

# Is Georgia the Next “New” Wine-Exporting Country? \*

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## Abstract

The former Soviet republic of Georgia is reputedly the cradle of wine and has enjoyed at least 8,000 vintages. It has also been a major supplier of wine to Russia for at least 200 years, but to few other countries. In 2006, however, Russia imposed a ban on beverage imports from Georgia. Since then this relatively poor country, in which nearly half the population is rural and most farmers have a vineyard, has been seeking to develop new export markets for its wine. This paper assesses the potential for growth in Georgia’s wine production and exports. It then outlines ways to address the challenges involved in trying to realize that potential, drawing on the experience of other countries that have rapidly expanded their wine exports in the past two decades. Implications for policy are drawn, particularly for ensuring that poverty is reduced as exports expand and the economy grows. (JEL Classifications: F14, F15, F54, Q17)

**Keywords:** Export-led growth, rural development in transition, wine trade embargo.

## I. Introduction

Georgia, a country wedged between the Black and Caspian seas at the same latitude as the south of France, is reputedly the cradle of wine (McGovern 2003, 2009). It has experienced 8,000 vintages, is blessed with more than 500 indigenous *Vitis vinifera* wine grape varieties, and has an enviable reputation for hospitality involving lavish and lengthy feasts (*supra*). In 2005 wine accounted to almost one-tenth of the value of all goods exported from Georgia, making wine exports around six times as economically important as in France, Italy, and Spain. Moreover, virtually every Georgian farm household grows grapes and produces wine. These households

\* Revision of a paper presented at a World Bank wine industry seminar, Tbilisi, Georgia, March 9, 2012, and at the Wine Pre-Conference Workshop, ICABR-EAAE Conference, Feudi di San Gregorio, Italy, June 24, 2012. The author is grateful for discussions with many people in Georgia and at the workshop, for very helpful referee comments, and for financial support from the World Bank and (for wine globalization research) Australia’s Grape and Wine Research and Development Corporation. The views expressed are the author’s alone.

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represent nearly half the country’s households and employment and most of the poverty in this relatively poor country, in which one-third of the population survives on less than \$2 a day.

For the past two centuries, including the Soviet era, Georgia has been a major supplier of wine to Russia and other members of the former Soviet Union’s Commonwealth of Independent States (CIS). However, because very little Georgian wine has been exported elsewhere, it was a major blow when Russia, for political reasons, introduced a ban on wine imports from Georgia in 2006. As of March 2013, that embargo was still in place. That shock (compounded by a short war with Russia in August 2008) has required Georgian wine exporters to develop markets elsewhere, a task made considerably more difficult by the global financial crisis that began in 2008. Nonetheless, the country’s agriculture minister announced in November 2011 that he wanted to see a near-trebling of wine exports by 2015.

This paper explores the prospects for growth in wine exports from Georgia. Section II offers a brief description of key indicators of Georgia’s economy relative to those of its neighbors, highlighting the extraordinary importance of wine in the economy. That provides the background needed to assess the potential for growth in Georgia’s wine production and exports, which is the focus of Section III. Realizing that potential, however, will require the government and industry to work together on a wide range of fronts to attract the various crucial investments required. Those necessary conditions are enumerated in Section IV, based on the experience of other countries that have expanded their wine exports in the past two decades. Section V summarizes the paper’s findings and lists several implications for policy, not least for ensuring that poverty is reduced as exports expand and the economy grows.

## **II. Key Indicators of Georgia’s Economy and of Wine’s Importance**

The economy of Georgia is very open and by far the easiest in the region in which to do business. Its exports plus imports of goods and services amounted to 87 percent of its gross domestic product (GDP) in 2010, when, according to the World Bank (2013), it ranked 9th of 185 countries in terms of the ease of doing business and had the most-improved ranking in the world in the period 2005–2012.

Yet, apart from Moldova, Georgia has the lowest gross national income per capita of the countries in the region bordering the Black and Caspian seas and has one of the region’s most skewed distributions of income (greatest gap between rich and poor) and the largest proportion of households in poverty (World Bank, 2011).

Agricultural wages are around one-third those of nonfarm workers, and the incidence of poverty is nearly twice as high in rural as in urban areas. This is not surprising, given that the farm sector is dominated by small private farms with an average size of 1.2 hectares (ha) (93 percent are smaller than 2 ha). Even so, semisubsistence agriculture, which accounts for three-quarters of rural employment, is the main source of income for the majority of rural households, together with

public transfers (World Bank, 2009). Most farmers have a vineyard and produce wine for self-consumption with family and friends, and some small and medium farm enterprises also sell grapes to commercial wineries, often under contract. Between 92 and 95 percent of the country's grapes are grown on family farms, and grapes account for around two-fifths of all fruit produced in Georgia. All but 8 percent of grapes are used for wine, the rest being consumed as table grapes (NSO, 2011a, 2011b).

The value of Georgia's wine output, including for subsistence consumption, amounted in 2009 to 0.7 percent of GDP, which is similar to that in Argentina and South Africa, only a little below France and Portugal's 0.9 percent and Chile's 1.2 percent, but well below Moldova's 4.6 percent (Anderson and Nelgen, 2011, tables 86 and 159).

Most nonfarm households in Georgia also consume wine as their alcoholic beverage of choice. Although it is commonly purchased from bulk containers rather than in labeled bottles, an expanding number of private wineries are developing brands and selling labeled bottles in the domestic market (while exported wine is shipped mainly in bottles). During 2006–10, exports comprised almost one-fifth of total wine production and nearly two-thirds of labeled bottles. Domestic wine consumption per adult, including from self-production, was estimated at around 17 liters in 2009. Wine is thus a nontrivial part of domestic household spending on food, beverages, and tobacco, which in 2010 accounted for 46 and 39 percent of Georgian rural and urban household expenditure, respectively.

Wine contributes to all three key sectors of the economy: primary production (grape growing), manufacturing (grape processing into wine and also brandy and *chacha*/grappa), and services (transporting of grapes and wine, marketing of wine, and the various activities associated with wine tourism). Commercial wine tourism is not something on which Georgians spend much time and money (since it has long been mainstreamed into the culture), but many international visitors to Georgia indulge in food and wine tourism activities to some extent. This component of the wine-producing industry is beginning to take off as a services export revenue earner.

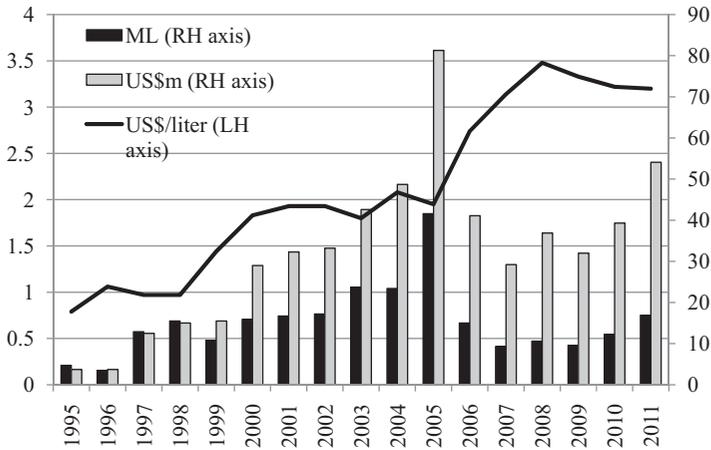
Between 1995 and 2005, three-quarters of the country's wine export earnings came from Russia, and if combined with Ukraine that share rose to 90 percent. More than two-thirds of the earnings from exports of distilled spirits (brandy and *chacha*) also came from Russia.

The politically motivated decision by Russia in late March 2006 to ban imports of alcoholic beverages and bottled water from Georgia was therefore a major shock to the country's overall economy, particularly to its rural areas and especially to its wine industry.<sup>1</sup> The share of beverages in the total value of merchandise exports had

<sup>1</sup>This was preceded by two previous shocks: the anti-alcoholism campaign launched by Mikhail Gorbachev in 1985 led nearly three-quarters of Georgia's vineyards to be uprooted; and the economic

Figure 1

## Wine Export Volume, Value and Average Price, Georgia, 1995–2011



Sources: GWA (2011), NSO (2012).

grown from 11 percent to 15 percent in the first half of the previous decade, but during 2009–11 it was only half that share. Bottled water exports also halved. Wine’s share of all goods and services exports fell from 5.4 percent to 1.3 percent between 2005 and 2010, and wine’s share of just alcohol exports fell from 73 percent in 2005 to 33 percent in 2007, before recovering slightly to 40 percent in 2010: much of what would have been exported as wine was distilled, and exports of distilled alcohol doubled between 2005 and 2008 (NSO, 2012).

