

AN OVERVIEW OF INSIDER TRADING IN BORSA İSTANBUL*

BORSA İSTANBUL'DA İÇERİDEN ÖĞRENENLERİN TİCARETİNE GENEL BİR BAKIŞ

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Abstract

We analyze insider trading patterns in firms listed in Borsa İstanbul using a unique and most comprehensive regulatory dataset for the first time. The dataset provided by Turkey's Central Securities Depository contains the number and volume of insiders' buy and sell transactions during the period 2009 – 2015. We observe that (i) corporate insiders are active traders in Turkish stock market, (ii) the trading patterns vary across different sized firms, and finally (iii) insiders at different positions trade differently. This study enhances understanding of insider trading behavior in an emerging market. Furthermore, our results have important implications for regulatory authorities who are responsible to maintain well-functioning financial markets which will facilitate increased prosperity and economic growth.

Keywords: Insider trading, efficient markets, emerging countries, Borsa İstanbul

JEL Classification: G10, G11, G12, G14

Öz

Bu çalışma, ilk defa özgün ve kapsamlı bir veri seti kullanarak Borsa İstanbul'da işlem gören firmalarındaki içeriden öğrenenlerin ticaretini analiz etmektedir. Veri seti, Türkiye Merkez Kayıt Kuruluşu'ndan temin edilmiştir ve 2009-2015 örneklem süresince içeriden öğrenenlerin yapmış olduđu alım ve satım işlemlerinin hem sayısını hem de hacmini gösterir bilgileri içermektedir. Sonuçlar göstermiştir ki; (i) içeriden öğrenenler Türkiye borsasında aktif bir şekilde işlem yapmaktadırlar, (ii) içeriden öğrenenlerin ticareti farklı firma büyüklüklerine göre deęişkenlik göstermektedir ve (iii) farklı pozisyonlardaki içeriden öğrenenlerin yaptıđı işlemler birbirinden farklılık göstermektedir. Bu

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çalışma, gelişmekte olan bir ülke olan Türkiye'deki içeriden öğrenenlerin ticaretini daha iyi anlamamızı sağlamaktadır. Ayrıca sonuçlar refah ve ekonomik büyümenin artmasını kolaylaştıracak olan iyi işleyen finansal piyasaların sağlanmasından sorumlu kanun yapıcı otoriteler için önemli çıkarımlar sunmaktadır.

Anahtar Kelimeler: İçeriden öğrenenlerin ticareti, etkin piyasalar, gelişmekte olan ülkeler, Borsa İstanbul

JEL Sınıflandırması: G10, G11, G12, G14

I. Introduction

Maintaining well-functioning financial markets is on the top of the agenda for policymakers in developed and developing countries alike. The core function of financial markets is to transfer resources, namely savings, from investors to firms that need funds to make investments. Well-functioning financial markets facilitate increased prosperity and economic growth. Over the past years, the growth of investments in stock markets has been linked to the efficiency of the market. Efficient stock markets will attract more investors and firms will find it easier to obtain the necessary funds to make investments. Therefore, for regulators it is crucial to maintain efficient stock markets in the sense that all traders in the market have access to the same information at the same time and trade in fair conditions. In efficient markets, no one is able to out-profit any other market participant. Failing to maintain efficient stock markets will result in informed investors who can make abnormal returns and will lead uninformed investors not to trade. In inefficient markets, firms will struggle to raise money for their investments, which in turn will lead to lower investments overall in the economy and reduction in economic development and welfare.

Insider trading has gained considerable attention as a potential violation of stock market efficiency. Basically, a CEO or a member of the board of directors may have privileged information about his company and he is not supposed to trade based on this privileged information to earn abnormal return. Regulators who are responsible to maintain fair and efficient markets pay special attention to “insider trading” as the presence of insiders’ trading based on private information will lead to non-fair stock markets.

