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SMES' EXPORTS: EXPLORING THE SOFT SIDE OF CAPITAL

ABSTRACT

In the aftermath of the great financial crisis, policies directed at fostering (export) competitiveness of small and medium sized enterprises (SMEs) are high on the political agenda. SMEs' export activities are perceived to be a major societal asset, fostering socio-economic prosperity. In this vein, a growing literature explores the pertinence of firm-specific factors for explaining differences in SMEs' export behavior. However, the puzzle of how intangible, knowledge-based assets, such as human and relational capital (*the soft side of capital*), contribute to establishing a viable position abroad remains. By meta-analytically integrating findings from 151 studies, this analysis revealed significant direct and indirect effects of human capital endowment as well as relational capital. Concurrently, multivariate meta-regression uncovered that this positive influence of *the soft side of capital* is context dependent. In fact, network capital appears to be particularly pertinent for SMEs in developing economies.

SMES' EXPORTS: EXPLORING THE SOFT SIDE OF CAPITAL

INTRODUCTION

Small and medium sized enterprises (SMEs), managing to cope with highly dynamic and competitive export markets, have frequently been seen as a major source of socio-economic prosperity (e.g. Hessels & Parker, 2013). In particular in the wake of the financial crisis, policy programs directed at fostering the (export) competitiveness of SMEs are hence high on the political agenda. Simultaneously, over the past decades, impressive research efforts have been devoted towards investigating antecedents and outcomes of export involvement. Nonetheless, the puzzle of why and how resource-constrained SMEs can establish a viable export position remains (e.g. Sousa et al., 2008). This might be attributed to a lack of consensus on operationalizing exports, frequently resulting in conflicting findings (e.g. Katsikeas et al., 2000). Moreover, especially evidence on the influence of firm-specific antecedents on international diversification of SMEs is scarce (Fernández-Olmos & Díez-Vial, 2013).

Given that economies are increasingly characterized by knowledge-intensive industries, it is above all the accumulation and management of intangible assets which gains in strategic importance (e.g. Brynjolfsson & Saunders, 2013). Intangibles, i.e. *soft forms of capital*, tend to possess idiosyncratic characteristics which are essential to developing both: new products and new markets (e.g. Fernández-Olmos & Díez-Vial, 2013). Prior research seems to suggest that SMEs' exposure towards liabilities of smallness, including a lack of sufficient human capital resources, might have a decisive influence on the initiation and expansion of exports (Aaby & Slater, 1989; Hymer, 1976; Leonidou et al., 1998). Relational or network-based capital appears to contribute to SMEs' export involvement, too. By establishing and nurturing high-quality relationships, SMEs might potentially mitigate size-related disadvantages (e.g. Stam et al., 2014).

Comparatively little emphasis has been placed on the role of knowledge-based assets. Also, given that the field is generally characterized by fragmentation, a holistic picture of how *the soft side of capital* shapes export behavior of SMEs is patently missing.

Against this background, we applied meta-analytical methods to systematically integrate prior quantitative research on the nexus of *the soft side of capital* and SMEs' export behavior. The aim is to explore (a) the direct effects of human and relational capital on export behavior as well as (b) to investigate whether and how these relationships are shaped by firm-level innovation activities (indirect effects). At the same time, this study is designed to detect possible learning-by-exporting effects. By relying on the meta-analytical procedures (e.g. Hunter & Schmidt, 2004), this study ultimately sets out to derive generalizable conclusions on how *soft capital* and SMEs' export behavior are related. To date, no comprehensive, quantitative synthesis of this relationship exists. Thus, our main contribution is to develop a profound understanding of the complex dynamics underlying export competitiveness. This analysis also responds to a recent call for devoting more attention to studying the influence of internal resources on SMEs' internationalization (e.g. Fernández-Olmos & Díez-Vial, 2013; Rialp et al., 2005).

Although prior research seems to suggest that human capital is conducive to export involvement, the magnitude of its influence as well as the circumstances under which this factor becomes pertinent, remain unclear. With respect to relational capital, e.g. customer-relations or interactions with suppliers could have a differential impact (e.g. Kenny & Fahy, 2011). In light of the findings of this study, business managers gain valuable insights on the importance of investing in human capital. Through the incorporation of relational capital our understanding of those types of network relationships, being particularly supportive to export development, might be enhanced (e.g. Cerrato & Piva, 2012). These findings also potentially lend power to an argument which calls upon policy makers to increase incentives for firms becoming engaged in

inter-firm collaborations, potentially conducive to cluster-building. Implications for future research might especially be drawn from examining inconsistencies across study findings by means of moderator analyses. For instance, methodological (e.g. operationalization of human capital) and theoretical moderators (e.g. low or high-tech firms) have been investigated (Lu & Beamish, 2006). In addition, prior research also suggests that findings might be context dependent, as there are *varieties of capitalism* (Hall & Soskice, 2001).

