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Glyn Wittwer and Kym Anderson

School of Economics and
Centre for International Economic Studies
Adelaide University SA 5005 AUSTRALIA
glyn.wittwer@adelaide.edu.au
kym.anderson@adelaide.edu.au

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Adelaide University
SA 5005, AUSTRALIA

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How Increased EU Import Barriers and Reduced Retail Margins Can Affect the World Wine Market

Glyn Wittwer and Kym Anderson

In the previous issue of this *Journal*, we analyzed the effects of a recent and a prospective development abroad on the Australian wine industry, using a model of the world's ever-more interconnected wine markets developed at Adelaide University's Centre of International Economic Studies (Wittwer and Anderson 2001). In the present article, we discuss the possible effects of two further developments: one prospective (a raising of barriers to New World wine imports by the Old World), and one emerging (a decline in wholesaling and retailing costs thanks to supermarkets and e-tailing).

As with the earlier paper, the results generated are in some senses counter-intuitive. In the first case, not all of the New World would lose equally from such an import barrier. And in the second, the extent to which the benefits from the productivity gain in distribution are kept by the wholesale and retail distributors depends on the time frame considered.

The paper is structured as follows. It begins with a brief description of our world wine model, which is used to project the global market for both premium and non-premium wine from 1999 to 2005 assuming no shocks other than the coming into full production of recent vineyard plantings in Australia and elsewhere.¹ That base case projection is then compared with situations where (a) Western Europe raises by 2005 its barriers to wine imports from North America and the Southern Hemisphere, and (b) wholesaling and retailing productivity is improved. Some conclusions are drawn in the final section.

¹ For model details, see Wittwer, Berger and Anderson (2001). The trade and wine policy distortions data in the model are drawn from Berger, Spahni and Anderson (1999) and Berger and Anderson (1999).

The Model of World Wine Markets

Our model includes six intermediate inputs (chemicals, water, premium grapes, multipurpose grapes, non-premium wine, and other) and five outputs (premium winegrapes, multipurpose grapes, premium wine, non-premium wine and non-beverage wine products). In its present form the model divides the world into ten regions (to be further disaggregated later this year): Western European wine Exporters (WEE), United Kingdom (UK), Germany (GER), Other Western Europe (OWE), Central & Eastern Europe (CEE), United States & Canada (USC), Australia (AUS), New Zealand (NZ), Other Southern Hemisphere wine Exporters (OSE), and the Rest of the World (ROW).

Given the importance of distinguishing between the expanding premium and shrinking non-premium segments of the world wine market, a crucial part of database preparation was to estimate this split (details are in the Appendix to Wittwer and Anderson 2001). The resulting 1999 data were used as the base from which to project forward the world wine market to 2005 using the model.

On the demand side, 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. For example, if the price of French wine on the world market falls sharply, this will induce only a partial switch by Australia consumers towards consumption of French wine since those wines are imperfect substitutes.

On the supply side, the model assumes that most productive factors used in grape and wine production (excluding labour) are fixed. This is reasonable for the medium term, given the large sunk costs and partly irreversible nature of vineyard and winery investments. All factors are assumed to be immobile internationally in this medium term. This limited degree of mobility within countries in the version of the model used here implies that in response to external shocks, most comparative static adjustments are through price (including changes in factor rewards) rather than output changes.²

² For modelling the longer term, we would alter these assumptions to allow more intersectoral and international mobility of productive factors.

Effects of Western Europe raising barriers to wine imports from the New World

There is a growing concern among European Union (EU) producers over the extent to which New World producers are encroaching on their traditional wine markets. EU food producers in recent decades have gained notoriety through their successful lobbying for protectionist measures under the EU's Common Agricultural Policy. The CAP involves a combination of production and export subsidies, import tariffs, and non-tariff barriers to imports such as imposing tough technical standards. It would be in keeping with past practice if Europe responded to increased international competition in the wine market by raising its non-tariff import barriers, in addition to or instead of through enhancing R&D or marketing efforts.³ Indeed a case in point is their (so far unsuccessful) push to require wines produced with modern viticultural and oenological methods to be labeled as "industrial", regardless of their quality, while labeling traditional European wines as "agricultural".

The modeling scenario reported here assumes Western Europe imposes a non-tariff barrier that is equivalent to a 30 per cent import tariff on New World wines. This is a proxy for any import-restrictive measure that raises the price of imports relative to locally produced wine in Western Europe. This of course reduces the returns to New World producers while raising returns to European producers. However, North American (USC) producers suffer less than those elsewhere in the New World because the domestic market accounts for a larger proportion of total wine sales of USC producers than is true in the Southern Hemisphere (Table 1).

There are also substantial diversions in global trade: Australian and other Southern hemisphere exports to the United Kingdom and elsewhere in Europe decline sharply while those to USC increase sharply; Western European Exporters increase their sales to other European nations while decreasing exports to USC; and Central and Eastern Europeans increase their exports to Western Europe (Table 2).

