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PERCEIVED PREVALENCE OF NON-TARIFF BARRIERS: A CONCEPTUAL AND EMPIRICAL ANALYSIS Edward E. Marandu, Catherine Phambuka-Nsimbi, and Amos Owen Thomas

INTERNATIONALIZATION AND VALUE-CREATION PERFORMANCE OF LATIN AMERICAN MULTINATIONALS: THE CASE OF OUTBOUND FOREIGN DIRECT INVESTMENT Kofi Afriyie, Gladys Torres-Baumgarten, and Veysel Yucetepe

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THE PRACTICE OF CUSTOMER VALUE CREATION AND MARKET EFFECTIVENESS AMONG LOW-TECH SMES

Abstract: Low-tech firms by definition can rarely establish their competitive advantage on new technological knowledge which is why such firms and low-tech SMEs in particular has to find other means to compete. As value creation is increasingly considered the core of staying competitive independent of the firm size and industry characteristics, the practice of customer value creation and resulting market effectiveness becomes topical in terms of competition management. Acknowledging the complexity of a contemporary phenomenon of this type, an attempt is made to understand the customer value creation in its real-life context through an international case study approach. Emerging qualitative research findings indicate that high performing firms apply high design and high quality related activities more often than the less successful firms in addition to which corresponding high end products are expressed representatively. Low performance firms in turn more frequently base their value creation on lower price characteristics and product and company information only. The subsequent statistical analysis confirms the significance of representative presentation and indicates further that interaction which is made possible to customers with designers has the biggest antecedent influence to market effectiveness. However, so far no statistically significant value creation strategy could be identified which would have been capable of differentiating case firms by their market effectiveness. In exploring empirically the practice of SME value creation the study offers some firsthand evidence and managerial guidance as to SME value creation and corresponding market effectiveness.

Edward E. Marandu

Catherine Phambuka-	PERCEIVED PREVALENCE OF NON-TARIFF
Nsimbi	BARRIERS: A CONCEPTUAL AND EMPIRICAL
Amos Owen Thomas	ANALYSIS

Abstract: This paper provides a theoretical as well as empirical analysis of the prevalence of Non-Tariff Barriers (NTBs) on trade in an emerging economy. Data were obtained from 94 export-import executives in Botswana. The study makes four main contributions to the understanding of NTBs. First, NTBs are initially conceptualized as consisting of three groups - Technical, Trade Policy and Administrative – that are a subset of the broader Social, Economic and Administrative regulations in a nation. Second, although strictly not an NTB, this study introduces Infrastructure Deficiency as a new category relevant in a developing environment. Third, NTBs are considered in the main to be external to a firm and macro in scope. Fourth, the findings suggest that the most prevalent barriers to Botswana's intra-SADC trade are of Administrative and Infrastructure in type, while Technical barriers are the least. Finally, managers of small or lessexperienced firms have a tendency to perceive higher levels of NTB. These findings suggest the following implications for policy: (1) Efforts aimed at increasing regional trade may prove more fruitful if focused on reducing administrative NTBs and improving infrastructure rather than tackling technical NTBs; (2) Since NTBs are macro in scope, overcoming them is expensive and requires collective action by firms; and (3) Public trade promotion efforts should focus on managers of small or less experienced firms because they have a tendency to perceive higher NTB levels than what actually exists. 16

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INTERNATIONALIZATION AND VALUE-CREATION PERFORMANCE OF LATIN AMERICAN MULTINATIONALS: THE CASE OF OUTBOUND FOREIGN DIRECT INVESTMENT

Abstract: Understanding the internal sources of acquiring market strength has implications for corporate strategic decisions and competitive behavior as firms expand their cross-border business activities in their home region and around the world. This paper focuses on the sources of value creation in Latin American multinationals (LAMNEs). The basic premise of this paper is that a set of managerial skills and corporate strategies that leverage internal resources and capabilities coupled with strategic decisions to enter specific industries are driving the creation of market values among LAMNEs. This paper presents a conceptual framework and empirical evidence on internal management capabilities in deploying resources that help explain variations in market values generated by the largest Latin American firms.

Yamen Koubaa

Amira Eleuch EpKoubaa

DETERMINANTS OF TUNISIAN SMES EXPORTING BEHAVIOR: AN EMPIRICAL INVESTIGATION

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Abstract: The social and political instability that marked Tunisia shortly after the collapse of the ex-regime had hit hard the export activities of small and medium enterprises (SMEs) already in difficulties due to the recent world economic downturn. The interim government is trying to find remedies to the current situation through political, social and financial measures. However, these measures appear to be less efficient and conclusions have been drawn that remedies to the current Tunisian exporters' problems should pass, among others, by a reconsideration of their exporting behaviors. There is a tendency among Tunisian exporters to focus on one international destination and ignore opportunities available in other markets. This research tries to draw the profiles of mono destination and multi destinations exporters in Tunisia by examining the various factors that impact the choice of and the involvement with foreign markets. Depicting the profiles of these two types of exporters will help in developing appropriate measures that would contribute to the expansion of the Tunisian export activities. Results from an empirical investigation among a sample of Tunisian SMEs revealed that firm's specific factors are influencing the exporting behavior of Tunisian SMEs.

THE EXCHANGE RATE RISK IN THE JOHANNESBURG STOCK MARKET: AN APPLICATION OF THE ARBITRAGE PRICING MODEL

Paul-Francois Muzindutsi Ferdinand Niyimbanira

Abstract: The volatility of exchange rates has caused much concern among policy makers in government, the business community, financial institutions and financial markets as it contributes to international risks. Investors are also concerned about the impact of the exchange rates' movements on both the cash flow of companies' operations and the discount rate employed to value these cash flows. This paper inspects the pricing of exchange rate risk in the South African stock market, using a two-factor arbitrage pricing model. After examining the Johannesburg Stock exchange All Share Index Top40 (ALSI Top40) companies, the conclusion is reached that these companies tend to be negatively exposed to the exchange rate risk. The unconditional premium attached to the foreign exchange rate exposure is found to be 2.2% per month and is both economically and statistically significant. The exchange rate does not appear to be diversifiable (systematic risk) and active hedging policies by financial managers can affect the cost of capital. Investors should, therefore, earn a premium by being exposed to the foreign exchange rate risk.

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EDITORIAL

Low-tech firms by definition cannot base their competitive advantage on new technological knowledge which is why they have to find other means to compete. This becomes a problem to SMEs in particular because they typically suffer from limited resources and management skills and are highly apt to any business fluctuations. As value creation is increasingly considered the core of staying competitive independent of the firm size and industry characteristics, the practice of customer value creation and resulting market effectiveness has been explored in the context of small and medium sized furniture manufacturers.

In the first paper by Martti Lindman, Kyosti Pennanen, Jens Rothenstein, Barbara Scozzi, and Zsusanna Vincze, given that from the SME management point of view the key issue is to which extent any customer value creation makes difference in terms of market effectiveness, a comparative case analysis has been made. The results indicate that even if any differentiating value creation strategy could be as such establish, the SMEs which area capable of managing high design and high quality in many cases perform considerably better than their less capable competitors. Lindman et al further demonstrate statistical analysis that expresses an interaction which is made possible between designers and customers seems to have the biggest effect to market effectiveness. Consequently, development of customer interface as a whole can offer the means to differentiate oneself from competition.

The second paper by Edward E. Marandu, Catherine Phambuka-Nsimbi, and Amos Owen Thomas investigates theoretically and empirically the prevalence of Non-Tariff Barriers (NTBs) on trade between Botswana and other Southern African Development Community (SADC) countries. The study is based on the underlying assumption that trade barriers are detrimental to overall welfare because they decrease economic efficiency by encouraging production and trade in a manner that is contrary to the theory of comparative advantage. Data were obtained from 94 export-import executives in Botswana.

This study produces three main contributions to our understanding of NTBs from a theoretical standpoint:

- 1. NTBs are initially conceptualized as consisting of three categories Technical, Trade Policy and Administrative – that are a sub-set of the broader Social, Economic and Administrative regulations in a nation. The three-group taxonomy – admittedly arbitrary – is however a useful means of examining NTBs and makes intuitive sense. In this study "a non-tariff barrier refers to a public policy or regulation other than a tariff that impedes international trade". This definition, though still broad, goes beyond earlier ones by not only citing what an NTB is not, but also analyzing what it is.
- 2. This study introduces Infrastructure Deficiency as a new NTB category relevant in a developing environment. Although not strictly an NTB, our study showed that deficiency in infrastructure poses as one of the most significant constraints to trade in the SADC region.
- 3. NTBs are considered in the main to be external to a firm and macro in scope.

Similarly the study produces three main contributions to our understanding of NTBs from an empirical standpoint:

1. The findings suggest that the most prevalent barriers to Botswana's intra-SADC trade are of Administrative and Infrastructural in type, while Technical barriers are the least. The low prevalence of Technical NTBs (health, safety and environmental) may be explained by the fact that Botswana's main SADC trading partner (South Africa) is at about the same level of development and the standards may be about the same for both countries, typically Botswana adopting South Africa's in order to have access to the latter's much larger market.

- 2. There is some limited evidence to suggest that respondents from smaller firms tend to perceive a higher level of NTB prevalence than larger ones. This suggests that the perceived prevalence of a barrier on a firm's trade behavior varies inversely with the size of a firm. One possible explanation is that because of their limited resources small firms perceive a higher risk in most things they do including perceiving higher NTB levels than what actually exists.
- 3. There was some limited evidence to suggest that less experienced managers tend to perceive a higher level of NTB prevalence than the more experienced ones. Again this suggests that the perceived prevalence of a barrier varies inversely with the experience of a respondent. This is consistent with internationalization theory that posits that knowledge obtained through experience in a specific overseas market is the primary means of reducing foreign market uncertainty.

The theoretical and empirical findings suggest the following implications for theory development and practice:

- 1. Perhaps the main contribution of the paper to knowledge is articulation of the three-group taxonomy generally and the addition of a fourth category, infrastructure deficiency, which is specific to a developing environment. The finding that infrastructure deficiency is one of the most significant constraints to trade in the SADC region suggests that in a study of NTBs in a developing or emerging economy which omits infrastructure may be misleading because of under-specification of the salient barriers to trade.
- 2. It is recommended that efforts aimed at increasing Botswana's regional trade may prove more fruitful if focused on reducing administrative NTBs and improving infrastructure rather than tackling technical NTBs.
- 3. Public export trade promotion agencies are advised to focus efforts on small firms because they have a tendency to perceive higher NTB levels than what actually exists. One way to overcome this mental barrier is for public policy makers to organize seminars, radio or television programs in which small international traders share their success stories.
- 4. It is recommended that trade promotion agencies should provide differentiated support services to firms according to experience. For instance, non-exporters could be encouraged to attend seminars; new exporters could be supported to undertake trade missions; and experienced exporters could be facilitated to attend trade shows or in the identification of trading partners.
- 5. Since NTBs are macro in scope, overcoming them may be expensive and may require collective action by firms.

In the third study, Kofi Afriye, Gladys Torres-Baumgarten, and Veysel Yucetepe investigate a link, if any, between the operational performance of Latin America's largest companies and the market values they create. Over the past two decades many Latin American firms have joined the ranks of the largest corporations in the world, according to Forbes.com, a global business periodical that ranks firms and tracks trends in global business. Latin American firms such as EMBRAER of Brazil and CEMEX of Mexico are among the most competitive in their industries.

However, in spite of their growing reputation and clout, only recently have Latin American multinational enterprises (LAMNEs hereafter) become subjects of systematic study in the academic world. Hence, there is a lot that is unknown about these firms, especially about their overall performance at the level of operations and strategic presence in specific industries. For example, what are the internal operational sources of creating market value in LAMNEs? Do the industries in which these firms operate matter in terms of market value creation?

N. Delener, Editor-in-Chief

Past studies have attempted to show sources of market value creation by looking at the role market data and financial information play in pricing a company's stock price which is used to determine the market value of a firm. Thus the movements of a firm's stock prices during a time period affect the company's market value in that period. Likewise, specific investment portfolios of firms affect stock prices which influence the overall market value.

Kofi Afriye, Gladys Torres-Baumgarten, and Veysel Yucetepe's study uses a different approach and attempts to answer these questions by examining a sample of sixty-three LAMNEs in the Forbes.com population of the largest global firms. The study introduces a model that examines operational data on sales, profits, profit margins as well as assets and their individual effects on market value in Latin America's largest firms. This approach differs from past studies in that this study searches for a potential link between market value creation from actual operations, rather than from market data and financial information.

The findings of Kofi Afriye, Gladys Torres-Baumgarten, and Veysel Yucetepe's study show that sales, profit levels and profit margins and assets individually contribute to creating market values among LAMNEs. Also, the presence of LAMNEs in specific industries, such as energy, financial services and materials and assorted industries such as telecommunications was a strong source of market value. Similarly, the presence of these firms in the specific industries also appear to be a strong source generation of market value in LAMNEs. However, other operational variables such as asset utilization did not contribute to the creation of market value in LAMNEs. The reasons are unclear from this study.

More investigation at the operational levels of these firms are needed to establish systematically whether such value creation also confers any unique competitive advantages on Latin America's largest firms and, if so, how the older, traditional multinational firms from North America, Western Europe and Japan may have to readjust their own strategies in response to an ever increasing crowded field of global business players.

The fourth study by Yamen Koubaa and Amira Eleuch EpKoubaa extends the knowledge about exportation activity in Tunisia. The studies in this area are generally interested to the firm exportation performance. This research focused on the predictors of the firm exporting behavior. Yamen Koubaa and Amira Eleuch EpKoubaa identify some criteria discriminating between mono destination and multi destinations firms.

The investigated factors were the firm's size, the experience in export and the manager's characteristics toward risk. An empirical investigation among a panel of 52 Tunisian SMEs revealed significant effects of some of the factors studied. The SMEs concentrating their exporting activities on one market have smaller sizes than those acting in many markets. The experience in export activities could not predict the exporting behavior of the Tunisian SMEs. The absence of relationship between the experience and the number of targeted markets can be justified by the approach of the Tunisian firms in the exportation activity. The proactive firms which take the initiative and search for customers abroad can be multi destinations from the beginning of their exportation activity. However, if the firm is reactive and waits to have orders from foreign markets, it is likely to serve one destination. Risk taking and innovative managers are more willing to engage the firm in multiple markets. The game of business is a game of risk and the predisposition to take risk has made the differences between the winner and the looser and between the best performer and the least performer. One of the measures that can push adverse managers to accept higher risk is an improvement of the insurance system in Tunisia. Export success is based partially on how the firm seizes the available opportunities and keeps doing better than the competitor which is in its turn influenced by the manager's attitude toward risk.

As the exportation activity is crucial to the firm's growth and the economy's dynamism in Tunisia, exporters and organizations promoting exportations should invest more resources and effort to develop exportation activity. The Tunisian mono destination firms can focus on one market avoiding the risk of being engaged on multiple markets but such firms should profit from their experiences and their strong relationships with their traditional market by surpassing the exportation stage toward the establishment of a joint venture or a sales agency for instance. The national agencies promoting the exportations could have a determinant role to strengthen the relationship of Tunisian exporters with scarcely targeted markets by organizing commercial missions and professional meetings between the different officials. They could also run specific marketing

actions to improve the image of Tunisia and of the Tunisian products internationally. The authors suggest also the technique of clusters as a boost for the export. Clusters are alliances between SMEs to conquer foreign markets. Clusters increase the firm's competitiveness and presence into foreign markets. They allow crossfertilization of knowledge between partners and diversification of the risks associated with the international exposure. Note here that the culture of sharing risks and benefits should be in place to have a positive return of clusters on SMEs international performance. The description of the profile for every type of firms along this study provided some important implications to consider by firms' managers and by the national agencies dealing with export.

The fifth research paper by Paul – Francois Muzindutsi and Ferdinand Niyimbanira uses the unconditional asset pricing model to investigate the exposure of the stock market on exchange rate risk and the pricing of this exchange rate risk in the South African stock market. The data used in this study consists of monthly observations of share prices for all the companies that appear in the Johannesburg Stock Exchange (JSE) Top40 index and monthly exchange rate series (South African rand versus U.S. dollar). The JSE Top40 companies were classified based on where they mostly generate their revenues (domestic or offshore). Three categories were identified: non-tradable, mixed and tradable companies. The findings of Muzindutsi and Niyimbanira's study indicate that the JSE Top40 tends to be negatively exposed to the exchange rate risk. The unconditional premium attached to the foreign exchange rate exposure is found to be 2.2% per month and is both economically and statistically significant. The exchange rate does not appear to be diversifiable (a systematic risk). Investors should, therefore, earn a premium for being exposed to this risk and should consider the impact of exchange rates' movements on both the cash flow of companies' operations and the discount rate employed to value such cash flows. Policy-makers should consider the long run impact of the government's intervention in the currency market.

The matter of concern is related to the exogenous risk-free rate model which produces results that are different from an endogenous risk-free rate model. Most of the theory emphasizes that these two rates should be equal but it does not indicate the most correct risk-free rate to be used, in cases where they differ. Whether there is a better way of testing the pricing of the exchange rate risk is still an open question to be answered by future research.

N. Delener, Ph.D. Editor-in-Chief

NOTE FROM THE EDITORS

As an interdisciplinary journal, *The Journal of Global Business and Technology* (JGBAT) serves academicians and practitioners in the fields of global business and technology and their related areas. The JGBAT is also an appropriate outlet for manuscripts designed to be of interest, concern, and applied value to its audience of professionals and scholars.

Readers will note that our attempt to bridge the gap between theory and practice has been successful. We cannot thank our reviewers enough for having been so professional and effective in reiterating to contributors the need to provide managerial applications of their research. As is now obvious, the majority of the articles include a section on managerial implications of research. We wish to reiterate once again our sincere thanks to JGBAT reviewers for having induced contributors to answer the "so what?" question that every Journal of Global Business and Technology article is required to address.

Thank you for your interest in the journal and we are looking forward to receiving your submissions. For submissions guidelines and requirements, please refer to the Manuscript Guidelines at the end of this publication.

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THE PRACTICE OF CUSTOMER VALUE CREATION AND MARKET EFFECTIVENESS AMONG LOW-TECH SMES

Martti Lindman, Kyösti Pennanen, Jens Rothenstein, Barbara Scozzi, and Zsusanna Vincze

ABSTRACT

Low-tech firms by definition can rarely establish their competitive advantage on new technological knowledge which is why such firms and low-tech SMEs in particular has to find other means to compete. As value creation is increasingly considered the core of staying competitive independent of the firm size and industry characteristics, the practice of customer value creation and resulting market effectiveness becomes topical in terms of competition management. Acknowledging the complexity of a contemporary phenomenon of this type, an attempt is made to understand the customer value creation in its real-life context through an international case study approach. Emerging qualitative research findings indicate that high performing firms apply high design and high quality related activities more often than the less successful firms in addition to

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THE PRACTICE OF CUSTOMER VALUE CREATION AND MARKET EFFECTIVENESS

which corresponding high end products are expressed representatively. Low performance firms in turn more frequently base their value creation on lower price characteristics and product and company information only. The subsequent statistical analysis confirms the significance of representative presentation and indicates further that interaction which is made possible to customers with designers has the biggest antecedent influence to market effectiveness. However, so far no statistically significant value creation strategy could be identified which would have been capable of differentiating case firms by their market effectiveness. In exploring empirically the practice of SME value creation the study offers some firsthand evidence and managerial guidance as to SME value creation and corresponding market effectiveness.

INTRODUCTION

It is widely acknowledged that small and medium enterprises represent locally an important economic actor which impacts on employment and enhances economic growth (e.g. Singh *et al.*, 2008). Even if a number of SMEs have become active exporters too in searching for growth opportunities (Oviatt and McDougall, 2005), the globalization and liberalization of trade raises continuously the question of how SMEs are capable of competing locally and sustain their market position. As SMEs are typically not only short of financial and human capital but suffer from limited resources and management skills too (e.g. McCartan-Quinn and Carson, 2003; Carson and Gilmore, 2000), they tend to be highly vulnerable to emerging market discontinuities. This state of affairs applies in particular to those SMEs which sell their products through retailers. There is namely some evidence that the internationalization of the retail sector tends to increase international sourcing of consumer goods (Nordås, 2008).

In asking then how SMEs in general are capable of surviving and responding to the prevailing global competition, the resource-based view of the firm offers one possible answer. As firm resources and inherent competences form the source of a firm's competitiveness (e.g. Teece *et al.*, 1997; Mahoney and Pandian, 1992; Grant, 1991), idiosyncratic resources and activities can explain emerging firm-specific differences and the firms' value creating potential (Easton and Araujo, 1993). As to the latter point, generation and delivery of customer value is increasingly considered the basis of survival and competitiveness independent of the firm size (e.g. Payne and Holt, 2001; Slater and Narver, 2000; Woodruff, 1997). Given the impetus of competition – one has to create more customer value than competitors - the terms of customer value creation and related performance becomes a key strategic issue (cf. St-Pierre and Delisle, 2006; Hudson *et al.*, 2001). Consequently, the contribution of this study emanates from the fact that despite the rich conceptual bases of value creation the lack of empirical evidence is almost non-existing. A first hand attempt is hence made to explore empirically the practice of value creation and increase the understanding of corresponding firm performance which takes place in the context of low-tech SMEs.

SME COMPETENCES AS AN ANTECEDENT OF VALUE CREATION

The economic meaning of a competence is based on the view that there is no productivity which is associated with physical factors if they are not coordinated by human competence for the purpose of earning a profit. As to business competences in particular, an ability to identify, expand and exploit an opportunity set by definition becomes topical and has been typically discussed in the context of entrepreneurship or related SME management (Carlsson and Eliasson, 1991; Marchesnay, 2011). According to Carlsson and Eliasson the attributes which determine the quality of a business competence are both strategic and organizational capabilities and both functional and adaptive ability. A strategic or selective capability means by definition an ability to make innovative choices in relation to markets, technologies and organizational structures. Conventionally decisions of this type have been solved by formulating and implementing desired business and/or marketing strategies in which case business managers typically has to define their business scope too.

Even if small firms are considered from competence point of view more innovative and creative than their larger counterparts (e.g. Steenkamp and Kashyap, 2010; McCartan-Quinn and Carson, 2003), the context of low-tech implies by definition that opportunities to utilize any new technological knowledge – the key driver of innovation – are scarce. Singh *et al.*, (2008) state in fact that the majority of SMEs rely on outdated technology and both labour intensive and traditional management practices. The ways of creating distinctive competitive advantages basically remains limited because SMEs do not suffer from limited resources and management skills only but they lack a proper strategic planning perspective too and their management style is informal (e.g. Gilmore *et al.*, 2001; Siu and Kirby, 1998). As Sashittai and Jassawalla (2001) remark, day-to-day improvisation and adaptations shape the strategy content of SMEs. In a similar manner also Sminia (2005) proposes that daily activities which are necessary to run a given business form the basis of a strategy. The same state of affairs applies to SME marketing in the sense that owner-managers typically do business: they do marketing more or less at random, and their management is informal and subject to any personal or business demands which exist in a given moment (Carson and Gilmore, 2000). In short, due to the omnipotence of the owner manager his/her managerial competence becomes the key determinant of the firm's success or failure (McCartan-Quinn and Carson, 2003).

THE BASIS OF CUSTOMER VALUE

The term value in itself comprises originally a number of different meanings depending on if an economic versus behavioural viewpoint is emphasized. In the first case, trade and use of goods turn out to be the historical roots, which form the basis of value creation and utility (Ramirez, 1999). Zeithaml (1988) in particular defines value in terms of what will be received and given in assessing the utility of a product. Similarly Anderson and Sullivan (1993) propose that value is something which emerges due to the perceived worth between the product benefits and the price which is paid for the product. It is suggested also that distinction should be made regarding use value and exchange value. Accordingly, subjective assessment of customers and the value which is available at the moment of sales becomes topical (Bowman and Ambrosini, 2000). It has been acknowledged also that customers create value for themselves in interacting with products and firms. Value co-creation and inherent customer relationship management in other words has to be taken into account as to the overall value creation management (e.g. Ramaswamy, 2008; Ramirez, 1999; Ravald and Grönroos, 1996).

