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WINE COMPANY ANALYSIS IN "THE NEW WORLD" AND "THE OLD WORLD"

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WINE COMPANY ANALYSIS IN "THE NEW WORLD" AND "THE OLD WORLD"

THESIS

A thesis submitted in partial fulfillment of the requirements for
the degree of Master of Science in Agricultural Economics in the
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By Jiaji Liang

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ABSTRACT OF THESIS

WINE COMPANY ANALYSIS IN "THE NEW WORLD" AND "THE OLD WORLD"

There is a growing global market for wine. In our research, we mainly examine wine companies from four countries: France, Italy, the U.S. and China. Data used in this analysis comes from the 2010 to 2013 Plimsoll Top 500 report, focusing on wine companies' financial performance. The primary goal is to identify which factors may have significant influence on the firms' profitability. Two-way fixed effects panel data analysis indicates that the firm's shareholders' funds in total asset have significant and positive effect on companies' yearly profit. The results suggest that four years could be a reasonable period for most wine companies to expand. Since wine companies considered in this study are from four countries, we also included the exchange rate of their currency in the analysis but they are not found to be significant. To the included companies, for firms in the old world, larger company sizes do not mean they have more market-share. Nevertheless, in new world countries, firm sizes may be an indicator that they may dominate the local market. In general, the number of the companies' employees is not a significant factor to influence profit.

KEY WORDS: Wine Company, Return in assets, Shareholder funds, The Old World, The New World

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To my parents
for their support to my graduate l

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

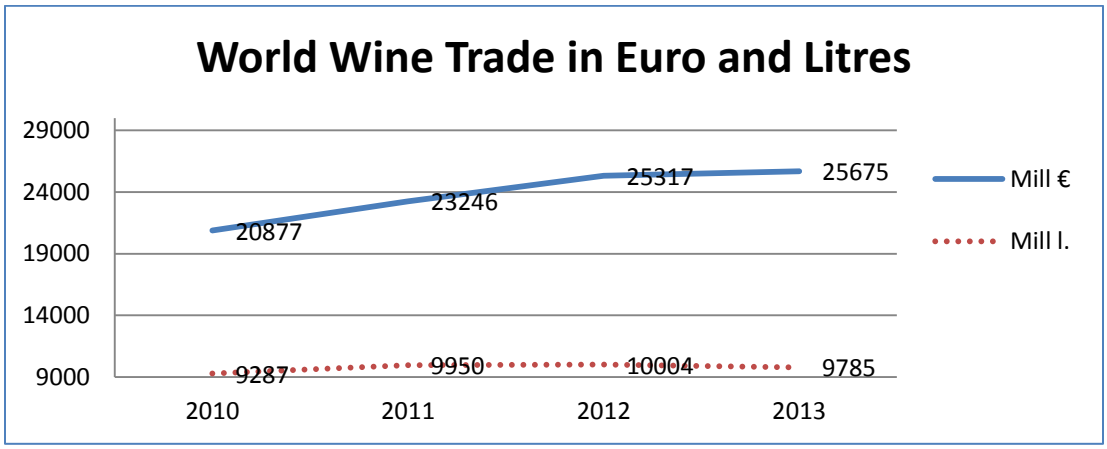
CHAPTER 1: INTRODUCTION

1.1 Global Trade of Wine

Wine production has a very long history. The first recorded wine dates back to 6,000 years ago, originating around the Black and Caspian Seas, then spreading to ancient Egypt, Greece, and Western Europe. Ancient French and Italian regions began seeing vine cultivation around 600 BC. Around 400 AD, European countries established the wine industry that we refer to today as the Old World (Robinson, 1994). In the next thousand years, following the era of exploration, Europeans brought wine industry into the New World. The U.S., Argentina, Australia, and other countries started to build their own wine industries. Xu (2000) found that some non-grape-based wine also developed very well in East Asia, especially during the Han and Tang Dynasties in ancient China.

Recently, the global wine market is expanding fast, according to a report released by the International Organisation of Vine and Wine (OIV). Figure 1 shows the wine market's upward trend from 2010 to 2013.

Figure 1: World Wine Trade



(Resource: State of the Vitiviniculture World Market, May 2014)

The general tendency in the global market is that the total value of wine trade is increasing. Volume, however, is exhibiting a decreasing trend. Superficially, this might mean that the single bottle or buck wine's value has increased, but if we dig deeper, we might find that wine companies are currently going through a transition – one that has changed the world wine market.

1.2 The New World vs The Old World

Competition between the Old World and New World countries should also be noted. This distinction - Old World vs New World - has been mentioned in many sources, in popular magazines as in academic texts. A number of articles (i.e. Campbell and Guibert, 2006; Remaud and Couderc, 2006; Banks and Overton, 2010) have found that the wine market has changed and has become much more intensive than before (1990s and earlier).

Their analyses, based on this Old World-New World dichotomy, describe some recent changes in the world wine market. Several studies looking at wine companies from these two worlds (Rossi et al, 2012; Schamel and Anderson, 2003), indicate that wine companies in the Old World might suffer from transitions more intensely than those from the New World, with

regards to adapting to the world market and abiding by their countries' new policies (mostly applicable to the European mainland). Furthermore, companies from New World countries were already headed in the right direction and owned a certain market share in the global wine market. They were also well positioned to acquire more shares from, and even challenge the dominance of, the Old World countries.

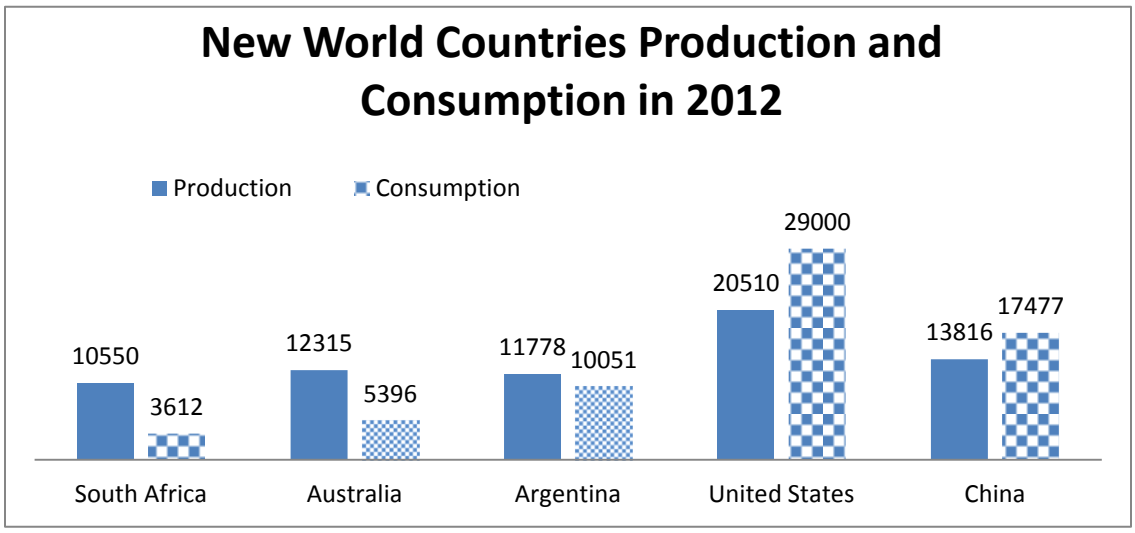
1.3 Important Wine Countries

There are a number of countries that are able to produce fine wine, the major players being Old World mainland European countries like France, Italy, Spain, and Germany, and New World countries represented by the U.S., China, and several countries in the Southern Hemisphere. The top ten wine-producing countries (of both Worlds) control more than 80% of production and represent 60% of global consumption (Morgan Stanley Research: The Global Wine Industry, 2013). The grape crush price also gradually increases every year. For example, the U.S. average red wine price in 2014 was 883 dollars per ton (Grape Crush Report, 2014). Wine is considered an extremely high-value agricultural production.

Due to the nature of the database we are using, we have included different wine types from all over the world, although grape-based wine should still be considered the main wine category in our study. Ours should not be defined as a strictly red wine study, as it relies on a much broader understanding of wine, which includes crop-based and fruit-based wine (other than grapes). Therefore, we cannot simply choose just any country as a data source for our research. Based on marketing performance, we borrowed the concept of Old World-New World dichotomy. France and Italy, the top two red-wine-making countries, should undoubtedly be included in our study. Their other types of wine, such as other fruit-based wine, also perform well in the world market. Spain, Germany, and several Eastern European countries perform

oustandingly in the world wine market. Spain, especially, has an even higher product volume than France. In our study, we are only using a dataset of four countries (two Old World countries and two New World countries). Spain and other important European countries will have to be conditionally ignored in this study.

Figure 2: New World Countries Production and Consumption in 2012 (Unit: Million hectoliters (Mhl))



(Resource: State of the Vitiviniculture World Market, May 2014)

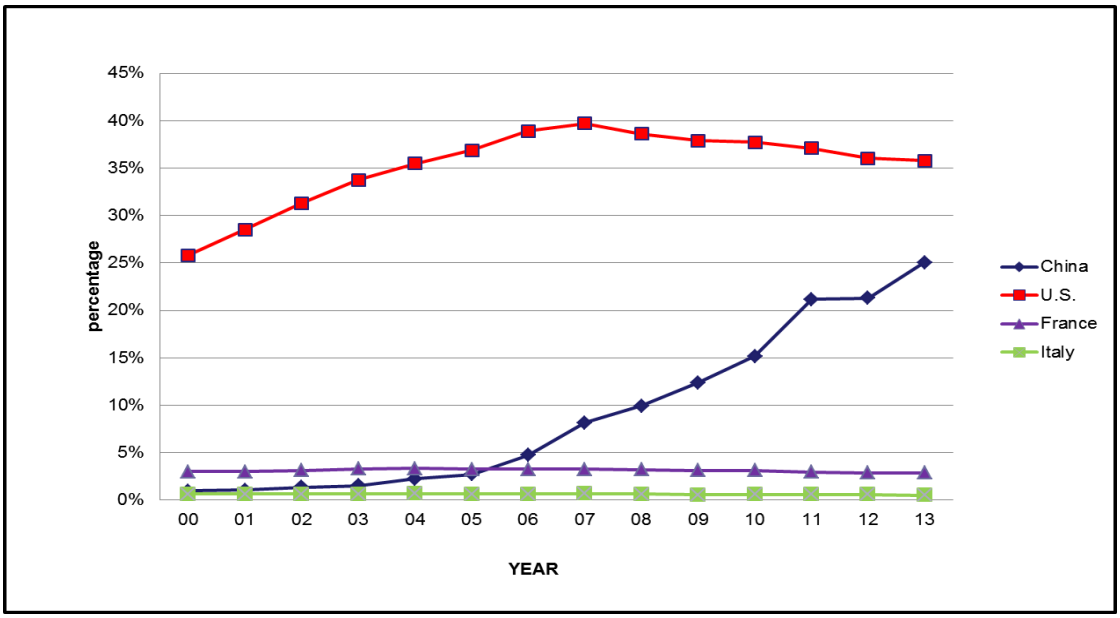
On the New World side, we cannot restrict our analysis to only grape-based wine. Figure 2 shows a brief overview of five New World countries in 2012, highlighting the U.S., Australia, South Africa, Argentina, and China. The U.S. is the largest producer of all the New World countries in recent years and also has the largest wine market in the world. If crop-based wines are considered, then China, who is the leading crop-based wine producer, and has also dramatically increased its grape-based wine production in recent years, should be the second best choice among the New World countries. In Figure 2, China ranks second in both production and consumption volume. China is seen as having huge potential in their market, as well as long-term consumption growth possibility (Thorpe, 2009). If we compare China with other New

World countries, at least on production and consumption measures, they are the leader of the wine industry (for both the fruit- and crop-based wine market). Due to our model size limitations, other New World countries have to be excluded. In the following section, the general international wine production and consumption market (the four countries in our study) is outlined.

1.4 Production and Consumption of Four Countries

The ratio between red wine imports and local production in China, the U.S., Italy, and France is shown in Figure 3.

Figure 3: 2000-2013 Ratio between Red Wine Import and Local Production in Each Country



(Resource: IWSR institute)

In the Old World, Italian alcoholic beverage production (excluding juice) was at almost 45 million hundred liters (Mhl) in 2013, which made Italy the second largest wine producer in the world for that year. Even though, in 2011, Italy saw a heavy reduction in wine production due to their vine policies that encouraged producers to decrease output through subsidies in order to solve their over-demand situation. The wine companies, however, did not suffer a

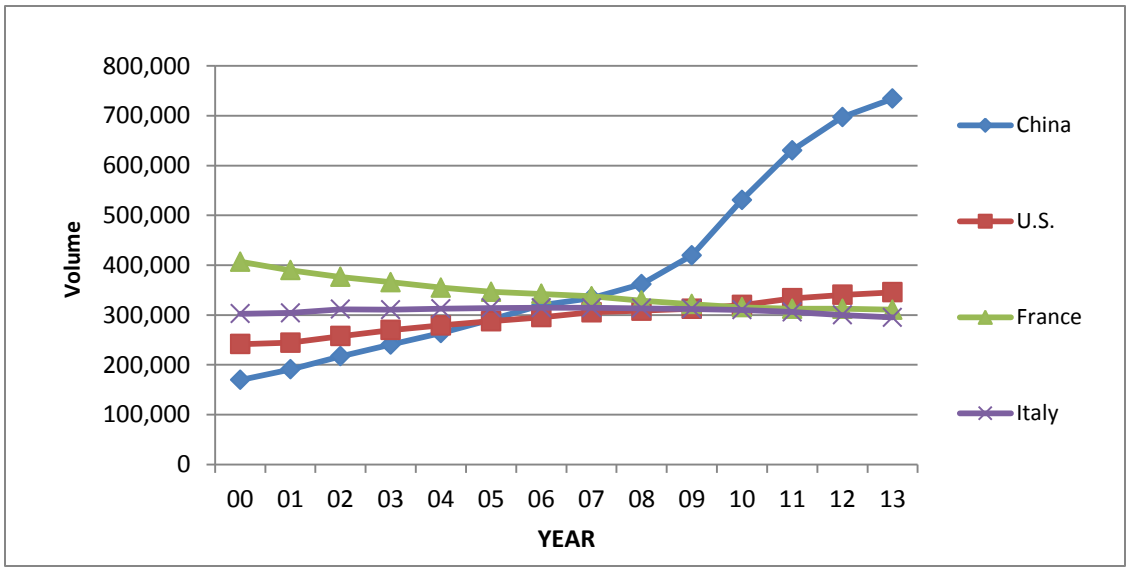
profit decrease and maintained the average level. The pretax profit of 2011 was 4.326 million dollars, which is comparable to the four-year average profit of 4.325 million dollars (State of The Vitiviniculture World Market, 2014).

