

# AN EMPIRICAL ANALYSIS OF THE CURRENCY HEDGING BEHAVIOR OF NORTH GERMAN SMES

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## ABSTRACT

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In a globalized world, companies are able to sell their products or services abroad or purchase them abroad. This generates advantages due to the expansion of the business area creating a broader market but comes along with currency risks. This paper examines which factors influence German SMEs' willingness to conduct foreign business, respectively to do transactions in foreign currencies. An empirical study researches how the currency risk in North German SMEs is valued and assessed. The analysis further identifies the differences in the use of foreign currencies of rural and urban SMEs and examines the reasons for the use of foreign currencies and currency management which lead to the use of currency hedging. With a sample size of 73 SMEs the study aims for a better understanding of the foreign activities of German SMEs and investigates the approach to the currency risk management for a better understanding of their needs. In general, the paper shows that the larger a company is, the more likely is the use of a currency management. A comparison of rural and urban SMEs in Northern Germany reveals, that urban ones are larger and therefore more likely to use currency hedging. Based on the research, the paper provides recommendations for SMEs with foreign sales.

## KEY WORDS

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currency hedging, currency management, importers, exporters, currency volatility, North German SMEs

## JEL CODES

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A10, G30, G40

## 1 INTRODUCTION

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The financial market is characterized by turbulences and imperfections (Arnold et al., 2014). This is identified by Davies et al. (2006) to be the main reason for the importance of the usage of currency hedging and other forms of financial risk management. Thus, a majority of exporting firms is currently using hedging as part of their financial strategy (Čadek et al., 2011). Arnold et al. (2014) argue that in a perfect capital market hedging would not be of any benefit for the companies using it. As the capital market is not perfect, like in a theoretical thought experiment, but rather characterised by imperfections, different tax regulations, transaction costs, and potential risks, measures need to be taken by a company to deal with these risks in order to be successful.

Therefore, a risk management is essential and in accordance with ISO 31000 is defined as the identification, evaluation, and prioritisation of risks and the subsequently following minimising, monitoring, and controlling of the risks associated with possible negative events. These risks include immanent ones like the possible failure of a project or a newly launched product, the risk of uncertainty in financial markets, or the consequences of natural disasters, thus spanning a vast array of possible fields that need to be covered by successful risk management. This is especially true for multinational companies, as their possible risks have a higher variety. However, even small and medium enterprises (SMEs) are also exposed to currency risk.

The current study focuses on the situation of German SMEs. Following the notion of Falkner and Hiebl (2015) that one of the SMEs most pressing problems is the lack of resources that they can invest in the risk management of – in this case – currency management. One of the main assumptions of the study is that a positive correlation between company's size and the involvement in currency (risk) management activities exist. A research question and a number of hypotheses was deducted for the purpose of this paper.

**RQ:** What influences SMEs' willingness to conduct business in foreign currencies?

*Hypothesis 1:* The smaller a company (number of employees, revenue), the less likely they are to do business in foreign currencies.

*Hypothesis 2:* The smaller a company (number of employees, revenue), the less likely they are to use currency hedging.

*Hypothesis 3:* If an SME imports goods from non-euro countries or sells them there without a middleman, then it uses a currency management tool.

The main goal of the paper is to explore factors influencing companies' decisions in regard to the usage of foreign currencies in their operations. Various indicators of company size are therefore put into relations with various indicators of FX usage.

## 2 LITERATURE REVIEW

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Within large (multinational) companies financial markets have to be analysed more thoroughly, as multiple markets are of high relevance to these companies (Soin and Collier, 2013). Political developments and diplomatic relationships have to be taken into stronger account as well. However, authors such as Yiannaki (2012) or Falkner and Hiebl (2015) point out the importance of risk management

