

## INTERNATIONALIZATION OF SMES: DO BOARD CHARACTERISTICS MATTER?\*

KOBİ'lerin Uluslararasılaşmaları: Yönetim Kurulunun Etkileri

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### Abstract

All around the globe, SMEs constitute the backbones of the countries' economies, with their contribution to a very high level of employment and enterprises, as well as GDP creation. Despite their significance in their economies, SMEs' engagement in export activities is limited, which could be enhanced with better corporate governance initiatives. The purpose of this study is to examine the association between one of the main components of corporate governance, i.e., board of directors (BOD), and SME internationalization. We apply stratified sampling by city, size, and sector to fairly reflect the SME population in Turkey, collecting data from 469 SMEs. To quantify the board characteristics, we construct a board index, composed of seven board-related variables. Then, we estimate cross-sectional regressions including firm-specific control variables and legal and industry dummies. Our findings show that the board index is strongly and positively associated with SME internationalization, implying SMEs can reach higher internationalization levels by fostering a more attentive approach toward the composition and functioning of their BODs. By focusing on the individual board characteristics, SMEs are likely to enhance their BODs' monitoring and controlling functions in addition to their resource-acquiring functions, ultimately leading to higher internationalization levels.

### Keywords:

SME,  
Internationalization, Board of Directors

### JEL Codes:

G30, G34, G39

### Öz

Dünyanın her yerinde, KOBİ'ler, yarattıkları yüksek istihdam, işletme sayısı ve GSYİH ile buldukları ülkelerin ekonomisinin omurgasını oluştururlar. Ülke ekonomilerindeki önemlerine rağmen, KOBİ'lerin ihracat faaliyetlerine katılımları sınırlı kalmakta, bu durumun ise daha iyi uygulanmış kurumsal yönetim girişimleri ile artırılabilirliği düşünülmektedir. Bu çalışmanın amacı en önemli kurumsal yönetim bileşenlerinden biri olan yönetim kurulu ile uluslararasılaşmaları arasındaki ilişkinin incelenmesidir. Bu çerçevede, analizde kullanılacak olan örneklemdaki dağılımın Türkiye genelindeki KOBİ'leri adil bir şekilde yansıtabilmesi için; şehir, büyüklük ve sektör bazında tabakalı örneklem yöntemi ile toplam 469 KOBİ'den veri toplanmıştır. Öte yandan, yönetim kurulu özelliklerini ölçmek için yönetim kurulu ile ilgili yedi değişkenden oluşan bir yönetim kurulu endeksi oluşturulmuştur. Analizler ise firma özelindeki kontrol değişkenleri, yasal durum ve sektör kukla değişkenlerinin de dahil edilmesi ile birlikte yatay kesit regresyonları şeklinde yapılmaktadır. Bulgularımız yönetim kurulu endeksinin KOBİ'lerin uluslararasılaşmasıyla güçlü ve pozitif bir ilişki içinde olduğunu göstermektedir. Buna göre KOBİ'lerin yönetim kurulu özellikleri ve işleyişine yönelik olarak daha dikkatli bir yaklaşım teşvik edilerek daha yüksek uluslararasılaşma seviyelerine ulaşmanın mümkün olabileceği gösterilmektedir. Yönetim kurulu özelliklerine odaklanarak, KOBİ'ler yönetim kurullarının kaynak bulma görevlerinin yanı sıra izleme ve kontrol etme işlevlerini de geliştirerek, daha yüksek uluslararasılaşma seviyelerini yakalayabileceklerdir.

### Anahtar

### Kelimeler:

KOBİ,  
Uluslararasılaşma,  
Yönetim Kurulu

### JEL Kodları:

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## 1. Introduction

Internationalization refers to organizations' entering foreign markets via their services and products (Chandra et al., 2020). Internationalization has a significant role in companies' growth processes and in maintaining their global position and connections (Lu and Beamish, 2006). Entering a new market environment constitutes an important strategic choice and offers businesses a vital opportunity that brings and develops a core competency (Lu and Beamish, 2001; Korsakienė and Tvaronavičienė, 2012; Singh and Gaur, 2013; Chandra et al., 2020;), which helps gain a competitive advantage over their domestic competitors (Aksoy et al., 2023). Moreover, internationalization provides a vital value creation for the marketplaces (Bauweraerts et al., 2019; Bužavaitė and Korsakienė, 2022). Thus, internationalization activities become prominent for firms that pursue growth, such as SMEs (Liñán et al., 2020). Furthermore, the internationalization of SMEs is vital for the growth strategies of developing countries (Chandra et al., 2020), including Turkey.

SMEs constitute the backbones of the countries' economies, with a high level of employment and GDP creation and the number of enterprises all around the globe (Dabić et al., 2020). The OECD report on “SME and Entrepreneurship Outlook (2019)” states that SMEs constitute 99 percent of all firms, two-thirds of employment, and more than half of the added-value creation in OECD economies. In Turkey, SMEs constitute almost 75 percent of the employment, 55 percent of the total value-added creation, and more than 55 percent of the export activities as of 2017 (OECD, 2019). Notwithstanding this, SMEs' engagement in export activities is only between 5 percent to 40 percent for firms in OECD countries (OECD, 2019). Even though SMEs generally realize lower exports, internationalization opportunities are crucial for SMEs to maintain firm growth and competitive advantage (Andersson et al., 2004; Aksoy et al., 2023).

While the vital role of country conditions in internationalization is acknowledged in the literature (Ensari and Karabay, 2014; Francioni et al., 2016), some SMEs have notably better internationalization success than their local competitors, highlighting the importance of firm-specific factors that play a role in internationalization (Ensari and Karabay, 2014). Among other factors, the board of directors is one of the determinants of the success of the international strategy (Calabro et al., 2013). Boards' human capital, a pool of managerial capability and technical know-how, is positively associated with firms' internationalization performance (Barroso et al., 2011; Rivas, 2012). The professional abilities of the board members are directly related to board capital, including resource provision, managerial competence, and usage of technical skills, which constitute a vital element in strategic decision-making and operations such as engagement in internationalization activities (Bužavaitė and Korsakienė, 2022). BODs' control and monitoring functions become extremely critical during internationalization expansion due to the increasing need for information processing and strategic decision-making (Purkayastha et al., 2021). Hence, BOD plays a crucial role in tackling the unique challenges SMEs face in their internationalization processes due to their locality and smallness. Moreover, BOD mitigates the growing agency conflicts as they enter new markets.