Customer value refers by definition to the value which is perceived by customers. Hence a whole spectrum of behavioural aspects of value creation and any inherent mental dimensions of human value formation is worth consideration (e.g. Higgins, 2006; Maio and Olson, 1995; Schwartz, 1992). As a consequence the management of the whole consumption chain - the entire product experience of buying and using the product – forms the basis of customer value creation and has to be managed in order to establish a successful differentiation strategy (McMillan and McGrath, 2001). In case the value forms a trade-off between the perceived benefits relative to the perceived sacrifices which the purchase of a product demands, Woodall (2003) states more definitely that value for customers means a number of possible alternatives which all reflect the consumers' expectations, perception and experience with regard to using, purchasing or possessing a product. In this respect customer value is increasingly regarded a multidimensional construct which calls for management attention of its own (Zubac et al., 2010). In the background there is the view that values influence customer behaviour and values are deeply mentally anchored which is why psychic needs of customers and the fulfilling of them can create exclusive value to the firms too (Groth, 1994). The underlying assumption is that the better customers are served and managed the higher perceived customer value can be in general generated. A strong commitment in fact exists stating that customer value forms the source of competitive advantage in qualifying the degree of customer satisfaction and firm performance (e.g. Dumond, 2000).

Despite the acknowledged importance of customer value creation Smith and Colgate (2007) note that far too less is known how value is created and which values to create. Dumond (2000) notifies more strictly that no common implementation strategy for value management in general exists across organizations, indicating that much is known neither regarding the quality of the relationship between value creation and firm performance. From this point of view the concept of trade-off has been criticized far too a simplistic and

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narrow approach which is why some more comprehensive approaches has been suggested. Some in-depth attempts in particular have been made taking the modelling of the corresponding value structures as the target (e.g. Lin *et al.*, 2005; Sweeney and Soutar, 2001). Value is considered a multidimensional construct which is shaped by a number of other than utilitarian dimensions (e.g. Sweeney and Soutar, 2001). The utilitarian view of delivering value to customers in other words has to be configured up to a level of value-generating processes where the products are consumed and used (Grönroos, 2006). Especially, in case of consuming and using services, their quality and perceived value is inevitably what counts because service quality enhances perceived value which in turn contributes to customer loyalty (e.g. Tam, 2004; Petrick, 2002; McDougall and Levesque, 2000).

VALUE IS STRATEGIC BUT MARKETING RELATED TOO

Whatever the basis of customer value, the value creation and delivery is generally considered the core of strategy making and marketing (e.g. Bergham et al., 2006; Fréry, 2006). As to the strategy making more closely Normann and Ramírez (1993) state that strategy is literally the art of creating value and positioning the company in the value chain. Because any business has to find a proper business scope by answering a couple of the very basic questions, namely, where to go and how to get there (Eisenhardt, 2001), the definition of one's markets and customers served together with the product offerings becomes topical. The subsequent strategic issue has been conventionally how to reach an optimal fit between firm resources and the market environment. As a basic rule, a good fit can be achieved through the market segmentation by identifying the customer segments which have the greatest growth and profitability potential (e.g.van Raaij and Verhallen, 1994). However, modern production methods and the foreseen changes in consumer behaviour are questioning the value of conventional segmentation in which respect the definition and sustenance of one's business scope turns out to be a different problem than in the past (cf. Song and Adams, 1993). As most market environments tend to be highly dynamic, the management of fit means that at the firm level strategy making becomes a continuous management exercise along which the direction and operationalization of management activities and the use of resources has to be defined (e.g. Grant, 1991). The related practice of value creation forms respectively the basis of any firm's business model too in the sense that business models emphasize the value which can be created and delivered for customers (e.g. Morris et al., 2005; Woodruff, 1997). Having their roots in strategy research, business models are considered a useful approach by which different aspects of strategy making are integrated (Hedman and Kalling, 2003). A given business model thus implies which kind of procedures, operational principles or business practises in general are workable and worth applying (e.g. Casadesus-Masanell and Ricart, 2010).

Besides strategy making in general value creation is considered the basis of marketing activities too (Smith and Colgate, 2007). Because the value what is perceived by customers largely determines the future customer behaviour marketing becomes responsible for the delivery and realization of the marketing value. According to Woodall (2003), marketing value is something which expresses how organizations go to the market and is hence the value which the practicing marketer might mostly associate with. Given that there are different value creating activities, the ones considering value realization form the basis of product revenues and include such components as marketing, direct sales or customer relationship management (Bowman and Ambrosini, 2007). Relationship marketing in particular impacts on the quality of mutual interactions which antecedent both competitive advantage and value co-creation (e.g. Pralahad and Ramaswamy, 2004). In this respect, there is a need to focus more on a proper customer fit and corresponding value creating activities instead the conventional strategic fit which emphasizes firm resources and the scope of strategy. This means that as long as customers gain value from the marketing actions and activities made, creating and delivering value for customers defines the way by which one's value creation strategy will be implemented (e.g. Slater and Ohlson, 2001; Slater and Ohlson, 2000; Zahra and Covin, 1993).

THE RESEARCH SETTING: THEORETICAL UNDERPINNINGS AND THE BASIS OF IMPLEMENTATION

This study focuses the practice of customer value creation which from the theory of practice point of view is considered a flow of organizational activities which integrate the separate facets of a strategy into a whole (Jarzabkowski, 2005). Because performance is strategy bounded (e.g. Ramakrishnan, 2010) it is hypothesized that the applied practice of value creation forms the basis of a firm's value creation strategy and becomes the antecedent of firm performance. In this respect the term of value providing is used to point out all those value creation activities which SMEs managers in general apply and present to their customers. As a whole a holistic research setting is faced implying that a case study methodology becomes a relevant research strategy (Gummesson, 1988). Case study research can besides illuminate the underlying decisions which shape the human way of doing business (Yin, 1988) which in case of SMEs is highly dependent of the behaviour of the owner-managers themselves. Interviewing SME managers on site and a subsequent qualitative analysis was thus considered the only way to collect such information on a general basis as it is needed to generate any in depth understanding of the phenomenon studied (cf. Curran and Blackburn, 2001).

As noticed, customer value creation is generally considered the fundamental basis of a given business model, the key purposes of which is to conceptualize different activities of value creation (e.g. Zott and Amin, 2010, Baden-Fuller and Morgan, 2010). In this respect, the basic idea of the operational model of a business model as suggested by Linder and Cantrell (2000) has been applied in order to identify the basis of doing business and any inherent value creation activities made. Based on the model and the related discussion a holistic theme-based interviewing protocol was established by defining a set of questions regarding the ways of doing business. A corresponding overall research framework is outlined in Figure 1 indicating that the practice of value creation which is due to one's way of doing business has an antecedent influence on market effectiveness. In line with the view of Sminia (2005) that the essence of strategy is the activities differentiate SMEs in terms of market effectiveness; secondly, to establish if there exists such value creating strategies which are capable of differentiating firms by their practise of value creation and accordingly gives way for the establishment of one's competitive advantage, and thirdly, to assess to which extent value creation practices have antecedent influence for market effectiveness if any.

Figure 1. The research framework



For the implementation of the actual research work, in total 75 SMEs, mainly manufacturing home furniture and operating in Finland, Sweden, Italy, Spain and Germany, were targeted as representative case firms. At the industry level a typical low-tech branch is in question where an overriding majority of active firms are according to EU statistics relatively small ones (http://ec.europa.eu/enterprise/sectors/furniture/index_en.htm). For the final analysis 65 case firms were accepted the profiles of which are presented in Appendix 1. The field work was done during the spring 2010 with a preceding one day workshop. Having all involved researchers as participants the purpose of the workshop was to assure as consistent

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procedure of interviewing as possible. Interviews were recorded and transcribed based on which a three to four page analytical summary in English following the same formula was made available to all researchers. The case data was analyzed and discussed in detail during the summer 2010 as a team work which was made possible by inviting the researchers to come and stay for a given period in the same research facilities.

The pre-analysis of the case data has comprised an overall identification of the value creation activities which SMEs apply for their customers by picking up from the interviewing data any such statements which could be interpreted to provide value for customers. The relevancy of each activity was further discussed and evaluated by the research team. Any value indicating activity were either accepted or rejected having a commonly made value creation literature review and related marketing literature as the basis. In total an activity base comprising over 100 value creating activities could be established. The final activity base of each case firm was defined by checking and recording in detail which activities was provided case by case.

The identified overall value creation practices form the basis of assessing the achieved market effectiveness. As SMEs are subject to a number of environmental constraints and changes, and apt to market fluctuations too (e.g. Brooks and Simlin, 2011), their annual performance typically varies a lot. Because providing customer value and corresponding marketing operations have both short and long-term effects the measurement of the market effectiveness has been anchored on a four year average of ROA (the years 2005-2008), which is generally considered a proper measure of performance (e.g. Narver and Slater, 1990). In addition to the smoothing of the variety of annual performance, the time period covered reflects reasonably the effect of value creation history too and any corresponding strategic learning which may impact on applied value creation strategy (cf. Garret *et al.*, 2009). The so-called AMADEUS on line data base has formed the requested financial data source. The data is collected by the Information Providers (IPs) of Amadeus, the brand name of Bureau van Dijk Electronic Publishing. Each national official public body providing information is in charge of collecting the annual accounts in its own country meaning that the data comprises always the officially filed and audited accounts.

RESULTS

The qualitative evidence

In order to fulfil the first objective a comparative case analysis was made. As one may expect, any comparison considering all activities between all firms simultaneously resulted to a highly vague overall picture. Having a more accurate view as the target, the high versus low performance case firms were compared parallel for the next, indicating that certain value creation differences started to emerge. 15 case firms with the best market effectiveness were compared with the ones belonging to two distinct and descending performance category comprising 15 case firms each. In order to control the impact of possible borderline cases the value creating activities the frequency of which deviated in minimum five fits case by case were only considered worth acknowledging and capable of indicating if any influential differences in value providing occurs between the case firms.

The emerging differences are summarized in Table 1. As one can see the number of differences increases the more the lower marketing effectiveness is achieved just proposing that when the demands of high quality and high design together with more expressive and representative marketing increase so increases the potential of market effectiveness too. Creating and providing high quality and high design in the first hand turns out to be the activity which separates the most when the best performing 15 SMEs are compared with the less successful ones. The results indicate further that if a satisfactory market effectiveness is achieved only (as a rule of thumb ROA lies between 0-5 %) it may be mostly due to the inactivity to plan and create exhibitions and/or studio concepts, to get products available in a number of different distribution channels or cooperating less with retailers. Any further differences which are related to the lowest market effectiveness suggest that firms in this category just create and provide standard company and product information only which is embedded by low-price related characteristics.

		A CONTRACTOR OF A CONTRACTOR O
F	ROA-%	ROA-%
Activity	+28,6 - +9,4	+9,1 - +3,1
	FITS N=15	FITS N=15
Providing high quality	11	6
Providing discounts	1	6
	ROA-%	ROA-%
Activity	+28,6 - +9,4	+3,1 -+0,2
	FITS N=15	FITS N=15
Providing assembly/installation related attributes	7	2
Planning & creating exhibitions/studio concepts	6	0
Providing multiple opportunities within one indirect distribution channel	10	3
Events/initiatives organized by the company with the retailers	6	0
	ROA %	POA %
Activity	+28,6 - +9,4	-0,9119,1
	MIIS MEIS	F115 N=15
Providing quality and durable materials	11	6
Providing high des ign(e.g. b y famous designer)	6	0
Providing high quality	11	S
Providing low-price related characteristics	0	5
Providing information of the company/services	10	15
Providing information of the products	9	15
Non-personalized advertising	5	10

Table 1. Differences in value providing by descending order of market effectiveness

The quantitative evidence

In order to identify any underlying related structures or value creation strategies which may differentiate case firms a correspondence analysis was applied. In this respect the value creation activities and their case by case frequency become as the analytical basis (e.g. Greenacre, 1984). As the results of ANACOR 0.4 statistical output in Table 2 shows, the inertia of the first two dimensions, 0.29009 and 0.23690 respectively, cannot explain the more than 15,3 % cumulatively of the total inertia value of 3,343990. The ten first dimensions either are not capable of explaining the more than a half of the total variation implying that the number of dimensions becomes too high from a meaningful interpretation point of view. The two-dimensional mapping in Appendix 2 confirms that the case by case value providing behaviour concentrates heavily around the centrum of the principal axes. In this respect the differences regarding the construction of a firm specific value creation remain the minor one indeed (cf. Hofman and Franke, 1986).

In order to see further to which the extent value creation has any significant antecedent influence for market effectiveness, a further statistical analysis was made. Due to the dichotomous composition of the firm specific value creation – an activity is made (value = 1) or not made (value = 0) – the application of dummy variables with respective univariate analysis of variance became relevant. Given the applied statistical design of the data, the results of the subsequent (GLM) regression analysis in Table 3 and related statistical details in Appendix 3 emphasize the emerging influence of passivity, that is, what happens if a statistically significant activity is not provided. E.g. the intercept value regarding planning and creating, 8,986, implies that this intercept value is reached when the activity is made. The negative value of regression coefficient, -5,935, means then that if the activity is not made ROA % will be 3,05 units smaller. In a similar manner firms which do not provide sales assistant or make interaction between the interior designer and consumers possible result

to lower market effectiveness than the firms which do so. When technology related attributes, low-price related materials or product information only are in turn in question, higher market effectiveness results if activities of this type are not made.

Dimension	Singular value	Inertia	Proportion explained	Cumulative proportion
			%	%
1	0.53860	0.29009	8,4	8,4
2	0.48672	0.23690	6,9	15,3
3	0.47570	0.22629	6,6	21,9
4	0.43543	0.18960	5,5	27,4
5	0.40296	0.16237	4.7	32,1
6	0.39410	0.15531	4,5	36,6
7	0.37792	0.14282	4,2	40,8
8	0.36445	0.13283	3,9	44,7
9	0.34508	0.11908	3,5	48,1
10	0.31986	0.10231	3.0	51,1
:	1000 BBC 018		1.52	108
64	0.3110	3,4399	100,0	100,0

Table 2. Summary of correspondence statistics

Table 3. Antecedent influence of value providing for market effectiveness Dependent variable average ROA %

Parameter	Value	N	В	Std. Error	t	Sig.
Intercept			\$,986	2,753	3,264	.002
Planning & creating	0	56	-5,935	2,966	-2,001	.050
exhibition & sudio concepts	1	9				
Intercept			12,222	4,118	2,968	.004
Providing sales assistance	0	61	-8,898	4,251	-2,093	.040
	1	4	Saturation of the second se		sequendates:	00000000
Intercept			-2,159	3,117	692	.491
Providing technology	0	58	6,758	3,300	2,048	.045
related attibutes	1	7	Constant Constant	10000000000	14 29 2 20 C C M	100000000000000000000000000000000000000
Intercept			-1,015	2,478	409	.684
Providing low-price	0	54	5,882	2,718	2,164	.034
related materials	1	11				
Intercept	1		2,792	1,141	2,446	.017
Providing information	0	13	5,400	2,552	2,116	.038
about the products	1	52				
Intercept			17,547	3,869	4,535	.000
Providing interaction with	0	4	-14,572	3,994	-3,648	.001
interior designer	1	61			191	

Concluding notes and managerial implications

Even if the power and effect of the relationship between customer value, customer satisfaction and future buying behaviour is considered doubtful (e.g. Zeithamel, 1988; Sweeney *et al.*, 1999), it is largely acknowledged that customer value is related to overall customer satisfaction (Spiteri and Dion, 2004). Some supporting evidence can be found indicating that customer satisfaction impacts on customer loyalty and commitment, both of which enhance customer retention and repurchasing (e.g. Lam *et al.*, 2004; McDougall and Levesque, 2000). As any repurchasing reduces internal costs of managing customer relationships with all positive economic effects (e.g. Ang and Buttle, 2006; Anderson and Mittal, 2003), customer value creation becomes evidently the basis of a better market effectiveness too. In this respect this study contributes to the ongoing discussion about the customer value creation by hypothesizing that the practice of value creation by which firms create and provide value for their customers becomes the basis of a firm's value creation strategy and is an antecedent of firm performance. The empirical exploration gives some support to the latter point but

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does not support the first one in the sense that no statistically significant differentiating value creation patterns could be found. This can be made understandable whether it is agreed that SMEs follow a relatively simple practice of doing business, an industry recipe of its own (cf. Johnson, 1990), which besides in many cases may be highly governed by strong retailers. This state of affairs may also explain why SME marketing tends to be more reactive than proactive (Poolton *et al.*, 2006).

From managerial point of view the comparative analysis made indicates that at the level of single value providing activities high performance firms tend to resort more frequently than their less successful competitors to high quality and high design. As to the first point, it is in line with the findings of PIMSresearch expressing that good relative quality leads to a higher performance (Buzzell and Gale, 1987). As to the role of design, the results support also what is found elsewhere namely that there is a correlation between a high design profile and improved performance (Trueman and Jobber, 1998). In this respect the differentiating influence of high design and high quality can be made understandable from the SME competence point of view whether it is agreed that the core of the competitive ability lies in the difficulty and complexity of design and quality management in general. As Kristensen and Lojacono (2002) state in the matter, successful management of design calls for creative and strategic design both of which demands different type of knowledge and competencies. The statistical analysis proposes further that even if design is value related it does not as such necessarily enhance market effectiveness. Rather a good market effectiveness is a matter of one's marketing strategy too whereby the management of representative displays and customer interface becomes the key of value providing and improved performance. The regression analysis in particular expresses that firms which do not apply such representative value creation activities like planning and creation of exhibitions and studio concepts or any promoting events may suffer from lower market effectiveness. Especially neglecting the role of customer interaction which is made possible with designers seems to have the highest influence on market effectiveness; thus confirming the view of Ramaswamy (2004) that increased customer interaction and any inherent co-creation of value lead to better market effectiveness.

Limitations and further research

The study suffers from certain limitations which are partly due to the highly complex phenomena of the customer value creation itself and the inherent pioneering characteristic of the study. A major limitation regards the fact that the relative intensity and input by which single value creation activities are applied has not been possible to measure credibly in any way without saying a word how to measure the corresponding influence to market effectiveness exactly. Any further research should hence take into account also the competence base as a control variable and in particular the inherent intellectual capital of the owner-managers (cf. Steenkamp and Kashyap, 2010).

From statistical point of view worth noticing is also that the number of explaining variables is relatively high compared with the number of case firms. Even if some preliminary statistical support for emerging qualitative findings are found, a bigger sample is highly desirable and may reveal a number of underlying factors which could not be identified on the basis of the present sample. Especially, confirming the non-existence of any value providing patterns in relation to market effectiveness calls for a bigger sample. In general more evidence can be found by applying a well-tested and structured questionnaire.

Despite a highly holistic research setting certain both qualitatively and quantitatively significant value creation activities could be found. The identified list of value creation activities can serve as a potential threshold for further research too. By applying the list of activities on a longitudinal basis for a limited number of case firms a more reliable measurement becomes possible. In this case also the measurement of the perceived value of consumers is worth consideration. By comparing the both views, the owner-managers' value creation activities and the consumers' perceived value ranking in parallel a more definite determination of the relationship between value creation and market effectiveness can be achieved.

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German cases	# of employees	Perform ance	Product range	Market scope	Customer category
1	130	High	Convertible upholstered furniture like sofa-beds, armchairs or stools	National (only poor export activities)	Specialized shops
2	210	High	High-class upholstered furniture	National & international (approximately	Specialized shops
3	145	Medium	Solid wood living room and dining room furniture	National & international (approximately 75% to 25%)	Specialized shops
4	110	Medium	Veneered modular bedroom furniture	Mainly national (90%), approximately	Specialized shops
5	100	Medium	Bathroom furniture, mirror cabinets, sink	National & international (approximately	Mail order company, discounter,
			cabinet bases	80% to 20%)	construction markets, furniture stores, internet
6	60	Low	Wall unit furniture	National	Specialized shops
7	85	Low	Sofa-beds, armchairs, landscaped furniture	National and international	Specialized shops and specialized internet retailer
8	160	Medium	Bedroom and living room furniture	National & international (approximately 80% to 20%)	Specialized shops
9	120	Medium	Upholstered furniture like sofas and armchairs	National & international (approximately 85% to 15%)	Specialized shops
10	100	High	Beds and mattresses	Rational & international (approximately 65% to 35%)	Specialized shops
11	125	N.A.	Bathroom furniture, office furniture, foyer furniture	Mainly national, approximately 7% export	Specialized shops, DIY-markets, mail order companies, internet
Finnish cases	# of employees	Perform ance	Product range	Market scope	Customer category
1	70	High	High quality, price and design bathroom furniture	National (modest export activities in some Nordic and Baltic countries)	B2C and B2B- customers, mainly B2C
2	75	Medium	High quality, price and design wooden products. Mainly chairs, small chairs, armchairs, tables and furniture for public places.	Mainly national. Some modest export activities.	B2C and B2B- customers
3	60	Low	Medium priced and quality products for living room, home offices and bedrooms,	National and Nordic countries	B2C
4	25	High	High quality, price and design sofas, sofa tables and armchairs	National. Some modest export activities.	B2C
5	10	Medium	High quality, price and design dining tables, closets, sofas, upholstered furniture, armchairs and beds.	National. Modest export activities in Nordic countries and Russia.	B2C and B2B
6	20	Low	High quality, design and upper medium price sofas, armchairs and carpets.	National and some operations in Sweden and Denmark.	Mainly B2C, some B2B customers.
7	25	High	High quality, price and design sofas, armchairs, kitchen tables and chairs.	National and Russia.	B2C and B2B
8	40	Medium	High quality, design and price furniture to bedroom, living room and dining room.	50 % national, 50 % export (Sweden, Russia, Norway)	B2C, some modest B2B customers.
9	30	Low	Medium quality and price shelves, tv- platforms and sofa tables.	Mainly national, some export activities in Sweden, Russia and Estonia.	B2C
10	40	High	Reasonable priced tv-platforms, shelves, working tables, side boards and vitrines with good quality.	Mainly national. Some operations in Estonia.	B2C
11	45	Medium	Tv-platforms, vitrines, coffee tables, shelves, sideboards, worktables and serving wagons.	Mainly national, some export activities in Sweden and Estonia.	B2C and B2B
12	40	Low	High quality and price venereed chipboard furniture such as tv-platforms and shelves.	National and export in Nordic-, Baltic countries and Russia. The emphasis is on exports.	B2C
Swedish cases	# of employees	Perform ance	Product range	Market scope	Customer category
1	110	Low	Bed, high design pieces of furniture (reproduction)		Own product and marketing concept for consumers
2	100	Medium	Wooden bed frames, shelves, cupboards	IKEA	IKEA
3	50	High	Own branded glass-walls (the main business), office and bath-room furniture, shelves, tables		Contract market, domestic retail-chains, Nordic countries
4	15	Low	Beds	Domestic, Nordic and Asia	National retail chains
5	20	High	Wooden interior (hotels, restaurants, bars); (bended wood, too)	Domestic, moving towards contract markets	Architect offices, contractors
6	20	Medium	Dining room, wooden bad frames, cupboards	Domestic, Nordic	National retailers
7	20	Medium	All types of home furniture for every room – green design		Own franchise shops, not mixed with other producers, for highly educated end customers
8	20	High	Tables and table tops	50% home, 50% contract market, Sweden and Nordic countries	
9	20	Medium	All types of cupboard, chairs, tables - not solid wood		National retail chains (SE mainly), nameless products
10	20	Medium	Classic style handmade chairs, arm-chairs and sofas		High end, independent retailers
11	30	Medium	Modern, high end design tables, cupboards, shelves, chairs	International	High-end independent retail, internet- shop, somewhat to contract market
12	30	Medium	High-design, customized sofas	Domestic, Nordic (somewhat European)	High-end independent retailer