– especially financial risk management – for SMEs as well. They make up a majority of companies in most economies. Yiannaki (2012), for example, cites numbers ranging from 67% in Ireland to 95% in Greece. At the same time, they only account for a much smaller share of employees, which creates additional risks and complications for SMEs. Their small size often makes it impossible to dedicate enough

resources to risk management or risk assessment (Falkner and Hiebl, 2015). At the same time, risks can often prove to be more fatal to SMEs than to bigger companies, which is especially true for financial firms (Yiannaki, 2012). SMEs on average benefit less from economies of scale and also have less access to (financial) resources than multinational Enterprises (MNEs). Their comparatively low equity rate also makes them more vulnerable to different external risks (Falkner and Hiebl, 2015). The main danger in this case is – among others, such as a loss of customers or damaged liability – the risk of bankruptcy. Given this comparatively high risk, the typical lack of resources that can be dedicated to risk management seems even more dangerous.

Another development that seems connected with this is the growing globalisation that not only influences MNEs which operate internationally but also SMEs which – more and more – also conduct their business on an international level (Bishev and Boskov, 2016). “The world economic relationships between foreign investment flows and international trade.” (Bishev and Boskov, 2016, p. 39227). Especially for SMEs this offers new chances, as they are less limited to their own geographical area than they would have been decades ago – start-ups and SMEs can comparatively easily operate on an international or even transcontinental basis. While this offers new chances and opportunities, it also creates new risks – dealing in foreign currency (FX) is widely acknowledged to be a major risk factor – not only but especially – for SMEs (Čadek et al., 2011; Davies et al., 2006; Geyer-Klingenberg et al., 2018). If companies have accounts payable or receivable in foreign currencies, they face foreign exchange transactions exposure as part of their ongoing business processes (McCarthy, 1999). Especially if the volatility of the trading partners rises, this proves to be a tangible risk for companies. A recent example of such volatility is the development in Russia concerning the sanctions posed against Russia and the countersanctions arising from this development.

Dreger et al. (2016) argue, for example, that the sanctions themselves did not affect the

Russian economy strongly (at least from the 2016 point of view), but the price of oil did, as it has a powerful effect on the rouble. The authors focused their work mostly on exchange rate fluctuations, analysing the development of the rouble in comparison to the US dollar, showing the dramatic fall (by more than 50% in comparison to the US dollar) after the conflict between Russia and Ukraine escalated in 2014. The authors used high-frequency data on exchange rates and oil prices as well as the information about the exact timing of the implementation of the sanctions. Their analyses showed that the primary driver behind the fall of the rouble was not the sanctions that were imposed on Russia but the falling oil price at the time. The authors explain that for a country that is so dependent on the export of its natural resources, the price of these resources on the international market is the most crucial predictor for its economic development. One of intangible but nonetheless dramatic consequences of sanctions is a general decrease of trust towards Russia. Trust is an essential part of business, which cannot be replaced by any other forms of capital. Without trust, building relationships becomes problematic; it makes any future plans fragile, which in the end leads to the flight of the foreign capital (Portanskij, 2014). Thus, during the first year of sanctions, the amount of foreign capital withdrawn from the Russian economy was more than for the whole previous year 2013. The flight of capital provides additional pressure on the rouble and increases inflation, which in return worsens the investment climate even more, which is proved by the behaviour of the foreign banks in Russia.

Developments such as this can be hard to predict and show the importance of also having to analyse political risks when it comes to the management of financial risks. The example of Russia also shows the consequences for German companies – many of them were (or still are) deeply involved with Russian business and export their goods to the country. By the period preceding the introduction of the Western sanctions on Russian economy, Western MNEs were able to achieve obvious dominance in some segments of the Russian market. Thus, by 2012

the share of the Russian tobacco market and car assembly facilities controlled by the Western MNEs achieved 90%, the share of the foreign producers on the beer and juice markets was almost equal with 85% and 75%, while the beauty and cosmetic markets were dominated by foreign producers by 60% (Gurkov and Saidov, 2017). “For German companies, Russia is a huge market with vast energy wealth and more than 140 million customers” (Meister, 2014, p. 3). At the same time, the developments on the market as well as the drastic fall of the rouble also strongly influenced the performance of German SMEs and MNEs.