The Old World group's purpose is clear, to enhance their wine quality and expand total export value, while reducing their total output. France had the same strategy over a long-term period; even their production in 2011 increased by 6 Mhl (State of The Vitiviniculture World Market, 2014). In France, the Liv-ex Fine Wine 100 Index is calculated monthly. It represents the price movement of 100 of the most sought-after fine wines for which there is a strong secondary market. This index is a very important benchmark of red wine pricing, especially for wine industry members. The Index indicated that, over the last decade, the price of red wine significantly increased and that it would not stop doing so in the near future. For instance, a dozen of the best Lafite Rothschilds (a famous French red wine) could sell at 40,000 dollars on the market (Live-ex Fine Wine Report). The profitability of high quality wine might be a reason why countries like France have turned their focus towards those high-value items in order to maintain their positive profit. The Old World countries, however, also have their own problems. Even though they claim to be top wine producers, there has been increasing concern over the expanding gap between production and domestic consumption of wine.

In the New World group, we conditionally ignore Southern Hemisphere wine producers, although Australia and Chile could, and are aiming to, be top New World producers in the wine market. This is because we are only choosing to analyze four countries from the available database. The U.S., as the biggest New World player, should be included, and, due to data limitations, China might be another good choice for our purposes (for future research, countries like Australia should also be included). The U.S. and China maintain their output with an upward

trend. More specifically, Chinese wine production has maintained a positively increasing rate since 2000. Their recorded production of 11.7 Mhl in 2013 was at the top of the New World group (State of The Vitiviniculture World Market, 2014). The U.S. saw a downward trend in production at the end of 2011, and 2012 was a ubiquitously bad year for global wine production, due in part to weather conditions and the general global economic situation. The U.S., and California in particular, however, recorded significant wine production in 2013 at 22 Mhl, excluding juice and musts – an increase of 7% from 2012 (State of The Vitiviniculture World Market. 2014).

Figure 4: 2000-2013 Red Wine Consumption in Four Countries (Unit: Thousands of 9-litre cases)



(Resource: IWSR institute)

As for consumption, Figure 4 shows red wine consumption in the same four countries from 2000 to 2013. There is an evident general trend – the Old World players slightly reduced their consumption, while the New World countries, on the contrary, maintained their upwards trend. This might be because the Old World countries are still suffering from consequences of the financial crisis, which began in 2008 (State of The Vitiviniculture World Market, 2014).

The wine price increase and production reduction for main European wine producers might explain why the Old World decreased their total wine consumption. The U.S., on the other hand, with 29.1 Mhl of wine consumed (excluding vermouth and specialty wines), became the primary wine market in the world in 2013 in terms of volume alone. However, the rate of growth in recent years did not continue between 2012 and 2013 (State of The Vitiviniculture World Market, 2014). Chinese consumption, meanwhile, looks promising for the future. But, if we only focus on 2013 and 2014, using the report from OIV, the rapid increase in consumption since the beginning of the 2000s appears to come to a sudden stop. This might be because the Chinese government implemented a series of policies on anti-corruption. Wine in China is considered a luxury good, especially if imported from abroad. The new policies could cause the reduction in Chinese wine consumption since Chinese citizens are not very knowledgeable about wine. In 2013, Chinese per capita red wine consumption was only 1.5L (State of The Vitiviniculture World Market, 2014). China's market capacity still seems considerable due to a large population size and a continuously increasing economy.

1.5 Definition of Profitability

After a brief introduction of world wine market, Companies within the wine industry make decisions based on their own position in the market, as well as on their own strategies and economic foundations. Profitability could be the most reliable indicator to help those companies focus their goals for the next stage (Australian wine industry report, 2013). The purpose of our study is to examine how those financial and economic factors can affect the performance of wine companies. It is therefore necessary to have a clear working definition of profitability for our study.

Profitability ratio is usually measured by profit over asset or sales. However, different people, use different methods depending on the dataset with which they are working. Konstantinidis et al (2008) calculate Greek wine companies' profitability by return on sales, using net profit over firm sales and creating dependent variable-profitability in their models. MKF Research (2007) measures the profitability of a winery through three primary-business ratios: gross margin, return on sales, and return on assets. For our research, and for the database are using, return on assets-ROA (per tax profit divided by total assets) could be the best financial ratio to represent the profitability of a single company.

1.6 Study Subject

Many microeconomic and macroeconomic studies on the wine industry have been done, not only for academic research, but also to help the wine industry expand. There are still, however, some underdeveloped areas of research to which only a few studies venture, especially the use of company financial data to discuss the trend of the wine market – which is something that we could look at. In our study, we focus primarily on the production side, using company financial performance data from the Plimsoll Global Analysis to summarize the Old and New World companies' unique characteristics, to indentify which factors could significantly influence company profitability and why.

1.7 Road Map

The structure of this thesis is as follows. Chapter 2 presents background information on the wine market, mainly focusing on production, consumption, and companies' financial situations. Relevent studies will be referred to in this section. Chapter 3 describes the research methodology, variables, and empirical models used in analyzing our data. Chapter 4 explains the

data section. Chapter 5 presents the empirical results, followed by a discussion. Chapter 6 concludes this paper and offers ideas for future research.

CHAPTER 2: MARKET AND COMPANIES LITERATURE OF WINE INDUSTRY

2.1 Wine Market and Companies

Robinson (1994) provides a glimpse of the history of the wine market. However, if we do want to research on the modern wine industry and market, one concept should be mentioned at first-Globalization.

Globalization has greatly affected the wine industry, recently. Anderson et al (2003)'s study, based on their former work in Anderson et al (2001), discusses the state of modern world wine markets under the influence of globalization. They analyze the wine market by organizing wines from 47 countries or country groups across the globe into a three-tiered ranking system – non-premium, commercial premium, and super-plus premium. They find that the forces of globalization, paired with a huge increase in premium wine-grape supply, would lead to more mergers, acquisitions, and other kinds of alliances between wine companies, within and across national borders. Also, successful market development in the global marketplace is likely to create opportunities, making it so that astute smaller companies are still able to thrive.

Campbell and Guibert (2006) find that the competition in the wine industry is becoming a global battle, because the new and expanding wide-open wine market is fair for all players. Even though Old World countries are still dominating the world wine industry, producers from the New World are proving to be strong competitors, not only in traditional wine markets, but also by rapidly increasing their market share in rising markets. Outreville and Hanni (2013), a study looking at the largest multinational enterprises (MNEs) in the wine industry, indicate that foreign direct investment is very helpful for MNEs in decreasing their labor costs and expanding their human resource pool under conditions promoted by globalization.

The aforementioned studies focus extensively on macro-strategies for the wine industry and offer advice for companies based on market analysis from an economic perspective. Conclusively, they predict that in the future wine industry, because of globalization, a greater number of international networks will be established.

Several large wine companies might merge into one, bigger company in order to enhance their profitability under this globalization circumstance. Roberto (2003) finds that consolidation takes place for economic efficiency reasons, or for some reasons that might not be consistent with shareholder value maximization. The firms studied had mature and profitable businesses and plenty of free cash flow, and it's possible that they were cross-subsidizing investments in pursuit of growth in the premium wine industry. In this case, shareholders' interests might be ignored to a certain degree. Nevertheless, most small companies, although they might not have the chance to merge with others, could have some market shares.

It is a tendency that large companies go aboard and small companies drill in their specific. Government has different policies to help those different size category companies. Therefore, companies' size could be an important attribute in modern wine market.

Judging the size of a company is quite complicated. In our study, we simply consider that companies with a large number of employees are a big company. That makes the category very clear in our dataset, in which China had two wine companies with more than 10,000 employees. The U.S. companies also have large numbers of employees, with an average of 4,000 employees per company. On the other hand, France and Italy's companies only average 81 and 67 employees respectively in each single company. The biggest French wine company, LES GRANDS CHAIS DE FRANCE, counts only 1,173 employees, but their sales per employee are very high at 834,000 dollars. (Plimsoll Global Analysis. 2015)

Walker and Petty (1978) compare the financial differences between large and small manufacturing firms using discriminant analysis. Their results indicate that small firms are more profitable than large corporations, due to higher profit margins and more efficient management of fixed assets. Those large companies, however, have many more opportunities to secure investment from investment bankers and other sources. There are indeed some very large companies in the wine industry, most of which are concentrated in the New World countries.

Castaldi et al (2005) discuss several large U.S. wine companies. They focus mainly on the top companies in the U.S. and analyze their situations using business models. Here, business model classification is separated into four types, with one or two companies as examples; the *Largest Player* is E.& J. Gallo; *Lone Range* are the Robert Mondavi Corporation and Delicato Family Vineyards; *Wine Groups* is the Chalone Wine Group; *Diversified Conglomerate* are the Brown Forman Corporation and Diageo LLP. Citing company history, size, sales, and development process, the author organizes companies into and explains the business models (most companies they mention have been included in our study). According to Castaldi et al (2005), the identification of these business models "emanated from numerous interviews with industry executives, as well as a comprehensive review of trade and academic literature." Their strategic competitors map shows that premium or above-level wines were considered by those large companies more than other wines.

The author mentions that large companies avoid conflict with each other. At same time, they look for new niche markets, like small companies do, and use their resources to expand those markets. This could be a better solution for the future development of huge companies.

Large firms play an important role in this study, since many companies from the New World are large companies. Based on previous studies, large company working methods and strategies could be rational interpretations for our study.

Many studies also look at small-sized and middle-sized companies (i.e. less assets and lower number of employees). Chaganti et al (1989) propose a model based on the achievement of competitive prices and the promotional capacity of general firms. Four factors that could be very important for those companies are: cost leadership, innovation, quality image orientation, and product scope. Their results indicate that the low cost strategy is relevant and useful for small companies competing in price-dominated markets. Strategies based on product quality might be the best profitability strategy.

In the wine industry, the situation seems to be the same as for other industries. Remaud and Couderc (2006) used a questionnaire to compare small wine companies in Australia, New Zealand, and a traditional wine-producing region of France. They investigated the small- and middle-sized companies' strategies in those three areas and tried to find differences between the Old World region and the New World regions. They used hierarchical cluster analysis to explain differences in business practices and they found that location was not important in deciding companies' business practices. Their business activity (bottled wine vs bulk wine) and the main goals of the owners or managers (improving business economic performance vs increasing market share) are two factors that might influence small-sized companies and their future strategy, especially in the Old World, where relatively small-sized companies can rival large-sized companies.

In this study, small companies have high proportion in both worlds. This might be a key explanation in understanding how small companies can survive in such a highly competitive wine market. The competition between in wine market will be mentioned in the next section.

2.2 International Competition of Wine Industry

The high pressure competition in modern markets should also be noted. A great deal of research has been done to discuss this part from different fields. Martin et al (1991) compare the poultry, fruit and vegetable, dairy, meat, and bakery sectors between the U.S. and Canada. They conclude that Canadian products might have low competitiveness with U.S. products. Fischer and Schornberg (2007) use their compound system of measuring competitiveness to analyze 15 European countries' food and beverage sectors. They find that beverage products in the U.K. are more competitive than any others. For wine market, the competition might be much bigger than other markets.

The highly competitive wine market counts a large number of companies, large and small, all scrambling for greater market share. Konstantinidis et al (2008) investigate the effect of certain economic factors on the competitiveness of Greek Wine companies. They use return on sales in their study to reflect profitability, which can represent competitiveness in the market. Total assets (which can also be used for evaluating company size), Leverage, capital intensity, and square of capital intensity would then be four other independent variables. Their fixed effect model shows that the size of the company, as well as the square of the capital intensity, has a positive and statistically significant influence on a winery's profit.

They find that large-sized wineries can apply a wide variety of competitive strategies, including differentiation, innovation, diversification, publicity, and reliable distribution channels, which might lead to an increase in profitability. In addition, the large-sized wineries can

efficiently operate their own capitals, leading to an increase in their net profits. They also consider mergers as a good way for large-scale companies to increase their profitability.

In our study, we used the market situations of four countries with the companies' performance to analyze the company trends on a certain international level, while also looking at markets' particular features.

2.3 Shareholder in Wine Companies

Shareholders play a very important role in modern companies. Rehbein et al (2004) provide some reasons for how shareholder activists, who are a specific kind of stakeholder, target companies. They explain why some shareholders want to engage in and help certain industries.

Many companies in wine industry are held by family, especially in the Old World. Essentially, from our database, half of French and Italian wine companies are owned by family and their descendents. Sraer and Thesmar (2007) found, based on the data from French stock market, family founder had more productivity and the average wages of employee were lower than non-family companies. Also their CEO managed the whole companies with more efficiency.

For those large multinationals, the situation might be totally different. Coelho and Rastoin(2006) use wine multinationals to prove that large-sized companies follow a strategy that maximizes their shareholders value through financialization, such as open stock market, in order to absorb specialized wine funds. Meanwhile, acting as a shareholder in other companies may create, for some multinationals, the opportunity for a merger and acquisition. This evidence-the Australian company BRL Hardy's merger with Constellation Brands from the U.S. in 2003-could

be one of the best examples to prove that merger is a feasible method for large companies to enhance their profitability.

