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The Impact of Foreign Trade Promotion on the Foreign Sales Intensity of SMEs

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The Impact of Foreign Trade Promotion on the Foreign Sales Intensity of SMEs

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ABSTRACT:

Small and medium-sized enterprises (SMEs) show structural shortcomings with regard to the development of international markets. Thus, it is the explicit goal of foreign trade promotion to foster the degree of internationalisation of SMEs. Yet, empirical research whether foreign trade promotion helps SMEs to overcome barriers to internationalisation is quite rare. Our paper addresses this issue, by investigating the impact of the foreign trade promotion on the foreign sales intensity of firms. We test our hypotheses on a sample of 655 German firms. We present empirical evidence that the use of foreign trade promotion is positively linked to the foreign sales-to-total sales ratio. However, the effect of such public support on foreign sales intensity is not the same for SMEs and large companies. While we find a positive impact for SMEs, in the case of large companies the usage of support schemes has no significant effect on the foreign sales-to-total sales ratio. Thus, our findings provide evidence that large companies incorporate windfall gains when drawing on foreign trade promotion schemes.

Keywords: Internationalisation, Small and Medium-Sized Enterprises (SMEs), Foreign Trade Promotion, Foreign Sales Intensity, Germany

JEL Classification: L25, L26, L53, M16

1 INTRODUCTION

Small and medium-sized enterprises (SMEs) play an important role in the German export sector. According to official data 345,049 of the German SMEs were involved in exports in 2006 – this amounts to 11.2 % of all SMEs and 97.8 % of all enterprises involved in cross-border trade. But despite the fact that SMEs make up more than nine tenth of all exporters, they only account for 20.1 % of total export revenues. So apparently, the SME sector has a considerable lower participation rate in total exports compared to its participation in total domestic sales (38.3 %) (Federal Statistical Office 2008).

Taking a closer look at the SME subcategories, table 1 reveals that the share of exporting enterprises increases with firm size and, in addition, export shares of total turnover are higher for larger firms than smaller ones. Within the micro-enterprise segment only 8.8 % of the firms obtain some turnover from exports and merely 3.0 % of the total revenues of the micro-enterprises are earned from exports. In the size category 2 to 10 million Euros total annual turnover 48.8 % of the companies are active exporters and 9.9 % of the total sales of the size class are realised by exports. Yet, within the group of medium-sized enterprises 69.6 % of the companies are involved in cross-border trade and they obtain 16.5 % of their total revenue from exports. Also within the group of exporters the data reveal a positive dependency between firm size and the export-to-total sales ratio. While the export share of the micro-exporters reaches 14.8 % of their total sales and 18.9 % and 23.2 % of the small and medium-sized exporters respectively, 27.6 % of the total turnover of large exporters comes from export. These results are in line with the majority of empirical studies analysing the relationship between firm size and export participation (see for example Katsikeas et al. 2000; Lo et al. 2007).

Table 1

Export activities of enterprises in 2006 according to firm size

Enterprise category	Annual turnover (EUR)	Ratio of exporters to all enterprises (%)	Export-to-total sales ratio of all enterprises (%)	Export-to-total sales ratio of exporters (%)
➢ Large	> 50 million	80.3	24.2	27.6
➢ Medium	≤ 50 million	69.6	16.5	23.2
➢ Small	≤ 10 million	48.8	9.9	18.9
➢ Micro	≤ 2 million	8.8	3.0	14.8

Source: Federal Statistical Office (2008), own calculations

Apart from exports, a variety of other forms of internationalisation, such as international co-operation, international contract production, international licensing and foreign direct investments

among others, play a growing importance in the internationalisation process of firms. But, neither the VAT statistics nor any other official statistic in Germany provides comprehensive information regarding these international activities according to firm size. In addition, research on this topic is still sparse. But, the existing literature indicates that large enterprises are also much more likely to be using other forms of internationalisation than SMEs and that these foreign business activities contribute to a higher ratio to their total revenues, too (Haunschild et al. 2007; Lo et al. 2007; European Commission 2007).