This paper provides an overview of insiders trading in Turkish capital markets, namely Borsa İstanbul.¹ Insider trading is defined as buy and sell transactions by officers, directors and large shareholders who own more than 5% of company’s shares. We obtain the insider trading data from Turkey’s Central Securities Depository (CSD of Turkey) which provides a unique and comprehensive regulatory data set on insider trading.² The detailed regulatory dataset provides monthly insider trading measures (number of transactions and trading volume) at firm level. Our sample includes 171 companies that are listed on Borsa İstanbul 100 index (BIST 100) during the period 2009-2015.³

1 The Borsa İstanbul, formerly named as İstanbul Stock Exchange, is the Turkey’s main stock exchange.

2 See Data section for definition of insider trading and details on the regulatory data set.

3 The Borsa İstanbul 100 Index (BIST 100) is a capitalization-weighted index composed of National Market companies except investment trusts.

We first explore the frequency of insider trading to understand whether insiders are active traders or not. Next, we aim to uncover the usual patterns in their trading. However, it is natural to expect different trading patterns in different type of firms and group of insiders. For this reason, we analyze the patterns in different subgroups. First, we group firms based on their size measured as value of total assets. And secondly, we analyze trading behavior of executives and non-executives separately across different firm size classes. Depending on their positions in the firm, insiders may have different access to firm-specific information (Lin & Howe, 1990; Piotroski & Roulstone, 2005; Ravina & Sapienza, 2010; Seyhun, 1986). Therefore, it is also important to analyze the trading activity of insiders at different positions in the same firm separately. Our detailed dataset allows us to disentangle the insiders by their positions in the firm. Based on their differential access to private information about firm operations insiders are classified into two categories: executives and non-executive directors. The first group includes insiders who have administrative duties (e.g. Chairman of the board, CEO, CFO...etc.). This group of insiders has access to better information than other insiders in the firm (Beneish & Vargus, 2002; Core, Guay, & Rusticus, 2006). The second group is a group of insiders who does not have any administrative duties (e.g. independent directors and large shareholders).

Several interesting results emerge from our analysis. First, we observe that insiders are active traders in Borsa Istanbul. Second, our findings suggest that the insider trading patterns in different-sized firms are not the same. More specifically, we document that corporate insiders in large firms' trade in higher volumes. This result also indicates that the insider trading activity we documented at first place is largely driven by large companies. Moreover, not only the volume but the direction of the trades varies across different firm size classes. Finally, we observe that insiders at different positions in the same firm do not trade in similar direction all the time. For instance, while executives in large firms mostly increasing their buy transaction volume over years, non-executives' transactions fluctuate. This result suggests that executives might be buying their firm shares to send positive signals to the outside investors. But non-executives could be buying solely for-profit purposes. Our analysis on sell transactions shows that overall both group of insiders are reluctant to sell their firm shares. Although we observe some upward trends in some years, mostly both group of insiders tend to decrease their sell transactions volume. Insiders might be reluctant to increase their sells as they do not want to send negative signals to the outside investors or to avoid prosecution.

Our findings are important for investors as we show that there may be some hidden information in insiders' trading. And the information content of insider trading may change depending on the size of the firm and/or position of the insider. This is also important for regulatory authorities as they work continuously on the improvements of efficiency in financial markets.

Our contribution to the literature is twofold. First, we extend the limited literature on insider trading in emerging markets. The extensive literature on insider trading focuses on mostly developed countries. The extensive literature provides evidence mostly from US (Finnerty, 1976; Jaffe, 1974; Lorie & Niederhoffer, 1968; Pratt & DeVere, 1970) and other developed countries such as Canada,

