

## **A Strategic Industry Life Cycle Analysis for Nova Scotia's New World Wines**

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### ***Introduction***

Many of the industries the Nova Scotian economy has historically depended on are facing difficulties, and the population is moving from rural areas to the city (Mitchell & Madden, 2014). The growth occurring in the wine industry is a significant opportunity for growth to also occur in the Nova Scotian economy as a whole. As discussed in this paper Nova Scotia's wine industry has only begun to see the potential growth. The premise of this work is that by investigating successful regions of the world which have begun commercial production and export of wine over the past 150 years, prescriptive notions of how the Nova Scotia Wine Industry, Universities and Government should proceed to grow the industry in a quick and sustainable manner thereby maximizing the positive contributions to the economy. The nature of this analysis is an in-depth study of the most successful countries producing "New World Wine" in order to learn what has worked, where Nova Scotia is along the Industry Life Cycle and what strategies/tactics are appropriate at the identified stage.

First, it is necessary to create a strategic industry life cycle for the New World wine industry by means of an exploratory approach and inductive analysis. The starting point for the development of an industry life cycle is exploratory and descriptive analysis of the wine industry and the prominent producer nations which Nova Scotia can look to for examples.

### ***New World Wine Industry***

New World wines are produced in countries outside of Europe and the Middle East in countries that were colonized by European settlers. This paper will focus on Argentina, Australia, Chile, Canada, New Zealand, South Africa, and the United States, as the New World wine industries. Since the 1990s there has been a significant shift in wine demand, as New World producers begin to cannibalize the market shares of Old World (Aylward, 2008).

Wine production in the United States is ranked fourth globally and is first among New World wine producing countries. The American wine industry has been successfully operating since 1786 (Barber et al., 2007), with over 90% of the wine coming from California (Benjamin & Podolny, 1999). Argentina which began cultivating wine grapes in 1557 is the second highest producer of new world wine (FAOSTATS, 2012). Australia began commercially producing wine in 1795 (Aylward, 2008), and is the seventh in global wine production, third among New World wine. Chile fourth, (FAOSTATS, 2012), has been producing wine since 1554. Although according to 2006 figures, of the 300 wineries in operation in Chile, fifty percent are less than 15-years old (Wines of Chile, 2010). The South Africa wine industry has been operating since 1659 (Aylward, 2008) and is ranked ninth globally. The South African industry experienced a boost in demand after becoming a British colony, especially during the Napoleonic Wars, when Britain no longer had access to French wine (Breslin, 2011). New Zealand began its commercial wine industry in 1851 (Aylward, 2008), and is ranked eighteenth for global wine production. Canada is the smallest with regards to wine industry, ranking at thirty-first for global wine production (FAOSTATS, 2012), and only began producing wine commercially in 1871.

### ***Canadian Wine Industry***

Commercial Canadian wine began using native grapes in the 19<sup>th</sup> century (Fry et al, 1983). Significant growth has been experienced since the late 1980s when growers began to switch from native grapes to wine quality grapes (Hope-Ross, 2006).

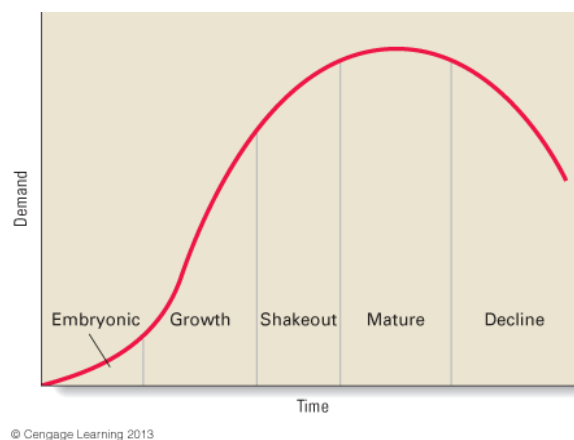
Grape production occurs primarily in four provinces, Ontario, British Columbia, Quebec, and Nova Scotia (Hope-Ross, 2006). Since 2002, grape production in the country has increased from 77,535 tons to 104,214 tons in 2012 (CANSIM, 2012a), with 80% of grape production going towards wine production (Hope-Ross, 2006). During the same period exports of Canadian wine increased from \$31.02 million to \$60.6 million (CANSIM, 2012b).

### ***Nova Scotia Wine Industry***

It wasn't until 1980 that Nova Scotia began producing commercial wine, when Grand Pre opened in Wolfville (NSLC, 2012). Jost winery (currently the largest) opened shortly after in 1983. There are currently 14 wineries, and 60 grape growers in Nova Scotia (Delaney, 2013). The industry has had considerable growth recently, and the Nova Scotia Liquor Corporation stated in their 2012 annual report that "If Nova Scotia was considered a country on its own, it would be the fifth largest country and the fastest growing wine region" (P. 7). In 2005 the Winery Association adopted the Nova Scotia Wine Standards, which stated that for a wine to be labeled Nova Scotian 85% of the grapes used must come from within the province (Agriculture & Agri-Food Canada, 2012). The remaining 15% of grapes must be grown in Canada. The industry has set a goal to raise the number of wineries operating in the province to 20 by 2020, as well as increase hectares of grapevines to 400, almost double the hectares that are currently in production.

