A financial approach to export performance in SMEs: the case of the wine industry

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Abstract

Research on export performance gathers several theoretical and empirical studies dealing with the conceptualization, the assessment and the determinants of export performance. Export performance is considered as a multi-dimensional construct. So far, little attention has been paid to the financial dimension while the strategic and marketing ones have been the subject of numerous works. This study aims at filling this gap by exploring the relationship between export performance and financial variables, which can be seen as a two-way relationship. This relationship is applied to a category of Small and Medium-sized enterprises (SMEs) facing financial difficulties due to a severe crisis meanwhile compelled to act on the international scene: the French wine industry. The results show that there e exists a relationship between export performance and economic and financial performance as well as net margin of these companies. They also show a non-systematic link between the other financial variables and export performance.

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1   Introduction

Research on export performance goes back to the 1960s (Tookey, 1964) and deals with its definition, assessment or its determinants. It can be defined as *"a composite outcome of a firm's international sales, which includes three dimensions: export sales, export profitability and export growth."* (Shoham, 1998) and is considered by researchers as a multidimensional concept (Shoham, 1998, Zou et al., 1998, Lages and Lages, 2004). This contribution is motivated by a previous literature review dealing with export performance determinants in SMEs (Maurel, 2007). One of its conclusions was that little attention had been paid to financial antecedents.

This contribution is also motivated by three papers dealing with export performance anad export success from a financial point of view. Except these references, the other theoretical justifications of a financial dimension of export performance come from an adaptation of the literature on the internationalization and export behaiour of firms. Bernard and Jensen (1999) raise the issue of the relationship between financial health ans export success and its sense. Their conclusions are that a good financial health tends to be a good predictor of an exporting activity but that the impact of export performance on the firm and its global performance is less clear. Besides, one paper deals explicitely with export performance and export financing resources (Ling-Yee and Ogunmokun, 2001) based on the resource-based approach. They focus on the relationship between export financing resources and export competitive advantages, that relationship which brings better export performance. Competitive advantage plays a intermediary role between financing resources defined as *"a specific kind of firm resource that enables exporting firms to compete effectively in overseas markets"* and better export performance. The empirical study support a positive impact of export financing resources on export competitive advantage, which in its turn impacts favourably export performance. Later on, another interesting paper written by Greenaway and al (2007) has analysed the link between the financial health of companies and export decisions and tries to apply this relationship on a panel of British manufacturing firm. Their theoretical background lies in the economic theory of capital market inperfections and their empirical results confirm a posive influence of a good financial health on export development, as continuous exporters display better financial ratio than starters.

This aim of this study is to propose a theoretical framework for a financial approach to export performance in SMEs in order either to fill in the theoretical gap in the export performance literature.

This theoretical framework is applied to the French wine industry, which appears to be particularly adapted to the current situation of French wine SMEs for

several reasons: firstlu, financial problematics are topical for them as they have been facing a severe crisis since the beginning of the 2000s which has been weakening their financial health. Secondly, they are acting in an intense international market which justifies the necessity to study the determinants of export performance and especially the role of the financial health. The EEAFV-2006 survey[2] brought out a 11% decrease in global turnover for cooperatives and six per cent for wine selling companies between 2002 and 2005. Moreover, from 2000 to 2005, the number of French wine growing companies fell from 92,100 to 77,700[3]. Being export successful by improving export performance would be a way for them to improve their global performance and to compete with their New World competitors threatening them.

The choice of a focus on SMEs has been made because this category of company is often described as having problems linked to unsufficient financial resources and difficulties in financial management (St Pierre, 2005) and link between these problem and export development have been suggested in the literature, as it will be explained in the next section.

The article is organised as follows: the following section consists in introducing the theoretical two-way relationship between export performance and the financial health of a company. After this theoretical part, an empirical study is conducted on French wine SMEs. It aims at checking empirically whether the relationships between the financial structure and export performance explained before actually exist in this particular type of firm. The last part of this paper deals with conclusions, implications and limitations of this research.

2 Export performance and financial variables: a two-way relationship

2.1 Financial determinants of export performance

The lack of financial resources can be considered as a determinant of export performance in SMEs. Indeed, numerous SMEs display limited financial resources (LeCornu et al., 1996). Moreover, the lack of capital, of financial planning and use of financial information and ratio as well as the poor credit and debts conditions of smaller firms constitute obstacles to export development for those companies when compared to bigger ones (Edmunds et Khoury, 1986). The lack of financial resources can constitute a serious obstacle against their international development (Panet-Raymond and Robichaud, 2005, Desrochers and Yu, 1995) as it prevents them from engaging into the necessary investments to improve their export perfor-

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[2]See page 6 for the presentation of the survey.
[3]Source: Tableaux de l'économie française – INSEE – 2006.

mance. Generally speaking, entrepreneurs prefer resorting first to self-financing, then debt and finally financing thanks to external partners (Calof, 1985), as predicted by the Pecking-Order theory (Myers, 1984; Myers and Majluf, 1984), which can be easily related to their will to keep the control of their firm as much as possible, even if from a rational point of view, it is not necessarily the most optimal and profitable choice. This general trend is confirmed by a report made by a French Bank (Credit Agricole, 2006). For most of the French wine companies, anchored in an agricultural tradition, the choice has to be done between the first two possibilities, as the third one is devoted to bigger companies such as the Champagne groups. Moreover, in the French wine industry the main financing source used by companies is the long-term loan followed by self-financing (EEAFV-2006).

Another point to consider in the financial determinants is that the additionnal transactions linked to the export development will generate numerous additional costs (St Pierre, 2003), which can make us think that export performance requires sufficient financial resources. These costs include accounts payable to suppliers, transportation costs, marketing costs, financial costs (generated by loans), exchange risk management costs,... To face these costs, the SME needs to have enough available money and a stable cash flow position to manage the additional working capital needs (Leonidou, 2004; St Pierre, 2003). A healthy financial structure will help covering all the additional costs that can not be avoided when selling abroad (Bernard and Jensen, 1999). If the SMEs wants to improve its export intensity and sales, it will have to get enough stocks to anwser the foreign demand but these stocks will not have to be too important not to cost too much. Moreover, as exports is a selling activity, current assets will play a key role in the improvement of its export performance. Accounts receivable will increase and will have to be well managed as they are often paid in thirty, sisty and even ninety days after the ordering. The company will have to reduce them as much as possible. So it will be interesting to see whether firms with better export performance have a lower part of fixed assets in global assets. This aspect of the financial structure of SMEs is the one I am considering cautiously as theoretical justifications in the literature are difficult to find. Thus, empirical analysis on this part will be exploratory.