(Baesel & Stein, 1979; Fowler & Rorke, 1984); the UK (Fidrmuc, Goergen, & Renneboog, 2006; Friederich, Gregory, Matatko, & Tonks, 2002; King & Roell, 1988; Pope, Morris, & Peel, 1990), Spain (Del Brio, Miguel, & Perote, 2002), Italy (Bajo & Petracci, 2006), and Germany (Betzer & Theissen, 2009). The evidence from emerging markets is limited due to the lack of regulations or scarcity of data. The literature provides evidence from Taiwan (Chiang, Hwang, and Wu (2004) and Tang, Chen, and Chang (2013)), Poland (Wisniewski and Bohl (2005)), China (He and Rui (2016) and Howson (2012)), India (Berger (2013) and Bhattacharya, Daouk, Jorgenson, and Kehr (2000), Chauhan, Kumar, and Chaturvedula (2016) and Jain and A. Sunderman (2014)), Thailand (Lhaopadchan, Budsaratragoon, and Hillier (2016) and Budsaratragoon, Hillier, and Lhaopadchan (2012)) and New Zealand (Gilbert and Tourani-Rad (2008)). Secondly, we extend prior literature on insider trading in Turkish stock market. This paper will be the first study which analyzes the dynamics of insider trading in the Turkish stock market using a unique and most comprehensive regulatory database. Due to the data scarcity, there are few early period studies (prior to 2009) exploring insider trading in Turkey. To the best of our knowledge, studies done by Kurtay (2009), Dogu, Karacaer, and Karan (2010), and Tahaoglu and Guner (2010) are the only studies that provide evidence for the existence and profitability of insider trading activities in Turkey. All these studies are exploring insider trading prior to 2009. In line with Turkish government's economic target of transforming Istanbul into a prominent financial center, Capital Markets Board of Turkey that is the financial regulatory and supervisory agency of Turkey take actions on several areas to support stock market development specifically and financial market development in general. They established CSD of Turkey in 2001 and one of its main duties is to record insiders' trading.⁴ Currently, the researchers have access to this complete data set of insider trading in Borsa Istanbul from CSD of Turkey. This paper will extend the prior limited research by using this recent and most comprehensive data of insider trading for Turkish stock market.

The paper continues as follows. The second section explains the legal framework on insider trading in Turkey and the regulatory dataset prepared by CSD of Turkey. The third section provides an overview of insiders' trading in Turkish stock market, Borsa Istanbul. Finally, section four discusses the policy implication of the results and concludes the paper.

2. Data

Insider trading is regulated by Capital Market Board (CMB) of Turkey and the punitive sanctions or punishments related to insider trading activity are defined by the Capital Market Law since 1992. By law, insiders are allowed to trade with their own firm shares in Borsa Istanbul but it is forbidden to use any non-public material information in their trades. To prevent illegal insider trading activity, insiders are obligated to announce their transactions publicly immediately after their trades. The legal framework to identify insiders and the requirements on the public disclosure of their trades are defined by the decrees of the CMB, namely "Special Circumstances Disclosure Decree" (the decree). According to the decree, insiders are defined as "*board chairman*

⁴ For further information and details see <https://mkk.com.tr/en>.

*and board of the directors, CEO, other executive managers, other managers who have significant decision and administrative responsibilities in the partnership, and shareholders who own more than 5% of company shares or the ones who act together with these shareholders”.*⁵

As mentioned before there are few early period (prior to 2009) studies analyzing insider trading activity in Turkish stock market mainly due to scarcity of data. Until 2005 insiders were using several different ways including fax to inform the regulatory authorities whenever they do a transaction. Hence it is not possible to have the complete dataset of insider trading before this date. After 2005, they are forced to use electronic forms to declare their transactions. But, the only source for researchers is the public disclosure announcements. In other words, it requires going through all the announcement files and collecting the data.⁶ Moreover, CMB of Turkey introduced a change regarding the insiders’ obligation to announce their transactions in 2009. According to this new rule, executives who have administrative responsibilities and people who are close to these managers are not required to publicly announce their trades, if the total value of their transactions (direct or indirect) do not exceed 10.000 TL within a 12-month time period.⁷ In 2014, CMB of Turkey updated the threshold of announcing the trading value as 50.000 TL.⁸ Therefore, it is impossible to reach the entire set of transactions after the year 2009 using the publicly available notifications announced on PDP. For these reasons, the existent studies cover periods of a few years prior to 2009. CRA of Turkey is responsible to register all the trading activities of insiders regardless of the value of the transaction with the authorization of BIST. This paper analyzes this recent and comprehensive data set on insider trading in Turkey for the first time.