### ***Industry Life Cycle Analysis***

An industry life cycle analysis allows for firms within the industry to formulate strategies, to both counter potential threats, as well as seize opportunities (Hill & Jones, 2012 Greiner, L. E. 1972). The nature of an industry changes as the industry moves through its life cycle (Karniouchina, 2013), and is the most important part of a firm's environment (Sabol, Šander, & Fuckan, 2013). This movement occurs across the five stages of the industry life cycle, embryonic, growth, shake-out, mature, and decline. The analysis allows for management to ease the transition through the different stages, and adjust their business model according to the needs of the industry (Cusumano, Kahl, & Suarez, 2006). It also allows for them to structure the business to best suit the competitive nature of the market (Sabol, Šander, & Fuckan, 2013). The dominant design within the industry is an important factor to consider when looking at the industry, it can often indicate to changes within the industry (Klepper, 1996; Cusumano et al, 2006; Argyres & Bigelow, 2007). A dominant design is the convention or benchmark in the industry that firms will adopt to compete (Utterback & Abernathy, 1975). For a design to become the dominant in the industry, its concept must be shared throughout (Argyres & Bigelow, 2007). Typically this dominant design does not occur until the industry has reached the mature stage (Audretsch, 1987). The shift from one stage to another is marked by changes in the system of industry elements that determine performance.



**Figure 1: Theoretical Industry Life Cycle Analysis (Hill & Jones, 2012 page 65)**

## The Wine Industry

### World Wine Industry

The global wine industry has seen dramatic changes in the market, production becomes modernized, fueled by scientific and technological advances (Giuliani, Morrison, Pietrobelli, & Rabellotti, 2010). Both Old World and New World wine have begun to adopt the modern methods (Giuliani et al., 2010). New markets in Asia and Latin America are opening (Wines of Chile, 2010). Aylward (2003) noted that the embracement of high-level employee training, improved techniques and management, and freedom of knowledge, has contributed to the growing market share of New World wine. This research and development infrastructure and accessibility of knowledge has allowed for New World wine to grow in terms of production, reputation, and global competitiveness (Aylward, 2003).

### New World Wine

Many customers prefer New World wines, as they offer uniqueness and innovative blending not found in Old World wines, as well as good value for money (Aylward, 2003). New World wine production is guided by scientific measures, which deliver uniform and faultless products into the market, focusing on the planting, harvesting, soil management, fermentation, maceration and ageing of the wine (Aylward, 2008). Technological advancements have also contributed significantly to the economic growth of the industry (Bas & Kunc, 2009). As techniques became refined and their use grew, the reputation of the New World wine as grew (Aylward, 2008). This also led to more success for firms within the industry. This success has led to further specialization of the wineries in both production methods and product offerings (Wines of Chile, 2010).

### Canadian Wine Industry

Canada is not a large producer of wine when compared to the other New World wine countries (Agriculture & Agri-Food Canada, 2012). In 2011, Canada produces just 2% of the quantity of wine produced in the United States (FAOStat, 2012a). Canadian wine sales have significantly increased since domestic grapes were replaced with more desirable European varieties (Belliveau, Smit, & Bradshaw, 2006). As a result the Canadian wine industry saw an annual growth rate of 11% per capita during the period of 1964-76 (Fry et al., 1983). During the late 70s the Canadian wine industry also saw a shift in the type of wine being consumed. The consumption of lower alcohol content and sparkling wine increased 50.2 million liters from 1972-77. High alcohol, fortified dessert, and appetizer wines, which were historically favoured by Canadians, saw a decrease of 10.1 million liters consumed during the same period (Fry et al., 1983).

### Methods



**Figure 2: Analytical Approach to Nova Scotia Wine Industry Life Cycle**

As described in figure 2 the approach to the objective of this paper is a straightforward strategy. The beginning point was the determination of the data points that would be useful in graphing the industry life cycle. This data is then graphed by country to produce segments of the overall industry life cycle. The segments were combined to generate a reasonable approximation of the overall life cycle – although it is impossible to definitively graph a life cycle for a continuing market we assume that the graph either represents a fair estimate of a fractal-like segment. Following the development of the global graph we then graph Nova Scotia using similar data types and estimate the locus on the global graph for Nova Scotia. This estimate is then used to identify the strategies and tactics which were effective in other wine growing regions at the time when the analysis indicates those countries were at a similar stage. The following section details the process described in figure 2. The country by country analysis is summarized as the complete data analysis is beyond the scope of this paper.

Data for the tonnes of wine produced from 1961-2011 for the seven New World wine-producing countries was used to complete this life cycle. It is assumed that one-kilogram of grapes is equal to one litre of wine (although the conversion can range from 0.75 to 1.5 – if the data for a more precise conversion rate for a country was available, the more accurate measure is used). Additional data on the import, export, and domestic supply quantities of the countries was also collected from the Food and Agriculture Organization of the United Nations, as well as area of land harvested.

An exploratory analysis was performed to identify trends over the time period. Using an inductive approach and the theories outlined in the literature, the different phases of the New World Wine life cycle were determined. This approach was similar to that used by Handayani et al. (2012) and utilized the framework developed by Utterback & Abernathy (1975) and Klepper (1996). Each of the seven countries' production values, domestic supply quantity, import quantity, export quantity, and area harvested were graphed. Using these graphs, as well as the original data, the countries were analyzed based off the characteristics in Table 1, and the stage the country is currently in was determined.