Normally, return on shareholder equity could be the best indicator to measure profitability. The concept of return on shareholder equity (ROE) could be used to measure the profit of companies created with the investment of shareholders. Most studies using ROE are from the finance and accounting sectors. Rarick and Vitton (1995) use ROE to measure companies' financial performance differences between "high content" and "low content" mission statements. Eng and Mak (2003) analyze the voluntary disclosure of companies with ROE and its substitute return on assets (ROA). However, ROE also has its defects – Jensen and Meckling (1999) claim that companies using ROE as their indicator for profitability were easily manipulated by managers. Black et al (2001) shows that companies which had high gearing or asset turnover would increase their ROE.

Even though ROE might not be perfect, it could still be one of the best options for measuring shareholder contribution or company profitability. Nevertheless, because of data limitations, ROE would not be the primary choice for this study.

2.4 Non-financial Factors

There are also a number of non-financial factors that might also affect the profitability of wine companies, such as wine quality, brand reputation, product areas, advertising of their wine, which can more or less influence their market sales. Many exogenous or endogenous wine-related factors could influence company profitability. Brugarolas et al (2009) look at two regions of Spain with totally different agricultural practices. They find that people living in viticulture areas are willing to pay more for wine products. Schamel and Anderson (2003) also find that a critic's or judge's high reputation might significantly impact a single brand or area.

Consumers might follow their recommendations and seek out wine from a specific brand or area. Nelson and Moran (1995) and Yue et al (2006) both find that advertising could be an effective way to attract consumer attention, especially for red wines. Yue et al (2006) also believe that, if those producers are thought to be producing a higher quality product, advertising would be very helpful.

CHAPTER 3: METHODOLOGY

3.1 Measure of Profitability

Following a number of reports and papers (e.g., Konstantinidis et al, 2008), returns on assets (ROA), returns on sales (ROS), or profit margin all could be a good sign of a firm's profitability. In our study, ROA would be used because ROA can show the company's profitability much better than ROS before the leverage engaged. Leverage was not being considered because of the data limitation. Also, pretax profit as the only profit variable in the dataset that could be used instead of net profit to calculate ROA. Finally, the ROA, which equals to pretax profit/ total assets, is used to represent the profitability in this paper.

3.2 Data Collection

All of the data we used came from new Plimsoll Top 500 report which analyzes the financial performance of the 500 largest companies in the wine producers (Global) industry. It is divided into two sections: first the report looks at the market as a whole; the second section analyzes each company's individual performance. In this study, we mainly examine wine companies from these four countries. The traditional red wine producing Old World countries: France and Italy; the New World: the U.S. and China. In the total of 285 companies that have been counted in our dataset: 40 are Chinese wine companies, four are U.S. companies (because of the limitation of this database, we only pick four largest American Alcoholic beverage companies who have wine sales), 116 are French wine companies and 125 are Italian wine companies.

We use those firms' primary financial performance between 2010 to 2013, including firms' asset, yearly profit, shareholder' funds, number of employee, firm's annual sales, and the

international exchange rate (a conversion has been made into US dollars at the exchange rate in this report). Then we use the data to build our empirical analysis.

3.3 Define Models and Variable Statistic Description

Table 1 showed the variable definition for all observations and Descriptive Statistics of the four countries' wine companies. The total situation is that those four countries have average 168.4 million dollars sales per year, an average of 445 employees per company, 379.6 million dollars assets with 176.7 million dollars shareholder funds, and they can make an average of 39 million dollars annual pretax profit.

Table 1: Descriptive Statistics of companies in four countries from 2010 to 2013

Variables	Variable Definition	Mean	Std.Dev.	Min	Max
Sales	**The company whole year sales in million dollars**	168.41	727.17	3	11264
Employee	**Number of employees of single company in each year (we assume this variable represents company size)**	445.9	2199.81	0	29898
Shareholder	**Shareholder funds of companies for single year in million dollars**	176.71	940.82	-36	14622
Exchange Rate	**Other currencies exchange to U.S. dollar (Euro to Dollar and Yuan to Dollar)**	1.152	0.419	0.13	1.45
Profit	**Pretax profit of company in each year in million dollars**	39.04	237.14	-87	3512
Assets	**The company totally owns value in each year in million dollars**	379.68	2203.29	0	37143
ROA*	**Return on assets, we simplely define it as ROA= (Profit/assets)×100%**				
S/A%*	**Percentage of shareholder equity, we define it as S/A% = (Shareholder/Assets)×100%**				

*ROA and S/A% are calculated by those parameters in this table.

3.4 Fixed Effect Model

To model which factors might have significant influence on a firm's annual profit, in this process, we use return on assets (ROA) between the amount of companies (i=1.2….265) during those four years we could observe (t=2010, 2011, 2012 and 2013) as dependent variable in our model. Companies (i) and years (t) could be the two way for the models.

The total number of employees of those single company (CE_{it}), firms' annual sale from 2010 to 2013, the percentage of shareholders' equity in company's total asset (S_{it}) are specified as independent variables in our designed model.

However, in order to find out whether or not there is a causal relationship between those variables, we built four models to test this process variable by variable. Basically, we assumed sales could be the most important variable to affect firm's profit and established the null hypothesis.

Null-hypothesis: Sales could be the most important factor to influence companies' profitability.

Therefore, in the first model, we put firm's annual sales in the model as the only variable.

The basic econometric model we estimate is:

$$(1) \qquad ROA_{it} = A_{it} + \beta_1 S_{it} + u_i + v_t + \varepsilon_{it}$$

Where A donates the intercept; u_i is group fixed effect error term; v_t for time fixed effect error and ε for idiosyncratic error term; S is firm's annual sales, which is assumed to be iid within each year.

Then compare to the first model, in the second one we add totally employees of each company as a second variable.

The second econometric model we estimate is:

$$(2) \qquad ROA_{it} = A_{it} + \beta_1 S_{it} + \beta_2 CE_{it} + u_i + v_t + \varepsilon_{it}$$

In the next model, the percentage of shareholders' funds in total assets would be another parameter added into the model.

The third econometric model we estimate is:

$$(3) \qquad ROA_{it} = A_{it} + \beta_1 S_{it} + \beta_2 CE_{it} + \beta_3 SA_{it} + u_i + v_t + \varepsilon_{it}$$

Additionally, if we focusing on the single country, we also put all exchange rates-Ex_{it} (Euro or RMB to dollars) as an extra variable into our model and build the fourth model, which should be considered as:

$$(4) \qquad ROA_{it} = A_{it} + \beta_1 S_{it} + \beta_2 CE_{it} + \beta_3 SA_{it} + \beta_4 Ex_{it} + u_i + v_t + \varepsilon_{it}$$

CHAPTER 4: DATA

4.1 Data Description

Table 2 shows all observations in those four countries. Because our dataset came from another source (Plimsoll Global Analysis.2015), we only take parts of data from the whole database. A total of 1140 observations were included (based on year from 2010 to 2013, total 285 companies' yearly data). However, the original report contained years exceed the year range 2010-2013. Also they missed some parts of data in specific years (blank in that original database). We had to keep it blank in our dataset and finally only 1047 observations had been kept.

Table 2: Total Observations of Four Countries

Countries	Total Observations	Missed Observations	Available Observations
China	160	5	155
U.S.	16	1	15
France	464	67*	397
Italy	500	36	464
Total	1140	109	1031

* For some small French wine companies, we cannot account their ROA because both of their profit and assets are zero. They had to be removed; therefore sixteen observations from France have been moved from our models beside the missed observations.

For France, we describe several special cases here. In the original Pilmsoll analysis, if the firm's sales, profit or assets are smaller than one million, the report only gives us positive zero (on the other hand, showing negative zero). That is because as the most mature wine country where the top five companies only control 20% market share in their wine market, thousands of small or mini wine companies still have enough market to survive. France has many family vineyards who planted grape, eventually making fine wine and developing world famous reputation. That is a reason why some French wine companies cannot have more than one million assets but still maintain in the top 500 rank.

Because of the Plimsoll database only has 5 U.S. companies in total 500 world wine companies. However, depending on the important position in the New World, the U.S. should be kept in our dataset. Even it only has 15 valid variables during 2010 to 2013.

Table 3: Summary Statistics for Variables in Each Countries

Country	Variable	Mean	SD	Min	Max
China	Sales	333.81	755.49	4	4634
	Employee	2165	4909	0	29898
	Shareholder	437.62	1076.19	0	6984
	Exchange Rate	0.16	0.01	0.12	0.16
	Profit	148.48	488.32	-87	3512
	Assets	652.99	1471.11	1	9087
U.S.	Sales	2084.27	1437.54	12	4868
	Employee	4430	5913	92	24600
	Shareholder	2556.27	1996.08	16	5671
	Exchange Rate	1.00	0.00	1	1
	Profit	516.40	556.74	1	2202
	Assets	5637.47	4573.58	22	14301
France	Sales	160.48	932.97	3	11264
	Employee	81	165	0	1173
	Shareholder	153.21	1179.73	0	14622
	Exchange Rate	1.33	0.05	1.22	1.44
	Profit	19.63	166.14	-19	2046
	Assets	413.26	3084.00	0	37143
Italy	Sales	58.29	165.73	4	2102
	Employee	67	261	0	3996
	Shareholder	33.56	168.21	-36*	1925
	Exchange Rate	1.33	0.05	1.22	1.44
	Profit	4.33	29.41	-13	325
	Assets	88.53	380.68	5	4555

* Because CANTINA SOCIALE DI CANELLI and CONTARINI VINI E SPUMANTI SPA IN SIGLA C.V.S. SPA IN LIQUIDAZIONE are in Bankruptcy and liquidation. These companies' shareholder showed negative number. However it didn't affect the final result. We keep those two companies in the Italy part.

Table 1 showed the variable definition for all observations, while Table 3 described the variable descriptive statistics of separate countries.

The New World wine countries obviously include many larger size companies than those two Old World countries, which can also prove there is a difference in company structure between the New World and Old World. The New World companies have more capital and

concentration, but in the Old World, it is more likely that decentralization has occurred and small companies have enough room to gain their market share.

The average sale in China is 333.8 million dollars, 2084.2 million dollars in U.S., 160.4 million dollars in France, and 58.2 million dollars in Italy. This presents a challenge with exchange rate. Because those companies handed in their annual statement in different months, the exchange rates were also a little bit different. The average rate in China is 0.156 from 2010 to 2013, while in France and Italy, it is 1.33. Chinese companies have an average of 437.6 million dollars shareholder funds, while the average asset is 652.9 million dollars and their average profit is 148.4 million dollars. The U.S. companies have an average of 5637.4 million dollars assets, but 2556.2 million dollars are shareholder funds and their average profit is 516.4 million dollars. In Europe, French companies own an average of 413.2 million dollars and 153.2 million dollars are from shareholder and their average profit is 19.6 million dollars. Italian companies have 33.5 million dollars shareholder funds within their average 88.5 million dollars total assets and their average profit is 33.5 million dollars.

Table 4: Descriptive Statistics of Employee

Countries	Year	Employee Number(Mean)	Min	Max
China	2010	1961	33	26478
	2011	2101	0	29276
	2012	2314	0	29898
	2013	2277	0	27074
U.S.	2010	9675	127	24600
	2011	2898	92	4400
	2012	2978	112	4500
	2013	3481	126	6300
France	2010	92	0	1126
	2011	82	0	1064
	2012	76	0	1140
	2013	77	0	1173
Italy	2010	64	0	2207
	2011	123	0	2278
	2012	122	0	2450
	2013	122	0	3996

Employees, a very important variable in our models and works as the key factor to influence the company size category. We have to interpret it because there are some details that needed to be pointed out. Employee descriptive statistics are presented in Table 4. Mean could be the main director in this table. For some reasons, not all companies' data are available. There are some companies, except the U.S. companies, whose number of employees were not available in Pilmsoll analysis. But it does not mean the company does not have any employee, and this is why some information is missing. The U.S. company-BEAM SUNTORY INC. should be mentioned as they had 24600 employees in 2010. Beam Suntory Inc. as a distinct entity, was established on October 3, 2011, from the remainder of the Fortune Brands holding company. The dataset used their former company's employee as theirs in 2010.

CHAPTER 5: RESULT

5.1 Result of two-way fixed effect models

The two-way fixed effect models have been used in this study, the four countries combined results are showed in Table 5 with 285 companies. Of course, in order to discover more information in those 4 single countries, we built another three models for each of the three countries individually (China, France and Italy) and Exchange rate would be the forth variable shown in the single countries models. For the U.S., because of lack of observations, a separate model cannot be executed. Based on the variance inflation factors, there is little concern of multicollinearity between our independent variables. Also Hausman test proved fixed effect model is better than random effect model in our work.

Table 5: Factors affecting companies' profitability (four countries) N=1031

	Model 1	Model 2	Model 3
Sales	0.0037**	0.0037*	0.0035
Employees		-6.14E-06	2.88E-05
Shareholder/asset			7.58**
2011	0.89	0.89	0.94
2012	1.01	1.01	1.08
2013	1.81**	1.81**	1.81**
Sigma_u	7.11	7.12	6.84
Sigma_e	7.98	7.99	7.97
Rho	0.44	0.44	0.42
F test	2.56**	2.04*	2.57**

Note: *, **, and *** represent significant at the 90%, 95%, and 99% significance levels respectively.