The remainder of this study is organized as follows. In the first section, the research background and the theoretical framework are briefly sketched. Subsequently, hypotheses for the main direct and indirect effects of *soft capital* on SMEs' export behavior are developed. Finally, results of the bivariate meta-analyses and meta-regressions are assessed and limitations as well as implications for future research are discussed.

THEORETICAL BACKGROUND AND HYPOTHESES

Proponents of the resource based view of the firm (RBV) emphasize that firms represent unique combinations of tangible and intangible resources. Given that many of these mostly firm-specific, non-generic resources and capabilities might not be easily transferred or imitated, heterogeneity in resource endowments tends to be persistent (Barney, 1991). Hence, the ability to develop, deploy and capitalize on idiosyncratic assets in exploiting arising opportunities largely depends on the features of a firm's pool of resources (Fernández-Olmos & Díez-Vial, 2013).

Especially human capital and network resources are likely to possess characteristics of strategic importance for successfully diversifying into export markets (Pla-Barber & Alegre, 2007). Human capital (HC), being defined as education, experience, skills and competencies of a firm's employees, creates value for firms in a differential way (Becker, 1964; Schultz, 1961). Investments in formal education allow individuals to acquire mainly generic human capital,

applicable in a variety of enterprises. In contrast, non-generic human capital is associated with firm-specific on-the-job training or accumulated experience (e.g. Baron & Kreps, 1999).

Human capital creates a competitive advantage because (a) it comprises explicit as well as tacit knowledge and skills, vested in employees and developed over a long period of time; (b) especially its tacit knowledge component can be barely observed, codified and transferred; (c) it is of unique value to a specific firm and will be reflected in a firm's routines and products. Thus, competitors are prevented from easily developing or imitating it. This holds above all for those SMEs, which are hyper-focused, relying on a specialized pool of (firm-specific) human capital. Thriving in a quasi-monopolistic niche, they are hence likely to exploit this advantage also abroad (e.g. Cerrato & Piva, 2012; Simon, 2012).

Simultaneously, SMEs willing to expand internationally cultivate their relational capital (RC) (e.g. Coviello, 2006). By building and nurturing relationships, SMEs potentially gain access to valuable, complementary resources that might either be nested in networks, developed within networks or become available through other network members. Hence, the term *relational capital* has been adopted to emphasize that relationships represent valuable resources – a thought that originates from the theory of social capital (e.g. Bourdieu, 1986; Nahapiet & Ghoshal, 1998). The concept of relational capital captures the idea that organizations establish and cultivate relationships with their environment, e.g. suppliers, customers or other stakeholders (e.g Bontis, 1998; Greco et al., 2013). Indeed, SMEs are keen to become involved in cooperative partnerships. These connections potentially confer advantages which are usually available to firms of a substantially larger size only (e.g. by mitigating information asymmetries) (e.g. Filatotchev et al., 2009). Consequently, to take into account that international diversification is shaped by the network relationships a firm maintains, network approaches to internationalization are built on (Kontinen & Ojala, 2011).

SMEs typically internationalize via exports (e.g. Katsikeas et al., 2000). Exporting represents a relatively swift approach to cross-border expansion, requiring comparatively low resource commitments and preserving organizational flexibility (e.g. Lu & Beamish, 2006). In contrast to alternative (equity) modes of foreign market entry, it allows for minimizing risks and transaction costs, while promising relatively fast payback of the costs associated with expanding on a global scale (e.g. D'Angelo, 2012). In this study, export behavior of SMEs is operationalized by the propensity and intensity of export involvement (e.g. Sousa et al., 2008). While focusing on the most common mode of foreign market entry of SMEs, the resource based view and network approaches to internationalization are drawn on to explore whether and to which extent *the soft side of capital* influences SMEs' international market involvement.

Human capital and exporting

Human capital is key for developing competitive products and hence essential to establishing a viable positioning abroad. This holds above all for SMEs, which tend to focus on niche markets while providing highly specific products, tailored to their clients' needs (Simon, 2012). To nurture innovativeness and long-run competitiveness, SMEs are required to devote substantial efforts towards the accumulation and development of human capital **(**Raymond et al., 2014**)**.

