

POLITECNICO DI MILANO

School of Industrial and Information Engineering



**IPO MARKET AND UNDERPRICING IN TURKEY**

Supervisor: Prof. Giancarlo Giudici

Master of Science Thesis of:

**Tayfun Selamoglu**  
Matr. 875498

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## **ABSTRACT**

Ever since the foundation of Borsa Istanbul in 1985, the academic studies about IPO market in Turkey have been growing. Increasing number of companies have chosen the IPO option for additional financial resources. The first chapter of this study investigates the IPO Process in Turkey, considering IPO sales methods, underwriter types and IPO methods in Borsa Istanbul. The second chapter offers the reader an overview of underpricing as an ever-present, ubiquitous phenomenon. The third chapter presents the analysis of short-term underpricing in Turkey. Overall, 186 IPOs between 2000 and 2018 are included in the dataset. The study aims at finding out the degree of mispricing present in Turkish Stock Market and the comparison of underwriting types and sales methods on the basis of underpricing occurrence.

*Key Words:* IPO; Initial Public Offerings; Borsa Istanbul; Underpricing; Performance.

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## INTRODUCTION

### ▪ **What is IPO?**

An IPO (initial public offering) is the decision of a private company to offer some of its stocks to public for the first time. “Going public” is another frequently used term that refers to an IPO. Before taking such a decision, companies must comply with requirements demanded by the stock exchange they are willing to enter in. These are called “listing requirements.” Each exchange has its own requirements. For instance, NASDAQ requires \$45 million market value of publicly held shares<sup>1</sup> whereas New York Stock Exchange does \$40 million for an IPO<sup>2</sup>. Such requirements are set due to the fact that the performance of a stock exchange depends mutually on the performance of companies.

After an IPO, the portion of shares owned by public is referred to as free float or public float. There are two main IPO methods based on company strategy. One is IPO of existing shares, which is preferred mostly for providing financing to shareholders for new investment opportunities. The other method is IPO through increasing capital, which helps provide the necessary financing for the growth of the company.

### ▪ **Why do companies go public?**

Advantages of IPO can be classified under five distinct categories:

1. Financing
2. Market Valuation
3. Corporate Transformation
4. Credibility
5. Recognition

First and foremost, IPO is the low-cost and long-term way of raising capital, which can be used for future growth, research and development, fund capital expenditure or to pay off existing debt. Valuation refers to having a market value. Having market value help companies find bank loans since banks can evaluate collateral more easily. Having market value also betters liquidity of stocks.

Another positive aspect of IPO is related to corporate transformation, which brings corporate

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<sup>1</sup> Nasdaq Initial Listing Guide pg. 8 Retrieved from <https://listingcenter.nasdaq.com>

<sup>2</sup> NYSE Initial Listing Requirements pg.2 Retrieved from <https://www.nyse.com/>

governance in. Shareholders can elect directors to represent themselves, which provides more transparency to companies' operations. Credibility is another positive trait of IPO. Banks, customers, suppliers, employees and government agencies tend to find listed companies more credible. Finally, IPO also boosts recognition of the company. Brand name publicity and opportunity to communicate with a broad audience are the factors that provide more recognition in general.

- **Disadvantages of Going Public**

Although there are plenty of advantages of going public, there are also disadvantages. Companies usually evaluate the pros and cons with an investment bank during the underwriting process and decide on whether to go for an IPO. First of all, after being listed on the stock exchange, the decision-making process becomes much longer than it is before. All decisions have to be taken with the approval of board members that are elected by shareholders and this process may last days. Secondly, the IPO process and the subsequent period in aftermarket are costly. There are the costs of underwriter, PR, corporate transformation process and registration fees. The reporting and management costs become higher while listed. There is also the issue of underpricing that the company must consider. Third, the loss of control over the company could happen and the board directors could gain power to fire old owners. Lastly, the public companies are required under strict regulations to share their financial, operational and structural information to their shareholders periodically. This might cause competitors gaining important information. Thus, it could be more logical to stay "private".