Based on the above arguments, there is a need for a deep inquiry and examination to understand how different board characteristics relate to SMEs' internationalization. This study attempts to fill this gap and examines the relationship between internationalization and board characteristics for SMEs. Primarily, we build a board index including seven essential board

features: Board of Directors Presence (BOD), Board of Directors Size, Annual Board Meeting, CEO & Chairman Non-Duality, Independent Board Member, Non-Family Board Chairman, and Non-Family Board Members. Second, we investigate the association between internationalization and not only the board index but also the individual components of the board index. Moreover, we comprehensively address internationalization by employing three proxies: the export dummy, export percentage, and engagement with foreign cooperations. Our results indicate a strong and positive association between the board index and the internationalization of SMEs. Among the seven items within the index, BOD, BOD size, independent board members, and non-family board members are associated with SME internationalization in a stronger and more robust manner.

Our study makes significant contributions to the existing literature. Primarily, our paper examines the association between a predominant component of corporate governance, i.e., the board of directors, and the internationalization of Turkish SMEs. To the best of our knowledge, this study is the first one to examine the linkage between a board index, and internationalization for Turkish SMEs. To this end, we employ primary data hand-collected with a survey, which provides empirical evidence and important insights for SMEs in Turkey, one of the primary emerging market environments. Based on this primary data, we attempt to construct a board index for SMEs in our sample, trying to assess diverse facets of the board's composition. This board index constructed for Turkish SMEs is composed of seven different board features, which constitutes another very significant contribution of our study. Moreover, our study also has some theoretical contributions. Several theories provide different perspectives on the functions of the BOD. While resource-based theory highlights that a well-constructed BOD provides a competitive advantage for firms and an essential source of competence to deal with the complexity of international markets; resource dependency theory highlights the crucial role of BODs in managing external dependencies, and the agency theory underlines the importance of the monitoring and controlling functions of BOD. Hence, our study contributes to the literature on SME internationalization by analyzing the board of directors and its different features, explaining this association with different theories, including resource-based, resource-dependency, and agency theories.

The rest of the study is organized as follows: The second section presents the theoretical background and elaborates on the elements of the board index, including the relevant literature. The third section defines data and variables. The fourth section presents the methodology. We present and discuss our findings in the fifth section. Finally, we conclude the paper by evaluating our contribution to the literature and research implications.

## **2. Theoretical Background and Literature Review**

### **2.1. Theoretical Background**

Resource-Based Theory (RBT), Resource-Dependency Theory (RDT), and agency theory are among the primary theories that offer insightful arguments regarding the relationship between board characteristics and the internationalization activities of SMEs. According to Barney (1991) and Penrose (1995), RBT posits that a firm's competitive advantage stems from its unique and valuable resources and the integration of these resources in unique ways that competitors find difficult to replicate. These resources are not limited to tangible assets such as technology and capital but intangible assets, such as knowledge, expertise, and networks. A

well-structured BOD, comprising individuals with diverse knowledge, skills, and networks, is considered a critical asset for achieving a sustainable competitive advantage (Marcus, 2008). Therefore, according to RBT, BOD is an essential source of competence to deal with the complexity of the international markets (Barroso et al., 2011). On the other hand, Resource Dependency Theory (RDT), as articulated by Pfeffer and Salancik (1978), argues that organizations are influenced and shaped by their external environment, particularly their need to secure critical resources for survival and success. Within the framework of RDT, the primary role of the BOD is to act as a linkage to the environment, playing a crucial role in managing external dependencies (Pfeffer and Salancik, 1978). Thus, through the lens of RDT, the composition of BOD is one of the key determinants of international performance, influencing its capacity to mitigate risks in new markets and discover new and effective tools for their management (Rivas, 2012; Spadafora et al., 2022; Nam et al., 2018).

On the other hand, examining the internationalization process through the lens of agency theory sheds light on agency issues inherent in the dynamics of internationalization. Agency theory, in essence, focuses on the relationship between principals (owners/shareholders) and agents (managers) and explores the challenges arising from divergent interests and information asymmetry. For example, managers may sacrifice profitable business opportunities in foreign markets because of their risk aversion or local bias, which eventually hampers the firm's internationalization process (Lien et al., 2005). Excessive avoidance of non-local opportunities is significantly higher when the manager is from the family (Banalieva and Eddleston, 2011; Del Bosco and Bettinelli, 2020), as is the case for most SMEs in Turkey. Furthermore, internationalization increases transaction complexity, changes the way managers process information (Hoskisson et al., 2002), and increases uncertainty in managers' actions (Sanders and Carpenter, 1998), all of which increases the information asymmetry between principal and agent (Lien et al., 2005). In this context, BOD's control and monitoring roles stand out as one of the main mechanisms for minimizing internationalization-related agency costs and maximizing internationalization performance.

## **2.2 Board Features and Internationalization**

There are divergent perspectives on the role of the board of directors in shaping the internationalization strategies of SMEs. On the one hand, the board of directors is perceived as a strategic channel in SMEs' internationalization decision-making processes (Nisuls et al., 2010; Bužavaitė and Korsakienė, 2022). In line with this, Aksoy et al. (2023) find that larger firms with diverse boards of directors tend to be more involved in internationalization and export activities, highlighting the importance of board members' human capital and resource provision capabilities. Other studies also empirically report a positive association between the internationalization of SMEs and boards' strategic involvement through technical knowledge and skills (Calabro et al., 2009, 2013; Bužavaitė and Korsakienė, 2022).

On the other hand, some studies suggest that boards in family SMEs are less important due to the integrated nature of formal and informal governance mechanisms and the occupation of management positions by trusted family members (Gnan et al., 2015). For example, family SMEs tend to have family councils as substitutes for the board of directors (Calabro et al., 2016). Moreover, board members may have different views on strategic decision-making (Calabro and Mussolino, 2013), especially when the owner's family has high ownership and

wide influence. Notwithstanding these opposing views, the board remains crucial to the internationalization performance of SMEs, with its resource provision function and its ability to facilitate risk-taking strategies through the diverse expertise of its members (Arregle et al., 2012).