Continuous investments in on-and-off-the-job training should also be conducive to the proficiency in managing tasks and hence productivity (e.g. Acemoglu & Pischke, 1998). More productive firms typically cope better with the sunk costs of developing new markets (e.g. Melitz & Trefler, 2012). In addition, highly productive firms also enjoy relatively low levels of marginal production costs. They can charge comparatively modest price mark-ups and thus self-select and successfully grow into exporting (e.g. Golovko & Valentini, 2011).

Moreover, prior research suggests that characteristics of SMEs' managers play a pivotal role (e.g. Hsu, Chen, & Cheng, 2013). For instance, international experience should improve capacities to (a) detect growth potentials; (b) handle different business cultures; and (c) exploit opportunities abroad (e.g. Ruzzier et al., 2007). Simultaneously, human capital enhances the ability to absorb and combine new knowledge and competencies (e.g. Unger et al., 2011). SMEs endowed with superior human capital might thus develop a better perception of foreign customer preferences and serve their quest for variety accordingly (e.g. Raymond et al, 2014). For growing SMEs, the quality of their intangible, knowledge-based resources is of the essence. These capacities can be transferred and leveraged at relatively low costs and are characterized by non-rivalness in application and consumption (e.g. Fernández-Olmos & Diéz-Vial, 2013).

A superior aptitude to adapt to changing business settings and to integrate new knowledge also fosters the identification and implementation of approaches to modifying existing and creating "new combinations" (e.g. Schumpeter, 1911; Subramaniam & Youndt, 2005). Especially highly innovative SMEs should be willing to exploit their competitive advantage by expanding beyond national borders. Indeed, exporting firms might derive additional benefits in terms of exploiting economies of scale or diversifying business activities and risks (Cassiman & Golovko, 2011). Innovating SMEs might hence be better able to withstand competitive pressures abroad.

Hypothesis 1a. Human capital has a positive effect on SMEs' export behavior.

Hypothesis 1b. Human capital has a positive effect on innovation, which in turn affects SMEs' export behavior positively.

Relational capital and exporting

By sharing and pooling (complementary) resources within networks, SMEs strengthen their ability to develop and exploit resources that allow for successfully competing on export markets (e.g. de Jong & Freel, 2010; Dimitratos et al., 2014). In this vein, relationships allow for creating

and leveraging network embedded competencies (e.g. Spence et al., 2008). As a consequence of purposefully managed relationships, SMEs might benefit from superior market intelligence and reduced information asymmetries. Reliable networks also mitigate (transaction) costs and uncertainties of international expansion (e.g. Johanson & Vahlne, 2009; Fernhaber & Li, 2013).

Well-conceived networking activities should be supportive of learning about (new) markets as well as to recognizing and assessing potential growth opportunities early on (e.g. Kaleka, 2012; Kontinen & Ojala, 2011). By building on relational capital, SMEs either develop innovative ideas or receive valuable resources, insights and stimuli for ameliorating existing processes etc. Simultaneously, valuable relations might allow for sharing costs and risks of creating and commercializing innovations (e.g. de Jong & Freel, 2010). Hence, SMEs' capacity to manage the complexities of undertaking innovation increases. They also benefit from economies of scale, reduced coordination costs and synergies etc. (e.g. Rogers, 2004). Thus, an effective relationship management strengthens these firms' ability to successfully introduce innovation (e.g. Subramaniam & Youndt, 2005; Wincent et al., 2010). It therewith promotes SMEs' export competitiveness also indirectly (e.g. Evald et al., 2011; Coviello, 2006; Hessels and Parker, 2013; Yli-Renko et al., 2002).

Hypothesis 2a. Relational capital has a positive effect on SMEs' export behavior.

Hypothesis 2b. Relational capital has a positive effect on innovation, which in turn affects SMEs' export behavior positively.

Human capital and relational capital

A firm's ability to develop valuable relationships is determined by business managers' competence to identify and ultimately select the right partners. SMEs building on highly qualified human capital should therefore be more likely to establish effective relations. Skills of key personnel are of the essence for creating relationships characterized by reliability, reciprocity and

trust. Simultaneously, building and maintaining a network implies the deployment of scarce resources, an activity managers need to be proficient in (e.g. Kenny & Fahy, 2011). This includes selecting those resources which companies would be willing to share (e.g. Westhead et al., 2001). Concurrently, due to the risks involved (e.g. network partners exploiting their superior bargaining power by acting opportunistically), managers need to be able to critically think about intensifying commitments.