Consumers in New World regions gain slightly through falling prices, as shown by the positive local market effect in Table 3. Both exports and output decrease for New World producers, while output increases in Europe either for increased sales to

³ Import tariffs are unlikely to be used in so far as the EU's tariffs currently are close to the WTO legally binding commitments they made in the Uruguay Round.

other European nations (as is the case for Germany) or for import replacement (as for the Western Europe Exporters and Other Western European regions).

For Australia, the UK market would account for most of its losses in export sales. Policies within Europe to discourage imports would force Australian producers to increase their marketing efforts in USC and in the Asian region, where sales have been relatively low.

The distributional consequences of raising the EU import barrier are the traditional ones from protectionism: grape and wine producers gain and consumers lose in the European regions, with the former's gain much less than the latter's welfare loss. Conversely, in the New World, wine consumers gain and producers lose and, except in USC, the benefits to consumers are outweighed by the losses suffered by producers. The net national outcome is positive for North America because their consumers gain from lower-priced imports from other new World suppliers, which more than offsets the loss because of reduced sales of USC wine at lower prices to the EU. Global economic welfare would be reduced by just over \$1 billion per year from such a trade restriction, with the New World as a whole only slightly worse off because the gain to USC offsets the loss to other regions in that group (Table 4).

A reduction in wine wholesale and retail marketing margins

The role of supermarkets chains in retail wine sales has been growing steadily in the United Kingdom following changes in liquor licencing laws in the 1970s. That phenomenon is gradually spreading to continental Europe, and similar trends have been advancing inexorably in Australasia and North America for some time (Geene et al. 1999). As Moulton (1984, p. 400) noted early in that development, supermarkets and discount liquor stores typically work on retail margins of 15-25 per cent rather than the conventional margin of 35-50 per cent. To that is now being added the potentially even cheaper on-line marketing of wine via email and the internet (Anderson 2001). These cost-reducing technologies are lowering the spread between producer and final consumer prices, potentially to the benefit of all parties. But how will that saving be apportioned?

To get a sense of that, in this second modeling scenario we assume that, as a consequence of an increasing proportion of total sales being sold in supermarkets and on-line, the cost of trade margins in wholesaling and retailing wine transactions falls

by one-fifth.⁴ If we assumed fixed physical and human capital stocks in the industry there would be only a limited supply response and so consumers would gain little and the benefits would be shared between the innovative marketers and grape and wine producers. Initially the innovative retailers would capture most of the gains, but as other current or prospective retailers followed suit those profits would be shared more with wineries and eventually grapegrowers.

In modeling this gradual long-run change it is thus appropriate to alter the assumptions of the model such that physical and human capital in the various segments of the wine industry are no longer assumed fixed. We assume instead that the price of each factor is fixed and its quantity employed grows to drive distributors' profits back to normal.

With that more elastic supply, the productivity improvement causes global average producer prices of both grapes and wine to rise by around 1 per cent (Table 1), consumer prices to fall by around 6 per cent, and global premium wine output and exports to increase by 4 to 5 per cent (Tables 2 and 3). Consumers' gains (net of tax changes) are \$US10 billion globally, returns to grape growers increase by \$US0.5 billion and returns to wineries increase by \$US0.9 billion per year in 1999 US dollars. Since we assume that reduced margins are due to technology changes, we do not net out reductions in traders' gross receipts in Table 4 where eventually their profits are assumed to be unchanged from before the productivity growth. Thus the global increase in economic welfare from such an efficiency improvement is estimated to be \$11.5 billion per year, split roughly one-eighth to producers and seven-eighths to consumers under the assumptions used in this scenario – and the wine industry would be nearly 5 per cent larger in all major regions.

Conclusions

The impact of Western Europe imposing import barriers on New World wines is to encourage a diversion of New World wine sales from Europe to elsewhere and of Eastern European wines to Western Europe. Returns to producers in the New World would decrease by less than they would have a few years ago, thanks to the growth in

⁴ Note that this implies a larger fall in sales for off-premise consumption than one-fifth, as around one-third of sales are on-premise where the margin is much higher. In the model's database the wholesale

wine markets elsewhere and especially in North America. But this scenario underscores the wisdom of New World producers' risk-spreading strategies in not neglecting their domestic customers and in seeking to diversify their export markets.

Consumers appropriate most of the gains from reduced marketing margins, even in the medium term but especially in the longer term. Certainly the producer gains diminish per tonne or litre as factors adjust in the longer term, but that is because the industry's capital stocks and hence output and exports grow. The global welfare gains from increasing the efficiency of wholesaling and retailing are thus shared between producers, consumers and traders. In so far as wineries choose to expand their own e-tailing activities, they can presumably capture part of the initial profits from early adoption of the new internet-based technologies (adding, in the case of smaller wineries in Australia, to the benefits of not having to pay the so-called wine equalization tax). But wineries need to be aware that those profits may be eroded over time to the extent that they do not remain at the frontier of the evolving e-tailing technologies.