From the perspective of the resource-based view the inferior participation of SMEs in international activities might be the result of a lack of resources needed for the entry into and development of foreign markets (Acs et al. 1997, Verwaal and Donkers 2001, Haahti et al. 2005). Acknowledging these competitive disadvantages which result from the business size and the enterprise organisation, governments worldwide defined SMEs as principal target group of their foreign trade promotion (OECD and APEC 2006). While large enterprises are seen to possess the required resources to enter and develop foreign markets on their own, many SMEs are believed to be able to realize their international market potential only with the help of public support. Especially in Germany, the special competitive disadvantages of SMEs are the main justification for foreign trade promotion schemes. The German Government presuppose that foreign trade promotion can positively contribute to the foreign sales performance of SMEs since it has SMEs which have products or services suitable for international markets (Deutscher Bundestag 2003; Deutscher Bundestag 2005). Consequently, it is the explicit goal of foreign trade promotion in Germany to foster the degree of internationalisation of SMEs.

Yet, empirical research whether foreign trade promotion helps SMEs to overcome barriers to internationalisation is quite rare. Our paper addresses this issue, by investigating the impact of the foreign trade promotion on the foreign sales intensity of German firms. We present empirical evidence that the use of foreign trade promotion is positively linked to the foreign sales-to-total sales ratio, holding all other factors fixed. Yet, the effect of such public support on foreign sales intensity is not the same for SMEs and large companies. While we find a positive impact for SMEs, in the case of large companies the usage of support schemes has no significant effect on the foreign sales-to-total sales ratio. Thus, our findings provide evidence that large companies incorporate windfall gains when drawing on foreign trade promotion schemes.

The rest of the paper is organised as follows: In the next section we summarise the literature and derive four empirically testable hypotheses. In the third section on “Data Analysis” we describe our data set, which is derived from a fairly large sample of internationally oriented firms in Germany, discuss measurement and methodological issues and present the results as well as the discussion of our empirical study. Finally, in the last section we provide conclusions and recommendations for policymakers in the provision of foreign trade promotion programmes.

2 LITERATURE AND HYPOTHESES

Even after decades of discussion about what comprises and characterizes a SME, no single definition managed to gain complete acceptance, both in political and in scientific discussions. From a numerical-quantitative point of view, the category of SMEs is made up of enterprises that do not exceed a given size threshold. The traditional SME definition of the Institute for SME Research (IfM) Bonn, which is widely accepted by scholars and institutions in the German speaking area, classifies enterprises with less than 500 employees and an annual turnover not exceeding 50 million Euros as SMEs (see e.g. Günterberg and Kayser 2004). According to the European Commission SMEs are made up of autonomous enterprises which employ less than 250 persons and achieve maximum annual revenue of 50 million Euros, and/or an annual balance sheet total not exceeding 43 million Euros (Official Journal of the European Union 2003).

However, the specific characteristics which distinguish SMEs from large enterprises cannot be explained solely by purely numerical-quantitative criteria. A qualitative description is also necessary. First, SMEs often have restricted management capabilities compared to large firms. SMEs are typically managed by their owners or their family members. Thus, managing a firm in this particular way is strongly determined by the personality, competence and self-image of the owner (Coviello and McAuley 1999 and Ritchie and Brindley 2005). The strong centralisation of all entrepreneurial decision making often results in an extremely high workload of the owner-manager leaving very little time for long-term strategic planning (Kayser and Wallau 2003, Li et al. 2004) and firms usually do not have the time to evaluate the opportunities and risks related to a new international market (Demick and O'Reilly 2000, Welter 2003, Leonidou 2004). Furthermore, SMEs are characterized by a general lack of resources compared to large firms. This is particularly evident with regards to the configuration of personnel, assets and information (Hollenstein 2005). Not only the management but also all employees are usually strongly relied upon to run the day-to-day business. Thus, SMEs often have difficulties in developing potential foreign business, without neglecting the domestic business (Gankema et al. 2000, Leonidou 2004, Li et al. 2004). In addition, SMEs frequently suffer from a lack of equity and have difficulties obtaining the required external financing. Due to the fact that SMEs are usually not able to finance their capital requirements by issuing bonds on financial markets, they normally obtain external financing by credit only. Financial resources are therefore often limited (Morgan 1997, Kokalj et al. 2003). Compared with large enterprises, SMEs are also confronted with a higher financial risk, since they more frequently have a lower degree of diversification. Therefore, the probability of financial distress is much higher for SMEs if, for example, a cost-intensive new activity in a foreign market is not self-supporting within a short period of time (Verwaal and Donkers 2001, Hollenstein 2005). Also, the reluctance to delegate entrepreneurial tasks and decisions to employed executives is often reflected in the organisational structure of the enterprise. Relatively few SMEs are comprised of a middle management or specialized administrative departments (Nummela et al. 2004, Fernández and Nieto 2005). The flat organisational structure leads to a less distinctive division of labour and a lower degree of specialisation (Fernández and Nieto 2006). Yet, international business activities demand more diverse skills from all employees,

especially with regard to foreign language skills and intercultural competences (Kranzusch and Kay 2004).