The capacity to acquire and develop knowledge and resources originating from relationships is largely influenced by a firm's human capital, too (e.g. Filatotchev et al., 2009). In order to maximize benefits of building on relational ties (e.g. realizing synergies or exploiting complementarities), companies need to evaluate whether and which information should be acquired through these connections (e.g. Henry, 2013). At the same time, firms rely on their human capital with respect to identifying and successfully integrating resources. Only firms drawing on a sufficient pool of qualified human capital might be in a position to effectively leverage the value of relational capital. Thus, due to the complexity of managing relational capital, substantial expertise and skills are required (e.g. Kenny & Fahy, 2011).

Hypothesis 3. Human capital has a positive effect on relational capital.

Innovation and exports

A superior capacity to innovate creates incentives for SMEs to grow beyond national borders, as this allows for leveraging their idiosyncratic innovative abilities more effectively. Exporting is also appealing to innovating SMEs as it generates comparatively fast paybacks of investments in R&D. Moreover, it is associated with relatively low levels of resource-intensive commitments and additional risks. Innovating SMEs should hence derive further benefits from exporting in terms of exploiting economies of scale (e.g. spread fixed or sunk costs of R&D activities),

diversifying product portfolios or reducing risk exposures, too (e.g. Pla-Barber & Alegre, 2007). While increasing the scope of business activities, exporting is also an appropriate mechanism for preserving control and ownership over unique, firm-specific assets. Moreover, due to shortened product life cycles and competitive intensity, SMEs have to commercialize their innovation advantages as fast and on as many markets as possible (e.g. Raymond et al., 2014).

In fact, being close to the innovative frontier is particularly important for export competitiveness (e.g. Filatotchev et al., 2009). Because of SMEs' expertise to provide customized, differentiated products with high value added, these firms should experience a substantial increase in export demand. Simultaneously, the characteristics of SMEs' products should augment foreign clients' switching costs and willingness to pay price premiums (Golovko & Valentini, 2011). Hence, in particular innovating SMEs might achieve sustainable competitive advantages on dynamic markets (e.g. Monreal-Pérez et al., 2012).

Hypothesis 4. Innovation has a positive effect on SMEs' export behavior.

Exports and innovation

While interacting with foreign customers and competitors, SMEs develop a better appraisal of the requirements and prospects of international diversification (e.g. Golovko & Valentini, 2011). The competitive intensity of export markets implies that successful SMEs have to foster their learning capacities (e.g. Ganotakis & Love, 2012). SMEs, which effectively leverage knowledge arising through export activities, should benefit from a superior capacity to develop competencies essential for (a) adapting existing products in accordance with domestic and foreign clients' preferences and (b) developing competitive, innovative products (e.g. Esteve-Pérez & Rodríguez, 2013).

International expansion usually also entails higher sales volumes and increases the expected profitability of innovation activities (e.g. Monreal-Pérez et al., 2012). Thus, exporting SMEs should cope better with the substantial (fixed and sunk) costs and uncertainties of pursuing innovation projects. Moreover, by tapping into knowledge flows on international markets, SMEs might recognize attractive opportunities early on and economize on R&D costs. Due to these learning-by-exporting effects, exporting SMEs should be characterized by a superior innovative capacity (e.g. Esteve-Pérez & Rodríguez, 2013).

Hypothesis 5. Exporting has a positive effect on SMEs' innovation activities.

Moderating variables

Both, the direction as well as the strength of the investigated relationships are potentially influenced by moderating variables. Therefore, firm or methodological as well as industry- and country-level moderating variables have been explored.

DATA AND METHODS

Data collection, selection and coding

Different search strategies have been applied to identify and synthesize prior empirical research on the *soft capital*-export-link. These strategies included a systematic search of databases for all years available (Business Source Premier, EconLit, ScienceDirect, ABI/Inform and ProQuest), by applying variations of keywords of independent and dependent variables. All issues of academic journals of particular pertinence for studying the selected relationships have been manually searched as well. Subsequently, conference proceedings, working papers and references of relevant studies have been examined to spot additional articles. As a result, 511 studies could be located.