**Table 1: Rubric for Determining Stage of Industry Life Cycle**

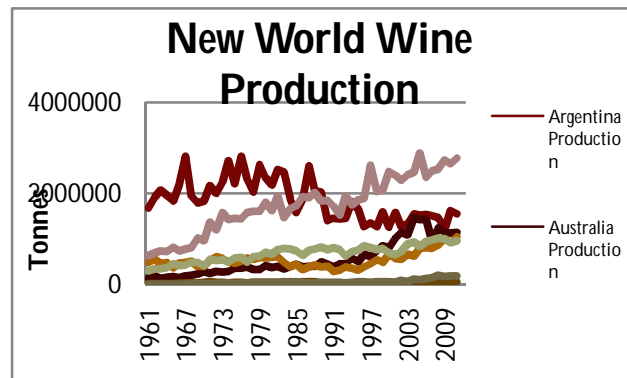
	<b>Embryonic</b>	<b>Growth</b>	<b>Shake-Out</b>	<b>Mature</b>	<b>Decline</b>
<b>Production Quantity</b>	Low, slope is increasing but slowly as firm become more knowledgeable in industry	Increasing, slope increased, profitability has improved, firms are able to increase production to meet increasing demand	Production is still increasing, although slope has decreased. Demand has started to level	Slope decreased and stabilized as demand for the product has reached its peak	Demand for the product has decreased, so has production
<b>Domestic Supply</b>	Equal to or greater than production	Less than production with difference increasing as demand also increases	Less than production, slope is stabilizing as demand begins to increase slower	Supply level has peaked as demand has peaked	Supply quantity decreasing as demand has begun to decrease
<b>Export Quantity</b>	Low, focus is on product innovation and developing distribution channels	Level is increasing as industry's production improves and demand is increasing	Increasing as larger firms have consolidated and begun building economies of scale	Export levels have reached their peak, and have stabilized as demand has stabilized	Quantities have begun to decrease as demand has also begun to decrease, firms focus on lowering costs
<b>Import Quantity</b>	Higher than export level, as customer base is not familiar with new product	Typically remain relatively stable as customers' demand for the new product is increasing, although will be lower than exports	Remain stable, may increase slightly as a result of firms exiting the industry and externally produce products are brought into meet demand	Remain stable, difference between exports has reached its maximum	May increase slightly as production levels begin to decrease, will remain relatively stable
<b>Area of land</b>	Increasing as there are high levels of entry into the industry	Increasing at greater rate as new entrants continue, and firms begin to grow production capacities	Little change even though several firms will leave the industry, large firms will consolidate smaller ones and continue to use the land	Little change, land has already been developed and demand has peaked so there is no need to increase area	Decrease slightly as firms leave the industry
<b>Hectolitres Per Hectare</b>	Low value is expected as production efficiency is lower in this stage	Production efficiency will reach its peak at this stage as product innovation has also reached its peak	Relatively constant as production methods are common knowledge throughout the industry	Little Change	Little change, may increase as firms attempt to maximize production without increasing their costs, this may impact the quality of the product

Production values of countries in each of the stages were then used to create the industry life cycle. Overlapping values were removed from the series. This new composite production series of data was then plotted on a line graph, with a quartic trend line to create the industry's life cycle.

Data for the tonnes of grapes produced in Ontario and British Columbia from 1961 to 2011, Nova Scotia from 1987-2011, and Quebec from 1996-2011 was retrieved from Statistics Canada (CANSIM, 2012a). Missing values were estimated assuming a linear relationship with the data that was available. Values also included both table and wine grapes produced. For the purpose of this paper, it was assumed that 100% of the grapes produced within the province were used in the production of wine (Frank, Rimerman & Co 2011). Quebec, like Nova Scotia, uses 100% of their grapes for wine production. Ontario and British Columbia use 84.5% and 98.6% respectively. It was assumed that these percentages remain constant. A conversion ratio of 1.45 kilograms of grapes for 1 litre of wine was used, based on values given in *The Oxford Companion to Wine* (Robinson, 2006).

## Discussion

### Analysis of New World Countries' Industries



**Figure 3: Production of New World Wine**

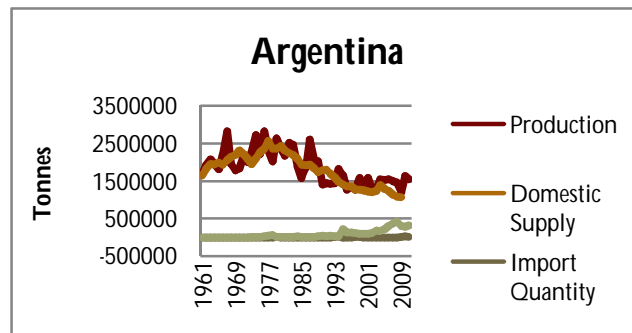
Figure 3 shows the production of the seven New World wine producing countries over the 50-year period (1961-2011) (FAOStat, 2012a). At the start of the period Argentina was the largest producer, until the United States overtook them in 1989. When compared to the other countries, Canada and New Zealand's contribution to the New World wine industry is minimal, but these two industries are the youngest of the seven profiled. The production level of the countries are not the sole indicator of the industry's success, therefore additional factors have been analyzed in the following sections to aid in determining the stage of each country in the industry life cycle.

**Table 2: Summary of Variable Analysis for New World Wine Countries**

	<b>Production Quantity</b>	<b>Domestic Supply</b>	<b>Export Quantity</b>	<b>Import Quantity</b>	<b>Area of land</b>	<b>Hecto-litre per Hectare</b>	<b>Stage of Life Cycle</b>
<b>Argentina</b>	Production slope is decreasing, was largest producer until 1990, still second largest producer	Less than production since 1995, when exports increase. Is decreasing with production	Exports increased steadily since 1994	Level of import has changed very little	Slight decrease of 10% since the beginning of the period	Very little change during the period, stable	<b>Mature</b>
<b>Australia</b>	Third largest producer, increasing steadily until 1990, when slope increased.	Exceeded by production during the period, difference increasing greatly since 1995	Export increasing since 1987, significant growth since 1995, largest export from 2001-10	Began to increase in 2006-07, when production levels fell slightly	Increased significantly (240%) over period, especially since 2001	Increased 55% over the period	<b>Shake-Out</b>
<b>Canada</b>	Production has increased over the period, although growth is slow	Exceeds production throughout the period, is increasing steadily	Have been stable, but have begun increasing in 2008	Steadily increasing, exceeding production since 1973	Slowly increasing, 15% increase over the period	Increased 55% over the period	<b>Embryonic</b>
<b>Chile</b>	Production has exceeded domestic supply since 1991, when its slope increased after dipping over the previous decade	Has been decreasing since 1978, stabilizing in the last decade	Increase in 1989. Largest exporter during 1997-2001, and again in 2011	Stable, with a small increase in 2006-2007	Area harvested has doubled since the beginning of the period	Increased 7% over the period, still the lowest of the countries examined	<b>Late Growth</b>
<b>New Zealand</b>	Increasing over the period, significant growth since 2001	Has been increasing steadily, was exceeded by production in 2005, decrease from 2008-2009	Have been increasing since 1990, significant growth since 2003	Increasing from 1990-2000, then stabilized	Fastest, and largest amount of growth 6902% increase over the period	Fluctuated over the period, very high at beginning, now comparable with other countries	<b>Early Growth</b>
<b>South Africa</b>	Increasing at a relatively constant rate throughout the period, exceeded domestic supply in 1994	Was increasing with production until 1994, after this time decreasing	Began increasing in 1992, decreasing since 2009	Stable, very little change throughout the period	72% increase over the period	Increased 72% over the period	<b>Growth</b>
<b>United States</b>	Increasing at a relatively constant rate, has been the largest producer since 1990,	Has exceeded production throughout the period, except in 1997. Is increasing with production at a relatively constant rate	Began to increase in 1985, growth has continued at an increasing rate since then	Exceeds export throughout the period. Significant increase from 1974-83, then decreasing until increasing again in 1991	88% increase over the period	Increase d 57% over the period	<b>Late growth/ Early Shake-out</b>