Appendix 1. Profiles of Case Firms

Italian	# of	Perform	Product range	Market scope	Customer category
cases	employees	ance			
1	15	Low	Sofas and armchair	International (90-95% of revenues)	Specialized sofa shops in shopping center
2	45	Medium	Coming from Far	Domestic only	Small Italian retailing chain (5-6 shops), furniture shops and large specialized retailing chains
3	10	High	wood Kitchen extractor fans	Domestic + eastern EU	Specialized retailers
4	15	High	Kitchen shutter, top and shelves	Domestic (99%)	B2B
5	70	High	Kitchen accessories	Domestic (50%), International (50%)	Big kitchen manufacturer, hardware shops and artisans
6	80	Medium	Furniture in natural materials (indoor and outdoor)	International	Retailers and local distributors +contract (hotel, cruise ships operators, restaurants etc)
7	20	Low	Chairs, tables and complements for offices and communities	Domestic and International (50%)	High volume customers or large retailers specialized in office furniture, Contract (universities, airports, schools)
8	40	Low	Furniture solutions (night and day)	Domestic and international (25%	Small furniture shops and contract market
9	130	Medium	Living room and bedrooms	Domestic (25%) and international	Retailers and contract sector
10	60	Medium	Sofas, armchairs and complements	Domestic (about 80%) and international	Big retailer chains and small furniture shops
11	30	NA	Sofas, armchairs	Domestic and international (about 50%)	Big retailer chains, small furniture shops
12	75	NA	Wood furniture (night, day)	Domestic and international	Retailers
13	65	Medium	Seats and tables	Domestic and international (90%)	Retailers, by contracts
14	60	High	Chairs	Domestic and international	B2B, big retailers and contracts
15	40	Low	Sofas	Domestic (95%) and international	Retailers, large retail chains, contract sales
	4.5	D	Product rongo	Market scone	Customer category
Spanish cases	# 01 employees	ance	i foduce failge	Market scope	customer category
Spanish cases 1	# of employees 30	ance Low	Bedrooms, livings and dining rooms	National	Small and specialized retailers
Spanish cases 1 2	# of employees 30 20	ance Low Medium	Bedrooms, livings and dining rooms Bedrooms	National National	Small and specialized retailers Specialized retailers
Spanish cases 1 2 3	# 01 employees 30 20 50	Ance Low Medium Medium	Bedrooms, livings and dining rooms Bedrooms Bedrooms and livings	National National National	Small and specialized retailers Specialized retailers Mainly contract sales
Spanish cases 1 2 3 4	# 01 employees 30 20 50 30	Ance Low Medium High	Bedrooms, livings and dining rooms Bedrooms and livings Bedrooms and livings Bedrooms and dining rooms	National National National and EU	Small and specialized retailers Specialized retailers Mainly contract sales Retailers
Spanish cases 1 2 3 4 5	# 01 employees 30 20 50 30 80	Ance Low Medium Medium High High	Bedrooms, livings and dining rooms Bedrooms and livings Bedrooms and dining rooms Toilets, bedrooms and home office	National National National and EU National and EU (22%)	Small and specialized retailers Specialized retailers Mainly contract sales Retailers Retailers (nearly 2000 dealers nationwide)
Spanish cases 1 2 3 4 5 6	# 01 employees 30 20 50 30 80 240	Low Medium Medium High High Medium	Bedrooms, livings and dining rooms Bedrooms and livings Bedrooms and dining rooms Toilets, bedrooms and home office Bedrooms and livings, kids furniture	National National and EU National and EU National and Portugal	Small and specialized retailers Specialized retailers Mainly contract sales Retailers Retailers Retailers Local stores and big furniture chains, contract market
Spanish cases 1 2 3 4 5 6 7	# 01 employees 30 20 50 30 80 240 40	Ance Low Medium Medium High High Medium High	Bedrooms, livings and dining rooms Bedrooms and livings Bedrooms and lining rooms Toilets, bedrooms and home office Bedrooms and livings, kids furniture Office	National National and EU National and EU National and Portugal National	Small and specialized retailers Specialized retailers Mainly contract sales Retailers Retailers Retailers Local stores and big furniture chains, contract market Retailers
Spanish cases 1 2 3 4 5 6 7 8	# 01 employees 30 20 50 30 80 240 40 50	Ance Low Medium High High Medium High Medium	Bedrooms, livings and dining rooms Bedrooms and livings Bedrooms and dining rooms Toilets, bedrooms and home office Bedrooms and livings, kids furniture Office bedrooms, livings, kitchens everything	National National National and EU National and EU (22%) National and Portugal National International	Small and specialized retailers Specialized retailers Mainly contract sales Retailers Retailers nationwide) Local stores and big furniture chains, contract market Retailers Retailers (chains and franchises) and contract market
Spanish cases 1 2 3 4 5 6 7 8 9	# 01 employees 30 20 50 30 80 240 240 40 50 40	Ance Low Medium Medium High High Medium High High	Bedrooms, livings and dining rooms Bedrooms Bedrooms and livings Bedrooms and dining rooms Toilets, bedrooms and home office Bedrooms and livings, kids furniture Office bedrooms, livings, kitchens everything Bedrooms, livings, kitchens everything	National National National and EU National and EU (22%) National and Portugal National International	Small and specialized retailers Specialized retailers Mainly contract sales Retailers Retailers (nearly 2000 dealers nationwide) Local stores and big furniture chains, contract market Retailers Retailers (chains and franchises) and contract market Commercial establishments and contract market
Spanish cases 1 2 3 4 5 6 7 8 9 10	# 01 employees 30 20 50 30 80 240 240 40 50 40	Action ance Low Medium High High High High Medium High Low	Bedrooms, livings and dining rooms Bedrooms and livings Bedrooms and livings Bedrooms and livings, kids furniture Office bedrooms, livings, kitchens, everything Bedrooms, livings, kitchens, everything	National National National and EU National and EU (22%) National and Portugal National International International National	Small and specialized retailers Specialized retailers Mainly contract sales Retailers Retailers (nationwide) Local stores and big furniture chains, contract market Retailers (chains and franchises) and contract market Commercial establishments and contract market One own store and small furniture stores
Spanish cases 1 2 3 4 5 6 7 8 9 10 11	# 01 employees 30 20 50 30 80 240 40 40 40 10 30	Ance ance Low Medium High High Medium High High Low Medium	Bedrooms, livings and dining rooms Bedrooms and livings Bedrooms and livings Bedrooms and livings Toilets, bedrooms and home office Bedrooms and livings, kids furniture Office Bedrooms, livings, kitchens everything Bedrooms, livings, kitchens everything Bedrooms, livings Bedrooms, livings and kids furniture	National National National and EU National and EU (22%) National and Portugal National International International National	Small and specialized retailers Specialized retailers Mainly contract sales Retailers Retailers (nearly 2000 dealers nationwide) Local stores and big furniture chains, contract market Retailers Retailers (chains and franchises) and contract market Commercial establishments and contract market One own store and small furniture stores Big chains and small furniture stores Big chains and small furniture stores
Spanish cases 1 2 3 4 5 6 7 8 9 10 11 12	# 01 employees 30 20 50 30 80 240 40 50 40 40 10 30 185	Arenorm ance Low Medium High High High Medium High Low Medium High	Bedrooms Bedrooms Bedrooms and livings Bedrooms Bedrooms and livings Bedrooms Bedrooms and livings, kids furniture Office Bedrooms, livings, kitchens everything Bedrooms, livings, kitchens everything Bedrooms, livings Bedrooms, livings Bedrooms, livings Bedrooms, livings Bedrooms, livings Bedrooms, livings Bedrooms, livings and kids furniture Bedrooms, livings	National National National and EU National and EU (22%) National and Portugal National International National National National	Small and specialized retailers Specialized retailers Mainly contract sales Retailers (nearly 2000 dealers nationwide) Local stores and big furniture chains, contract market Retailers (chains and franchises) and contract market Commercial establishments and contract market One own store and small furniture stores Big chains and small buying groups, own store and contract market Furniture shops and professional dealers
Spanish cases 1 2 3 4 5 6 7 8 9 10 11 12 13	# 01 employees 30 20 50 30 80 240 40 50 40 40 10 30 185 170	Arenorm ance Low Medium Medium High Medium High Low Medium High High Medium	Bedrooms, livings and dining rooms Bedrooms and livings Bedrooms and dining rooms Toilets, bedrooms and home office Bedrooms and livings, kids furniture Office bedrooms, livings, kitchens everything Bedrooms, livings, kitchens everything Bedrooms, livings and kids furniture Bedrooms, livings and kids furniture Bedrooms, livings and kids furniture Bedrooms and dinning-rooms Children's furniture	National National National National and EU National and EU (22%) National and Portugal National International International National National	Small and specialized retailers Specialized retailers Mainly contract sales Retailers Retailers (nearly 2000 dealers nationwide) Local stores and big furniture chains, contract market Retailers Retailers Retailers Retailers Commercial establishments and contract market One own store and small furniture stores Big chains and small furniture stores Big chains and small furniture stores Specialized child stores and spaces in big distributors
Spanish cases 1 2 3 4 5 6 7 8 9 10 11 12 13 14	# 01 employees 30 20 50 30 80 240 40 40 40 40 10 30 185 170 85	Arenorm ance Low Medium High High High Medium High Low Medium High Medium Medium	Bedrooms, livings and dining rooms Bedrooms and livings Bedrooms and livings Bedrooms and livings, some and livings Toilets, bedrooms and home office Bedrooms and livings, kids furniture Office bedrooms, livings, kitchens everything Bedrooms, livings, kitchens everything Bedrooms, livings Bedrooms, livings and kids furniture Bedrooms and dinning-rooms Children's furniture Armchairs, sofas, upholstered beds and livings	National National National and EU National and EU (22%) National and Portugal National International International National National	Small and specialized retailers Specialized retailers Mainly contract sales Retailers Retailers (nearly 2000 dealers nationwide) Local stores and big furniture chains, contract market Retailers (chains and franchises) and contract market Retailers (chains and franchises) and contract market Commercial establishments and contract market One own store and small furniture stores Big chains and small buying groups, own store and contract market Furniture shops and professional dealers Specialized child stores and spaces in big distributors Large department stores and small furniture shops

Appendix 1. Profiles of Case Firms (continued)

Performance classification High performance firm: best 25% (12 firms, average ROCE period 2004 - 2008: [20,93; 80,35]) Medium performance firms: all the rest (24 firms, average ROCE period 2004-2008: [4,97; 18,13]) Low performance firms : worst 25% (12 firms, average ROCE period 2004-2008: [-33,47; 4,61])



Principal Normalization

Appendix 3:	Test of	between-	Subject	Effects
Dependent variable Average ROA %				

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	273,158	1	273.158	4.005	.050
Intercept	1123,214	1	1123,214	16,468	.000
Planning & creating	273,158	1	273.158	4,005	.050
exhibitions/studio concepts			20 million 10	0	
Error	4297,009	63	68,206		
Total	5544,672	65			
Corrected Total	4570,167	64			
		-	1000000000000	1000000000	N201201
Corrected Model	297,213	1	297,213	4,382	.040
Intercept	907,331	1	907,331	13,378	.001
Providing sales assistance	297,213	1	297,213	4,382	.040
Error	4272.954	63	67.825		
Total	5544,672	65			
Corrected Total	4570,167	64			3
Comment 2 Control	225 200		285 200	1.105	0.15
Corrected Model	285,299	1	285,299	4,195	.045
Intercept	37,225	1	37,225	.547	.462
Providing technology	285,299	1	285,299	4,195	.045
related attributes	1004.050	67	60.014		
Error	4284,808	65	08,014		
Total	3344,072	05			
Corrected Total	4570,167	04			
Corrected Model	316.167	1	316,167	4.682	.034
Intercept	135,656	1	135,656	2,009	.161
Providing low-price	316,167	1	316,167	4,682	.034
related materials	The Date of Sector Device		5- 3081 3 K # 2047 8 W	Sand Contraction	
Error	4254,001	63	67,524		
Total	5544,672	65	All office to March 10		
Corrected Total	4570,167	64			
C	202.207		202.207	4.470	0.70
Corrected Model	303,307	1	1254 705	4,478	.038
Intercept	1234,795	1	1234,793	18,527	.000
Providing information	303,307	1	303,307	4,4/8	.038
of the products	1055.05		67 700		
Error	4200,80	63	0/,/28		
Corrected Total	4570 167	64			
Corrected Total	4570,107	04			
Corrected Model	797,131	1	797,131	13,310	.001
Intercept	1581,057	1	1581,057	26,400	.000
Providing interaction	797,131	1	797,131	13,310	.001
with interior designer			a consideration of the second s		
Error	3773,036	63	59,889		
Total	5544,672	65			
Corrected Total	4570,167	64			

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PERCEIVED PREVALENCE OF NON-TARIFF BARRIERS: A CONCEPTUAL AND EMPIRICAL ANALYSIS

Edward E. Marandu, Catherine Phambuka-Nsimbi, and Amos Owen Thomas

ABSTRACT

This paper provides a theoretical as well as empirical analysis of the prevalence of Non-Tariff Barriers (NTBs) on trade in an emerging economy. Data were obtained from 94 export-import executives in Botswana. The study makes four main contributions to the understanding of NTBs. First, NTBs are initially conceptualized as consisting of three groups - Technical, Trade Policy and Administrative – that are a sub-set of the broader Social, Economic and Administrative regulations in a nation. Second, although strictly not an NTB, this study introduces Infrastructure Deficiency as a new category relevant in a developing environment. Third, NTBs are considered in the main to be external to a firm and macro in scope. Fourth, the findings suggest that the most prevalent barriers to Botswana's intra-SADC trade are of Administrative and Infrastructure in type, while Technical barriers are the least. Finally, managers of small or less-experienced firms have a tendency to perceive higher levels of NTB. These findings suggest the following implications for policy: (1) Efforts aimed at increasing regional trade may prove more fruitful if focused on reducing administrative NTBs and improving infrastructure rather than tackling technical NTBs; (2) Since NTBs are macro in scope, overcoming them is expensive and requires collective action by firms; and (3) Public trade promotion efforts should focus on managers of small or less experienced firms because they have a tendency to perceive higher NTB levels than what actually exists.

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INTRODUCTION

This paper investigates conceptually and empirically the prevalence of non-tariff barriers (NTBs) faced by Botswana's trade within the Southern African Development Community (SADC). The study is based on two underlying assumptions. First, most trade barriers work on the same principle: the imposition of some sort of cost on trade that raises the price of the traded product. Second, trade barriers are thought to be detrimental because they decrease overall economic efficiency, by encouraging production and trade in a manner that is contrary to the theory of comparative advantage. In theory, therefore, for best welfare results countries should remove all barriers to trade, except perhaps, those considered necessary for protecting human, animal and plant life or health.

In global and regional terms, research on non-tariff barriers to trade is timely. Since tariffs have been reduced to low levels as a result of restrictions imposed by the World Trade Organization (WTO), they have gradually been replaced by non-tariff barriers (NTBs) to attain the protectionist goals formerly achieved with tariffs (Baldwin, 1984:600). As of 2005, the unweighted average tariff on manufacturing goods was roughly 3% in high-income countries and 11% in developing countries, according to the World Bank, from respective levels at least three times as high in 1980 (Beghin, 2006). However, the use of NTBs increased from 55% of all NTB measures in 1994 to 85% in 2004; giving an average tariff equivalent of about 40% in 2004 (Kee, Nicita and Olarreaga, 2006).

In the SADC region tariff reductions have occurred, despite the dependence of many of these economies on tariff revenues due to a small and inefficient domestic taxation system. For those governments, but also for the richer ones, once tariffs have been lowered, it may be tempting to use non-tariff barriers to help bridge their immediate revenue gaps. For example in recent years Zimbabwean authorities started to define imports as services, which are subject a 20% withholding tax, rather than as goods that generally attract lower duties (Non-Tariff Barriers in SADC, 2011). This situation is a classic example of a government replacing a tariff with an NTB to preserve its trade revenue flows.

Objectives of the Study

The main objective of this study is to investigate the prevalence of *non-tariff barriers* to trade between Botswana and other SADC members. In particular the study addresses the following primary and secondary research questions:

- a) Primary Question: What are the most prevalent non-tariff barriers on Botswana's imports and exports within SADC?
- b) Secondary Question: Does the prevalence level vary with the size of a firm or the experience of the respondent?

The aim of the secondary line of analysis is to provide a better insight into the primary line of investigation.

Context of the Study

This section presents, in a nutshell, a brief evolution of the SADC and the magnitude as well as importance of regional trade for Botswana. It provides the context for the issues discussed in this study. It should be of interest to the reader not familiar with the region.

Security was the original motive for the SADC when it was formed in Lusaka, Zambia in 1980 out of the frontline states facing a then-apartheid South Africa. Today SADC's main goals are to form common

political interests and support trade and investment flows among their members, namely Angola, Botswana, Lesotho, Malawi, Mozambique, Swaziland, Tanzania, Zambia, Zimbabwe, Democratic Republic of Congo, Mauritius, Namibia and South Africa. Madagascar is currently suspended because SADC does not recognize its new president following a coup.

The SADC Trade Cooperation Protocol signed in 1996, proposed to establish a Free Trade Area (FTA). Trade in goods and services and the enhancement of cross-border investments are major areas of cooperation spelled out in the Protocol. It requires that member states phase out existing restrictions on the import of goods from within SADC. A review study (SADC, 2006a) showed that Non-Tariff Barriers (NTBs) are an issue of growing concern in SADC. If left unattended, these will impact negatively on the benefits of the envisaged Free Trade Area. The study showed that NTBs in the SADC region are used extensively and act as a new instrument of protectionism.

In recent years customs offices across SADC have started implementing a system of automating declarations at border posts, using the Automated System for Customs Data (ASYCUDA++). A single administrative document is filed for each transaction. However the document must be accompanied by numerous documents: original invoice; transport documents; insurance; phytosanitary certificate for products of plant origin; sanitary certificate for products of animal origin; SADC certificate of origin; and the documents in support of any request for exemption from customs duties or taxes. Lack of any supporting document, can result in substantial delays.

Overview of Intra SADC Trade

Detailed knowledge of Botswana's imports and exports within SADC is important in appreciating the significance of NTBs to businesses in the country. Tables 1 and 2 contain data on Botswana's trade with other SADC countries. There are a number of observations that are apparent from the data:

Table 1: Imports to Botswana by Other SADC Countries							
Partner \ Year	2003	2004	2005	2006			
Totals in USD	210,2395,835	276,9153,820	2,746,200,079	2,712,184,429			
DRC	0.00%	0.00%	0.03%	0.00%			
Lesotho	0.01%	0.00%	0.01%	0.01%			
Madagascar	0.00%	0.00%	0.00%	0.00%			
Mauritius	0.15%	0.11%	0.25%	0.17%			
Malawi	0.03%	0.03%	0.05%	0.03%			
Mozambique	0.05%	0.08%	0.02%	0.39%			
Namibia	0.56%	0.56%	0.54%	0.75%			
Seychelles	0.00%	0.00%	0.00%	0.00%			
Swaziland	0.07%	0.01%	0.01%	0.00%			
Tanzania	0.01%	0.02%	0.02%	0.01%			
South Africa	97.32%	97.28%	97.10%	96.74%			
Zambia	0.09%	0.06%	0.19%	0.22%			
Zimbabwe	1.70%	1.85%	1.78%	1.68%			
Totals %	100%	100%	100%	100%			
Source: Adapted fro	m Imani Developmer	t Ltd (2007).					

- 1. The striking factor about imports is the massive reliance (about 97% in 2006) that Botswana has on South Africa, making the other SADC states, even when taken together, negligible.
- 2. The slight drop in imports from South Africa in 2006 probably reflects the impact of imports of second-hand vehicles from Japan and Singapore (Imani Development Ltd, 2007).

- 3. In regard to regional exports to other SADC countries, figures for 2003 show that Botswana deals mainly with its largest contiguous neighbors, South Africa (72%) and Zimbabwe (24%).
- 4. In 2006 Botswana's exports to South Africa dropped dramatically to 49% perhaps due to relocation of the Volvo Truck CBD assembly plant to South Africa.

Table 2: Exports from Botswana to Other SADC							
Partner / Year	2003	2004	2005	2006			
Totals in USD	336,580,219	476,951,087	603,939,646	547,228,078			
DRC	0.24%	0.07%	0.18%	0.70%			
Lesotho	0.05%	0.03%	0.02%	0.03%			
Madagascar	0.00%	0.02%	0.01%	0.01%			
Mauritius	0.02%	0.08%	0.59%	0.19%			
Malawi	0.19%	0.29%	0.09%	0.12%			
Mozambique	0.27%	0.23%	0.03%	0.16%			
Namibia	1.25%	1.17%	1.34%	2.11%			
Seychelles	0.00%	0.00%	0.01%	0.00%			
Swaziland	0.13%	0.06%	0.06%	0.09%			
Tanzania	0.17%	0.20%	0.14%	0.15%			
South Africa	72.14%	69.20%	64.80%	48.66%			
Zambia	0.86%	1.12%	2.17%	3.16%			
Zimbabwe	24.68%	27.53%	30.56%	44.63%			
Totals %	100%	100%	100%	100%			
Source: Adapted from Imani Development Ltd (2007).							

CONCEPTUAL FRAMEWORK

Defining and Classifying Non-Tariff Barriers

Although it is self-evidently important to understand the nature of a construct before attempting its measurement, most existing studies on non-tariff barriers suffer from this weakness: lack of a conceptual definition. Any measure must consist of a conceptual and operational definition (Tull and Hawkins 1987). The conceptual definition attempts to define the non-tariff barrier construct. The operational definition establishes how to measure the non-tariff barrier. Yet according to Gertner (2010) only a few researchers develop a conceptual definition of the non-tariff barrier they are purporting to measure.

Just what constitutes an NTB is often a matter of conjecture and opinion. A major difficulty in the study of NTBs is that, as the name implies, they are defined by what they are not. The existing literature tends to have an all-encompassing definition for NTBs as essentially almost every trade-distorting measure, apart from tariffs (Pasadilla and Liao, 2006). For example, the Organization of Economic Cooperation and Development (OECD, 2005) defines an NTB as "any measure other than a tariff that distorts trade". Other analysts (Beghin, 2006; SADC, 2006b; Bajwa, 2000) define NTBs in more or less the same way as "all restrictions to trade that are not in the usual form of a tariff."

This open-ended definition implies that NTBs may include a plethora of policies that alter the prices or quantities of trade (Deardorff and Stern, 1998) or are actions by government (through legislation or administration) which have the effect of changing the incentives to produce or consume traded goods (Centre for International Economics Canberra and Sydney – CIECS, 1999).

PERCEIVED PREVALENCE OF NON-TARIFF BARRIERS

Author		Classifications		
Laird and Voss (1991)	enaar 1.	Measures to control the volume of imports		
	2.	Measures to control the price of imported goods		
	3.	Monitoring measures, for example price and volume investigations and surveillance		
	4.	Production and export measures		
	5.	Technical barriers		
UNCTAD (1994)		Para-tariff measures		
	2.	Price control measures		
	3.	Finance measures		
	4.	Automatic licensing measures		
	5.	Quantity control measures		
	6.	Monopolistic measures		
	7.	Technical measures		

Table 3:	Categories of	of Non-T	Fariff	Barriers
	Chiegories			

Under such circumstances, no taxonomy can meaningfully be complete. For example, Laird and Vossenaar (1991) classified NTBs according to their motives into five categories ranging from "Measures to control the volume of imports" to "Technical barriers" (Table 3). According to the typology drawn up by the United Nations Conference on Trade and Development - UNCTAD (1994), NTBs are classified into seven unwieldy categories (ranging from "Para-Tariff Measures" to "Technical Measures") and consisting of more than 100 variables. The problem with these classification schema is that the categories stand-alone, they lack a clear theoretical underpinning tying the categories together. There is no description of the underlying characteristics of the groups in the taxonomies. It is unclear whether the various categories are meant to range from the more scientific (health, safety, sanitary, environmental) to the increasingly more political (licensing, rules of origin, police road blocks), for instance.