This seems especially true for German companies, as Germany is often labelled “Exportweltmeister”, literally: export world champion (Sinn, 2006). The German economy depends heavily on its export – with goods such

as cars (and all the aspects of their supply chain) being known in and exported to nearly the whole world (Moser et al., 2008).

As an export-oriented economy, the management of currency risks and associated political risks is crucial. On a political level, this can be observed looking at Germany’s early focus on the creation of trade unions and the currency union, used for reducing frictions in international trade (Moser et al., 2008). Companies which are aware of financial risks and take according measures are, on average, more successful than others (Hang et al., 2017; Khediri and Folus, 2010). This implies the need for actions on both sides: On corporate level, by using an adequate currency strategy, and on political level, by providing a stable currency due to a well-managed monetary policy and an industry-friendly state on the basis of a good fiscal policy.

### 3 MATERIALS AND METHODS

For the purpose of this study, a total of  $n = 73$  companies was assessed using an online survey. Participants for the study were acquired out of the professional network of the author, thus the sample consists of representatives of (northern) German SMEs from different fields. The majority of companies assessed in this study stems from the fields of production or retail. The participants themselves were for the biggest part either CEOs or CFOs of their respective company, as this was aimed for by the researcher.

The questionnaire used in this study put an emphasis on closed-ended questions, wherever possible based on a Likert scale (Boone and Boone, 2012). This allows not only for easier and more valid analysis but also makes the participation easier for participants. One of the core goals in the development of the questionnaire was its ease of use and thereby in keeping it as short as possible, while still asking all relevant questions. It was assumed that managers of SMEs (who were the target sample of the study) would not be willing to invest more than a few minutes in participating in a scientific study. Therefore, an accuracy-

speed trade-off had to be accepted. While, partially, more in-depth questions would have been of interest, they would have meant a potentially drastically lower sample size. It was particularly important that the first question asked directly whether foreign affairs exist in non-euro countries, in order to then ask whether invoicing also takes place in foreign currency, to get a clear view of the survey group.

Data was collected using an online survey tool. Google Forms was chosen for this purpose due to its strength in the field of user experience: It is easy to handle for participants and requires neither special skills, nor special soft- or hardware. Google Forms is optimized for desktop and mobile applications – having no limitation in this regard. All necessary types of questions (mostly single-choice items) are supported by this online survey tool.

Each item was marked as compulsory. This gave participants no option to either willingly or accidentally skip questions and, providing a complete data set without any missing data. While this was arranged by the software itself, during the course of the analysis the data was again checked for missing data – none were found.

The data gathered with the online survey tool Google Forms was exported as a CSV file and processed with Microsoft Excel. MS Excel was used to make first adjustments to the data like filtering out missing data or eliminating participants' who did not fully complete the questionnaire (which could not be identified within this dataset, however). The thereby cleaned data was then exported to analysing software IBM SPSS which was used to conduct statistical analyses. Describing the sample via descriptive statistics formed the first step of this analysis. Following the first approach, the analyses were based on a correlational approach. Only for the comparison

of urban and rural companies a Levene test was performed for a validation of the variance homogeneity of all variances. Following the Levene test,  $t$ -tests were computed. It is checked whether the samples "urban" and "rural" differ statistically significantly from each other. The null hypothesis assumes that the difference between the two groups is so small that both come from the same population. The alternative hypothesis assumes that the mean values are so different that they have to be assigned to different populations.

Furthermore, the companies surveyed can be assigned to the areas of manufacturing, trade, consultation and other services.

## 4 RESULTS

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The regional affiliation of the study group is limited to the federal states of Hamburg (around 71,000 SMEs in 2018) and Schleswig-Holstein (around 93,000 SMEs in 2018) and thus covers the northernmost part of Germany (Statistik-Nord, 2020). The participating companies are known to the author from his work at a regional bank in this area and represent a balanced selection of companies with and without foreign currency activity via the regional bank. The companies surveyed also had connections to other banks. Due to the even distribution of the annual sales of the surveyed SMEs and the geographical distribution of the company headquarters, the sample is considered as relevant for the region.

