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Managerial assessments of export performance: What do they reflect?

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ABSTRACT

Export performance is often measured by managers' subjective assessments, but little is known about what such assessments reflect. This article addresses this gap in the literature by analyzing the association between subjective and objective measures of export performance. We examined which aspects managers take into consideration when subjectively assessing the export performance of their firm. We also examined whether managers' assessments had any predictive power concerning the future development of their firm's export sales.

Our empirical evidence is based on Norwegian small and medium-sized enterprises operating mainly in business-to business markets. Our analyses show that managers' subjective assessment of export performance at the firm level is significantly associated with the percentage of the total firm sales that are exported. This is true for assessments of economic as well as non-economic performance. Subjective assessments, however, were not associated with actual export sales levels or with export growth.

1. Introduction

The academic interest in the concept of export performance dates back to very early studies, for example, to Tookey (1964) who examined successful British exporters. In early reviews, Madsen (1987), Aaby and Slater (1989), and Gemünden (1991) pointed to the complexity of the construct, since it implies for instance short-term as well as long-term aspects, various levels of analysis (e.g. firm or venture), and economic versus non-economic factors. Diamantopoulos (1998) asserted that export performance is multifaceted and therefore is open to multiple objective and subjective indicators. Zou and Stan (1998) pointed to the importance of distinguishing between economic and non-economic aspects of performance, the former pertaining to sales and profitability and the latter to strategic issues such as knowledge creation and network building. Still, a variety of different approaches are used in the measurement of export performance. Examples from recent research are the firm's export intensity (Kim & Hemmert, 2016; Love, Roper, & Zhou, 2016; Kahiya & Dean, 2014; Wang, Cao, Zhou, & Ning, 2013), export profitability, market share, growth, or margins (Alteren & Tudoran, 2016; Dhanaraj & Beamish, 2003; Kahiya & Dean, 2014) or perceived, subjective assessments made by top managers, for example satisfaction with sales and profitability or satisfaction with financial and strategic results (Azar & Ciabuschi, 2017; Oura, Zilber, & Lopes, 2015; Julian, Mohamad, Ahmed, & Sefnedi, 2014; Filatotchev, Liu, Buck, & Wright, 2009).

Literature reviews demonstrate that managers' subjective perception of export performance is often used as a measure of export performance. The most recent review of 124 export performance studies (Chen, Sousa, & He, 2016) reports fragmented measures of export performance. A total of 53 different measures are used. The majority of measures are economic (profitability, export sales/growth, export intensity), but also subjective measures (satisfaction, goal achievement) are used in numerous studies. The use of subjective measures is, however lower that reported by Sousa (2004). The studies he reviewed applied 50 different measures of export performance, out of which almost 80% were subjective measures, often expressed as managers' satisfaction with various aspects of their firm's export activities. However, the existing literature does not inform us much about what managers have in mind when they assess satisfaction with export activities. It remains unclear what such subjective measures reflect. Are managers satisfied with the firm's export activities due to a high percentage of the total firm sales that are exported (export share), export sales, growth, profitability, or because they learn by exporting, they manage to identify new key customers, or is their satisfaction due to other non-economic aspects?

Numerous studies attempt to understand how a firm's export performance depends on organizational competences, managerial skills, and environmental conditions such as competition and consumption patterns. Many these studies use subjective assessments as the dependent variable, but very few studies have attempted to understand and

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analyze the relationship between objective and subjective measures of export performance (e.g. Stoian, Rialp, & Rialp, 2011; Diamantopoulos & Kakkos, 2007). More in-depth understanding of the underlying aspects of such subjective measures is therefore of utmost importance. This is exactly what the current study aims to achieve.

This article is focused on export performance at the firm level in small and medium-sized enterprises (SMEs). We examine the interrelationships between subjective performance measures and objective measures of export sales and growth. Subjective measures were obtained in 2004, and objective measures cover the period 2001–2009. The type of data presented is unique and contributes to the theory, as it informs the research area by identifying the underlying dimensions that are actually captured when applying subjective measures of export performance. The analyses also assess the usefulness of managers' perceptions of export performance if the research interest is forecasting future export sales levels at the firm level.

In their much-cited article, Katsikeas, Loenidou, and Morgan (2000) report very few attempts to examine the relationships between subjective and objective measures of export performance. Since then, Diamantopoulos and Kakkos (2007) have proposed a framework for understanding how managers assess export performance, but in line with Sousa, Martinez-López, and Coelho (2008), they call for further research on the topic. Otherwise, very few scholars have addressed the issue as pointed out by Stoian et al. (2011). The unique contribution of our study is that it is based on longitudinal data which allow for analysis of how subjective measures in 2004 are associated with export sales and growth 1–5 years before and also 1–5 years after the subjective measures were obtained.

This article initially delineates the main approaches to the study of subjective and objective measures in the literature and formulates hypotheses before the empirical methodology is outlined. The results section reports the details of the data analysis before the discussion section explains how the current study informs the conversation about export performance in the literature. The article concludes with suggestions for future research.

2. Subjective and objective measures of export performance: theories, measures, and hypotheses

For managers as well as policy makers, it is of vital importance to know which factors lead to high export performance (see for example Hult, Cavusgil, Deligonul, Kiyak, & Lagerström, 2007). It is therefore not surprising that the concept of export performance has been widely researched in international business (Katsikeas et al., 2000). Unfortunately, the concept involves many diverse dimensions, which have led to diverse operationalization in empirical studies trying to identify factors of importance for the performance of an exporting firm or a particular export venture. The lack of a non-ambiguous measurement of export performance has hampered the theoretical as well as managerial advancement of the field. This has been demonstrated in numerous literature reviews (e.g. Gemünden, 1991; Katsikeas et al., 2000; Madsen, 1987; Matthyssens & Pauwels, 1996; Shoham, 1998; Zou & Stan, 1998; Leonidou, Katsikeas, & Samiee, 2002; Chen et al., 2016; Ruppenthal & Bausch, 2009; Shoham, 2002; Sousa et al., 2008; Sousa, 2004; Stoian et al., 2011).

Kahiya and Dean (2014) note that "measurement and operationalization of the export performance construct remains a daunting undertaking" (p. 387). Diamantopoulos and Kakkos (2007) believe this is because it has to be evaluated against the firm's situation and strategies, as they are critical when assessing the firm's results in export markets. In some instances, managers even reject traditional quantitative measures such as growth and export volume as being irrelevant for their firm (Alteren & Tudoran, 2016); instead, they suggest measures such as level of customer satisfaction. But, as Azar and Ciabuschi, 2017 point out, there are still no definite and unambiguous guidelines for the measurement of export performance.