Board size is a fundamental feature that plays a defining role in shaping the effectiveness and performance of boards in SMEs. Some studies argue that larger boards may lead to conflicts in decision-making and communication processes, decreasing effectiveness and performance (John and Senbet, 1998; Vafeas, 1999; Dehaene et al., 2001). However, most SMEs tend to have relatively smaller boards of directors, which typically contain too few members to generate significant conflicts (Calabro et al., 2013). Besides, Ilhan Nas and Kalaycioglu (2016) argue that internationalization requires risk-taking behaviors, which are more likely to be exhibited with a larger board size. Empirical studies also support the idea that larger boards might enhance export intensity and overall performance (Calabro et al., 2013; Lukason and Vissak, 2020), a trend observed in Turkey as well (Ilhan Nas and Kalaycioglu, 2016). As larger boards are expected to bring more know-how, experience, network, and resources to the firm, they have more competitive advantage, resulting in better management of resources, reducing external dependencies, and ultimately improving monitoring and control functions; all of which support the resource-based, resource dependency and agency theories.

Annual board meetings are another crucial feature of boards, serving as one of the indicators of the board's effectiveness and level of activeness (Al-Najjar, 2015). Regularly held annual board meetings constitute a powerful mechanism to promote internationalization activities (Sciascia et al., 2013). Annual board meetings help the dissemination of board members' business skills and technical knowledge (Zattoni et al., 2015; Buřavaitė and Korsakienė, 2022). Furthermore, board meetings allow board members to interact better and understand each other (Uzzi, 1996; 1997). Pongelli et al. (2023) find that family-owned SMEs are less internationalized if they have a family CEO but do not have enough board meetings or non-family members on their boards. Furthermore, Sciascia et al. (2013) control the board activism through the number of board meetings in a year and perceived board effectiveness by measuring the perception of the board's influence on the success of the SMEs, both of which they find to be positively associated with internationalization. With a higher number of board meetings, board members' business skills and know-how are expected to spread across the board and ultimately across the SME, enhancing SMEs' resources, consistent with the resource-based theory.

Another critical concern for the well-functioning of boards pertains to the successful implementation of the monitoring and controlling functions, in line with the agency theory. SMEs can enhance their monitoring and controlling functions in several ways, such as assigning different individuals for the CEO and chairman positions, including independent board members, assigning non-family board members and non-family chairman. A high concentration of power in a single individual can potentially undermine the board's ability to perform its monitoring and controlling functions, which ultimately benefits the managers of the firms rather than the shareholders (Datta et al., 2009). As a result, one of the indicators of a boards' effective monitoring function is the separation of CEO and board chairman. The empirical evidence for the association between CEO duality and internationalization performance is inconclusive. For example, Ilhan Nas and Kalaycioglu (2016) demonstrate that when the CEO and the chairman are the same person, firms' export performance improves in Turkey. However, Bauweraerts et

al. (2019) indicate that when the same person occupies CEO and chairperson positions, there is a negative influence on the exports. Furthermore, Hsu et al. (2013) find that internationalization and firm performance relations become weaker when the CEO and chairman are the same individuals in SMEs.

Independent board members constitute another indicator for effective monitoring of the board, supporting the agency theory. Calabro and Mussolino (2013) emphasize that maintaining independence in boards' activities and decisions is a crucial formal governance mechanism that ensures trust and strong relationships among board members. Moreover, there is a positive association between the presence of independent directors and export intensity in SMEs (Calabro and Mussolino, 2013) and higher levels of export in private firms (Lu et al., 2009; Herrera-Echeverri et al., 2016).

On the other hand, limited family involvement signals better monitoring and control functions in SMEs. Internationalization strategies of family firms differ according to the level of owner-family involvement in decision-making processes and the ratio of independent members on boards (Arregle et al., 2012, 2017; Pukall and Calabro, 2014; Merino et al., 2015). When there is a strong owner-family influence on management, ownership structure, and boards, firms tend to remain in their local market environment (Mitter et al., 2014). The presence of owner-family members on boards constitutes a burden for the internationalization of family businesses (Debellis et al., 2023). Even if family firms are engaged in internationalization, they prefer to expand their businesses within the same geographic region as their home country due to the concern of losing control in unknown marketplaces and environments (Arregle et al., 2017). In line with this, non-family board members positively influence internationalization (Calabro et al., 2009; Ilhan Nas and Kalaycioglu, 2016).

In addition, when family members take on leadership positions, the tendency to export is reduced even further. For example, non-family leaders are reported to be more effective in developing and implementing an internationalization strategy than when family members occupy senior positions such as CEO, president, or vice president (Banalieva and Eddleston, 2011). Family members in senior positions affect corporate, cultural, and psychological distance perceptions in companies' internationalization strategies due to their authority (Del Bosco and Bettinelli, 2020). More specifically, when high cultural and institutional differences exist between the local and international market environments, non-family leaders prefer to divide the costs and risks with business partners. At the same time, the family CEO or chairman tends to protect ownership of foreign business operations and investments (Del Bosco and Bettinelli, 2020). Hence, family firms' export activities and internationalization engagement significantly decrease in the presence of a founder CEO and high family ownership (Yang et al., 2020).

In short, the presence of the board plays a multifaceted role in helping companies, offering invaluable contributions to their internationalization efforts. Beyond their essential monitoring and control functions, boards provide strategic guidance, facilitate resource acquisition, and support the effective management of international strategies. Hence, the board serves through counseling, advising, and establishing required local and international contacts for SMEs (Nisuls et al., 2010). A larger board is more likely to consist of diverse and highly skilled members, which is essential for SMEs to compensate for the potential gaps in skills, resources, or experiences during the internationalization process (Calabro et al., 2013). Especially in family firms, without diverse board members with various skills and knowledge,

the boards may not be able to control the decisions of the owner-family members and advise them (Calabro et al., 2013). A higher number of board meetings leads to a more profound business strategy evaluation, access to better business insights, constructive challenge to the owner-family driven decisions maintenance of good relations among members (Pongelli et al., 2023). When the board chairman is different than the CEO, the board's monitoring and controlling performance is enhanced. Independent board members, not only contribute to efficient monitoring and controlling but also play a crucial role in supporting firms' export strategies by granting access to a wide range of resources, information, and network connections (Nisuls et al., 2010; Aksoy et al., 2023). Finally, considering that firms controlled by the owner-family are statistically less engaged in internationalization activities (Fernandez and Nieto, 2005; Arregle et al., 2017), reducing family influence within the board of directors may potentially lead to an increase in internationalization.

Based on the above rationale, we predict the overall board index and the individual board elements to have a positive association with SME internationalization. Therefore, we construct our hypotheses as follows:

H<sub>1</sub>. A higher level of the board index is positively associated with SMEs' internationalization.

H<sub>2</sub>. Each board element is positively associated with SMEs' internationalization.

