

International competitive analysis of wine producer small and midsize companies on enterprise resource management

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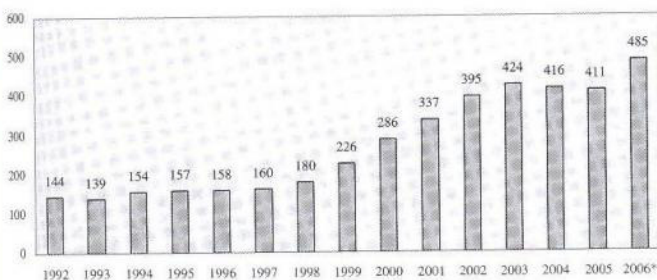
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Summary: In our research using primary data sources we are searching for satisfactory evidences, that the impressive economical growth of China has a strong impact on Chinese grape and wine production, wine market. However grape cultivation has long tradition in China, modern grape wine and wine production has only started 20 years ago. During my research I have collected the very rare and unreliable information on this theme to make a picture of Chinese grape and wine production. Using primary sources I describe the present situation of Chinese grape industry, verify the supposition that the rise of Chinese grape crop land includes the growth of the total size of wine grape plantations. After this verification I make a comparative analysis of Chinese and Hungarian grape cultivation costs, to confirm, that grape and wine producing is a more requital activity in China than in Hungary.

Key words: China, grape cultivation, wine production

Introduction

Deng Xiaoping has changed the life of People's Republic of China, as he declared the "Open Door Policy" (Gernet, 2000) and established the "one country-two system" society, in 1978. The new set-up supported the export-oriented economic expansion and the sole proprietorships inside the old, communist, political system. His decision resulted the Chinese economy a yearly 6–8 percent growth until 1998, while the structure of the society has totally changed. During this 20 years the income of the farmers rise with 1600 percent and in the modern, industrial towns of the coastal area a new social class evolved, which lives on a high living standard and has western style demands. In the aspect of wine business an important step was, when Li Peng, the premier, in 1996 officially urged the people as well as the country's leaders to drink less grain-based spirits and more fruit wine (Kjellgren, 2004). We can say that this official call has started the Chinese wine boom (Figure 1) to result a 228 percent growth of the total



Source: FAO

* estimated

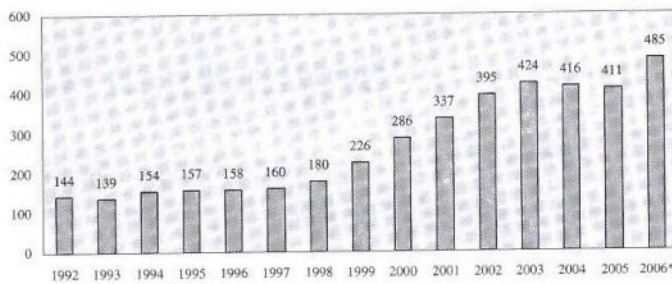
Figure 1. Increasing size of grape plantations (1000 hectares)

plantation size from 1998 to 2005. Parallel with this trend wine producing has risen with about 200 percent to 3,85 million kiloliters (almost the same amount as the production of Hungary) during the same time period. The increasing tendency has more components. First of all, the rise of the fresh grape and wine consumption with the rise of the general living standard of the people, secondly, the central and provincial governments efforts and supports to set up new grape plantations and wineries to lower the unemployment rate and create a new, developing sector for the Chinese agriculture,



Source: www.shanghaienglishteachers.com

Figure 2. GDP per capita in provinces of China



Source: USDA

Figure 3. Rate of grape production by provinces

which will help to make a more healthy-living China, accordingly to the expectations of Li Peng. The preferred areas for this supports are the western, north western regions of China, which are far less developed than the coastal area, but have good geographic, climatic conditions for wine industry (Figure 2). Total grape production is highest in Hebei, Shangdong, Liaoning, Henan, Xinjiang, Jiangsu, Anhui, Shaanxi, Shanxi provinces (Figure 3). Except the modern wine producing area, Shangdong, where the biggest wineries located, with western style production systems and with self owned lands, grape plantations usually owned by the collective (village, township) and hired by farmers. The average farm size is very small, around 0,4 hectares/family (Rozelle et al., 2006). Because of the cost-profit relations (Table 1), usually 50 percent of the land used to grow grains or rice for self use, another 50 percent is planted with grape for sell the fruits to