We analyze insider trading dynamics in Turkish stock market over the period 2009 – 2015. Our sample includes 171 firms listed on the Borsa Istanbul 100 (BIST-100) index. We obtained detailed regulatory dataset on insider trading from CSD of Turkey. The insider trading records that CSD of Turkey provides are the monthly sum of the transactions of person’s subject to the disclosure requirements at firm level. The information includes firm name and monthly insider trading measures which are the total number of transactions and trading volume. These measures are provided for each type of insider transaction i.e. buy and sell separately. Furthermore, CSD of Turkey categorizes insiders as “executives”, who have administrative duties such as Chief Executive Officer (CEO), Chief Financial Officer (CFO), Chief Operating Officer (COO)...etc, and as “non-executives”, who do not have any administrative duties such as independent board members or large shareholders. So the detailed dataset provides the insider trading measures for each subgroup of insiders as well.

5 CMB defines insiders in the sub-paragraph (1) of paragraph (h) in article 5 of the decree in Serial: VIII, No: 39, dated July 20, 2003.

6 Until the establishment of Public Disclosure Platform (PDP) in 2009, all the reported notifications were publicly available on the official web page of Borsa Istanbul. Since the year 2009, all insider trading activities have been notified to PDP and publicly announced on its official web page.

7 Please see paragraph (2) in article 19 of the decree in Serial: VIII, No: 54, February 6, 2009.

8 Please see paragraph (2) in article 11 of the decree in Serial: II, No: 15.1, dated January 23, 2014.

Finally, as we would like to explore the trading dynamics in different-sized firms, we obtain total assets value from Bloomberg. Firms are divided into three groups each year based on their size measured as year-end total asset values. “Small”, “Medium” and “Large” size groups are the lowest, medium and largest quartiles, respectively.

3. Results

This section presents an overview of insiders’ trading in Turkish stock market, Borsa Istanbul. We first show that insiders are active traders. Table 1 provides the number of firms that have an insider trading activity (purchase or sale) across different firm size groups. In the first column of each panel, we provide how many firms there are in each size category.⁹ Panel A presents the number of firms in which we observe at least one transaction by all insiders, including both executive and non-executive ones. We observe that in each size groups, in more than half of the firms there is an insider transaction, i.e. purchase or sales. This indicates that in more than half of the firms in BIST 100 index, insiders are active traders. Besides, the number of firms in which we observe transactions increases with size. Specifically, in more than 85% of large firms we observe insider trading activity. In small firms we observe trading activity in half of the firms.

Table 1: Descriptive statistics for firm size groups

Panel A: All insiders	# of Firms	Purchase or Sales # of Firms	Purchase # of Firms	Sales # of Firms
Small	70	35	34	34
Medium	78	52	49	47
Large	80	68	65	68
Panel B: Executives				
Small	70	16	14	13
Medium	78	38	31	28
Large	80	52	45	49
Panel C: Non-executives				
Small	70	32	30	32
Medium	78	44	40	43
Large	80	64	60	62

Note: This table reports summary statistics for different firm size groups traded in BIST 100 index during 2009-2015 sample period. “Purchase” refers shares bought by insiders and “Sales” refers shares sold by insiders. “# of Firms” indicate total number of firms that have active insider transaction in each firm size groups. We report descriptive statistics based on three firm size; small, medium and large companies. We form these size groups each year based on the year-end Total Asset value. “Small”, “Medium”, and “Large” size groups are the lowest, medium and largest quartiles, respectively. Panel A presents statistics considering all insiders’ transactions. Panel B presents results by taking into account only “Executives” and Panel C presents results by taking into account only “Non-executives”. “Executives” are defined as insiders who have any administrative responsibilities in firm management, like CEOs, CFOs, directors, officers etc., following the formal definition of Turkey’s Central Securities Depository (CSD of Turkey). “Non-Executives” are defined as insiders who do not have any administrative responsibilities in firm management, like independent board members and shareholders who own more than 5% of shares, following the formal definition of Turkey’s Central Securities Depository (CSD of

9 Since we form size groups each year, the number of firms in size categories is not equal.

Turkey). In the first column, we provide how many firms there are in each firm size group. Second column shows the number of firms where we observe at least one transaction, buy or sell. Third column presents the number of firms where we observe at least one buy transaction and last column present the number of firms where we observe at least one sell transaction.