Table 5 shows the overall estimate result of two-way fixed effect models with 1031 observations (Table 2 showed situations of all observations). We can see Sigma_u (standard deviation of residuals within group ui, company group) and Sigma_e (standard deviation of residuals of overall error term) are being estimated. The intraclass correlation-Rho is around

42%-44% which means the random effect had 44% proportion in error term in this model. F test shows that all of those four models are significant. Shown in Model (1), sales would be significant if sales were the only none-time parameter in the model. Holding everything else constant and measured at the sample mean, when sales increase one million dollars, ROA would go up by 0.0037%. However if we consider more parameters in Model (3) and (4), sales are not significant anymore. Employees have little effect on ROA, since it is not statistically significant. The percentage of shareholders' funds (shareholder/assets) showed a very significant result in our models, which means 1% increase of shareholders' funds in total assets, ROA would increase by 0.075%. In time dimension, we set 2010 as a control year. ROA in 2011 and 2012 do not show any significant improvement. However, in 2013, it increased by almost 1.8%.

Table 6: Factors affecting companies' profitability (China) N=155

	Model 1	Model 2	Model 3	Model 4
Sales	0.0010	0.0030	0.003233	0.0020
Employees		-1.21E-03	-1.25E-03	-5.41E-04
Shareholder/asset			-4.55	-4.47
Exchange rate				1272.8
2011	3.98	4.05	4.05	-6.31
2012	6.33	6.50	6.52	-4.38
2013	8.37*	8.47*	8.62*	-8.29
Sigma_u	13.42	15.29	15.18	6.99
Sigma_e	18.89	18.97	19.05	7.97
Rho	0.33	0.39	0.38	0.43
F test	1.08	0.87	0.74	0.71

Note: *, **, and *** represent significant at the 90%, 95%, and 99% significance levels respectively.

In Table 6, 40 Chinese companies with 155 observations are shown. However, those models were not significant in F test. This might be because some mega-size companies in China owned large amount of Sales and number of Employees. Smaller companies would have little impact on the market or the model result. This could also be a result due to the small sample size. Even though we have used the robust error, non-normal distribution and small sample property could dominate our results. Although it is clear that the models are jointly insignificant,

year 2013 have a statistical significant sign in the first three models. There are two things need to be mentioned, the percentage of shareholder funds in Chinese companies have negative effect on ROA even through it is not statistically significant in our result. Compare to the overall situation, even its statistically insignificant, the economic meaning may carry through. Exchange rate shows a big number, mainly because of exchange rate gap between Chinese RMB and U.S. dollar. Due to the fact that these models are not significant, further research is needed to investigate the situations in China.

Table 7: Factors affecting companies' profitability (France) N=397

	Model 1	Model 2	Model 3	Model 4
Sales	0.0034	0.0070**	0.007**	0.0070**
Employees		-0.055***	-0.054***	-0.054**
Shareholder/asset			3.61	3.62
Exchange rate				-0.083
2011	0.46	0.26	0.27	0.27
2012	0.79**	0.47	0.45	0.45
2013	0.75**	0.53	0.49	0.49
Sigma_u	5.11	11.59	11.54	11.55
Sigma_e	2.47	2.26	2.26	2.26
Rho	0.81	0.96	0.96	0.96
F test	1.76	12.94***	10.92***	9.33***

Note: *, **, and *** represent significant at the 90%, 95%, and 99% significance levels respectively.

Table 7 shows 116 French companies with 397 observations. The intraclass correlation-Rho showed the random effect playing heavy role in error term with 96% of the variation explained. F test shows Model (1) is not significant but other three models are highly significant. Because of missing data and zero profit showed in the original Pilmsoll data, 16 observations had to be moved. Sales, if used as the only none-time parameter in the Model (1), it is not significant. When we add other variables in models sales becomes significant and the French companies' ROA would increase approximately 0.007% with one million dollars increase in sales. Also the number of employee plays a very important role in these models on France. If a French

company cut one of their employees, it might lead to an additional 0.055% ROA added into their total ROA. Percentage of shareholder's funds is not significant in France. There is a great difference between the four-country results and French results. For the time dimension, 2012 and 2013 in Model (1) showed a significant result (Model (1) is not significant overall).

Table 8: Factors affecting companies' profitability (Italy) N=464

	Model 1	Model 2	Model 3	Model 4
Sales	0.0007	0.0172	0.0043	0.0038
Employees		-5.49E-03	-2.13E-03	-2.01E-03
Shareholder/asset			13.81***	13.80***
Exchange rate				0.94
2011	0.46	-0.08	0.15	0.15
2012	-0.64	-0.75	-0.28	-0.25
2013	0.50	0.34	0.75	0.73
Sigma_u	4.96	4.86	4.29	4.29
Sigma_e	3.90	3.90	3.66	3.67
Rho	0.61	0.60	0.57	0.57
F test	1.32	1.22	8.64***	7.39***

Note: *, **, and *** represent significant at the 90%, 95%, and 99% significance levels respectively.

Italy's situation is shown in Table 8 with 125 Italian companies and 464 observations. The intraclass correlation-Rho showed to be around 60% (57%-61%) in the error term. F test shows Model (1) and Model (2) are not significant, but Model (3) and Model (4) are highly significant. It has almost the same trend as the overall four-country results shown previously. The percentage of Shareholder funds is shown to be highly significant in this model. All other variables include yearly change are not statistical significance. Generally, 0.0138% of ROA increase can expect to be observed with Shareholder funds increase by 1% in total assets. As in the French situation, yearly change did not significantly affect profitability in Italian companies. This might be an indication that for Old World companies, time may not play a major role in their profitability.

5.2 Discussion

5.2.1 Overall

Initially we set up a hypothesis: sales could be the main factor affecting a company's profitability. For all those four countries, our results show some clues from those companies' performance. If we set sales as the only parameter in the model (Model (1)), obviously, it is significant in statistics. As was our initial assumption: sales might be the important factor engaging in the firm's profitability. However, in the full parameters model (Model (4)), sales became non-significant. It might be because sales in overall scope (at least in those four countries), may not be that important in a company's profitability. Or, in other words, it is not the main reason to influence company profitability.

Shareholder funds have much more effect on a company's ROA rather than Sales in our results. It might because Italian companies took a heavy proportion in the whole dataset. Employees do not have any statistical significance. These might indicated company size which are not the pivotal reasons to make profit for wine companies. 2013 is the only statistically significant year in the models. It might prove that in the wine sector, most companies need at least four years to upgrade their profitability. 2011 and 2012, compare to 2010, do not show any significance.

The world wine market is expanding every year. With the challenge of the international competition and company management innovation, companies have more chances to find new market shares in order to increase their financial performance. Four years would be an available time-duration, a cycle for wine company to achieve their short run objectives and figure out their future plan in the next period. However, with the competition growing stronger, the period might be little bit longer than four years in some Old World countries.

It is very hard to summarize and discuss a general conclusion. That depends on where those companies came from, what size category they are, or what brand reputation those companies have. France and Italy, who are the famous traditional old wine countries, still have a number of differences. They need to discuss and analyze their specific details. In the next part, we discuss the four countries separately. Unfortunately, the U.S. part cannot be discussed from our result, because of lacking data. A brief discussion of the U.S. wine companies is given, based on their four companies' financial performance.

5.2.2 China

In 2012, Chinese companies had wine exports with a total of 649.25 million dollars (State of The Vitiviniculture World Market. 2014). Compared to other traditional wine exporting countries, China is not a member of the main force of wine export. However, Chinese wineries had a decent magnitude of wine production, and their consumption has proved the wine market in China is large. Because of their culture, China is not a famous red wine (fruit base wine) country in the world. In fact, traditional white wine (crop base wine) could be their main market occupant. The background differences might be good evidence to support why there are so many differences in the wine market between China and the western world.

Back to Table 6, it shows that none of the variables have significant influence in companies' profitability (ROA). However, these are not reliable models due to the F tests are not significant. The average number of employees in Chinese wine companies is 2165 with an average of 333.8 million dollars sales. But in our database, 40 Chinese companies we picked from the Plimsoll data pool, a half of those companies are large sized enterprises and half are relatively small companies. It might be a reason why models in the China part are not significant. Meanwhile, missing data is serious defect in China part.

Percentage of shareholder funds has a negative effect on ROA is still different compared with world situation. It should caution due to the model reason.

Additionally, most of the companies have a government background or have certain types of government support, which means government power might influence those companies' behavior a lot. Because this government's intervention and their super-large size category, sales might not be that important for increased profitability.

Meanwhile, large Chinese wine companies are suffering a pain of transition like KWEICHOW MOUTAI CO. LTD's, which is one of the most famous wine companies in China. However, their main product, MOUTAI had already suffered a price shock. They had to lay off employees to keep their companies in financial balance. This situation happened not only in this incredibly large company, but it is very widespread in most Chinese large companies. Maybe as a mainstay company in the wine industry like KWEICHOW MOUTAI, those companies also have to keep a certain level of employees' number to satisfy the local government's annual plan of employment to support the local economy. This is a dilemma. Companies in China could not execute pure market economy behavior because of government intervention. That might be a reason why our result shows almost no statistical significance.

Due to Chinese wine company just slight involvement in the world market, the exchange rate should not be the reason to influence companies' profit. Of course, because of the features of Chinese traditional white wines, only Chinese people would prefer this kind of wine to drink. This kind of wine has a very limited impact in other areas compared to red wine (fruit base wine). For the red wine part, even China already has a large area to plant grapes and make red wine. The degree of brand recognition might be the biggest barrier for Chinese red wine companies like CHANGYU and GREAT WALL and their subsidiaries. Their names might be well-known to

people in China, however, they do not perform well in the world market. On the other side, a majority of Chinese investors have chosen some Old World wine companies and build those brands as subsidiaries to export fine wine into the Chinese wine market. This is a way to truly expand red wine market share in China and spread the red wine culture through reputation of those world famous Old World wine brands and their winery tours. However, in short-run terms, the world market could not be surprised by Chinese wine products. The internal Chinese market would be the main force. Meanwhile, the traditional crop base wine brands, MOUTAI and WULIANGYE, still occupied the dominating position. Future work should build a new model to estimate China's situation.

5.2.3 France

As a traditional wine country, in Table 7, there are differences between France and others.

Our hypothesis relatively fits by French companies, which might be specific to the French models (except Model (1) which is not significant in F test). If we consider putting all variables into model (Model (4)), then Sales become significant and hold everything else constant, measure at the simple mean, ROA increase approximately 0.007% by one million dollars sales increased. French companies might rely on their sales to increase their profit.

From our database, most French companies belong to the small sized category. They might have a long operation history and be owned as private assets. Also, France, as the king of wine-kingdom, dominates the world wine market. Their wine brands are globally famous. However, in their own market, the top companies only have 20% market share. More than thousands of small wine companies have enough market shares to survive. In our dataset with 115 French companies, only one company has more than 1000 employees and half of French

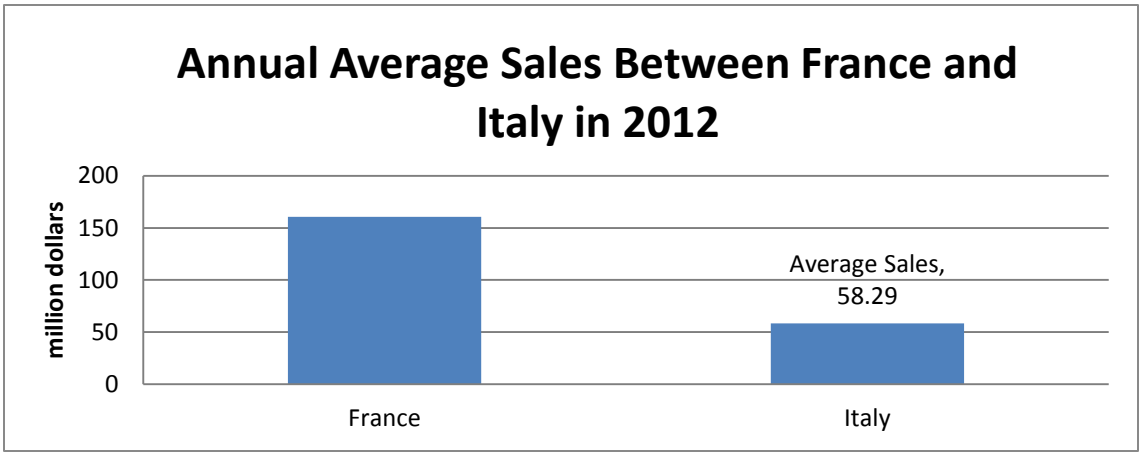
companies have less than fifty employees directly working for them. Those companies are under high pressure competition. Any factor which related to their profitability may be magnified. Increasing Sales or decreasing the operation cost, liking lay off employees, may be good tools for enhancing profit. That might be the reason why sales and number of employees significantly influence company profitability. In all those 115 French companies, the shareholder funds average 153.2 million dollars, which only occupies 37.07% of total company assets. For those tradition small wineries in France, their owners might not want excessive capital engaging in their business; the companies' philosophy is traditional.

Their brands, regional reputation, vineyards and other derived businesses may be good guarantees for their profitability. For the international market, France is the most important country in world wine market. As the results show, Sales including export sales is significant. Even their export volume had been surpassed by Italy in 2013. France total value of wine sales is still in the leading position. Due to this reputation of France's fine wine, the international market welcomes those products, especially the high quality wine. E.U. has refund policies to encourage wine export. Agreements between countries signed in order to reduce wine trade barriers, like the agreement between the United States and the European Community on wine trade. Those agreements help French companies and also Italian companies to export with much more convenience. Meanwhile, with the Euro as a main currency, exchange rate should be an advantage for French wine companies in the world market.

5.2.4 Italy

Italy has almost the same result with the overall world situation, but totally different with its neighbor-France. Back to the database, first, there is comparison in Figure 5 might explain why the difference happens.

Figure 5: Annual Average Sales between France and Italy in 2012



(Resource: IWSR institute)

In figure 5, French companies have 160.48 million dollars average sales compared with Italian companies, who only have 58.29 million dollars both in local and international markets in 2012. The large average sales gap between those two countries, might be a clue to explain why sales did not have significant influence in Italian company profitability (Also the companies' gap between two countries are large, not only in Sales, But also in company size and shareholder funds in our dataset). If we do a comprehensive comparison between the companies in those two countries, the conclusion we might have: as follows, those two countries might dominate the wine world. Italian companies might not be as mature as French companies.