### 3. Data and Variables

In this study, we employ first-hand data collected through the survey we conducted in 2021<sup>1</sup>. We identify our survey questions after completing the following procedures, (i) an extensive literature review on BOD, (ii) a focus group with three CEOs of SMEs and three academics, and (iii) expert opinions from a former bank manager and certified public accountant. Primarily, we conduct a pilot study collecting data from 43 SMEs. Based on the feedback we receive during the pilot study and the preliminary analysis of the pilot data, we finalize the survey questions. The final version of the survey was administered by a professional survey company, which accelerated the data collection process and increased the response rate. Since our survey covers questions about SMEs' financial aspects and BODs, we made it necessary that the questions are answered either by the SMEs' general managers or a person from senior management.

To determine the appropriate sample size for our study, we refer to Cochran's (1963) formula, designed for large populations (Israel, 1992). We increase the sample size addressed by this formula by more than 10%. This adjustment accounts for potential data loss due to incomplete or inaccurate survey responses, guaranteeing a 95% confidence level with a margin of error of less than  $\pm 5\%$  (Israel, 1992). Our final sample size is 469, achieved after excluding responses with incomplete or incoherent data, effectively representing the extensive population of 3.22 million SMEs in Turkey as of 2019. We apply stratified sampling to ensure that our sample accurately represents the broader population, accounting for industry, business size, and geographical factors such as city. This strategic sampling approach allows us to include SMEs from ten major cities in Turkey and five predominant industry sectors, aligning with their proportional presence in the population. Besides, the inclusion of micro, small, and medium-

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<sup>1</sup> The ethics approval for conducting this survey is obtained on June 6, 2021, from the Kadir Has University Ethics Committee (No: E-17446481-050.06.04-7652).

sized SMEs in the sample is carefully balanced by their respective percentages in the population.

The Appendix presents the sample distribution across industry type and size, cities, and legal status. The study's sample includes five primary industries in which SMEs operate intensively in Turkey. As can be depicted from Table A1, in our sample, the biggest portion of SMEs operate in the wholesale and retail trade sector (44.35%), similar to the population of SMEs in Turkey. Moreover, Table A2 presents the distribution of SMEs across ten cities in Turkey (Panel A) and the distribution of SMEs included in the sample from these cities (Panel B). These ten cities have the highest SME population in Turkey. Istanbul, Ankara, and Izmir occupy the highest shares in the sample, with portions of 36.4%, 16%, and 10%, respectively. Moreover, Table A3 shows the distribution of SMEs in our sample according to their legal status. Almost 58% of SMEs in our sample have been incorporated as a limited company, whereas 23% have been established as a single proprietorship and 16% have been established as a corporation.

Table 1 (Panels A, B, and C) presents the definitions and the descriptive statistics for the variables (i.e., internationalization variables, board index, and control variables, respectively) employed in the analysis.

**Table 1. Definitions and Descriptive Statistics of Variables**

<b>Panel A. Internationalization</b>	<b>Description</b>	<b>Obs</b>	<b>Mean</b>	<b>Median</b>	<b>Min</b>	<b>Max</b>
Export percentage	Ratio of export sales to total sales	469	0.23	0.29	0	1
Export dummy	1 if the firm exports in 2021, 0 otherwise	469	0.50	0.50	0	1
Foreign cooperation	1 if the SME has any engagement with foreign cooperations, 0 otherwise	466	0.23	0.42	0	1
Cronbach's Alpha		0.63				
<b>Panel B. Board Index and Board Elements</b>						
Board index		469	1.53	2.09	0	6
BOD	1 if SME has a "Board of Directors", 0 otherwise	469	0.37	0.48	0	1
BOD size	1 if BOD size is larger than the median of sample (median = 4), 0 otherwise	465	0.18	0.39	0	1
Annual Board Meeting	1 if number of board meetings in a year is higher than 3, 0 otherwise	457	0.20	0.40	0	1
CEO & Board Chairman non-Duality	1 if CEO and the board chairman are different individuals, 0 otherwise	469	0.09	0.28	0	1
Independent Board Member	1 if there is at least one independent board member, 0 otherwise	464	0.15	0.36	0	1
Non-family Board Chairman	1 if the board chairman is independent from the owner family, 0 otherwise	451	0.25	0.43	0	1
Non-family Board Members	1 if there is at least one board member outside the owner family, 0 otherwise	458	0.31	0.46	0	1
Cronbach's Alpha		0.87				



**Table 1. Continued**

<b>Panel C. Control Variables</b>						
Size	Natural log of the total assets	342	16.12	1.96	12.04	20.57
Age	Natural log of (1 + number of years since the start of operations)	469	2.62	0.58	0.69	3.74
Industry	Industry dummies for five main industries*	469				
Legal	Legal status dummies for three main legal forms**	450				

**Note:** This table shows definitions and summary statistics for the variables employed in the analysis.

\*Industry dummies used for the five main industries included in the sample: (i) manufacturing, (ii) wholesale and retail trade; repair of motor vehicles and motor land vehicles, (iii) construction, (iv) agriculture, forestry, and fishery, (v) transportation and storage, (vi) tourism - accommodation and food service operations.

\*\*Legal status dummies used in the sample: single proprietorship, limited partnership, corporation

Table 1 - Panel B shows the summary statistics of the board index and individual board elements. The board index consists of the sum of the board elements, each of which is a dummy variable. The Cronbach's alpha for the board index is 0.87, showing that the elements measure the coherent underlying concepts. Table 1 - Panel C indicates the descriptive statistics of firm-specific control variables potentially associated with SMEs' internationalization. For example, the internationalization performance of firms is a matter of their size and age. Larger firms' resource availability helps them be more effectively involved in international operations (Miesenbock, 1988). Besides, some studies suggest that older firms have more experience and access to resources to overcome the uncertainties of internationalization (Sirmon et al., 2011). We measure SME size by ln (total asset) and age by ln (1+ number of years since the start of operations). Besides, the industry<sup>2</sup> in which SMEs operate (D'Angelo and Buck, 2013) and their legal status<sup>3</sup> may have a role in their level of internationalization.

Table 2 shows the correlations among the main variables. All three internationalization proxies are significantly and positively related. While export dummy and export percentage are highly correlated, as expected, foreign cooperation has lower correlation coefficients. The board index has a significant and positive correlation coefficient for all internationalization proxies, implying that better board characteristics are associated with higher international activity. Board index is also positively related to both size and age, the former being more pronounced. This shows that the larger and older firms are more likely to have sounder board properties. Besides, as expected, size and age have positive correlation coefficients with internationalization proxies, confirming that higher internationalization is linked with larger and older age.