2.2 Impacts of export performance on the company risk and return

Better export performance, synonymous of export success should leads to a risk reduction as well as a profitability maximization, i.e. a global firm performance improvement.

A meta analysis of empirical studies about the determinants of financial performance (Capon et al., 1990) indicates that exports, which are part of the twenty-five

most frequently studied explanatory variables, are negatively related to financial performance at the firm as well as at the business level. In this study, firm profitability is analysed from two different point of views: short-run and long-turn performance. On the one hand, a better export performance may not lead to better short-run profitability because the costs related ton the investments made to improve export performance will absorb the profits in a first time and this may lead more to a decrease in profitability (see figure 1). The positive effect of these efforts may not be visible on the short run. On the other hand, when following the value creation and profit maximization principles, which constitute one of the pillar of the financial theory, one can think that making efforts to improve one's export activity and export performance if no benefits is expected is nonsense from a financial point of view. As the development of export activity can be considered as a strategic decision and investment, the positive effects are expected in the middle to long term. Indeed, when investment costs are well managed thanks to additional profits from an extended international activity, the profitability should increase. The existing literature agrees to say that "*Exporters are better than non-exporters*" (Bernard and Jensen, 1999, p. 1), what supports this hypothesis, even if their empirical results do not clearly show that current exporters systematically experience better future firm performance. Conclusions drawn by Greenaway et al. (2007) go in the same direction, showing that exporters have a better financial health than non exporters and that a stronger commitment in export activities improves the financial health of firms, what supports the positive link between export performance and global performance.

Figure 1: Simplified conceptual framework

Risk diversification and reduction can be considered as another benefit from exporting (Richardson and Rindal, 1995). This statement is theoretically supported by a transposition of the famous portfolio theory at the international scale. Indeed, this adaptation was studied by Rugman (1976) who shows that international activity of multinational firms provides an international diversification leading to a risk reduction of these firms. Companies which have a higher foreign to total activity ratio can more easily reduce their risk, measured by the variance of profits.

These two variables are significantly and negatively correlated in his study. This is also right for SMEs which can diversify their risk by exporting if the variance of export returns (risk linked to export activity) is less than that of domestic returns (Edmunds and Khoury, 1986). The firm depends less on the return of one kind of activity. If the domestic market is saturated, as in the French wine industry, and if the company does not export, its sales and profits are going to fall and bankruptcy can occur more easily than for firms that have diversified their sales and sources of profits abroad. Bernard and Jensen (1999) found empirical support to this positive relationship between successful exporters and the increased probability of survival.

3   The empirical study on the French wine industry

3.1   Methodology

The empirical study will be carried out thanks to data from the "*Enquête Entreprises Aval Filière Vin – 2006*" survey (EEAFV-2006) made by Supagro, the Superior School of Agronomy of Montpellier. This survey gathers data related to the financial performance and situation of French wine companies from 1996 to 2005. The total sample is composed of 214 backing companies, i.e. companies from French wine producing regions, whose activity includes one or several steps in the production of sparkling and non-sparkling wine (bottling, blending and/or vinification). All the surveyed firms have a turnover amounting to over three million euros and have a managerial autonomy. This represents a total turnover of 50 million hectolitres for still wines, 1.7 million hectolitres for sparkling wines and 1.8 millions for effervescent wines.

Regarding the sample, a smaller one has been selected from the initial sample of the survey, gathering companies with less than 250 employees (SMEs). This sample is composed of 205 companies but even if they can be considered as SMEs in terms of employees their average global turnover amounts to 9,8 million euros with a maximum of 80 millions (see table 1). Because French wine exports come more by wine merchants than directly by the wine-maker (Saulpic and Tanguy, 2002), this sample will be analysed in its globality but also by separating it into two sub-samples according to the French "APE-code" which is a code used to identify companies according to their main activity. The first sub-sample gathers companies having the following codes : on the one hand 159F (or champagne-making), 159G (wine-making) et O11G (wine-growing) and on the other hand the code 513J (wholesaling).

The average size in terms of turnover is quite homogeneous whatever the sample

Table 1: Descriptive Statistics: Sample APE-Producing companies

Features 2005	Total sample	Producing companies	Selling companies
		Codes APE 159F, 159G, 011G	Code APE : 513J
Number of companies	205	123	82
Average number of employees	29.1	21.6	36.7
Average turnover	9.8 M EUR	9.2 M EUR	10.6 M EUR
Average export turnover	2.6 M EUR	1.6 M EUR	3.7 M EUR
Average export intensity	29.9 %	24 %	35.9 %

is, but it is quite different in terms of employees: selling companies are bigger and have logically a more important export activity, which confirms Saulpic and Tanguy's observations.

The dependent variable is export performance. The choice of export performance indicators was made both according to a literature review (Sousa, 2004) and the available data on export features in the EEAFV-2006 survey: The two indicators are export intensity (called VENTEX),which is an indicator of the firm dependance on the export activity and is represented by the ratio export sales to global sales in percent and the export turnover (called Xturnover) which informs about the size of the export activity. Finding financial data specific to the export activity is difficult (Lages and Lages, 2004) , it explains why such export performance measures as export profitability are not taken into account even if it would be a relevant indicators complementary to export turnover and export intensity.