A striking feature of the Russian embargo is that Georgia’s wine exports, while declining initially in quantity, have risen markedly in quality since 2006. Wine’s average export price was only US\$1 per liter in the late 1990s and \$2 during 2000–2005, but by 2008 it averaged \$3.50 and, despite the global financial crisis, was as high as \$3.20 in 2011 (Figure 1).

Since the Russian embargo, the other CIS member countries have dominated as destinations for Georgian wine exports. By 2010 half the exports were still going to Ukraine and another one-quarter to other CIS members. Poland and the three Baltic countries that are former Soviet republics (Estonia, Latvia, and Lithuania) account for another one-eighth, while the United States and China each have a 2 percent share, and most of the rest goes to other members of the European

collapse of the early independence years post-1991 damaged the industry further via widespread counterfeiting of Georgian wine in Russia. At the mid-1980s’ peak, Georgia had around 120,000 ha of grapevines. That is comparable with the area in the early 2000s in Australia, Bulgaria, Chile, Greece, Moldova, and South Africa, and greater than in (East plus West) Germany. In recent years the bearing area has been around 50,000 ha.

Union (EU) (GWA, 2011). The current trade situation thus leaves a great deal of scope for diversifying Georgia's wine export destinations, since the entirety of Central and Eastern Europe plus the CIS (excluding Russia) accounted in 2005–9 for less than 7 percent of the volume of global wine imports, compared with more than 90 percent of wine exports from Georgia.

### **III. Potential for Growth in Georgia's Wine Production and Export Diversification**

In exploring the growth potential for Georgian wine exports, it is helpful to review the basic determinants of comparative advantage in wine and then examine the available data for Georgia compared with other wine-exporting countries.

#### ***A. Determinants of Comparative Advantage in Wine***

There are numerous determinants of a country's comparative advantage in wine production, but of particular importance for wine are the three Ts of terroir, tradition, and technology.

Terroir refers to various pertinent aspects of climate, topography, soils, geology, and so on that determine the quality of the vine's growing conditions. Vineyard site selection therefore is crucial. Experience has determined the best sites and most-suitable grape varieties in long-established regions, whereas in new regions science must be used to speed the process of approaching the potential of any region to produce quality wine grapes (Gladstones, 1992). While Georgia has many suitable regions for growing various wine grape varieties and styles for its traditional markets, they have yet to be proven for other export markets.

Traditions determine not only how a product is produced but also the extent of local consumer demand. This is important for wine because typically local demand is the easiest and least costly for producers to satisfy, as there are relatively high fixed costs of entry into new export markets (Friberg et al., 2011)—especially with unfamiliar styles and varieties. In Georgia, where the tradition of drinking (mostly unlabeled) wine with meals is already pervasive, domestic demand absorbs most of the grapes produced. What has been available for processing into labeled commercial wine for export has been sold almost exclusively in the larger Soviet (and post-Soviet) “home” market, which demanded a unique style of cheap semisweet red wine. Those two “home market” biases have not provided Georgia's wineries with experience in producing for bottled wine markets elsewhere that are very different from their traditional markets.

As for technology, there is always potential for improving on traditional production, processing, entrepreneurship, and marketing, whether by trial and error of practitioners over the generations or via formal investment in private and public research and development (R&D). The New World wine-producing countries

have been more dependent on newly developed technologies than have producers in Western Europe, although both sets of countries have made major R&D investments—and expanded complementary tertiary education in viticulture, oenology, and wine marketing—over the past half-century (Giuliana et al., 2011).

How important modern technology is relative to terroir in determining comparative advantage is a moot point. One recent statistical study suggests that terroir is not as dominant as is commonly assumed—even in regions as established as Bordeaux (Gergaud and Ginsburg, 2008). Another study, of vineyard sale values in Oregon, finds that while appellation reputation has some economic value, each location’s physical attributes are not closely related to wine prices (Cross et al., 2011). A recent book by Lewin (2010) begins its section on wine regions with the New World rather than the Old World, to emphasize that wines almost everywhere are manipulated by winemakers as they endeavor to make use of available knowledge to produce the products most desired by their customers. What they produce is increasingly being affected by how they can maximize profits through satisfying consumer demand.

New technology in agriculture has long tended to be biased in favor of saving the scarcest factor of production, as reflected in relative factor prices. Hayami and Ruttan (1985) emphasize that the focus of R&D investments thus has been driven in part by changes in factor prices, in particular by the rise in real wages. That has resulted in the development or adoption of labor-saving technology, such as mechanical harvesters and pruners for vineyards and super-fast bottling/labeling equipment for wineries in land-abundant, labor-scarce countries such as Australia. The adoption of labor-saving technology has helped countries with rapidly rising real wages retain their comparative advantage in what traditionally had been labor-intensive industries. This in turn means that poorer countries need to find sources of comparative advantage other than just low wages.

In Georgia, where real farm wages have remained relatively low, labor-intensive technology such as *qvevri*-based production (an ancient organic method involving large clay storage vessels), in addition to hand pruning and harvesting, has persisted. This is not inconsistent with Hayami/Ruttan theory, but it does mean that Georgia’s traditional wine technology is very different from—and not necessarily more internationally competitive than—that of higher-wage wine-exporting countries.

Relative factor endowments also affect the comparative advantage of a country in terms of the quality of its exported products. New trade theory suggests that richer, capital-abundant countries will export higher-priced, higher-quality goods (Fajgelbaum et al., 2011; Nayak, 2011). Relatively poor Georgia is therefore exceptional in exporting wine at an average price equal to or slightly above that for the world as a whole during 2005–2009.

A further set of influence on comparative advantage that can be important at certain times relates to currency exchange rate movements. A macroeconomic

shock—such as Argentina’s devaluation by two-thirds in late 2001 or a doubling in the Australian-U.S. dollar exchange rate over the past decade due largely to Australia’s mining boom—have had major (and opposite) impacts on the international competitiveness of wineries in those two Southern Hemisphere countries.

For Georgia, terroir and tradition have been the key domestic influences on its comparative advantage in wine production. Even so, there was some importation of exotic technologies and varieties from Western Europe in the nineteenth century and there was again following independence in 1991.

The international competitiveness of its wineries also has been heavily influenced by its long-established trade relations with Russia. Somewhat in contrast to the bilateral trade experience in the nineteenth century, during the Soviet era the choice of both technology and grape varieties in Georgia was focused on Russian demands for maximum quantities of semisweet, low-quality, mostly red wines (Kharbedia, 2010). With the dissolution of the Soviet Union in 1991 and even more so Russia’s ban on imports of Georgian wine since 2006, the country now has a large degree of freedom to influence its future comparative advantage in wine.

To meet the agriculture minister’s goal of trebling wine exports by 2015, total wine grape production would have to increase by a one-quarter wine grape and commercial bottled wine output would have to nearly triple. To examine what will be needed to meet that export goal in a sustainable way, it is helpful to review where Georgia is currently relative to other wine-exporting countries, especially those that have enjoyed rapid export growth in the past decade or two.

## ***B. Georgia’s Wine Comparative Advantage***

Trade data for the past decade reveal that Georgia’s strong comparative advantage in wine is second only to that of Moldova. The indicator shown in [Table 1](#) is wine’s share of national merchandise exports relative to its share of global exports. However, the high value for Georgia has slipped a lot since the Russian import embargo, while those of several other countries (most notably, New Zealand and Argentina) have risen a great deal during the first decade of this century. That is also reflected in the share of Georgia’s wine production volume (including noncommercial supplies) that is exported: it grew rapidly in the first half of the past decade to nearly 50 percent, but then fell sharply with the Russian ban and by 2010 had not yet returned to its 1995–99 average of 14 percent ([Figure 2](#)).

The country’s wine comparative advantage is driven in large part by having ample terroir for wine grapes and by becoming familiar with that terroir by using it over millennia. Unlike elsewhere in the former Soviet Union, Georgia’s vineyards were not decimated after the Union breakup: between 1992 and 1998 its wine production fell just 16 percent, compared with almost 60 percent in Russia and Moldova (Noev and Swinnen, 2004). One quick way of guessing the potential

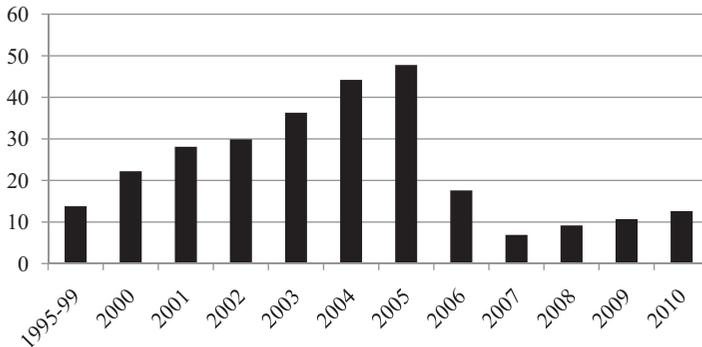
*Table 1*  
**Index of Revealed Comparative Advantage in Wine, Georgia and 12 Other Top Countries, 2000–2009**

	2000–2005	2006–2009
Moldova	96.1	45.9
Georgia	40.4	15.2
New Zealand	4.5	10.3
Chile	13.1	9.9
Macedonia	9.6	9.3
France	7.0	8.0
Portugal	8.2	7.8
Australia	8.5	7.0
Italy	4.4	5.0
South Africa	4.5	4.8
Argentina	2.7	4.6
Spain	4.4	4.4
Bulgaria	4.5	2.7

Source: Anderson and Nelgen (2011, table 75).