- **An overview of Borsa Istanbul**

A stock exchange can be simply identified as an organized and regulated financial market in which securities (shares, bonds, and derivatives) are bought and sold at prices governed by the principles of demand and supply. Stock exchanges serve in two ways; primary markets and secondary markets. Primary markets refer to the direct sale of securities from corporations or government bodies to investors. In this way, companies can raise capital and turn them into productive ventures. On the contrary, secondary markets are where investors sell their securities to other investors. Secondary

markets are beneficial for reducing the risk of investments and supporting the liquidity of financial system. The sales of securities are conducted via online or telephone on modern exchanges. All exchanges are auction-based through which buyers place their competitive bid and sellers enter their competitive orders in a trading day.

Abbreviated and publicly known as IMKB, Istanbul Securities exchange or Istanbul Menkul Kıymetler Borsası in Turkish was founded in 1981 and started operating in 1985. Renamed as Borsa Istanbul in 2013, Istanbul Securities Exchange has been the only exchange in Turkey.

The introduction of the stock exchange in 1980s coincides with the transition phase from state-led economy to market-oriented economy. The date of this turning point was January 24 1980. Commonly known as “24 January Decisions”, these abrupt decisions of the government were aimed at more liberal economic model in the country. Through the 1970s, high levels of inflation resulted in the rise in credit costs at a breakneck speed, which affected financial costs of companies and forced them to slow down their investments. After January 24, 1980 factors like lower tariffs, entering in customs union also forced companies to reconsider their financial structures. Under these circumstances of tougher competition and free market, companies needed to adopt new technologies, sustainability and diversification in production. These required new investments but the high credit costs rendered this option impossible. Corporate bond was another alternative but still companies needed to pay principal plus interest at maturity. As a result, financing through shares without maturity was the most attractive option. Turkish companies started to go public at a fast pace in 80s right after the foundation of IMKB. The IPO trend reached its pinnacle in 1990-1991 when the government introduced tax reduction.

As of November 2018, there are 419 listed companies with total value of 750.155,56 billion Turkish Liras (142.221,21 billion U.S. dollars).<sup>3</sup> In 2017, nominal trading volume had increased by 52%. In the same year, this increase is 44% in Turkish Liras, and 19% in U.S. dollars. In 2017, BIST

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<sup>3</sup> Consolidated Data. Retrieved from <http://www.borsaistanbul.com/>



TECHNOLOGY increased by 127% in terms of market value and is the most successful industry index in the exchange. Below in the Table 1 and 2, the 2007 performance of indices can be observed.

**Table 1: Total Value in Turkish Lira (Million)**

<b>TL (MILLION)</b>	<b><u>31/12/2016</u></b>	<b><u>31/12/2017</u></b>	<b><u>ANNUAL CHANGE</u></b>
<b>BIST BANKING</b>	145,491	209,312	44%
<b>BIST CORPORATE</b>	89,508	123,345	38%
<b>BIST TRADE</b>	31,141	45,705	47%
<b>BIST 30</b>	393,806	562,566	43%
<b>BIST 50</b>	444,140	633,719	43%
<b>BIST 100</b>	498,419	721,155	45%
<b>BIST SERVICE</b>	113,235	173,643	53%
<b>BIST FISCAL</b>	267,025	275,493	48%
<b>BIST INDUSTRIAL</b>	189,499	275,493	48%
<b>BIST TECHNOLOGY</b>	16,265	36,842	127%
<b>BIST ALL</b>	583,023	856,670	47%

**Table 2: Total Value in U.S. Dollars**

<b>US DOLLARS</b>	<b><u>31/12/2016</u></b>	<b><u>31/12/2017</u></b>	<b><u>ANNUAL CHANGE</u></b>
<b>BIST BANKING</b>	41,342	55,492	34%
<b>BIST CORPORATE</b>	25,434	32,701	29%
<b>BIST TRADE</b>	8,849	12,117	37%
<b>BIST 30</b>	111,902	149,147	33%

<b>BIST 50</b>	126,205	168,011	33%
<b>BIST 100</b>	141,629	191,191	35%
<b>BIST SERVICE</b>	32,176	46,036	43%
<b>BIST FISCAL</b>	75,877	98,277	30%
<b>BIST INDUSTRIAL</b>	52,995	73,038	38%
<b>BIST TECHNOLOGY</b>	4,622	9,768	111%
<b>BIST ALL</b>	165,669	227,119	37%

The total number of investors was 1,091 million in 2017 and local investors consist of 99% of this number. The foreign investor activity constituted 25% of all trading volume and 65% of market value between January-December 2017. The value that foreign investors hold is 232 billion Turkish Liras at the given period. The 35% of foreign investors are institutional and other 65% is real. Similarly, 99,5% of local investors is real and others are institutional. Real investor holds 53% of the market value.