<sup>2</sup> We control five industries: i) Manufacturing, (ii) Wholesale and Retail Trade; Repair of Motor Vehicles and Motor Land Vehicles, (iii) Construction, (iv) Agriculture, Forestry and Fishery, (v) Transportation and Storage, (vi) Tourism - Accommodation and Food Service Operations.

<sup>3</sup> We control three forms of legal status: i) single proprietorship, (ii) limited partnership, (iii) Corporation

**Table 2. Correlation among Variables**

	Export Percentage	Export Dummy	Foreign Cooperation	Board Index	Size	Age
Export percentage	1.00					
Export dummy	0.78*** (0.00)	1.00				
Foreign Cooperation	0.13*** (0.00)	0.26*** (0.00)	1.00			
Board index	0.16*** (0.00)	0.33*** (0.00)	0.33*** (0.00)	1.00		
Size	0.34*** (0.00)	0.38*** (0.00)	0.30*** (0.00)	0.32*** (0.00)	1.00	
Age	0.09** (0.05)	0.20*** (0.00)	0.14*** (0.00)	0.08*** (0.00)	0.21*** (0.00)	1.00

**Note:** This table contains Pearson correlation coefficients for the variables employed in analysis. p-values are in parentheses. \*\*\*, \*\*, and \* denote 1%, 5%, and 10% significance levels, respectively.

Table 3 indicates the correlation coefficients of the board index and board elements with each other. The board index has a high correlation coefficient for each board element ranging from 0.49 (CEO & Chairman non-Duality) to 0.95 (BOD). The individual board elements mostly have a moderate to high correlation with each other, although independent board member and CEO & Chairman non-Duality has comparably lower correlation coefficient.

**Table 3. Correlation among Board Elements**

	Board Index	BOD	BOD Size	Annual Board Meeting	CEO & BC non-Duality	Independent BM	Non-Family BC	Non-Family BM
Board Index	1							
BOD	0.95*** (0.00)	1						
BOD Size	0.71*** (0.00)	0.63*** (0.00)	1					
Annual Board Meeting	0.73*** (0.00)	0.68*** (0.00)	0.49*** (0.00)	1				
CEO & BC non-Duality	0.49*** (0.00)	0.40*** (0.00)	0.29*** (0.00)	0.50*** (0.00)	1			
Independent BM	0.59*** (0.00)	0.55*** (0.00)	0.34*** (0.00)	0.19*** (0.00)	0.22*** (0.00)	1		
Non-family BC	0.83*** (0.00)	0.79*** (0.00)	0.46*** (0.00)	0.41*** (0.00)	0.19*** (0.00)	0.38*** (0.00)	1	
Non-family BM	0.93*** (0.00)	0.91*** (0.00)	0.58*** (0.00)	0.57*** (0.00)	0.31*** (0.00)	0.55*** (0.00)	0.88*** (0.00)	1

**Note:** This table contains Pearson correlation coefficients for the board index and the board elements. p-values are in parentheses. \*\*\*, \*\*, and \* denote 1%, 5%, and 10% significance levels, respectively. BM stands for board member, and BC stands for board chairman.

#### 4. Methodology

As we aim to explore how board quality relates to the level of internationalization, our dependent variable is internationalization, and our independent variable is the board index. We

also include firm-specific control variables, i.e., firm size and age, and legal and industry dummies. Therefore, the general form of our model is as follows:

$$\text{Internationalization}_i = \alpha + \beta_1(\text{Board Index})_i + \beta_2\text{Size}_i + \beta_3\text{Age} + \beta_4\text{Legal}_i + \beta_5\text{Industry}_i + \varepsilon_i \quad (1)$$

We also investigate the individual relationship of each board element with internationalization. Therefore, we also test the following general model where we put individual board elements one by one:

$$\text{Internationalization}_i = \alpha + \beta_1(\text{Board Element})_n + \beta_2\text{Size}_i + \beta_3\text{Age} + \beta_4\text{Legal}_i + \beta_5\text{Industry}_i + \varepsilon_i \quad (2)$$

where *Board Element<sub>n</sub>* corresponds to individual board element n in the board index, n being one of the following: Board of Directors, Board size, Annual Board Meeting, CEO and Chairman Non-Duality, Independent Board Member, Non-Family Board Chairman, Non-Family Board Members. Since each board element is important and each may have an individual and different association with internationalization, we want to analyze these elements one by one. The correlations between BOD, BOD Size, annual board meetings, independent board members, non-family board chairman, and non-family board members are high (higher than 60%). Hence, to ensure that our findings do not suffer from issues that could be born from multicollinearity, we insert each board element separately into the estimations.

The method we apply to test the general models specified above is determined by the variable type of the proxy assigned for internationalization. When export percentage, a continuous variable, is assigned for measuring the level of internationalization, we use OLS regression. Our two other internationalization proxies (export dummy, foreign cooperation) are binary variables that take values of 0 or 1. When such variables enter the model as dependent variables, the most appropriate method to be applied is logistic regression, also known as logit regression (Hair et al., 2018). Logistic regression is a special form of regression where the binary dependent variable is expressed as probability based on the values of independent variables, and the maximum likelihood procedure is used for estimation. It has some important advantages over other methods, such as discriminant analysis, which can also be used when the dependent variable is categorical. For example, categorical independent variables, which are industry type and legal form in our case, can be included in the logistic regression model. Logistic regression also has robust estimation properties when normality and heteroscedasticity assumptions are not satisfactorily met. Besides, the interpretation of logistic regression is identical to OLS regression, making it preferable even when all assumptions are met. For instance, the pseudo-R-square of logistic regression, which indicates goodness of fit, is between 0 and 1, and is interpreted similarly to the R-square reported in OLS. In addition, the logistic transformation of odds<sup>4</sup> enables matching the coefficients' signs with the relationship's direction. Therefore, the independent variables with positive (negative) logit coefficients increase (decrease) the probability of exporting or engaging in foreign cooperation, depending on the internationalization proxy used in the model. Although it is also possible to interpret the direction of the relationship over the odds as they are  $e^{\text{Logit}}$  (odds>1, positive, odds<1 negative, odds=1, no association), this is a more indirect and less preferred method for determining the

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<sup>4</sup> Odds are defined as the relative frequency of events, expressed as  $\text{Odds}_i = P_i / (1 - P_i)$  where  $P_i$  is the probability of event i.

direction of the relation. On the other hand, the logit coefficient is difficult to interpret in terms of magnitude because of its logarithmic transformation. Hair et al. (2018) note that an easier approach to interpreting the magnitude in logistic regression is to calculate the percentage change in odds as  $(\text{Exponentiated coefficient} - 1) * 100$ . Therefore, we report both logit and exponentiated coefficients (odds).