To sum up, the resource-based view argues that the ability of an enterprise to enter and develop foreign markets strongly depends on its competencies, capabilities and resources (Westhead et al. 2001). As the existing literature shows, SMEs exhibit typical characteristics which result from the business size and the enterprise organisation that can act as barriers to their internationalisation. Thus, grounded in the theoretical framework of the resource-based view we hypothesize:

H1: Firm size is positively linked to foreign sales intensity.

A relatively large body of research exists that has analysed the effectiveness of promotion measures for the internationalisation of firms (Crick 2004, Wilkinson and Brouthers 2006). One line of research has examined firms' awareness, usage and perception of the usefulness of foreign trade promotion instruments as success indicators (Vanderleest 1996; Haunschild et al. 2007). Although these tests give no evidence of the impact of the instruments themselves, they can be seen as helpful tools for programme planning, assessment and decision-making, since they can be used to evaluate the transparency and accessibility of the promotion scheme (Francis and Collins-Dodd 2004).

A second line of research studies has attempted to verify a causal relationship between official foreign trade promotion activities and the export performance of a jurisdiction (Coughlin and Cartwright 1987; Wilkinson and Brouthers 2000). In recent years academic research focused on examining the effects of the programmes on firm-level (Seringhaus 1986; Lages and Montgomery 2001; Gillespie and Riddle 2004). However, the impact of foreign trade promotion schemes on firms' foreign sales intensity has received very little attention in the literature. Most research has explored the effects of firm-related determinants on firms' export performance and only a small number of studies are focused on the impact of foreign trade promotion on firms' export behaviour (Shamsuddoha and Yunus Ali 2006, Leonidou et al. 2007). Some of these studies reported that the use of foreign trade promotion has a considerable positive impact on firms' overseas activities (Donthu and Kim 1993, Katsikeas et al. 1996), while others have posed concerns as to the effectiveness of the various types of governmental promotion programmes (Leonidou et al. 2007). Yet, despite the attempts of former research studies, the question whether promotion activities affect firms' foreign sales intensity (i.e. the foreign sales-to-total sales ratio) and how this is moderated by firm size has been empirically unaddressed so far.

Foreign trade promotion measures are provided to help SMEs overcome real or perceived barriers to internationalisation. In the case of Germany, various types of instruments have been developed during the last decades that are provided free or at a modest fee through public, semi-public or private organisations. All institutions entrusted with foreign trade promotion provide currently more than 140 different supportive measures and instruments developed to support the activities of German firms abroad. They provide enterprises external competencies, capabilities and resources,

such as information, networking, training or finance, to deal with the special requirements of foreign trade activities (Gençtürk and Kotabe 2001). As mentioned above, the government assumes that large enterprises possess the required resources to enter and develop foreign markets on their own. SMEs, on the other hand, are defined as the principal target group of the support efforts because they are believed to be able to overcome barriers to internationalisation only with public support. Thus, it is the explicit goal of foreign trade promotion to foster the degree of internationalisation of SMEs. Based on this explicit governmental objective we propose the following hypothesis:

H2: The use of foreign trade promotion measures has a significant positive impact on the foreign sales intensity of a firm, but:

H2.1: The foreign sales intensity of SMEs drawing upon foreign trade promotion schemes is significantly higher than of those SMEs which have not.

H2.2: The foreign sales intensity of large firms which have made use of support measures is not significantly higher than of those large firms which have not.

Based on these hypotheses, we examine in the following by means of empirical analysis the SME-specific effectiveness of the foreign trade promotion, that is to say the degree of goal accomplishment in relation to ex-ante defined objectives: improving foreign sales intensity of SMEs.