In Table 1, Panel B and C provide the number of firms where we observe transactions done by insiders at different positions; executives and non-executives, respectively. Results show that non-executives are more active than executives. We observe more firms with non-executive trading. This result holds for both sales and purchases, and for all size groups. And also, within each group of insiders the number of firms where we observe insider trading increases with firm size. Finally, if we look at the different type of transactions, we see that insiders are active both on purchase and sell side regardless of firm size groups and insiders' positions.

Table 2: Descriptive statistics for insider trading measures

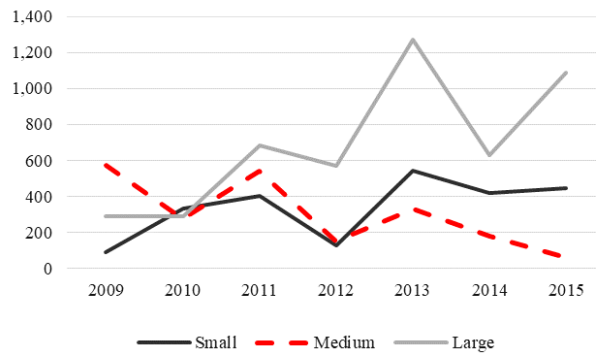
	Purchase # of insider trades	Sales # of insider trades	Purchase TL of trades (in th)	Sales TL of trades (in th)
Panel A: All insiders				
Small	27	37	157.15	193.43
Medium	55	34	537.28	300.86
Large	51	49	692.20	1,270.00
Panel B: Executives				
Small	25	34	231.94	96.12
Medium	39	17	644.10	445.51
Large	28	22	1,110.00	452.64
Panel C: Non-Executives				
Small	3	3	61.03	57.60
Medium	16	17	91.77	102.26
Large	23	26	239.56	611.41

Note: This table reports descriptive statistics of insider trading measures for different size groups of companies traded in BIST 100 index during 2009-2015 sample period. "Purchase" refers shares bought by insiders and "Sales" refers shares sold by insiders. "# of trades" means the average annual number of insider trades per company in each size groups. "TL of trades" is the average annual total insider transaction volume (in thousand) per company in each size groups. We report descriptive statistics based on 3 firm-size group; small, medium and large companies. We form these size groups each year based on year-end Total Asset value. "Small", "Medium", and "Large" size groups are the lowest, medium and largest quartiles, respectively. Panel A presents statistics considering all insiders' transactions. Panel B presents results by taking into account only "Executives" and Panel C presents results by taking into account only "Non-executives". "Executives" are defined as insiders who have any administrative responsibilities in firm management, like CEOs, CFOs, directors, officers etc., following the formal definition of Turkey's Central Securities Depository (CSD of Turkey). "Non-Executives" are defined as insiders who do not have any administrative responsibilities in firm management, like independent board members and shareholders who own more than 5% of shares, following the formal definition of Turkey's Central Securities Depository (CSD of Turkey).

Table 2 provides descriptive statistics of our insider trading measures. Panel A presents firm-year averages of each measure using all insiders' transactions. We observe that insiders are active traders in the market. In terms of the number of transactions we see that insiders are trading in each firm size class. But if we look at the volume of trades, it is seen that insiders in large firms'

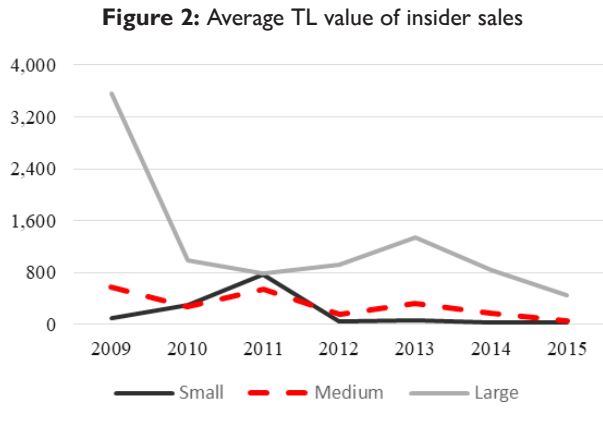
trade in higher amounts. The volume of trades increases with the size of the firm in both sell and buy transactions. Panel B presents the same statistics using only Executives' transactions and Panel C presents the results using only Non-Executives' transactions. Even if Table 1 shows that the number of firms where we observe trading by non-executives are more than the ones that we observe trading by executives, the volume of buy transactions is much higher in executive group than that of non-executive group. This result is valid in all size groups. On the sell side we observe the highest mean in large firms' non-executive group. Within non-executive insiders we see that sell transactions in large firms is higher compared to buy transactions. So, it is clear that non-executives in large firms are net sellers. On the other hand, within executive group we see that the volume of buy transactions is higher than their sell transactions across all size groups. This result indicates that executives are net buyers. Next, we will elaborate these numbers more by looking at the trends over time.