Following Viscusi, Magat and Huber (1987) and Imani Development Austral (2004), a simpler and perhaps more logical classification which provides the framework for the current study is proposed in the model in Figure 1. In this model, NTBs are conceptualized as a sub-set of the broader social, economic and administrative regulations in a country. Specifically NTBs are conceptualized as consisting of three basic categories of barriers: Technical, Trade Policy and Administrative NTBs. (A fourth category known as Infrastructural Deficiency is included and will be discussed later). The three-group taxonomy – admittedly arbitrary – is however a useful means of examining NTBs and makes intuitive sense. In this study "a non-tariff barrier refers to a public policy or regulation other than a tariff that impedes international trade". This definition, though still broad, goes beyond earlier ones by not only citing what an NTB is not, but also analyzing what it is.





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The reader should note that examination and evaluation of the concept of regulation as a whole is beyond the scope of this paper. It suffices to say that regulations have as their *prima facie* objective the correction of market failures, real or perceived. In economics the need for regulation is often justified under conditions when the allocation of goods and services by a free-market economy is not efficient, a phenomenon called market failure. That is, there exists another conceivable outcome where a market participant may be made better-off without making someone else worse-off. This is a direct result of lack of certain economically-ideal factors such as lack of information, lack of competition, principal-agent problems, externalities or public goods (Laffont, 2008). We now turn to the discussion of each NTB group.

Technical Regulations

Technical regulations are a subset of social regulations (Viscusi, Magat and Huber, 1987) which are measures adopted by a nation to achieve health, safety, environmental and other such objectives. For example, sanitary and phyto-sanitary (SPS) measures are put in place to protect human, animal and plant life. Technical regulations can help realize these objectives by restricting entry of unsatisfactory imports. Such regulations are potentially welfare-enhancing, a feature generally absent from those under the subset of Trade Policy regulations. An example is the European Union restriction on genetically-modified organisms or beef treated with growth hormones. These types of measures are permitted by the WTO as long as they treat imports and domestic products equally; they become NTBs when used only to discriminate against imports.

Although the public-good dimensions associated with legitimate technical regulations are universally accepted, even well-intentioned actions can create impediments to trade. For example, when these measures are applied inconsistently they can become insurmountable barriers. Also when countries unilaterally develop standards, this regulatory heterogeneity imposes costs for producers who must comply with multiple regulatory regimes (Economic Research Service/USDA, 2011).

Trade Policies

Trade Policies are instituted mainly for economic reasons. They include export assistance, import licences, import quotas, production subsidies, state trading, tax concessions and anti-dumping duties. Generally, Trade Policy regulations are not permitted under WTO rules. The only exception is when a certain industry possesses a potential comparative advantage but has not yet exploited the potential economies of scale. Short-term protection from established foreign competition allows the 'infant industry' to develop its comparative advantage. At this point the trade protection should be removed, leaving the industry to trade freely on the international market. The danger of this form of protection is, however, that the industry will develop vested interests and the short-term protectionist measures often start to appear permanent.

Administrative Regulations: A Consequent

Administrative regulations do not constitute an independent set of policies or regulations *per se*; they are derived from the first two groups. They consist of policy, regulatory or operational procedures put in place to implement the Technical or Trade Policy regulations. These become a disincentive to trade (NTB) when there are deficiencies inherent in the regulations themselves or in the way they are implemented. Administrative deficiencies include lack of clarity, transparency, efficiency and consistency inherent in the policies or regulations relating to cross border formalities; delays in border clearance and services that are not user-friendly (Sandrey, 2011). Administrative NTBs are difficult to identify because many are informal arising from unpublished processes, practices and procedures.

Infrastructure Deficiencies: An Antecedent

This category is not included in the UNCTAD inventory of NTBs but consistently appears in studies relating to developing areas such as South Eastern Europe (Cottier, Bürgi, Wüger and Folte, 2011) and Africa (Imani Development Austral, 2004). Infrastructural deficiencies consistently emerged during the piloting and pre-testing of the questionnaire used for this study. It includes deficiencies in roads, border posts, airports and ports as well high transport costs, inadequate banking and insurance services and difficulties in accessing trade finance.

The reader should note that the inclusion of Infrastructure does not fit well with our definition of NTB since infrastructure is a condition not a policy or regulation. Although not strictly an NTB, deficiencies in infrastructure pose what some would argue as the most significant constraint to trade in the SADC region. Hence, for the purpose of this study infrastructure issues are given equal weight in determining NTBs in the region. This has been done before. For example, in the Eastern European study (Cottier, Bürgi, Wüger and Folte, 2011) infrastructure (poor roads in Bosnia and Herzegovina, poor equipment at borders in Moldova) is simply included in a long list of NTBs. In the Imani Development Austral (2004) study infrastructure is included as part of Administrative NTBs. In this study infrastructure is treated as a separate category in its own right.

Infrastructure barriers relate to the level of economic development of a country. Infrastructure acts as an antecedent to the regular NTBs – it enhances or impedes the implementation of the Technical, Trade Policy and Administrative regulations. For example a good IT system will reduce delays associated with excessive paper work at customs. This type of barrier is not likely to be important in an advanced country where adequate infrastructure is already well-developed and can be taken for granted.

Evaluation of the Taxonomy

The four-group taxonomy is not entirely new. In fact the first three categories were first used in a study of inventory of regional non-tariff barriers by Imani Development Austral (2004). However, our study makes three major contributions in the conceptualization of NTBs.

First, each of the classification schemes used in earlier studies and quoted here (Laird and Vossenaar, 1991; UNCTAD, 1994; Imani Development Austral, 2004) has categories that stand-alone. In this study NTBs are seen as a sub-set of the broader social, economic and administrative regulations in a nation. Second, it extends knowledge by adding a new category, called infrastructure, which although strictly speaking is not an NTB, it is however, seen to be a critical factor facilitating or impeding international trade. Third, the reader should note that most of the non-tariff barriers used in the extant literature, and in this study as well, refer to barriers external to a firm and are more macro in scope.

At this juncture the reader should note the use of two terms — nontariff measures and non-tariff barriers. In the trade literature these terms are often used interchangeably, although some writers prefer to apply the term "non-tariff measure" to actions, such as standards, that are applied equally to domestic products as well as imports, while reserving "non-tariff barrier" for those that discriminate against imports.

Tariff and Non-Tariff Barriers Compared

It has been argued in various international fora (WTO, the World Bank and the IMF) that there would be much to be gained by converting existing NTBs into tariff based protection (CIECS, 1999). Some studies have demonstrated that NTBs inflict a much greater welfare loss than tariffs (Sazanami, Urata and Kawai, 1995; Winkelmann and Winkelmann, 1998). There are several reasons why tariffication is considered a better policy medicine.

First, with tariffs, unlike most NTBs, the level of protection is transparent to all. With a tariff, consumers, producers and investors can easily assess impact of the rate of the tariff. For domestic producers to make sound decisions, they need to know what their protection will be in the future and importers need to know what their penalty will be. Second, revenue from tariffs goes to the government whereas proceeds from NTBs are either absorbed by higher costs of doing business or accrue to quota holders or importers as rent, or are passed on to the ultimate consumer with consequences for cost-of-living and quality-of-life. Third, tariffs signal a limit to the extent of protection the government is willing to give to any particular industry, rather than absolute quotas that dictate local production at any cost.

Despite superiority of tariffs over NTBs, it is interesting to know that governments often prefer use of NTBs. One possible explanation of this behavior is institutional constraints such as those built into the WTO rules that prohibit use of tariff barriers to trade. The second is uncertainty whether tariffs will be effective in reducing imports (Deardorff and Stern, 1998) for they depend on consumer reactions to the new post-tariff price. That is, if the objective is to assist firms that are allegedly being harmed by imports, only an explicitly quantitative (non-tariff) restriction can be relied upon to achieve protection with certainty.

Size and NTBs

The prevailing view among early business reseachers was that size of a firm and its behavior, especially exporting, were positively correlated. In the early conceptualizations, the rationale was simple: "to compete globally, a firm has to be big" (Lefebvre and Lefebvre, 2001) because larger firms are generally regarded as more capable of bearing the large investments and high risks associated with exporting (Chandler, 1990). Despite this appealing conceptual explanation little empirical consensus exists about whether size has a strong relationship with export behavior. Several studies found a positive relationship between size and export behavior (Wignaraja, 2002; Dholakia and Kapur, 1999; Aitken, Hanson and Harrison, 1997; Samiee and Walters, 1990; Christensen, da Rocha and Gertner, 1987; Burton and Schlegelmilch, 1987; Reid, 1984; Cavusgil, and Nevin, 1981). Several others found negative or no relationship (Archarungroj and Hoshino, 1998; Marandu, 1995; Bonaccorsi, 1992; Ali and Swiercz, 1991; Karafakioglu, 1986).

Perhaps Cavusgil (1984) was the first to provide a satisfactory answer to this controversy when he postulated that it was more appropriate to view firm size as a concomitant variable (associated with trade activity) rather than a causal factor. He considered firm size as a source of differential advantages which enhanced behavior of a firm. The explanation was that firm size is thought to be a useful approximation of firm resources (financial and managerial), which affect export behavior. Hence the true relationship is not between size and behavior *per se* but between advantages arising from larger size and export behavior. Firm size may therefore be considered a proxy variable for potential advantages arising from size. With this conceptualization, the theoretical relationship between the size of a firm and various export aspects of trade behavior became clearer. For example, large firms are expected to be more successful than small ones because their larger size allows economies of scale to be realized, thus lowering unit costs.

Another explanation for this kind of relationship is the possibility that a non-linear relationship might exist between firm size and exports. After a certain threshold, size no longer plays a significant role. This explanation has been observed empirically in Australia, Denmark, Italy, Japan, Spain (Lefebvre and Lefebvre, 2001) and Germany (Wagner, 2001).

In regard to risk, small firms may be more risk-averse due to a lack of information, and mistakes in international trade may have relatively greater impact on smaller firms as compared to what it would be for larger firms. It is therefore expected that decision makers in small firms would perceive a higher risk in international activities (Calof, 1994; Bonaccorsi, 1992; Morgan and Katsikeas, 1997). In empirical testing of the relationship between firm size and management perceptions of barriers to trading, some consensus has been

produced. It was found that smaller and larger firms perceive barriers differently, with smaller firms tending to be associated with higher levels of perceived barriers in trading operations (Leonidou, 1995; Katsikeas and Morgan, 1994; Barker and Kaynak, 1992; Bonaccorsi, 1992; Keng and Jiuan, 1989). It follows that one may hypothesize that smaller firms perceive trade barriers to be higher than larger firms.

Experience and NTBs

The theoretical literature suggests that managers' perception of trade barriers varies with their level of involvement in trade. Some research concerned with the export aspect of trade suggests that a firm's export activities tend to evolve in stages and the movement from one stage to the next encounters different barriers (Borgersen, 2006; Czinkota, 1982; Cavusgil 1980; Johanson and Vahlne 1977). More specifically, the export growth process has been conceptualized as a 5-stage process; namely: Pre-involvement, Reactive Involvement, Limited Experimental Involvement, Active Involvement, and Committed Involvement (Cavusgil 1982). Naidu and Rao (1993) found that firms could be classified according to their involvement in foreign operations into four groups: Non-exporters, export-intenders, sporadic exporters and regular exporters. The significance of these classifications is that studies using these in understanding export barriers revealed that non-exporters tended to perceive more barriers than exporters (da Silva, and da Rocha, 2001) and marginal exporters perceived more export barriers than extensive exporters (Ali, 2005). These findings can be interpreted in two ways.

First, as expected, a firm perceives fewer barriers as it moves through the export stages that reflect progressively more experience. In fact a large number of studies use the dichotomy exporter-non-exporter as a proxy for export experience (Yaprak, 1985; Keng and Jiuan, 1989). Internationalization theory posits that knowledge obtained through experience from business activities in a specific overseas market is the primary means of reducing foreign market uncertainty (Katsikeas and Morgan, 1994). It follows that ability to cope with barriers encountered in exporting to a specific market depends on the extent of experiential knowledge about the factors shaping that export market (O'Rourke, 1985). This implies that, a firm with more export experience is likely to have a better understanding of foreign market conditions and thus perceive less uncertainty in its exporting decisions (Kneller and Pisu, 2007; Madsen, 1989). Such firms would consider export barriers as more manageable compared with firms with relatively low level of export experience. Second, the results may also be interpreted as a means to reduce post-decision cognitive dissonance, where managers who are already exporting tend to see exporting more positively than those who have not yet started (Dichtl, Leibold, Koglmayr and Muller, 1984).

These findings suggest that these groups of exporters have differing export market experiential knowledge and hence have different needs for export promotion support. This implies that the appropriateness and hence the impact of a particular promotional activity on a firm's export activities may vary depending on the stage a firm is on the export involvement or development process. A study based on the stages approach (Seringhaus, 1986) concluded that the impact of various export promotional services varies with the experience of a firm.

Synthesis

This review of literature has shown that the academic literature on NTBs is limited. A literature search through the scholarly journal search engines (EBSCOhost, Emerald and google scholar) produced very little results. When general Internet search engines were used (google, yahoo) most of the publications that emerged came from consultants working for multilateral organizations or regional trading blocs. As a result the most influential body of literature used in this study comes mainly from these non-academic sources. Much remains to be done to improve the understanding of non-tariff barriers from an academic stand point. There is an overall paucity of literature on this topic and additional studies are needed.
METHODOLOGY

This section describes the methods by which primary data were obtained and converted into information. Specifically, it deals with study subjects, development of instrument, procedures and data analysis.

Development of Instrument

It is imperative for rigorous research that investigators begin with determining the salient issues or problems in a particular context. It was thus important to conduct an exploratory study intended to ensure that the questionnaire to be developed would be relevant to the importers and exporters in Botswana. Thus openended interviews with a few import-export businesses were undertaken. Based on their responses, items to be included in the questionnaire were determined. In addition, items salient in theory and past research, but absent in the pilot, were also included. The draft questionnaire was then pre-tested on a few importers and exporters in Gaborone for uncovering of mistakes in content, editorial or readability.

The final questionnaire was divided into two types of questions. Type one questions sought to establish rapport with respondents and solicit data useful in classifying the respondents into subgroups on the basis of demographic variables such as size or experience of the business. Type two questions sought to solicit responses aimed at tackling the main research issues on perceptions of barriers to trade. Most questions were highly structured, using Likert-type scales, incorporating fill-ins providing comparable responses, which facilitated coding and analysis.

Subjects and Data Collection

The population for this study consisted of business people in Botswana who were engaged in the importexport trade. Data was collected from participants attending the Botswana Exporters and Manufactures Association (BEMA) Workshop Series, held in 2010 and 2011. This was followed by visits to the various border posts in the country to see first-hand border problems and undertake a few more surveys at these locations.

Data Analysis

Data analysis involved use of the SPSS Version 19 package to compute descriptive statistics such as frequencies, means and variances. The average score of individual and grouped items gave an indication of the prevalence of NTBs. The relationships among NTB groups were tested using correlation analysis. To test the extent to which there were differences in perceived NTBs among groups, the t-test for two independent samples was utilized with significance initially set at the conventional 5 percent level of probability.

Sample Characteristics

This section presents the salient characteristics of the sample of 94 respondents that were used in the study. It should be helpful in enabling the reader to reflect on the general features of the respondents who were used in deriving the findings and conclusions of this study. Table 4 displays a summary of the key characteristics of the sample. The following main points emerge from the data:

- (a) The respondents in the sample came from diverse sectors. In all, six sectors were represented in the sample but manufacturing (46%) was dominant.
- (b) The bulk of the respondents came from Gaborone where most firms are based, which accounted for about 67 percent of the respondents surveyed.
- (c) The vast majority (95%) of respondents were Botswana citizens and had sufficient experience (average 8 years), and seniority (top management 41%; middle management 29%), to appreciate most of the issues raised in the questionnaire.
- (d) A good majority (83%) of the respondents normally used the South African border for trade, confirming the high reliance of Botswana on South Africa for its trade.

Type of Business:	No.	%	Border Frequently Used:	No.	%
Manufacturing	39	46.4	South Africa [South]	58	82.9
Wholesale or Retail	6	7.1	Namibia [West]	5	7.1
Clearing and Forwarding	7	8.3	Zimbabwe [East]	4	5.7
Government	10	11.9	Zambia [North]	3	4.3
Para-statal	15	17.9	Total	70	100.0
Other	7	8.3	Position of Respondent:		
Total	84	100.0	Top Management	32	40.5
Location of Company:			Middle Management	23	29.1
Gaborone	56	66.7	Firstline Executive	24	30.4
Francistown	5	6.0	Total	79	100.0
Selibe Phikwe	1	1.2	Citizenship:		
Kasane	2	2.4	Citizen	52	94.5
Lobatse	8	9.5	Non-Citizen	3	5.5
Gantsi	3	3.6	Total	55	100.0
Maun	4	4.8		No.	Average
Other	5	6.0	Number of Employees	63	187
Total	84	100.0	Company Experience	72	15 Yrs
			Respondent Experience	53	8 Yrs
Note: Totals may be	less the	an 94, as so	me respondents did not complete all c	uestion	S.

Table 4: Characteristics of Respondents

RESEARCH FINDINGS

This section presents the salient findings of the study. The presentation is organized according to results from the primary and secondary lines of analysis.

Primary Line of Analysis

The incidence or frequency of encounter with an NTB was gauged by asking respondents how often they perceive that they themselves or others encounter a particular NTB by gauging this on a 3-point scale: Rare (1), Sometimes (2), Often (3). Data analysis was undertaken at two levels: at individual and at aggregate levels of the 28 NTBs identified for the study. The individual analysis involved a discussion of the top ten NTBs perceived to confront firms. In the aggregate analysis all 28 NTBs were analyzed in groups according to the four-group taxonomy. The aggregate analysis focused on inter-correlations among the four groups.

Analysis of the Top Ten Non-Tariff Barriers

Table 5 presents the ten most frequently encountered NTBs, arrayed in descending order of their mean. The rankings for the entire NTBs studied are presented in Appendix 1. The rankings produce several interesting revelations:

- 1. First, the research findings demonstrate that, from the point of view of the managers interviewed, the number one NTB in Botswana is Value-Added Tax (VAT), a Trade Policy Regulation.
- 2. Second, it is of interest to note the classification type of the 10 most frequently encountered NTBs. Four are from the "Administrative" category, four from the "Trade Policy" category, two from the "Infrastructure" category and none from the "Technical" category. It appears that the respondents in our sample perceived Technical NTBs as least prevalent in Botswana's intra-SADC trade.
- 3. Third, a perusal of the open-ended comments in the questionnaire suggests that most respondents do not perceive Trade Policy regulations per se (such as the VAT rate) as a major barrier. Instead, it is the way the policy is administered especially delays in getting the VAT refunded. In regard to immigration processes for personnel the problem was seen as not emanating from the explicit regulation but with unpredictability of the decision outcome because of unclear (implicit) guidelines. Therefore, it appears that the main NTBs to trade in Botswana are of administrative and infrastructure types rather than Trade Policy or Technical regulations.
- 4. Fourth, another prominent feature is that three of the NTBs are outright implicit in nature, namely "delays at border", "unclear on what to do at border", "excessive documentation". These NTBs are generally not explicitly stated in regulations, but are derived from practice. They tend to arise because of discretion of government officials in implementing trade regulations. Since all policies and regulations have an explicit and implicit component, and given our discussion with some respondents, it is reasonable to assume that in fact all the 10 NTBs, except the two under infrastructure, had an implicit component that bothered traders. We can therefore cautiously assume that eight of the 10 most frequent NTBs are indeed implicit in nature. As implicit NTBs are of a subtle yet omnipresent nature; this makes them very difficult to identify and costly to eradicate (Ching, Wong and Zhang, 2004).
- 5. Fifth, the results remotely suggest that NTBs are encountered not only in the goods sector, but also in the service sector, which depends more on foreign direct investment (FDI) and on movement of personnel as mode of import. For example, the 8th ranked NTB (immigration problems) is related to restrictions on movement of personnel.

NTB	Ν	Mean	Rank	Type of NTB	Nature of NTB
ValueAdded Tax (VAT)	57	2.58	1	Trade Policy	Implicit?
Delays at border	59	2.54	2	Administrative	Implicit
Unclear on what to do at border	19	2.53	3	Administrative	Implicit
Excessive customs documentation	58	2.45	4	Administrative	Implicit
Varying SADC trade regulations	58	2.41	5	Administrative	Implicit?
Import fees	61	2.39	6	Trade Policy	Implicit?
Access to trade finance	54	2.39	7	Infrastructure	
Immigration problems	57	2.37	8	Trade Policy	Implicit?
Export fees	60	2.32	9	Trade Policy	Implicit?
Transportation problems	59	2.32	10	Infrastructure	

 Table 5: Top 10 Most Frequently Encountered Non-Tariff Barriers

Relationships among the NTBs

A second level of analysis involved testing for relationships among the variables studied. Due to inability to handle correlations among all the 28 NTBs used in this study, these were reduced to four aggregate NTBs using the four category taxonomy as a basis for grouping. Each of the new NTBs is a composite index created by averaging responses to the technical, trade policy, administrative and infrastructure NTBs.

The Spearman's rank correlation coefficients among the four aggregate NTB constructs (Table 6) show that the association between any two of the NTBs is positive. This suggests that a respondent who perceives an increase in the prevalence of an NTB in regard to any one particular NTB category is also likely to perceive a simultaneous increase in all the other three NTB categories.

Table 6: Spearman's Rank Correlation Coefficient						
	Technical	Policy	Administrative	Infrastructure		
Technical	—	-				
Policy	0.344^{**}	—				
Administrative	0.247	0.369**	_			
Infrastructure	0.329^{*}	0.160	0.481^{**}	—		
** Correlation is sign	ificant at the 0.01 leve	el (2-tailed).				
* Correlation is signif	icant at the 0.05 level	(2-tailed).				

Secondary Line of Analysis

This section is concerned with the secondary line of investigation that involved re-analyzing the data in order to discover differences, if any, between sub-groups of the respondents. The rationale for the secondary line of analysis is that the need for and nature of policy intervention may differ according to size of firm and or experience of respondent.

Firm Size and Perception of NTBs

Data preparation for the secondary line of analysis involved ranking all firms in descending order on the basis of their size, which was gauged by the number of full-time employees. 31 firms which did not provide this data were excluded from the ranking. Respondent firms were classified into small and large relative to the median value in the sample. Accordingly, organizations employing up to 32 (median value) people were categorized as Small, while those with more than 32 employees were designated as Large firms.

Data analysis involved comparing whether respondents from smaller firms perceived a higher level of NTB prevalence than respondents from larger firms. The results (Table 7) made two revelations. First, as expected, there was trend for respondents from smaller firms to perceive a higher level of prevalence, in regard to each of the four NTB groups, but none of the differences reached statistical significance at the conventional level of 5 percent. Second, only one NTB group, Administrative NTBs, reached significance when the significance level was relaxed to 10 percent.

Managerial Experience and Prevalence of NTBs

A similar procedure as that for firm size was followed in classfying the respondents according to business experience generally, not import-export experience. Hypothesis testing involved comparing whether the less experienced respondent group (5 years or less, median) perceived higher NTB prevalence than the more experienced respondent group. The results were relatively similar to those of analysis of size in almost every respect. First, there was a trend for the less experienced group to perceive a higher level of prevalence, in regard to each of the four NTB groups; but none of the differences reached significance at the conventional level of 5 percent. Second, when the level of significance was relaxed to 10 percent, again the same NTB group, Administrative NTBs, reached statistical significance.

Table 7: Perceived NTB Prevalence by Size and Experience							
	Firm Size			Responde	nt Experien	ce	
	Small	Large		Low	High		
	Mean	Mean	Difference	Mean	Mean	Difference	
Technical	1.8529	1.6786	0.1743	2.0682	1.8125	0.2557	
Policy	2.2919	2.0307	0.2612	2.2936	2.1203	0.1733	
Administrative	2.2053	2.1259	0.0794*	2.2330	2.0159	0.2171*	
Infrastructure	2.2368	1.9615	0.2753	2.2273	1.9896	0.2377	
* Difference is significant at the 0.10 level (2-tailed).							

CONCLUSIONS, IMPLICATIONS AND FUTURE RESEARCH

This study investigated the prevalence of NTBs on trade between Botswana and other SADC countries. The limited academic literature on the topic suggests that this could be one of the few studies on this topic in this context. Therefore, policy makers as well as the academic community stand to benefit from the findings. In this section, the key findings are translated into a meaningful set of conclusions. Based on the conclusions, implications for public policy formulation and theory development are explored. Finally, suggestions for future research are put forward.