Explanatory variables are numerous. In order to avoid a size effect which would certainly have biased the results, ratios have been built to represent financial structure variables. The financial structure has been divided into three categories, some ratios are the ones commonly used in the financial analysis and other have been purposely created in order to observe the financial structure and make comparisons: financing structure, asset structure and liquidity. The financing structure is represented by six variables which are equity (EQ: ratio equity to total liabilities), reserves (RES: ratio reserves to total liabilities), financial leverage (LEV: ratio financial debts to equity), gearing (GEAR: ratio debts to total liabilities), weight of debts (INT: ratio interests to turnover), accounts payable (AP: ratio accounts payable to total liabilities). The asset structure is represented by three variables: fixed assets (FIX: ratio fixed assets to total assets), inventories (INV: inventories to current assets), accounts receivable (AC: accounts receivable to current assets). Finally, to assess the liquidity ratio and cash position of the firm, three ratios are used: the liquidity ratio also called current ratio (LIQ: ratio current assets to short

term debts), ratio cash position to accounts payable (CASHAP) and the ratio cash position to financial debts (CASHFD).

A last group of variables regard return and risk variable. Return is represented by three different variables: return on equity (ROE: ratio net profit to equity), return on assets (ROA: ratio net operating income to total assets) and net margin (MARG: ratio net profit to global turnover). Risk is represented by the ratio global turnover to fixed assets (RSK).

3.2 Export activity and financial structure of French wine SMEs

Thanks to the analysis of the descriptive statistics of the sample, here is an overview of the situation of the French wine SMEs. regarding their export activity and their financial health:

Regarding the export activity of these company, in 2007, French exports of wine recovered and one can observe an increase in the export figures. In 2007, wine exports represented two percents of French total exports and constituted the first category of agro-food exports. Wine exports amounted to 4.16 billion euros, i.e. a 7.5 per cent increase when compared to the same period in 2006[4]. Howover this optimistic trend after several years of severe crisis in the French wine industry must be moderated as results differ according to the producing region. The evolution of still wines (+4.1% in value and +1.3% in volume) is much weaker than the great results of sparkling wines. Burgundy and Provence wines experience higher export results while Languedoc-Roussillon, Beaujolais or even Bergerac still have to face a decline in their exports. The leader international position of French wines has been weakened by the growth of New World Wines (Australia, USA, South Africa, Chile...). They represent a real threat for traditional wine countries and force them to improve their competitivity and their export performance in order not to be overtaken by them. According the the EEAFV-2006 survey, the first destinations of French wines are European countries (Belgium, Germany, United Kingdom). Exports (European Union and rest of the world) represent 14.8 per cent of total sales in volume for cooperatives and 37.4 per cent for wine merchants. Cooperatives mostly manage their export activity themselves whereas merchants mostly use indirect exports through an importer.

Regarding the financial situation of these companies in 2005 (See table A.1 in appendix), the evolution of sales, the structure of liabilities, of assets and the liquidity and cash position are going to be described : The average global turnover

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[4]Source: "Les exportations de vins et spiritueux représentent le premier poste des exportations agroalimentaires françaises... Analyse et perspectives", 22nd August 2007. http://www.vitisphere.com/dossier.php?id_dossier=49749.

increased from 1996 and 2000 and decreased from 2000 to 2005. The trend is less important for the sample APE-producing companies (rather stable between 9 and 10 million euros) than for the total sample and selling companies. In fact in 2005 they had the same level of turnover than in 1996. Regarding the export activity, the same trend can be observed but producing companies were more hurt in their international activity by the crisis as the export turnover in 2005 was clearly under the level of 1996. Selling companies have a higher level of exports than producing ones, which is a logical fact. When observing the financing structure, one can say that these companies seem to have a high part of external financing resources (more than half of them) and producing companies have a higher level of leverage and gearing than selling companies. Equity represents between 30 and 40 percent of the whole liabilities. Accounts payable logically represent a bigger part of liabilities for selling companies (40 percent) than for producing companies (16 percent). Then, the analysis of the asset structure shows that the weight of fixed assets amounts to one fifth of the total assets but this weight is much more important for producing companies (27 percent) than for selling companies (12 percent). Features are more homogeneous for inventories, representing around 40 percent of current assets. They are heavier than accounts receivable (average of 25 percent of current assets for the total sample) which are higher in selling companies than in producing ones. Differences in assets and liabilities according to the main activity of companies are as expected, fixed assets more important in producing companies while selling companies have more accounts payable, receivable. Finally the average liquidity ratio is above one for all kinds of company. It is higher for producing companies than for selling ones. Cash position is in a bad situation when compared to financial debt as the ratio is negative; cash position represents a little bit more than once the accounts payable. Selling companies are in a more confortable situation regarding the financing of financial debts.

4   Analysis and results

Data have been analysed through several different methods to see if results are converging towards specific relationships between export performance indicators financial variables.

4.1   Correlations matrix and multiple linear regressions

The first step in the exploration of a possible linear relationship between export performance and financial variables are correlation matrix with bilateral Pearson linear correlation coefficient (see table A.2 in appendix). For each sample, three

matrix have been carried out testing the correlation between the two indicators of export performance (export intensity and export sales) and all the financial variables presented in Section 2. Export performance indicators are in lines and financial ratios in columns : the first one analyses correlations between export performance in 2005 and financial ratios in 2005. The second one analyses the correlations between export performance in 2005 and financial ratios in 2004. The last one analysis the correlations between average export performance from 1996 to 2005 and average financial ratios 1996 to 2005. The comparison of results from the different correlation matrix indicates the export performance is significantly and positively correlated to global performance indicators that are the economic, financial performances and the net margin.