Figure 1: Average TL value of insider purchases



Note: Figure 1 presents average trading volume (in thousands) of shares bought by all insiders of a firm in each size groups. We form three size groups each year based on the year-end Total Asset value. “Small”, “Medium”, and “Large” groups are the lowest, medium and largest quartiles, respectively.

We next analyze the trading behavior over time across different firm size classes. Figure 1 presents average volume of insiders' buy transactions. We observe that insiders in large firms on average buy more than the insiders in other firm size groups. On the other hand, except 2009 and 2015 the overall trend in buy transactions looks similar across groups. From 2009 to 2010, while insiders in small firms increasing their buy volume, insiders in medium sized firms trade on the opposite direction. In the same period large firm insiders' buy volume remains stable. From 2014 to 2015, insiders in large size group on average increasing their buy transactions, but we see that buy amount is decreasing in small sized firms and looks stable in medium sized firms.



Note: Figure 2 presents average trading volume (in thousands) of shares sold by all insiders of a firm in each size groups. We form three size groups each year based on the year-end Total Asset value. “Small”, “Medium”, and “Large” size groups are the lowest, medium and largest quartiles, respectively.

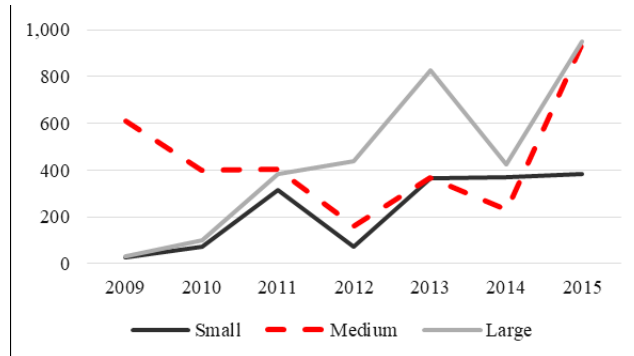
Figure 2 presents average volume of sell transactions over years for each size group. Similar to buy transactions large firm insiders trade mostly in higher volume than others on the sell side as well. From 2009 to 2010 we observe a sharp drop in sell transactions of large firms’ insiders. Interestingly, between 2010 and 2012 while insiders in small and medium sized firms are trading in the same direction, insiders in the large firms are trading on the opposite direction. After 2012 the trend in sale transactions across groups looks similar. If we focus only on large firms we observe that in 2015 while insiders are increasing their buy (almost doubled), their sell transactions are decreasing.

Overall, the results show that insiders in large firm’s trade in larger amounts as expected. Moreover, our findings also indicate that trading patterns in different firm size groups are not the same.

Finally, we analyze the trends in the trading of executive and non-executive insider groups separately. Figure 3 and Figure 4 present buy transactions for executives and non-executives, respectively. We observe that executives and non-executive directors do not trade in a similar manner. Mostly executives’ buy transaction volume is higher than that of non-executives. In large firms buy transactions of executives has an upward trend. The only drop is observed from 2013 to 2014. On the other hand, buy transactions of non-executives fluctuates over years. The reason behind this could be related to signaling. Executives might be buying their firm shares to send positive signals to the outside investors. But non-executives could be buying solely for-profit purposes. Similarly, in both small and medium firms’ executives and non-executives do not trade always in the same direction. We observe similar fluctuations in non-executives’ trading in small and medium sized firms, but they do trade in lower amounts compared to insiders in large firms. However, the differences are minor and for the most part they behave quite the same as one other. One thing to note is that in medium size firms we observe a sharp increase in executives’ buy transactions from 2014 to 2015.