Conclusions and Implications for Public Policy

1. There is evidence to suggest that the most prevalent NTBs to intra-SADC trade in Botswana are of "Administrative" and "Infrastructure" in nature, while "Technical" NTBs are the least. The low prevalence of Technical NTBs (health, safety and environmental) may be explained by the fact that Botswana's main SADC trading partner (South Africa) is at about the same level of development and the standards may be about the same for both countries, typically Botswana adopting South Africa's in order to have access to the latter's much larger market. Public policy makers are advised that efforts aimed at increasing regional trade may prove more fruitful if focused on reducing administrative barriers and improving infrastructure rather than tackling technical barriers. For example, removing an administrative barrier such as "varying SADC trade regulations" or improving the "road network" may promote more regional trade than tackling "packaging or labeling" regulations. Although it is imperative for regional policy makers to deal with removing any restrictive technical standards, priority of effort of efforts should be on how to tackle administrative and infrastructure barriers.

PERCEIVED PREVALENCE OF NON-TARIFF BARRIERS

- 2. There is evidence to show that many of the most prevalent NTBs are both "administrative" and "implicit" in nature. They are implicit in the sense that they are not formally stated in government regulations; they tend to arise because of discretion of officials in implementing the technical and trade regulations. There is a need to design clear procedures that reduce official discretion to a minimum. There is also a need to harmonize regulations among SADC countries for these would help expose the remaining "implicit" NTBs and limit unintended trade-restrictive consequences of legitimate technical regulations.
- 3. Evidence from interviewing business people showed that customs offices at the borders have made a lot of improvements in import-export clearance through application of the ASYCUDA++ software system because only a single document is filed for each transaction. Despite this welcome development, our empirical study identified many administrative NTBs that still exist. This is probably because ASYCUDA++ is not a panacea for all customs problems. The single entry document must be accompanied by the usual supporting documents such as invoice, transport documents, insurance, phytosanitary certificate for products of plant origin and sanitary certificate for products of animal origin. It is recommended that to make further improvements in customs the government should consider installing a one stop trade documentation center that could house different government agencies with deputized representatives who could provide the various documents needed for external trade.
- 4. There was some evidence, though limited, to suggest that respondents from smaller firms tend to perceive a higher level of NTB prevalence than larger ones. This suggests that the perceived prevalence of a barrier and possibly its impact on a firm's trade behavior varies inversely with the size of a firm. One possible explanation is that because of their limited resources small firms perceive a higher risk in most things they do including perceiving higher NTB levels than what actually exists. The implication for international trade promotion agencies is that they need to focus attention on smaller firms. One way to overcome this mental barrier is for public policy makers to organize seminars, radio or television programs in which small international traders share their success stories.
- 5. Similarly, there was limited evidence to suggest that less experienced respondents tend to perceive a higher level of NTB prevalence than the more experienced ones. Again this suggests that the perceived prevalence of a barrier and possibly its impact on a firm's trade behavior varies inversely with the experience of a respondent. Again this implies that there is need for public international trade promotion agencies to focus attention on managers of less experienced firms. It is recommended that international trade promotion agencies should provide differentiated support services to firms. For instance, non-exporters could be encouraged to attend seminars; new exporters could be supported to undertake trade missions; and experienced exporters could be facilitated to attend trade shows or in the identification of trading partners.

Conclusions and Implications for Theory

- 1. This study makes several contributions to the understanding of NTBs and their perception formation from an academic standpoint by conceptualizing NTBs as a sub-set of the broader social, economic and administrative regulations in a country. The three-group NTB taxonomy consisting of Technical, Trade Policy and Administrative admittedly somewhat arbitrary proved a useful means of examining NTBs and makes intuitive sense. These NTBs refer to barriers external to a firm, generally, originating from the home and host environment within which the firm operates. Since these NTBs are macro in scope, this implies that they cannot easily be controlled by management. Although firms can collectively lobby to influence the lowering of these barriers, overcoming them usually requires a considerable amount of time and resources.
- 2. The positive correlation among the four NTB groups suggests that a respondent who perceives an increase in the level of prevalence of a particular NTB category is likely to perceive an increase in the

other categories as well. This implies that introduction of an NTB in one category is likely to induce similar perceptions in other categories. Thus the introduction of a particular NTB may induce other perceived NTBs far beyond the initial NTB, and vice versa. The corollary is that reduction or removal of one non-tariff barrier could result in an overall perception of increasingly favourable conditions for trade.

3. This study extends knowledge even further by formally adding a new and a fourth category of barriers called infrastructure deficiencies to the literature on developing countries. It seems that the current listing of inventory of NTBs by UNCTAD is based on conditions pertaining in advanced countries where infrastructure is well developed and can be taken for granted. In many developing countries infrastructure poses critical bottlenecks to the performance of many firms. It follows that in a study of NTBs in developing and emerging economies which omits or ignores infrastructure may be misleading because of under-specification of the salient barriers to trade.

Suggestions for Future Research

During the course of this research, several directions for additional research were indicated; some of them are as follows:

- 1. Findings from the open-ended questions and the follow-up interviews led to one important conclusion: "the VAT rate per se is not a major problem; the problem is delay in refunding of the VAT". This suggests that when a respondent is asked to evaluate the prevalence of VAT as an NTB she may be responding in connection with the way the VAT is managed. This leads to the realization that a Technical or Trade Policy NTBs have both "policy" and "administrative" dimensions. It is important therefore to be specific about what is being asked in a questionnaire. Future researchers are advised to take cognizance of this important distinction; otherwise researchers may advise policy makers to address the wrong dimension of an NTB.
- 2. In hindsight it is clear that the validity of the responses to the Technical Regulations and Trade Policy NTB questions in this study could have been improved. Technical Regulations and Trade Policies each have two dimensions. The first is the policy or regulation itself, and the second is the way it is implemented. Implementation in turn may take various dimensions such as clarity, transparency and efficiency (Marandu, 2004). Faced with a global question the respondents may be answering in regard to any of these dimensions. It is recommended that future researchers conduct a study that focuses on the adequacy, clarity, transparency and efficiency of Technical Regulation and or Trade Policy regulations.
- 3. This study takes a global approach in many other ways. First it covers both imports and exports. In future it is advisable to study these separately, because nations have a tendency to create more barriers to imports than exports. Secondly, the study covered all product types. Future researchers may want to consider studying NTBs facing a particular industry, such as agriculture, because in most cases different industries face different types of NTBs. Third, this study looked at trade between Botswana and all other SADC countries taken as a whole and differences between SADC countries get concealed in the overall averages. There is a need to consider studying NTBs between Botswana and each important trade partner on a bilateral basis, and to differentiate between barriers perceived to be raised by the local authorities and the foreign one.
- 4. The current study is also global in terms of NTB coverage for all four categories of NTBs are covered. Future researchers are advised to consider studying a specific category such as Technical NTBs on a specific country or region or product type. This will allow a more in-depth analysis than the current study. For example it is a well-known fact that Technical Regulations impact severely on Botswana's beef trade with the European Union, however, as shown by this study, regionally these are not that important.

- 5. It is not clear in this study whether immigration problems relate to conventional trade in goods or services or investment. There is a need to distinguish NTBs that are specific to goods or services or investment promotion with a view to provide a conceptual clarity.
- 6. The authors are well aware that the inclusion of Infrastructure Deficiencies does not fit well with current definitions of NTB since infrastructure is a condition and not a policy or regulation. Yet we argue that this variable is highly relevant in a developing or emergent economy environment. Future researchers are encouraged to consider developing a cross-culturally consistent conceptualization and measurement of non-tariff barriers and follow with it in empirical studies.

Concluding Remarks

The impetus for economic development in Botswana is likely to be trade-led at least in the foreseeable future. This study aimed at making a contribution towards ways of increasing trade by focusing on understanding the prevalence of non-tariff barriers on external trade. It is believed that the aims of the study have been achieved. It has attempted to develop a better understanding of what constitute non-tariff barriers. It has also raised more questions than it has been able to answer. For example evidence from previous studies and this one suggests that infrastructure is an important barrier to trade in a developing environment. The definition of NTBs adopted here does not capture infrastructure well. It is not clear whether NTBs are three-group or four-group taxonomies. The need to investigate further the relationship between infrastructure and the initially suggested three-group NTB taxonomy is indicated. It is hoped that this paper will stimulate other researchers to pick up where this work leaves off.

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NTB	N	Mean	Rank	NTB Type
Value Added Tax (VAT)	57	2.58	1	Trade Policy
Delays at border	59	2.54	2	Administrative
Unclear on what to do at border	19	2.53	3	Administrative
Excessive customs documentation	58	2.45	4	Administrative
Varying SADC trade regulations	58	2.41	5	Administrative
Import fees	61	2.39	6	Trade Policy
Access to trade finance	54	2.39	7	Infrastructure
Immigration problems	57	2.37	8	Trade Policy
Export fees	60	2.32	9	Trade Policy
Transportation problems	59	2.32	10	Infrastructure
Cumbersome transiting procedures	58	2.28	11	Administrative
Restricted border working hours	57	2.25	12	Administrative
Import licenses	59	2.22	13	Trade Policy
Government requirement to buy local products	57	2.21	14	Trade Policy
Inconsistent customs implementation	55	2.20	15	Administrative
Corruption	58	2.16	16	Administrative
Rules of Origin	53	2.13	17	Trade Policy
Non-notification of new customs regulations	59	2.10	18	Administrative
Export licenses	60	2.07	19	Trade Policy
Dumping	58	2.07	20	Trade Policy
Inadequate insurance facilities	55	2.07	21	Infrastructure
Unclear customs documents	21	2.05	22	Administrative
Inadequate banking services	56	2.04	23	Infrastructure
Unjustified packaging or labeling regulations	56	2.00	24	Technical
Unreasonably high quality or safety standards	56	1.93	25	Technical
Subsidies	53	1.85	26	Trade Policy
Police road blocks	55	1.82	27	Administrative
Pilferage (theft during transit)	58	1.71	28	Administrative

APPENDIX 1: Mean Frequency of Encountering Non-Tariff Barriers

INTERNATIONALIZATION AND VALUE-CREATION PERFORMANCE OF LATIN AMERICAN MULTINATIONALS: THE CASE OF OUTBOUND FOREIGN DIRECT INVESTMENT

Kofi Afriyie, Gladys Torres-Baumgarten, and Veysel Yucetepe

ABSTRACT

Understanding the internal sources of acquiring market strength has implications for corporate strategic decisions and competitive behavior as firms expand their cross-border business activities in their home region and around the world. This paper focuses on the sources of value creation in Latin American multinationals (LAMNEs). The basic premise of this paper is that a set of managerial skills and corporate strategies that leverage internal resources and capabilities coupled with strategic decisions to enter specific industries are driving the creation of market values among LAMNEs. This paper presents a conceptual framework and empirical evidence on internal management capabilities in deploying resources that help explain variations in market values generated by the largest Latin American firms.

INTRODUCTION AND RESEARCH QUESTIONS

The number of Latin American firms that operate in cross-border production has increased steadily over the past decade. Analysis of foreign direct investment (FDI, hereafter) data shows that out-bound investments by these firms exist in a variety of industries at all levels of scale production (UNCTAD, 2006; Forbes, 2007). Prominent Latin American multinational enterprises ("LAMNEs", hereafter) include CEMEX of Mexico, EMBRAER of Brazil and Banco de Chile, which operate in the cement, aircraft manufacturing and financial services industries respectively. These companies have joined the ranks of Forbes Global 2000 firms as the largest multinationals in the world (Forbes, 2008). This trend is in marked contrast to previous years when Latin American firms lagged behind their counterparts from other regions, including the emerging markets of Asia (UNCTAD, 1995).

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Once established as global firms, how do these firms perform, in terms of creating market value for their stakeholders? What are the sources of this value creation? The basic thesis of this paper is that a set of managerial skills and corporate strategies that leverage internal resources and capabilities coupled with strategic decisions to enter specific industries appear to be driving the creation of market values among LAMNEs.

The goal of this paper is to present a conceptual framework and empirical evidence on internal management capabilities in deploying resources that help explain variations in market values generated by the largest Latin American firms. Understanding the internal sources of acquiring market strength has both implications for corporate strategic decisions and competitive behavior as firms expand their cross-border business activities in their home region and around the world.

Research Questions

To achieve this goal, the paper addresses three research questions as follows:

- What are the likely internal operational capabilities embedded in firm resources that enhance value creation in LAMNEs?
- What are the sources of these internal efficiencies in Latin America's largest firms?
- What are the strategic implications of these value creation activities among large LAMNEs engaged in cross-border investments?

Answers to these questions may throw light on whether or not LAMNEs are more or less like their older, traditional counterparts from North America, Western Europe and Japan upon whom most international business research has been based. Thus, can the FDI activities of LAMNEs be explained by the internationalization processes and motives of outbound FDI, as current theories such as the O-L-I model of the Eclectic Paradigm proposed by Dunning (1995, 1988), or the transaction cost models (e. g. Hill & Kim, 1988) would suggest?

RELATED LITERATURE AND CONCEPTUAL FRAMEWORK

There are compelling reasons for investigating the forces that drive performance of Latin American multinational enterprises (LAMNEs). First, as newcomers in the global marketplace of foreign direct investment (FDI), there is a natural intellectual curiosity about these firms that marks them as targets for research investigation. Second, knowledge about these new firms from Latin America has the potential to advance our understanding of how firms of varying geographic and unique cultural backgrounds manage and perform in juxtaposition to more entrenched, traditional multinational firms from Western Europe, the United States, Canada and Japan. Do these newcomers from Latin America confirm or reject the range of prevailing and competing conceptual frameworks and theoretical formulations that seek to explain internationalization and performance of firms and industry? The question is intriguing because existing theories of FDI and allied explanations of global business expansion are based on the motives and behavior of traditional MNEs.

Finally, because global economic, political, technological and other dimensions of the environments in which all MNEs operate is perennially in a state of flux, firms are constantly evolving and adapting to changes in these environments. Hence, the need to examine systematically performance of newcomers in the global FDI landscape cannot be overemphasized. Understanding these new entrants in the global marketplace can only contribute to new insights into how firms adapt, survive and thrive in a hyper-dynamic environment. Studies on Market-Value Creation among Global Firms

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This study focuses on factors that affect market values of LAMNEs, because these firms have been catapulted into the ranks of the largest global firms as a result of their rapid increases in market values that compare favorably with those of older and traditional MNEs (Forbes, 2008).

Several studies have investigated the value created by MNEs and other firms operating in the global marketplace during the past decade. Yet, the topic of value creation still remains an under-researched one, especially with regard to global newcomers such as Latin American firms engaged in outbound foreign direct investment. Three strands of research on value creation can be found in the literature of global business expansion: First, creation of market value driven by corporate market data and information, as processed by financial markets. Second, the literature reports studies on market value creation as a result of diversification strategies of firms in both the financial and real goods sectors. Third, some studies have examined market value in the context of global trade liberalization and macroeconomic reforms in host economies.

Financial Markets and Firm Valuation

Many of the studies on value creation as a performance metric focus on the financial market and its influence on creating firm or stockholders' value, with some studies addressing bond holders' value as well (Pierre-Xavier, 2005). Evidence is mixed on whether or not global diversification, which by definition accompanies most global investments in both the financial sector and the real goods sector. Denis et al. (2002) reported in their study that diversification results in the loss of shareholder value. On the other hand, Bodnar et al. (1999) found, to the contrary, that global diversification actually leads to increases in shareholder value, even though both studies used the same valuation methodology. When Doukas and Kan (2006) make a distinction between bondholder and share holder values, bondholders win out in value gains as a result of diversification while shareholders see their values decline.

One of the most recent studies on value creation comes from a study by Gande, Schenzler and Senbet (2009) in which the authors show that global diversification enhances firm value.

This mixed and contradictory evidence in the literature indicates that the jury is still out, in terms of the extent of value creation by firms as they expand across global markets, even when studies use the same methods of evaluation. Hence, a compelling case can be made for further study to investigate the determinants of market value in international business research.

Industrial Diversification Strategies and Value Creation

At the industrial levels within real goods markets (in contrast to the financial sector), Barry and Kearney (2006), using portfolio theory, concluded that a more diversified manufacturing sector in Ireland, for example, leads to overall growth, thereby affirming the traditional view that large firms operating in diverse markets often contribute to growth in those markets. It can be argued, at least tangentially, that the presence of LAMNEs in a wide range of industries reported in the Forbes 2000 largest firms of which the current study is based, may be an indication of the potential contribution of these firms to growth in specific countries and economies in which Latin firms expand abroad.

Trade and Macroeconomic Factors

The literature also reports on studies that focus on the effects of external macroeconomic factors on value creation among firms expanding into global markets. For instance, Wooster (2006) found that value creation is most significantly associated with expansion by firms into emerging markets that are undergoing economic reforms through market liberalization. The study focuses on entry modes into host emerging markets

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that are at an advanced stage of reform and market openness. Incidentally, the profile of economies targeted in that study fits many emerging Latin American countries such as Brazil, Argentina and Mexico which also attract as well as export capital in the form of FDI. Wooster's study (2006) demonstrates the effect of external, extra-corporate influences, in the form of host- market liberalization and economic reforms, on value creation. An equally significant external influence on firm performance, albeit with an indirect effect on value creation, has been investigated by Baggs and Brander (2006). Using Canadian-US cross-border data, the authors demonstrate that tariff reduction in foreign markets correlate with increasing profits for export-oriented firms, while domestic tariff reductions are associated with declining profits in import-competing firms. This finding would suggest that purveyors of outbound FDI may have benefited or lost from declining tariff barriers since the early 1990s---depending on the nature of a firm's global activities--- with the creation of the World Trade Organization and the acceleration of globalization in general.

Examining the literature, one can conclude, even in the face of some of the contradictory results (see Denis et al., 2002), that the weight of evidence favors enhanced value creation as determined in financial markets and some diversification strategies of firms (Barry and Kearney, 2006, Gande, Schenzler and Senbet, 2009). Hence, by becoming global, the evidence suggests that LAMNEs may be contributing to overall global growth, at least to the extent that individual Latin firms form part of a portfolio of investments in specific markets (Wooster, 2006).

Gap in the Literature on Value Creation

What appears to be missing in the literature on Latin American firms as new players on the global FDI landscape centers on identifying and evaluating the role played by internal operations of firms, indicators of firm efficiency as well as industry of choice in creating market values for firms engaged in global crossborder production and investment activities.

This paper attempts to bridge the gap between market value driven by *external influences* such as a) market data and financial information and b) trade liberalization, versus value creation from internal *capabilities* such as sales generation, asset acquisition and strategic choice to enter specific industries.

Our basic thesis is that internal managerial operational capabilities and strategic decision to enter specific industries decisions can have significant influences on market values of firms. We focus on sales generation, levels of profitability, acquired physical assets that are deployed in production as well as presence in an industry as key drivers of success in the marketplace that would translate into increases in a firm's value. We present this argument in a conceptual framework as depicted in Figure 1.





METHODOLOGY AND HYPOTHESES

Data and Sources

Data for this study was collected from 2007 Forbes Global 2000 database of annual ranking of the top 2000 publicly-held companies in the world. Sixty-three companies originating from Latin American countries were selected for the study based on 2007 data available on the following (See also Model Formulation below):

- Market values of each firm estimated by the product of the mean stock price and the average number of outstanding shares in 2007
- Worldwide sales at the end of 2007
- Consolidated profits after tax at the end of 2007
- Physical stock of worldwide assets at the end of 2007

More than 50% of the companies originated from Brazil. The rest were distributed among Mexico, Argentina and Chile. (A detailed distribution of firms by country and industry is available from the authors and will be made available to the reviewers where necessary).

Model Formulation

The basic methodology is to examine the effects of independent variables, identified below as operational data, efficiency and asset utilization data and industry presence and their respective effects to explain variations in market values (the dependent variable) of firms surveyed. Equation (1) is used to estimate the direct and interaction effects of operations and industry presence on value creation:

$$\begin{split} MKTVL &= \alpha + \beta_1 \text{ SALES} + \beta_2 \text{ PROFITS} + \beta_3 \text{ ASSETS} + \beta_4 \text{ PMARG} + \beta_5 \text{ ASSETUTL} \\ &+ \sum \delta_1 \text{ IND}_{ik} + \sum \lambda_1 (\text{IND}*X)_{ik} + \epsilon_i, \text{ where...} \end{split}$$

Dependent Variable:

MKTVL = market values estimated by the product of the mean stock price and number of outstanding shares

Independent Variables, where

SALES = firm world-wide sales
PROFITS = firm world-wide profits
ASSETS = firm world-wide assets
<u>PMRGN = firm gross profit margin</u>
ASSETUTL1 = firm asset utilization in generating sales
ASSETUTL2 = firm asset utilization in generating profits
IND = industry dummy variable, where IND1 = Energy; IND2 = Financial Services;
IND3 = Materials; IND 4: Other industries, including assorted retail and telecommunication services
(IND*X) = interaction variables of industry and the above regressors. The interaction variables are specified in the form (IND*X)_{ik}, i=1...k, number of industries, i=n, number of firms.

- α = intercept reflecting other non-specified effects on market value
- β_i = direct effects of the independent variables on market value
- δ_i = industry effects on market value.
- λ_i = interaction effects of industry and the above regressors of firm capabilities in operations that generate efficiencies on market value
- $\epsilon_i = error \ term$

The study uses an Ordinary Least Squares (OLS) stepwise regression technique to estimate subsets of the above full-model equation and their direct and indirect effects of the independent variables on market value. To explore a wide range of effects that explain variations on market values, we estimate and examine several models of equation (1) as presented in Table 1 through Table 3.

Hypotheses

- H_1 : As LAMNEs increase their outward FDI, their overall financial performance, as measured by market value of the firms will increase. This will be so, in part, because of a natural increase in volume of activity such as sales that accompany regional and/or global market expansion.
- H₂: Increased efficiency in generating sales and profits through deployment of organizational assets will have a positive and direct effect on market values of LAMNEs that are actively engaged in outbound FDI in regional and global markets. This hypothesis is based, in part, on the general trend of increased acquisition of advanced managerial skills and enhanced technologies among emerging market firms in recent years. The sample of firms in this study all originate from emerging markets of Latin America.
- *H*₃: We expect that increases in operational efficiency in generating sales and profits and deployment of assets will be linked directly to specific advantages uniquely embedded in industries in which LAMNEs specialize. These industry advantages will explain, in part, variations in values of LAMNEs that engage in cross-border direct investments.

Below, we test these hypotheses using SPSS statistical analysis software.

EMPIRICAL RESULTS AND DISCUSSIONS

Direct Effects of Operations and Industry Presence

The empirical results show that firm operations in terms of sales generation (SALES), profitability (PROFITS) and asset acquisition (ASSETS) explain variations in market value (MKTVL) creation within LAMNEs. The results show positive and statistically significant effects of these operations on market value (p<0.001), in the estimated four models (Model 1 through Model 4), with Model 4 accounting for the highest explanatory power (adjusted $R^2 = 0.957$). As a result, H₁ is supported.

Likewise, the direct effects of industry presence show a strong, positive and statistically significant association between market values and the energy industry (Model 2, p<0.08) and an even stronger and positive association in Model 4 (p<0.05) and a somewhat positive relationship in the materials industry

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(Model1, p<0.10). These results suggest that LAMNEs have acquired enough capability and experience in these industries to generate market value. Such a finding may also signal the acquisition of industry competitive advantages accumulated over time by firms surveyed in the respective industries.

Results of statistical analyses are presented in Table 1 through Table 3.