To be suited for meta-analytical purposes, studies had to meet several criteria. First, only quantitative papers could be included. Moreover, studies needed to examine the relationships of interest while focusing on SMEs, thus on firms employing less than 500 employees (OECD, 2005). Simultaneously, studies had to provide indicators for predictor and dependent variables. In order to be meta-analytically integrated (via effect sizes), studies also needed to report sufficient statistical information, e.g. Pearson's product moment correlations or statistical values that could be transformed into r (e.g. β-coefficients). After applying these inclusion criteria, 151 published and unpublished research findings could be integrated.

For the purpose of moderator analyses, studies have been classified depending on whether they build on low-tech (LT) or high-tech firms (HT). Country-level influences have been tested by contrasting samples stemming from developed (DC) with those from developing economies (LDC) (UN, 2012). Moderator analyses have also been performed to compare findings from studies relying on indicators of investments in human capital (HCI, e.g. educational level) with those referring to outcomes of investments in human capital (HCO, e.g. technical expertise, industry-specific skills). Finally, studies have been contrasted depending on whether vertical (VR) or horizontal relationships (HR) have been investigated (e.g. relationships with competitors or ties to governmental institutions).

Methods for analyzing meta-analytic data

For integrating and analyzing meta-analytical data, the frequently applied methods developed by Hunter and Schmidt (2004) have been used. The mean effect sizes have been estimated on the basis of Pearson's product-moment correlations (r). When studies reported multiple correlations for a particular relationship, averages of these effect sizes have been calculated. To ensure sample independence and avoid overrepresentation, studies building on identical data sets have been

included only once. Prior to integrating studies, the precision of estimates has been accounted for by weighting single correlations with their respective study's sample size. In addition, the reliability of the constructs has been corrected for. When a study did not report reliabilities, the mean reliability across the sample served for correction (Lipsey & Wilson, 2001).

Table 1 (see appendix) depicts the results of the bivariate meta-analysis of the relationship between *soft capital* and SMEs' export behavior. Both, the reliability-corrected (r_c) and the sample-size-weighted correlations (r) are shown. To evaluate the statistical significance and the precision of estimated effect sizes, the 95% confidence intervals around the mean have been examined. Additionally, homogeneity analyses (75%-rule and 95% credibility interval) have been applied to assess whether mean effect sizes are appropriate estimates of the distribution of population values (Hunter & Schmidt, 2004). Homogeneity prevails, when more than 75% of the observed variance is caused by sampling error. As the 95% credibility intervals represent more conservative assessments, they have been examined, too. Relationships are likely to be moderated when credibility intervals include zero or are relatively large (>0.11) (Geyskens et al., 2009). The results of homogeneity analyses therefore motivate conducting moderator analyses (Lipsey & Wilson, 2001).

Bivariate subgroup and meta-regression analyses have been conducted to test for moderating variables. To evaluate whether differences between subgroups are statistically significant, z-values and the corresponding p-values were examined (Table 2, appendix). In addition, robustness checks for bivariate analyses have been performed. Methods of meta-regression allow for specifying influences of several moderator variables simultaneously (Table 3, appendix). They account for interaction effects between moderators that go unobserved in bivariate investigations. In multivariate meta-regression, moderator variables are tantamount to explanatory variables, whereas mean effect sizes (i.e. the effect size of human capital on

exporting) represent the dependent variable (Lipsey & Wilson, 2001). The intercept captures the effect size when all regressors are equal to zero. Due to the heterogeneity in study-level data, a weighted-least square procedure (as available in STATA), including, to account for standard errors, a robust estimation technique (White standard errors), has been applied. Given that dummy variable regressions are particularly plagued by multi-collinearity (including the dummy variable trap), the most parsimonious models (Model 1 to 5) have been identified. Regression coefficients represent the difference in effect sizes in comparison to their respective reference groups (e.g. HCI is measured with reference to HCO).

RESULTS

Bivariate meta-analyses results

An overview of all seven bivariate meta-analyses is given in Table 1. In line with H1a, the relationship of HC and SMEs' export behavior is positive and significant with an estimated mean effect size of $r_c = 0.13$ (the boundaries of the 95% confidence interval were 0.07 and 0.14). However, size and nature of the 95% credibility interval suggest that the underlying population is heterogeneous. As the sampling error accounts for 2.72% of observed variance only, this assumption finds additional support (see Table 1, appendix).

Consequently, three moderator types have been tested for (see Table 2; appendix). Analyses reveal that the relationship of HC and the export behavior is moderated by whether HCI or HCO are measured ($z = 6.01$, $p < 0.001$). The influence of HCO tends to be more pronounced ($r_c = 0.21$ and $r_c = 0.03$). The variance attributed to sampling error increased considerably while overall variance explained by sampling error was far below 75%. However, effects for HCI are insignificant and remain heterogeneous, thus suggesting that further moderating influences might

exist. In contrast, both, the technological intensity of business environments as well as the level of country development, do not explain cross study variation in effect sizes.