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and retail margins, not counting taxes and international transport costs, account for 27 per cent of the retail tax-inclusive price of wine in aggregate.

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Table 1: Producer price change from shocks
 (% change from base year 2005, in 1999 constant US dollars)

	AUS	WEE	GER	OWE	CEE	USC	OSE	NZ	ROW	World
1. Higher EU15 tariffs on New World imports										
Premium grape	-9.5	9.4	12.0	9.8	2.6	-5.9	-11.8	-8.7	-1.9	3.3
Multipurpose grapes	-1.1	0.3	0.4	1.0	0.6	-0.6	-3.6	0.7	0.1	-0.2
Premium wine	-9.7	5.2	6.8	5.8	1.7	-5.0	-8.8	-8.5	-1.2	0.3
Nonpremium wine	-7.6	2.4	4.0	3.0	2.3	-3.4	-6.1	-6.3	1.1	0.2
2. Reduction in marketing margins										
Premium grape	1.5	1.2	1.6	1.2	0.6	1.3	1.4	1.4	1.1	1.3
Multipurpose grapes	0.7	0.6	0.4	0.6	0.2	0.5	0.6	0.9	0.1	0.3
Premium wine	1.5	0.9	1.2	0.9	0.4	1.5	1.3	1.5	0.4	1.1
Nonpremium wine	1.9	1.2	1.6	1.1	0.6	1.6	1.4	1.9	0.3	1.2

Source: Authors' model results.

Table 2: Change in bilateral premium wine trade volumes between major exporters and importers from shocks
 (% change from base year 2005)

<i>5. Higher EU15 tariffs on New World imports</i>						<i>6. Reduction in marketing margins</i>				
Sales to:	UK	GER	WEN	USC	Total exports	UK	GER	WEN	USC	Total exports
From:										
AUS	-43	-64	-59	67	-6	5	5	6	5	5
WEE	81	8	29	-57	5	3	4	4	5	4
GER	55	-5	14	-62	17	7	5	7	7	7
CEE	146	47	109	-42	72	1	5	-61	5	3
USC	-65	-77	-74	3	-49	3	4	4	4	3
OSE	-48	-66	-61	49	-10	6	6	6	6	6
NZ	-46	-67	-62	46	-7	4	4	5	4	4
WORLD	1	-1	-1	-2	-5	5	4	5	5	4

Source: Authors' model results.

Table 3: Decomposition of change in volume of premium wine output from shocks
 (% change from base year 2005)

	AUS	WEE	GER	OWE	CEE	USC	OSE	NZ	ROW	World
1. Higher EU15 tariffs on New World imports										
Local Market Growth	1.3	-1.2	-1.4	0.4	-0.5	1.7	1.5	1.4	-0.4	-0.1
Import Substitution	1.0	0.6	-1.7	4.8	0.5	1.2	0.2	1.1	-7.7	0.7
Export	-4.2	2.0	5.1	-3.1	1.2	-4.5	-6.3	-4.4	6.9	-0.6
Total	-1.9	1.4	2.0	2.1	1.2	-1.6	-4.6	-2.0	-1.3	0.0
2. Reduction in marketing margins										
Local Market Growth	1.4	2.7	3.0	3.9	3.3	4.0	1.7	1.3	4.0	3.0
Import Substitution	0.0	0.0	0.5	0.1	0.0	-0.1	0.0	0.0	1.4	0.0
Export	3.2	1.4	2.1	0.6	0.1	0.2	3.3	2.6	0.5	1.3
Total	4.6	4.1	5.6	4.6	3.4	4.1	5.0	3.9	5.8	4.4

Source: Authors' model results.

Table 4: Distribution of returns arising from shocks
(change from 2005, constant 1999 US million dollars)

	AUS	WEE	UK	GER	OWE	CEE	USC	OSE	NZ	ROW	World
<i>1. Higher EU15 tariffs on New World imports</i>											
Grape growers	-60	515	3	72	44	39	-158	-224	-4	27	254
Winemakers	-226	413	3	71	57	37	-362	-217	-13	-1	-238
Consumers	183	-942	-411	-348	-547	-122	729	305	15	54	-1084
Total	-103	-14	-405	-205	-446	-46	209	-136	-2	80	-1068
<i>6. Reduction in marketing margins</i>											
Grape growers	18	216	1	24	20	30	100	56	1	52	518
Winemakers	73	342	1	48	42	30	264	87	5	15	907
Consumers	228	2337	889	913	1575	1079	1904	464	26	708	10123
Total	319	2895	891	985	1637	1139	2268	607	32	775	11548

Source: Authors' model results.

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