### 4.1 Descriptive Results – Describing the Sample and the Variables

Out of the  $n = 73$  companies participating in the study, a total of 42 reported to have foreign affairs. 37 of the companies reported to (also) invoice in foreign currency. Most of the companies involved in this study described themselves as independent (51), whereas only 22 are organized as a branch of another corporation.

The average number of employees of companies participating in this study is 39 and

the average annual turnover equals 4.3 million EUR. The distribution of this turnover among companies is depicted in Fig. 1.

The study group differs in  $n_{\text{Urban}} = 43$  companies and  $n_{\text{Rural}} = 30$  companies. While only 8 of the rural companies currently conduct actively foreign business, 34 urban companies use foreign business commonly. Nevertheless, there is a difference between active foreign business (buying and selling abroad) and invoicing in foreign currency through a middleman. In total 42 companies conduct an active foreign business commonly.

Of all the participating companies, a total of 46 claimed to be principally aware of currency risks for their own company. 48 participants furthermore agreed that currency management in general is important to their company. The remaining 25 companies stated that currency management is currently not important for them, either because it is not part of their business or as there is no time for this, as other matters are more pressing.

In order to further foster the understanding of the participating companies and their needs in terms of currency management, the share of foreign currency payments in relation to EUR payments was computed. For this purpose, EUR payments from or into foreign countries were compared to FX (USD, CHF, CYH, etc.)

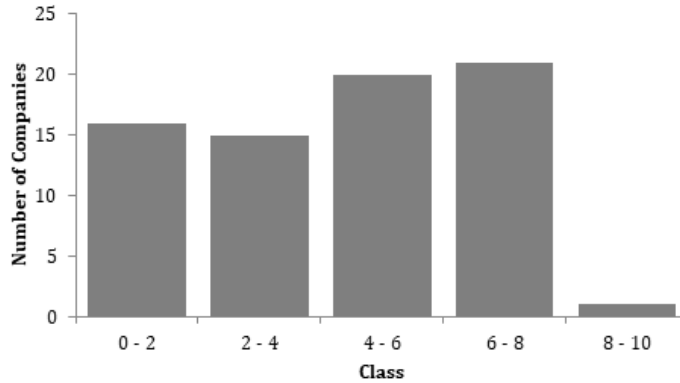


Fig. 1: Annual turnover (in million EUR) of companies in the sample

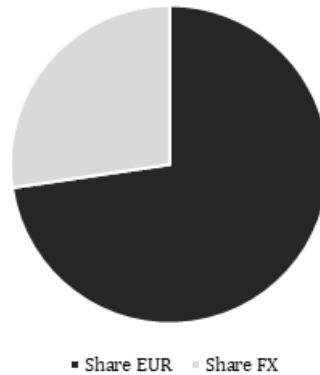


Fig. 2: Comparison of EUR and FX payments

payments from or into foreign countries were compared with each other in terms of their relative share.

## 4.2 Inference Statistical Approach – Answering the Hypotheses

### *Hypothesis 1*

The first hypothesis posed within this paper was that the size of a company is correlated to the likeliness of conducting business in foreign currencies. The assumption was that the smaller a company is (as measured for the purpose of this study by the number of employees and by the annual turnover), the less likely a company should conduct business in a foreign currency.

In order to assess this hypothesis, a correlation analysis was conducted, connecting the size of a company to various indicators of conduction of business in foreign currencies. These indicators were the questions regarding whether the companies have foreign affairs at all, whether they invoice in foreign currencies, how willing they are to conduct business in foreign currency, whether they import/export without a middleman (indicating that they directly conduct transactions in foreign currencies), and the question about the share of non-EUR transactions. Tab. 1 displays the results of the analysis. In this case both the size of the company measured by the number of employees and by the annual turnover (in million EUR) was used here. While there is a strong correlation between the two indicators relating to the company size, it was still decided

to use both for the purpose of answering the hypotheses totally.