Note: Share of wine in value of national merchandise exports divided by share of wine in global merchandise exports.

*Figure 2*  
**Export Share of Volume of Wine Production (including noncommercial), Georgia, 1995–2009, in percent**

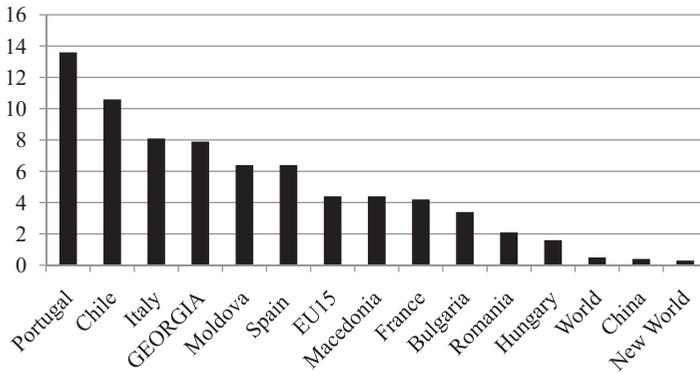


Source: A revision of data in Anderson and Nelgen (2011, tables 15 and 40), to account for noncommercial production.

for expanding further is to look at the share of agricultural cropland under vines. As of 2009, Georgia ranked fourth in the world at 8 percent, after Portugal, Chile, and Italy and ahead of Moldova and Spain at 6 percent and Macedonia and France at 4 percent—and far ahead of the New World exporters at just 0.3 percent (Figure 3). Thus Georgia’s potential for vineyard expansion may be not very great. True, Georgia’s vineyard area was 2.5 times greater at its peak just before the Soviet anti-alcohol push in the mid-1980s to remove vines, but the quality of many of those vineyards was low.

Figure 3

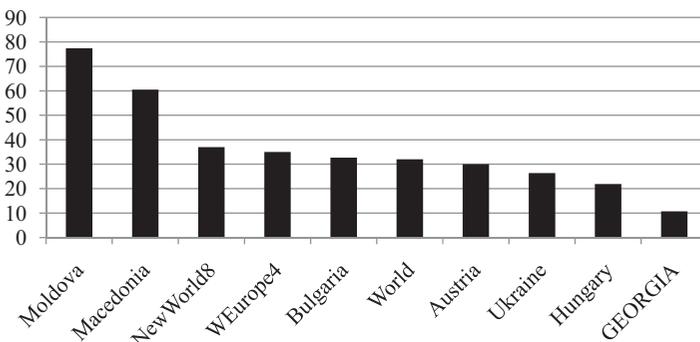
## Share of Crop Land under Vines, Selected Regions, 2009, in percent



Source: Anderson and Nelgen (2011, table 6).

Figure 4

## Share of Wine Production Volume Exported, Selected Regions, 2009



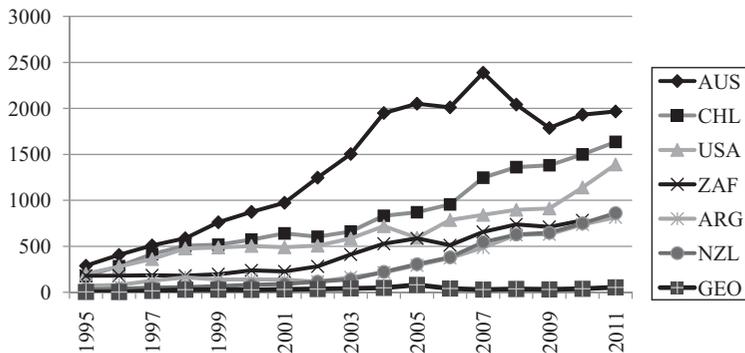
Source: Modified from data in Anderson and Nelgen (2011, table 51).

Leaving aside the Russian market, Georgia is a relative latecomer to the tidal wave of wine export growth that has accompanied the past two decades of globalization. One symptom of that is the rise in the share of wine exported by both Western Europe and the New World. The share of EU wine that is exported has risen from one-sixth to more than one-third since the late 1980s. Far more dramatic, however, is the rise in that share for the New World, from just 2 percent to almost 40 percent (Anderson, 2004). Hence one-third of the world's wine is now consumed outside its country of production, while Georgia's share is less than one-eighth and much lower than for most of its East European wine-producing neighbors (Figure 4).

Being a latecomer to Western markets can have some benefits, in addition to well-known challenges. Recent history shows that it has been possible for several

Figure 5

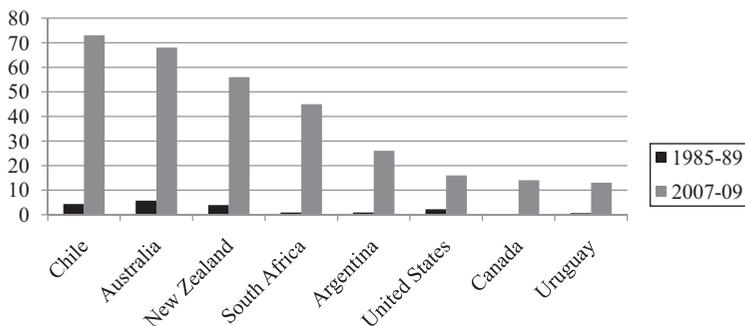
Georgian and New World Wine Exports, 1995–2011 in US\$ millions



Source: Updated from Anderson and Nelgen (2011, table 63).

Figure 6

Share of Wine Production Volume Exported, New World Countries, 1985–89 and 2007–9, in percent

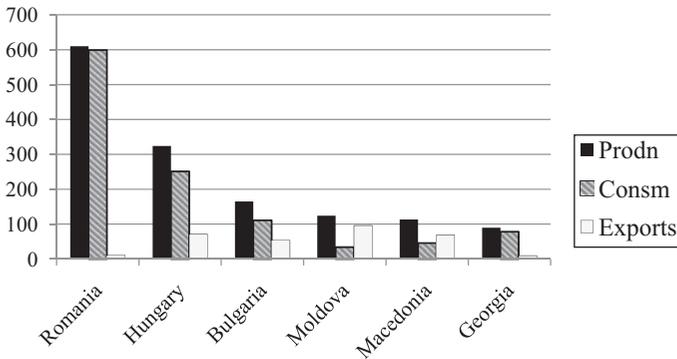


Source: Anderson and Nelgen (2011, table 79).

New World countries simultaneously to enjoy rapid growth in wine exports (Figure 5), in most cases from very low bases (Figure 6). In Argentina’s case, the value of wine exports (in current U.S. dollars) grew at more than 20 percent per year in the decade since 2001, and New Zealand’s at 25 percent, following Australia’s 19 percent per year growth during the 1990s (Anderson and Nelgen, 2011, tables 63 and 127). Those experiences suggest that it would be technically possible for Georgia to expand its exports rapidly, if enough other supportive conditions are in place (see Section 4).

The recent New World history also reveals that output expansion is not the only way to achieve export growth. The export growth in Argentina, Chile, and South Africa, for example, was possible without greatly expanding production initially. This is because it was accompanied by stagnant or falling domestic demand for

*Figure 7*  
**Volume of Wine Production, Consumption (Including Noncommercial) and Exports, Georgia and Other Transition Economies, 2009, in million liters**



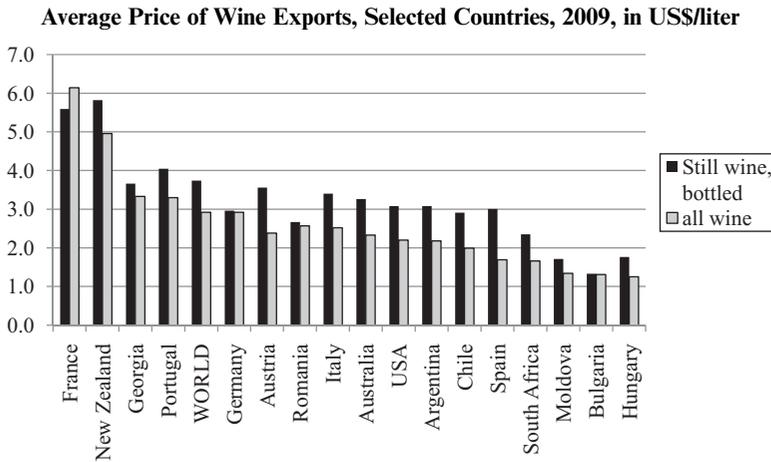
*Source:* Modified from data in Anderson and Nelgen (2011) to include noncommercial consumption.

wine. In New Zealand, production switched from low-quality wine for domestic consumers to high-quality wine mostly for export, while local demand was met largely by a doubling of wine imports over the first decade of this century. As for Australia, its export surge in the 1990s was preceded by a period of gradual decline in production, which meant that there was idle capacity ready and waiting to be used when the Australian dollar fell in value in the mid-1980s—as was also the case for Argentina after its devaluation in late 2001.