3 DATA ANALYSIS

3.1 Measurement Issues and Descriptive Results

Most scholars argue that the effectiveness of promotion schemes should be analysed with quantitative measures, since they provide hard data (Spence 2003). Export intensity (export-to-total sales ratio) is the most common indicator used in academic research to assess export performance (Katsikeas 2000, Haahti et al. 2005). Following the approach of these studies, we use the foreign sales intensity to determine the degree of internationalisation of a firm. This measure refers to the foreign sales-to-total sales ratio and shows the proportion of a firm's total revenues that are generated from overseas activities. These include not only turnovers obtained from exports but also royalties from foreign licensees or franchisees, income derived from international management and consultancy contracts as well as sales from foreign joint ventures, subsidiaries or branches amongst others.

As we have seen, the VAT statistics can give a valuable overview of the export activities of SMEs. But, neither the VAT statistics nor any other official statistic in Germany provides comprehensive information regarding all international activities of enterprises according to firm size including such as international co-operation, international licensing and foreign direct investments among others. Furthermore, no official data can be found on the usage of foreign trade promotion. In order to address this lack of data an empirical survey has been conducted in 2005. 655 German enterprises participated in the study.

Table 2

Description of Variables

Variable Name	Variable Description	Mean (Std.dev)
➢ Scheme	Have you used any foreign trade promotion programme in the past? [1=yes, 0=no]	0.461 (0.499)
➢ Firm_Size	Size according to the SME definition of the IfM Bonn (up to 500 employees)? [1=yes; 0=no]	0.902 (0.297)
➢ Ext_Turnover	Foreign sales-to-total sales ratio in the year 2004 [in percent]	34.858 (29.211)
➢ Empl_Suc	Development of employment in the last two years [1=rise; 0=else]	0.345 (0.476)
➢ Geo_Con	Geographic concentration of industry at regional level [1=high; 0=else]	0.213 (0.409)
➢ Rel_Abroad	Is your company doing business abroad? [1=yes; 0=no]	0.879 (0.326)
➢ Foreign_Dep	Does your firm have a specific department to handle your international operations if necessary? [1=yes; 0=no]	0.365 (0.482)
➢ Ind_Manu	Branch of industry: Manufacturing [1=yes; 0=no]	0.442 (0.497)
➢ Ind_Serv	Branch of industry: Services [1=yes; 0=no]	0.292 (0.455)
➢ Ind_Other	Branch of industry: Other [1=yes; 0=no] *(=reference)*	0.266 (0.442)
Number of cases[1]		N=655

[1] Note: Some variables have missing values

Table 2 presents the definitions, means and standard deviations of variables included in our analysis. According to the SME definition of the IfM Bonn, 90 % of the surveyed enterprises are SMEs and 73 % of the enterprises are either in the manufacturing or in the services sector. 27 % are in other branches, predominantly in the trade sector. 88 % of the enterprises do business abroad and roughly one fifth of the enterprises state that the geographic concentration of industry at regional level in their region is above average. A rise in the development of employment in the last two years prior to our survey was confirmed by 35 % of all firms. In 2004, on average 35 % of the total revenues of the sample enterprises come from activities in foreign countries and 37 % of the enterprises indicated that they retain a specific department to manage their international operations. In total, 47 % of the surveyed enterprises have made use of measures promoting foreign trade.

Table 3

Descriptive statistics: SMEs vs. Large Firms

	SMEs Mean (Std. Dev.)	Large Firms Mean (Std. Dev.)	Test of H_0: Difference in means = 0 (t-value)
Variables			
➢ Scheme	0.4352 (0.4962)	0.6984 (0.4626)	4.261***
➢ Ext_Turnover	33.9499 (29.4473)	43.6132 (25.4493)	2.590**
➢ Ext_Turnover if Scheme[1]	39.5732 (30.6469)	43.2778 (24.7442)	0.809
➢ Ext_Turnover if no Scheme[1]	28.9114 (27.5048)	44.3235 (27.6546)	2.240**
➢ Foreign_Dep	0.3276 (0.4697)	0.7097 (0.4576)	6.102***
➢ Empl_Suc	0.3481 (0.4768)	0.3175 (0.3481)	0.492
➢ Geo_Con	(0.2103 (0.4078)	(0.2381) (0.4293)	0.629
➢ Rel_Abroad	0.8680 (0.3388)	0.9844 (0.1250)	2.726***
➢ Ind_Manu	0.4150 (0.4931)	0.6984 (0.4626)	4.361***
➢ Ind_Serv	0.2976 (0.4576)	0.2381 (0.4293)	1.039
➢ Ind_Other	0.2874 (0.4529)	0.0635 (0.2458)	3.862***
Number of cases[1] (ratio)	591 (0.9002)	64 (0.0977)	

*, **, *** denote statistical significance at an error level of 10, 5, and 1 percent. Some variables have missing values.
[1] Note: Number of cases for "Turnover if (no) Promotion": N_{SME} =238 (271), $N_{Large\ Firms}$ =36 (17).