Moreover, H1b claimed that human capital influences an SME's capacity to innovate, which in turn supports export involvement. In fact, by aggregating results stemming from 33 studies, a positive and significant mean effect size (r_c = 0.09) for the influence of human capital on innovation could be detected. The subsequent analyses provided evidence for two moderating influences: the level of country development ($z = 2.26$, $p < 0.01$) and the conceptualization of human capital ($z = 6.74$, $p < 0.001$). Effects of human capital were higher in DC as well as for HCO ($r_c = 0.16 > r_c = 0.07$ and $r_c = 0.52 > r_c = 0.07$ respectively).

According to H3 an overall positive relationship of human and relational capital should exist. In fact, analyses point to a strong and statistically significant effect of HC on RC (r_c = 0.34). The boundaries of the 95% credibility interval and the proportion of variance attributed to sampling error suggest that moderator analyses might provide additional insights. However, effects of HC on RC were equally strong, irrespective of the level of technological and economic advancement of business environments, whereas conceptualizations of human capital have a differential influence ($z = 1.78$, $p < 0.05$). Again, studies based on indicators of HCO report higher effect sizes (r_c = 0.51 compared to r_c = 0.30).

The association between relational capital and export behavior is positive and statistically different from zero (r_c = 0.11; 95% confidence interval spanning from 0.04 to 0.14). When performing subgroups analyses neither a differential influence of the direction of RC, industry settings or the economic development of home countries could be detected. The mean effect size of the link of relational capital and innovation activities of SMEs provides evidence for a small, positive and significant influence (r_c = 0.06). However, analyses revealed that effect sizes are invariant from directions of relational ties, industry as well as country settings.

Exploring the relationship of innovation on export activities of SMEs provided support for hypothesis H4 (r_c = 0.09). Innovating SMEs have a significant propensity to develop activities abroad. As a consequence, these results also provide support for H1b and H2b, as relational as well as human capital both positively influence an SME's capacity to innovate. This in turn promotes SMEs' export behavior. The results of the bivariate analyses also suggest that SMEs benefit from exporting in terms of learning-by-exporting effects (r_c = 0.12) in a significant way. As homogeneity tests did not allow for drawing a clear conclusion on whether the "learning to export" and "learning-by-exporting" hypothesis might be moderated, no moderator analyses for these hypotheses have been performed.

Meta-regression results

The results of the meta-regressions reveal that all examined relationships are moderated by at least one of the three moderator types (see Table 3, appendix). More precisely, meta-regressions confirm that studies based on conceptualizations of HCO systematically report higher effect sizes (β-values are significant at $p < 0.01$). Moreover, the level of country development has a differential influence on all relationships except for the effect of relational capital on innovation (having a t-value of -1.00). In general, the effects are stronger when samples stem from LDC, since only the relationship of human capital and innovation is positively moderated by development status. Moreover, the results of the analyses including relational capital highlight that the direction of the relationship matters. Companies benefit more from establishing and nurturing horizontal relationships (HR). Industry-level moderators however do not exist.

DISCUSSION AND IMPLICATIONS FOR FUTURE RESEARCH

This study integrated empirical evidence from 151 studies to investigate whether and how *the soft side of capital* promotes SMEs' competitiveness. In a first step, the overall model has been

deconstructed for analyzing its single bivariate relationships separately. All of these investigations revealed positive and significant relationships with estimated values varying between small (0.06) and modestly large (0.34) effect sizes. Hence, findings show that human capital and relational capital are essential for competing on domestic and foreign markets.

More precisely, the results point to the importance of recruiting motivated individuals which possess a superior capacity to learn, while highlighting the pertinence of effective training schemes. In fact, schooling does not sufficiently allow for acquiring the skills and expertise which are appropriate for exploring arising business opportunities. In contrast, these abilities mainly arise from in-house vocational training and on the job learning-by-doing effects. As a result of shortened product life cycles and their niche market concentration, especially SMEs require highly qualified, specialized employees with a disposition to create novel products and to adapt to new settings. Simultaneously, a lack of human capital is per se detrimental to the export activities of SMEs – irrespective of the industry context. Moreover, as firms from LDCs often cannot build on reliable educational institutions, it is in these environments where firm-specific education and effective exploitation of qualified human capital are particularly relevant. The findings also reiterate the importance of directing policy initiatives towards establishing business environments characterized by effective institutions (e.g. performing educational systems, reliable legal procedures, political stability). Such settings are conducive for taking on additional risks which come with developing capacities to export.