Georgia may well be in a somewhat comparable position now to that which Australia was in the mid-1980s and Argentina was in 2001, in the sense that both vineyards and winery capacity have been underutilized in Georgia since 2006.

Nor has Georgia's wine industry come under as much domestic competitive pressure from an export boom in other parts of its economy as occurred in Central and East European economies. Georgia is more like Hungary and Bulgaria in having a small share of its wine production exported, rather than like Moldova and Macedonia, where export sales dominate domestic sales (Figure 7), except that it currently has a much higher average price for its exports. The unit value of Georgia's wine exports in 2009, at US\$3.33 per liter, was above the global average of \$2.92 and within 4 cents of the West European average. While that is not as high as those of France or New Zealand, it is among the highest in the world and well above those of other New World exporters and transition economies (Figure 8). It is also far above Georgia's earlier averages of \$1.05 and \$1.92 per liter in 1995–99 and 2000–2005, respectively (Figure 1). Georgia's bottled still wine export price is only slightly higher (since Georgia normally has exported very little in bulk), but if inflated by the global average of 8.3 percent to allow for freight (the gap between

Figure 8



Source: Anderson and Nelgen (2011, tables 76 and 79).

fob and cif prices), it amounted to an average import price at destination of \$3.96 in 2009. That is very close to that year’s global average unit value of bottled still wine imports of \$4.05 per liter. However, that world average is dominated by the large low-priced UK and German markets: most other significant importing countries have an average import price for bottled still wine well above \$4 per liter.

#### IV. What Is Needed to Realize Georgia’s Full Potential as a Wine Exporter?

Georgia has many natural advantages that could be further exploited in marketing its wine abroad, for example:

- a history of 8,000 vintages, longer than any other country;
- more than 500 unique *Vitis vinifera* wine grape varieties;
- a wide diversity of terroirs in which wine grapes can thrive;
- a unique and ancient organic production method (*qvevri*), possibly to be nominated for UNESCO cultural heritage protection;
- low-cost labor and viticultural land by Western standards;
- low chemical and water applications even in its modern styles of production;
- a unique and authentic food/wine/hospitality culture;
- a reputation (especially in Russia and among ex-Soviet diaspora) for approachable semisweet red wine and for high-quality brandy and *chacha* (grappa); and
- beautiful mountain-backed landscapes and stunning historical architecture at the eastern edge of Europe to add to the attractions for food-and-wine tourists.

While those advantages on their own are not enough to guarantee sales in new markets,<sup>2</sup> they can certainly be used to capture the initial attention of foreign wine writers, importers, and consumers via a generic “Wine of Georgia” marketing campaign. The advantage of still having the ancient *qvevri* production style, for example, is a genuine point of difference (as highlighted in DVDs by Kokochasvili [2011] and Lambert and Finlay [2011]) even if the shares of *qvevri* wine in Georgia’s labeled wine production and exports remain small.

A prerequisite for launching a major generic or brand marketing campaign is having products ready in sufficient volume to be able to be well-positioned in clearly defined market segments. In their Export Market Development Action Plan, the Georgian Wine Association (GWA, 2011) has identified at least three broad quality segments in foreign markets for dry light still wine:

- nonpremium wine, typically sold in bulk;
- popular premium wine that new consumers often find attractive, mostly retailed in bottles (or bag-in-box, but increasingly in recent years New World wineries have exported in bulk before they or a supermarket bottle it in its destination country); and
- superpremium or fine wine, always exported in bottles.

According to Anderson and Nelgen (2011, tables 158, 169 and 170), these three segments in 2009 accounted for 37 percent, 50 percent, and 7 percent of the volume of global wine imports, respectively (with sparkling wine making up the remaining 6 percent), and for 11 percent, 58 percent, and 16 percent of the value of global wine imports, respectively (plus sparkling wine for the remaining 15 percent). The average export unit values per liter thus escalate across that range, from around US \$0.90 for nonpremium in 2009 to \$3.25 for commercial premium, \$6.50 for superpremium, and \$8.10 for sparkling wine (or \$4.45 if French Champagne is excluded). The challenge for Georgian winemakers is to be cost competitive in supplying one or more of those market segments and at something less than those average prices, so as to entice newcomers to try their wine.

### ***A. Which Market Segments, Which Destinations to Target, Which Varieties to Focus on?***

Since Georgia already has a strong reputation in Russia, other CIS countries, and among ex-Soviet diaspora for its semisweet red wine and for its brandy and *chacha*, it will be able to build on that in non-CIS countries, beginning in cities or areas where the diaspora have settled. It will also be able to quickly return to the Russian market when it re-opens, should wineries so choose—although that market is slowly

<sup>2</sup>Italy, for example, has had more than 2,000 vintages, has more than 400 wine grape varieties growing in a wide range of terroirs in very attractive settings, and is well known globally and appreciated for its food and wine culture.

changing as it gains exposure to wines from non-CIS countries (Scholes, 2011). What is, or could be, Georgia’s comparative advantages in the above three dry still wine segments outside Russia and therefore which countries should its wineries target?

The Georgian Wine Association (GWA) has identified six markets that it believes are worth targeting initially. Apart from the smallest of them (Poland), they are listed in Table 2. They comprise the world’s three largest wine importers (the UK, the United States, and Germany) plus Ukraine and China. Around half the import volume of Germany and China is nonpremium (as is also the case for Russia), compared with just one-quarter for the other three. However, the average price of Georgian exports is a little above the average of the commercial premium category, and Table 2(b) suggests that fine-wine segment (superpremium) comprises a very small share of each of those markets—less than 5 percent—apart from the United States, where in 2009 it was 8 percent by volume and 18 percent by value.

There are marked differences between Western markets. The GWA’s Development Action Plan (GWA, 2011) recognizes this and suggests the price points, varieties, and styles of Georgian wines that might be best targeted in each market. It suggests aiming for the low end of superpremium sales in all six countries, plus the diaspora market in the United States and Germany. It also recognizes the large size of the nonpremium market for bulk wine sales in China and Germany, presumably as a way of disposing of (unplanned?) low-quality wine. But it also suggests sales of commercial premium wines in China, Poland, and Ukraine, perhaps as a way of dealing with planned superpremium wine that did not quite reach that standard following difficult vintages.

Deloitte Consulting (2011), like many others, point out that the nonpremium market is chronically oversupplied globally and that the commercial premium segment has become extremely competitive, with very low margins thanks to the supermarket revolution on the buyer side and, on the seller side of the market, the economies of scale that are possible in commodity wine production in the relatively lightly populated New World. Differentiated products, by contrast, not only enjoy higher margins but are more recession-proof (see Gopinath et al., 2011).

As for varieties, Georgia has been blessed with more than 500 indigenous varieties, of which more than half are currently still in production and others are in nurseries. In addition, Georgia imported Western wine grape varieties and production and processing technologies as long ago as the 1820s (Kharbedia, 2010, p. 33), and more have been planted in the past decade or so. Many indigenous varieties have names that consumers outside the CIS would struggle to remember and have flavor profiles that may be either too different or not different enough from those of international varieties to be easily marketable. Even the key indigenous varieties considered most likely to succeed abroad, such as red Saperavi and white Rkatsiteli, are produced in styles that those consumers might find not immediately approachable. Some wineries are therefore modifying the styles they produce, while

*Table 2*  
**Volume, Value, and Unit Value of Wine Imports and Shares by Quality, Selected Countries, 2009**

	<i>Volume (ML)</i>	<i>Value (US\$ thousands)</i>			
			<i>Unit value (US\$/liter)</i>		
<b>(a) Volume, value, and unit value of wine imports</b>					
China	173	457	2.65		
Germany	1411	2770	1.96		
Ukraine	17	47	2.77		
United Kingdom	1277	4258	3.33		
United States	927	4190	4.52		
<hr/>					
	<i>Nonpremium</i>	<i>Commercial Premium</i>	<i>Superpremium</i>	<i>Sparkling</i>	<i>All Wines</i>
<b>(b) Share of volume and value of imports by quality (percent)</b>					
China					
volume	46	50	3	1	100
value	14	75	8	3	100
Germany					
volume	52	41	2	5	100
value	18	59	6	17	100
Ukraine					
volume	27	67	1	5	100
value	7	79	3	11	100
United Kingdom					
volume	24	67	4	5	100
value	8	69	7	16	100
United States					
volumes	25	62	8	5	100
values	5	65	18	12	100
<b>WORLD</b>					
volumes	37	50	7	6	100
values	11	58	16	15	100

*Source:* Anderson and Nelgen (2011, section 6).