	(Model 1)	(Model 2)	(Model 3)	(Model 4)					
SALES	0.888^{***}			0.366***					
	(0.000)			(0.000)					
PROFITS		0.963***		0.760***					
		(0.000)		(0.000)					
ASSETS			0.622***	-0.199***					
			(0.000)	(0.000)					
PMRGN									
(profit/sales)									
ASSETUTL1									
(sales/asset)									
ASSETUTL2									
IND1Energy	0.098	0.085*	0.169	0.082**					
	(0.271)	(0.088)	(0.292)	(0.048)					
IND3Materials	0.166*	0.021	0.142	0.060					
	(0.093)	(0.699)	(0.424)	(0.198)					
IND4Other	0.066	0.040	0.034	0.05					
	(0.517)	(.479)	(.854)	(0.292)					
<i>F</i> -test	51.284***	191.460***	7.502***	202.265***					
	(0.000)	(0.000)	(0.000)	(0.000)					
Adj. \mathbf{R}^2	0.800	0.938	0.340	0.957					

Table 1. Direct Effects of Operations and Industry on Market Value in LAMNEs

*** *p*<0.001; ** *p*<0.05; * *p*<0.10

J.	(Model 1)	(Model 2)	(Model 3)
SALES		,	
PROFITS			
ASSETS			
PMRGN	0.042		
(profit/sales)	-0.311		
ASSETUTL1		-0.062	
(sales/asset)		-0.705	
ASSETUTL2			0.099
(profit/asset)			-0.481
IND1Energy	0.244	0.237	0.255
	-0.223	-0.239	-0.201
IND2Financials	0.05	0.024	0.096
	-0.833	-0.924	-0.687
IND3Materials	0.158	0.159	0.155
	-0.483	-0.476	-0.485
IND4Other	0.013	0.021	0.015
	-0.954	-0.929	(0.947
F-test	0.709	0.72	0.795
	-0.619	-0.611	-0.557
Adj. R^2	0.058	0.0938	0.064

Table 2. Direct Effects of	Profitability,	Asset Efficiency and
Industry on Ma	arket Value in	LAMNEs

	(Model 1)	(Model 2)	(Model 3)	(Model 4)	(Model 5)	(Model 6)
(SALES*IND)	0.653***					
	0.000					
(PROFITS*IND)		0.732***				
		0.000				
(ASSETS*IND)			0.454***			
			0.000			
(PMRGN*IND)				0.005		
(profit/sales)				-0.970		
(ASSETUTL1*IND)					-0.144	
(sales/asset)					-0.258	
(ASSETUTL2*IND)						-0.215
						-0.278
<i>F</i> -test	46.110***	71.526***	16.141***	0.001	1.305	1.473
Sig.	0.000	0.000	0.000	-0.970	-0.258	-0.377
Adj. R^2	0.417	0.536	0.340	0.000	0.005	0.008

Table 3. Interaction Effects of Industry with Operations, Operational and Asset Efficiency on Market Value

*** *p*<0.001.

Direct Effects of Efficiency Proxies and Industry Presence

While the influence of sales, profits, assets and industrial presence are important, exploring insight into how efficiently LAMNEs utilize their assets to generate value may also shed more light on value creation strategies. Table 2 shows the potential effects of efficiency proxies on market values. As indicated above, three efficiency measures are employed in this study to investigate the role they play in creating market value in LAMNEs. These efficiency measures are presented here anew as follows: Profit/Sales (Profit margin = PMRGN); Sales/Assets (One measure of asset utilization = ASSETUTL1); Profit/Assets (Alternative measure of asset utilization = ASSETUTL2).

Table 2 indicates that none of these efficiency measures explains variations in market value. This lack of association between profit margins and asset utilization may be due to chance or failure of these measures to fully capture true efficiency levels in LAMNEs. This may be so, since true efficiency may be derived and properly captured at local, plant-level operations. In the latter case, discreet local or national operations are unable to influence investors' evaluation of overall, worldwide market values. By contrast, stockholders and other investors usually have access to information on worldwide sales, profits and assets, information that helps to influence market evaluation of firms. Based on the statistical results, efficiency indicators, as measured in this study do not explain variations in market values. H_2 is rejected.

Interaction Effects between Industry and Operations and between Industry and Efficiency Proxies

The empirical results presented in Table 3 show statistically significant and positive interaction effects between industry and operations--SALES, PROFITS and ASSETS—and their impact on market values (p<0.000 for all estimates of Model 1 through Model 3). Specifically, the results strongly suggest that industry presence appears to have a moderating effect on operations, amplifying the influence of these operations on market values.

However, interaction effects between industry and the efficiency proxies—PMRGN, ASSETUTL1 and ASSETUTL2—were positive but not statistically significant. Reasons for this lack of association between

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the efficiency measures and industry presence may be similar to ones suggested above: from a statistical artefact of chance, to inappropriate measures of efficiency, to the local nature of efficiency gains that have little or no impact on market valuation of firms. The results are mixed regarding H_3 : Industry has positive and moderating effects that amplify variations in market values as a result of presence in the energy and materials industries. However, no statistically significant association appears to exist between the efficiency proxies and industry presence, not surprisingly because of the general lack of any association between efficiency and market values as indicated above.

IMPLICATIONS AND CONCLUSIONS

The primary goal of this study has been to investigate empirically factors that help explain variations in market value among Latin America's largest firms operating worldwide. Statistical analyses and their results suggest strongly that the source of LAMNE's value creation is embedded in 1) the firm's ability to generate sales & profits, 2) the use of the firms' stocks of physical assets, and 3) the strategic decision to invest in specific industries such as energy and materials. In particular, the results suggest that industry presence appears to have a positive and moderating effect on operations in sales generation, profits and acquisition of assets in creating market values. However, there appears to be no evidence to link efficiency, as measured in terms of profit margins and asset utilization, to market valuation.

Positive effects of operations and industry presence on market values suggest enhanced managerial and technical skills and increased competitiveness of LAMNEs that have made it possible for these firms to be ranked among the largest in the world.

As LAMNEs continue to expand, they will increasingly counter competition from traditional MNEs and other newcomers, particularly from emerging markets of Asia. How the competing groups of MNEs—both traditional versus emerging--adapt to each other's competitive maneuvers as well as respond to new global FDI opportunities and challenges in a dynamic environment should provide endless research opportunities as well. For now, based on this study's narrow investigation and results, opportunities for further research exist on a number of issues. First, future studies may focus on collecting and using more firm-level data to investigate and measure specific capabilities among LAMNEs such as workforce efficiency, choice of technologies and managerial techniques deployed in coordinating worldwide operations, among others. New data on the foregoing could shed light on specific internal corporate capabilities that confer competitive advantages on firms through a) growth in market values and b) the accumulation of embedded operational and strategic knowledge. Second, if managerial capability in the use of resources is key to value creation, as the empirical evidence in this study strongly suggests, then a logical area of future research would be to investigate the role of organizational learning in acquiring such capability in LAMNEs.

Another area of future research is to investigate the specific kinds of assets used by LAMNEs to generate value. In this regard, future research could identify the sources of such asset acquisition. Are LAMNEs acquiring strategic assets organically from internal sources or as Luo and Tung (2007) suggest, expand faster into global markets through external acquisition of assets purchased from firms originating from advanced, industrialized markets. This area of research is still in its infancy.

Replication of studies in the above areas provides theory-building opportunities to determine if strategic behavior of firms in global markets is informed by its country, region-of-origin or by a set of universal impulses that drive expansion into global markets.

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DETERMINANTS OF TUNISIAN SMES EXPORTING BEHAVIOR: AN EMPIRICAL INVESTIGATION

Yamen Koubaa and Amira Eleuch EpKoubaa

ABSTRACT

The social and political instability that marked Tunisia shortly after the collapse of the ex-regime had hit hard the export activities of small and medium enterprises (SMEs) already in difficulties due to the recent world economic downturn. The interim government is trying to find remedies to the current situation through political, social and financial measures. However, these measures appear to be less efficient and conclusions have been drawn that remedies to the current Tunisian exporters' problems should pass, among others, by a reconsideration of their exporting behaviors. There is a tendency among Tunisian exporters to focus on one international destination and ignore opportunities available in other markets. This research tries to draw the profiles of mono destination and multi destinations exporters in Tunisia by examining the various factors that impact the choice of and the involvement with foreign markets. Depicting the profiles of these two types of exporters will help in developing appropriate measures that would contribute to the expansion of the Tunisian export activities. Results from an empirical investigation among a sample of Tunisian SMEs revealed that firm's specific factors are influencing the exporting behavior of Tunisian SMEs.

INTRODUCTION

Consensus exists on the important role of exportations in supporting and developing economies. Exportations increase currency reserves and limit economic balance deficit. Export activities maximize the use of production capacity, stimulate technology and marketing innovation and enhance the firm's efficiency. Exportation is considered as a less risky and low cost international entry mode. It provides the exporter with the opportunity to sell in foreign markets without being subjected to high risks such as with the foreign direct investment for instance. Firms in developing countries which are mostly SMEs try to benefit from the exportation opportunities to enlarge their markets and increase their profits as exportations do not absorb

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resources as do the other forms of internationalization (Katsikeas and Morgan, 1994). Exportation is an international entry mode that fits well to the characteristics of SMEs (Cavusgil, Knight and Riesenberger 2008). This has been the case in Tunisia since the independence. The Tunisian economy is basically based on SMEs and the country currency resources are heavily dependent on their exportation performances. The 2008 global economic slowdown coupled with the recent revolutionary movement in Tunisia revealed several black holes of the Tunisian SMEs exporting strategies. The majority of the Tunisian SMEs could not develop and/or sustain their exporting activities in many international markets from Europe to the Middle East and Africa. Tunisian SMEs have shown a fragile exporting structure and appear to privilege immediate pure financial gains over middle and long term exporting performance. A study released in 2010 and conducted by the Tunisian SMEs is their reluctance to develop multi-destinations export activities. Most of these SMEs conduct international business with one destination and managers appear to be satisfied with being present only in one foreign market despite a plenty of opportunities available in other foreign markets.

In fact, Tunisia's political and economic history explains partially the dominance of mono destination exporting behavior. Politically, Tunisia has close relation with Europe and particularly with France which oriented Tunisia's foreign commerce to France and Europe. Economically, Libya which is the closest market to Tunisia, and which suffered from an embargo for years, was big enough to absorb a pretty portion of the Tunisian SMEs exports. Coupled with the lack of a serious political and economic willingness to prospect other markets and to diversify export market portfolio, the above historical facts contributed significantly to restrain Tunisian exportations to one close market. Similarly, we believe that several SME's internal factors have contributed to the dominance of mono destination export behavior. Previous studies have demonstrated the impact of firm specific factors on its exporting behavior but Tunisian firms were not considered in the investigation. Therefore, in this paper we try to explore these factors and tests for their impact on the Tunisian SMEs exporting the two types of exporters can help to understand the reasons behind the firm's reluctance to diversify its markets. Once identified, the firm and the government can act upon these factors and have wiser resources' management in order to enhance the Tunisian products presence in the international markets.

The paper starts by a review of literature to shed light on the various factors that might impact the exporting behavior of SMEs. Then the testing methodology of these impacts is presented. The results are interpreted and discussed and finally implications for managers and national strategists are provided. The paper closes with limitations and windows for future research.

THEORY

The selection of target markets is a strategic decision deriving from the firm's orientations. The importance of such decision increases with the dependence of the firm on its international involvement. The international expansion politic makes the firm thinking about the identification of the potential markets and the penetration priority, the marketing efforts that the firm is able to make and the evolution of the expansion's rate during time. Two alternatives of expansion strategy exist: the concentration and the diversification (Lee and Yang, 1991). The geographical dispersion of the target markets seems to be the method to differentiate between the two strategies. The diversification refers to the penetration of several markets trying to diffuse the marketing efforts in all these markets. Such firm is then a multi-destinations firm. The concentration is characterized by the allocation of the firm's exporting resources to one zone. The firm is then considered as a mono-destination company steering its exportations to one market. However, practically, the firm cannot be positioned on the extreme of the continuum concentration /diversification. The firm tries to have a mixed strategy. It tries to export to several markets concentrating its resources on some particular markets. Such strategy guarantees to the firm to be concentrated on the most important markets while having some flexibility to benefit from the opportunities offered by the other markets. Cleslik, Caciak and Welsh (2012) affirm that the diversification strategy (i.e., geographic diversification of export markets) and the concentration strategy (i.e., focus on a single export market) have been always important subjects for discussion in the strategy,

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entrepreneurial, management and economics literature. The authors add that the subject will continue to attract business researchers in the coming years as the factors underlying these strategies are firm and country dependent despite the communalities that might exist across some countries. Some researchers (Cavusgil and Nevin 1981; Moore, 1989) explain the concentration choice by the potential to have a great market share in one zone which maximizes the profit of the firm. Other researchers (Czinkota and Johnston, 1983; Culpan, 1989) recommend the diversification as small market shares in many zones are more profitable than the one concentrated zone. Katsikeas and Leonidou (1996) indicated that in an early stage of internationalization, the firm adopts the concentration strategy. However, as long as its involvement increases, it becomes more motivated to penetrate different markets. This evolution can be explained by three reasons. First, the firm's resources became enriched with the increasing involvement in exportation activity. Second, the diversification minimizes the risk and allows better exploitation of the opportunities. Third, the management problems with the target market decrease as the firm accesses the information and gains experience.

Salomon and Shaver (2005) remark that exporting research has been done both at the macro (e.g., the market) and the micro (e.g., the firm) levels. The factors that make a particular country exports might not affect all firms similarly. Therefore, firm specific characteristics can lead to variance in the exporting behavior across firms in the same country from the same industry. The authors add that 'Although researchers have recognized the importance of studying export behavior at the firm level, this stream has not received nearly the attention devoted to macro level issues' (p 856). They recommend further investigations of the impacts of the firm specific factors on its exporting behavior.

A stream of empirical work addresses managerial influences on exporting. These include managerial expectations and aspirations (Cavusgil, 1984), attitudes toward risk (Wiedersheim-Paul, Olson, and Welch, 1978), attitudes toward foreigners, managerial language skills and experience in foreign countries (Dichtl *et al.*, 1983; Reid, 1983), and other related constructs. The argument put forth by these scholars maintains that managers initiate and develop export strategy and, as such, deserve to be the focal unit of interest. Khemakhem (2010) investigates the effect of experience in exporting and managerial aspirations on exporting strategy among Tunisian SMEs. He found that experience increases foreign market knowledge and leads to what he calls 'an integrated alternative' (i.e., export market diversification) of exporting. The author found also a significant link between the manager's aspirations and the Tunisian firm exporting behavior. Barker and Kaynak (1996) found that characteristics such as the firm's size, the management style and the degree of involvement in the exportation activity impact the firm exporting behavior.

Official statistics show that Tunisian exportations are concentrated on few classical markets specifically Europe and Libya despite the government efforts to encourage firms toward increasing their exportations and diversifying their markets.

Scarce are the researches about the Tunisian SMEs and their exporting behavior. Except for the research by Khemakhem (2010) which studies the combined impacts of the product factors, the market factors and the firm factors on the Tunisian firm exporting behavior; we couldn't find any research that focused on the firm specific factors and their influence on the Tunisian SMEs exporting behavior. Therefore, we try in this paper to explore the Tunisian context as Tunisia works to become an active actor on the international market (It is among the first producers and exporters of olive oil and phosphate and it is also among the first countries that signed partnership agreement with the EU). We believe that studying a new country will help to have larger comprehension of the international context. We investigate the view of the Tunisian centre for the promotion of export (2010) stipulating that factors internal to the Tunisian SMEs determine their export behaviors and that these factors are basically the firm size, its management style and its export experience.

The firm size

The relation between the firm's size and its exportation activity is depicted through the advantage offered by the size (Cavusgil, 1984). Proportionally to its size the firm can access to some competitive advantages facilitating the presence in different markets. Relatively big firms have easier access to financial

resources and management skills. They have greater production capacity and can mobilize more effort to enhance exportation activity. Big firms make more marketing research and are more productive in information analysis (Culpan, 1989). However, small firms with restricted marketing activity and limited resources lack usually strategic plans for exportation. Lee and Brash (1987) found that the majority of small firms adopt irrational approach to start exportation. They have ambiguous definition of objectives as they lack planning and information access. Small firms perceive more problems related to the exportation and avoid taking risk as they have limited financial assets. They are more concerned by procedural information such as those related to the security, insurance and transportation. They prefer to export to « soft » markets where the entry is facilitated by bilateral agreements, favorable taxation, and payment facilities. Big firms can export to more difficult markets where barriers are more complex to franchise. They can mobilize resources to multiple markets and operate simultaneously in more than one zone. Large size companies have enough material and soft resources to bear the risks associated with diversified exporting activities (Yaprak, 1985). In a comparative study of the Brazilian exporters' profiles and export behaviors, Gertner, Gertner and Guthery (2010) found that the firm size is a determinant of the export behavior as well as of the firm's involvement in export. In the same vein, Sibanda, Erwe and Ng (2011) found that the firm size impacts the export performance of Zimbabwean firms and that the export performance of these firms is dependent on their international market presence. Zhang, Hu and Gu (2008) explained that the firm size has an indirect effect on its exporting expansion through the firm capacity to develop intra-firm and inter-firm coordination of functional units. The authors argued that the firm size influences its capacity to develop this coordination which in its turn influences the exporting behavior of the firm. Kenny and Fahy (2011) studied the link between the SME networking capabilities and its international performance namely its export performance. The results showed a positive link between the SME networking capabilities and its export expansion and indicated that size is one of the influencers of the SME networking capabilities. Larimo (2007) demonstrated via an empirical study of Finnish SMEs that size is an antecedent of the firm exporting behavior.

H1: The firm's size affects its exporting behavior

In the Tunisian context, Ben Mlouka and Sahut (2008) argued that the firm size is a significant predictor of the Tunisian exporter behavior; and Khemekem (2007) revealed that the firm size influences the Tunisian firm international entry mode. The former measured the firm size in term of the firm's turnover and the latter evaluated it in term of the number of employees. Worth to mention that both the Tunisian commercial code and the Tunisian business customs refer to the employees' number to deem about firms' sizes. Hall (1987) measured the firm size by its number of employees and Shalit and Shankar (1977) found that the number of employees is one of the frequently used measures on the firm size in business research. Knowing that generally the number of employees is positively correlated to the firm's turnover and to the assets value, we think that the number of employees is a reliable measure of the firm's size.

The firm's experience in exportation activity

Firm's financial resources are not sufficient to explain the decision to continue and expand exportation activity. The experience and learning are also important factors. Firms having more experience in exportation gain new skills and learn more through their repeated contacts with foreign markets. Such advantages encourage the firm to continue the exportation activity (Burpitt and Rondinelli, 1998). Rhee and Cheng (2002) found that firms start to export to a geographically and culturally near market. As they accumulate experience, they become oriented to new markets fare and different. With experience, firms tend to be less uncertain in their activities. They can better understand the foreign markets mechanisms and perceive fewer problems related to these markets management. Zhang, Hu and Gu (2008) explained that through experience the firm acquires various management skills and develop enough confidence and contacts which will help it develop successfully intra-firm and inter-firm coordination of functional units that results in a positive impact on its exporting expansion. The coordination of functional units allows firms to realize cost gains and build networks. These gains and networks favor export expansion to multiple markets and increase exporting performance. Likewise, Kenny and Fahy (2011) argued that international experience positively

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influences the firm networking capabilities and that networking capabilities stimulate international expansion namely export expansion. Hence our second hypothesis:

H2: Exportation experience affects the firm exporting behavior

Overall, time has been found to be a developer of experience. The exposure of managers to exportation tasks contributes to the accumulation of exportation knowledge and problem-solving capabilities. Nonetheless, time is not the only determinant of experience and can be sometimes a false determinant when the managers are only exposed to simple exporting tasks not necessarily generating knowledge. Hence the complexity of foreign markets (i.e., the extent to which they are different from the home market) seems to be an appropriate measure of exporting experience. Market's disparities and differences *vis* \dot{a} *vis* the home market require more information search and longer exposure to complex exporting tasks which positively influence knowledge accumulation and thus experience. Accurate measurements of export experience should derive from the combination of the time spent in export activities and the export hardship.

Manager characteristics

In many researches interested to the exportation activity, the involvement of the firm's manager seems to be determinant of the exportation activity and of the management style. The manager has a great role in facilitating or inhibiting the progress of exportation activity as he/she is the decider about information collect, knowledge development and resources allocation. The manager's characteristics are supposed to affect many dimensions in the exportation behavior such as the probability to start exportation activity and the speed of foreign markets penetration (Léonidou et al, 1998). When studying the manager profile, focus should be made on the variables which can modify his perception of opportunities and risks. The manager's way to select target markets, his/her decision about the marketing strategy to adopt and his/her management of the exporting activities are affected by his/her risk taking behavior and innovativeness capability (Hambrik and Mason, 1984):

Risk behavior (willingness to take risk):

The attitude toward risk is a discriminator when drawing managers' typology. Manager who takes the risk is a manager ready to tackle uncertain alternatives. Risk's reasons are the lack of the situation control, lack of information and lack of resources. Enthusiast managers are tolerant for risk and optimist. They tend to benefit from opportunities without a great consideration to potential risks. They are thus likely to have more predisposition to engage the firm in more than one market. Enthusiast managers are opportunities driven and do not hesitate long in trying different markets seeking more opportunities. However, pragmatic managers are averse toward risk and avoid strengthening their business engagement. They prefer certain small gains over uncertain abundant gains. Hence they tend to focus on one market going to avoid multiple differences across multiple destinations. Furthermore, the probability to start exporting is related to the manager aversion toward risk. Mangers averse to risk perceive the exportation as a risky activity, complicated and not profitable. Such attitude limits the manager's involvement and reduces his interest to target foreign markets. Exportation expansion requires an investment in information collection and in the adaptation to the different markets' conditions. Such investment can be a source of risk the firm must assume if it looks at diversifying its market portfolio. If the manager fears the risk, he/she will likely limit the exporting options to one traditional market well known for the firm. In a recent study about Chinese exporters, Chen, Hu, Sun and Zhao (2011) found that the Chinese exporters can be grouped under four categories which are the prospector (who tries always to seize export opportunities everywhere), the strategist (who tries to seize export opportunities once an appropriate strategy is in place), the hesitator (who hesitate exporting) and the experimentalist (who experiment and then seize available export opportunities). The authors took the 'risk aversion' as one determinant of the Chinese exporters' categorization. They found that the prospector, the less averse to risk, is the best performer and the most competitive exporter. Hence our third hypothesis:

H3: the manager's risk taking behavior affects the exporting behavior of the firm

The innovation criterion:

According to Koh (1996), an innovative person is a person tending to select innovation as the most acceptable alternative in a fixed time. An innovative manager is a proactive manager trying to benefit from all the opportunities and to have creative ideas concerning the firm's strategies (Kickul and Gundry, 2002). The innovation criterion affects the exporting behavior in four stages: 1- *consciousness:* the innovation sense makes the manager considering the exportation as an opportunity to benefit from foreign markets. 2 *–the interest:* innovative manager becomes more favorable to run exportation activity 3- *the intention:* the motivation increases with the innovative sense 4- *the adoption:* the manager starts to export as exporting is an innovation comparing to a non-exporting status (Kickul and Gundry, 2002)

The innovation sense helps the manager develop the exportation activities and multiply the experiences with fare and different international markets. Innovative managers are more able to quickly understand the problem, come up with the solution and being different from competitors. They search for the maximum of information and are oriented to new alternatives rarely chosen by others. Hence our fourth hypothesis:

H4: Manager innovative sense affects the exporting behavior of the firm

METHODS

An empirical investigation among Tunisian exporting SMEs was carried out. According to the Tunisian law, an SME is a firm that employs less than 150 people. A combination of small SMEs and large SMEs was selected. A stratified sampling was applied and 68 Tunisian exporters were identified as possible respondents. The stratification criterion was the sector of activity. The selection of the target firms is explained in table 1:

Sector of activity	Number of partially exporter firms	Proportions (%)	number in the sample
Food-processing industries	797	25.6	17
Chemical industries	382	12.3	8
Construction materials, ceramic	428	13.7	9
Several industries	234	7.5	5
Leather and shoes	116	3.7	3
Electric and electronic materials	128	4.1	3
mechanic	426	13.7	10
Textile and clothes	424	13.6	9
Wood	181	5.8	4
Total	3116	100	68

Table 1: respondents' details

The questionnaire was sent to the 68 identified respondents. Two propositions are presented to define the firm's exporting behavior. The proposition to identify the multi destination firm was: the firm's strategy is to export to the maximum of possible markets without any particular concentration on a specific market. The proposition to identify mono destination behavior is: the firm concentrates its efforts and resources to export to one specific market. The number of target markets served to validate the proposed typology. The mono destination firm takes the code 0 and the multi destination firm is coded 1.