Tab. 1: Correlation Analysis for Hypothesis 1

Measure	Number of Employees	Annual Turnover (million EUR)
Foreign affairs	0.160	0.267*
Invoicing in FX	-0.146	-0.035
Share of EU transactions	-0.371**	-0.286*
Share of FX transactions	0.371**	0.286*
Willingness to conduct business in FX	-0.339*	-0.170
Import without middleman	0.272*	0.168
Export without middleman	0.272*	0.168
Export turnover	0.412**	0.614**
Import turnover	0.273*	0.554**

Note: \* $p < 0.05$ , \*\* $p < 0.01$ .

The results clearly indicate that the assumption made in hypothesis 1 can be confirmed: The bigger a company – in this case measured by the number of employees and by the annual turnover – the higher the likelihood of a company to conduct business not only in its own currency but also in foreign currencies. The clearest indicator for this relationship seems to be the actual share of business conducted in foreign currency – here a correlation of  $r = 0.371$  (in regards to the number of employees) and  $r = 0.286$  (in regards to the annual turnover) could be identified and shown to be of statistical significance ( $p < 0.01$  and  $p < 0.05$ , respectively). Both the import and export turnover also proved to be strongly correlated to the company size, although here it can be argued that the turnover itself is strongly correlated to and influenced by these numbers, so that they are not viewed as the most important criteria for the use of foreign currencies.

Surprisingly, however, the willingness to conduct business in foreign currencies is only partially influenced by the company size. Instead, it is connected to the number of employees (the more employees the more willing companies seem to conduct business in foreign currencies) but not to the annual turnover. Also, no

connection was found to the invoicing in foreign currencies – this was not connected to the company size.

The correlation table conclusively reveals that the number of employees seems to be the stronger predictor for a company's willingness to conduct business in foreign currencies than their annual turnover. Hypothesis 1 can be confirmed – the company size is directly related to the willingness to conduct business in foreign currencies – the bigger a company (especially but not exclusively as measured by the number of employees), the more likely and willing they are to conduct business in foreign currency.

### *Hypothesis 2*

The second hypothesis concerned the companies' likelihood of using currency hedging depending on their size. Again, as for the first hypothesis, both indicators of the company's size were used to compute the correlation analysis needed to answer this hypothesis.

Tab. 2: Correlation Analysis for Hypothesis 2

Measure	Number of Employees	Annual Turnover (million EUR)
Awareness of currency risks	0.424**	0.438**
Currency management is important	0.390**	0.363*
Usage of currency hedging	0.272*	0.169
Relevance of currency management	-0.114	0.050
Evaluation of currency strategy	0.071	-0.198
Existence of a foreign currency account	0.272*	0.168
Currency trading	0.166	0.159

Note: \* $p < 0.05$ , \*\* $p < 0.01$ .

In order to assess the currency hedging usage of companies, a variety of indicators was again chosen to be analysed: general awareness of currency risks, perceived importance of currency management, usage of currency hedging, relevance of currency management for the company, evaluation of the company's currency management strategy, existence of a

foreign currency account, and the company's involvement in currency trading.

Again, the number of employees proved to be the stronger predictor than the annual turnover. In general, a positive relationship between company's size (measured by the number of employees and the annual turnover) and the awareness of currency risks was found (see Tab. 2). Furthermore, companies tended to agree more with the importance of currency management the larger they were ( $r = 0.390$  for the number of employees and  $r = 0.363$  for the annual turnover). This, however, was not true for the perceived relevance of currency management for the company itself: No statistically significant correlation between the company's size and the perceived relevance of currency management for the company could be identified. In a similar vein, no connection between the company's size and their own evaluation of their currency management could be shown – larger companies do not evaluate their own strategy better than smaller ones. For the general usage of currency hedging, a significant correlation with the number of employees could be found ( $r = 0.272$ ,  $p < 0.01$ ). However, no correlation between the usage of hedging and the annual turnover could be identified.

Concluding, that hypothesis 2 could be confirmed: The size of the company is connected to various indicators of currency hedging. The smaller a company is, the less likely and the less willingly they seem to use currency hedging as well as a currency management.