Table 3 compares SMEs and large firms. The analyses yield a number of significant differences. For example, SMEs make less use of support programmes than large enterprises. While merely 43.5 % of the surveyed enterprises with less than 500 employees obtained some kind of public support, it was more than two thirds of the large enterprises which made use of foreign trade promotion programmes. These results coincide with the findings of other studies (Moini 1998, Faix et al. 2003, Lau et al. 2005). In addition, the descriptive analysis shows that large enterprises are much more likely to achieve a higher foreign sales-to-total sales ratio than SMEs are. Average foreign sales-to-total sales ratio of SMEs in 2004 is 34 % compared to 44 % in the case of firms with 500 and more employees.

With the exception of 'development of employment', 'geographic concentration of industry at regional level' and 'service industry', SMEs differ significantly from large firms. More large enterprises are doing business abroad (98 %, SMEs: 87 %) and in the manufacturing sector (SMEs: 42 %, large firms 70 %). Furthermore they are much more likely to maintain a specific department to manage their international operations than SMEs are (SMEs 33 %, large firms 71 %). On the other hand, more SMEs are doing business in 'other branches', predominantly in the trade sector (SMEs 29 %, large firms 6 %).

Two observations are noteworthy: the descriptive analyses reveals that the enterprises which have used foreign trade promotion achieve the same foreign sales-to-total sales ratio, irrespective of firm size (the test of difference in means is not significant). On the other hand, if the enterprises have not used any promotion schemes in the past, SMEs seem to perform worse than large enterprises: Average foreign sales intensity of SMEs without promotion usage is only 29 % compared to 44 % of large firms. These results of the descriptive analysis are remarkable because they suggest that SMEs seem to benefit from the promotion. Furthermore, the findings indicate that in the case of large enterprises the participation in foreign trade promotion programmes has no effect on the foreign sales intensity. Thus, maybe large companies incorporate windfall gains when benefiting from such promotion programmes.

Yet, the descriptive evidence presented does not reveal the extent to which the variables discussed might be interrelated. Rather the descriptive findings may be the result of other internal and external intervening variables: According to the literature several factors may have an impact on the foreign sales intensity of a company. For example sector-specific differences or the orientation towards growth of a firm might affect the foreign sales-to-total sales ratio of a enterprise and the usage of promotion services. Thus, multivariate analyses have to be applied to reveal the ceteris paribus effect of firm size and promotion usage on foreign sales intensity of an enterprise.

3.2 Estimation strategy

In the following section we will investigate the ceteris paribus impact of firm size on foreign sales intensity when other characteristics of the firm are controlled for. Altogether we estimate four econometric models using regression analysis.

The dependent variable in all models is the foreign sales-to-total sales ratio (foreign sales intensity) in the year 2004. The dependent variable is a metric variable taking the value zero if the firm realised no turnover abroad in 2004 (this applied for 9 % of the cases) and 100 if the company generated all its revenues overseas. The mean of the dependent variable lies at 35 % (without the zero-values at 38 %) and the median at 30 %. The standard deviation is 29 % (without zeros: 28 %). Since our dependent variable is left censored at zero, the appropriate econometrical model to use is a tobit model. Yet, for sake of easier interpretation the following equation are also estimated as OLS (using robust variance estimators).[1]

[1] The results of our tobit estimation can be viewed in the appendix.