The size of the firm was assessed by the number of its employees. The wisdom behind measuring the firm size by the number of employees is twofold. First the number of employees is proved to be a determinant of the firm size in Tunisia (see the section about the firm size). Second, most of the firms participating in the

study refused to disclose their turnovers and their assets' values which are also determinants of the firm size in Tunisia but could not be used in our study.

Experience in the exportation was measured by the number of years the firm has been engaged in exportation. Overall, time has been found to be a developer of experience. The exposure of managers to exportation tasks contributes to the accumulation of exportation knowledge and problem-solving capabilities. To take the export hardship into consideration, we consider in a second phase of the analysis both the years of experience in export and the foreign market commercial distance as discriminators of export experience. The commercial distance was measured in terms of the similarities and/or disparities of the legal system, business practices, cultural traits and the financial situation according to SWOT analyses of all the markets involved in the research performed and published by Datamonitor (2010).

Risk behavior is measured using four short decision-making exporting cases placing respondents in situations of risky choice. A similar approach relying on hypothetical cases and scenarios to measure risk behavior has been widely used in risk research (Sitkin and Weingart, 1995; Blais and Weber, 2001; Keil et al., 2000; Yordanova and Boshnakova, 2010). The cases used in this study present common business situations. After each case, respondents are asked to choose among four alternative decisions involving different degrees of risk associated with the decision outcome (scored from 1 to 4 according to the level of risk involved). Risk behavior is coded 1 if the sum of scores is more than 12 (a risk taking manager) and 0 if the sum of scores is equal to or less than 12 (aversion to risk taking).

The measurement of innovativeness is inspired from the work of Koh (1996). We used a 5point Likert scale ranging from 1: totally disagree to 5: totally agree for propositions like: 'I am always searching for new markets' and 'I always look for information about the innovation related to my firm's activity'.

32 mono destination and 20 multi destinations firms returned useful questionnaires with an answer rate of 76.5%. Around 78% of mono destination firms have less than 70 employees and more than 70% have less than 7 years in exportation activity. 50% of multi destination firms have less than 137 employees and 60% have less than 8 years of exportation experience. Grand Maghreb is the most frequent exporting market by both mono destination (68.75%) and multi destinations firms (93.75%). The European market comes in a second place. Table 2 summarizes the percentages of mono destination and multiple destinations firms' exporting operations by region.

		Maghreb	Europe	Arabs	America	Asia	Africa
Non targeted	Mono	31.25%	65.62%	100%	96.87%	100%	96.87%
	Multi	6.25%	25%	35%	60%	55%	35%
targeted	Mono	68.75%	34.38%	0%	3.13%	0%	3.13%
	multi	93.75%	75%	65%	40%	45%	65%

Table 2: percentages of firms by region

A principal components analysis (PCA) was necessary to reduce the number of items used to measure the manager innovative sense. 2 components are finally retained through a PCA with Varimax rotation. The first one explains 42.27% of the variance. 3 items are highly correlated with this factor which are 'I am always searching for new markets', 'I always look for information about the innovation related to my firm's activity' and 'I agree on making changes to resolve the problems in my work'. These items depict the ability of manager to detect opportunities in the foreign markets through data collection and search of new clientele and his capacity to accept change to resolve problems. This factor will be then labeled 'the manager's opportunistic sense'. The second factor explains 34.12% of the variance. It contains the items 'It is easy to me to have new original ideas for my activity in the firm' and 'It is easy to apply the new ideas that I got in my work'. This factor will be labeled 'the creativity of the manager' as it measures the existence of creativity at work.

To test for the different hypotheses, a logistic regression with the following regression equation was applied:

The dependent variable: the probability to be multi destinations $P(md) = 1/(1+e^{-Z})$ where,

 $Z = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_{3+} \beta_4 X_4 + \beta_5 X_5 \text{ with,}$

 X_1, X_2, X_3, X_4 , X_5 are the independent variables namely the firm size, its experience in the exportation activity, the manager risk taking , his/her opportunistic sense and his/her creativity.

 β_0 : the constant and, $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ are the coefficient respectively related to the independent variables.

To have better results from applying the model above, the respondent number 29 was classified as aberrant and was hence eliminated. The analysis will be based on the answers of 51 respondents.

The logistic regression was applied given two research facts. One is that logistic regression allows for the prediction of a discrete variable (the exporting behavior in our case) from a set of variables that can be continuous, discrete, and dichotomous or a mix of these. The latter is the case in our study. Second is that the dependent variable is a binary variable. The discriminant analysis would be an alternative for the logistic regression. However, the discriminant analysis can only be applied when all the independent variables are continuous, which is not the case in our study.

Before applying the logistic model to the collected data, series of quality tests were applied to be sure of the appropriateness of the proposed model in predicting the proposed effects.

Table3: Chi2 test

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	28,436	5	,000
	Block	28,436	5	,000
	Model	28,436	5	,000

The significance of Chi2 coefficient proves that there is at least one variable which can predict the exporting behavior of the firm.

The classification table2X2

Table4: The percentage of correct classification

Classification Table^a

			Predicted			
			exporting			
	Observed		mono destination	multi destinations	Percentage Correct	
Step 1	exporting behavior	mono destination	27	4	87,1	
		multi destinations	7	13	65,0	
	Overall Percentage				78,4	

a. The cut value is ,500

Table 4 shows that the percentage of correct classification is 78.4%. To be sure about the usefulness of the latter percentage compared to the result of random classification, we fixed the rate to 50% and we calculated the statistic Z.

$$Z = \frac{P - 50}{\sqrt{50 * 50}} * \sqrt{n} \text{ with}$$

p: the percentage given by SPSS out put
n: sample size

$$Z_{\text{calculated}} = \frac{78.4 - 50}{50} * \sqrt{51} = 4.57 > 1.96$$

Based on the Z _{calculated} we can affirm that the percentage of 78.4% is better than the random classification rate (50%, 50%) with a confidence level of 95%. We can infer thus that the application of logistic regression is able to correctly predict the firm's exporting behavior in terms of the proposed variables in 78.4% of cases.

The adjustment test of Hosmer and Lemeshow

Table5: Test of Hosmer and Lemeshow

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.	
1	7,809	8	,452	

This test is to verify that no difference exists between the predicted and the observable values of the dependent variable. The Chi2 statistic value is the index for this test. In our case, Chi2 value is 7.809 and it is not significant (p= 0.452). We can conclude that there is no difference between the predicted and the observable values of the dependent variable. The proposed model fits well to the data.

RESULTS

Table 6 presents the results of the logistic regression.

Table6: regression outputs

Variables in the Equation

		В	S. E.	Wald	df	Sig.	Exp(B)
Step	RISQUE	1,267	,583	4,722	1	,030	3,552
1	EXP	-,166	,124	1,792	1	,181	,847
	TAILLE	,020	,008	6,110	1	,013	1,021
	OPP	1,415	,566	6,256	1	,012	4,115
	CRÉAT	-,121	,411	,086	1	,769	,886
	Constant	-6,195	2,367	6,850	1	,009	,002

a. Variable(s) entered on step 1: RISQUE, EXP, TAILLE, OPP, CRÉAT.

Risque: risk taking; Exp: experience of the firm in the exportation activity; Taille: the firm's size; Opp: opportunistic sense; Creat: creativity

The firm's size

The size of the firm has a Wald index equal to 6.11 (p=0.013). This criterion is then significant and we can affirm that the size of the firm can discriminate between the mono destination and the multi destinations firms in Tunisia. Odd ratio is equal to 1.021 and is superior to 1 revealing that if the firm's size increases, the probability that it becomes multi destinations increases. H1 is then confirmed. Such result goes in line with Katsikeas and Léonidou (1998) and Gertner, Gertner and Guthery (2010) findings.

The experience in exportation activity

With number of years in export as discriminator

The experience in exportation has a non significant Wald index equal to 1.792 (p=0.181). The experience cannot discriminate between the mono destination and the multi destinations firms. H2 is rejected. Such result is similar to the finding of Katsikeas and Leonidou (1996) who could not confirm the effect of the experience on the exporting behavior but partially contradicts Zhang, Hu and Gu (2008) and Kenny and Fahy (2011) findings.

With both the number of years in export and the market complexity as discriminators

The Wald index remains non-significant and thus the experience in exportation cannot predict the exporting behavior of Tunisian SMEs.

The manager risk taking

The Wald index associated to the manger risk taking is 4.722 (p=0.03). The significance of Wald index indicates that the manager risk taking predisposition can discriminate between the two types of firms. H3 is then confirmed. The managers more predispose to take risk tend to diversify exporting markets. The nature of this effect is detected through the "Odd Ratio" related to the variable. Odd ratio is equal to 3.55 and it is superior to 1. Such value indicates that an increase in the manager's predisposition of risk taking results in a higher increase of the chance that the firm becomes multi destinations. It seems important to mention here that the notion of risk assessment is subjective. Two mangers can have two opposite assessments of the same risk situation. While one can see diversifying exporting markets as a source of risk minimization via the fragmentation of the overall risk across different markets. The other can see it as a risk maximizing choice via the maximization of the firm's engagement internationally and the possibilities to fail in controlling all of these markets. According to our results, it appears that most of the Tunisian exporters adopt the second interpretation and classifies multi destinations export behavior as a risky choice.

The innovation criterion

The innovative sense is depicted through two features: opportunistic sense and creativity.

Wald index associated with the opportunistic sense is 6.256 (p= 0.012). The opportunistic sense discriminates between mono destination and multi destinations firms. The odd ratio associated is 4.1 (>1). As the opportunistic sense becomes stronger, the probability of the firm to be multi destinations increases. Opportunistic manager is searching for multiple opportunities in the foreign markets. He/she tries to search for customers wherever they are available. In the Tunisian context, managers having opportunistic sense are more predisposed to diversify their international markets and benefit from the potential profit.

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The creativity criterion

Creativity has a Wald index of 0.086 (p= 0.769). The non significance of this coefficient indicates that the manager's creativity is not a predictor of the exporting behavior of the Tunisian firms. It seems that the manager could not benefit from his/her creativity unless the firm is offering him a favorable environment. H4 is partially confirmed. The innovative sense of the manager affects the exporting behavior through the opportunistic sense only.

DISCUSSION

Although SMEs have communalities, the differences in their sizes and in their managers' qualities discriminate between their export activities. The SMEs concentrating their exporting activities on one market have smaller sizes than those acting in many markets. The small firm's size limits its access to resources and with the absence of adequate government support to ease the access to necessary resources, Tunisian SMEs could not respond favorably to the disparate demands of different international markets. Large SMEs have more access to funds as they have stronger relationships with the financial institutions and are more able to provide mortgages to get financial supports. Those SEMs recruit managers of better skills and operate with more technological and operational resources. They are more proactive in searching for diverse export markets. It is then advisable that the government backs small SMEs (via tax cuts or subventions) to let them have access to funds necessary to finance export activities in many markets. Small SMEs in Tunisia should also look for appropriate inter-firms coordination as recommended by Zhang, Hu and Gu (2008). This coordination allows for money saves and experience sharing through the exchange of knowledge about international markets and the sharing of export functional operations costs such as market prospect and shipment of goods. Small firms should hence be more competitive and the risks associated with export operations would decrease as it is scattered among partners. The chances to enter more than one export market would increase.

Contrarily to our hypothesis, experience in export activities could not predict the exporting behavior of the Tunisian SMEs. The absence of relationship between the experience and the number of targeted markets can be justified by the approach of the Tunisian firms in the exportation activity. The proactive firms which take the initiative and search for customers abroad can be multi destinations from the beginning of their exportation activity. However, if the firm is reactive and waits to have orders from foreign markets, it is likely to serve one destination.

The number of years in export alone appears to be non-sufficient to accurately measure experience. This measurement should be coupled with the frequency and the strength of the difficulties encountered in the international markets. Nonetheless, even when the latter variable is taken into account, the impact of exporting experience on exporting behavior remains non-significant. One explanation of the absence of this link is a managerial handicap marking many Tunisian SMEs and disabling them from efficiently transforming the accumulated knowledge into operational choices and decisions which impact the firm's performance. A study by Jallouli and Raboudi (2011) reveals that Tunisian SMEs have difficulties to process the accumulated knowledge and to transform it into operational decisions. This finding appears to be a common problem for SMEs in many developing countries. For instance, Khoi (2011) found similar results with exporting Vietnamese SMEs in the fishery sector. Magbleh, Kharabsheh and Al-Zubi (2011) via a study of Jordanian SMEs and Habinka, Sol and Baryamureeba (2009) via a study of Ugandan SMEs found that this handicap can be overcame by appropriate training of managers that leads e to a better performance. The authors stress the vital role to be played by the public authorities. Authorities should develop programs that allow SMEs to capitalize on their accumulated knowledge. In this respect, the current government in Tunisia signed various agreements with the World Bank, the European Bank for development and the Japan investment fund dedicated to the improvement of knowledge management of Tunisian SMEs as a step toward a better international performance. The return of experience on performance has been since decades a driver of success for many firms in developed countries (Nonaka and Takeuchi, 1995) and recently in SMEs from emerging

countries (Bozbura, 2007). Policy makers should be aware of the added-value brought by a successful knowledge management and the positive return it has on SMEs international performance.

Risk taking and innovative managers are more willing to engage the firm in multiple markets. The game of business is a game of risk and the predisposition to take risk has made the differences between the winner and the looser and between the best performer and the least performer. Export success is based partially on how the firm seizes the available opportunities and keeps doing better than the competitors. The competition and the time constraints drive export managers to accept a certain level of risk and to be innovative if they want to conquer foreign markets. Managers predisposed to take risk are likely to come up with quicker and more courageous decisions than those averse to risk. The firms run by risk-taking managers are likely to be present in more than one market as their managers are more proactive in seizing opportunities wherever they are available. One of the measures that can push adverse managers to accept higher risk is an improvement of the insurance system in Tunisia. Insurance companies in Tunisia are so bureaucratic and less reactive towards the exporters needs. It is difficult to find an insurance that accepts to cover most of the exporting risks with a reasonable cost (a cost that keep the firm competitive internationally). SMEs hence choose to reduce the guarantee list to get a lower fee but this will impact their exporting behaviors especially those whose managers are adverse to risk taking.

The innovativeness sense of the manager positively influences the probability of being multiple destinations exporter. This research showed that only the opportunistic sense was significant in predicting the exporting behavior of the Tunisian SMEs. As business is opportunity driven, those managers innovative enough are able to come up with genius ideas different from the competitors and seize opportunities. We think that innovation is prerequisite to start export and to sustain and develop it. Psychological training and material incentives can be good motives for managers to develop their innovativeness. Creativity was found non-significant. It seems that, as with knowledge, Tunisian managers have difficulties in implementing creativity into the reality of the firm. Scholars and analysts have proposed the technique of clusters. Clusters are alliances between SMEs to conquer foreign markets. Clusters increase the firm's competitiveness and presence into foreign markets. They allow cross-fertilization of knowledge between partners and diversification of the risks associated with the international exposure. Note here that the culture of sharing risks and benefits should be in place to be able to expect for a positive return of clusters on SMEs international performance.

As the exportation activity is crucial to the firm's growth and the economy's dynamism in Tunisia, exporters and organizations promoting exportations should invest more resources and effort to develop exportation activity. The Tunisian mono destination firms can focus on one market avoiding the risk of being engaged on multiple markets but such firms should profit from their experiences and their strong relationships with their traditional market by surpassing the exportation stage toward the establishment of a joint venture or a sales agency for instance. The national agencies promoting the exportations could have a determinant role to strengthen the relationship of Tunisian exporters with scarcely targeted markets by organizing commercial missions and professional meetings between the different officials. They could also run specific marketing actions to improve the image of Tunisia and of the Tunisian products internationally. The recent revolutionary movement can be a good asset to do it.

CONCLUSIONS

Through our study we tried to extend the knowledge about exportation activity in Tunisia. The studies in this area are generally interested to the firm exportation performance. This research focused on the predictors of the firm exporting behavior. We identified some criteria discriminating between mono destination and multi destinations firms. The description of the profile for every type of firms provided some important implications to consider by firms' managers and by the national agencies dealing with export. Theoretically, we were limited to the effect of the firm features on the exporting expansion behavior. The effect of interaction between those features is still to discover. Empirically, it appears that the measurement of the firm experience in export wasn't adequate. Future researches should consider this impediment. Moreover, longitudinal study can contribute better to define the profile of every type of firms and determine the evolution direction in the continuum concentration/diversification.

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THE EXCHANGE RATE RISK IN THE JOHANNESBURG STOCK MARKET: AN APPLICATION OF THE ARBITRAGE PRICING MODEL

Paul-Francois Muzindutsi and Ferdinand Niyimbanira

ABSTRACT

The volatility of exchange rates has caused much concern among policy makers in government, the business community, financial institutions and financial markets as it contributes to international risks. Investors are also concerned about the impact of the exchange rates' movements on both the cash flow of companies' operations and the discount rate employed to value these cash flows. This paper inspects the pricing of exchange rate risk in the South African stock market, using a two-factor arbitrage pricing model. After examining the Johannesburg Stock exchange All Share Index Top40 (ALSI Top40) companies, the conclusion is reached that these companies tend to be negatively exposed to the exchange rate risk. The unconditional premium attached to the foreign exchange rate exposure is found to be 2.2% per month and is both economically and statistically significant. The exchange rate does not appear to be diversifiable (systematic risk) and active hedging policies by financial managers can affect the cost of capital. Investors should, therefore, earn a premium by being exposed to the foreign exchange rate risk.

INTRODUCTION

One of the concerns for investors is the issue of foreign exchange rate risk exposure, that is, exchange rate movements that affect both the cash flow of a firm's operations and the discount rate employed to value these cash flows. These foreign exchange rate risks are a result of currencies' movements which have increased because many countries have shifted their policies toward independently floating exchange rates. The contribution of foreign exchange risks to international risks needs to be identified in order to decide whether these foreign exchange risks can be diversified. If foreign exchange rate risks cannot be diversified, investors would be willing to pay a premium on the assets that are exposed to currency risks. The foreign exchange rate is, therefore, recognised as one of the most important dimensions of foreign investment and international asset

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pricing. Thus, asset pricing can be used to incorporate the exchange rate risk premium that compensates for the exchange rate risk exposure.

Given the increasing openness of the South African economy, South African firms can be considerably affected by the fluctuation in the value of the rand (South African currency) compared to other currencies. The end of sanctions in 1994 and the abolition of the dual exchange rate in March 1995, have led to the increased foreign investment portfolio in the Johannesburg Stock Exchange (JSE) due to the increase in the trade between domestic and foreign companies (Jefferis & Okeahalam, 2000). Hence, the exposure of the South African stock market to exchange risk has increased because of the increase in the foreign capital flow and internationalisation of some of South African firms. Barr et al. (2007) indicate that the exchange rate volatility has pulled the JSE All Share Index and Top40 in different directions (both negative and positive) because the exchange rate has a more immediate impact on certain stocks and delayed or non-immediate impact on other stocks. If this aggregate effect of the exchange rate volatility on the JSE is not balanced and cannot be eliminated through diversification, it then becomes a systematic risk. The empirical evidence has produced mixed results on these issues and most studies have relied on U.S., European and Australian data. Since the South African economy may differ from the economies of these countries and the exchange rate exposure of the JSE companies has increased from 1994, there is a need to identify whether the exchange rate risk is priced in the Johannesburg Stock Exchange or not. The objective of this paper is to make use of the Asset Pricing Theory (APT) to investigate the foreign currency exposure of the JSE Top40 companies and the pricing of exchange rate risk in the South African stock market together with the level of risk premium attached to this foreign currency exposure.

EMPIRICAL LITERATURE

The overall conclusion from different studies on the exchange rate exposure indicates that stocks respond negatively or positively to a change in the exchange rate. These studies also distinguish the stocks or industries that respond positively to the exchange rate exposure from those that respond negatively. Adler & Dumas (1984) generated a definition for the exchange rate exposure in the case of Australian shares and illustrated that even domestic firms with no direct dealings in foreign exchange market can be exposed to an exchange rate risk through the exposure of their clients. Loudon (1993) showed that listed Australian resource companies benefited from the exchange rate depreciation, while industrials benefited from the exchange rate appreciation. Moreover, Di Lorio & Faff (2001) studied the stability of exchange rate exposure in the Australian market and concluded that there was evidence of exposure changing over time periods. Miller & Verschoor (2006) studied the exposure of the European multinational firms to the foreign currencies and concluded that a depreciation) of the euro against foreign currencies has a net negative (or positive) impact on European stock returns in the long term. Adjasi, Harvey & Agyapong, (2008) found that the exchange rate volatility had a negative effect on the stock market in Ghana. The exposure of the stock market to the exchange rate is also supported by Granger, Huang & Yang (2000) and McDermott (2008).

Some studies were however, inconclusive or found no significant exposure of stocks or industries to the exchange rate. Khoo (1994) concluded that, in general, share returns were not sensitive to exchange rates. Additionally, Benson & Faff (2003) conducted a study on the Australian international equity trusts and discovered that there was instability in exchange rate exposure. The insignificant results may be caused by the use of a trade-weighted exchange rate which would produce lower estimates of exposure. This means that a trade-weighted exchange rate may include currencies to which individual companies may not be exposed (Dominguez & Tesar, 2001). South African studies that investigated the relationship between exchange rate and stock market include Reese (1993), Jefferis & Okeahalam (2000), Bah & Amusa (2003) and Barr, Kantor & Holdsworth (2007). Most of these studies showed that the spot exchange rate volatility has pulled the JSE ALSI in different directions (both negative and positive).

In addition to the studies that focused on the exchange rate exposure there are a number of studies that focused on the exchange rate risk to identify if this risk is diversifiable or priced, based on a conditional or unconditional asset pricing model (e.g. Dumas & Solnik ,1995 and Doukas et al (1999). The results of

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unconditional exchange risk premium tend to be significant in emerging stock markets and different from most results from major developed markets (Carrieri & Majerbi, 2006). Bartram & Karolyi (2006) concluded that the foreign exchange rate risk is in part a source of non-diversifiable risk. Abdalla & Murinde (1997) and Metghalchi & Hammervold (2004) found some evidence of equity market premiums for exposure to these risks. However, Jorion (1991) found little evidence of pricing of the exchange risk in the U.S. stock market. He demonstrated that the premium attached to the foreign exchange risk exposure was only 0.2% per annum and was statistically insignificant. He, therefore, concluded that exchange rate risk appears to be diversifiable. These results are further supported by Hamao (1988).

A number of studies also tested the pricing of risk in different stock markets with the use of the Asset Pricing Theory (APT). This model was used by different authors including Burmeister & Mcelroy (1988), Linley (1992) and Stampfli & Goodman (2001). Since Ross (1976) initiated the risk analysis with the use of a two-factor model, different studies have been conducted with the use of either a two-factor model or a multifactor model. Roll & Ross (1980; 1984) recommended the use of the APT approach to identify the risks that influence an asset's return. Fama & MacBeth (1973) also discussed the pricing of the common stock to reflect the attempts of risk aversion of investors to demand a risk premium in the efficient market. Jorion (1991) used APT with two-factor and multi-factor models and both models reached the same conclusion.