Thanks to the indications obtained in the correlation matrix, multiple linear regressions (see table A.3 in appendix) were also performed to assess the impact of potential explanatory variables on export performance. This regressions are stepwise ones (see table 2). The aim here was to look at the impact of the financial

Table 2: Summary of the results of stepwise multiple linear regressions

		Total sample		Producing companies		Selling companies	
Dependent variable: VENTEX05	r		.355		.367		.503
	r²		.126		.135		.253
	Colinearity		No		No		No
	Model	Explanatory variables	beta	Explanatory variables	beta	Explanatory variables	beta
		Constant		Constant		Constant	
		MARG04	.231	MARG04	.181	AP04	-.548
		LIQ04	-.255	INV04	.150	AR04	.415
		AP04	-.274	ROE04	.153	INT 04	.228
		FIX04	-.239			CASHFD04	-.159
		INV04	-.211			MARG04	.108
		INT04	.145				
		ROE04	-.104				
Dependent variable: Xturnover05	r		.364		.701		.639
	r²		.133		.492		.408
	Colinearity		No		No		No
	Model	Explanatory variables	beta	Explanatory variables	beta	Explanatory variables	beta
		Constant		Constant		Constant	
		RSK04	.231	RSK04	.622	INT04	.526
		LEV04	.274	AP 04	-.790	ROE04	.206
		INT04	.162	INT04	-.587	LEV04	.211
				LIQ 04	-.385		
				GEAR04	.204		

variables in 2004 on 2005 export performance indicators. As for the correlation matrix, regressions are performed for each sample and for each export performance indicator, which results in six different models. The advantage of stepwise regressions is that the analysis is performed only with explanatory variables significantly correlated to the dependent variable. One can see that determination coefficients are higher when the dependent variable is export saled. In producing companies for instance the model explains nearly half the variance of the dependent variable.

Among the explanatory variables, accounts payable and the liquidity ratio have a negative impact on both export performance measures. Net margin and other performance indicator are positively related to export performance except in one model.

The third method exploited in this study is the Factorial analysis of variance or ANOVA with Post Hoc mean comparison (see tables A.4 and A.5 in appendix). They are aimed at observing if there exist significant export performance mean differences according to different levels of financial ratios. Financial ratios have been grouped into several categories according to the category of financial aspect they represent: performance (Return on assets, return on equity, net margin, operating risk), debt (leverage, gearing, debt weight), assets (fixed assets, inventory, accounts receivable), liabilities (equity, reserves, accounts payable), liquidity and cash position (liquidity ratio, cash flow position to financial debt, cash flow position to accounts payable). The analysis has been carried out respectively for the average export intensity (VENTEX) and the average export turnover (Xturnover) from 1996 to 2005. These means have been fragmented in quartiles (Q1, Q2, Q3, Q4). The same process has been done for each financial variable: use of the mean values and fragmentation in quartiles. The results of the ppost hoc tests show that a higher export performance is experienced in companies having the highest performance ratios (ROA, ROE, net margin), risk (RSK), equity ratio (EQ), debt weight (INT) and liquidity ratio (LIQ). On the contrary higher level of export performance tend to correspond to low gearing, leverage, reserve, fixed assets, accounts receivable and cash position. Results are mixed regardint the relationship between accounts payable and inventory.

Finally, principal Component Analysis (PCA) aim at determining axes from linear relationships between variables (see tables 3 and 4). Those factorial axes help positioning companies and defining profile of companies. One can see that four components explain from sixty to seventy percent of the total variance of the model. They show that better exporters are more among companies with a high leverage and gearing as well as high accounts receivable. PCAs oppose logically companies using more debt to companies having more equity and reserves in liabilities. Those results do not enable me to provide for clear and strong relationship between export performance and debt variable (leverage and gearing).

Table 3: Total explained variance

Total Sample						
Compo-nents	Initial Eigenvalues			Extraction sums of squared loadings		
	Total	% of variance	Cumulative %	Total	% of variance	cumulative e%
1	4,549	25,275	25,275	4,549	25,275	25,275
2	3,532	19,623	44,898	3,532	19,623	44,898
3	2,581	14,337	59,235	2,581	14,337	59,235
4	1,790	9,946	69,181	1,790	9,946	69,181
…						

Producing companies						
Com-ponents	Initial Eigenvalues			Extraction sums of squared loadings		
	Total	% of variance	Cumulative %	Total	% of variance	cumulative e%
1	4,787	26,593	26,593	4,787	26,593	26,593
2	3,947	21,927	48,520	3,947	21,927	48,520
3	2,337	12,984	61,504	2,337	12,984	61,504
4	1,693	9,407	70,911	1,693	9,407	70,911
…						

Selling companies						
Components	Initial Eigenvalues			Extraction sums of squared loadings		
	Total	% of variance	Cumulative %	Total	% of variance	cumulative e%
1	4,646	25,813	25,813	4,646	25,813	25,813
2	3,301	18,341	44,154	3,301	18,341	44,154
3	1,753	9,737	53,891	1,753	9,737	53,891
4	1,467	8,147	62,038	1,467	8,147	62,038
…						

Table 4: Component Matrix (Extraction Methods: Principal Component Analysis)

Total sample	Components					
	1	2	3	4	5	6
VENTEX05	,204	-,038	,488	-,272	,575	,226
Xturnover05	,151	,197	,245	-,332	,788	-,050
ROA04	,601	-,015	,387	,538	-,105	,141
ROE04	,248	,189	,404	,332	,092	,662
MARG04	,592	-,551	,360	,272	-,120	,150
RSK04	,457	,428	,100	,222	,481	-,391
LEV04	,305	,295	,258	-,704	-,240	,175
GEAR04	,604	,714	-,004	-,210	-,237	-,056
INT04	,722	-,525	-,111	-,105	-,244	-,086
FIX04	-,752	,119	-,160	-,254	-,089	,446
INV04	,722	-,621	-,011	-,018	,079	-,131
AR04	-,218	,848	,153	,258	-,053	-,103
LIQ04	-,219	-,197	,772	-,038	-,290	-,250
CASHFD04	-,553	,091	,551	,115	-,137	-,124
CASHAP04	-,649	,153	,655	-,023	-,136	-,194
EQ04	-,590	-,721	-,009	,213	,242	,056
AP04	-,025	,749	-,341	,477	,081	,064
RES04	-,709	-,493	-,116	,124	,240	-,054

