrape plantings of the late 1990s on wine production, consumption, trade, and prices. Using the latter 2005 scenario as the base, we then examine in turn the effects on the global market of a strengthening of the US dollar, of a spread of Pierce's Disease in California, of a European trade policy response to the growth in premium wine exports from the New World, and of a reduction in wholesale and retail margins on beverage wines (thanks to expanding supermarket and internet sales). Production, trade and welfare results are provided for the model's ten regions that span the world. Several of the results are non-intuitive, which underscores the value of using a consistent empirical modelling approach even when data and parameter estimates are far from perfect.

Key words: wine, grapes, global wine modelling

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The world wine market is the subject of increasing interest to New World wine producers as their national outputs and export orientation increase. Some fear that, with world wine consumption declining slightly while output is rising, the industry is vulnerable to a decline in export prices. However, despite per capita consumption declining in a number of significant wine-consuming nations, consumption is still increasing in many other countries. As well, consumers are moving up-market and substituting quality for quantity, to the extent that the demand for premium wine has been outstripping supply growth. Within that premium segment, the relatively low-priced, fruity wines of the New World have enjoyed the fastest demand growth. This is reflected in the rising unit values for their bottled wine exports over the past decade, which has stimulated a rush of new plantings. The falling demand for non-premium wine, on the other hand, has been matched by a steady decline in the production of non-premium wine. Hence any assessment of future prospects for the world's wine markets needs to distinguish not only between regions but also between premium and non-premium segments within each market.

The present paper addresses the question: what will the global wine market look like by 2005, when premium wine from new plantings will be ready to market? To address that question, use is made of a new World Multisectoral Wine Model (WMWM). Within the model there are two types of grapes (premium winegrapes and multipurpose grapes) and three types of wine: premium, non-premium and non-beverage (i.e., for distillation or industrial use). This disaggregation is the minimum necessary to deal with the issue of wine quality up-grading in different markets. Any further disaggregation awaits better data. The underlying database distinguishes 50 countries of country groups but, for ease of presentation in the tables below, these are aggregated to just ten regions spanning the world.

After presenting brief details of the model in the next section, results of five model simulations are discussed. In the first simulation, we project the model from 1999 to 2005 to estimate the impact of known winegrape plantings of the late 1990s on producer and

consumer prices in different regions assuming no other shocks. Second, we repeat the first simulation but assume there has been additional effective market promotion by Australia, as called for in the industry's wine marketing strategy released in November 2000 (WFA and AWBC 2000). Using that revised 2005 scenario as the base year, we then examine in turn the effects on the global market of a strengthening of the US dollar, a spread of Pierce's Disease in California, European trade policy responses to the growth in premium wine exports from the New World, and reduced wholesale/retail margins (with the growth of supermarket and e-commerce sales). The final section summarizes the conclusions drawn from those structural and policy simulations and suggests areas for further simulation research and for improving the model and its database.

The WMWM model

WMWM is based on perfectly competitive microeconomic theory. As summarized in Appendix A and detailed in Wittwer, Berger and Anderson (2001), in each regional market's demands and supplies reflect utility- and profit-maximising behaviour, with supplies equalling demands globally for each grape and wine product. Competitive prices are set equal to unit costs. While the model has several commodities it is partial equilibrium in the sense that the prices of intermediate inputs, other than grapes used in production of wine, are taken as given.

On the demand side, households consume "other" products in addition to grapes and wine, where "other" is a composite of all products other than grapes and wine. WMWM includes the theory of household demand based on the Stone-Geary utility function. A consumption function allows the user to tie changes in household expenditure to changes in income. The comparative static welfare calculation in the model, assuming constant preferences, is based on that utility function.

Importantly, each region's supply is differentiated from the wine of each other region, so no region's domestically produced wine product is a perfect substitute for wine imported from other regions.

On the supply side, the model assumes that most factors used in grape and wine production are fixed. This is reasonable for the short to medium term, given the large fixed costs and partly irreversible nature of vineyard and winery investments. Labour is a mobile