*Note:* The boundaries between the three still wine categories are US\$2.50 and \$7.50 per liter pre-tax at the border. The global average import unit values per liter thus escalate across that range, from around US\$0.90 for nonpremium to \$3.60 for commercial premium and \$7.25 for superpremium (and \$8.20 for sparkling wine, or \$4.50 if French Champagne is excluded).

others are blending those varieties with international ones. If the international name is placed first on the label of a 50:50 blend, a non-Georgian consumer might be less hesitant to try it once and more likely to enjoy it enough to remember the name when returning to the wine shop for more of the same (or of the adjacent bottle with only the indigenous variety).

Most New World countries have found that they initially became famous for just one or two varieties—as Austria has, since its recent resurgence as a wine exporter.<sup>3</sup>

<sup>3</sup>This shows up in varietal intensity indexes, defined as the share of plantings to a variety in a country relative to its share globally. In 2000 Australia's Shiraz index was 9 (and Australia accounted for 4% of global planting of Shiraz), Argentina's Malbec index was 14 (6% of global planting), New Zealand's

The head of Austria’s generic wine marketing agency warns that it is wiser to market the country rather than its signature varietal, lest the consumer tire of the latter (Carter, 2011). Argentina is aware of that risk, but its export success with Malbec has been so phenomenal that for the moment it continues to ride the wave.<sup>4</sup>

How might Georgia first expand its grape and wine output for such export markets and then expand the demand for the final products in time for when they are ready for shipping? The key challenges are considered in turn below, drawing where appropriate on the experiences of other wine-exporting countries, before also considering the contribution that in-bound wine tourism could make.

### ***B. What Is Needed to Expand Export Supplies?***

While Georgia’s wineries and vineyards appears to have underutilized capacity at present, that may be more apparent than real. Old Soviet winemaking equipment was designed for large-scale production of low-quality semisweet red wine for the local market, and much of it is unsuitable for producing wines of sufficient quality to compete in other markets. Even *qvevri* production methods may need to be modified to ensure that they meet the demanding health standards of wine-importing countries.

Most small vineyards would require substantial upgrading before they could produce the grapes needed by a modern export-focused winery. For example, denser spacing of vines might be needed to raise grape quality; different varieties or even different clones may be needed before a contract is offered by a winery to a grower; and even then the winery may require a change in vineyard management practices to ensure that the grapes suit the style of wine for which they are to be used. The fact that so many Georgian farmers are struggling to sell their surplus grapes and yet new wineries are planting their own vineyards is an indication that the current grape output of smallholders is not meeting the needs of export-focused wineries.

Even more importantly, skilled viticulturalists, winemakers, and especially wine marketers capable of working together with grape growers are in short supply. Yet that collaboration is essential if small growers are to deliver wine grapes than can

Savignon blanc was 19 (4% of global planting), and Austria’s Grüner Veltliner was 81 (9% of global planting—see Anderson, 2010).

<sup>4</sup>In 2010, Argentina exported more than 4 million cases of Malbec to the United States, 20 times the amount it sent in 2002 and nearly double its 2008 volume. Malbec, which now represents 60 percent of Argentina’s exports to the United States, was a rustic red with little appeal outside the country before the surge in foreign investment following its devaluation by three-quarters at the end of 2001. However, the style has been transformed over the past decade to broaden hugely its appeal as a food wine even when drunk young. Wines of Argentina, the country’s generic marketing agency, is now advancing its message by communicating directly to the consumer with events such as Malbec World Day. Having the cover story of the December 2011 issue of the U.S. magazine *Wine Spectator* (see Wesley, 2011) further boosted their sales in 2012.

become a salable product on time and at the right price point in prospective markets abroad. In addition, the irrigation infrastructure also needs major improvements if it is to support production in dry years.

The fact that more investment is needed if Georgia's exportable surplus of wine is to expand substantially is similar to the situation faced by all the New World countries that chose to rapidly expand their wine exports in the past decade or two. In Australia's case, the industry attracted the required investment funds by developing a shared 30-year vision for the industry's future called Strategy 2025 (AWF, 1995). At the time many observers considered the targets in that document rather optimistic, since they involved a threefold increase in the real value of wine production, 55 percent of it for the export market. Yet so convincing was that document, and so intense and rapid was the subsequent investment, that the industry was more than halfway to meeting most of its 30-year targets in just six vintages (leading to excessive production in the subsequent decade; see Anderson, 2011).

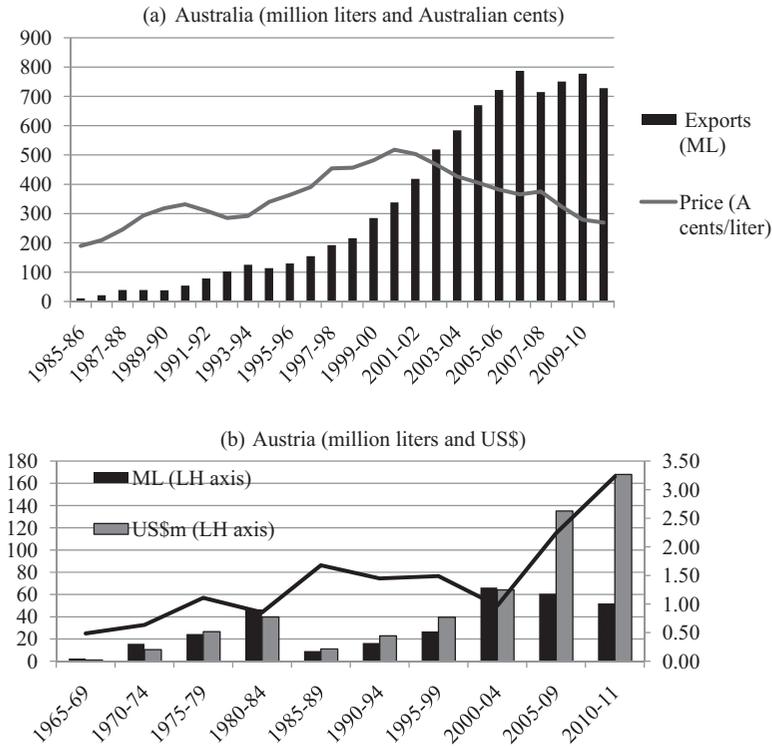
Investment funds are required for altering or upgrading existing vineyards or planting new ones. They are needed even more immediately than for the building or upgrading wineries, bearing in mind that it takes a few years before grapes from new vineyards are available for producing the desired wine. Funds are also needed to finance the nontrivial costs of planning and then executing a marketing program for those wines. Those funds are required before, as well as when, the wines become ready to export to new markets.

In addition to finance for those investment needs of private firms, funds are required at an industry level for investment in collective goods and services, such as targeted viticultural, winemaking, and wine marketing education plus extension and leadership skills development, grape and wine research and development (R&D), generic promotion of the "Wines of Georgia" (see the next subsection), and more statistical data collection and up-to-date dissemination. Data are especially needed on the pace and nature of expansion in vineyard and winery capacity, as an aid to investors and so as to avoid the excessive exuberance in expanding that Australia experienced in the ten years following the release of its 30-year plan, which contributed to the subsequent decline in its average export price (see Figure 9a).

It would be a mistake to assume that Georgia can postpone an expansion of grape and wine R&D investment—despite the fact that Georgia's traditional production methods are well known, having been passed down through generations, and that the published results of many research institutes abroad concerning alternative production methods can be readily accessed via the Internet, domestic R&D is still needed. The reason is that, apart from the *qvevri* method, there is almost no such thing as natural wine. On the contrary, there is great latitude for altering styles to suit various markets (Lewin, 2010). Since Georgia will target market niches requiring styles different from those of other suppliers, it needs its own R&D capability. In addition, there is clear evidence that a strong R&D base is needed not just for innovation but also to adapt technologies adoptable from abroad

Figure 9

**Wine Export Volume and Average Price, Australia and Austria, 1965–2011**



Sources: Derived from data at the WINEFACTS part of [www.wineaustralia.com](http://www.wineaustralia.com) and Anderson and Nelgen (2011, tables 117 and 127).