In Borsa Istanbul Equity Market company shares, preemptive rights, warrants, exchange traded funds and certificates are being traded. The market offers liquid, transparent and secure trading environment for domestic and foreign investors. Trading in the Equity Market is carried out in 7 following sub-markets:

**Table 3: Borsa Istanbul Equity Markets**

<b><u>Market</u></b>	<b><u>Definition</u></b>	<b><u>Symbol</u></b>
<b>BIST STARS</b>	<ul style="list-style-type: none"><li>▪ The market value of the free float larger than 100 million TL or included in BIST 100.</li></ul>	Z
<b>BIST MAIN</b>	<ul style="list-style-type: none"><li>▪ The market value of the free float larger than 25 million TL and smaller than 100 million TL.</li><li>▪ 25 million criteria is only required for the firms that are willing to go public. Firms already listed might have free float value lower than 25 million TL and be traded on BIST MAIN.</li></ul>	N
<b>BIST EMERGING COMPANIES</b>	<ul style="list-style-type: none"><li>▪ The market value of the free float smaller than 25 million TL.</li><li>▪ The market including firms that have potential for growth and development.</li><li>▪ Firms can apply to be traded in BIST STARS OR BIST MAIN after spending 2 years in BEC.</li></ul>	G
<b>WATCHLIST</b>	<ul style="list-style-type: none"><li>▪ For companies subject to monitoring and examination according to their financial structure.</li></ul>	W
<b>COLLECTIVE AND STRUCTURED PRODUCTS</b>	<ul style="list-style-type: none"><li>▪ Exchange traded funds, warrants, and certificates are traded in Collective and Structured Products market.</li></ul>	K
<b>EQUITY MARKET FOR QUALIFIED INVESTORS</b>	<ul style="list-style-type: none"><li>▪ For companies where shares issued by corporations for direct sale to qualified investors without being offered to public are traded only among qualified investors.</li></ul>	Q

<p style="text-align: center;"><b>PRE-MARKET TRADING PLATFORM</b></p>	<ul style="list-style-type: none"> <li>▪ Borsa Istanbul decided to start trading the equities of some companies that are registered with the CMB, as a result of the evaluation of the financial status and ownership structure of public held companies whose equities are not traded on Borsa Istanbul.</li> </ul>	<p style="text-align: center;">S</p>
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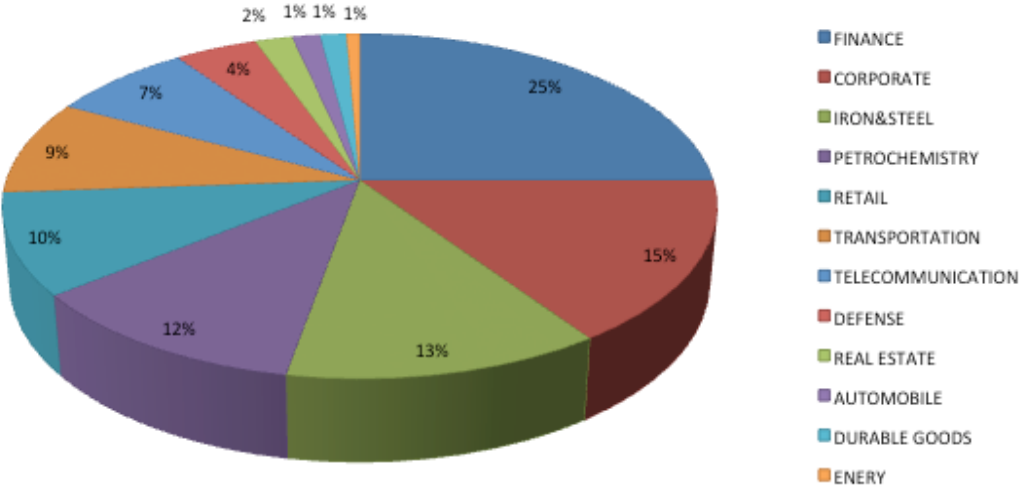
- **Borsa Istanbul Stock Indices**