Future research should identify those skills and competencies being particularly salient for developing new products and markets (e.g. degree of firm-specificity; task relatedness). As indicators for HCI seem to systematically underestimate the capabilities and innovative potential of employees, scholars might gainfully rely on outcome-based measures (e.g. Unger et al., 2011). Simultaneously, prior research accredited decisive relevance to the skills of top managers,

whereas fruitful insights could be derived from investigating competencies residing in lower levels of the hierarchy, too (e.g. Cerrato & Piva, 2012).

SMEs' ability to cultivate relational capital has a decisive influence on their export competitiveness. In fact, as networking is associated with benefits in terms of risk sharing and utilization of common resources, building on relational ties allows for developing decisive competencies for successfully growing into exporting. As their exposure towards liabilities of smallness and foreignness tends to be more pronounced, a resilient network is especially important to exporting firms from LDCs.

Simultaneously, purposeful networking strengthens SMEs' ability to assess novel ideas. It also promotes realizing such projects as it allows for a better handling of costs and uncertainties of undertaking R&D. However, the relatively small effect size between relational capital and innovation ($r = 0.06$) indicates that a careful selection and management of relationships is critical. The capacity to successfully exploit the benefits (i.e. a superior capacity to export) arising from relational capital appears to be context dependent. Whereas networks are important irrespective from the industry setting, SMEs benefit most from building on horizontal ties. Up to now, relatively few studies of relational capital explored whether trust, intensity of resource commitment, the strength or quality of ties to other organizations or the duration and purpose of relations determine the capacity to create value. These are potentially promising avenues of future research.

The risks involved with managing relational capital indicate that the ability to build valuable relations largely depends on human capital. Especially key personnel plays a prominent role with respect to identifying and selecting new partners. Furthermore, upper- and lower-level management employees are essential for identifying and applying valuable information. Concurrently, results reveal that the effectiveness of firm-specific training schemes determines

the ability to establish valuable relations (studies measuring HCO [e.g. negotiation skills] report significantly higher effect sizes). These results are generalizable across industry settings. Simultaneously, human capital is of particular importance to companies based in LDCs. However, probably different competencies might be required, depending on whether relationships with clients or suppliers are managed. Unfortunately, as such detailed information has rarely been provided, future research is urgently needed. Given that the link between SMEs' human and relational capital is underexplored, a comparatively small number of studies has been drawn on.

Concurrently, results indicate that firms offering a unique, innovative variety of products successfully cope with the dynamism prevailing on export markets (García et al., 2012). Innovation actually allows for mitigating liabilities of smallness and foreignness. Thus, innovating SMEs should derive substantial benefits from export involvement (e.g. diversification of business activities, compensation for risks and [sunk and fixed] costs of R&D activities). As prior research provided mixed and often conflicting results with respect to the innovation-export-link our meta-analytical findings contribute to the literature in a significant way (e.g. Monreal-Pérez et al., 2012). From a practical perspective, these findings also reveal the pertinence of effective innovation schemes. Hence, public policy makers could assist SMEs in developing an innovation orientation (e.g. promote cooperative R&D agreements; create environments in which proximity to competitors, research institutes etc. supports the exchange of knowledge and ideas). Simultaneously, business managers might assess potential effects of nurturing *soft capital*, as it promotes SMEs' innovative capacity and hence export involvement indirectly, too.

In contrast to previous research, usually perceiving innovation and export activities as mutually exclusive strategies, this study showed that both strategies are interrelated and complementary (e.g. Golovko & Valentini, 2011). Causality runs in both directions. Due to their

export activities, innovating SMEs enjoy increased sales volumes, cash flows and profits. Thus, these firms can devote more reserves to pursue pronounced innovation activities. Concurrently, innovating SMEs, characterized by a superior capacity to deploy knowledge generated through proximity to foreign markets, should be able to exploit the full potential of learning-by-exporting effects (e.g. insights on how to modify products, develop high-quality innovations). This self-reinforcing mechanism implies that SMEs benefit from pursuing both strategies simultaneously. From a policy perspective, these findings point to the importance of reducing barriers to international trade and incentivizing SMEs to become involved in R&D. Future research could also be directed at studying under which conditions learning-by-exporting is likely to occur (e.g. Golovko & Valentini, 2011).