Table 2 provides a summary of the analysis using the rubric developed (Table 1), as well as states the stage the country was determined to currently be in.

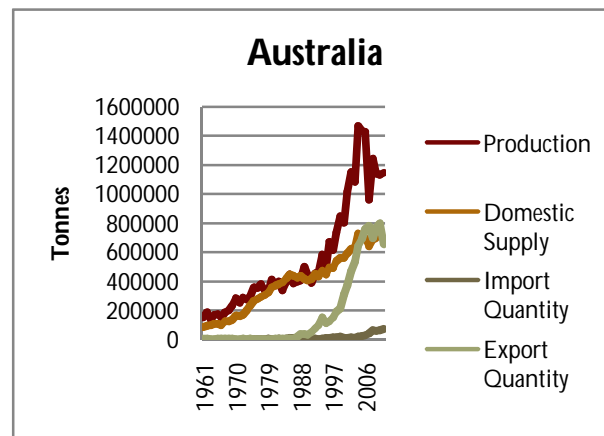
**Argentina**



**Figure 4: Wine Production for Argentina 1961-2011**

The Argentinian Wine industry is the second oldest industry that was analyzed, having begun in 1557. Domestic supply within the country is decreasing along with production as Figure 4 shows (FAOStat, 2012b). This indicates that demand for wine is decreasing in the country. The little change in import quantity also supports this, as imports have not increased as production has decreased. There has also been a 10% decrease in the hectares of vineyard harvested from the beginning of the period (FAOStat, 2012b). Land previously used for wine production is being re-purposed. There has been little change in amount of wine produced per hectare (FAOStat, 2012b). This shows that knowledge of production methods were already known by producers at the beginning of the period. Level of export has been increasing since 1994 at a somewhat steady rate. There was a dip in export from 2008-09. This was most likely a result of the recession in 2008 (Morss, 2009). Through this analysis of the Argentinian wine industry it has been determined that it is in the mature stage of its industry life cycle.

**Australia**

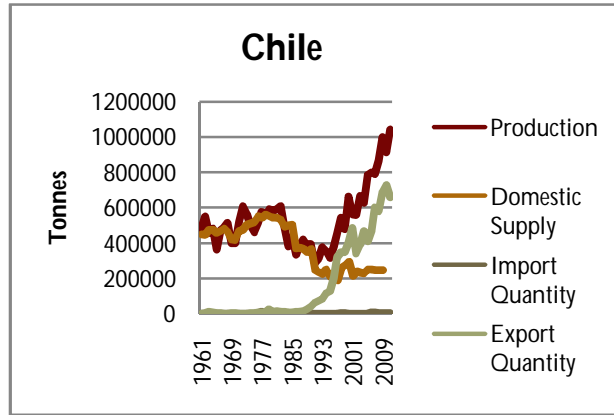


**Figure 5: Wine Production for Australia 1961-2011**

Australia has been the third largest producer of New World wine since 1997 (Figure 3). Figure 5 shows that Australia’s production has been increasing throughout the period. Rate of expansion began to increase in 1990, when export levels began to increase (FAOStat, 2012a). Domestic demand for wine is also growing at a steady rate. Production decreased significantly as a result a drought in 2006-07 (Vidal, 2006). The market did not see the impact of the drought until 2010 (FAOStat, 2012a). It was determined that Australia is currently in the shake-out stage, mainly due to the domestic supply remaining stable, while export levels continue to increase.



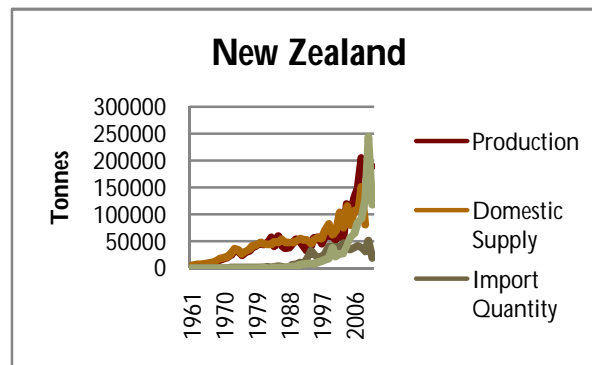
**Chile**



**Figure 6: Wine Production for Chile 1961-2011**

The Chilean wine industry has been experiencing growth since 1994, as shown in Figure 6. The country was the fourth largest producer of New World wine in 2011 (FAOStat, 2012a). Until this growth, the Chilean economy was in the midst of recovering from the debt crisis of 1982, after experiencing a military government and radical economic reforms in the previous decade (Barandiarán & Hernández, 1999). The country was the second largest exporter of New World wine in 2011, after Australia (FAOStat, 2012b). As a result of the debt crisis of 1982, the Chilean wine industry is not a typical example of growth in the New World wine market. There appear to be some short-term production issues which it is believed are normal variations. In spite of the low production per hectare increase, it has been estimated that it is currently in the growth stage of its industry life cycle.