Many contributions to the export performance literature have distinguished between subjective and objective measures of export performance (e.g. Madsen 1998; Stoian et al., 2011). Sousa (2004) reports that in the studies he reviewed, the objective measures were mainly export share and export sales, whereas the subjective measures would capture managers' level of satisfaction with the firm's overall performance in export markets or aspects related to sales, profits, market share, learning, or new contacts. As pointed out by Diamantopoulos and Kakkos (2007), there is, however, very little empirical evidence concerning which frame of reference and time horizons managers use when they assess export performance.

Subjective measures such as top managers' overall satisfaction with the firm's export activities can be expected to encapsulate all the contingencies that have an impact on the firm's goals, actions, and results. It may be assumed that managers know about the market conditions as well as the skills and competences of the firm's employees, the strengths of its products, and the competitive forces. But in fact we know very little about their 'map' in terms of the dimensions and components involved when they evaluate export performance (Madsen, 1998). Diamantopoulos and Kakkos (2007) findings represent the most comprehensive attempt to address this gap in the literature. Based on data from a survey of 171 British exporters, they constructed a composite index of assessed export performance. The index incorporates managers' assessed importance of, as well as satisfaction related to, sales, profitability, and new product introduction, where each of these is evaluated in comparison with the firm's own plans as well as competitor performance.

In another study, Stoian et al. (2011) examined the association between objective measures (export intensity as well as number of export recipient countries and zones) and subjective measures such as managers' level of satisfaction with export profitability and expansion into new markets as well as satisfaction with the firm's market position (market share, sales growth, achievement of objectives). Based on data from 146 small and medium-sized Spanish exporters, they reported a significant association between the objective and the subjective measures of export performance. They concluded that it is important to include objective export results in order to understand managers' subjective assessments of export performance.

However, no previous study has yet examined the association between subjective and objective export performance measures in a longitudinal setting which is the empirical background for testing the hypotheses developed below.

Several attempts have been made to develop scales to measure export performance. These have included: the EXPERF scale (Zou, Taylor, & Osland, 1998), the STEP scale (Lages & Lages, 2004), the APEV scale (Lages, Lages, & Lages, 2005), and a scale dedicated to measuring export performance in networks (Lages, Silva, & Styles, 2009). In accordance with Katsikeas et al. (2000), these scales have been reflecting subjective as well as objective measures, primary as well as secondary data, absolute as well as relative measures, and finally export performance has been suggested to be measured at the export venture level as well as at the firm level.

Since the aim of the article is to address the gap in the literature concerning the association between subjective and objective measures of export performance, we included register data from Statistics Norway providing objective measures of actual export share and export sales/growth (see Section 3.2) as well as managers' subjective evaluation of export performance (see Section 3.3). Concerning the subjective measures we followed Madsen (1998), Aspelund, Madsen, and Moen (2007) and Madsen, Moen, and Hammervold (2012) and distinguished between 'soft' and 'hard/economic' perceived export performance. We use the term 'SoftPerf' to reflect managers' perceived satisfaction with export activities in terms of less tangible aspects such as their learning about competitors and distribution channels and also whether their export activities have provided them with access to new markets or additional competences. In particular for SME exporters such 'soft'

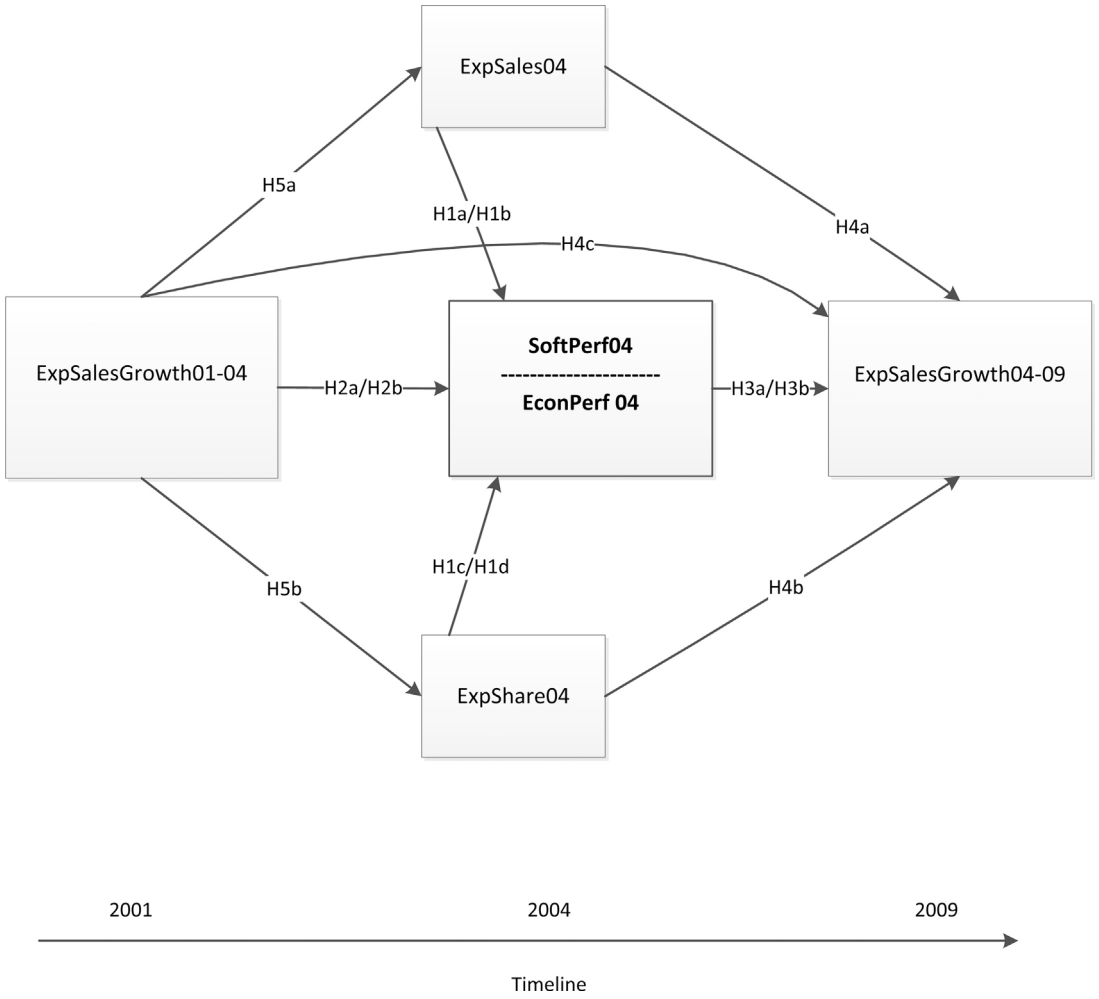

Fig. 1. Overview of the hypotheses.

benefits from export activities may be quite important since they often 'learn by doing' as suggested by the stages models of internationalization. The term 'EconPerf' is related to managers' satisfaction with the economic aspects of their export activities, for example export sales, export growth, export profits, and other economic aspects. As explained in Section 3.3, we developed measures that differentiated between these two aspects of perceived performance.