Soft capital affects SMEs' export competitiveness directly as well as indirectly. It is essential to successfully pursuing growth strategies. As a consequence of the growing knowledge-intensity of products, industries and economies, future research needs to devote more efforts towards investigating the role and antecedents of *soft capital* (e.g. relevance of the strength of relational ties). The main implications for managers are twofold. As access to valuable human and relational capital is essential, locational decisions are important. Moreover, effective training and knowledge management systems as well as the disposition to absorb knowledge and learn from past export experiences is core to developing export competitiveness.

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TABLES

TABLE 1: Results of the bivariate meta-analyses on "the soft side of capital" and SMEs' export behavior

Relationships	k	N	r_c	R	Sampling error (% variance)	95% Confidence Interval	95% Credibility Interval
HC and export behavior	26	124822	0.13	0.11	2.72%	0.07 to 0.14	-0.06 to 0.27
HC and innovation	33	59712	0.09	0.08	7.22%	0.05 to 0.11	-0.09 to 0.24
RC and export behavior	15	12542	0.11	0.09	12.78%	0.04 to 0.14	-0.08 to 0.27
RC and innovation	26	56778	0.06	0.05	3.49%	0.01 to 0.09	-0.17 to 0.27
HC and RC	15	3374	0.34	0.28	8.90%	0.17 to 0.38	-0.11 to 0.66
Innovation and export behavior	23	285884	0.10	0.09	5.11%	0.07 to 0.11	0.02 to 0.17
Export behavior and innovation	13	50511	0.12	0.12	46.99%	0.10 to 0.13	0.08 to 0.15

k = number of samples, N = overall number of observations (N varies in dependence on the number of studies exploring the particular relationship); r_c = reliability-corrected and sample-size-weighted mean effect sizes; r = sample size weighted mean effect sizes; source: own bivariate calculations on the basis of the sample of 151 studies.

TABLE 2: Results of the bivariate meta-analysis on human capital and SMEs' export behavior

Variable	K	N	r_c	r	Sampling error (% variance)	95% Confidence Interval	95% Credibility Interval	Z-value	p-value
Overall relationship	26	124822	0.13	0.11	2.72%	0.07 to 0.14	-0.06 to 0.27		
HC Conceptualization									
HCI	13	57384	0.03	0.03	5.68%	0.00 to 0.07	-0.09 to 0.15	6.01***	0.00
HCO	4	65877	0.21	0.17	2.65%	0.16 to 0.25	0.12 to 0.30		
Industry									
LT	7	2347	0.12	0.10	53.32%	0.07 to 0.17	0.02 to 0.22	0.40	0.35
HT	6	1383	0.14	0.12	29.52%	0.05 to 0.24	-0.05 to 0.24		
Country									
LDC	8	110217	0.13	0.11	0.64%	0.06 to 0.20	-0.08 to 0.33	0.59	0.28
DC	17	5154	0.10	0.08	12.65%	0.02 to 0.17	-0.20 to 0.39		

*** $p < 0.001$; source: own bivariate calculation: Please note that only the bivariate moderator analyses for the relationship of human capital and exports have been presented as a table. In order to preserve readability and clarity, it has been refrained from presenting all seven bivariate moderator analyses in a table format (these tables are available upon request). However, all results have been described in the main body of the text.

TABLE 3: Results of the multivariate meta-regressions

	Model 1		Model 2		Model 3		Model 4		Model 5	
Variable	**β**	**T**	**β**	**t**	**β**	**t**	**β**	**t**	**β**	**t**
Relationship HC and export behavior										
HCI	-0.17	-5.33***								
LDC	0.20	11.83***								
Relationship HC and innovation										
HCO			0.67	3.58**						
DC			0.07	11.17***						
Relationship RC and export behavior										
HR					0.28	3.07*				
LDC					0.19	3.26**				
Relationship RC and innovation										
HR							0.06	9.50***		
DC							-0.07	-1.00		
Relationship HC and RC										
HCO									0.51	5.36***
LDC									0.12	2.00†
R^2	0.85		0.60		0.62		0.11		0.62	
F-value	70.93***		71.77***		117.04***		45.49***		39.41***	

β = regression coefficients, t = t-value; dependent variables are the overall effect sizes of the particular relationships; †p < 0.10, * p < 0.05, ** p < 0.01, ***p < 0.001; source: own calculations