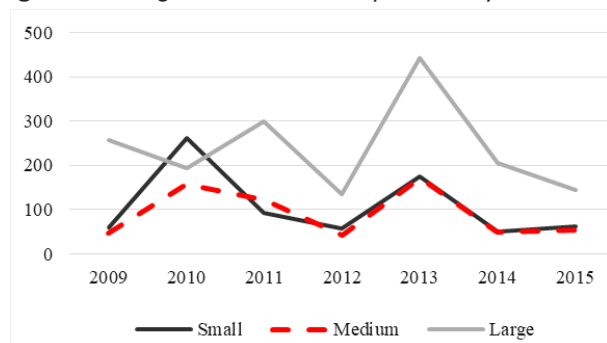
Average buy volume increases by more than 4 times reaching the same level as executives in large firms. However, in non-executive group the average volume remains stable over these two years.

Figure 3: Average TL value of insider purchases by executives



Note: Figure 3 presents average trading volume (in thousands) of shares bought only by executives of a firm in each size groups. Executives are the ones who have any administrative responsibilities in firm management, like CEOs, CFOs, directors, officers etc., following the formal definition of Turkey’s Central Securities Depository (CSD of Turkey). We form three size groups each year based on the year-end Total Asset value. “Small”, “Medium”, and “Large” size groups are the lowest, medium and largest quartiles, respectively.

Figure 4: Average TL value of insider purchases by non-executives

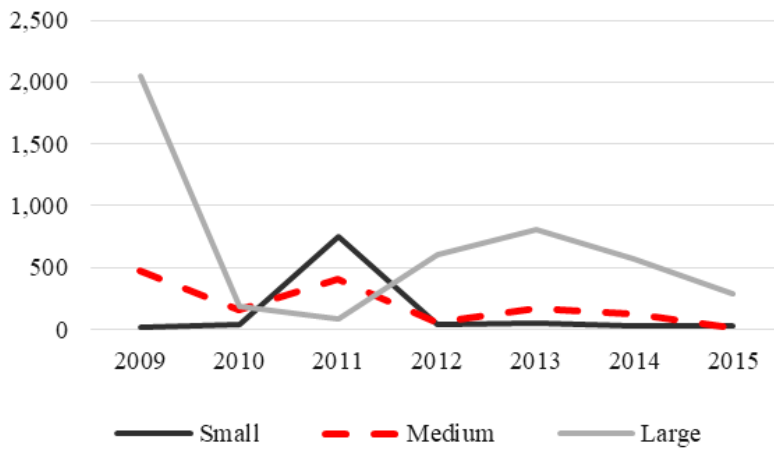


Note: This figure presents average Turkish Lira (TL) value of shares bought only by non-executives of a firm in each size groups. Non-executives are the ones who do not have any administrative responsibilities in firm management, like independent board members and shareholders who own more than 5% of shares, following the formal definition of Turkey’s Central Securities Depository (CSD of Turkey). We form three size groups each year based on the yearly Total Asset value. “Small”, “Medium”, and “Large” size groups are the lowest, medium and largest quartiles, respectively.

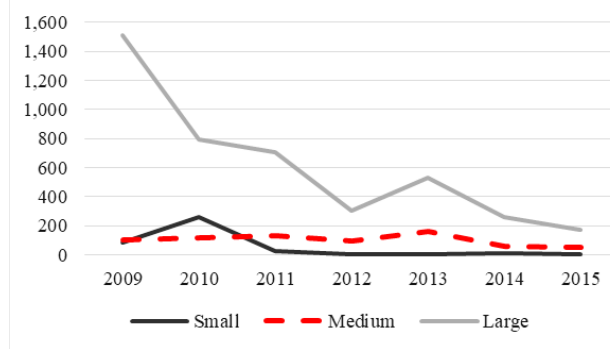
Figure 5 and Figure 6 present sell transactions for executives and non-executives, respectively. Between 2009 and 2011 a downward trend is observed in large firms. Downward trend reverses