Producing companies	Components					
	1	2	3	4	5	6
VENTEX05	-,180	-,019	,331	,416	-,640	,259
Xturnover05	-,256	-,188	,204	,503	-,519	,407
ROA04	-,239	,311	,813	-,092	,328	,054
ROE04	-,128	,266	,800	,014	,311	,242
MARG04	,307	-,215	,753	,072	,293	,037
RSK04	-,532	,210	,443	-,060	-,268	-,283
LEV04	-,126	-,375	-,170	,607	,369	,202
GEAR04	-,898	-,177	-,183	,225	,220	-,075
INT04	,141	-,842	,055	,141	,063	-,040
FIX04	,468	,221	-,409	,032	,319	,554
INV04	,104	-,847	,243	-,034	-,127	-,345
AR04	-,580	,668	-,083	,056	,108	,075
LIQ04	,532	,118	,055	,561	,288	-,327
CASHFD04	,280	,651	-,006	,394	-,131	-,266
CASHAP04	,356	,669	-,081	,517	-,030	-,276
EQ04	,894	,170	,189	-,232	-,225	,076
AP04	-,804	,406	-,128	-,254	-,080	-,022
RESV04	,813	,258	,081	-,220	-,207	,096

Selling companies	Components				
	1	2	3	4	5
VENTEX05	,202	-,276	,423	,377	,604
Xturnover05	-,150	-,434	,574	,083	,540
ROA04	,107	,649	,669	-,097	-,244
ROE04	,184	,485	,747	,002	-,195
MARG04	,551	,128	,678	,156	-,282
RSK04	-,158	,454	,329	-,587	,134
LEV04	-,349	-,535	,268	-,110	,034
GEAR04	-,965	,061	,141	,042	,006
INT04	-,134	-,778	,243	,094	,276
FIX04	,247	-,360	-,083	,643	-,428
INV04	-,119	-,706	,130	-,603	-,203
AR04	-,321	,747	-,053	,457	,228
LIQ04	,759	-,309	,200	,233	-,216
CASHFD04	,611	,428	-,149	-,070	,493
CASHAP04	,811	,299	-,169	-,097	,172
AP04	-,723	,580	-,113	,117	,088
EQ04	,966	-,060	-,140	-,044	-,005
RES04	,907	,059	-,130	-,254	,220

5   Conclusion

5.1   Concluding remarks

It is important to say that these results do not indicate any causality; they just confirm that a positive relationship exists. Correlation matrix and factorial anovas reveal negative relationships between debts and export performance. One clear result regards the debt weight, i.e. the ratio interests to global turnover, for which the relationship is positive with export performance whatever the statistical analysis is. The fact that these companies use mainly external financing contrary to most of French SMEs may explain this fact. This could also mean that these companies are investing, which can enhance better export performance, as supported in the theoretical part.

Anovas associate low amounts of inventory to low export performance and other analysis show mixed results about the relationship between this kind of current assets and export performance. The trend regarding fixed assets is that firms with higher export performance have a lower part of fixed assets in the total assets (Anovas, PCA, Regressions). However correlation coefficients are positive for producing companies, what can be easily understood as these companies need more fixed assets than selling companies to make wine. Two more conclusive results can be fortunately presented. Companies with better export performance are those who have less accounts receivable (from customers) and less accounts payable (to providers). These results can be observed in Anovas, correlation matrix and PCAs. Accounts receivable constitute an explanatory variable only in one regression model and this results is the only one which goes against all the others. Accounts payable on the contrary are selected even by regression models. Cash flow position does not seem to play an important role in export performance which can be explained by the fact that these companies have for most of them poor cash flow. Most of the results do not confirm that companies having enough cash flows to cover financial debts and accounts payable are better exporters, it is even often the contrary. The relationship between the liquidity ratio is mostly positive but not systematically, this observation can thus not be generalised.

This study has enable to confirm that the financial dimension of export performance is topical and relevant, especially in SMEs. Even if some results need to be confirmed by additional analysis, one can say that there is a favourable relationship between the export performance of French wine SMEs and their firm performance. Moreover, one can also say that the working capital needs management and the financial management of the firm in order to be export successful is a crucial element. Some results are still missing, in particular regarding the

role of fixed assets and the different variables representing the financing structure of companies. The list of export performance determinants is enriched by these new results and the benefits of export performance for the firm performance are supported.

5.2   Implications

This research belongs to a topic which has to be explored as it has not been widely studied in the existing literature although it seems to be an essential side of export performance. As there exist numerous determinants of export performance in SMEs, it is not surprising that financial variables do not explain a substantial par of the variance of export performance indicators. As small as it can be, it must be considered in the definition and the determination of export performance. Implications for managers of small wine companies are that an efficient financial management is necessary in order to meet the company needs in terms of short and long term financial resources.

This study has revealed some interesting features of better exporters. They experience higher global performance, rather lower fixed assets and a higher liquidity ratio, they have lower accounts receivable and accounts payable, which means that they manage quite well the working capital need, It could be interesting now to gather these quantitative results to more qualitative ones, regarding non-financial determinants of export performance in order to provide for a more exhaustive and coherent framework for export performance including its financial as well its non financial dimensions.

5.3   Limitations of the study

The main limitations lies in the chosen methodology which has to be completed by a panel data analysis as made by authors on the subject to take the time variable and the evolution of export and the financial structure into account. Besides, this study will have to be supported by PCAs with Varimax rotation, the causality of relationships will have to be defined by specific analysis, as here only a profile has been drawn. Finally, regarding results from this different analysis, one can guess that the relationship between export performance and firm performance is linear, but one can question the nature of the relationship between export performance and the financial structure, which may be not linear. This could explain why results from the different methods do not always provide satisfactory results: these are used to identify linear relationships.

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Appendix 1: Tables

Table A.1: Descriptive Statistics: Total Sample

Descriptive Statistics: Total Sample

	N	Minimum	Maximum	Mean	Standard deviation
ChiffredaffairesnetH.T.kEUR2005	242	2078	79733	9842,72	11186,579
ExportationEUR2005	242	0	29388	2607,32	4934,321
ChiffredaffairesnetH.T.kEUR2000	514	0	95948	12058,84	13485,679
ExportationEUR2000	512	0	52256	3867,67	6817,991
ChiffredaffairesnetH.T.kEUR1996	423	0	91179	9815,26	10349,086
ExportationEUR1996	423	0	51293	2651,56	4841,485
RE05	242	-10,77	69,14	7,1166	10,46546
RCP05	240	-16,75	55,06	7,1233	9,00227
MARGE05	242	-4,16	12,68	3,6354	3,54035
RSKEXP05	242	93,62	10305,24	1275,3526	1686,44313
LEVIER05	242	,15	767,31	72,0307	95,01796
ENDT05	242	22,48	90,56	64,3417	17,42098
POIEND05	240	,00	6,03	1,3112	1,32290
IMMO05	242	1,59	61,93	20,4684	15,46832
STOCK05	238	,34	85,30	39,5753	26,64343
CLIENT05	240	2,61	82,03	24,9384	18,40636
LIQUID05	240	1,00	80,52	8,9917	12,01302
TRESO05	242	-307,68	278,73	10,0805	63,16174
TRESOF05	242	-6,41	41,71	0,7298	5,54983
CP05	242	9,44	77,52	35,4593	17,32533
FOURN05	242	,69	78,95	27,2285	24,31181
RESER05	242	-17,94	67,40	22,0333	19,61427