Also the general economic environment is different between those two countries; Italy suffered much more pain from recent economic crisis than France. This situation also brings a huge influence to Italian wine makers. In the short-run, the investment from outsiders might be more useful rather than increase their own sales or blindly lay off employees. In the world market, Italian wine companies might experience more competitions from the New World countries. Many Italian wine companies produced under-premium level wines which also could

be the main products of New World countries. And Italian wine brands cannot attract consumers like French brands have.

The exchange rate showed no significance in result. Within the European Union member, Italian companies might not suffer the difficulties from world wine trade barriers, and the Euro could be another advantage for Italian wine companies to export. However, there are 10 Italian companies in world top money losing rank by Pilmsoll report. It might mean Italian companies need a better management and operation strategies to increase their profitability.

There is one thing which need to be mentioned, the four years period profitability increase hypothesis did not work in Italian companies also. Mostly, it might be because the whole Italian economic environment is relatively weak. Compared with the other three countries, Italian companies need more time to achieve their short-run goal.

5.2.5 U.S.

Because we don't have enough data of U.S. companies, running models could not work. However, as a leader of the New World, the U.S. is an important player in the world wine industry. Those four companies of U.S. in our database are BEAM SUNTORY INC, BROWN FORMAN CORP, CONSTELLATION BRANDS and WILLAMETTE VALLEY VINEYARDS INC. Most of those companies are relatively large sized category except WILLAMETTE VALLEY VINEYARDS INC which only make red wine.

Table 9 shows the U.S. companies with their average yearly sales in 2013. Three U.S. Companies are Conglomerates and wine might not be their key product, they also produce other kinds of alcoholic beverages.

Table 9: U.S. Companies list in Pilmsoll report

Company Name	Sales in 2013
BEAM SUNTORY INC	$2.5 billion
BROWN FORMAN CORP	$3.0 billion
CONSTELLATION BRANDS, INC.	$4.9 billion
LAIRD & CO INC*	$37.5million
WILLAMETTE VALLEY VINEYARDS INC	$13.3million

* LAIRD & CO INC only have data in year 2013, and it is not available to use. So we only mention here

The Pilmsoll report also ranked top 50 sales companies in the world in 2014. Three companies that came from the U.S. were in top 10. And another relatively small (compare to those three companies) company-WILLAMETTE VALLEY VINEYARDS INC also showed in the list named 'best trading partners'. As Castaldi et al (2005) classified, those companies are big player and diversified conglomerates in the wine market. These three have many other products to enhance their profitability. Many small vineyards are owned by those big names. This might be a reason why only a few companies appeared in our database in U.S.. Those small wineries had been merged with those large companies and only maintained their names.

Many studies had proved that merger and acquisition could be an efficient method for large companies to increase profitability. And those large U.S. companies also proved this point with their great financial performance, for instant, CONSTELLATION BRANDS, INC who had pretax profit about 2.2 billion dollars in 2014, increased 326.5%, compare to 2013. In sum, the database makes it very difficult to interpret what really happened in U.S. companies. Also, E & J Gallo as a big player did not appear in this Top Plimsoll 500 report. It also should be a query. The future work should find more data of the U.S. companies.

CHAPTER 6: CONCLUSION AND FUTURE WORK

The world wine market is expanding, not only in overall market size, but also in the size of individual companies. General financial performance also reflects this upward trend. The Morgan Stanley report in 2013 showed that global wine demand and supply had slowly moved from a balanced state to a supply shortage. This production shortage is also documented in OIV's 2013 report. In terms of total value, however, the industry shows a sustainable increase. China, in particular, is pushing the development of a strong new wine market in Asia. Although many wine export companies are facing trade barriers in international markets, export profit might still become a main driving force for large-scale wine companies' profitability.

Unlike most other studies that look at yearly import or export data to analyze the world wine market, this study focuses on the economic performance of wine companies (including sales, profits, shareholder funds, and number of employees) in order to analyze market trends. This approach is based on the work of many researchers who have discussed how to increase companies' competitiveness or branding based on their financial performance.

We include exchange rates as a supplemental factor in our models in order to measure the influence of trade barriers. We analyze top firms in the following four important wine making and consuming countries: the Old World countries of France and Italy, and the New World countries of the U.S. and China. Not only does this study examine common views of the world wine market, but it also provides additional insights, the first of which is described below:

(1) We initially hypothesized that sales would have a significant influence on the profitability of companies. However, the percentage of shareholder funds in total assets proved to be a more significant influence for enhancing the companies' profitability.

This might be paradoxical. If we only focus on individual Chinese or French companies, the hypothesis could be rejected. In fact, shareholder investment plays a key role, especially for small size companies in most countries. Rossi et al (2012) grouped wine firms into three distinct types: global enterprises who are active in all segments of the beverage industry; large national wine enterprises focusing on wine production and operating in an international context; and small and middle sized enterprises (SMEs) with their own niche strategies. They considered the local SMEs in Italy that had already established their local strategies and firm culture. In our results, we found that if Italian companies can gain help from outsider stakeholders, their profitability might increase significantly.

The French market and French wine companies might differ from those in Italy. One important reason for this might be found in the data: the French data seems less perfect than the Italian companies' data, since many French companies' sales and assets only show zero in the original report. For the French wine market, Crozet et al (2012) found that most SMEs did not export their production in France, and that their wine's quality would significantly increase the wine's price in the local market. People believe that France could be the best wine country in the world and that, due to their cultural heritage, French people might prefer wine in their daily lives more than the people of any other countries. That means that France might have a relatively better market reputation, and that their SME companies can survive by securing a niche market. Not relying on shareholder investment strategies might be a reason to interpret why, in our results, the percentage of shareholder funds in total assets was not significant for the profitability of French wine companies, and why their sales and employees are significant in enhancing their companies' profitability.

For the 40 Chinese companies, shareholder funds even had a negative effect (though not significant), due to the fact that the Chinese government-controlled capital already overwhelmed the wine companies. Capital owners spent too much money on the wine firms to accelerate development. Excessive investment might even hurt those companies and push them into unhealthy business operations. They would then need to decrease their percentage of shareholder funds instead of focusing on their production, brands, and other important factors. However, since the models we analyzed are not significant, our conclusions regarding China should be interpreted with caution. Unfortunately, we did not have enough data to fully examine what has happened in the U.S.

Our second insight is that:

(2) Four years might be a reasonable time frame for world wine companies (mostly for the New World companies) to enhance their profitability.

Since this is an under-studied area in the wine industry our research findings might have implications. Our results show that the four years from 2010 through 2013 could have a significant increase in company profitability for the four countries considered. The traditional Old World countries of France and Italy, however, actually showed completely different results from the New World countries. A comparison between the two Worlds might illuminate a main reason for why there is a large difference in other variables such as history, market direction, and even local culture. For the New World, in our dataset (where all companies are in the top 500 wine company rankings), companies from China and the U.S. are relatively large companies. They increase their profit very rapidly through mergers, negotiations, and the building of strategic partner relationships with companies abroad.

Most companies are eager to become top players in the wine industry, claiming 20% to 30% market share in countries like China or the U.S. When we consider the situation in France or Italy, we see that many companies are SMEs compared to the large New World companies. Rossi et al (2012) found that smaller companies rely on niche market strategies. They might therefore need a longer time to pave the way for increased profitability. Four years might not be enough time to fully realize this kind of strategy and, with more data, we may be able to calculate the exact number of years it would take.

The two implications described above could prove to be quite significant, depending on our results and dataset, for at least the four countries included in our analysis. However, it does not mean that sales, number of employees, or exchange rate are not important. Actually, France has already showed that sales have positive statistical significance while the number of employees has negative statistical significance. Exchange rate as a variable measures international trade and market barriers. It shows nothing of significance in our results, although additional years or more comprehensive data may show otherwise.

The main limitation of our work is obvious: a larger dataset including more companies and countries could yield more reliable results in future studies. By looking at different markets between the Old World and the New World, their differences could be set as dummy variables. The different strategies between companies from different worlds could then be more clearly analyzed. A fixed effect model was used to control time-invariant variables. However, in future work some consumer-side factors could also be included. Consumers might be a key factor for wine sales, and influences from their cultural backgrounds and their buying capabilities could be examined. The effects of advertisement to wine consumption could also be an interesting subject for future research. Many factors could prove to be important driving forces affecting

the entire global wine industry. What we intend to do in this research is to provide evidence to support a number of discussion points.

APPENDIX

General Financial Situation

There is some wine-related financial terminology that might help us better understand wine companies' commercial backgrounds. Through individual firms' sales, sales return on assets (SROA), profit return on assets (PROA), and company size, we are able to gain a rough understanding of a single company's basic information.

Sales

In the wine industry, the Plimsoll Analysis (Plimsoll Global Analysis, 2015) reported the average company sales growth (for the last 4 years) as 13.8% sales, which showed an increase of approximately 6.1% in 2014 from 2013. However, almost one in four of those top 500 companies recorded a fall in sales, with an average fall of 15%. The remaining three-quarters of the companies recorded an increase in sales, with an average increase of 11%. The 2014 top 30 sales ranking includes five French companies, six Chinese companies, eleven Italian companies, and one U.S. company. One of France's largest wine companies, LACHETEAU, which reported 137.7 million dollars in total sales and the highest sales growth of 1,551.1%, took the top spot in 2014.

Return on Assets (ROA)

According to *Investopedia*, the general definition of 'return on assets (ROA)' is as one of the profitability indicator ratios that provides a good picture of how well a company utilizes its resources in generating profit and shareholder value. The ROA clearly shows how efficiently a firm uses their assets to generate earnings. Two different types of ROA are explained below.

Sales Return on Assets (SROA)

The Plimsoll report (Plimsoll Global Analysis, 2015) shows the sales return on assets data, which is essentially based on sales and assets. Total assets are the sum of all assets of the company, including all disclosed properties, plants, equipment, stocks, debtors, and cash. As a key ratio for measuring the financial strength of a company, it reflects how effectively a company converts their money into net income.

In the 2014 SROA top 50 ranking (shown in the appendix), Chinese wine companies dominate the top five spots. The top company, YANTAI WEITAI GRAPE WINE CO., LTD., reported a 3,037% sales return on total assets with total sales at 44.3 million dollars. Italian companies also performed well in this list; eleven Italian wine companies were included in the top 50.

Profit Return on Assets (PROA)

This ratio is a vital indicator for measuring the pretax profit returning on the total investment, and was included in the Plimsoll report (Plimsoll Global Analysis. 2015) with only a few companies maintaining their PROA ratio from 2010 to 2013.

According to the report, almost half of the 500 companies suffered a fall in their profit return on total assets in 2014. Overall, firms delivered around 2.4% average PROA. In their PROA ranking table, Chinese companies outperformed companies from other countries. QINGDAO MALINA WINES SPIRITS CO, LTD stands out with a 196% PROA in 2014. The four countries in our dataset reported an average PROA of 3.6% during 2010 to 2013, according to the Plimsoll report. All mentions of ROA in this work specifically mean PROA in chapters.

Original Data Samples in Plimsoll Global Analysis

CONSTELLATION BRANDS, INC.

The ultimate owner of this subsidiary is: THE SANDS FAMILY

Registration Number:	US160716709	Filing Type:	Consolidated
Incorporation Date:	04/12/1972	Accs Type:	Listed
Registered Address:	BUILDING 100, 207, HIGH POINT DRIVE. 14564 VICTOR	Status:	Active
Country:	UNITED STATES OF AMERICA	No. Of Directors:	11 (View in TALAT)
Website:	www.cbrands.com	No. Of Subsidiaries:	108 (View in TALAT)

Activity

Constellation Brands, Inc. is a leading international beverage alcohol company, with operations in United States, Canada and New Zealand. The Company's wine portfolio is complemented by select premium spirits brands and other select beverag cts. The Company has three business segments: beer; wine and spirits; and, corporate operations and others. In the United States, the Company operates 18 wineries using many varieties of grapes grown principally in the Napa, Sonoma, Monterey in regions of

PROFIT & LOSS ACCOUNT (USD millions)

Period Ending	28-Feb-11	29-Feb-12	28-Feb-13	28-Feb-14
Weeks	52	52	52	52
Currency:	USD millions	USD millions	USD millions	USD millions
Total Sales	3332	2654	2796	4868
Gross Profit	1320	1168	1232	2163
Trading Profit	895	NA	NA	NA
Depreciation	148	142	115	456
Non-Trading Income	4	NA	NA	NA
Total Interest Charges	199	181	227	323
Pretax Profit	551	534	516	2202
Change in Shareholders Funds on Year	-24	124	184	2121

BALANCE SHEET (USD millions)

Fixed Assets	1220	1256	1229	2014
Intangibles	3506	3499	3580	9352
Intermediate Assets	359	321	358	188
Stocks	1369	1375	1481	1744
Debtors	417	438	472	626
Cash Or Equivalent	296	222	518	377
Total Current Assets	2083	2034	2471	2747
Creditors	129	131	209	295
Short Term Borrowing	16	330	28	590
Other Current Liabilities	518	739	441	1141
Total Current Liabilities	663	1200	678	2026
Net Current Assets	1420	835	1793	722
Shareholders Funds	2552	2676	2860	4981
Total Loan Capital	3137	2421	3278	6373
Other Capital Employed	816	813	822	922
Total Capital Employed	6505	5910	6960	12276

RATIOS (USD thousands)

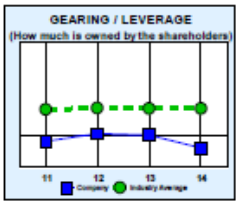
Pretax Profit Margin %	16.54	20.12	18.47	45.24
Sales Growth %	-1	-20	5	74
Pretax Profit Growth %	112	-3	-3	326
Debtor Ratio Days	46	60	62	47
Creditor Ratio Days	14	18	27	22
Stock Turnover	2	2	2	3
Sales 000 / Employee	775	603	621	773
Average Remuneration 000 / Employee	NA	NA	NA	NA
Total Employees Remuneration 000	NA	NA	NA	NA
Employees	4300	4400	4500	6300

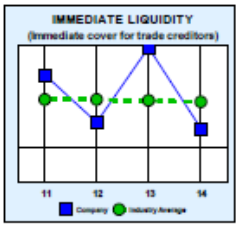
COMPARISON IN US DOLLARS (millions)

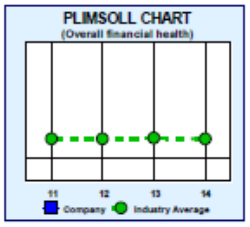
Exchange Rate:	1	1	1	1
Period Ending	28-Feb-11	29-Feb-12	28-Feb-13	28-Feb-14
Weeks	52	52	52	52
Total Sales	3332	2654	2796	4868
Pretax Profit	551	534	516	2202
Total Assets	7168	7110	7638	14301
Shareholders Funds	2552	2676	2860	4981
Company Value	10603	NA	NA	NA

COMPANY SUMMARY (based on US DOLLARS)

The Plimsoll Chart lies below the scale indicating low financial strength.
Total Sales have increased by 74.1% in the latest year, well above the industry average of 3.0%.
The company lies an excellent 4th in terms of Total Sales in this industry. Up 4 places from last year.
The company lies an excellent 3rd in terms of Pretax Profits in this industry. Up 6 places from last year.
Sales per Employee is $773,000 which is well above the industry average of $643,000.
The company is ranked 14th fastest growing in terms of sales growth in the latest year.