(Griffiths et al., 2004). It is therefore laudable that a new Georgia Wine Institute is being established in Tsinandali, Kakheti (as announced in November 2011 by President Mikheil Saakashvili).

Some researchers are available locally, but additional ones will need to be recruited from the global pool or created by providing scholarships for promising students to undertake post-graduate studies in one of the world’s major wine universities. Such training here has two important additional benefits : it will build links for future international collaboration in R&D, and it will provide a pool of lecturers for teaching undergraduate grape and wine science courses at Georgian universities.

To fund such R&D expansion and scholarships, a levy on producers might be required. Most wine firms in Georgia are too small to justify their own R&D facility. If foreign assistance grants are insufficient, and if the government believes that this activity would have too few spillover benefits beyond the wine industry to justify full public funding, then one possibility is to collect a small levy on all exported wine.

That process could then also be used to help fund the generic promotion proposed in the next subsection. It could also be used to cover the cost of inspecting a sample of each wine destined for export, to ensure that only wine of sufficient quality is allowed to carry the words “Made in Georgia” on its label.

Small wine grape growers are unlikely to contribute to exports without having to agree to management disciplines. Currently there are hundreds of thousands of small wine grape growers and only a few dozen export-capable wineries. While those smallholders mostly produce grapes for home processing for their own consumption and for informal sale to friends, they could expand their sales to wineries if there were demand. To do so, however, they would need to forgo their reluctance to allow the commercial winery to determine the varieties grown, production techniques used, harvest time, sugar content, and so on. Moreover, they may be required to enter into a formal contract that would further limit their independence and flexibility, and even then there may be considerable uncertainty as to the final price that they would receive for their grapes.<sup>5</sup> To date, wineries exporting to new markets have signed up relatively few growers and have, instead, planted their own vineyards so as to be able to have full control of the wine grape production part of the supply chain. This issue is important for the alleviation of rural poverty, but it will also affect the optimal path of institutional innovation.

Experience in the rest of the world provides some guidance as to how the firm structure of the industry might evolve in Georgia. In all the New World wine-exporting countries, the firm structure is very skewed: the largest winery in each of those countries is responsible for between one-fifth and one-third of all domestic sales and the four largest for about three-fifths of domestic sales and an even larger share of export sales. By contrast, in Western Europe, apart from Portugal, the top four firms are responsible for only between 4 percent and 20 percent of domestic sales (Table 3). The Old World continues to be dominated by a large number of cooperatives, many of which do not penalize low-quality grape growers enough to prevent the delivery of fruit that can be used only for nonpremium wine or for industrial alcohol—hence the EU’s history of wine lakes since the advent of its Common Agricultural Policy in the early 1960s. In particular, many cooperatives do not appear to be able to successfully export superpremium wines. Nor are they able to compete well in the international market, especially against the very large exporting firms of the New World, in supplying large quantities of consistent commercial premium wines for the major chain stores and supermarkets. Cooperatives are therefore not likely to be the answer for engaging more small

<sup>5</sup>In California both high-quality and low-quality wine grapes tend to be subject to contracts, with the former more likely to include provisions regarding the production process while the latter more likely to focus just on product attributes such as sugar content (Goodhue, 2011; Goodhue et al., 2003). Contracts are being used increasingly in Europe’s transition economies to assist vertical coordination across various agri-food supply chains. See Dries et al. (2009) and Gorton et al. (2006) for examples from the dairy industry.

*Table 3*  
**Shares of Four Largest Firms in Domestic Wine Sales, Old World, New World, and Transition Economies, 2009, in percent**

	<i>Largest Firm</i>	<i>Second- to Fourth-Largest Firms</i>	<i>All Other Firms</i>
<b>Old World</b>			
Austria	5	7	88
France	11	5	84
Germany	1	3	96
Italy	6	4	90
Portugal	62	23	15
Spain	11	10	79
<b>New World</b>			
Argentina	27	32	41
Australia	23	39	38
Chile	31	51	18
New Zealand	24	24	52
South Africa	34	4	62
United States	21	35	44
<b>Transition Economies</b>			
Bulgaria	13	26	61
Hungary	8	7	85
Romania	11	21	68
Russia	6	11	83
Ukraine	16	28	56

*Source:* Anderson and Nelgen (2011, table 33), based on Euromonitor International data.

growers in a wine export drive—not to mention that many Georgian farmers remain wary of returning to any form of collective.

The recent experience of New World wine countries suggests that the firms that survive and thrive as exporters are the larger and more-productive ones. This is consistent with empirical evidence from the international economics literature on manufacturers in general. That literature also reveals that the most-productive exporters of differentiated (branded) goods tend to be those who segment their markets and upgrade the quality of the products that they sell to high-income countries (Bastos and Silva, 2010; Flach, 2011). These findings suggest that small local firms such as Pheasant’s Tears may be the exception rather than the norm among successful wine exporters, although in Southern Hemisphere countries there are some smaller wineries, which have been under family ownership for several generations, that have emerged as successful exporters.<sup>6</sup>

Given also how crucial it is to understand market niches and the distribution system in each destination country, a rapid expansion of wine exports from Georgia

<sup>6</sup>See, for example, [www.australiasfirstfamiliesofwine.com.au](http://www.australiasfirstfamiliesofwine.com.au).

to the West is likely to require attracting foreign investors already very familiar with selling to those markets. This is especially the case because such experienced firms also are more likely to be at the technological frontier in viticulture, oenology, and wine marketing and to be able to access the substantial upfront finance that is required to plant new vineyards, construct or renovate a winery, and invest abroad in brand development.

One should be wary of expanding too rapidly. As already mentioned in connection with [Figure 9\(a\)](#), Australia's vineyard area and consequent wine production grew so quickly beginning in the mid-1990s that marketers simply could not find enough outlets for it all after the wine from new vines became available for sale, especially after the financial crisis emerged in the United States and the EU in 2007. The subsequent discounting and sales in bulk rather than in branded bottles is reflected in the rapid decline over the past decade in the unit value of Australian exports shown in [Figure 9a](#). This led to a commensurate drop in grape prices (by more than one-third for Shiraz between 2008 and 2011 vintages). The same happened to New Zealand beginning in 2007: the unit value of its wine exports fell from US\$6.65 in 2007 to \$4.93 in 2010 (Anderson and Nelgen, 2011, table 79), with bulk wine's share of exports rising from 5 percent to 30 percent (NZW, 2011). One way to reduce the risk of oversupply is to collect and promptly disseminate accurate and comprehensive data on nursery sales, new plantings, vineyard renovations, and winery crushing and bottling capacity.

### ***C. How to Expand Export Demand?***<sup>7</sup>

A case can be made for generic promotion to accompany and support private-sector promotion. Certainly, firms are capable of developing their own brands according to their competitive advantages and areas of difference but, especially in markets unfamiliar with the country's wines, they first need to draw attention to what the country has to offer in general. Empirical evidence supports this view for products overall,<sup>8</sup> and it is even more true for credence goods such as wine.

The experiences of other small economies provide guidance as to what generic promotion works well. Chile ([www.winesofchile.com](http://www.winesofchile.com)) and New Zealand ([www.nzwine.com](http://www.nzwine.com)) are good examples. So, too, is Austria ([www.austrianwine.com](http://www.austrianwine.com)), a country in which, as in Georgia, the majority of wine grape growers have less than 1 ha of vines. All three countries have sought to associate their wines with their

<sup>7</sup> Demand for Georgian wines in the CIS countries is already well established, so attention in this section is focused on promoting Georgian wines in non-traditional markets in western Europe, North America, and East Asia.

<sup>8</sup> According to a recent cross-country study by Lederman et al. (2009), covering all exports not just wine, a 10 percent increase in the budget for generic export promotion on average leads to an increase in exports of between 0.6 percent and 1.0 percent. They also find diminishing returns to such expenditures, so the returns are even higher for those countries just beginning to grow their budget for such activities.

country and to emphasize the clean, green image of their beautiful vineyards against a background of snow-capped mountains—something that Georgia can surely emulate.

Austria provides a lesson on the importance of protecting the generic reputation of a country’s wine quality. In 1985, a small proportion of Austrian wine was found to have been adulterated with a harmless but illegal additive to add body and sweetness. Austrian wine exports plummeted by four-fifths within a year and took more than a decade to recover. That recovery process has been characterized by raising the quality as well as image of Austria’s exports (Carter, 2011). As a consequence, during the decade to 2011 the unit value of those exports nearly trebled (Figure 9b). This underscores the importance of Georgia’s having in place sound procedures for testing the quality before approving the exportation of wines labeled “Made in Georgia.”