**New Zealand**

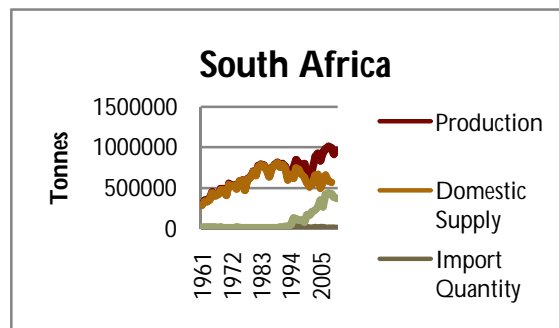


**Figure 7: Wine Production for New Zealand 1961-2011**

Production of New Zealand wine has been increasing particularly since 2001 (FAOStat, 2012a). Domestic supply has also been increasing with production until 2005. At this point production began to grow at an increased rate, and export levels rose. New Zealand has seen the largest change of all the countries in terms of area of land harvested. At the beginning of the period, 1961, there were just 477 hectares of vineyard in the country (FAOStat, 2012b). This number has increased to 33,400 hectares in 2011. This factor shows the amount of new entrants the industry has experienced over the period. It was determined that the New Zealand wine industry is currently in the early growth stage of their life cycle.



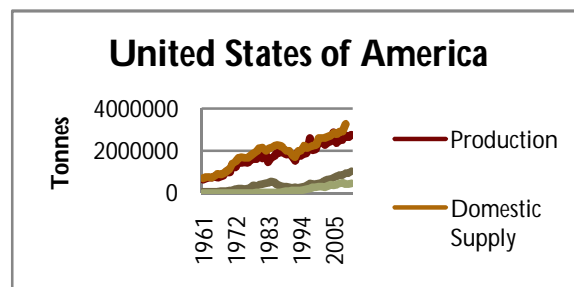
## South Africa



**Figure 8: Wine Production for South Africa 1961-2011**

The production of wine in South Africa has been growing at a relatively constant rate over the period (FAOStat, 2012a). Domestic supply had been increasing with production until 1994. At this point domestic supply began to decrease as production continued to increase (FAOStat, 2012b). Export levels for the country began to increase from this point, at a rate similar to production. It is important to note that export levels were able to increase since 1994 because of the end of the Apartheid. Several countries had imposed a boycott of South African products to pressure political reform (Teoh, Welch, & Wazzan, 1999; Jonsson & Subramanian, 2001). Once these sanctions were removed at the end of the Apartheid, both import and export levels for the country increased sharply. In the early 1990s trade in the country was liberalized, greatly increasing the country's potential for economic growth (Jonsson & Subramanian, 2001). The South Africa government has since dedicated itself to stimulating the country's exports, and has greatly decreased the amount of tariffs on imports and exports to increase the country's international competitiveness (Cameron, 1997). While these political issues are unique to the country, it was determined that the country is currently in the growth phase of their life cycle.

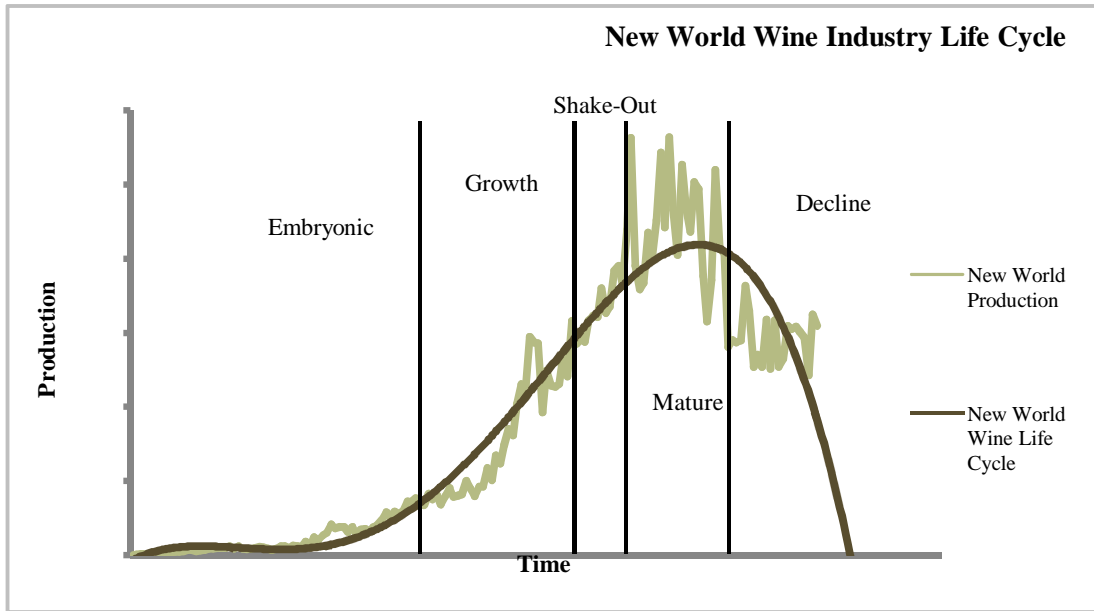
## The United States of America



**Figure 9: Wine Production for the United States 1961-2011**

The United States' production of wine has been increasing over the period, overtaking Argentina as the largest New World wine producer in 1994 (Figure 3) (FAOStat, 2012a). Domestic supply of wine has also been increased throughout the period, and has exceeded production in every year except in 1997 and 2005 (FAOStat, 2012b). Export quantity began to increase in 1985, and has been steadily increasing since then, although it is still exceeded by import. In 2009, 86% of wine produced in America was sold in the country (Wines of Chile, 2010). This indicates that domestic demand for American made wine has increased with production. The industry has not needed to focus on increasing exports because domestic sales are enough to continue the growth of the industry. The high import quantities also suggest that demand for non-American made wine is also increasing in the market. According the Wine of Chile's strategic plan 2020 (2010), the United States is a target market for Chile, Argentina, Australia, New Zealand, Italy, and France. The United States is currently in the late growth, early shake-out stage of its industry life cycle.