The hypotheses below revolve around the question concerning aspects that managers take into consideration when assessing the export performance of their firm. We expect that current high levels of export sales as well as export share will contribute positively to managers' satisfaction with their EconPerf, since actual sales is a key goal for most companies. Considering the SoftPerf aspects, higher sales levels as well as higher export share should imply better learning opportunities (new markets, new knowledge, new competences) based on more international activities and therefore higher satisfaction with international operations. We therefore formulated parallel hypotheses for EconPerf and SoftPerf, and as a consequence, and in accordance with Stoian et al. (2011), our first hypotheses were:

H1a. EconPerf (2004) is positively associated with export sales (2004)

H1b. SoftPerf (2004) is positively associated with export sales (2004)

H1c. EconPerf (2004) is positively associated with export share (2004)

H1d. SoftPerf (2004) is positively associated with export share (2004)

Based on the same reasoning as above, we expected that past growth in export sales would contribute to positive evaluations of performance:

H2a. Historical growth in export sales (2001–2004) is positively associated with EconPerf (2004)

H2b. Historical growth in export sales (2001–2004) is positively associated with SoftPerf (2004)

This second set of hypotheses revolves around whether past export development and managers' subjective assessment of export performance have any predictive power concerning the future development of the firm's export sales.

The existing literature makes sparse mention of the relationship between subjective assessments of export performance and the future export development of the firm. The question is: If we solicit a top manger's subjective assessment today, will we then be able to use that assessment to predict future results in terms of export sales and growth? We expected that a positive association would exist, as firms in which management is highly satisfied with current export activities may be more likely to invest more in developing international activities in comparison with firms whose management is dissatisfied with current export activities. In other words, we expected better future export sales in firms where managers expressed higher satisfaction than in firms with lower management satisfaction. Historically high performance generally indicates competitiveness, competence and could be expected to result in increased resource allocation, thereby producing positive effects. This is more obvious for EconPerf than for SoftPerf, but one example of the latter could be that satisfaction with the identification of a new lead customer would result in increased sales in the future.

H3a. EconPerf (2004) is positively associated with Growth in export

Table 1
Information about the firms in the sample.

	Mean	Median	Std. dev.
Year of establishment	1986	1989	14.1
Number of export recipient countries	13.3	6.0	20.4
Distribution of export sales	Percentage of total export sales	Percentage, most important export market	
1) Nordic countries excl. Norway	28.7%	14.4%	
2) European countries excl. Nordic countries	39.2%	42.1%	
3) Outside Europe	31.9%	43.4%	
Distribution forms	Percentage		
1) Direct sales	53.4%		
2) Through agents and distributors	27.6%		
3) Joint ventures	3.9%		
4) Sales offices	10.3%		
5) Other	4.7%		

sales 2004–2009

H3b. SoftPerf (2004) is positively associated with Growth in export sales 2004–2009

We also expected that firms with high export sales levels and high export share levels would have faster growth in export sales than firms with lower export sales and a lower export share initially. Past results should be considered an important indicator of future performance. In addition, high export sales levels indicate accumulation of resources, increasing the potential resource combinations. We therefore expected that firms, which have been able to obtain good results, would continue to grow:

H4a. Export sales level (2004) is positively associated with Growth in export sales 2004–2009

H4b. Export share (2004) is positively associated with Growth in export sales 2004–2009

H4c. Export sales 2001–2004 is positively associated with Growth in export sales 2004–2009

In addition we expected that export sales growth 2001–2004 had a positive impact on export sales (H5a) and export share (H5b) in 2004. Fig. 1 summarizes the hypotheses.

3. Methodology

Our research design uses data from a governmental data register concerning the export sales of the firms over a 10-year period, which makes it possible to track development paths and patterns. These objective, secondary data are supplemented with survey data through which we obtained managers' subjective satisfaction with export activities.

3.1. Subjective measures: sample and data collection

In 2004, questionnaires were addressed to senior managers in small and medium-sized (less than 250 employees) Norwegian exporting manufacturers. Company classifications and address lists were obtained from the database of Kompass Norway. A total of 2415 questionnaires were posted, with slightly more than 5% returned due to address errors. Of the remaining 2210, we received 308 questionnaires that were suitable for use (13.9%). A total number of responding firms above 300 was regarded as satisfactory (see Yang, Wang, & Su, 2006) and no follow-up was made to firms that did not respond to the questionnaire.

The average firm size was 50 employees (median 24) and average export share was 41.9% (median 33). The mean year of establishment was 1986, and median year was 1989. When we examined the geographical distribution of export sales, 14.4% responded that one of the Nordic countries beside Norway was the most important export market, 42.1% responded that a European country (excl. Nordic countries) was most important, while 43.4% answered that the most important market was outside Europe. Considering export sales distribution, the Nordic share was 28.7%. This is an indication that even if the most important export market is in other European countries or outside Europe, many firms still have quite high levels of export sales in the neighbouring countries. Table 1 summarizes information about the companies in the sample.

Most firms operated in business-to-business markets; in fact, only 1.6% stated that they targeted consumer markets. We were able to test for non-response bias with regard to geography (no bias) and firm size (respondents had more employees than non-respondents). Respondents were assured anonymity and confidentiality.

One concern might be that Norwegian exporters could be a special case since they are physically and culturally very close to countries like Sweden and Denmark. In order to accommodate such concerns we have tested the robustness of the analyses below. We have rerun the analyses excluding companies with neighboring countries as most important markets and we have also rerun the analyses only for companies with most important markets outside of Europe. All results are robust and do not change even when focusing such subsamples. As sown in Table 1 the other Nordic countries represent the most important export markets for only around 14% of the firms included. These analyses indicate that our study is not biased due to the specific location of Norwegian exporters.