We have also included a set of control variables that are known to affect the degree of internationalisation - but not included in our hypotheses. The literature has identified various factors that could stimulate or impede the internationalisation of an enterprise. They can be classified into the following categories: institutional, industry and organisational factors (Al-Laham and Souitaris 2008). Note, that our sample is composed only of German enterprises to control for institutional differences between countries which may affect the degree of internationalisation such as government regulations and restrictions, taxes or exchange rates among others (Acs et al. 1997). Furthermore, we defined 16 dummy variables for each federal state) of Germany to control for institutional aspects on the regional level. As base group we have chosen North Rhine-Westphalia which is in terms of population, economic output and exports the largest Land of Germany (Haunschild et al. 2007). Academic research has documented that the internationalisation of enterprises from the service sector may differ in comparison with firms of the manufacturing sector (Buckley et al. 1992; Lehmann 2008). To control for these possible differences between the sectors we control for sector-specific differences. Research on the correlation between the geographic concentration of industry at regional level and internationalisation are still limited. Yet, the existing literature indicates that the embeddedness of SMEs in regional clusters can facilitate and stimulate their internationalisation. The beneficial characteristics of clusters (e.g. knowledge spillovers or signaling effects) can help SMEs to master their resource restriction and internationalise in a way not realizable for an isolated enterprise (Dunning 1998; Zain and Imm Ng 2006; Al-Laham and Souitaris 2008). We also include foreign sales department. The existence of a foreign sales department can have a positive impact on the foreign sales intensity of a firm, because the specialists within the enterprise have the time and expertise to manage the business activities abroad. Thus, the existence of a foreign sales department was chosen as a proxy for a firm's in-house capabilities and management resources. The orientation of an enterprise towards growth might also affect its degree of internationalisation. The development of the number of employees in the last two years was chosen as proxy for the orientation of an enterprise towards growth.

$$Ext\_Turnover_i = \alpha + \beta_0 Firm\_Size_i + \beta_1 Scheme_i + \beta_2 Foreign\_Dep_i + \beta_3 Empl\_Suc_i + \beta_4 Geo\_Con_i + \beta_5 Ind\_Manu_i + \beta_6 Ind\_Serv_i + \beta_t Fed\_States_i \quad (1)$$

In model 1, the coefficient of Firm_Size and Scheme gives the (approximate) proportional differential in foreign sales intensity between SMEs and large enterprises respectively between those firms which have used foreign trade promotion measures and those which did not, holding past development of employment, geographic concentration, industries, existence of a foreign trade department and federal states fixed. Yet, an important limitation of this model is that the size premium is assumed to be the same for firm which have used foreign trade promotion and which did not. This assumption is relaxed in the following model (see Wooldridge 2003):

$$Ext\_Turnover_i = \alpha + \beta_0 SME\_NoScheme_i + \beta_1 SME\_Scheme_i + \beta_2 Large\_NoScheme_i + \beta_3 Foreign\_Dep_i + \beta_4 Empl\_Suc_i + \beta_5 Geo\_Con_i + \beta_6 Ind\_Manu_i + \beta_7 Ind\_Serv_i + \beta_t Fed\_States_i \quad (2)$$

Here, we estimate a model that allows for foreign sales intensity differences among four groups: Enterprises with less than 500 employees which obtained some kind of public support, enterprises with less than 500 employees which have not used any kind of public support, large enterprises which obtained some kind of public support and large enterprises which have not used any kind of public support in the past. The corresponding dummy variables are *SME_Scheme*, *SME_NoScheme*, *Large_Scheme* and *Large_NoScheme*, respectively. As our base group we choose *Large_Scheme* (model 2) and *Large_NoScheme* (model 3) and *SME_Scheme* (model 4). Thus, the estimates on the three dummy variables measure the proportionate difference in foreign sales intensity relative to large enterprises which have obtained some kind of public support (model 2), relative to large enterprises which have not obtained any kind of public support (model 3) and relative to SMEs which have obtained some kind of public support (model 4), holding development of employment, geographic concentration, industries, existence of a foreign sales department and federal states fixed.

3.3 Multiple Regression Results

Table 3 displays the results of our OLS estimations. As can be seen, our hypotheses are borne out by the data. Estimation results of model 1 show that firm size is positively linked to foreign sales intensity, holding all other factors fixed. The coefficient is significant and implies that, on average, SMEs realize 6.8 percentage points less turnover overseas than large enterprises. While the coefficient of geographic concentration and manufacturing industry turn out to be small and insignificant, firms that report a rise in employment in the last two years prior to our survey achieve a higher ratio of their revenues abroad (+5.2 percentage points). That applies also for enterprises that maintain a specific department to manage their international operations (+5.3 percentage points). On the other hand firms of the service sector generate a significantly smaller amount of their turnover abroad compared to the category *ind_other* (-8.3 percentage points).

Let us now turn to the variable of interest in our paper, the usage of some kind of foreign trade promotion in the past. The “scheme premium” is 8.1 percentage points and statistically different from zero on any conventional level. Put differently, the foreign sales-to-total sales ratio of firms which have made use of foreign trade promotion programmes is, on average, 8.1 percentage points higher than of those which have not with the same levels of the other variables.