## 5. Results

Table 4 presents the regression results specified in equation (1). The board index is significantly and positively associated with all the internationalization proxies, supporting our first hypothesis that a higher level of the board index is related to improved SME internationalization. In the first model, which is an OLS regression, the board index coefficient is 0.025. This finding implies that other things held constant, a unit shift in the board index is associated with a 2.5% increase in the average export percentage.

**Table 4. Main Model**

	(1)	(2)		(3)	
	Export Percentage	Export Dummy		Foreign Cooperation	
		Logit	Odds	Logit	Odds
Board Index	0.025*** (0.007)	0.294*** (0.071)	1.342*** (0.095)	0.219*** (0.078)	1.245*** (0.097)
Size	0.031*** (0.009)	0.352*** (0.077)	1.422*** (0.11)	0.284*** (0.093)	1.328*** (0.124)
Age	0.084*** (0.021)	0.912*** (0.27)	2.49*** (0.673)	0.611* (0.314)	1.842* (0.579)
Constant	-0.593*** -0.138	-8.967*** -1.495	0.000*** 0.000	-8.355*** -1.679	0.000*** 0.000
Industry Fixed Effect	Yes	Yes		Yes	
Legal Fixed Effect	Yes	Yes		Yes	
Observations	331	330		330	
(Pseudo) R square	0.249	0.246		0.244	

**Note:** This table contains the regression results of models expressed in Equation 1. The independent variable is the board index. The dependent variables are export percentage, export dummy, and foreign cooperation in Columns 1-3, respectively. Firm size and age are the control variables in all estimations. Industry and legal status dummies are included. Robust standard errors are displayed in parentheses. \*\*\*, \*\*, and \* denote 1%, 5%, and 10% significance levels, respectively. R square reported for OLS (Column 1), Pseudo R square reported for logistic regression (Column 2 and Column 3). Odds are exponentiated coefficients,  $e^{\text{Logit}}$

The second and third models are logistics regressions, with binary dependent variables. Logit coefficients facilitate the interpretation of the direction of the relationship, and odds ease the interpretation of magnitudes. The board index has a positive and significant logit coefficient in the second and third models. This finding implies that the board index is positively related to both the export and foreign cooperation dummy. One unit change in the board index increases the odds of being an exporter over being a non-exporter by  $(1.342 - 1) * 100 = 34.2\%$ . Similarly, one unit change in the board index increases the odds of engaging in foreign cooperation over not engaging by  $(1.245 - 1) * 100 = 24.5\%$ . Our findings indicate that SMEs that show a more attentive attitude towards the board of directors are more advanced in internationalization, which is in line with the previous studies (Bužavaitė and Korsakienė, 2022; Calabro et al., 2009; 2013; Nisuls et al., 2010). While the presence of BOD is a vital factor in itself, a more independent (Fernandez and Nieto, 2005; Banalieva and Eddleston, 2011; Calabro and

Mussolino, 2013; Pukall and Calabro, 2014; Merino et al., 2015; Arregle et al., 2017; Bauweraerts et al., 2019; Yang et al., 2020), more representative (Arregle et al., 2012; Calabro et al., 2013; Ilhan Nas and Kalaycioglu, 2016; Aksoy et al., 2023), and more active board (Sciascia et al., 2013; Pongelli et al., 2023) is an important indicator of strong corporate governance and plays a facilitating role in operating and maintaining international markets.

Within the control variables, size is positively related to SME internationalization, which is consistent with the previous literature showing that larger firms have enhanced internationalization performance (Bloodgood et al., 1996; Verwaal and Donkers, 2002; Dhanaraj and Beamish, 2003; Manolova et al., 2010; D'Angelo and Buck, 2013; Ruzzier and Ruzzier, 2015). Age also has positive coefficients on internationalization, supporting the previous observation that older companies are more likely to have higher internationalization levels (Brouthers and Nakos, 2005; Majocchi et al., 2005).

In addition to providing evidence of a positive and significant relationship between the board index and internationalization, we also aim to examine the association between the individual board elements and internationalization. Tables 5-7 display the findings for the three different proxies of internationalization: i.e., export percentage, export dummy, and foreign cooperations. When the internationalization proxy is the export percentage (Table 5), all board elements, except for Non-Family Board Chairman, have significant and positive coefficients, indicating that the board elements individually have positive relevance with the export percentage of SMEs. BOD, BOD size, and CEO & chairman non-duality have comparably larger effect sizes, implying a higher association with export percentage.

**Table 5. Board Elements – Export Percentage**

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Export	Export	Export	Export	Export	Export	Export
	%	%	%	%	%	%	%
BOD	0.11*** (0.031)						
BOD Size		0.166*** (0.039)					
Annual Board Meeting			0.072** (0.033)				
CEO & BC non-Duality				0.102** (0.046)			
Independent BM					0.079** (0.038)		
Non-family BC						0.046 (0.033)	
Non-family BM							0.064** (0.031)
Constant	-0.581*** (0.138)	-0.64*** (0.135)	-0.616*** (0.143)	-0.622*** (0.142)	-0.608*** (0.138)	-0.639*** (0.139)	-0.665*** (0.137)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	331	330	329	331	326	315	323
R-squared	0.251	0.279	0.224	0.225	0.219	0.243	0.247

**Note:** This table contains the regression results of the models expressed in Equation 2. Seven different board elements are the independent variables, inserted into the equation one by one. The dependent variable is the export percentage, and the control variables are firm size and age in all estimations. Industry and legal status dummies are included. Robust standard errors are displayed in parentheses. \*\*\*, \*\*, and \* denote 1%, 5%, and 10% significance levels, respectively. R-square reported for the OLS estimations. BM stands for board member, and BC stands for board chairman.

On the other hand, Table 6 shows the case when an export dummy is employed for the internationalization proxy. Turkish SMEs, which have BOD, larger BOD size, independent board members, non-family chairman, and non-family board members, are likely to export, as evidenced by these board elements’ significant and positive logit coefficients. BOD, BOD size, and independent board members have notably higher relevance to whether SMEs export or not, given that they have greater odds.

Finally, Table 7 shows the results when we employ a foreign cooperation proxy for internationalization. Logit coefficients for all board elements, except annual board meetings and non-family board chairman, are positive and significant. Moreover, independent board members and CEO & chairman non-duality have a comparably higher association with whether SMEs engage in foreign cooperation or not.