Descriptive Statistics: Sample APE-Producing companies

	N	Minimum	Maximum	Moyenne	Ecart type
ChiffredaffairesnetH.T.kEUR2005	129	2078	79733	9187,15	11153,477
ExportationEUR2005	129	0	23317	1613,95	3942,573
ChiffredaffairesnetH.T.kEUR2000	180	566	69615	10993,05	12176,154
ExportationEUR2000	179	0	18076	2913,39	3416,312
ChiffredaffairesnetH.T.kEUR1996	157	52	63418	9613,52	11510,944
ExportationEUR1996	157	0	18292	2006,20	3732,926
RE05	129	-6,23	23,56	3,8700	5,55761
RCP05	127	-16,75	24,36	4,5097	8,03932
MARGE05	129	-4,16	12,68	3,9405	3,43314
RSKEXP05	129	107,34	3468,29	486,2809	635,48235
LEVIER05	129	,15	767,31	85,2597	114,75243
ENDT05	129	22,48	89,46	60,3102	14,43586
POIEND05	127	,00	3,62	1,7179	1,37148
IMMO05	129	4,22	61,93	27,2097	15,60249
STOCK05	129	,34	85,30	42,9412	28,43620
CLIENT05	127	2,61	44,37	18,2066	12,82858
LIQUID05	127	1,00	80,52	13,3871	14,44907
TRESO05	129	-307,68	278,73	-6,8079	62,99569
TRESOF05	129	-6,41	41,71	1,1905	7,49095
CP05	129	10,35	77,52	39,3570	14,28956
FOURN05	129	,69	76,92	16,0396	20,64708
RESER05	129	,72	67,40	27,1952	17,79227

Descriptive Statistics: Sample APE-selling companies

	N	Minimum	Maximum	Moyenne	Ecart type
ChiffredaffairesnetH.T.kEUR2005	113	2295	50201	10593,06	11226,863
ExportationEUR2005	113	0	29388	3744,27	5675,317
ChiffredaffairesnetH.T.kEUR2000	334	0	95948	12635,02	14127,347
ExportationEUR2000	334	0	52256	4378,54	8028,864
ChiffredaffairesnetH.T.kEUR1996	266	0	91179	9934,56	9617,141
ExportationEUR1996	266	0	51293	3033,20	5361,099
RE05	113	-10,77	69,14	10,8325	13,21023
RCP05	113	-3,14	55,06	10,0741	9,15126
MARGE05	113	-3,15	11,47	3,2861	3,64311
RSKEXP05	113	93,62	10305,24	2178,4807	2030,69655
LEVIER05	113	,72	269,25	56,8896	62,70864
ENDT05	113	24,01	90,56	68,9560	19,36286
POIEND	113	0,02	6,03	0,8521	1,10306
IMMO05	113	1,59	53,53	12,7528	11,13957
STOCK05	109	2,18	74,58	35,5778	23,86030
CLIENT05	113	5,89	82,03	32,5384	20,70797
LIQUID05	113	1,00	22,25	4,0296	5,08968
TRESO05	113	-2,51	155,50	29,4100	57,81672
TRESOF05	113	-3,41	3,12	,2027	1,24310
FOURN05	113	3,38	78,95	40,0347	21,79698
CP05	113	9,44	76,01	30,9982	19,37017
RESER05	113	-17,94	67,25	16,1252	20,00674

Table A.2: Linear correlation matrix (Pearson coefficient)

Correlation Matrix : Total Sample

	ROA05	ROE05	MARG05	RSK05	LEV05	GEAR05	INT05	FIX05	INV05	AR05	LIQ05	CASHFD05	CASHAP05	AP05	RES05	EQ05
VENTEX05	.036	.165*	.112	.288**	-.079	.069	.003	-.274**	.035	.119	-.086	.044	-.080	.088	-.119	-.072
Xturnover05	.073	.090	.015	.258**	.087	.199**	.114	-.175**	.084	.051	-.122	-0.245**	-.091	.063	-.111	-.196**
	ROA04	ROE04	MARG04	RSK04	LEV04	GEAR04	INT04	FIX04	INV04	AR04	LIQ04	CASHFD04	CASHAP04	AP04	RES04	EQ04
ventex 05	.038	.006	.156**	.061	-.008	-.117**	.158**	-.079*	.068	-.108**	-.124**	-.058	-.072	-.133**	-.010	.120**
Xturnover05	-.002	.077	-.001	.185**	.243**	.199**	.157*	-.157*	.155	-.031	-.118	-.020	-.068	.020	-.132*	-.195**
Mean variables	ROA	ROE	MARG	RSK	LEV	GEAR	INT	FIX	INV	AR	LIQ	CASHFD	CASHAP	AP	RES	EQ
mean VENTEX	-.072	.172**	.230**	.045	-.096*	-.065	.106**	-.101**	.056	-.044	-.146**	.062	-.114**	.060	-.100**	.073
Mean Xturnover	-.029	-.041	.065	.037	.035	.040	.160**	-.029	.034	-.047	-.121**	.015	-.090*	.020	-.145**	-.039