Table 1. Profitability comparison table for grape, cotton and grain production (2006)

	Grape	Cotton	Grain
Revenue / hectar	USD 3996	USD 2030	USD 678
Yield / hectar	23,1 tons	1,1 tons	3,3 tons
Price / ton	USD 173	USD 1774	USD 210
Total cost	USD 2494	USD 1162	USD 321
Tax	USD 166	USD 17,9	USD 10
Profit	USD 1336	USD 856	USD 347

Source: California Association of Wine Growers

wineries on a weight based contractual system. Often grape plantations are neighboring the irrigated rice or grain fields, which situation results a higher risk for grape diseases. The machinery level is very low, cultivation procedures mainly done by hand, while the farms undercapitalized, owners rarely can hire time-workers. Important factor, that except of the modern wine regions (Shangdong, Hebei), farmers grow grapes on a traditional labor-intensive Chinese way, they grab (by hand) the grapevines under the ground for the winter and they uncover and put the vines on the frames next spring, again. The wineries buying prices are around 0,04–0,1 USD /kg, which is maximum the 50 percent of the European prices, farmers often plant table grapes, instead of wine grapes and overcharge the vines to have 5–8 kg's fruit per stock (Rozelle et al., 2006). Because all of these circumstances written above, the farmers main goal is to maximize yield and profit, instead of produce good quality products. During our research in China, we have experienced, that the low quality wines, made of these grapes

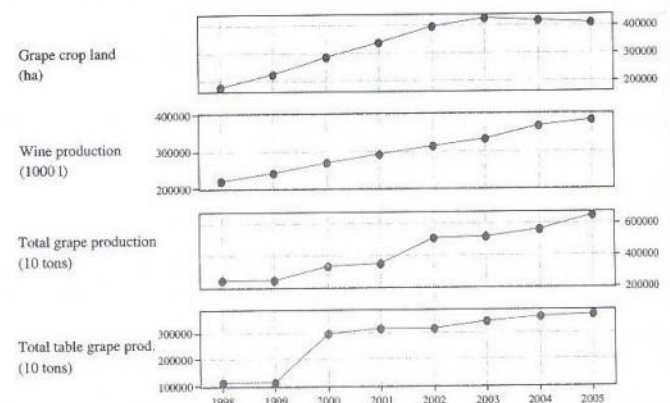
are sold on the market on the same price level (1,50–3,00 USD) as the same category wines in Hungary, so we can state, that wine making is a profitable business in China.

Materials and methods

During a research period between 2001 and 2008 we were collecting all the available data of this field. We have traveled more times to Shanghai, Beijing and Liaoning province. In Liaoning province our team has met farmers, leaders of wineries and international wine business related joint-venture companies. The interviews with this people helped us to complete the collected statistical data with the personal experience. Usual problem, that Chinese statistical data is only available after 2–3 years of the base years The wine-boom has started around 1998, so we had to collect information until 2008 to have sufficient amount of data for any analysis. For the calculations in the results and discussion section we have used the FAO STAT, OIV (Organisation Internationale de la Vigne et du Vin) and China Sugar and Wine Yearbook, 2006 databases to create the needed graphs and base table for the correlation analysis. The calculations were made by the Minitab 14 Statistical Software. For the comparative cost-profit, economic analysis between Chinese and Hungarian wine growers we have used the survey of the California Association of Wine Growers on Chinese grape producers and the authors collected database on the Hungarian vine growers.