3.2. Objective measures: data sources

Objective data about export sales and growth were obtained from Statistics Norway, an organization that registers information about Norwegian companies obtained from data the companies are required to deliver. These data are partly from the Brønnøysund Register Centre, which develops and operates many of the nation's most important registries and electronic solutions. The Brønnøysund Register Centre is a government body under the Norwegian Ministry of Trade and Industry, and consists of several different national computerised registries. These registries contain information and key data about annual accounts and auditors' reports. In addition, Statistics Norway collects and registers information from the Norwegian Directorate of Customs and Excise, which includes information about company level export sales. The firm level data are considered highly valid and reliable since they have been approved by independent auditors as well as by Norwegian authorities.

The companies that returned the questionnaire were marked with their unique organizational number, and we were able to get access to information about individual firms' annual turnover, profits and export sales for the years 1999 to 2009 from Statistics Norway. Table 2 presents average values (in USD) for each year.

When we examined these numbers, we observed very high similarity between self-reported and registry data for revenues (12,900,000 versus 13,000,00 USD), number of employees (50 versus 51 persons) and export share (41.9 versus 37.6%). The development in the time period from 1999 to 2009 is interesting with growth in revenues from 1999 to a peak in 2008, with a decline in 2009 (due to the Global Financial Crisis). Export sales also increased, and export share was stable over these 10 years of activity. The number of employees increased slightly, but we observed reductions from 2007 to 2009.

One of the key variables in our study is historic growth in export sales which was calculated as export sales 2004 minus export sales 2001, and future export sales growth (calculated as export sales 2009 minus 2004). In-depth discussions concerning the choice between absolute or relative (percent) measures in growth studies have been

Table 2
Information about the participating firms obtained from Statistics Norway.

	1999	2000	2001	2002	2003	2004	*(2004)*[a]	2005	2006	2007	2008	2009
Revenue (USD)	11.2	11.4	11.1	11.3	11.3	12.9	*(13)*	14.7	16.5	18.9	21.2	19.1
Employees	51.4	51.0	48.3	46.9	47.4	50.1	*(51)*	52.3	54.4	45.8	47.2	45.6
Exports (USD)	4.5	4.5	4.9	5.3	5.1	5.4	*(4.9)*	5.5	6.7	7.7	8.3	7.8
Export Share (%)	40.2	39.5	44.1	46.9	45.1	41.9	*(37.6)*	37.4	40.6	40.7	39.2	40.8

[a] Survey data. All revenue and export numbers in 1,000,000 USD.

presented, for example, by Delmar (1997) and Delmar, Davidsson, and Gartner (2003). We used absolute measures because relative change in export sales would give unstable results because firms with limited export sales levels would be able to reach high relative growth even with small absolute increases in sales. In some studies, the logarithm of the growth measure has been used, but as described by Delmar (1997), this introduces challenges with interpretation of the results and therefore, we did not include a transformation of the export sales growth variables.

3.3. Development of the subjective export performance measures

Our analysis of export performance has the firm as the unit of analysis, and it comprises all the export activities of the firm. Oliveira, Cadogan, and Souchon (2012) argue that there is not one best level of analysis, but that measurement has to be carried out at the level at which theory and data are developed. In our case, the objective data from Statistics Norway are available at the firm level only, and for that reason, we examined the association between subjective and objective measures of export performance at this level.

Subjective assessments of export performance were obtained through a questionnaire that built as much as possible on internationally published scales followed by a pre-test amongst a limited group of managers in order to assure concise questions with a minimum of ambiguous and unfamiliar terms. Compared with their own expectations, managers were asked to indicate how satisfied they were with the results obtained on their export markets with regard to economic as well as non-economic aspects. This is in accordance with Cavusgil and Zou (1994), who defined performance in international markets by a scale based on managers' subjective perceptions. This approach was further developed by Knight and Cavusgil (2004) and we have adapted their indicators related to the subjective satisfaction with the firm's market share, export sales and profitability, and overall satisfaction with the firm's export activities. In line with Madsen (1998) and Madsen et al. (2012), we also included satisfaction with non-economic aspects such as the firm's knowledge development related to competition, distribution and new market opportunities. As described in Section 2.1, we use the labels EconPerf and SoftPerf. Each answer was anchored by 1 = very unsatisfied, and 7 = very satisfied. Table 3 presents the indicators used.

Managers appear to be least satisfied with sales growth and knowledge obtained about new distribution channels, whereas they express highest satisfaction with the image their firm has obtained and the competences acquired through interaction with lead customers abroad. Most skewness measures are between 0 and −0.5 and kurtosis measures are generally between −0.36 and 0.44. This suggests that these indicators are close to being normally distributed.

Table 3
Managers' subjective satisfaction with export activities.

Subjective performance items	Mean	St. dev.	n
Economic performance (EconPerf)			
Export market share (EconPerf1)	4.05	1.36	234
Export sales growth (EconPerf2)	3.93	1.40	232
Export sales growth compared with competitors (EconPerf3)	4.23	1.38	227
Export profitability (EconPerf4)	4.04	1.38	234
Overall export performance (EconPerf5)	4.45	1.31	234
Non-Economic performance (SoftPerf)			
Image obtained (SoftPerf1)	5.08	1.25	232
Competences acquired (SoftPerf2)	4.96	1.27	232
Knowledge about competitors (SoftPerf3)	4.22	1.18	231
Knowledge about new distribution channels (SoftPerf4)	3.87	1.21	233
Access to new markets (SoftPerf5)	4.24	1.27	233

4. Results

We divided the analysis into three parts. First, following Anderson and Gerbing (1988), we validated the measures, and second, we built a structural equations model in order to test the hypotheses. Third, we included selected additional analyses in order to achieve a better understanding of the results.

4.1. Validating the measures

We performed an exploratory factor analysis. As expected, the items were classified into two groups, one with economic-oriented measures (EconPerf) and the other with non-economic items (SoftPerf). The two factors explained 70% of the variance. However, the confirmatory factor analysis (CFA) based on the two latent factors indicated a low loading of the SoftPerf item "*knowledge about possible distribution opportunities*" and it was removed from further analysis. The two constructs using multiple items were exported from AMOS Version 23 values to the Stats Tools package in Excel. Convergent validity was assessed by the composite reliability (CR) score and the more conservative average variance extracted (AVE) score (Malhotra & Dash, 2011). Reliability was evaluated by the Cronbach's Alpha (from SPSS) score and discriminant validity was evaluated by use of the maximum shared variance (MSV) score. Based on these measures, no reliability or validity issues were identified. The model seems to be a good fit with the data, CFI = 0.958, RMSEA = 0.102 and PCFI = 0.490. The resultant composite scales had a Cronbach Alpha of 0.925 for the EconPerf scale and 0.801 for the SoftPerf scale.