### Hypothesis 3

The third hypothesis proposed a positive relationship between the import and the export of goods from non-euro countries and the use of currency management tools. In this case the import/export of goods without a middleman (which was shown to be correlated to the company size, as shown in the first hypothesis) was entered in a correlation analysis along with the usage of currency hedging. A positive correlation of  $r = 0.530$  ( $p < 0.01$ ) could be shown for this relationship – those companies who make use of currency hedging also are more inclined to conduct imports and exports

without middleman. This confirms the third hypothesis as well.

### Post hoc – additional analyses

Another assumption posed by this work, but not explicitly stated in form of a hypothesis, was that rural and urban companies in Northern Germany differ from each other in various aspects, such as size and openness towards conducting business in foreign currencies and the usage of currency hedging.

Tab. 3: Comparison of urban and rural companies

Measure	<i>t</i>	df	<i>p</i>
Number of employees <sup>a</sup>	-3.94	71	0.000**
Annual turnover (Mio. EUR) <sup>b</sup>	-3.82	46	0.000**
Awareness of currency risks <sup>b</sup>	-1.41	58	0.164
Share of FX transactions <sup>a</sup>	-1.70	71	0.093
Willingness to conduct business FX <sup>a</sup>	2.17	71	0.033*
Use of currency hedging <sup>b</sup>	-1.64	65	0.106
Relevance of currency management <sup>a</sup>	-0.97	71	0.334

Notes: <sup>a</sup>equal variances assumed; <sup>b</sup>equal variances not assumed; \* $p < 0.05$ , \*\* $p < 0.01$ .

Tab. 4: Means and standard deviations

Measure	Urban		Rural	
	M	SD	M	SD
Number of employees	48.60	23.74	26.00	24.71
Annual turnover (million EUR)	5.23	1.69	3.18	2.57
Awareness of currency Risks	0.70	0.46	0.53	0.51
Share of FX transactions	31.86	21.75	23.27	20.44
Willingness to conduct business FX	2.63	1.43	3.33	1.27
Use of currency hedging	0.49	0.51	0.30	0.47
Relevance of currency management	3.16	1.31	2.83	1.58

Notes:  $n_{\text{Urban}} = 43$ ,  $n_{\text{Rural}} = 30$ .

In order to assess this initial assumption, a *t*-test for independent samples was conducted. 30 out of the 73 companies participating in the study stated, that their headquarters is situated in a rural area of the German state



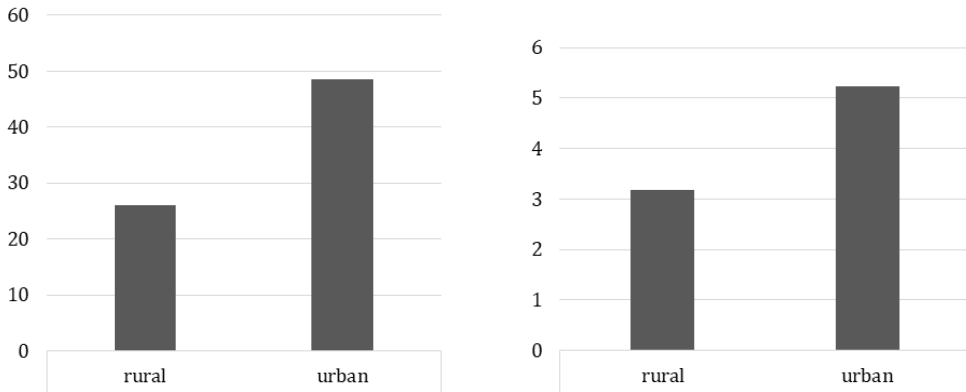


Fig. 3: Size comparison urban vs. rural companies – number of employees (a), annual turnover in million EUR (b)

Schleswig-Holstein. The remaining 43 companies described themselves as situated in urban areas. The  $t$ -test revealed significant differences between rural and urban companies. However, before conducting the  $t$ -test, a Levene test for variance homogeneity was conducted for all comparisons. In those cases, where the Levene test showed significant differences in regard to the homogeneity of variances, the  $t$ -values were corrected accordingly to achieve valid results. The results of the  $t$ -tests are displayed in Tab. 3.