**Industry Life Cycle**



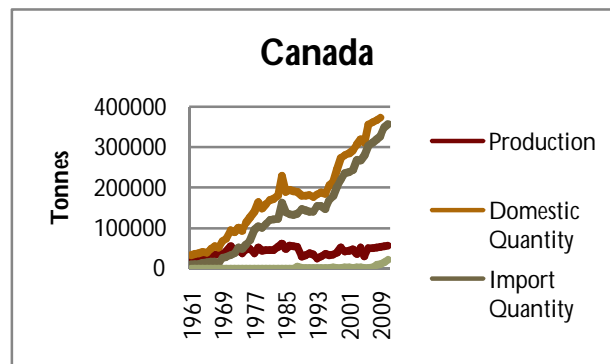
**Figure 10: Composite Production of New World Wine**

The industry life cycle shown in Figure 10 was developed using composite production values from New Zealand, South Africa, the United States, and Argentina (FAOStat, 2012a). These countries were used because they were the best examples of each of the stages, as decided through the use of the rubric developed (Table 1), and the analysis performed on each of the countries in the previous section.

As Figure 10 shows, production quantities fluctuate over time. The overall trend of the series however does show a similar shape to the expected life cycle shown in Figure 2. The stages of the life cycle were determined based on the slope of the production curve, and the points where it changed. The New World wine industry has a longer embryonic stage than that shown on the theoretical industry life cycle (Fig. 1). This makes sense as it is generally considered to be a long-term investment, and requires a significant amount of time before production can begin. The shake-out stage of the life cycle was the most difficult stage to determine, because production during this stage continues to increase, but typically there will be an exit of firms from the industry.

It should be noted that this life cycle is not definitive. This life cycle has been developed based on 50 years of data, and does not show the conclusive life of the industry. The true industry life cycle cannot be determined until the end of the industry.

**Canada**

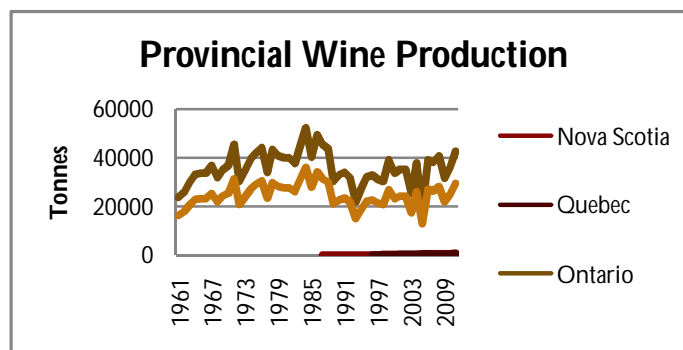


**Figure 11: Wine Production for Canada 1961-2011**

The Canadian wine industry is the youngest of all the New World wine industries discussed in this paper. Canada also has the least amount of land dedicated to production. The hectares of vineyard has increased 15% over the period, but was only 10,661 hectares in 2011 (FAOStat, 2012b). This is only 2.7% of the hectares of vineyard harvested in the United States. This shows that the production capabilities of the country are still very low.

This can be seen in Figure 11 by domestic supply exceeding production throughout the period (FAOStat, 2012b). Canadian wine makers have placed priority on developing the domestic market. This strategy allows for producers to keep costs low, and they have increased knowledge of the domestic market (Madill, Riding, & Haines, 2003). Even with the focus on domestic markets, Canadian wines are faced with increasing competition, especially from other New World wine producers that are increasing their economies of scale. Imported wines hold 67% of the market in Canada, which is why import levels have been increasing with domestic supply, and production has seen little growth (FAOStat, 2012a; FAOStat, 2012b). Low production capabilities also relate to the limited levels of export done by the country. Demand for wine among Canadians is increasing, but they are choosing imported wines (FAOStat, 2012b). The recent popularity of Canadian Ice Wines in Asian markets has allowed for growth in exports since 2007, but the industry is limited by their small supply (Agriculture & Agri-Food, 2012). Relying on the domestic market has limited the industry's expansion, and may have contributed to the slow growth.

The New Zealand wine industry is the second smallest of the New World wine industries profiled, and began at a similar time as the Canadian industry (FAOStat, 2012a). The export levels of the two countries show the difference in the growth experienced. Production in New Zealand increased, and import levels stabilized as export levels increased (FAOStat, 2012a; FAOStat, 2012b). This suggests that international success may benefit the industry's growth more than domestic success (Madill, Riding, & Haines, 2003). The government also heavily regulates the Canadian wine industry. This creates barriers to entry for new producers, as well as limits selling options. Some wineries are permitted to sell their products from stores on site, but most wine must be sold from provincial liquor stores (Agriculture & Agri-Food, 2012). According to Agriculture & Agri-Food Canada (2012) it is because of climate conditions that wineries are unable to grow to large-scale production. Canada is producing wine per hectare on par with the rest of the New World wine countries, with productivity increasing 55% over the period (FAOStat, 2012b). This is a result of production knowledge being widely known throughout the New World wine industry. As a result of these factors it has been determined that the Canadian wine industry is currently in the embryonic stage of the industry life cycle.