In total, this suggests a measurement model satisfying the normal model requirements. Table 4 shows the standardized coefficients and

Table 4
Results of confirmatory factor analysis.

Subjective performance items	Std. coeff.	Std. error
Economic performance (EconPerf) alpha = 0.925		
Export market share (EconPerf1)	0.880	1.038
Export sales growth (EconPerf2)	0.880	1.050
Export sales growth compared with competitors (EconPerf3)	0.872	1.037
Export profitability (EconPerf4)	0.697	0.830
Overall export performance (EconPerf5)	0.881	1.000
Non-Economic performance (SoftPerf) alpha = 0.801		
Image obtained (SoftPerf1)	0.837	1.000
Competences acquired (SoftPerf2)	0.763	0.929
Knowledge about competitors (SoftPerf3)	0.491	0.544
Access to new markets (SoftPerf5)	0.647	0.786

Table 5
Structural equation model results.

Path	H	Parameter	Std. Estimate	S.E	C.R.	P.
ExpSalesGrowth0104 → ExpSales04	H5a	γ_{11}	0.362	0.136	5.170	***
ExpSalesGrowth0104 → ExpShare04	H5b	γ_{21}	0.174	0.058	2.295	*
ExpSalesGrowth0104 → EconPerf	H2a	γ_{31}	0.094	0.002	1.184	NS
ExpSalesGrowth0104 → SoftPerf	H2b	γ_{41}	0.060	0.002	0.723	NS
ExpSales04 → EconPerf	H1a	β_{31}	0.120	0.001	1.408	NS
ExpSales04 → Softperf	H1b	β_{41}	0.111	0.001	1.233	NS
ExpShare04 → EconPerf	H1c	β_{32}	0.297	0.003	3.689	***
ExpShare04 → SoftPerf	H1d	β_{42}	0.317	0.003	3.720	***
ExpGrowth0104 → ExpSalesGrowth0409	H4c	γ_{51}	−0.239	0.108	−3.198	***
ExpSales04 → ExpSales0409	H4a	β_{51}	0.515	0.061	6.297	***
ExpShare04 → ExpSalesGrowth0409	H4b	β_{52}	−0.123	0.152	−1.512	NS
EconPerf → ExpSalesGrowth04-09	H3a	β_{53}	−0.038	6.332	−0.285	NS
SoftPerf → ExpSalesGrowth0409	H3b	β_{54}	0.222	7.133	1.603	NS
	Model statistics: CFI = 0.950; RMSEA = 0.077; PCFI = 0.564					

** = 0.01 level.
* = 0.05 level.
*** = 0.001 level.

standard errors for the Confirmatory Factor Analysis latent factors.

4.2. Developing the structural model and testing the hypotheses

Based on our hypotheses, we built the structural model, the Greek letters indicating parameters to be estimated:

(1) $ExpSales04 = \gamma_{11}ExpSalesGrowth0104 + \zeta_1$

(2) $ExpShare04 = \gamma_{21}ExpSalesGrowth0104 + \zeta_2$

(3)

$$EconPerf = \gamma_{31}ExpSalesGrowth0104 + \beta_{31}ExpSales04 + \beta_{32}ExpShare04 + \zeta_3$$

(4)

$$SoftPerf = \gamma_{41}ExpSalesGrowth0104 + \beta_{41}ExpSales04 + \beta_{42}ExpShare04 + \zeta_4$$

(5)

$$ExpSalesGrowth0409 = \gamma_{51}ExpSalesGrowth0104 + \beta_{51}ExpSales04 + \beta_{52}ExpShare04 + \beta_{53}EconPerf + \beta_{54}SoftPerf + \zeta_5$$