Correlation Matrix: APE-Producing companies

	ROA05	ROE05	MARG05	RSK05	LEV05	GEAR05	INT05	FIX05	INV05	AR05	LIQ05	CASHFD05	CASHAP05	AP05	RES05	EQ05
VENTEX05	.262**	.275**	.296**	.248**	.038	.048	.083	-.194*	.178*	.008	.102	-.594**	-.073	-.095	-.138	-.065
Xturnover 05	.393**	.145	-.024	.553**	-.028	.141	-.150	-.129	-.017	.219*	-.077	-.299**	-.038	.067	-.053	-.138
	ROA04	ROE04	MARG04	RSK04	LEV04	GEAR04	INT04	FIX04	INV04	AR04	LIQ04	CASHFD04	CASHAP04	AP04	RES04	EQ04
VENTEX05	.267**	.275**	.307**	-.140*	.231**	-.166**	.124*	-.054	.244**	-.241**	-.127*	-.017	-.034	-.127*	.049	.170**
Xturnover05	-.020	.095	-.073	.487**	LEV	.122	-.160	-.088	.055	.045	-.083	-.050	-.043	-.053	-.053	-.116
Mean variables	ROA	ROE	MARG	RSK	LEV	GEAR	INT	FIX	INV	AR	LIQ	CASHFD	CASHAP	AP	RES	EQ
Mean VENTEX	.419**	.260**	.343**	-.108*	-.167**	-.216**	.201**	-.010	.218**	-.260**	-.142**	-.184**	-.150**	-.051	.014	.228**
mean Xturnover	.168**	-.001	.064	-.028	-.088	.006	.075	-.044	.037	-.015	-.162**	-.242**	-.113*	.158**	-.092	.004

Correlation Matrix: APE-Selling companies

	ROA05	ROE05	MARG05	RSK05	LEV05	GEAR05	INT05	FIX05	INV05	AR05	LIQ05	CASHFD05	CASHAP05	AP05	RES05	EQ05
VENTEX05	-.312**	-.181	.066	.040	-.102	-.123	.309**	.077	.038	-.114	.190*	.120	-.170	-0.261**	.140	.124
Xturnover05	-.130	-.056	.082	.095	.381**	.162	.558**	-.048	.262**	-.160	.003	-.113	-0.252**	-.141	-.055	-.161
	ROA04	ROE04	MARG04	RSK04	LEV04	GEAR04	INT04	FIX04	INV04	AR04	LIQ04	CASHFD04	CASHAP04	AP04	RES04	EQ04
VENTEX05	-.039	-.039	.145**	.069	-.020	-.188**	.256**	.072	-.089	-.111*	.253**	-.070	-.095	-.366**	.058	.186**
Xturnover05	-.052	.054	.105	-.003	.440**	.179	.578**	-.042	.252**	-.202*	.025	-.101	-.231*	-.127	-.098	-.179
Mean variables	ROA	ROE	MARG	RSK	LEV	GEAR	INT	FIX	INV	AR	LIQ	CASHFD	CASHAP	AP	RES	EQ
mean VENTEX	-.134*	.050	.264**	.019	.037	-.105*	.161**	-.019	-.039	-.092	.245**	.121*	-.076	-.265**	-.029	.105*
mean Xturnover	-.045	-.118*	.161**	.014	.173**	-.024	.319**	.088	.063	-.176**	.123*	.100	-.086	-.217**	-.084	.018

* : significant at 0,01 (bilateral) / ** : significant at 0,05 (bilateral)

Reminder, abbreviations of the financial ratios: export intensity (VENTEX), export sales (Xturnover), return on assets (ROA), return on equity (ROE), net margin (MARG), risk (RSK), leverage (LEV), gearing (GEAR), weight of the debts (INT), fixed assets (FIX), Inventories (INV), Accounts receivable (AR), Liquidity (LIQ), cash position to financial debts (CASHFD), cash position to accounts payable (CASHAP), accounts payable (AP), reserves (RES), equity (EQ).

Table A.3: Multiple Linear Regressions

Total Sample:

Dependent variable: Ventex 2005 Model (ratios 2004)	Stand coef(ß)	t-value	Signif	Colinearity Tolerance	VIF	Dependent variable: CA export 2005 Model (ratios 2004)	Stand coef(ß)	t-value	Signif	Colinearity Tolerance	VIF
MARG04	0,231	4,898	0,000	0,656	1,523	RSK04	0,231	3,541	0,000	0,908	1,101
LIQ04	-0,255	-5,544	0,000	0,691	1,448	LEV04	0,274	4,221	0,000	0,913	1,096
AP04	-0,274	-5,000	0,000	0,484	2,066	INT04	0,162	2,399	0,017	0,850	1,176
FIX04	-0,239	-4,925	0,000	0,617	1,622						
INV04	-0,211	-3,968	0,000	0,514	1,945						
INT04	0,145	3,042	0,002	0,637	1,570						
ROE04	-0,104	-2,259	0,024	0,687	1,455						
r = 0,355 / r² = 0,126						r = 0,364 / r² = 0,133					

Sample producing companies :

Dependent variable: Ventex 2005 Model (ratios 2004)	Stand coef(ß)	t-value	Signif	Colinearity Tolerance	VIF	Dependent variable: CA export 2005 Model (ratios 2004)	Stand coef(ß)	t-value	Signif	Colinearity Tolerance	VIF
MARG04	0,181	2,568	0,011	0,613	1,632	RSK04	0,622	8,361	0,000	0,783	1,277
INV04	0,150	2,578	0,010	0,896	1,116	AP04	-0,790	-7,115	0,000	0,352	2,838
ROE04	0,153	2,272	0,024	0,668	1,498	INT04	-0,587	-6,588	0,000	0,546	1,830
						LIQ04	-0,385	-4,588	0,000	0,615	1,626
						GEAR04	0,204	2,445	0,016	0,625	1,600
r = 0,367 / r² = 0,135						r = 0,701 / r² = 0,492					

Sample selling companies:

Dependent variable: Ventex 2005 Model (ratios 2004)	Stand coef(ß)	t	Signif	Colinearity Tolerance	VIF	Dependent variable: CA export 2005 Model (ratios 2004)	Stand coef(ß)	t-value	Signif	Colinearity Tolerance	VIF
AP04	-0,548	-7,552	0,000	0,466	2,146	INT04	0,526	6,029	0,000	0,734	1,363
AR04	0,415	5,965	0,000	0,507	1,974	ROE04	0,206	2,682	0,008	0,942	1,062
INT04	0,228	3,898	0,000	0,716	1,397	LEV04	0,211	2,480	0,015	0,768	1,302
CASHFD04	-0,159	-2,928	0,004	0,838	1,194						
MARG04	0,108	2,000	0,046	0,837	1,194						
r = 0,503 / r² = 0,253						r = 0,639 / 0,408					