A stock index is an important parameter to evaluate the performance of a stock exchange. It is widely used by investors to observe the general course of stock market and as a benchmark to compare it to their portfolios. In Borsa Istanbul, there are various stock indices depending on different classifications. There are dividend indices, corporate governance index, city indices, IPO index and SME Industrial Index. BIST30, BIST50 and BIST100, coded in sequence as XU030, XU050, XU100 are the most widely used indices that include the companies that have highest market value and trade volume in Borsa Istanbul. Therefore, BIST50 covers BIST30 companies whereas BIST100 covers the companies of both while having additional fifty. BIST Stock Indices ground rules state that the companies to be included in each index are chosen quarterly<sup>4</sup>. Looking at these indices, the composition of Turkish economy can be better understood. Below in the Figure 1, and Figure 2 is the composition of each industry by their weight and company number.

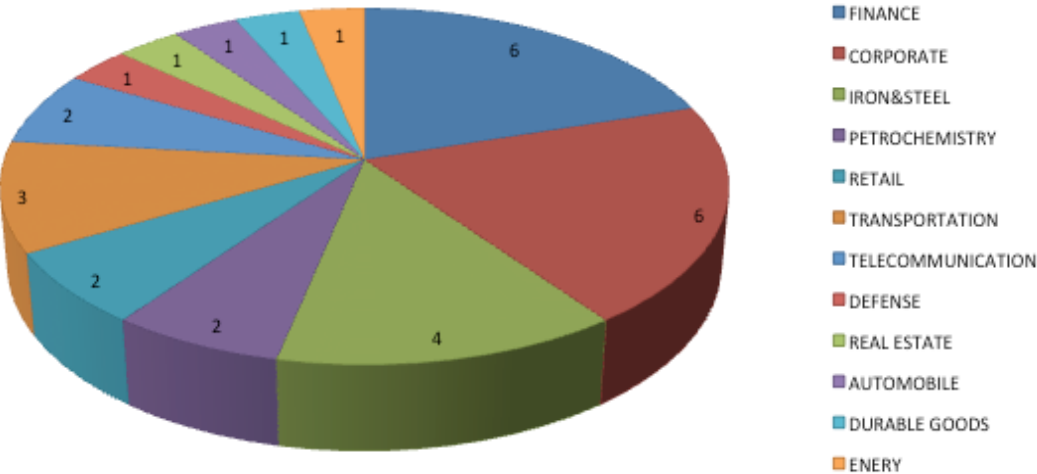
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<sup>4</sup> BIST Stock Indices Ground Rules Form, retrieved from <http://www.borsaistanbul.com/>

**Figure 1: BIST 30 Weight of Industries**



**Figure 2: BIST 30 Number of Companies in Each Industry**



## **CHAPTER 1**

### **THE IPO PROCESS IN BORSA ISTANBUL**

#### **1.1 IPO PHASES**

The overall IPO process in Turkey can be classified in three phases: IPO decision, Preparing for IPO and Final IPO Process.

##### **1.1.1 IPO Decision**

The IPO process starts with the decision of a private-company to sell off some of its stocks to public. This decision-making process is one of the most critical moments in business life cycle. There are advantages and disadvantages that come with an IPO. Thus, companies must measure the pros of cons of going public. It is also important to meet the listing requirements set by the stock exchange.

##### **1.1.2 Preparing for IPO**

IPO Process in Turkey starts with and application to Capital Markets Board (Sermaye Piyasası Kurulu) and Borsa Istanbul. However, there are a couple of steps that a company also should go through before the application. Preparation for IPO consists of seven steps as follows:

- 1) Organizing the “investor relations” function within the company
- 2) Making changes in the articles of association, if necessary
- 3) Selecting intermediary institutions
- 4) Selecting the independent auditor and preparing financial statements
- 5) Selecting issue method (shares or DRs)
- 6) Selecting the price
- 7) Preparing the prospectus

Before considering an IPO, companies are required to establish or reorganize its investor relations (IR) function/department within the company. IR department is obligatory for public companies and primarily responsible for dissemination of operational and financial information to investors so that investors can evaluate whether the company is a good alternative for investment. In Turkey, such dissemination of information is done via PDP (Public Disclosure Platform) or commonly known in Turkish as KAP (Kamuyu Aydınlatma Platformu)<sup>5</sup>. IR departments also manage shareholder meetings and inform the management about regulatory changes.