Table 5 shows the main results with standardized estimates,

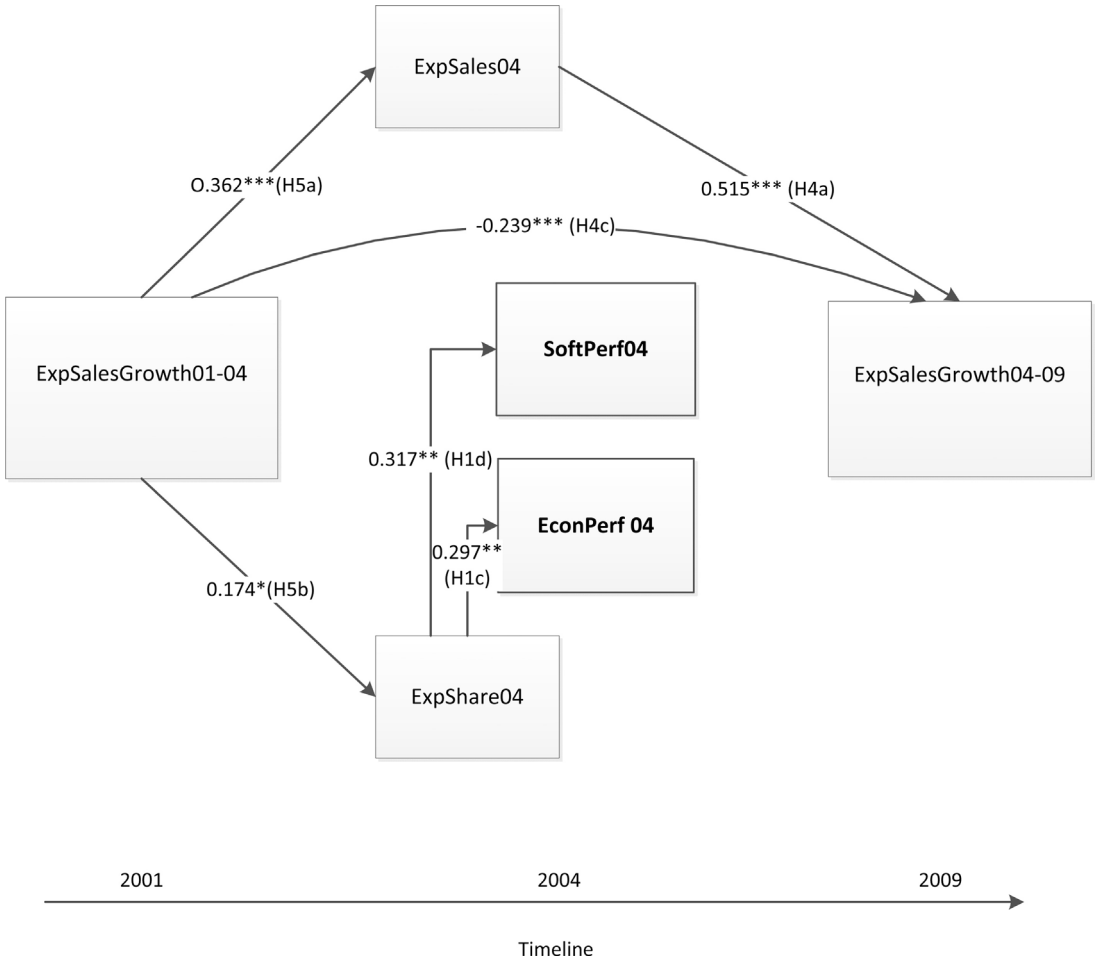

Fig. 2. Significant paths.

standard errors, critical ratios and probabilities for the different paths. Fig. 2 gives a visual representation of the significant paths with standardized coefficients.

None of the subjective performance measures were significantly associated with historic export sales growth (rejecting H2a and H2b) or export sales levels (rejecting H1a and H1b). But the results show that both SoftPerf and EconPerf were strongly and significantly associated with export share levels, supporting hypotheses H1c and H1d. None of the subjective measures were significantly associated with subsequent growth, and as a consequence, H3a and H3b were rejected. But as expected, export sales level as well as export share was significantly associated with historic sales growth, thus supporting H5a and H5b. Finally, high export sales growth in the first time period was found to be related to low sales growth in the second period, even as a significant path. However, this was not in the expected direction and H4c was therefore rejected. Finally, high export sales levels was positively associated with future export sales growth (supporting H4a) but no such path existed between export share and later export sales growth, and hence, H4b was rejected.

4.3. Additional analysis

The significance of export share and insignificance of export sales levels in the structural model were not as expected. In order to further examine these results, we calculated the correlations for all years in the dataset between export share, export sales levels and the two subjective performance measures as reported in Table 6. In the entire time period from 1999 to 2009, we found a significant ($p < 0.001$) bivariate relationship between export share and EconPerf. Looking at SoftPerf versus export share, the statistical significance was $p < 0.001$ in 9 of the 11 years and just above 0.001 in the last 2 years included. In 10 of the 11 years, the correlation was highest for the EconPerf measure. We thus observed a stable, strong bivariate relationship between export share in all years and the two performance measures. However, export sales for all years was also significantly correlated with both subjective performance measures, but with slightly lower values. It seems reasonable to conclude that export sales was important, but export share was even more important when managers subjectively assessed export performance. It is interesting that knowledge about actual economic data from government statistics seems to make it possible to predict managers' subjective satisfaction with export performance more than 5 years later.

As mentioned earlier, we measured growth as change in export sales, whereas change in export share was not included. The weakness of the export share growth measure is that firms with an initial high level almost automatically are unable to reach high levels of percentage growth. However, we did analyze the association between export share growth and perceived performance. When the entire sample of companies was included, neither EconPerf nor SoftPerf was significantly correlated with export share growth from 2001 to 2004. When including only firms with less than 50% export share in 2001, EconPerf was still not significant while SoftPerf was significantly correlated with export share growth 2001–2004. If the limit for inclusion was less than 25% export share initially, we found a strong and significant association for both EconPerf and SoftPerf. In other words: managers in less export-intensive firms seemed to incorporate export share growth aspects when they subjectively assessed the performance of the firm's export activities. This indicates that growth in export share is not a suitable measure for all firms, but may be used for subsamples containing limited export involvement.

Table 6
Correlation coefficients for all years.

	EconPerf04 vs ExpShare	EconPerf04 vs ExpSales	SoftPerf04 vs ExpShare	SoftPerf04 vs ExpSales
1999	0.340***	0.200**	0.296***	0.206**
2000	0.344***	0.202**	0.282***	0.212**
2001	0.270***	0.209**	0.227**	0.217**
2002	0.303***	0.221**	0.255**	0.237**
2003	0.310***	0.242***	0.271***	0.240**
2004	0.339***	0.275***	0.323***	0.250***
2005	0.318***	0.273***	0.295***	0.255***
2006	0.334***	0.271***	0.270***	0.257***
2007	0.360***	0.291***	0.260***	0.262***
2008	0.309***	0.281***	0.262***	0.258***
2009	0.268***	0.308***	0.283***	0.278***
Average all years	0.318	0.252	0.275	0.242

* = 0.05 level.
** = 0.01 level.
*** = 0.001 level.

5. Discussion and recommendations

More than 50 different measures of export performance were identified by Sousa (2004), most of which were different subjective assessments made by managers. The recent review by Chen et al. (2016) report more widespread use of objective measures, but still that 53 difference measures of export performance is used in 124 empirical studies. This diversity represents a challenge for research aimed at understanding the concept itself as well as the factors driving export performance. In the next sections, we will discuss our basic research question concerning what managers actually measure when using subjective performance measures. It should be noted that our empirical study is confined to SME exporters. This fact may have an impact on managers' ability to forecast future development in the firm's export activities. One argument is that managers in large companies compared to managers in SMEs typically have much better developed formal knowledge about market development and performance and that such managers' subjective assessments of export performance will therefore be of higher quality. However, managers in SMEs are much closer to everyday developments and could therefore be argued to be much better equipped to evaluate future export performance. Regardless of the arguments, the reader should be aware that our study and the results are based on SME managers.

5.1. Subjective assessments and export share

Export share had a strong association with subjectively perceived export performance. The structural equations model demonstrated that only export share was significantly associated with the subjective export performance measures. It should be noted that the association between export sales growth and export share path was significant and positive, and as a consequence, we have identified an indirect effect from export sales growth through export share increase and the subjective export performance measures. However, the major economic factor influencing the subjective assessment of export performance is the quantum of export sales compared to overall sales. If a company manages to build international activity to be a high proportion of the total turnover for the firm (high export share), this is regarded by managers as satisfactory. Managers in firms with low export share at the firm level are not quite as satisfied. So the relative importance of the export activities seems to be the most important factor.