Table A.4: Interpretation of Post Hoc TestS

Samples		Total Sample		Producing companies		APE-Selling companies	
	Dependent variable Fixed factors	VENTEX05	Xturnover05	VENTEX05	Xturnover05	VENTEX05	Xturnover05
Perfor-mance	ROA	Q3, Q4 > Q1, Q2 (1)	Q3, Q4 > Q1, Q2	Q3, Q4 > Q1, Q2 Q4 > Q3	Q4 > Q1, Q2, Q3 Q3 > Q1	Q1, Q3, Q4 > Q2	Q1, Q3, Q4 > Q2
	ROE	Q4 > Q1, Q2, Q3	Q4 > Q1	Q4 > Q1, Q2, Q3 Q2, Q3, Q4 > Q1	Q4 > Q1, Q2, Q3 Q2, Q3, Q4 > Q1	Q4> Q1, Q2, Q3	Q4 > Q1, Q3
	MARG	Q4 > Q1, Q2, Q3	Q2, Q3, Q4 > Q1 Q4 > Q2	Q3, Q4 > Q1, Q2 Q4 > Q3	Q3, Q4 > Q1, Q2 Q4 > Q3	Q4 > Q1, Q2, Q3 Q2, Q3, Q4 > Q1	Q2, Q4 > Q1, Q3
	RSK	Q3, Q4 > Q1, Q2	Q2, Q3, Q4 > Q1	*No significant mean difference*	Q3, Q4 > Q2 Q3 > Q1	Q3 > Q1, Q2, Q4	Q1, Q2, Q3 > Q4
Debt	LEV	Q1 > Q 3 ,Q4	*No significant mean difference*	Q2 > Q1	Q2 > Q1, Q4	Q1 > Q2, Q3, Q4	Q4 > Q3.
	GEAR	Q1 > Q2	Q1, Q3, Q4 > Q2	Q1 > Q2, Q3, Q4	Q1, Q3 > Q2, Q4	Q1 > Q2, Q4	Q1 > Q2, Q3, Q4
Liabili-ties	INT	Q4 > Q1	Q4 > Q1, Q2	Q4 > Q1, Q3	Q2, Q4 > Q1, Q3	Q3, Q4 > Q2	Q3 , Q4 > Q2 , Q3
	AP	Q3 > Q1, Q2, Q4	Q2, Q3 > Q1, Q4	Q2, Q3, Q4 > Q1	Q2, Q3 > Q1, Q4	Q1, Q2, Q3 > Q4	Q1, Q2, Q3 > Q4
	RES	Q1, Q2, Q4 > Q3 Q1 > Q4	Q1, Q2, Q4 > Q3 Q1 > Q2, Q3, Q4	Q1, Q2, Q4 > Q3	Q1, Q3 > Q2, Q4	*No significant mean difference*	Q1 > Q2, Q3, Q4
	EQ	Q4 > Q2, Q3	Q1, Q2, Q4 > Q3	Q4 > Q1, Q2, Q3	Q1, Q4 > Q2, Q3	Q4 > Q1, Q2, Q3	Q4 > Q1, Q3
assets	FIX	Q2 > Q1, Q3, Q4 Q1, Q2 > Q4	Q2 > Q4	Q2 > Q1, Q3, Q4	Q1 > Q3	Q1, Q2, Q3 > Q4	Q3 > Q1, Q2, Q4
	INV	Q2, Q3 ; Q4 > Q1	Q2, Q3, Q4 > Q1	Q4 > Q1, Q2	Q3, Q4 > Q1, Q2	Q2, Q4 > Q3 Q2 > Q1, Q3	Q2, Q4 > Q1
	AR	*No significant mean difference*	Q2 > Q1, Q3, Q4	Q1 > Q2, Q3, Q4	Q1, Q2 > Q3, Q4	Q4 > Q3	Q1, Q2 > Q3, Q4
Liquidity	LIQ	Q2, Q3 > Q1, Q4	Q1, Q2, Q3 > Q4 Q3 > Q1, Q2, Q4	Q3 > Q1, Q2, Q4	Q3 > Q1, Q2, Q4	Q2, Q3, Q4 > Q1	Q3 > Q1, Q2
	CASHFD	Q1 > Q3	Q1 > Q2, Q3, Q4	Q2 > Q1, Q3, Q4	Q1, Q2 > Q4	Q1 > Q2, Q3 Q1, Q4 > Q3.	Q1 > Q2, Q3, Q4
	CASHAP	Q1, Q2 > Q3, Q4	Q1, Q2 > Q3, 4	Q2 > Q1, Q3, Q4	Q1, Q2, Q3 > Q4	Q1, Q4 > Q2, Q3	Q1, Q2, Q4 > Q3 Q1, Q4 > Q2, Q4

Q1: quartile 1, Q2: Quartile 2, Q3: Quartile 3, Q4: Quartile 4. Mean differences significant at 0,05.
(1) This table must be read as follows: quartile three and four of return on assets, i.e. companies experiencing the highest levels of Return on assets have a significantly higher export intensity than quartile one and two, i.e. companies with a lower return on assets.

Table A.5: Adjusted r^2 of the models

	Total Sample		Producing companies		selling companies	
	VENTEX05	Xturnover05	VENTEX05	Xturnover05	VENTEX05	Xturnover05
Performance (4 variables)	0,572	0,563	0,610	0,567	0,717	0,724
Debt (3 variables)	0,283	0,321	0,382	0,450	0,404	0,532
Liabilities (3 variables)	0,276	0,286	0,510	0,449	0,509	0,461
Assets (3 variables)	0,383	0,317	0,410	0,426	0,460	0,435
Liquidity(3 variables)	0,316	0,283	0,361	0,273	0,422	0,405