YANTAI ZHANGYU PIONEER WINE COMPANY LIMITED.

The ultimate owner of this subsidiary is: YANTAI CHANGYU GROUP CO., LTD.

Registration Number:	CN30644PC	**Filing Type:**	Consolidated
Incorporation Date:	18/09/1997	**Accs Type:**	Listed
Registered Address:	56, DAMA ROAD. 264000 YANTAI	**Status:**	Active
Country:	CHINA	**No. Of Directors:**	12 (View in TALAT)
Website:	www.changyu.com.cn	**No. Of Subsidiaries:**	30 (View in TALAT)

Activity

The Company and its subsidiaries (the Group) are principally engaged in theproduction and sales of wine, brandy, sparkling wine and healthy liquor.

PROFIT & LOSS ACCOUNT (CNY millions)

Period Ending	31-Dec-10	31-Dec-11	31-Dec-12	31-Dec-13
Weeks	52	52	52	52
Currency:	CNY millions	CNY millions	CNY millions	CNY millions
Total Sales	4697	5665	5325	4085
Gross Profit	3533	4375	4097	2880
Trading Profit	1988	2602	2381	1516
Depreciation	87	107	131	137
Non-Trading Income	0	52	38	34
Total Interest Charges	-29	7	18	16
Pretax Profit	1930	2540	2270	1397
Change in Shareholders Funds on Year	801	1174	899	458

BALANCE SHEET (CNY millions)

Fixed Assets	1468	2058	2696	3444
Intangibles	209	264	278	309
Intermediate Assets	276	334	344	349
Stocks	1294	1756	2269	2121
Debtors	100	127	135	177
Cash Or Equivalent	2636	2758	2400	1601
Total Current Assets	4031	4641	4804	3899
Creditors	259	230	325	258
Short Term Borrowing	0	81	151	243
Other Current Liabilities	1623	1721	1513	1036
Total Current Liabilities	1882	2032	1989	1537
Net Current Assets	2149	2608	2815	2363
Shareholders Funds	3840	5014	5913	6371
Total Loan Capital	0	0	0	0
Other Capital Employed	262	250	221	94
Total Capital Employed	4102	5264	6134	6465

RATIOS (CNY thousands)

Pretax Profit Margin %	41.09	44.83	42.63	34.20
Sales Growth %	19	21	-6	-23
Pretax Profit Growth %	29	32	-11	-38
Debtor Ratio Days	8	8	9	16
Creditor Ratio Days	20	15	22	23
Stock Turnover	4	3	2	2
Sales 000 / Employee	1048	1146	1011	785
Average Remuneration 000 / Employee	NA	NA	NA	NA
Total Employees Remuneration 000	NA	NA	NA	NA
Employees	4482	4942	5268	5204

COMPARISON IN US DOLLARS (millions)

Exchange Rate:	0.15099	0.15871	0.15899	0.16387
Period Ending	31-Dec-10	31-Dec-11	31-Dec-12	31-Dec-13
Weeks	52	52	52	52
Total Sales	709	899	847	669
Pretax Profit	291	403	361	229
Total Assets	904	1158	1291	1311
Shareholders Funds	580	796	940	1044
Company Value	1940	2700	2699	2178

COMPANY SUMMARY (based on US DOLLARS)

The Plimsoll Chart lies above the scale indicating financial strength, well above the industry average.

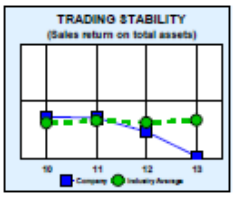
The Plimsoll Chart is falling though its height is ok. (Above the scale of the chart)

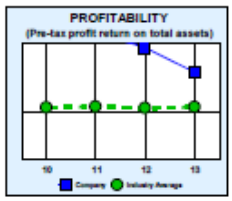
The company lies an excellent 28th in terms of Total Sales in this industry.

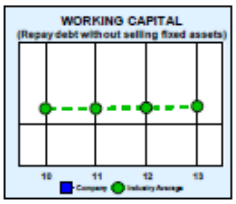
The company lies an excellent 13th in terms of Pretax Profits in this industry.

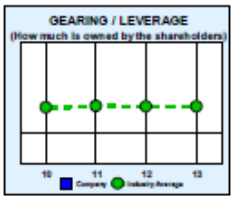
The company has suffered a significant fall in sales in the latest year.

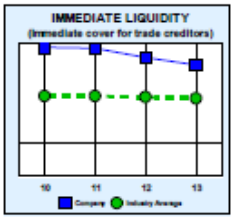
Pretax Profit Margin is 34.2% in the latest year, well above the industry average of 3.4%.

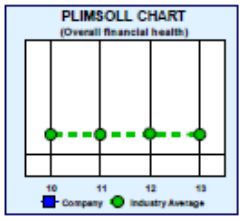












LES GRANDS CHAIS DE FRANCE

Registration Number:	FR315999201	**Filing Type:**	Cons. & Uncons.
Incorporation Date:	01/01/1979	**Accs Type:**	Unlisted
Registered Address:	1 RUE DE LA DIVISION LECLERC. 67290 PETERSBACH	**Status:**	Active
Country:	FRANCE	**No. Of Directors:**	Not available
Website:	www.lgcf.com	**No. Of Subsidiaries:**	22 (View in TALAT)

Activity
Engaged in the manufacture of wines and spirits

PROFIT & LOSS ACCOUNT (EUR millions)

Period Ending	31-Dec-10	31-Dec-11	31-Dec-12	31-Dec-13
Weeks	52	52	52	52
Currency:	EUR millions	EUR millions	EUR millions	EUR millions
Total Sales	606	647	670	709
Gross Profit	NA	NA	NA	NA
Trading Profit	16	18	18	20
Depreciation	4	5	5	5
Non-Trading Income	11	3	2	5
Total Interest Charges	14	13	10	10
Pretax Profit	8	3	6	10
Change in Shareholders Funds on Year	8	-1	-2	1

BALANCE SHEET (EUR millions)

Fixed Assets	34	34	33	28
Intangibles	2	2	3	2
Intermediate Assets	66	67	145	145
Stocks	95	105	113	139
Debtors	130	136	132	136
Cash Or Equivalent	85	102	105	103
Total Current Assets	310	343	350	378
Creditors	120	129	131	126
Short Term Borrowing	14	16	9	23
Other Current Liabilities	148	175	185	200
Total Current Liabilities	281	320	325	348
Net Current Assets	29	23	25	29
Shareholders Funds	55	54	52	53
Total Loan Capital	75	70	152	151
Other Capital Employed	1	1	2	2
Total Capital Employed	132	125	206	206

RATIOS (EUR thousands)

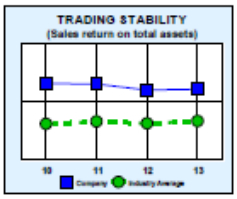
Pretax Profit Margin %	1.39	0.47	0.85	1.48
Sales Growth %	60	7	4	6
Pretax Profit Growth %	308	-64	86	85
Debtor Ratio Days	78	77	72	70
Creditor Ratio Days	72	73	72	65
Stock Turnover	6	6	6	5
Sales 000 / Employee	NA	608	588	605
Average Remuneration 000 / Employee	NA	47	48	48
Total Employees Remuneration 000	45107	49551	54560	55960
Employees	NA	1064	1140	1173

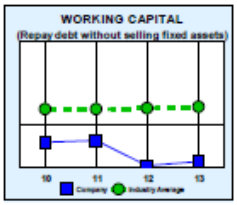
COMPARISON IN US DOLLARS (millions)

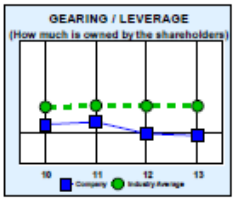
Exchange Rate:	1.3369	1.2939	1.3194	1.3791
Period Ending	31-Dec-10	31-Dec-11	31-Dec-12	31-Dec-13
Weeks	52	52	52	52
Total Sales	810	837	884	978
Pretax Profit	11	4	8	14
Total Assets	551	577	701	763
Shareholders Funds	74	70	69	73
Company Value	519	528	650	725

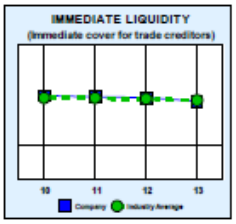
COMPANY SUMMARY (based on US DOLLARS)

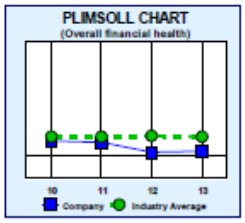
The Plimsoll Chart is low yet rising indicating marginal improvement in financial strength. (Below the scale of the chart)
Total Sales have increased by 5.9% in the latest year, well above the industry average of 3.0%.
The company lies an excellent 17th in terms of Total Sales in this industry.
Sales per Employee is $834,000 which is well above the industry average of $643,000.
Pretax Profit Margin has markedly improved from 0.8% to 1.5% in the latest year.
Non Trading Income of $7.0m makes a large contribution to pretax profits of $14.4m.

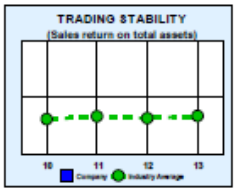


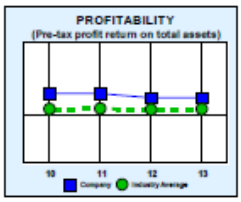


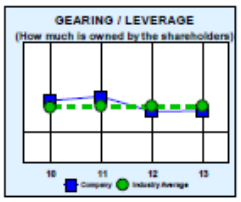


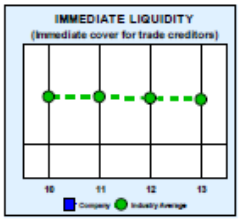


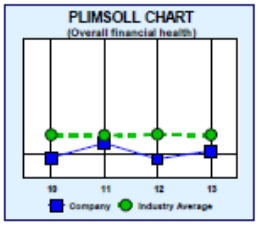












DAVIDE CAMPARI - MILANO S.P.A.

The ultimate owner of this subsidiary is: MRS ANNA MAGNO GARAVOGLIA ROSA

Registration Number:	ITMI1112227	Filing Type:	Consolidated
Incorporation Date:	1982	Accs Type:	Listed
Registered Address:	VIA FRANCO SACCHETTI 20. 20099 SESTO SAN GIOVANNI	Status:	Active
Country:	ITALY	No. Of Directors:	35 (View in TALAT)
Website:	www.campari.com	No. Of Subsidiaries:	41 (View in TALAT)

Activity

The Company was created in 1860 engaged in the beverage industry. It manufactures and distributes alcoholic and non-alcoholic beverages.

PROFIT & LOSS ACCOUNT (EUR millions)				
Period Ending	31-Dec-10	31-Dec-11	31-Dec-12	31-Dec-13
Weeks	52	52	52	52
Currency:	EUR millions	EUR millions	EUR millions	EUR millions
Total Sales	1163	1274	1341	1524
Gross Profit	724	847	889	958
Trading Profit	294	318	320	329
Depreciation	26	22	33	40
Non-Trading Income	8	5	5	6
Total Interest Charges	43	50	56	65
Pretax Profit	233	251	236	230
Change in Shareholders Funds on Ye:	206	114	69	-37

BALANCE SHEET (EUR millions)				
Fixed Assets	344	338	410	414
Intangibles	1428	1470	1652	1582
Intermediate Assets	27	27	66	49
Stocks	295	331	447	443
Debtors	249	264	300	272
Cash Or Equivalent	308	472	536	543
Total Current Assets	853	1067	1282	1258
Creditors	187	167	201	198
Short Term Borrowing	61	248	156	167
Other Current Liabilities	126	134	153	120
Total Current Liabilities	374	548	511	485
Net Current Assets	478	519	772	773
Shareholders Funds	1250	1364	1433	1396
Total Loan Capital	846	788	1212	1172
Other Capital Employed	181	201	253	250
Total Capital Employed	2277	2353	2899	2818

RATIOS (EUR thousands)				
Pretax Profit Margin %	20.03	19.67	17.62	15.10
Sales Growth %	15	10	5	14
Pretax Profit Growth %	17	8	-6	-3
Debtor Ratio Days	78	76	82	65
Creditor Ratio Days	59	48	55	47
Stock Turnover	4	4	3	3
Sales 000 / Employee	527	559	547	381
Average Remuneration 000 / Employee	61	18	65	50
Total Employees Remuneration 000	135400	41200	159700	200200
Employees	2207	2278	2450	3996

COMPARISON IN US DOLLARS (millions)				
Exchange Rate:	1.3369	1.2939	1.3194	1.3791
Period Ending	31-Dec-10	31-Dec-11	31-Dec-12	31-Dec-13
Weeks	52	52	52	52
Total Sales	1555	1648	1769	2102
Pretax Profit	311	325	311	317
Total Assets	3545	3755	4499	4555
Shareholders Funds	1671	1765	1891	1925
Company Value	4928	5055	5688	5800

COMPANY SUMMARY (based on US DOLLARS)
The Plimsoll Chart is low yet rising indicating marginal improvement in financial strength. (Below the scale of the chart)
Total Sales have increased by 13.7% in the latest year, well above the industry average of 3.0%.
The company lies an excellent 11th in terms of Total Sales in this industry.
The company lies an excellent 11th in terms of Pretax Profits in this industry. Up 4 places from last year.
The average salary is $69,000 which is well above the industry average of $62,000.
Pretax Profit Margin is 15.1% in the latest year, well above the industry average of 3.4%.