in 2011 and during the following two years, executives in large firms keep increasing their sales. Non-executives increase their sales one year after the executives, from 2012 to 2013. But compared to executives, the increase in trading volume of non-executives is much lower. Moreover, in the flowing year they change the direction of their trades immediately. Insiders might be reluctant to increase their sells as they do not want to send negative signals to the outside investors or simply to avoid prosecution. In medium and small size firms both group of insiders sell less amounts and the volume do not fluctuate much over years. Specifically, since 2012 the volume of sell transactions remains stable, close to zero. One thing to note is that in 2011 while executives of large firms are decreasing their sales, executives of small and medium size firms was trading on the opposite direction. 2011 is the only year where the volume of executives' sell transactions in large firms is lower than that of other groups. Our results highlight that insiders at different positions do not trade in similar direction all the time. Besides, the results suggest that the motivation behind their trades might be different.

Figure 5: Average TL value of insider sales by executives



Note: Figure 5 presents trading volume (in thousands) of shares sold only by executives of a firm in each size groups. Executives are the ones who have any administrative responsibilities in firm management, like CEOs, CFOs, directors, officers etc., following the formal definition of Turkey’s Central Securities Depository (CSD of Turkey). We form three size groups each year based on the year-end Total Asset value. “Small”, “Medium”, and “Large” size groups are the lowest, medium and largest quartiles, respectively.

Figure 6: Average TL value of insider sales by non-executives

Note: Figure 6 presents average trading volume (in thousands) of shares sold only by non-executives of a firm in each size groups. Non-executives are the ones who do not have any administrative responsibilities in firm management, like independent board members and shareholders who own more than 5% of shares, following the formal definition of Turkey's Central Securities Depository (CSD of Turkey). We form three size groups each year based on the year-end Total Asset value. "Small", "Medium", and "Large" size groups are the lowest, medium and largest quartiles, respectively.

4. Conclusion

Over the past years, financial markets have seen some remarkable developments. The growth of investments in stock markets is one of the important components of these developments. However, the increase in stock market investments highly depends on the efficiency of the market. Maintaining efficient stock markets will (i) encourage national investors to invest more in stock markets, (ii) attract more foreign investors and (iii) encourage more companies to be listed in stock exchanges. In the end, all these improvements will contribute to the financial development of the country which in turn will contribute to the improvement of economic development and increase in wealth. Therefore, regulatory authorities who are responsible to maintain efficient and fair stock markets pay special attention to insider trading as the presence of insider trading will lead to inefficient stock markets.

This study provides an overview of insider trading in Turkish stock market using a unique and most comprehensive regulatory data set available covering the period from 2009 to 2015. We uncover several interesting patterns. First, our results suggest that insiders are active traders in the market, and it is valuable to investigate the information content of these trades. Second, insiders in different firm size groups trade differently. The trading volumes of corporate insiders in large firms are often higher than that of medium and small sized firms. This result also indicates that

the trading activity we present at first place is mainly driven by large firm insiders. Moreover, not only the volume but also the direction of the trades varies across size groups. Finally, we show that insiders at different positions do not trade in a similar direction all the time. We first document that on average while executives are net buyers, non-executives are net sellers. Then when we analyze the patterns over years, we observe that executives are increasing their buy transactions over years, but non-executives' buy transactions fluctuate. Executives might be buying their firm shares to send positive signals to the outside investors. But non-executives could be buying solely for-profit purposes. On the sell side we see that insiders tend to decrease their sales over years. Insiders might be reluctant to sell as they do not want to send negative signals to the outside investors or to avoid prosecution. Overall our analysis suggests that the motivation behind the trading behavior of insiders at different positions could be different.

This study increases our knowledge in trading behavior of insiders in Turkish stock market and contributes to the limited literature on insider trading in emerging markets. Our findings are important for investors as we show that in Borsa Istanbul insiders are active traders and there may be some hidden information in their trading. Moreover, the information content of insiders' trading may change depending on the size of the firm and/or position of the insider. These results have important implications for regulatory authorities who are responsible to maintain fair and efficient stock markets. Further studies should investigate the information content of these trades for different firm size groups and for insiders at different positions in the same firm.

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