Secondly, it is also important to make changes in the articles of association (in Turkish, esas sözleşme) since there might be restrictions on some shares to be converted to public shares. The following step is to select intermediary institution(s). These institutions are divided according to being financial, legal and tax advisors. Financial advisors are commonly known as underwriters. Underwriters are mostly investment banks, which carry out the sale of shares.

In Turkey, Capital Markets Board approves an investment bank as financial intermediary for IPOs. If a future IPO is very large, several underwriters may come together and create a temporary banking syndicate in order to share the risk among each other. After selecting intermediary institution, a company must find an independent auditor and prepare financial statements. Independent auditors are required by CPM and they are responsible for investigating companies' financial and legal structures and adjusting them accordingly to the CPM legislations.

The next step after auditors and financial statements is to select issue method. The issue method can be either shares or DRs.

The following step is the most important, yet most difficult one to which companies pay most attention: setting the price. If the price is too low, it will cause the dilution effect for existing shareholders. On the other hand, if it's too high, it will result in failure of IPO. Thus, a first evaluation is very crucial for price setting and intermediary financial institutions undertake this critical

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<sup>5</sup> Kamuyu Aydınlatma Platformu: <https://www.kap.org.tr/en/>

evaluation process. Investment Banks investigate companies' current and projected performances and then can decide on a most probable share price in two ways. The first way is to make comparisons to other similar listed companies. And the other way is to calculate net present value of the firm. However, the final price is set after the IPO takes place, meaning that the demand is very important factor. Depending on the market conditions, the IPO might be cancelled as well since the demand might be less than expected and might result in failure of IPO. In order to avoid this, financial intermediaries and companies both consider the timing of IPO. Setting the IPO date when the demand is high is the most appropriate way. To give a real-world example, Beymen-a well-known- luxury fashion retailer in Turkey was going to go public on March, 2018. However, as of May 2018, the company management decided to cancel the IPO even though Capital Markets Board and Borsa Istanbul approved its IPO in Borsa Istanbul. The reason for the cancellation was that the expected price range 12,80-15,36 with total capital raised 1-1,2 billion TL. However the demand wouldn't have matched the expectations since the macroeconomic conditions were worsening and Turkish Lira was going down<sup>6</sup>.

The last step is to prepare prospectus. Prospectus or "izahname" in Turkish is a legal document required and approved by CMB, which supplies necessary information about company to become public. In general, prospectus covers information such as issuer's financial state, performance, future expectations, and also information about financial instruments to be listed like number of shares and offering price. After the approval of prospectus by CMB, it is published on PDP and official webpage of the company.

### **1.1.3 Final IPO Process**

After the preparation period, companies start the IPO process, which consists of six steps as follows:

- 1) Application to Capital Markets Board and Borsa Istanbul
- 2) Running the marketing campaign

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<sup>6</sup> *Yeterli talep gelmedi, Beymen Halka Arzdan Vazgeçti.* (2018, May 4). Retrieved from <https://www.haberturk.com/>



- 3) Examination of the company by specialists (CMB and Borsa Istanbul Specialists)
- 4) Registration of shares
- 5) IPO sales method (book building or sale on stock exchange)
- 6) Listing on Borsa Istanbul and the Start of Trading

After the preparation period, the IPO candidate company starts IPO process by submitting its prospectus to CMB in order to get its approval and additionally applying to Borsa Istanbul to be listed. Simultaneous applications to both CBM and Borsa Istanbul are preferable as it lessens the processing time. The application can be done either by company itself or by the intermediary.

The Second step is related to PR and marketing campaign of the IPO. This step is very crucial because attracting more investors helps increase the demand for the shares to be listed. Depending upon the scope of the IPO, companies might proceed with press publishing, visual ads or even international campaign.

The third step is the investigation of the company by the CMB and Borsa Istanbul specialists. After controlling the application documents, both the CMB and Borsa Istanbul visit the company's headquarters and production facilities in order to conduct on-site investigation. There isn't a standard in such investigations. It mostly depends on the business sector and what kind of corporation it is. However, there are two matters in general: qualitative criteria and quantitative criteria.

- **Qualitative Listing Criteria**

Qualitative listing criteria in general are related to healthy financial structure, clean/no bankruptcy record, appropriate legal structure, information from independent audit, three-years of operational history, absence of obstacles by the articles of association to be listed and whether there is major legal disputes.