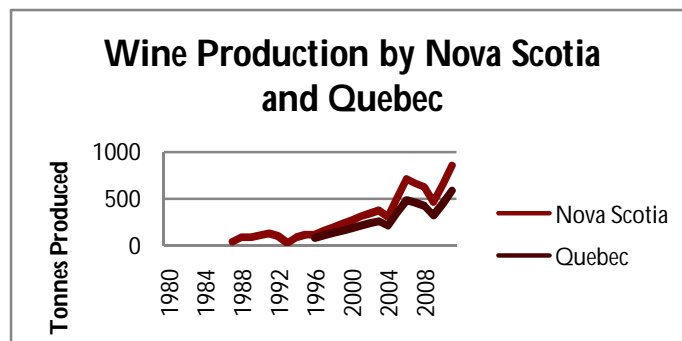
**Figure 12: Provincial Wine Production 1961-2011**

While Canada's wine industry is currently in the late embryonic stage, the provincial industries within the country are all at different stages. It is important to view the provincial industries as their own distinct entities when performing the analysis. Within Canada, only four provinces are currently producing grape wine at a commercial scale [all provinces produce some wine] (Wines of Canada, n.d.). The main factor impacting the growth of the provincial industries is climate. Certain regions are unsuited to growing grapes (Agriculture & Agri-Food, 2012). This prevents the province from producing marketable wines. As trade restrictions decrease and more research and development of Canadian viticulture is performed, the provinces may be able to enter the market (Agriculture & Agri-Food, 2012). Increases in grape production in other provinces, as well as the importation of grapes from other countries would also allow for production in the other provinces to increase. This possibility of new wine regions developing is one of the factors that contributed to the classification of the Canadian wine industry in the late embryonic stage.

Figure 12 also highlights the large difference in production quantities of the four provinces (CANSIM, 2012a). The provinces of Ontario and British Columbia have been producing wine commercially since the late 19<sup>th</sup> century (Aspler, 2006). These provinces have had a significantly longer amount of time to develop when compared to Nova Scotia and Quebec, which only began in the last three decades.

At first glance, it may seem as though Ontario and British Columbia are in the mature stage of their industry life cycle, although a comprehensive analysis would need to be done to confirm this (CANSIM, 2012a). It would seem that attempts are being made within both industries to expand their production and enter the global markets (Madill, Riding, & Haines, 2003). Both industries will also be able to grow if the export of Canadian wine increases. Firms within these two provinces have been clustering. Theory indicates that this is typical of firms within the shake-out and mature stages, as the industry will generally become less fragmented with larger firms dominating the market (Hill & Jones, 2012 Greiner, L. E. 1972).

### Nova Scotia's Wine Industry

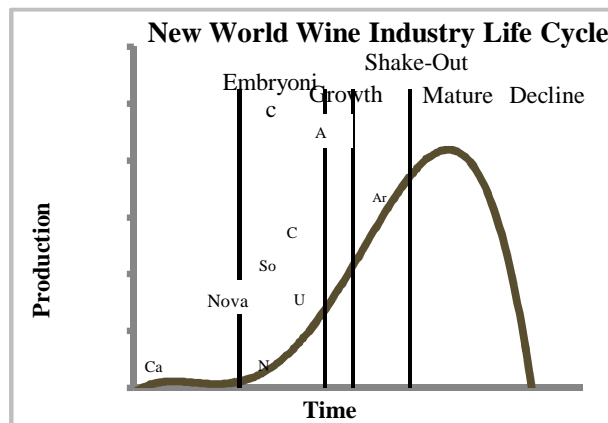


**Figure 13: Wine Production for Nova Scotia and Quebec 1987-2011**

Nova Scotia has only been producing wine commercially since 1980 (NSLC, 2012). While it is not currently producing at a large scale, the industry has seen growth as Figure 13 shows (CANSIM, 2012a). Both Nova Scotia and Quebec have experienced similar growth rate. Nova Scotia has out produced Quebec throughout the period. Although, an additional nine years of data was available for Nova Scotia than was available for Quebec. From the values that are available for Nova Scotia, Figure 13 shows particular growth in the province's production since 1996 (CANSIM, 2012a). This trend is supported by the report done by One Nova Scotia (2014). The report noted that production has tripled in the last two decades, claiming that production in 2013 exceeded 1,200 tonnes (One Nova Scotia, 2014). There is a noticeable drop in production from 2007-09, which is expected given the economic conditions during that time. Nova Scotia's production returned, and grew quickly reaching an industry high in 2011. Wine tourism is currently the largest economic contributor to the Nova Scotian wine industry (One Nova Scotia, 2014; Frank, Rimerman & Co, 2011). It was estimated that over 100,000 tourists visited Nova Scotian wineries in 2011, contributing \$14.2 million to the province's economy (Frank, Rimerman & Co, 2011). This is additional revenue for the wineries supporting improvements in production capabilities and quality. The success of wine tourism in the province can also be related to the increased interest in the Buy Local movement (One Nova Scotia, 2014).

The Nova Scotia Farm Winery Policy (2007) outlined the criteria for wineries to receive permits to enter contracts with the provincial liquor board, as well as the requirements to receive permits for on-site stores. This change in regulation increases wineries autonomy and profit opportunities. Wineries are not permitted however to sell their products across provincial lines without going through the provincial liquor board (Nova Scotia Agriculture, 2007). The Canadian wine industry is heavily regulated, but reductions like this one can remove barriers in the industry, allow for growth, and increase the competitiveness of Nova Scotia wine (One Nova Scotia, 2014). In 2007, NSLC stores adopted the "Emerging Wine Region Policy". This policy allows for Nova Scotia wines to be sold at a higher markup, thus increasing producers' profit margins (NSLC, n.d.). While this policy increased industry sales by 16% in 2009 from the previous year, this may not improve the industry's competitive advantage. Nova Scotian wine is already priced higher than imported wine, as a result of the low economies of scale. The belief that all Canadian wines are poor quality has been slow to change but consumer perceptions of Nova Scotia wine have improved significantly during the last decade (McColl, 2014). As consumer perception of Nova Scotia wine continues to improve, sales should see a similar improvement. The Winery Association of Nova Scotia, along with Agriculture Nova Scotia, is working with Acadia University and Dalhousie Agricultural Campus for the development and research of local viticulture (Woolley, 2012). It has been determined based on this analysis of the Nova Scotia wine industry that the province is currently in the early growth stage of the industry life cycle.