**Table 6. Board Elements – Export Dummy**

	(1)		(2)		(3)		(4)		(5)		(6)		(7)	
	Logit	Odds	Logit	Odds	Logit	Odds	Logit	Odds	Logit	Odds	Logit	Odds	Logit	Odds
BOD	1.32*** (0.29)	3.76*** (1.10)												
BOD Size			1.31*** (0.38)	3.69*** (1.41)										
Annual Board Meeting					0.49 (.33)	1.63 (0.54)								
CEO & BC non-Duality							0.60 (0.48)	1.83 (0.88)						
Independent BM									1.66*** (0.46)	5.27*** (2.43)				
Non-family BC											0.81*** (0.31)	2.26*** (0.71)		
Non-family BM													0.92*** (0.29)	2.51*** (0.74)
Constant	-9.0*** (1.51)	0.00*** (0.00)	-9.3*** (1.50)	0.00*** (0.00)	-9.0*** (1.48)	0.00*** (0.00)	-9.0*** (1.48)	0.00*** (0.00)	-9.4*** (1.49)	0.00*** (0.00)	-9.3*** (1.56)	0.00*** (0.00)	-9.4*** (1.54)	0.00*** (0.00)
Control Variables	Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Obs.	331		330		329		331		326		315		323	
Pseudo R <sup>2</sup>	0.25		0.28		0.22		0.23		0.22		0.24		0.25	

**Note:** This table contains the regression results of the models expressed in Equation 2. Seven different board elements are the independent variables, inserted into the equation one by one. The dependent variable is the export dummy, and the control variables are firm size and age in all estimations. Industry and legal status dummies are included. Robust standard errors are displayed in parentheses. Robust standard errors are displayed in parentheses. \*\*\*, \*\*, and \* denote 1%, 5%, and 10% significance levels, respectively. Pseudo R square reported for the logistic regressions. Odds are exponentiated coefficients,  $e^{\text{Logit}}$ . BM stands for board member and BC stands for board chairman.

**Table 7. Board Elements – Foreign Cooperation**

	(1)		(2)		(3)		(4)		(5)		(6)		(7)	
	Logit	Odds	Logit	Odds	Logit	Odds	Logit	Odds	Logit	Odds	Logit	Odds	Logit	Odds
BOD	0.78**	2.18**												
	(0.33)	(0.73)												
BOD Size			0.65*	1.91*										
			(0.38)	(0.72)										
Annual Board Meeting					0.43	1.54								
					(0.35)	(0.54)								
CEO & BC non-Duality							1.22**	3.37**						
							(0.50)	(1.69)						
Independent BM									1.38***	3.96***				
									(0.39)	(1.53)				
Non-family BC											0.39	1.47		
											(0.35)	(0.51)		
Non-family BM													0.61*	1.83*
													(0.33)	(0.61)
Constant	-8.4***	0.00***	-8.8***	0.00***	-8.3***	0.00***	-8.3***	0.00***	-9.0***	0.00***	-9.7***	0.00***	-9.1***	0.00***
	(1.68)	(0.00)	(1.68)	(0.00)	(1.66)	(0.00)	(1.66)	(0.00)	(1.66)	(0.00)	(1.79)	(0.00)	(1.74)	(0.00)
Control Variables	Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Obs.	330		329		328		330		325		314		322	
Pseudo R <sup>2</sup>	0.24		0.23		0.22		0.24		0.26		0.24		0.25	

**Note:** This table contains the regression results of the models expressed in Equation 2. Seven different board elements are the independent variables, inserted into the equation one by one. The dependent variable is foreign cooperation, and the control variables are firm size and age in all estimations. Industry and legal status dummies are included. Robust standard errors are displayed in parentheses. Robust standard errors are displayed in parentheses. \*\*\*, \*\*, and \* denote 1%, 5%, and 10% significance levels, respectively. Pseudo R square reported for the logistic regressions. Odds are exponentiated coefficients,  $e^{\text{Logit}}$ . BM stands for board member and BC stands for board chairman.



## 6. Conclusion

SMEs play a crucial role in the economy, contributing significantly to production, employment, and added value (Ayyagari et al., 2011). Despite SMEs' significance in the economy and the necessity of internationalization opportunities for SMEs to maintain firm growth and competitive advantage (Aksoy et al., 2023; Anderson et al., 2004), the internationalization of SMEs is low relative to larger companies. Moreover, a prevalent constituent of corporate governance, i.e., the board of directors, has many roles in a firm, including monitoring and controlling functions as well as securing resources for firms' survival and success and integrating its unique resources that would create competitive advantage. With these prominent functions, the board of directors is likely to have a positive association with internationalization.

The main purpose of this paper is to examine the relationship between SMEs' board characteristics and their internationalization, filling an important gap in the literature. First, we construct a board index to quantify SMEs' board characteristics. We propose a board index composed of seven board characteristics: Board of Directors Presence (BOD), Board of Directors Size, Annual Board Meeting, CEO & Chairman Non-Duality, Independent Board Member, Non-Family Board Chairman, and Non-Family Board Members. Second, we explore the association between the board index and internationalization. Moreover, we examine the relationship between the individual components of the board index and internationalization to comprehend which exact board characteristic is associated with SMEs' internationalization.

In our paper, we present novel evidence of a significantly positive association between the board index and SME internationalization. Moreover, four elements of the board index, i.e., the existence of a BOD in an SME, board size, and the existence of board members who are independent and who are not from the owner-family, are positively associated with SME internationalization in a stronger and more robust manner. Our findings have significant implications. Primarily, none of the board elements are negatively related to SME internationalization; they either have a positive association or, in rare cases, no association depending on the internationalization proxy employed. This finding indicates that the elements of the board index are defined properly. Secondly, BOD, BOD size, Independent Board Members, and Non-Family Board Members are positive and significant for all three internationalization proxies, highlighting their robust association with the different definitions of internationalization. These findings imply that BOD is vital for the internationalization of SMEs, and a larger BOD with independent and non-family members is likely to act as a facilitator for further export activity and foreign cooperation. This finding is in line with previous studies that underscore BOD's role in internationalization process (Calabro et al., 2009, 2013; Buřavaitė and Korsakienė, 2022; Aksoy et al., 2023), studies reporting that export performance increases with BOD size (Calabro et al., 2013; Ilhan Nas and Kalaycioglu, 2016; Lukason and Vissak, 2020), and studies stating that the presence of independent (Nisuls et al., 2010; Calabro and Mussolino, 2013; Aksoy et al., 2023) or at least non-family (Calabro et al., 2009; Calabro et al., 2013; Nas and Kalaycioglu, 2016; Arregle et al., 2017) board members increase the tendency to internationalize.