SECTION 2.2c - SALES RETURN ON ASSETS RANKING TABLE (TOP 50)

	Pink Page No.	(Country) Company Name	Sales Return on Total Assets	Total Sales
1	487	(CN) YANTAI WEITAI GRAPE WINE CO., LTD.	3037%	$44.3m
2	362	* (CN) QINGDAO ZESHAN WINE BREWAGE CO., LTD.	928%	$12.0m
3	360	* (CN) QINGDAO AIDIER WINERY CO., LTD	848%	$144.2m
4	395	* (CN) SICHUAN DONGLIU FERMENTED GLUTINOUS WINE CO., LTD.	570%	$61.5m
5	361	* (CN) QINGDAO MALINA WINES SPIRITS CO,LTD	516%	$30.2m
6	158	* (CN) CHANGYU WINE (JINGYANG) CO., LTD.	462%	$60.8m
7	260	(DE) HAUSER WEINIMPORT GMBH	408%	$135.2m
8	323	(RU) LIMITED LIABILITY COMPANY NIKITIN	402%	$58.3m
9	105	(IT) CANTINE PALAZZO SOCIETA' COOPERATIVA PIU' BREVEMENTE C	332%	$48.8m
10	29	(BE) BACARDI-MARTINI N.V.	326%	$237.7m
11	499	(DE) ZIMMERMANN-GRAEFF & MUELLER GMBH & CO. KG	289%	$193.7m
12	495	* (CN) ZHANGZHOU JINSHAN WINE INDUSTRY CO., LTD.	273%	$16.0m
13	347	(IT) PERNOD RICARD ITALIA S.P.A. O, PIU' BREVEMENTE, PRI S.P.A. N	265%	$252.0m
14	44	(IN) BLOSSOM INDUSTRIES LIMITED	263%	$54.4m
15	392	* (CN) SHANDONG JIMO RICE WINE FACTORY	262%	$61.5m
16	482	* (CN) WHITE PHOENIX LIQUOR CO.,LTD.	255%	$32.6m
17	74	(GB) BROADLAND WINERIES LIMITED	254%	$70.5m
18	258	(GB) HALEWOOD INTERNATIONAL LIMITED	251%	$347.1m
19	484	(DE) WIV WEIN INTERNATIONAL AKTIENGESELLSCHAFT	247%	$722.9m
20	369	(FR) SA VIGNERONS DE LA MEDITERRANEE	241%	$142.3m
21	351	(DE) PETER HERRES WEIN- UND SEKTKELLEREI GMBH	237%	$149.2m
22	125	(ES) CASH BASAURI SL	235%	$26.0m
23	46	(ES) BODEGAS 1890 SA	232%	$30.6m
24	449	(FR) UNION DE COOPERATIVE FONCALIEU	231%	$91.0m
25	289	(ES) JULIAN SOLER SA	226%	$90.0m
26	288	(ES) JULIAN CHIVITE MARCO SA	224%	$14.4m
27	56	(ES) BODEGAS IBANESAS DE EXPORTACION SA	219%	$76.1m
28	385	(AT) SCHLUMBERGER AG	211%	$327.1m
29	429	(IT) S.R.L.-PR.I.V.I.-PRODUZIONE IMBOTTIGLIAMENTO VINI ITALIANI	202%	$56.4m
30	268	(IN) IFB AGRO INDUSTRIES LTD.	198%	$84.4m
31	285	(RU) JSC LA VINCHI	195%	$24.0m
32	475	(FR) VINOVALIE	189%	$68.0m
33	160	(ES) CHERUBINO VALSANGIACOMO, SA	187%	$48.2m
34	197	(ES) DAMASO MELERO SA	186%	$51.2m
35	305	(IT) LA GIOIOSA - SPA IN SIGLA M.G. SPA	184%	$98.0m
36	469	(IT) VINICOLA VEDOVATO MARIO - S.R.L.	183%	$89.2m
37	206	(FR) DISTILLERIE DE LA TOUR	182%	$120.3m
38	424	(FR) SOREVI SOCIETE REUNIE DES VINS	179%	$50.6m
39	367	(GB) ROBERT ROBERTS (NI) LIMITED	178%	$15.4m
40	110	(ES) CAPEL VINOS SA	175%	$29.2m
41	492	* (CN) YICHUN CITY CHENGXIN DEAR PROCLUCE CO., LTD.	175%	$16.8m
42	218	(ES) ECOVITIS SL	173%	$24.9m
43	265	(IT) HORECARE SRL	171%	$22.8m
44	166	(IT) CIELO E TERRA S.P.A. ENUNCIABILE ANCHE: CASA DEFRA' S.P.A.	171%	$53.4m
45	118	(IT) CASA VINICOLA CALDIROLA S.P.A.	162%	$82.4m
46	383	(IT) SCHENK ITALIA S.P.A. OPPURE CANTINA DEL COPPIERE, CANTIN	162%	$130.1m
47	121	(IT) CASA VINICOLA MORANDO S.R.L. SIGLABILE CA.VI.M. S.R.L.	160%	$82.5m
48	451	(FR) UNION DES VIGNERONS DES COTES DU RHONE	160%	$138.9m
49	222	(IT) ENOITALIA, CORTE VIGNA, BALDO, BELVINO, CA' DEL LAGO, INV	160%	$180.3m
50	181	(IT) CONTRI SPUMANTI S.P.A. ENUNCIABILE ANCHE COME CO.SP. S.I	159%	$128.7m

N.B. *The data for the above companies corresponds to their latest accounts.*

** indicates that the analysis for this company includes at least one financial period not lasting 52 weeks.*

TOP MONEY LOSERS

(Based on Pretax Loss)

Pink Page No	(Country) Company Name	Sales Rank	Year End	Pretax Loss
164	(BM) CHINA TONTINE WINES GROUP LTD	321	31-Dec-13	$-86.7m
353	(SI) PIVOVARNA LASKO D.D.	36	31-Dec-13	$-54.4m
349	(NZ) PERNOD RICARD WINEMAKERS NEW ZEALAND LIMITED	68	30-Jun-12	$-45.4m
255	(FR) G.H. MUMM ET CIE - SOCIETE VINICOLE DE CHAMPAGNE SUCC	71	30-Jun-14	$-26.7m
477	(FR) VRANKEN-POMMERY PRODUCTION	33	31-Dec-13	$-19.6m
335	(AU) MCWILLIAM'S WINES GROUP LTD	98	30-Jun-13	$-18.8m
235	(CN) GANSU MOGAO INDUSTRIAL DEVELOPMENT CO., LTD.	198	31-Dec-13	$-13.9m
167	(ES) CODORNIU SA	56	30-Jun-13	$-11.3m
16	(RU) APK MILLSTREAM-CHERNOMORSKIYE VINA LTD	381	31-Dec-13	$-9.4m
275	(BM) JLF INVESTMENT COMPANY LIMITED	238	31-Dec-13	$-9.3m
41	(DE) BERENTZEN-GRUPPE AG	61	31-Dec-13	$-8.2m
277	(RU) JOINT-STOCK COMPANY KORNET	424	31-Dec-13	$-8.0m
399	(CN) SINO-FRENCH JOINT-VENTURE DYNASTY WINERY LTD.	211	31-Dec-13	$-7.8m
272	(IN) JAGATJIT INDUSTRIES LIMITED	80	31-Mar-14	$-7.1m
234	(IT) F.LLI GANCIA & C. S.P.A.; GANCIA S.P.A.; SOCIETA' AZIONARIA VI	134	31-Mar-14	$-6.1m
422	(PT) SOGEVINUS FINE WINES, S.A.	348	31-Dec-12	$-5.9m
55	(ES) BODEGAS GRAN FEUDO SL	421	31-Dec-13	$-5.7m
12	(FI) ALTIA OYJ	26	31-Dec-13	$-5.3m
291	(GR) J. BOUTARIS & SONS HOLDING S.A.	428	31-Dec-13	$-5.2m
237	(IT) GEMMA S.R.L.	233	31-Dec-13	$-5.0m
127	(ES) CASTELLBLANCH SA	149	30-Apr-14	$-4.3m
194	(PT) CRUZ & COMPANHIA, LDA	275	31-Dec-13	$-3.8m
388	(ES) SEGURA VIUDAS SA	158	30-Apr-14	$-3.6m
270	* (GR) INOPRAXIA VOIOTIAS S.A. INO	343	31-Dec-12	$-3.5m
180	(IT) CONTARINI VINI E SPUMANTI SPA IN SIGLA C.V.S. SPA IN LIQUID	371	31-Dec-13	$-3.1m
259	(UA) HARKIVSKIY ZAVOD SHAMPANSKIH VIN GP	437	31-Dec-13	$-3.1m
172	(PT) COMPANHIA GERAL DA AGRICULTURA DAS VINHAS DO ALTO D	305	31-Dec-13	$-3.0m
215	(IT) DUCA DI SALAPARUTA SPA O PIU' BREVEMENTE D.D.S. SPA	192	31-Dec-13	$-3.0m
72	(GR) BOUTARI, J., & SON WINERIES S.A.	447	31-Dec-13	$-2.8m
89	(IT) CANTINA SOCIALE DI CANELLI - SOCIETA' COOPERATIVA AGRICC	483	31-Aug-13	$-2.7m
446	(ES) UNIO CELLERS DEL NOYA SA	173	30-Apr-14	$-2.4m
440	(HU) TOKAJ KERESKEDOHAZ KERESKEDELMI ES SZOLGALTATO ZART	375	31-Dec-13	$-2.4m
442	(GR) TSANTALIS, EVANG., S.A.	222	31-Dec-13	$-2.3m
197	(ES) DAMASO MELERO SA	218	31-Dec-12	$-2.1m
288	(ES) JULIAN CHIVITE MARCO SA	470	31-Dec-13	$-1.9m
225	* (GR) EVOIKI WINERY S.A.	387	31-Dec-11	$-1.8m
381	(FR) SCA MONT TAUCH	402	31-Dec-12	$-1.5m
251	(FR) GROUP INTERPRODUCTEURS COLLIOURE BANYULS	303	31-Dec-13	$-1.2m
331	(GR) MALAMATINAS, E., & SON S.A. - WINERY	312	31-Dec-13	$-1.2m
250	(GR) GREEK WINE CELLARS D. KOURTAKIS S.A.	276	31-Dec-13	$-1.1m
261	(FR) HENRI MAIRE SA	266	31-Dec-13	$-1.1m
128	(IT) CASTELLI DEL GREVEPESA SOCIETA' COOPERATIVA AGRICOLA O/	485	31-Dec-13	$-1.0m
26	(IT) AZIENDA VINICOLA ALLA GROTTA SRL	434	31-Dec-13	$-701,000
160	(ES) CHERUBINO VALSANGIACOMO, SA	231	31-Dec-13	$-572,000
473	(ES) VINOS & BODEGAS GALLEGAS SA	295	31-Dec-13	$-512,000
207	(RU) DOLINA	468	31-Dec-13	$-460,000
135	(LU) CAVES BERNARD-MASSARD SA	362	31-Dec-13	$-447,000
433	(IT) TENUTA BELCORVO S.R.L.	210	31-Dec-13	$-416,000
112	(IT) CARLO PELLEGRINO & C. - S.P.A. ED IN ABBREVIAZIONE C.P.C. - S	378	31-Dec-13	$-394,000
70	(IT) BORTOLOMIOL - S.P.A.	479	31-Dec-13	$-372,000

(Note - * indicates a company which has filed a non 52 week year end)