Table 4

OLS Estimation Results
(Dependent Variable: foreign sales-to-total sales ratio, in percent)

Variables	Model 1 Coeff. (Std. Err)	Model 2 Coeff. (Std. Err)	Model 3 Coeff. (Std. Err)	Model 4 Coeff. (Std. Err)
➢ Firm_Size	-6.8133* (3.8768)			
➢ Scheme	8.0720*** (2.5680)			
➢ SME_NoScheme		-12.7448*** (4.5909)	-12.4343** (6.3209)	-8.8527*** (2.7121)
➢ SME_Scheme		-3.8921 (4.6470)	-3.5816 (6.4353)	*base group*
➢ Large_NoScheme		-0.3105 (7.1886)	*base group*	3.5816 (6.4353)
➢ Large_Scheme		*base group*	0.3105 (7.1886)	3.8921 (4.6470)
➢ Foreign_Dep	5.3084** (2.5680)	5.2493** (2.5681)	5.2493** (2.5681)	5.2493** (2.5681)
➢ Empl_Suc	5.1972** (2.5147)	5.1627** (2.5124)	5.1627** (2.5124)	5.1627** (2.5124)
➢ Geo_Con	-4.3832 (2.6938)	-4.2950 (2.7031)	-4.2950 (2.7031)	-4.2950 (2.7031)
➢ Ind_Manu	3.8149 (3.3068)	3.7405 (3.3099)	3.7405 (3.3099)	3.7405 (3.3099)
➢ Ind_Serv	-8.2696** (3.6651)	-8.1868** (3.6668)	-8.1868** (3.6668)	-8.1868** (3.6668)
➢ Fed_States	16 categories	16 categories	16 categories	16 categories
➢ Constant	36.7094*** (5.7415)	42.4146*** (5.9659)	42.1040*** (7.3707)	38.5224*** (4.0290)
N. obs.	547	547	547	547
R-squared	0.1606	0.1623	0.1623	0.1623

White robust variance estimators. *, **, *** denote statistical significance at an error level of 10, 5, and 1 %.

Yet, as stated above, a limitation of model 1 is that the estimated "scheme premium" is assumed to be the same for SMEs and large firms. This is not the case in model 2 to 4. We now turn to these models which control for differences among the following four groups: *SME_Scheme*, *SME_NoScheme*, *Large_Scheme* and *Large_NoScheme.*

In model 2 the base group is *Large_Scheme* (i.e. large firms which have made use of foreign trade promotion instruments), i.e. the estimates on the three dummy variables measure the proportionate difference in foreign sales intensity relative to *Large_Scheme.* The results show that enterprises with less than 500 employees which have not obtained any kind of public support in the past are estimated to realize about 12.7 percentage points less of their turnover abroad than large firms which have used such programmes.

Most interestingly, hypothesis 2.2 is also supported by our data: Large firms without promotion scheme usage do not achieve a statistically different level of external turnover compared to large firms which have used such schemes in the past, holding all other factors fixed. Furthermore, the foreign sales-to-total sales ratio of SMEs with promotion scheme usage is not statistically different from zero at any conventional level compared to *Large_Scheme*.

Thus, we can conclude that obtaining some kind of promotion programme in the past has a positive impact on the foreign sales intensity in the case of SMEs. In the case of large companies the usage of support measure has no significant effect on their foreign sales-to-total sales ratio. Thus, lour results indicate that large companies seem to incorporate windfall gains. They benefit above average from promotion programmes which in turn do not enhance their foreign sales-to-total sales ratio.

These findings are strengthened by the estimation results in model 3 and 4 where we choose large firms without promotion scheme usage (*Large_NoScheme*) and SMEs with promotion scheme usage (*SME_Scheme*) as our base groups, respectively, and reestimate the equation of model 2.[2] Again, the results show that the foreign sales intensity of large firms with and without promotion scheme usage as well as SMEs with scheme usage does not diverge significantly from each – irrespective of the base groups in both models.[3] On the other hand we find that SMEs not using foreign trade promotion programmes in the past are estimated to generate about 12.4 percentage points less of their revenues overseas than large enterprises which have also not used such instruments (model 3) and 8.9 percentage points less than SMEs which have made use of measures promoting foreign trade (model 4).