Does this make sense economically? It probably does, as starting export activities is often a big investment for SMEs. In some B2B markets it may be possible to penetrate foreign markets with low investment because the firm's product may be sold without any adaptation, but in most cases investments have to be made in order to attain market knowledge, overcome the liability of foreignness vis á vis customers, build trust among customers and partners, adapt products and services, etc. If export sales volume remains relatively low, it is logical that managers would not be satisfied since the return on investment may be

lower than alternative investments. Therefore, export share matters for managers' subjective assessments. Since export activities are a result of continuing investments, a high export share may also be seen as an indicator of profitable international activities. This indicates an implicit association between perceived high performance and profitability.

It may appear surprising that growth in export sales is not directly and significantly associated with managers' assessment of export performance. One possible explanation is that managers regard growth as being too volatile a measure. In particular in business-to-business markets, growth may be high one year principally because of a large order, but then decline the next year. This is also reflected in our data set: growth rates in individual firms go up and down from one year to the next. In that sense, export share is a less fluctuating measure. These results are in line with the findings of Filatotchev et al. (2009) and Caneiro, Farias, da Rocha, and da Silva (2016, p. 415) who found that when Brazilian managers assessed export performance they had a preference for economic measures which they could compare with past results; they also preferred more static measures (not like growth which is relative) which they could compare with results in their own firm. Caneiro et al. (2016) thus reported limited use of dynamic perspectives when managers assessed performance.

As mentioned in the Section 4.3, we did uncover some differences between firms with high export share and those with low export share. For the latter group, growth measures seemed to be more important when their managers assessed export performance. This was also the case for SoftPerf. A possible explanation is that managers may have been quite satisfied with learning outcomes or development of relationships with new key customers particularly if they experienced low sales levels. This may be the case if a new and inexperienced exporter wins the order from a lead customer, which may be of great importance for future export activities. These results indicate that clustering methods might be valuable in future studies in an attempt to identify groups of firms or managers who weigh various indicators in a different manner.

5.2. Subjective assessments and future export sales – managerial implications

Subjective export performance measures are apparently not reliable indicators of future growth in export sales. We did hypothesize that managers' subjective assessments of the performance of their export activities would be good indicators of future export growth. As shown in the findings section, our structural equation model did not confirm that. We have looked, however, at simple bivariate correlation coefficients as well. Those results reveal that SoftPerf has absolutely no association with export growth, not even in the short term (1–2 years). This confirms that subjective assessments of a non-economic type are not good predictors of future growth in export activities. Firms with managers either satisfied or unsatisfied with their firm's export activities obtain the same export growth in the future. On the other hand, EconPerf does have significant and positive bivariate correlations with future export growth. This indicates some predictive power, but these associations disappear in the structural equation model.

Our results have some important managerial implications. One would expect that top managers' assessment of current export activities would have a strong impact on decision-making concerning investments in export markets in the future. Our results indicate that the association between top management's subjective assessments and future growth is not very strong. This might lead to the hypothesis that top managers' assessments should be complemented by other analyses and evaluations before making decisions about future export strategies and investments. But how should a firm then make decisions concerning future investments in export activities? Perhaps middle management should be involved since they may have a more accurate impression of what is really going on in the export markets? A systematic involvement of middle managers and perhaps even employees at lower levels would lead to better informed decision-making. Such issues could be interesting to explore in future studies.

5.3. Recommendation with regard to measurement of export performance at the firm level

Our study on SME exporters and other studies to date have provided only patchy evidence concerning subjective assessments of export performance. More in-depth studies are required which build on the existing literature concerning what managers in SMEs have in mind when they evaluate the export performance of their firm. As mentioned above, this would feed into the very relevant question of how managers should ensure they are fully informed before making decisions about future export strategies. Qualitative methods involving in-depth interviews and case studies would be the primary methodological path to follow here.

Those who conduct future studies on export performance should very carefully consider the purpose of their study when they select a measurement model. Most studies attempt to uncover the antecedents of export performance, and as shown in the literature, they often use managers' subjective assessments as the dependent variable.

If the purpose is to understand why some firms attain high export share and others do not, our results indicate that subjective assessments may be a valid dependent variable. Our findings suggest that it is sufficient to solicit top managers' subjective assessments that form the EconPerf. However, if an empirical study attempts to explain the profitability or the growth of a firm's export activities, then managers' subjective assessments as the dependent variable seem to be an inaccurate measure. Our results show that subjective measures are not generally related to growth. For exporters with low export share, this, however, might be different. Even worse is the case in which an empirical study attempts to uncover how a firm's export activities will evolve in the future. If growth (and in particular future export growth) is a focal issue, our findings indicate that subjective assessments are not very helpful.

We have shown that in the minds of managers, there is a complex interaction between current export sales, past and future export share and growth levels. Therefore, in most instances, it is inadequate to only solicit top managers' subjective assessments, as has been very common in most export performance studies, as it is not obvious what they are actually measuring. Unless the explicit purpose of a study is to uncover antecedents to high export share, we recommend that future studies also include objective performance data so that a comprehensive understanding of export performance is achieved.

References

Aaby, N.-E., & Slater, S. (1989). Management influences on export performance: A review of the empirical literature 1978–1988. *International Marketing Review, 6*(4).

Alteren, G., & Tudoran, A. A. (2016). Enhancing export performance: Betting on customer orientation, behavioral commitment, and communication. *International Business Review, 25*(1), 370–381.

Anderson, J. C., & Gerbing, D. W. (1988). Structural equations modeling in practice: A review of recommended two-step approach. *Psychological Bulletin, 103*(3), 411–423.

Aspelund, A., Madsen, T. K., & Moen, Ø. (2007). A review of the foundation, international marketing strategies and performance of international new ventures. *European Journal of Marketing, 41*(11–12), 1423–1448.

Azar, G., & Ciabuschi, F. (2017). Organizational innovation, technological innovation, and export performance: The effects of innovation radicalness and extensiveness. *International Business Review, 26*, 324–336. http://dx.doi.org/10.1016/j.ibusrev.2016.09.002.

Caneiro, J., Farias, I., da Rocha, A., & da Silva, J. F. (2016). How to measure export performance? Scholars' vs. practitioners' answers. *Journal of Business Research, 69*(February (2)), 410–417.

Cavusgil, S. T., & Zou, S. (1994). Marketing strategy – Performance relationship: An investiga-tion of the empirical link in export market ventures. *Journal of Marketing, 58*(January), 1–21.