New Zealand has done well in promoting images of its countryside even though most of its customers in the Northern Hemisphere have not visited that distant place. That is good news for Georgia because, even though it is on the edge of Europe, to those living near the North Atlantic, it is still considered remote (infrequent flights, unfamiliar airlines, troubled borders). If images can substitute for reality, they can buy time for Georgia to build its wine tourism (see the next subsection).

In the first decade of its export boom, Australia’s generic promotion was considered highly successful. It promoted the idea of “sunshine in a bottle,” of bold, upfront, fruity styles that appealed to newcomers to wine who were the target of supermarket promotions. But consumers—or at least wine columnists and other opinion leaders—gradually tired of the uniformity of styles. The reputation of Australian wine has gradually slipped in recent years as a consequence. This is ironic because it occurred just as many Australian winemakers were moving to more elegant, restrained styles to accompany fine foods (Hooke, 2011). As in Austria, the lesson is that while building a strong generic reputation is a slow process, the dismantling of that reputation can be swift. Australia is now investing heavily in rebuilding its reputation but with a focus on finer wines as well ([www.apluswines.com](http://www.apluswines.com)).

Georgia can emphasize numerous points of difference to attract attention to its wines. Those differences, listed at the beginning of this section, include its wines’ history, diversity, uniqueness, and authenticity. Its *qvevri* technology is especially appealing to wine enthusiasts. It could also appeal to a much wider clientele if it could be demonstrated that *qvevri* wine is healthier than wine as conventionally produced elsewhere. There is already some preliminary scientific evidence to support that claim (Diaz, 2011; Shalashvili et al., 2010). If such studies were to be replicated and supplemented by other scientists, particularly in the countries that are to be targeted as export markets, they could be drawn on by wine writers in their reviews of Georgian wines. Meanwhile, some producers in Italy and Germany have been

experimenting with the *qvevri* technology (*Newsweek*, October 31, 2011, pp. 50–51). This development should inspire encouragement among Georgian producers: imitation is the best compliment and, as with the article in *Newsweek*, it can generate additional—and free—publicity for Georgia.

Georgia's generic promotion should initially be country-wide rather than stressing specific regions. However, just as the Marlborough region now has 75 percent of New Zealand's wine grape area, so Kakheti has a similar proportion in Georgia. Hence that region will tend to become the best known, especially if it also continues to be the region where wine tourism is developing fastest. It is thus helpful that in 2011 the EU agreed to legally protect Georgia's geographical appellations. Other countries importing Georgian wine will now be encouraged to follow suit. This is particularly important in countries where there is a risk of counterfeit wine, as it provides not only recognition but also legal protection.

A single industry body could undertake generic promotion as well as administer generic R&D funds. Experience in New World countries suggests that a small country can achieve economies of size combining the roles of promotion, R&D, and regulatory oversight in one industry-owned organization, as in New Zealand (NZW, 2011, p. 21) and in Australia from July 2014 (WFA, 2012). That allows the returns from those three activities to be compared and the budget divided so as to maximize its overall return to the industry (and to the government, if it also is a financial stakeholder).

The budget for generic promotion and R&D should be in the millions of dollars. Australia and New Zealand each spend close to US1 cent per liter of wine produced on generic promotion (and associated regulatory functions), while Bordeaux spends more than 3 cents. Australia spends about 2 cents per liter on R&D, compared with about 1 cent in New Zealand. So if Georgia were to emulate Australia's spending pattern, with its annual production near 100 million liters per year that would suggest an annual budget of \$1 million a year on generic promotion and \$2 million a year on R&D and related extension activities initially (and to grow in parallel with the industry's output). Even if one were to exclude noncommercial production for the home market from the base of the calculus, about half those budgets would be required by 2015 if the president's aim of trebling the volume of exports between 2011 and 2015 is realized.

#### ***D. What Role for Wine Tourism?***

The potential for building wine tourism in Georgia is enormous, as eloquently explained by Taber (2009). A start has been made, with some wineries offering cellar-door tastings, but many other components need to be added, including more hotels ranging up to four- if not five-star (with Internet access, brewed coffee, and dependable hot water), similar-quality restaurants with waiters who can speak English and know how to serve wine with food (with some at least offering a *supra*

experience), more paved roads connecting key sites, better road signage with a wine route symbols, information bays/kiosks, wine route maps and booklets in English and other key languages (with sample itineraries and contact details and opening times of each winery’s cellar door and major restaurant), acceptance of major credit cards, and comprehensive multilingual websites to facilitate pretour planning. Two excellent DVDs have been produced to explain Georgia’s uniqueness (Kokochasvili, 2011; Lambert and Finlay, 2011). If they are circulated widely, through being given to opinion-shaping visitors to take home and share with friends and colleagues, a better understanding of what Georgia has to offer can spread much faster than just via word of mouth.

To minimize travel time between venues, a clustering of cellar doors would help greatly, especially if the cluster included or was close to accommodations and dining as well as near historic sites such as the Tsinandali Estate or Alaverdi Monastery.<sup>9</sup> Given the heavy concentration of wine production in Kakheti, it would make sense to concentrate public infrastructure expansion in that area initially.

Investment financing is needed to build the infrastructure and facilities expected by today’s international tourists from high-income countries, and then the construction phase can employ many low-skilled workers. This will thereby provide a major expansion in part-time off-farm earnings for farm households.

Once built, wineries, cellar-door outlets, restaurants, and hotels also require, on an ongoing basis, large numbers of employees who possess the full spectrum of skills. Post-secondary school training opportunities need to be created to teach those skills, such as in hospitality, vineyard management, winery tasks, and cellar-door operations. Then wine tourism could supplement employment- and income-creating opportunities from the expansion of grape and wine production in Georgia.

## **V. Implications for Policy and Poverty Alleviation**

The preceding discussion makes clear that the potential for growth in wine exports and in-bound wine tourism in Georgia is very real but also that many challenges remain. To realize that potential, investment is needed not only from the private sector but also from the government, beginning with Invest in Georgia, the national investment agency. That agency has a role in attracting investor interest to the industry and associated tourism opportunities. In conjunction with the GWA’s Development Action Plan (GWA, 2011), Invest in Georgia can build awareness among prospective investors both domestically and abroad. The ex-Soviet diaspora is an obvious target group, but so are the large wine corporations that are already well established in the target markets.

<sup>9</sup> For more detailed suggestions from a visiting group of opinion-shapers, see Deloitte Consulting (2011).

The Georgian National Tourism Agency clearly also has a major role to play in developing in-bound tourism. The food-and-wine focus provides a major hook, though, so the industry needs to work with the tourism agency for them to reap mutual benefits. This linkage between the promotion of Georgian wine and Georgia as a tourist destination makes a strong economic case for government co-funding of wine promotion in selected markets abroad.

The government also has a key role in supporting investment in grape and wine R&D, in the tertiary education of viticulturalists, oenologists, and wine marketers, and in the post-secondary-school training of workers in the industry and the wine tourism sector. A strong economic case can be made for government co-funding of agricultural research in general, without which there inevitably will be under-investment because the private sector is unable to capture all of society's gains from such investments (Alston and Fulton, 2012). The case for government funding is even stronger for grape and wine research in Georgia, given the contribution that it could make to expand dramatically the revenue from the low-performing grapevines of many low-income farm households (and even to encourage the replanting of vineyards that were pulled up beginning in the mid-1980s).

For the industry to produce even in dry seasons, it needs reliable access to irrigation. Currently the irrigation infrastructure in Georgia is very run down. Creating the right institutions and putting the right policies in place for that to happen is a major challenge (see, e.g., Young, 2010), but it will have a high social payoff, as it would help not only the wine industry but also horticultural producers. Since that industry is very labor-intensive, it would add to the expansion of jobs in rural areas. If rural employment, too, became more export-focused, such jobs would include packing, processing, and transport activities. As countries such as Chile and Peru have found in the past two decades, this increase in rural employment can help boost rural development and alleviate poverty.

Finally, the government's current policy of providing a floor price for substandard grapes from growers unable to sell to commercial wineries and processing them in state-owned wineries (for eventual sale in bulk or for converting to industrial alcohol) needs to be reformed. Apart from the financial waste of such a policy (since costs are likely to exceed sales revenue of such state-owned wineries), it provides a disincentive for below-average growers to raise the quality of their product to a level acceptable to commercial wineries. If the resulting accumulation of low-quality wine is then exported in bulk to neighboring countries, there is the risk that it will be bottled and misrepresented for sale as Wine of Georgia (as has apparently already happened in Ukraine) and thus diminish the reputation of bottled wine exported directly from Georgia. Instead of offering price supports, the government would do better to provide financial supports to poor farm families via cash e-transfers (with conditions) either to upgrade their wine grape production or to restructure away from grape growing and toward more profitable activities.