METHODOLOGY

Data

The data used in this study consists of monthly observations of share prices for all the companies that appear in the Johannesburg Stock Exchange (JSE) Top40 and monthly exchange rate series (South African rand versus U.S. dollar). The exchange rate movement (St) is taken to be the rate of change in the exchange rate, measured using South African rand as price of the one U.S. dollar. A positive value of St indicates rand depreciation. This requirement is appropriate if changes in the exchange rate are necessarily unanticipated. According to Jorion (1991), there is another possibility of using the forward rate premium on the exchange rate as the expected rate of change in the exchange rate. However, the forward rate may be a biased predictor of the future spot rate. The forward rate premium cannot be used as it reflects the expected movements of the exchange rate instead of unexpected movements (Bilson, 1981). The exchange rate factor should therefore be unexpected at the beginning of the period as the APT specifies that only an unexpected movement in a variable constitutes a risk factor and should be used in testing (Reese, 1993). Changes in the value of the firm (R_{i}) are measured by the rate of return on the companies' common stock. The total share return, used in this study, is the sum of capital gain and dividend yield. Excess returns are calculated by subtracting the risk-free return, taken as the one month holding period on the shortest-term Treasury bill with no less than one month to maturity. This Treasury bill is provided by the South African Reserve Bank. The return on the JSE All Share Index is used as the market return. This analysis uses current members of the JSE Top40. The sample period begins in January 1995, which is the year when the exposure of the JSE to the exchange rates movement increased as a result of the end of sanctions in 1994, and ends in December 2007.

Model

Roll & Ross (1980; 1984) indicate that APT is a good model for measuring economic risks that have an impact on asset return. Brooks & Faff (1989) point out that a two-factor APT model assists in determining the relationship between risk and return. Jorion (1991) further show that there has been considerable interest in tests the APT by Ross (1976) as this model assists in specifying the factor that is considered to be priced. Fama & MacBeth (1973) used a two-factor model to calculate the relationship between risk and return. This paper will use the unconditional APT that includes market and exchange rate. Nevertheless, it will follow Fama & Macbeth's (1973) application of risk-return evaluation with a two-stage regression model. Jorion (1991) indicates that the existence of some correlation between exchange rate movement and stock market movement implies the appearance of multicolinearity which may lead to insignificant results. In order to avoid this problem, the residual from the regression of the exchange rate movement against the rate of return on the stock market may be used (Jorion, 1991). The The equation which follows shows the relationship between the exchange rate movement and the market return and provides the residual values to be used for the next step.

$$\mathbf{S}_{\mathrm{t}} = \alpha_1 + \alpha_2 \mathbf{R}_{\mathrm{mt}} + \mathbf{e}_{\mathrm{t}} \tag{1}$$

Where: S_t = the exchange rate movement; α_1 = intercept; α_2 = the coefficient of the market return to the exchange rate movement; R_{mt} = the return on the market index (all shares) and e_t = exchange rate value that is not explained by the market or orthogonal to the market. The residual (e_t) can be written as follows:

$$\mathbf{e}_{\mathrm{t}} = \mathbf{S}_{\mathrm{t}} - (\alpha_1 + \alpha_2 \mathbf{R}_{\mathrm{mt}}) \tag{2}$$

The risk premium can be identified through the use of a two-pass regression model. This model uses a first-pass regression to estimate betas for each asset and then a second-pass regression to estimate the risk premium. The return on a particular share is regressed against the market return and exchange rate value not explained by the market (e,) to estimate the market beta and exchange rate beta for each share.

$$\mathbf{R}_{it} = \beta_0 + \beta_1 \,\mathbf{R}_{mt} + \beta_2 \mathbf{e}_t + \mathbf{u}_t \tag{3}$$

Where: R_{it} = the expected rate of return on particular share (i) at time t; β_0 = risk free rate; β_1 = market beta (risk); β_2 = exchange rate risk; R_{mt} = the rate of return on the market at time t; e_t = the exchange rate orthogonal to the market and u_t = residual.

The combination of Equations 2 and 3 involves replacing e_t by its value from Equation 2, , which then produces the following results:

$$\begin{aligned} R_{it} &= \beta_0 + \beta_1 R_{mt} + \beta_2 (S_t - \alpha_1 - \alpha_2 R_{mt}) + u_t \qquad (4) \\ &= \beta_0 + \beta_1 R_{mt} + \beta_2 S_t - \beta_2 \alpha_1 - \beta_2 \alpha_2 R_{mt} + u_t \\ &= \beta_0 + (\beta_1 - \beta_2 \alpha_2) R_{mt} + \beta_2 (S_t - \alpha_1) + u_t \\ If (\beta_1 - \beta_2 \alpha_2) &= \beta_m; \ \beta_2 &= \beta_s \text{ and } (S_t - \alpha_1) = e_t; \text{ then} \\ R_{it} &= \beta_0 + \beta_m R_{mt} + \beta_s e_t + u_t \end{aligned}$$

Equation 5 is used by the first-pass regression to estimate the betas for each share. There are, therefore, forty market betas and forty exchange rate betas assumed to be constant over the time and are used in the second stage to estimate the risk premium.

$$E(R_{it}) = \alpha_o + [E(R_m) - \alpha_o]\beta_m + \alpha_s\beta_s$$
(6)

Where: $E(R_{it}) =$ expected rate of return on asset i at time t; $\alpha_0 =$

Expected return on risk-free security; $[E(R_m) - \alpha_o] = Market risk premium and \alpha_s = Exchange rate risk premium.$

The rate of return on asset (i) at time (t) can be statistically decomposed into expected component $E(R_{it})$ and the component of exchange rate orthogonal to the market, with assumption of stationarity. Hence, the rate of return is written as follows:

$$R_{it} = E(R_{it}) + [R_m - E(R_m)\beta_m + F_t\beta_s + w_t$$
(7)

Where: $F_t = e_t$ (shown in Equation 2)

Under rational expectations, substituting Equation 6 in Equation 7 yields

$$\mathbf{R}_{it} = [\alpha_o(1 - \beta_m) + \alpha_s \beta_s] + \mathbf{R}_{mt} \beta_m + \mathbf{F}_t \beta_s + \mathbf{w}_t$$
(8)

Where: $[\alpha_0(1 - \beta_m) + \alpha_s\beta_s]$ represent the intercept and is replaced by δ_0 .

$$\mathbf{R}_{it} = \delta_0 + \mathbf{R}_{mt}\beta_m + \mathbf{F}_t\beta_s + \mathbf{w}_t \tag{9}$$

The rate of return on asset (i) could be replaced by the access return $(R_{it} - R_f)$ without affecting the analysis in any substantive way. When δ_0 (intercept) = R_f the access return can be illustrated by the following model:

$$\mathbf{R}_{\mathrm{it}} = \delta_0 + \delta_\mathrm{m}\beta_\mathrm{m}\,\delta_\mathrm{s}\beta_\mathrm{s} + \mathbf{w}_\mathrm{t} \tag{10}$$

$$\boldsymbol{R}_{it} = \delta_{\rm m} \beta_{\rm m} + \delta_{\rm s} \beta_{\rm s} + \mathbf{w}_{\rm t} \tag{11}$$

Where: $R_{it} = R_{it} - R_f$ (the total risk premium of a particular share); $\delta_m = R_{mt} - R_f$ (the market risk premium); $\delta_{s=}$ $F_t - R_f$ (the exchange rate risk premium) and w_t = residual.

When the risk-free rate is endogenous (equal to intercept), Equation 10 should be used to determine the risk premium together with the appropriate risk-free rate. However, in the case of an exogenous risk-free rate, Equation 11 is used. The second-stage regression will run both Equations 10 and 11 and the results will be compared to determine the best estimates of the market risk premium and exchange rate risk premium(δ_m and δ_s). The exchange rate risk is therefore priced if the coefficient δ_s is statistically significant.

RESULTS

Exchange Rate Exposure

The systematic risk and exchange rate exposure of the 40 companies are reported in Table 1. These coefficients are listed in the order of classification of companies based on their global positioning. The larger the estimated exchange rate beta, the greater the degree of responsiveness of the share price returns to changes in the value of the rand and the coefficient of zero explains that the asset return will not be affected by unanticipated changes in the exchange rate (Roll & Ross, 1984). The p-values and t-statistics are included to indicate whether the coefficients are statically significant or not. The R^2 statistic is included as a measure of overall model fitness.

The hypothesis test uses the t-statistic to test whether the estimated coefficient differs from zero at a significance level of 5% and is set as follows:

H₀ (Null Hypothesis): $\beta s = 0$ and H₁ (Alternative hypothesis): $\beta s \neq 0$

The critical value of the t-statistic is 1.96 and this value is compared with the t-ratios reported in Table 1. The H_0 is rejected in favour of H_1 if the absolute value of the estimated t-value is greater than the critical value. This means that there is enough evidence to support that the coefficient is different from zero; hence, the coefficient is statistically significant. On the other hand, H_0 is not rejected when the critical value of the t-statistic is greater than the estimated value and the coefficient is statistically insignificant. Firms with an estimated t-statistic below 2 are not sensitive to the exchange rate movement. Table 1 shows that the exchange rate exposure differently but firms of the same category tend to respond similarly. Thus, the exchange rate exposure will be discussed based on the three classifications of companies.

Table 1: E	Exchange rate exposure (R _{it} =	$\beta_{o} + \beta_{m}R_{mt} + \beta_{s}e_{t}$
E	Exchange rate	Market

Company Name	βs	t- test	P-value	βm	t -test	P-value	\mathbf{R}^2
a. Non-Tradable			•		•		
ABSA BANK LTD	-0.7034	-5.8818	0	1.045	11.3228	0	0.5255
AFRICAN BANK INVEST.							
LTD	-0.6146	-2.3609	0.0196	1.0553	11.8028	0	0.1852
NEDBANK LTD	-0.5948	-5.1432	0	0.8011	8.976	0	0.4213
INVESTEC LTD	-0.3615	-3.1754	0.0018	1.0369	11.8028	0	0.504
FIRSTRAND	-0.6108	-4.4668	0	0.9592	9.0902	0	0.411
STANDARD GROUP LTD	-0.5698	-5.7025	0	0.9266	12.0153	0	0.5461
RMB HOLDINGS	-0.6711	-4.9885	0	0.9214	8.8748	0	0.4135
LIBERTY G. LTD	0.6115	-4.3477	0	0.2512	8.8126	0.0055	0.3556
MTN GROUP	-0.005	-0.0197	0.9843	0.3137	1.5975	0.1124	0.4487
TELKOM SA LTD	-0.5371	-2.4996	0.0155	0.5637	2.3791	0.0209	0.1956
MURRAY & ROBERTS HLD	-0.6072	-3.0077	0.0031	0.7353	4.7197	0	0.1756
NASPERS LTD	-0.6076	-2.9195	0.0041	1.2269	7.6388	0	0.3127
PRETORIA PORTLAND	0.0070	2.7170	0.0011	112205		0	0.0127
CEMT	-0.8322	-6.283	0	0.624	6.1045	0	0.343
TIGERBRANDS	-0.608	-6.0353	0	0.7158	9.2076	0	0.4519
SASOL LIMITED	0.4058	2.8179	0.0055	0.9744	8.7669	0	0.3658
SANLAM LTD	-1.8206	-0.6432	0.5211	-0.3889	-0.1781	0.8589	0.003
NETCARE	-0.1998	-1.1196	0.2649	1.1981	8.7073	0	0.373
AVERAGE	-0.4898	-3.281	0.1071	0.76234	7.743565	0.0587	0.3548
b. Mixed							
AVENG	-0.3252	-2.0705	0.041	0.5911	3.9667	0.0001	0.1606
BARLOWORLD LTD	-0.4117	-3.3059	0.0012	1.1021	11.4688	0	0.4922
THE BIDVEST GROUP LTD	-0.4108	-0.4108	0.0001	0.8344	0.8344	0	0.4677
INVESTEC PLC	-0.2182	-1.276	0.2067	1.2455	7.0086	0	0.4502
OLD MUTUAL PLC	-0.2364	-2.3816	0.0192	0.7627	8.0983	0	0.4112
REMGRO LTD	-0.0025	-0.0273	0.9783	0.365	3.8872	0.0002	0.1546
SABMILLER PLC	-0.0044	-0.0504	0.9599	0.9606	14.3519	0	0.5835
STEINHOFF INT'L	0.1627	1.1441	0.2551	0.6986	5.5171	0	0.2301
AVERAGE	-0.1808	-1.0473	0.30769	0.82000	6.89163	0.00004	0.3688
c. Tradable		1			1	1	
LIBERTY INTERN. PLC	0.6115	6.5535	0	0.2512	2.8396	0.0055	0.3556
RICHEMONT	0.5047	4.8998	0	0.7145	8.9888	0	0.4162
ANGLO AMERICAN	0.4459	3.9635	0.0001	1.2069	13.9027	0	0.5871
ANGLOGOLD ASHANTI	0.2329	1.2596	0.2098	0.7498	5.255	0	0.1657
ANGLO PLATINUM	0.6762	4.2489	0	0.8489	6.8836	0	0.3237
BHP BILLITON PLC	0.3599	2.7378	0.0071	0.9641	9.5442	0	0.45
GFIELDS LTD	0.3225	1.4484	0.1496	0.8695	5.0599	0	0.1586
HARMONYMINING GOLD							
LTD	0.7588	3.0109	0.0031	1.1993	6.1666	0	0.2426
IMPALA PLATINUM HLD	0.5701	3.2776	0.0013	0.9334	6.9535	0	0.2867
KUMBA IRON ORE	0.9688	1.0256	0.3292	0.936	1.4701	0.1723	0.1794
EXXARO RESOURCES LTD	0.0722	0.2637	0.7928	1.3745	4.4561	0	0.2313
ARCELORMETTAL	-1.0811	-4.5458	0	0.7383	4.0231	0.0001	0.2004
AFRICAN RAINBOW M.			İ				
LTD	0.0172	0.0769	0.9388	0.8938	5.1757	0	0.1542
LONMIN PLC	0.6299	4.7846	0	0.9993	9.8355	0	0.4487
SAPPI LTD	0.3898	2.1756	0.0312	1.0422	7.5368	0	0.2951
AVEDACE	0.3653	2.1629	0.1642	0.9148	6.5394	0.0119	0.2997

 B_s = Exchange rate risk (beta) and B_m = Market risk (beta)

Exposure of non-tradable companies

These companies have both their revenue and costs in the domestic currency. Section A of Table 1 reports a negative exposure for 15 out of 17 firms that fall within the non-tradable category. Only Sasol and Liberty Group Ltd show a positive exposure. Although Sasol has both its costs and revenue in domestic currency, it still charges its South African customers the world market price because of the absence of local competition. Thus, Sasol is exposed to exchange rate risk as much as the tradable companies. The exchange rate coefficient is also statistically significant for 14 companies, with 12 of them being significant at a 99% confidence interval and other two at a 95% confidence interval. The t-statistics confirm that 14 out of 17 companies have coefficients that are statically significant at a 5% level of significance and the average absolute value of the estimated t-statistics for this category is 2.1629. On the whole, non-tradable firms tend to suffer from a depreciation of the rand as shown by the average exchange rate coefficient of -0.49. This means that a 1% increase in the exchange rate results in a 0.49% decrease in the returns of non-tradable firms on average. These results are consistent with results from other studies such as Jorion (1991) and Barr et al. (2007).

Exposure of mixed companies

The firms in the mixed category earn revenues in both domestic and foreign currency and as indicated in Section B of Table 1, they experience negative exposure. Thus, they suffer from the depreciation of the rand. Jorion (1991) emphasises that firms who suffer from rand depreciation are those firms that tend to import a substantial portion of their factor inputs. Besides the banks, other firms with negative exposure are technological and construction firms that are dependent on the import of their technological equipment. However, less than 50% of the mixed companies show a statistically significant exchange rate exposure and this is confirmed by the average absolute value of the estimated t-statistics of 1.0473. On average, mixed firms are not affected by exchange rate movements. This means that their exposure to the exchange rate movement is diversified through earning revenues in both foreign and domestic currency. The average estimated exchange rate coefficient for this category is -0.18081 and this implies that a 1% increase in the exchange rate will decrease the average returns of mixed firms by 0.18081%. Hence, a negative effect shows that mixed firms tend to have the same effect as non-tradable firms. These results are consistent with Barr et al's findings (2007) who found that mixed companies tend to be rand-play (non-tradable).

Exposure of tradable companies

Tradable firms mostly generate their revenues in foreign currency with costs being incurred in domestic or foreign currency. Section C of Table 1 reports the positive exposure for these companies and this implies that these firms benefit from the rand depreciation. Jorion (1991) demonstrates that the exchange rate exposure is positively related to the proportion of sales made overseas and these results are confirmed in this investigation as the tradable firms are mostly in the mining sector which exports a significant proportion of sales. The exchange rate is statistically significant for 10 out of 15 tradable firms at a 5% level of significance, the average absolute value of the estimated t-statistic of 2.1629 for this category, confirms the average significance of the exchange rate coefficient. The average exchange rate coefficient of 0.3653 implies that an increase of 1% in the exchange rate would increase the average return of tradable firms by 0.3653%.

The overall fitness of the model

Overall, the JSE Top40 is negatively related to the exchange rate movement, as shown by the average exchange rate coefficient of -0.10734. In this context, an R^2 value that is in excess of 0.35 would be considered

good, as is explained by Barr *et al.* (2007: 51): "Inherent share price volatility for actively traded stocks implies that a considerable percentage of movement is very difficult to explain statistically". As shown in Table 1, approximately 60% of the total number of firms have an R^2 value that is close to or above the set value of 35%. Based on the categories, non-tradable firms and mixed companies seem to be affected by both the market and the exchange rate risk as most of these firms have R^2 values that are close to or above 35%, in contrast most of the tradable companies present R^2 values that are below this accepted level. Anglo American presents the highest R^2 value (58.75%) in the tradable category followed by SAB (58.35%) in the mixed category and then Standard Bank (54.61%), ABSA Bank (52.55%) and Investec Limited (50.40%) in the non-tradable category, Although most tradable firms present low R^2 values, an extreme case is shown by Sanlam, in the non-tradable category, with a value of 0.3%. Other firms with low R^2 values include African Rainbow Minerals (15.42%), Remigro (15.46%), Gold Fields (15.86) and Kumba Iron Ore (17.94%).

The risk premium

Tables 2 and 3 present the estimates of the exchange rate and market risk premium with their standard errors, t-statistics, p-values, R^2 and Adjusted R^2 . Table 2 reports the results from the estimation of the equation with an intercept (Equation 10, with endogenous risk-free rate) while Table 3 shows the results without the intercept (risk-free rate is exogenous). In both tables, the use of the December 2007 share return is shown in part A and the use of the average returns for the whole sample period is presented in part B.

A. Estimates based on recent return (December 2007)							
	Coefficients	Standard Error	t Stat	P-value	Regression Statistics		
δ_0	0.0649	0.0310	2.0924	0.0433	Multiple R	0.4675	
$\delta_{\rm m}$	-0.0665	0.0336	-1.9753	0.0557	R^2	0.2185	
δ_{s}	0.0560	0.0184	3.0475	0.0042	Adjusted R^2	0.1763	
B. Estimates based on the average return							
	Coefficients	Standard Error	t Stat	P-value	Regression Statistics		
δ_0	0.069	0.008	8.573	0.000	Multiple R	0.5328	
δ_{m}	-0.026	0.009	-3.004	0.005	R^2	0.2839	
δ_{s}	-0.006	0.005	-1.254	0.218	Adjusted R^2	0.2451	

Table 2: Risk premium with endogenous risk free rate ($R_{it} = \delta_0 + \delta_m \beta_m + \delta_s \beta_s + w_t$)

Table 2, part A, shows that the risk-free rate should be 6.49% per month as explained by the intercept (δ_0) . The market risk premium is 6.65% per month but it has a negative sign which is unexpected. The exchange rate premium tends to be 5.6% per month with a positive sign. Although the exchange rate coefficient is statistically significant at a 5% level of significance, the market tends to be significant only at a 10% level of significance. R² and adjusted R² are too low and the exchange rate risk premium seems to be too high for the monthly return. In part B, where the average return is used, the risk free rate increased to 6.9% per month and both the monthly market and exchange rate risk premiums decrease to 2.6% and 0.6% respectively; as a result, the market has become statistically significant at a 1% level of significance but still shows the unexpected sign while the exchange rate shows the most expected sign but becomes insignificant. Both R² and adjusted R² have increased. It is, therefore, evident that the use of the average return produces better results.

Table 3, part A, reports a risk premium of 2.28% per month for the market with a negative sign (unexpected) and a risk premium of 4.6% per month for the exchange rate with a positive sign (acceptable).). Both coefficients are statistically significant at a 5% level of significance, with R^2 and adjusted R^2 being higher compared to those reported in Table 2 part A. Table 3, part B, portrays a risk premium of 4.6% per month with a positive sign (expected) for the market and a risk premium of 2.2% per month for the exchange rate with a negative sign (expected). Both coefficients are statistically significant at a 99% confidence interval; and both R^2 and adjusted R^2 are high enough to explain the fitness of data to the model (72.26% and 68.9% respectively). Thus, the model with the exogenous risk-free rate is preferable to the one with the endogenous risk-free rate. Also, the use of a return averaged for the sample period is better than the use of the return from

the last observation. The conclusions of this research are therefore based on the results shown by Table 3, part Β.

Table 3: Risk premium with exogenous risk free rate ($R_{it} = \delta_m \beta_m + \delta_s \beta_s + w_t$)							
A. Estimates based on recent return (December 2007)							
	Coefficients	Standard Error	t Stat	P-value	Regression Statistics		
Multiple <i>R</i>			Multiple R	0.4991			
$\delta_{\rm m}$	-0.0228	0.0113	-2.0205	0.0504	R^2	0.2491	
δ_{s}	0.0463	0.0172	2.6979	0.0103	Adjusted R^2 0.203		
B. Estimates based on the average return							
	Coefficients	Standard Error	t Stat	P-value	Regression Statistics		
					Multiple R	0.8501	
δ _m	0.0460	0.0050	9.1810	0.0000	R^2	0.7226	
δ	-0.0220	0.0080	-2.8800	0.0070	Adjusted R^2	0.6890	

The results of the two-factor model confirm that the exposure of the South African stock market to residual exchange rate risk is systematically related to the expected return. This exposure varies between firms but in general South African firms tend to suffer from exchange rate depreciation. Consequently, investors appear to price the exchange rate risk, and the premium attached to this exposure tends to be 2.2% per month. These results are similar to other findings from emerging markets such as studies by Dumas & Solnik (1995), Choi & Rajan (1997), Doukas et al. (1999), Carrieri & Majerbi (2006) and Muller & Verschoor (2006). However, these results are not in line with the findings of Jorion (1991) and studies, such as Hamao (1988), conducted in developed markets. The major contribution to the mixed findings may be the type of model used, as the results from a conditional asset pricing model tend to differ from those of an unconditional one. The frequency of data is also another issue because the exchange rate risk tends to be priced as the frequency increases. Despite the appearance of these factors, the results tend to show that the exchange rate is priced in the emerging markets.

CONCLUSION

The research presented in this paper has used the unconditional asset pricing model to investigate the exposure of the South African stock market on exchange rate risk and the pricing of this exchange rate risk in the South African stock market. It has been shown that the exchange rate exposure is identifiable and the exposure differs across companies. The JSE Top40 companies were classified based on where they mostly generate their revenues (domestic or offshore). Three categories were identified: non-tradable, mixed and tradable companies. Overall, the JSE Top40 tends to be negatively exposed to the exchange rate risk. The results on the pricing of exchange risk in the South African stock market are consistent with most findings in emerging markets. The unconditional premium attached to the foreign exchange rate exposure is found to be 2.2% per month and is both economically and statistically significant. The exchange rate does not appear to be diversifiable (a systematic risk). Investors should, therefore, earn a premium for being exposed to this risk and should consider the impact of exchange rates' movements on both the cash flow of companies' operations and the discount rate employed to value such cash flows. Policy-makers should consider that investors require a premium on the assets that are exposed to currency risks and acknowledge the long run impact of the government's intervention in the currency market.

A matter of concern related to the methodology used to determine risk premium. The research presented in this paper uses the unconditional asset pricing model to determine the unconditional risk premium, which is consistent with other findings, while some other evidence such as that of Jorion (1985) insists that foreign exchange rates are characterised by conditional risk premium. Furthermore, an exogenous risk-free rate model produces results that are different from an endogenous risk-free rate model. Most of the theory emphasises that these two rates should be equal but it does not indicate the most correct risk-free rate to be used, in cases where they differ. Whether there is a better way of testing the pricing of the exchange rate risk is still an open question to be answered by future research.

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