Chen, J., Sousa, C. M. P., & He, X. (2016). The determinants of export performance: A review of the literature 2006–2014. *International Marketing Review, 33*(5), 626–670.

Delmar, F., Davidsson, P., & Gartner, W. (2003). Arriving at the high growth firm. *Journal of Business Venturing, 18*(2), 189–216.

Delmar, F. (1997). Measuring growth: Methodological considerations and empirical results. In R. Donckels, & A. Miettinen (Eds.). *Entrepreneurship and SME research: On its way to the next millennium* (pp. 199–216). Aldershot, England: Ashgate.

Dhanaraj, C., & Beamish, P. W. (2003). A resource-based approach to the study of export performance. *Journal of Small Business Management, 41*(July (3)), 242–261.

Diamantopoulos, A., & Kakkos, N. (2007). Managerial assessments of export performance: Conceptual framework and empirical illustration. *Journal of International Marketing, 15*(3), 1–31.

Diamantopoulos, A. (1998). From the guest editor. *Journal of International Marketing, 6*(3), 3–6.

Filatotchev, I., Liu, X., Buck, T., & Wright, M. (2009). The export orientation and export performance of high-technology SMEs in emerging markets: The effects of knowledge transfer by returnee entrepreneurs. *Journal of International Business Studies, 40*(August (6)), 1005–1021.

Gemünden, H. G. (1991). Success factors in export marketing: A meta-analytic critique of empirical studies. In S. J. Paliwoda (Ed.). *New perspectives on international marketing* (pp. 33–62). London: Routledge.

Hult, G. T. M., Cavusgil, S. T., Deligonul, S., Kiyak, T., & Lagerström, K. (2007). What drives performance in globally fecused marketing organizations? A three-country study. *Journal of International Marketing, 15*(2), 58–85.

Julian, C. C., Mohamad, O., Ahmed, Z. U., & Sefnedi, S. (2014). The market orientation-performance relationship: The empirical link in export ventures. *Thunderbird International Business Review, 56*(1), 97–110.

Kahiya, E. T., & Dean, D. L. (2014). Export performance: Multiple preddictors and multiple measures approach. *Asia Pacific Journal of Marketing and Logistics, 26*(3), 378–407.

Katsikeas, C. S., Loenidou, L. C., & Morgan, N. A. (2000). Firm-level export performance assessment. Review, evaluation, and development. *Journal of the Academy of Marketing Science, 28*(4), 493–511.

Kim, J.-J., & Hemmert, M. (2016). What drives the export performance of small and medium-sized subcontracting firms? A study of Korean manufacturers. *International Business Review, 25*(April (2)), 511–521.

Knight, G. A., & Cavusgil, S. T. (2004). Innovation, organizational capabilities, and the born-global firm. *Journal of International Business Studies, 35*, 124–141.

Lages, L. F., & Lages, C. R. (2004). The STEP scale: A measure of short-term export performance improvement. *Journal of International Marketing, 12*(1), 36–56.

Lages, L. F., Lages, C., & Lages, C. R. (2005). Bringing export performance metrics into annual reports: The APEV scale and the PERFEX scorecard. *Journal of International Marketing, 13*(3), 79–104.

Lages, L. F., Silva, G., & Styles, C. (2009). Relationship capabilities, quality, and innovation as determinants of export performance. *Journal of International Marketing, 17*(4), 47–70.

Leonidou, L. C., Katsikeas, C. S., & Samiee, S. (2002). Marketing strategy determinants of export performance: A meta-analysis. *Journal of Business Research, 55*, 51–67.

Love, J. H., Roper, S., & Zhou, Y. (2016). Experience, age and exporting performance in UMSNEs. *International Business Review, 25*, 806–819.

Madsen, T. K., Moen, Ø., & Hammervold, R. (2012). The role of independent intermediaries: The case of small and medium sized exporters. *International Business Review, 21*(4), 535–546.

Madsen, T. K. (1987). Empirical export performance studies: A review of conceptualizations and findings. *Advances in International Marketing, 2*, 177–198.

Madsen, T. K. (1998). Managerial judgment of export performance. *Journal of International Marketing, 6*(3), 82–93.

Malhotra, N. K., & Dash, S. (2011). *Marketing research: An applied orientation.* New Delhi: Pearson.

Matthyssens, P., & Pauwels, P. (1996). Assessing export performance measurement. *Advances in International Marketing, 6*, 85–114.

Oliveira, J. S., Cadogan, J. W., & Souchon, A. (2012). Level of analysis in export performance research. *International Marketing Review, 29*(1), 114–127.

Oura, M. M., Zilber, S. N., & Lopes, E. L. (2015). Innovation capacity, international experience and export performance of SMEs in Brazil. *International Business Review, 25*(4), 921–932.

Ruppenthal, T., & Bausch, A. (2009). Research on export performance over the past 10 years: A narrative review. *European Journal of International Management, 3*(3), 328–364.

Shoham, A. (1998). Export performance: A conceptualization and empirical assessment. *Journal of International Marketing, 6*(3), 59–81.

Shoham, A. (2002). Standardization of international strategy and export performance: A meta-analysis. *Journal of Global Marketing, 16*(1–2), 97–120.

Sousa, C. M. P., Martinez-López, F. J., & Coelho, F. (2008). The determinants of export performance: A review of the research in the literature between 1998 and 2005. *International Journal of Management Reviews, 10*(4), 343–374.

Sousa, C. M. P. (2004). Export performance measurement: An evaluation of the empirical research in the literature. *Academy of Marketing Science Review, 8*(9) [electronic journal].

Stoian, M.-C., Rialp, A., & Rialp, J. (2011). Export performance under the microscope: A glance through Spanish lenses. *International Business Review, 20*, 117–135.

Tookey, D. A. (1964). Factors associated with success in exporting. *Journal of Management Studies, 1*(March), 48–66.

Wang, Y., Cao, W., Zhou, Z., & Ning, L. (2013). Does external technology acquisition determine export performance? Evidence from Chineses manufacturing firms. *International Business Review, 22*(December (6)), 1079–1091.

Yang, Z., Wang, X., & Su, C. (2006). A review of research methodologies in international business. *International Business Review, 15*, 601–617.

Zou, S., & Stan, S. (1998). The determinants of export performance: A review of the empirical literature between 1987 and 1997. *International Marketing Review, 15*(5), 333–356.

Zou, S., Taylor, C. R., & Osland, G. E. (1998). The EXPERF scale: A cross-national generalized export performance measure. *Journal of International Marketing, 6*(3), 37–58.

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