On the other hand, the significance of the rest of the board elements -annual board meetings, CEO & chairman non-duality, and non-family chairman- depends on the internationalization proxy used. For example, regular annual board meetings are associated only

with higher export rates, but not with SMEs exporting or cooperating with foreign firms. CEO & chairman non-duality is significantly related to export percentage and foreign cooperation, supporting studies that find that SMEs have higher internationalization performance when the CEO and chairman are different persons (Hsu et al., 2013; Bauweraerts et al., 2019). Finally, the non-family board chairman is significantly linked with only the export dummy. These findings imply that while the relationship between BOD size, independent board members, non-family board members, and internationalization is very strong and robust, we cannot derive the same conclusion for the other elements of the board index, i.e., annual board meetings, CEO & Chairman non-duality, and non-family chairman.

Our study makes several contributions to the literature. First, we explore the relationship between a predominant component of corporate governance, i.e., the board of directors, a fundamental entity in SMEs' operations, and the internationalization of Turkish SMEs. To the best of our knowledge, this is the first study to investigate this association for Turkish SMEs. Second, in recognition of the individual attributes of SMEs, we attempt to construct an SME-focused board index, which measures diverse components of the board's composition. To this end, we employ primary data from Turkish SMEs, hand-collected with a survey. This board index is comprised of seven different board features. The construction of the board index constitutes another very significant contribution of our study. Furthermore, our study also has theoretical contributions. Since we introduce a BOD index, composed of a diverse set of BOD features, the theoretical contribution of our study is also multi-faceted. Our findings demonstrate that the association between BOD size and internationalization is positive, and this finding is robust for all three proxies, suggesting that a well-constructed BOD is likely to provide a competitive advantage for firms in their internationalization processes, in line with the resource-based theory. Moreover, BODs are also likely to play a critical role in managing firms' external dependencies, improving firms with their internationalization processes, and underlining the significance of the resource-dependency theory. Finally, the existence of both independent members and non-family members on the boards is expected to enhance boards' monitoring and controlling functions, ultimately resulting in improvements in international operations, consistent with the agency theory. Our study presents empirical evidence on how several theories, including resource-based, resource-dependency, and agency theories, conceptualize the linkage between the board of directors and SME internationalization.

Our paper also has some managerial implications. SMEs who target to increase their export and, accordingly, their internationalization levels can prioritize their BODs and improve their board characteristics by incorporating a board of directors if they already do not have one, increasing their board size, and including board members who are independent or who are not from the owner-family. Hence, our study suggests specific ways to guide SME owners in formulating a comprehensive and effective strategy, which ultimately enhances the performance of their companies in the international arena. By fostering a more attentive approach toward the composition and functioning of the board, SMEs can effectively deal with the unique challenges accompanying their internationalization processes. Furthermore, policymakers may offer incentives and formulate strategies that encourage SMEs to strengthen their corporate governance practices, particularly those related to the BOD, which facilitates smoother entry into international markets and ensures the sustainability of their market positions.

**Declaration of Research and Publication Ethics**

The ethics approval for conducting this survey is obtained on June 6, 2021 from the Kadir Has University Ethics Committee (No: E-17446481-050.06.04-7652). This study complies with the research and publication ethics.

**Researcher's Contribution Rate Statement**

The authors declare that they have contributed equally to the article.

**Declaration of Researcher's Conflict of Interest**

There is no potential conflicts of interest in this study.

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**APPENDIX**

**Table A1. Sample Distribution by Size and Industry Type**

Size	Industry Type					Total
	Manufacturing	Wholesale and Retail Trade	Construction	Transportation and Storage	Tourism - Accommodation and Food Service Operations	
Micro	6	65	4	12	4	<b>91</b>
<i>(percentage)</i>	<i>(1.28%)</i>	<i>(13.86%)</i>	<i>(0.85%)</i>	<i>(2.56%)</i>	<i>(0.85%)</i>	<i>(19.40%)</i>
Small	22	88	11	20	20	<b>161</b>
<i>(percentage)</i>	<i>(4.69%)</i>	<i>(18.76%)</i>	<i>(2.35%)</i>	<i>(4.26%)</i>	<i>(4.26%)</i>	<i>(34.33%)</i>
Medium-sized	50	55	32	56	24	<b>217</b>
<i>(percentage)</i>	<i>(10.66%)</i>	<i>(11.73%)</i>	<i>(6.82%)</i>	<i>(11.94%)</i>	<i>(5.12%)</i>	<i>(46.27%)</i>
<b>Total</b>	<b>78</b>	<b>208</b>	<b>47</b>	<b>88</b>	<b>48</b>	<b>469</b>
<i>(percentage)</i>	<i>(16.63%)</i>	<i>(44.35%)</i>	<i>(10.02%)</i>	<i>(18.76%)</i>	<i>(10.23%)</i>	<i>(100.00%)</i>

**Note:** \* This table shows the distribution of SMEs in the sample by size and industry type. Five main industries in which SMEs operate intensively are included.

**Table A2. Sample Distribution across cities**

City	Panel A		Panel B	
	Total Number of SMEs in Turkey	Percentage	Number of SMEs in the Sample	Percentage
Istanbul	242,336	21%	171	36,4%
Ankara	92,676	8%	75	16%
Izmir	74,360	6%	47	10%
Bursa	49,960	4%	46	9,8%
Antalya	47,634	4%	36	7,6%
Konya	32,074	3%	24	5,1%
Adana	27,702	2%	21	4,7%
Mersin	25,314	2%	16	3,4%
Kocaeli	24,875	2%	17	3,6%
Mugla	21,196	2%	16	3,4%
<b>Turkey</b>	<b>1,170,623</b>	<b>100%</b>	<b>469</b>	<b>100%</b>

**Note:** \*The table shows the distribution of our sample of SMEs across cities.

\*\*The information on the number of SMEs in Turkey is obtained from KOSGEB.

**Table A3. SMEs' Distribution by Legal Status**

Legal Status	Number of SMEs in the Sample	Percentage
Limited Company	270	57,5%
Corporation	74	16%
Single Proprietorship	106	22,6%
Other	19	4%
<b>Total</b>	<b>469</b>	<b>100%</b>