Results

General problem, that Chinese statistics only indicate the size of total size of grape plantations and do not split it to “table grape” and “wine grape” categories, however wine grape production is playing a more and more important role in the Chinese grape production. While we do not have any information about the amount of wine grape plantations, we have illustrated (Figure 4) the parallel growth of “Grape crop land”, “Wine production”, “Total grape production” and “Total table grape production”. If we compare the “Total grape



Source: FAO STAT; OIV; China Sugar and Wine Yearbook, 2006

Figure 4. Graphs for rise of grape crop land, wine production and grape production (1998–2005)

production" and "Grape crop land" graphs, we have an indirect, visual verification, that wine grape production has an increasing rate inside the Chinese total grape production. The rise of the grape crop lands has a significant impact on the results of the wine and total grape production, while the table grape production does not produce the same increasing level. With the use of a correlation analysis it is possible to prove the supposition above, and show the tightness of the different parameters. We have calculated the figures of the Pearson correlation coefficient (r), by the following formula:

$$r = \frac{\sum(X - \bar{X})(Y - \bar{Y})}{\sqrt{\sum(X - \bar{X})^2 \sum(Y - \bar{Y})^2}}$$

X, Y – values for the different parameters shown on the graphs of Figure 4.

Table 2. Results for the Pearson correlation coefficient (r)

	Grape crop land	Wine production	Total grape prod.
Wine production	0,935		
Total grape prod.	0,924	0,976	
Total table grape prod.	0,929	0,886	0,848

For sure, all the resulted r values (Table 2) has a strong connection to the others, but the parameters "Wine production" and "Total grape production" has a very tight connection ($r=0,976$), while the connection ship between "Total table grape production" and "Total grape production" ($r=0,848$) is much more weaker. The calculation has proven our supposition, that parallel with the increasing amount of plantations, wine grape production and amount of wine grape plantations are growing in China, already.

To make a profitability analysis of the Chinese wine growers we have set up a cost-profit table, both for Chinese and Hungarian wine growers (Table 3.). The table concentrates only on the production related costs and does not includes for example the rental or buying cost of a land. Material costs include the

Table 3. Comparison of Chinese and Hungarian production costs, revenues

	China	Hungary
Material cost / hectare	USD 1150	USD 1100
Labor cost / hectare	USD 1343	USD 1610
Labor wage / hectare (machine-made)		USD 500
Labor wage / day (manual)	USD 1,2	USD 22
Total labor day /hectare (manual)	1050	50
Total production related cost / hectare	USD 2494	USD 2710
Yield / hectare	23,1 tons	8 tons
Price / ton	USD 173	USD 350
Revenues / hectare	USD 3996	USD 2800
Profit / hectare (before tax)	USD 1502	USD 90
Average plantation size (hectare)	0,2	3,5
Profit (with av. plantation size correction)	USD 300	USD 315

Source: California Association of Wine Growers; Authors survey

fertilizers, pesticides, ligaments and labor wage costs include the cost for own work, hired manpower and hired machinery with driver and fuel. In the case of Hungary, it is regret to say, that grape production without governmental support or without an own winery in the background is a non-profitable activity. Material costs are almost the same in both country, the difference on the cost side realized in the labor costs. However, Chinese farmers do not use machines for cultivating plantations, hence the number of manual working days is extremely high compared to Hungary, extreme low labor costs counterweight the difference. The high number of total labor days in China shows, that 3 persons of a 4 member family is working on the plantations, labor cost represent the members own cost and the rare hired labor cost together. In Hungary production on the same plantation size is only used for creating supplemental income beside the main working activity by another company. In China producers are paid on cheap prices based by weight, so they are inspired to concentrate on the quantity, not on the quality. In Hungary the situation is opposite, prices are higher, but farmers are motivated to produce less, but higher quality fruit. Instead of the quality oriented production in Hungary, Chinese farmers have bigger revenues on the same plantation size, a much bigger profit after the costs. This picture shows that producing grape is a great business in China, but a lot of work, without success in Hungary. To have a clear picture we need to recalculate the profit with the real average plantation size, which is about 0,2 hectare in China and 3,5 hectares in Hungary (Demeter, 2007). After using the correction we receive almost the same end results.

Discussion and conclusion

We can have the conclusion, that in China grape production has the same profitability, as in Hungary, nevertheless the cost level is much lower and the price level is much higher than in Hungary. The problem is caused by the lack of capital by family farms, whose are unable to hire or buy machines to set off labor-intensive tasks and speed up the production processes, lower the time and amount for manual works. Nevertheless the whole family is busy with the entire farm size, they do not have capacity to higher their efficiency, so farmers are unable to develop their farm, until they do not exit the above described spiral. We can say, that Chinese wines are very competitive against wines from abroad, because of the low cost level.

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