## Nova Scotia's Placement in the Industry



**Figure 14: New World Wine Industry Life Cycle**

Figure 14 shows the placement of the seven countries profiled, as well as Nova Scotia, on the New World wine industry's life cycle. Nova Scotia is currently entering the growth stage. The theory notes that the goal during this stage is to build economies of scale (Hill & Jones, 2012 Greiner, L. E. 1972). Firms must also increase production capacity and improve efficiency to meet the increasing demand (Cusumano et al, 2006). It is also important at this stage to increase customer awareness and gain brand loyalty (Hill & Jones, 2012 Greiner, L. E. 1972).

When in similar positions, other countries' wine industries initiated several strategies to improve and sustain growth. For example, the Chilean wine industry was able to grow significantly as a result of foreign investors entering the industry (Bas & Kunc, 2009). These investors not only brought money into the industry, but also helped develop distribution channels and technological knowhow. This allowed all the firms in the industry to benefit as it increased economies of scale, allowed for imitation, and improved the competitive advantage of the country in the global market (Bas & Kunc, 2009). New Zealand experienced similar results to Chile as a result of foreign investors entering the industry (Barker, Lewis, & Moran, 2001).

Networking has also been shown to be an effective strategy during the growth stage of the wine industry. This strategy has been used in New Zealand, Australia, and Chile. By forming these networks between firms in the industry they are able to improve their distribution channels, and focus on improving the export capabilities of the industry as a whole (Dalmoro, 2013). This strategy is particularly effective in the wine industry as it is predisposed to clustering. Geographically, wineries are generally located near each other as a result of the physical requirements of production. As a result firms benefit from specialized labour, improved access to resources, as well as knowledge gained from either firm cooperation or employee turnover (Doloreux & Lord-Tarte, 2012).

Improved consumer perception has also been an important strategy for New World wine producers. Other countries, like New Zealand, and Chile have had to overcome similar perception to Canada, regarding their wine quality. In Wines of Chile's strategic plan (2010) they discuss the importance of improving the image of Chilean wine through an outreach to wine professionals, journalists, and consumers. They note they will increase their activity on social media, and work more with online bloggers. This is important to note as more people are getting their information online, and relying on opinions before making purchases. In the New Zealand Wine Annual Report (2012), the growing importance of Internet bloggers and social media was also discussed. A positive online presence is an essential tool to help facilitate growth, especially since websites such as twitter have such an international reach (New Zealand Wine, 2012).

Trade liberalization has also yielded substantial growth particularly in New Zealand, and South Africa. The reduction of tariffs and trade regulations in both countries has allowed for export levels to grow, and encourages entry into the industry. Cooperation between private wineries and governments is also very important in achieving sustained growth in the industry. Government programs that aid in research and development are essential in building a new industry, particularly one in the agriculture sector. In the Chilean industry, lack of government support was cited as an export barrier (Bianchi & Wickramasekera, 2013). It is important the government find ways to integrate new industries and provide support to stimulate development (Dalmoro, 2013).

## **Conclusion**

In conclusion, although production is an important factor when analyzing the New World wine industry it is important to consider other factors that contribute to the industry's success. In particular, export levels were a significant indicator to the stage of the countries. The results indicate that an industries success may be dependent on their international success, as industry growth seemed to occur in conjunction with export growth.

It was determined that the Canadian wine industry is currently in the embryonic stage of their life cycle. It is the youngest and smallest of the seven New World wine countries profiled, although it has significant potential for growth. Currently production capacities in the country are low. Firms within the industry must grow their economies of scale, and export product if the industry is to grow, and compete in the global market.

Although the Nova Scotian wine industry only began in the 1980's, it is currently in the growth stage of its life cycle. Production in the industry is still low, but the growth trend is significant. Consumer perception of Nova Scotian wine is improving, and wine tourism in the province has contributed a great deal to the growth of the industry. The Nova Scotian government is working with the industry to continue growth and development, and research is being done to improve knowledge of viticulture in the region. Strategies that have been successful in several of the New World wine countries when they were in the early growth stage of their life cycle should be initiated in Nova Scotia. They would aid in the growth of the industry, and allow firms to structure their business in a way best suited for the upcoming stage. These strategies are outlined in the following section.

## **Recommendations**

The Nova Scotian government has already made some allowances to aid in the development of the young industry. The removal of restrictions, such as the sale of wine across provincial borders by wineries, would allow for firms to grow, and expand their production capacities. They should also look for ways to improve the products' image with consumers through promotional outreach to the online community. Contacting influential bloggers, and increasing online presence through social media sites such as Twitter, or Facebook could accomplish this. The development of the Winery Association of Nova Scotia has allowed for the industry to coordinate, but the building of networks and the development of wine clusters would improve distribution channels and increase the economies of scale for Nova Scotia wineries.

It is recommended that the Nova Scotia wine industry continue their partnership with the Nova Scotian government to promote the sale of Nova Scotian wines. It is also important that the Canadian government continues to support research and development in this area of agriculture. In particular, work with research universities Dalhousie Agricultural Campus and Acadia should be continued. New knowledge about viticulture in the area will improve firms' capabilities and contribute to the industry's growth. The removal of tariffs and regulations will also help the industry grow.

This will lead to an overall growth throughout the industry, and Nova Scotia wine would become more competitive on both a national and global scale. As the industry continues to grow it is important that wineries within the industry form networks and cooperate with each other.

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