Equal variances were not assumed for the annual turnover, the awareness of currency risks

and the usage of currency hedging. In this case the values had to be adjusted accordingly. The null hypothesis, that the difference between the two groups is so small that both come from the same population, is rejected based on the results. The alternative hypothesis is accepted, as significant differences between urban and rural companies could especially be observed in relation to the company size. Urban companies tend to be significantly larger in terms of the number of employees as well as in terms of the annual turnover. This relation is graphically illustrated in Fig. 3.

## 5 DISCUSSION

The present study proposed three initial hypotheses that, considered together, helps to foster a better understanding of North German SMEs and their approach to currency management, respectively currency hedging.

The first hypothesis assumed a positive relationship between the company size and the likelihood of conducting business in foreign currencies. Larger companies, following the assumption, would be more willing and are more likely to conduct such a business. The results clearly indicate that this is indeed the case, as a significant positive correlation between different indicators of the company size and the willingness to conduct business in foreign currencies was found: The hypothesis reveals that the number of employees seems to be the

stronger predictor for a company's willingness to conduct business in foreign currencies than their annual turnover. This mean, that the larger a company is, the more likely it conducts business in foreign currency. As proven by Falkner and Hiebl (2015) smaller sized companies are not able to dedicate enough resources to risk management or assessment. In other words, it can be assumed that smaller companies lack the resources to manage risks and to manage foreign currency transactions.

As companies grow – especially in terms of the number of employees (which of course is also related to their revenue and profit) – their capabilities for dealing with such challenges also grow, typically. On the one hand, as Yiannaki (2012) stated, SMEs benefit less from

economies of scale compared to MNEs. On the other hand, along with the growth of a company and subsequently the rise in the number of employees typically goes a higher chance of assigning specialized roles (Rauch and Frese, 2007). This allows them to employ specialized experts who are able to deal with the challenges of foreign currency transactions and currency hedging. Thus, based on the empirical findings and the findings in regard to the team composition (Bantel and Jackson, 1989; Rauch and Frese, 2007; Sanders and Carpenter, 1998) it can be concluded that larger teams with team roles that are more distinctive should allow for easier handling of foreign currency operations.

In a similar vein, the second hypothesis assumed that larger companies do not only more likely deal with foreign currencies but that they are also more likely to use currency hedging as a form of a financial risk management – again, as they have more resources to invest in such a complex action, as proven by Yiannaki (2012). The results showed that larger companies indeed are more aware of the risks associated with foreign currency transaction and that they are (tendentially) also more likely use according risk management strategies. The descriptive analysis showed that around 30% of the sales of the companies surveyed are carried out in foreign currency. This explains why the foreign currency accounts for a significant share of the sales of SMEs and implies that currency management is also necessary in SMEs. The personal evaluation of the currency strategy, however, seemed to be not influenced by the company size – the assessment of the strategy was not dependent on the size. This might be partially explained by the fact, that on the one hand the evaluation is a personal judgement in this study and on the other hand that larger companies are also more aware of currency risks, as shown by Čadek et al. (2011). Thereby, MNEs might also be more likely to see and reflect their own strategy in a critical way, due to their size and diversification in terms of employee structure. This structure of German MNEs allows them to better assess their Russian business relationships, in example the exchange rate to the rouble, since they observe the capital

mobility based on the trust into the Russian economy (as described in the literature review).

Furthermore, in accordance with the third hypothesis, it was shown that those companies which depend heavier on trade (both import and export) with other countries also make more use of currency hedging. This is in line with the description from the literature review that Germany as “Exportweltmeister” is drastically dependent on exchange rate developments. The performance of German SMEs and MNEs is significantly influenced by exchange rate fluctuations.