## References

- Alston, J.M. and Fulton, M. (2012). Sources of institutional failure and underinvestment in levy-funded agricultural research. Paper presented at the 56th AARES Annual Conference, Fremantle, Western Australia, February 8–10.
- Anderson, K. (ed.) (2004). *The World's Wine Markets: Globalization at Work*. Cheltenham, UK: Edward Elgar.
- Anderson, K. (2010). Varietal intensities and similarities of the world's wine regions. *Journal of Wine Economics*, 5(2), 270–309.
- Anderson, K. (2011). Contributions of the innovation system to Australia's wine industry growth. In Giuliana, E., Morrison, A. and Rabellotti, R. (eds.), *Innovation and Technological Catch-Up: The Changing Geography of Wine Production*. Cheltenham, UK: Edward Elgar. Chapter 4.
- Anderson, K. and Nelgen, S. (2011). *Global Wine Markets, 1961 to 2009: A Statistical Compendium*. Adelaide: University of Adelaide Press, [accessible at www.adelaide.edu.au/press/titles/global-wineandexcelspreadsheetsatwww.adelaide.edu.au/wine-econ/databases/GWM/](http://www.adelaide.edu.au/press/titles/global-wineandexcelspreadsheetsatwww.adelaide.edu.au/wine-econ/databases/GWM/).
- AWF. (1995). *Strategy 2025: The Australian Wine Industry*. Adelaide: Winemakers' Federation of Australia for the Australian Wine Foundation.
- Bastos, P. and Silva, J. (2010). The quality of a firm's exports: Where you export to matters. *Journal of International Economics*, 82(2), 99–111.
- Carter, F. (2011). Austrian maverick: An interview with Willi Klinger. *Meininger's Wine Business International*, 6(5), 30–33.
- Cross, R., Plantinga, A.J. and Stavins, R.N. (2011). The value of terroir: Hedonic estimation of vineyard sale prices. *Journal of Wine Economics*, 6(1), 1–14.
- Deloitte Consulting (2011). *Wine Opinion-Shapers' Visit to Georgia: Compilation of Trip Reports*. Tbilisi: USAID Georgia, November.
- Diaz, C. (2011). Studies of traditional winemaking methods based on spontaneous fermentation. Paper presented at the first Qvevri Wine Symposium, Georgia, September 15–18.
- Dries, L., Germenji, E., Noev, N. and Swinnen, J.F.M. (2009). Farmers, vertical coordination, and the restructuring of dairy supply chains in Central and Eastern Europe. *World Development*, 37(11), 1742–1758.
- Fajgelbaum, P., Grossman, G.M. and Helpman, E. (2011). Income distribution, product quality and international trade. *Journal of Political Economy*, 119(4), 721–765.
- Flach, L. (2011). Quality upgrading and price heterogeneity: evidence from Brazilian manufacturing exporters. Paper presented at the tenth Annual Postgraduate Conference, University of Nottingham, April 14–15. [www.nottingham.ac.uk/gep/news-events/conferences/2011/postgrad-conf-14-04-11.aspx](http://www.nottingham.ac.uk/gep/news-events/conferences/2011/postgrad-conf-14-04-11.aspx).
- Friberg, R., Paterson, R.W. and Richardson, A.D. (2011). Why is there a home bias: A case study of wine. *Journal of Wine Economics*, 6(1), 37–66.
- Gergaud, O. and Ginsburg, V. (2008). Natural endowments, production technologies and the quality of wines in Bordeaux: Does terroir Matter? *Economic Journal*, 118(529), F142–157. Reprinted in 2010 in *Journal of Wine Economics*, 5(1), 3–21.
- Giuliana, E., Morrison, A. and Rabellotti, R. (eds.) (2011). *Innovation and Technological Catch-Up: The Changing Geography of Wine Production*. Cheltenham, UK: Edward Elgar.
- Gladstones, J. (1992). *Viticulture and Environment*. Adelaide: Winetitles.

- Goodhue, R.E. (2011). Food quality: The design of incentive contracts. *Annual Review of Resource Economics*, 3, 119–140.
- Goodhue, R.E., Heien, D.M., Lee, H. and Sumner, D.A. (2003). Contracts and quality in the California wine grape industry. *Review of Industrial Organization*, 23(3–4), 267–282.
- Gopinath, G., Itskhoki, O. and Neiman, B. (2011). Trade prices and the global trade collapse of 2008–2009. NBER Working Paper 17594, Cambridge, MA, November.
- Gorton, M., Dumitrashko, M. and White, J. (2006). Overcoming supply chain failure in the agri-food sector: A case study from Moldova. *Food Policy*, 31, 90–103.
- Griffiths, R., Redding, S. and van Reenen, J. (2004). Mapping the two faces of R&D: Productivity growth in a panel of OECD industries. *Review of Economics and Statistics*, 86(4), 883–895.
- GWA (Georgian Wine Association) (2011). *Sector Export Market Development Action Plan (SEMDAP): Wine Sector*. Tbilisi: Georgian Wine Association.
- Hayami, Y. and Ruttan, V.W. (1985). *Agricultural Development: An International Perspective*. Baltimore: Johns Hopkins University Press.
- Hooke, H. (2011). Australia is the most under-appreciated wine country. *Decanter*, September 27.
- Kharbedia, M. (2010). *Georgia: Cradle of Wine*. Tbilisi: Wine Club.
- Kokochashvili, M. (2011). *The Cradle of Wine* [DVD]. Tbilisi: Young Directors Union New Studio.
- Lambert, D. and Finlay, J. (2011). *That Crazy French Woman ... in Georgia* [DVD]. London: That Crazy French Woman Productions.
- Lederman, D., Olarreaga, M. and Payton, L. (2009). Export promotion agencies revisited. Policy Research Working Paper 5125, World Bank, Washington DC, November.
- Lewin, B. (2010). *Wine Myths and Reality*. San Francisco: Wine Appreciation Guild.
- McGovern, P. (2003). *Ancient Wine: The Search for the Origins of Viticulture*. Princeton, NJ: Princeton University Press.
- McGovern, P. (2009). *Uncorking the past: The Quest for Wine, Beer, and Other Alcoholic Beverages*. Berkeley: University of California Press.
- Nayak, A. (2011). Does variety fit the quality bill? Factor-endowments driven differences in trade, export margins, prices and production techniques. Purdue University, West Lafayette, IN, May. [www.auburn.edu/~azn0018/](http://www.auburn.edu/~azn0018/).
- Noev, N. and Swinnen, J.F.M. (2004). Eastern Europe and the former Soviet Union. In Anderson, K. (ed.), *The World's Wine Markets: Globalization at Work*. Cheltenham, UK: Edward Elgar. Chapter 9.
- NSO (National Statistical Office of Georgia) (2011a). *Agriculture of Georgia 2010*. Tbilisi: National Statistical Office of Georgia. [www.geostat.ge](http://www.geostat.ge).
- NSO (National Statistical Office of Georgia) (2011b). *Households' Income and Expenditure 2010*. Tbilisi: National Statistical Office of Georgia. [www.geostat.ge](http://www.geostat.ge).
- NSO (National Statistical Office of Georgia) (2012). *External Trade of Georgia*. Tbilisi: National Statistical Office of Georgia. [www.geostat.ge](http://www.geostat.ge).
- NZW (New Zealand Winegrowers) (2011). *New Zealand Winegrowers Strategic Review*. Auckland: New Zealand Winegrowers, November.
- Scholes, E. (2011). Russia's emerging wine culture. *Meininger's Wine Business International*, 6(4), 33–35.
- Shalashvili, A., Ugrekhelidze, D., Targamadze, I., Zambakhidze, N. and Tsereteli, L. (2010). Comparison of wines of Georgian (Kakhethian) and European types according to quantitative content of phenolic compounds and antiradical efficiency. Paper presented at the 33rd OIV World Congress, Tbilisi, June 20–27.

- Taber, G.M. (2009). *In Search of Bacchus: Wanderings in the Wonderful World of Wine Tourism*. New York: Scribner.
- Wesley, N. (2011). Malbec’s moment: How a forgotten red grape has revived Argentina and taken America by storm. *Wine Spectator*, December 15.
- WFA (2012). Industry bodies seek merger of statutory authorities. Winemakers’ Federation of Australia, Adelaide, 21 February. [www.wfa.org.au/merger.aspx](http://www.wfa.org.au/merger.aspx).
- World Bank (2009). *Georgia: Agriculture and Rural Enterprise Development*. Washington, DC: World Bank.
- World Bank (2011). *World Development Indicators*. Washington, DC: World Bank. <http://data.worldbank.org/data-catalog/world-development-indicators/>.
- World Bank (2013). *Doing Business 2013*. Washington, DC: World Bank. [www.doingbusiness.org/rankings/](http://www.doingbusiness.org/rankings/).
- Young, M. (2010). *Environmental Effectiveness and Economic Efficiency of Water Use in Agriculture*. Paris: OECD.