TOP COMPANIES RANKED BY SALES

	(Country) Company Name	Latest Sales	Sales Growth (%)
1	(KR) DOOSAN CORP.	$20.8 billion	-8.0%
2	(GB) DIAGEO PLC	$17.5 billion	0.6%
3	(FR) PERNOD RICARD SA	$10.9 billion	-3.0%
4	(US) CONSTELLATION BRANDS, INC.	$4.9 billion	74.1%
5	(CN) KWEICHOW MOUTAI CO., LTD	$4.6 billion	22.0%
6	(CN) YIBIN WULIANGYE CO., LTD.	$3.7 billion	-6.4%
7	(JP) KIKKOMAN CORPORATION	$3.3 billion	4.6%
8	(US) BROWN FORMAN CORP	$3.0 billion	5.0%
9	(US) BEAM SUNTORY INC.	$2.5 billion	3.6%
10	(CL) COMPANIA CERVECERIAS UNIDAS SA	$2.3 billion	1.7%
11	(IT) DAVIDE CAMPARI - MILANO S.P.A.	$2.1 billion	18.8%
12	(JP) TAKARA HOLDINGS INC	$2.0 billion	-4.6%
13	(KR) HITE JINRO CO.,LTD.	$1.8 billion	-4.7%
14	(CN) LUZHOU LAOJIAO CO., LTD.	$1.6 billion	-4.8%
15	(TH) BERLI JUCKER PCL	$1.3 billion	5.1%
16	(ES) J GARCIA CARRION, SA	$1.0 billion	9.5%
17	(FR) LES GRANDS CHAIS DE FRANCE	$978.2m	10.7%
18	(CN) JING BRAND CO., LTD.	$952.6m	13.1%
19	(CL) VINA CONCHA Y TORO S. A.	$916.2m	0.9%
20	(IE) C&C GROUP PLC	$856.7m	36.8%
21	(CN) SHANXI XINGHUACUN FEN WINE FACTORY CO., LTD	$835.3m	-2.6%
22	(RU) SINERGIYA OAO	$806.4m	-8.1%
23	(ES) FREIXENET SA	$745.3m	6.1%
24	(JP) ASAHI GROUP HOLDINGS,LTD.	$725.5m	52.7%
25	(DE) WIV WEIN INTERNATIONAL AKTIENGESELLSCHAFT	$722.9m	13.7%
26	(FI) ALTIA OYJ	$680.1m	2.5%
27	(HK) TIANJIN DEVELOPMENT HOLDINGS LIMITED	$675.0m	29.4%
28	(CN) YANTAI ZHANGYU PIONEER WINE COMPANY LIMITED.	$669.3m	-20.9%
29	(CL) WATT'S S.A.	$602.5m	0.9%
30	(AU) DIAGEO AUSTRALIA LIMITED	$509.9m	-8.2%
31	(FR) VRANKEN POMMERY MONOPOLE	$436.3m	0.9%
32	(DE) SCHLOSS WACHENHEIM AG	$434.2m	6.7%
33	(FR) VRANKEN-POMMERY PRODUCTION	$402.1m	-15.9%
34	(FR) LANSON-BCC	$397.7m	8.6%
35	(FR) BARON PHILIPPE DE ROTHSCHILD SA	$390.4m	12.1%
36	(SI) PIVOVARNA LASKO D.D.	$379.6m	3.9%
37	(GB) HALEWOOD INTERNATIONAL LIMITED	$347.1m	3.4%
38	(AT) SCHLUMBERGER AG	$327.1m	16.4%
39	(ES) FELIX SOLIS AVANTIS SA	$323.6m	10.7%
40	(AU) CASELLA WINES PTY. LIMITED	$320.9m	-8.4%
41	(CL) VINA SAN PEDRO TARAPACA S.A.	$314.3m	-1.6%
42	(FR) ADVINI	$308.1m	6.2%
43	(FR) LAURENT-PERRIER SA	$306.5m	6.7%
44	(FR) CENTRE VINICOLE CHAMPAGNE N FEUILLATTE	$298.8m	24.7%
45	(ES) GONZALEZ BYASS SA	$287.2m	15.6%
46	(ES) MIGUEL TORRES SA	$287.0m	1.6%
47	(CA) ANDREW PELLER LIMITED	$269.5m	-5.4%
48	(FR) CHAMPAGNE LAURENT-PERRIER	$263.4m	3.3%
49	(SE) KOPPARBERGS BRYGGERI AKTIEBOLAG	$252.5m	8.2%
50	(IT) PERNOD RICARD ITALIA S.P.A. O, PIU' BREVEMENTE, PRI S.P.A. N	$252.0m	4.4%

(Note - * indicates a company which has filed a non 52 week year end)

BEST TRADING PARTNERS

Pink Page No	(Country) Company Name	Latest Sales	Sales Growth (%)
460	(CL) VINA LOS VASCOS S.A.	$22.9m	8.5%
15	(CN) ANHUI GUNANFENG WINE CO., LTD.	$42.5m	5.4%
302	(CN) KWEICHOW MOUTAI CO., LTD	$4.6 billion	22.0%
362	(CN) QINGDAO ZESHAN WINE BREWAGE CO., LTD.	$12.0m	32.5%
398	(CN) SINKIANG YILITE INDUSTRIAL CO., LTD.	$250.8m	5.0%
351	(DE) PETER HERRES WEIN- UND SEKTKELLEREI GMBH	$149.2m	29.7%
484	(DE) WIV WEIN INTERNATIONAL AKTIENGESELLSCHAFT	$722.9m	13.7%
50	(ES) BODEGAS BILBAINAS SA	$19.0m	9.6%
64	(ES) BODEGAS RAMON BILBAO SA	$35.3m	16.5%
67	(ES) BODEGAS VEGA SICILIA SA	$29.3m	16.6%
129	(ES) CAVAS DEL AMPURDAN SA	$58.7m	13.1%
175	(ES) COMPANIA VINICOLA DEL NORTE DE ESPANA SA	$80.6m	28.6%
278	(ES) JOSE ESTEVEZ, SA	$63.4m	6.7%
350	(ES) PERNOD RICARD WINEMAKERS SPAIN SA.	$165.8m	178.6%
73	(FR) BOUVET LADUBAY SA	$30.7m	8.3%
130	(FR) CAVE COOPERATIVE LA CHABLISIENNE	$72.0m	7.7%
185	(FR) COOP REG VIN CHAMP SOC VINI CHAMP TERROI	$86.0m	23.9%
191	(FR) COOPERATIVE VINICOLE UNION DES PROPRIETAIRES RECOLTANTS	$35.5m	5.5%
231	(FR) FOURNIER PERE ET FILS	$16.4m	21.9%
299	(FR) KRITER BRUT DE BRUT	$148.8m	17.8%
322	(FR) LES VIGNERONS D'UNI-MEDOC	$27.6m	20.4%
380	(FR) SCA LES VIGNERONS DU PAYS D'ENSERUNE	$34.5m	24.8%
400	(FR) SOC COOP VINICOLE ANNE DE JOYEUSES	$23.1m	8.0%
407	(FR) SOCIETE A S	$24.3m	61.7%
413	(FR) SOCIETE COOPERATIVE AGRICOLE UNIRE	$16.7m	6.7%
415	(FR) SOCIETE COOPERATIVE AGRICOLE VINICOLE DE SAINT- EMILION (UI	$33.0m	14.4%
424	(FR) SOREVI SOCIETE REUNIE DES VINS	$50.6m	18.0%
280	(GB) JOSEPH HOLT LIMITED	$76.1m	7.1%
440	(HU) TOKAJ KERESKEDOHAZ KERESKEDELMI ES SZOLGALTATO ZARTKOR	$23.4m	63.2%
109	(IT) CANTINE SOBRINO RENATO S.R.L.	$12.7m	40.8%
120	(IT) CASA VINICOLA LUIGI CECCHI & FIGLI S.R.L. (OD ANCHE IN SIGLA PE	$40.6m	8.8%
126	(IT) CASTELLANI S.P.A.	$62.2m	19.3%
242	(IT) GIUSEPPE CAMPAGNOLA, C. & G., VILLA ROCCA, CA.GI.VA., VIGNALE	$24.5m	6.2%
311	(IT) LAVORAZIONE SOCIALE VINACCE DI MODENA - SOCIETA' COOPERAT	$92.6m	5.5%
370	(IT) SACCHETTO S.R.L.	$32.4m	18.4%
1	(LT) AB STUMBRAS	$45.4m	14.7%
135	(LU) CAVES BERNARD-MASSARD SA	$24.4m	12.4%
77	(NG) CADBURY NIGERIA PLC	$230.7m	6.4%
427	(PT) SYMINGTON - FAMILY ESTATES, VINHOS, LDA	$120.0m	21.1%
2	(RU) ABRAU-DYURSO	$88.0m	8.0%
266	(SK) HUBERT J.E., S.R.O.	$41.5m	9.8%
332	(UA) MASANDRA VIROBNICHO AGRARNE OBEDINANNYA OB.KOOP.	$27.9m	5.3%
483	(US) WILLAMETTE VALLEY VINEYARDS INC	$13.3m	5.9%
165	(VN) CHUONG DUONG BEVERAGES JOINT STOCK COMPANY	$20.8m	26.7%

REFERENCE

Plimsoll Global Analysis (Wine Producers). 2015. The Wine Producers (Global) Industry:A comprehensive financial analysis of the top 500 companies, 2nd, England: Plimsoll Publishing Limited

State of The Vitiviniculture World Market. 2014. International Organisation of Vine and Wine (OIV)

E. Oczkowski and H. Doucouliagos.2014. "Wine prices and quality ratings: A meta-regression analysis." American J. of Agricultural Economics 97(1):103-121. in a globalizing wine industry". British Food Journal 108(4):233-242.

The Global Wine Industry. 2013. Morgan Stanley Australia Limited.

U.S. Department of Agriculture. 2014. GRAPE CRUSH REPORT OVERVIEW, 2014

M. Thorpe. 2009. "The globalization of the wine industry: New World, Old World and China". China Agricultural Economic Review. 1(3):301-313.

G. Campbell and G. Guibert. 2006. "Introduction: Old World strategies against New World competition in a globalizing wine industry". British Food Journal 108(4):233-242.

K. Anderson and G. Wittwer.2013. "Modeling Global Wine Markets to 2018: Exchange Rates,Taste Changes, and China's Import Growth." Journal of Wine Economics, 8(2):131–158.

Konstantinidis C., Sergaki P., Mattas K. and Kontogeorgos A. 2008. "Factors Affecting the Competitiveness of the Greek Wine Enterprises and Cooperatives." Paper presented at the 12th EAAE Congress, Gent (Belgium), 26-29 August.

MKF Research. 2007. Assessment of the Profitability and Viability of Virginia Wineries. Frank, Rimerman + Co. LLP CPAs

Winemakers Federation of Australia. 2013. WINE INDUSTRY REPORT Expert Report on the Profitability & Dynamics of the Australian Wine Industry. August 2013

K. Anderson, D. Norman and G. Wittwer. 2003. "Globalisation of the world's wine markets". The World Economy, 26(5):659-687.

K. Anderson, D. Norman and G. Wittwer.2001. "Globalization and the World's Wine Markets: Overview". CIES Discussion Paper No. 0143, University of Adelaide.

Xu, G.R. 2000, "Grandiose survey of Chinese alcoholic drinks and beverages", Historical Bibliography on Alcoholic Beverages in China, Jiangnan University

M. Roberto. 2003 "The Changing Structure Of The Global Wine Industry". International Business & Economics Research Journal, 2(9):1-14

J. Robinson. 1994. "The Oxford Companion to Wine-3rd edition". Oxford University Press

Chaganti R, R. Chaganti and V. Mahajan. 1989. "Profitable small business strategies under different types of competition". Entrepreneurship Theory and Practice. 13(3):21–35.

R. Castaldi, *S. Cholette, A. Frederick*. 2005. "Globalization And The Emergence Of New Business Models In The Wine Industry". International Business & Economics Research Journal. 4(3):21-30.

E. Walker and J. Petty.1978. "Financial Differences between Large and Small Firms". *Financial Management*. 7(4):61-68

H. Remaud, J. Couderc. 2006. "Wine business practices: A new versus old wine world perspective". Agribusiness. 22(3):405-416

L. Martin, R. Westgren, E. Duren. 1991. "Agribusiness Competitiveness across National Boundaries*".American Journal of Agricultural Economics. 73(5):1456-1464.*

C. Fischer and S. Schornberg, 2007. “Assessing the competitiveness situation of EU food and drink manufacturing industries: An index-based approach”. Agribusiness. 23(4): 473–495.
K. Rehbein, S. Waddock, S. Graves. 2004. “Understanding Shareholder Activism: Which Corporations Are Targeted?”. Business & Society. 43(3):239-267.
M, Rossi, D. Vrontis, A. Thrassou. 2012. “Wine business in a changing competitive environment – strategic and financial choices of Campania wine firms”. International Journal of Business and Globalisation. 8(1):112-130.
M. Crozet, K. Head, T. Mayer. 2012. “Quality Sorting and Trade: Firm-level Evidence for French Wine”. Review of Economic Studies. 79(2): 609-644.
C. Rarick, J. Vitton. 1995. "Corporate strategy: Mission statements make cents", Journal of Business Strategy, 16(1):11-12.
L. Eng, Y. Mak. 2003. “Corporate governance and voluntary disclosure”. Journal of Accounting and Public Policy. 22(4):325-345.
M. Jensen, W. Meckling. 1999. “Specific knowledge and divisional performance measurement”. Journal of Applied Corporate Finance. 12(2):8-17.
A. Black, P. Wright, J. Davies. 2001. In search of shareholder value-2nd Edition. London: Pitman Publishing.
M. Brugarolas, L. Martinez-Carrasco, R. Bernabeu and A. Martinez-Poveda. 2010. “A contingent valuation analysis to determine profitability of establishing local organic wine markets in Spain”. Renewable Agriculture and Food Systems. 25(1):35-44.
G. Schamel and K. Anderson. 2003. “Wine Quality and Varietal, Regional and Winery Reputations: Hedonic Prices for Australia and New Zealand”. Economic Record. 79(246):357-369.
J. Nelson, J. Moran. 1995. “Advertising and US alcoholic beverage demand: system-wide estimates”. Applied Economics. 27(12):1225-1236.
C. Yue, S. Marette, and J. Beghin. 2006. “How to Promote Quality Perception in Wine Markets: Brand Advertising or Geographical Indication”. Working paper, Center for Agricultural and Rural Development Iowa State University.
G. Banks and J. Overton. 2010. “Old World, New World, Third? Reconceptualising the Worlds of Wine”. Journal of Wine Research. 21(1):57-75.
J. Outrevillea and M. Hannic. 2013. “Multinational firms in the world wine industry: an investigation into the determinants of most-favoured locations”. Journal of Wine Research. 24(2):128-137.
D. Sraer and D. Thesmar. 2007. “Performance and Behavior of Family Firm: Evidence from the French Stock Market.” Journal of the European Economic Association. 5(4): 709-75.

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