As for our control variables, in line with prior research we find that existence of a foreign sales department, firm's orientation towards growth and sector-specific differences have a positive impact

[2] Basically, we can use the equation of model 2 to obtain the estimated differences between any two groups. Yet unfortunately, we cannot use equation 2 to for testing whether the estimated differences between of any groups are statistically significant (for details see Woldridge 2003).

[3] Note, that when *SME_NoScheme* is selected as the base group, the coefficients of the variables *Large_Scheme, Large_NoScheme* and *SME_Scheme* are statistically significant and identical to those of *SME_NoScheme* in model 2 to 4, respectively (for details see Woldridge 2003).

on the foreign sales intensity of a firm. The embeddedness of SMEs in regional clusters is not significant on any conventional level.

4 CONCLUSIONS AND RECOMMENDATIONS

The results of our empirical analysis illustrate that SMEs seem to profit from the foreign trade promotion while large enterprises may incorporate windfall gains when benefiting from such programmes. Grounded in the theoretical framework of the resource-based view our results provide strong support that large enterprises possess the required resources to enter and develop foreign markets on their own while SMEs are only able to realize their full international market potential with external support. As a consequence, governments have to focus their promotion activities better than currently on SMEs. Although SMEs are considered to be the principal target group of the promotion efforts, previous studies have shown that they generally make less use of the promotion programmes than large enterprises do (Moini 1998; Faix et al. 2003; Lau et al. 2005; Hauser and Werner 2008). The combination of these findings is alarming because it shows that although SMEs apparently benefit from the promotion programmes, the current promotion system seems to put them systematically at a disadvantage. This, of course, could lead to a waste of public funds. Thus, policymakers at all levels of government have to pay particular attention to the implementation of policies and strategies which facilitate the access of SMEs to public promotion programmes.

These efforts could initially target e.g. at the improvement of co-operation and co-ordination of the various institutions engaged in the foreign trade promotion. In this context, it is necessary that each institution views and presents itself as part of a comprehensive promotion scheme. For this purpose, the creation of a coherent corporate design could develop an integrating effect and play a significant role in the way the promotion scheme presents itself to both internal and external stakeholders. Hence, it is advisable to develop a common logotype and logogram as well as a uniform nomenclature for all promotion instruments and measures. This would take into account that SMEs require a high transparency und easy accessibility of the promotion system.

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6 APPENDIX

Table 5

Tobit Estimation Results

(Dependent Variable: foreign sales-to-total sales ratio, in percent)

Variables	Model 1 Coeff. (Std. Err)	Model 2 Coeff. (Std. Err)	Model 3 Coeff. (Std. Err)	Model 4 Coeff. (Std. Err)
➢ Firm_Size	-7.2960 (4.4298)			
➢ Scheme	9.2546*** (2.6831)			
➢ SME_NoScheme		-14.4507*** (5.4532)	-12.9275** (7.3732)	-10.7800*** (2.8957)
➢ SME_Scheme		-4.4133 (5.3573)	-2.8901 (7.3748)	*base group*
➢ Large_NoScheme		-1.5232 (8.5295)	*base group*	2.2789 (7.5995)
➢ Large_Scheme		*base group*	1.5232 (8.5295)	3.8126 (5.5216)
➢ Foreign_Dep	6.1147** (2.7325)	6.0501** (2.7305)	6.0501** (2.7305)	6.5065** (2.8185)
➢ Empl_Suc	5.6471** (2.6164)	5.6074** (2.6142)	5.6074** (2.6142)	5.7859** (2.6980)
➢ Geo_Con	-5.3758 (3.0887)	-5.2883 (3.0871)	-5.2883 (3.0871)	-5.8282 (3.1922)
➢ Ind_Manu	5.1471 (3.2263)	5.0737 (3.2242)	5.0737 (3.2242)	4.3678 (3.3287)
➢ Ind_Serv	-9.7604** (3.5554)	-9.6643** (3.5534)	-9.6643** (3.5534)	-10.1874** (3.6745)
➢ Fed_States	16 categories	16 categories	16 categories	16 categories
➢ Constant	34.9431*** (5.9774)	41.8687*** (6.5048)	40.3455*** (8.2235)	38.4797*** (4.1118)
N. obs.	547	547	547	547
Pseudo R-squared	0.0208	0.0209	0.0209	0.0209

*, **, *** denote statistical significance at an error level of 10, 5, and 1 %.