Furthermore, as the introduction argued without posing a hypothesis for it, it was assessed in the course of this study, whether rural and urban companies in Northern Germany differ in the way of conducting foreign currency business. Such a difference between the two types of companies could indeed be shown. Companies from urban areas were in general larger and more willing to conduct business in foreign currencies. Paqué (2009) was able to demonstrate that industries with an affinity for exports and imports tend to be located in urban areas in order to ensure more efficient trade, which provides evidence for the tested results in this study. A tendency could also be shown towards a difference in the amount of FX transactions conducted by these companies.

This study was concludingly able to show a variety of (highly) significant correlations between various aspects of company’s success and the use of currency management, respectively hedging. A variety of differences in these factors between more rural and more urban companies could also be shown. However, it has to be noted that these findings do not imply causation – while (partially based on reasoning chains of capital mobility and the resulting exchange rate fluctuations) it might seem possible to assume causal effects (e.g., that a more urban headquarters leads to higher success rates or that a higher annual turnover leads to a stronger need for currency management), this is not substantiated by the existing data. Rather, this study needs to be seen as a cross-section image of the SME landscape in Northern Germany. In order to further foster the understanding of the relation-

ship between currency management/hedging and financial success of companies and in order to also being able to make causal statements, a longitudinal design as the foundation for future research is proposed. While the results of this study are descriptive in nature, future research should take a more understanding-based approach. Such an approach would also allow to foster the understanding of why urban companies are more willing and more likely to conduct business in foreign currencies. As the results stand here, no such explanation can be found – hints towards a more urban, globalized mind-set seem just as valid as the idea that an urban environment allows for more global networking opportunities. In a similar vein, rural areas tend to be stronger shaped by agriculture than urban areas (Karásek et al., 2014; Straka and Tuzová, 2016). As such they are typically shaped by mostly local trade with a minor focus on international collaborations or trade, thus, minimizing the need for operations with foreign currencies.

Concluding, however, most initial assumptions could be confirmed based on the empirical study conducted in Schleswig-Holstein, Germany. A total of 73 companies with a wide diversity in regards of their branch, their age, and their location participated in the study. The author argues that thereby the

participating companies can be considered to be representative for SMEs in the region of Schleswig-Holstein, Germany.

Another limitation lays in the comparability of the participants themselves. While the companies seem to be representative for SMEs in the area of Schleswig-Holstein, Germany, it is unclear whether it was always the right person completing the survey. While most questions aimed at gathering facts about the companies (which, the author argues, should be accessible to all participants and therefore can be considered to be valid), some of the questions used within the study included personal assessments and opinions. For example, the assessment of the company's currency management strategy (that proved to be neither correlated to company size ( $r = 0.071$  for the number of employees,  $r = -0.198$  for the annual turnover), nor to their general usage of currency hedging ( $r = -0.158$ ), represents only the opinion of the participant himself and is not necessarily a real quality assessment. However, these results were validated by the author on the basis of the company's balance sheets in which the position "foreign currency losses" was always closely examined. None of the surveyed companies had given false information. It can therefore be assumed that the respondents' classification is correct.

## 6 CONCLUSION

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The leading research question of this paper was concerned with factors influencing SMEs' willingness to conduct business in foreign currencies. In order to answer this question a set of hypotheses was developed that aimed at exploring various sets of predictors, including the company size (measured both by the number of employees and by the annual revenue), the usage of currency management tools and the location of the companies. The empirical survey revealed that the company size (especially when measured by the number of employees) positively influences the willingness to conduct business in foreign currencies. Also, the larger a company is, the more likely it

is to use currency hedging. On the basis of the Russian example and the results of this survey, a clear recommendation must therefore be made: SMEs generally underestimate the currency risks and, due to the number of employees, have no or less capacity for adequate currency management. For SMEs dealing with foreign currency, the recommendation should therefore be made that an employee should be given responsibility for this in order to manage future volatility fluctuations.

Furthermore, it could be shown that companies in urban areas are in general larger and also, therefore, more likely to conduct business in foreign currencies.

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