- **Quantitative Criteria**

As mentioned earlier, there are a couple of standards that a candidate company must comply with. These are the listing requirements set by the stock exchange itself. During the quantitative criteria, the previous and most recent financial statements audited by independent auditors are being investigated in order to examine the financial well-being of the company. Additionally, the balance sheet, its secondary books are examined and the financial analysis of the key financial ratios are being performed. The most important of these criteria can be divided into four separate categories: market value of shares offered to public, profit before tax, free float and shareholders' equity. There are three subgroups of Borsa Istanbul in which a company can be listed according to its preferences. The quantitative criteria for these three groups are listed in the following graph.<sup>7</sup>

**Table 4: Quantitative Criteria for IPO Application**

<b>Quantitative Criteria</b>			
	<u>Group 1</u>	<u>Group 2</u>	<u>Group 3</u>
<b>Market value of shares offered to public</b>	Minimum 122.000.000 TL	Minimum 61.000.000 TL	Minimum 30.500.000 TL
<b>Profit before tax</b>	At least one of the last two years	At least one of the last two years	Last two years
<b>Free float</b>	-	Minimum %5	Minimum 25%
<b>Shareholders' equity</b>	Minimum 30.500.000 TL	Minimum 19.500.000 TL	Minimum 12.200.000 TL

<sup>7</sup>IPO in Turkey and Listing on Borsa Istanbul, 2018, retrieved from <http://www.borsaistanbul.com/>

The fourth step of IPO process is the registration of the shares to be listed. The international Securities Identification Numbering system-abbreviated as ISIN-is an international standard formed by the International Organization for Standardization (ISO) and coded as ISO6166. This standardization system is aimed at coding the securities, including the shares of a listed company. In each country, there is a national numbering agency that is delegated to provide ISIN numbers if required. Takasbank is the national numbering agency in Turkey, commissioned by the CMB to carry out ISIN assignment procedure. Borsa Istanbul A.Ş. owns the majority of Takasbank.<sup>8</sup> In addition to the share registration, all issuers are required to be the member of Central Registry Agency (CRA), known in Turkish as Merkezi Kayıt Kuruluşu (MKK)<sup>9</sup>. CRA is the central securities depository of capital market instruments that conducts dematerialization process in accordance with CMB's requests. After CRA membership, issuer also should apply for membership of Public Disclosure Platform (PDP). PDP is an e-platfrom on which public companies share important information or issues to investors.

After the registration of shares and application to required memberships, the candidate company waits for the approval of the prospectus by CMB and the approval by the Borsa Istanbul Board. As discussed earlier, both CMB and Borsa Istanbul experts conduct their investigation through quantitative and qualitative examinations and provide their final opinion to the CMB and Borsa Istanbul Boards. It is not rare that a company gets rejected. In 2018, as of June 30, one application was rejected out of total 12.

[After the approval, the shares are offered via intermediary institutions within the dates and principles stated in the prospectus. Then, the company publishes the results on PDP and also sends them to CMB and Borsa Istanbul.

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<sup>8</sup> Retrieved on Oct. 12/2018 from <https://www.takasbank.com.tr/en/about-us/introduction/capital-structure>

<sup>9</sup> Additional information on <https://www.mkk.com.tr/en/>

The final step of IPO process is the final evaluation whether the results of IPO satisfy the terms of the Borsa Istanbul IPO approval decision. The “success” of IPO results are being compared to the expectations of Borsa Istanbul Board during the earlier stage of the application process, which were disclosed in the prospectus. Following the final evaluation, shares start being traded right after the announcement by Borsa Istanbul. An opening bell ceremony might be carried out depending on the company request.

## **1.2 IPO SALES METHODS**

Setting the rules of IPO Sales is the duty of Capital Markets Board in Turkey. The purpose of such duty is to not fail investors. There are plenty of IPO sales methods, but among these, book building, fixed price, auction are prominent worldwide. The implementation of these three methods differs according to country, and exchange market. The book building method has gradually become widespread among various countries whereas the auction method has become almost out of use. However, the fixed price method is the most common in Turkey.

### **Sales Methods in Borsa Istanbul<sup>10</sup>**

#### **1) Book Building**

- Book Building at a Fixed Price
- Book Building with Price Bids
- Book Building within a Price range

#### **2) Sales in the Exchange**

#### **3) Sales without Book Building**

Borsa Istanbul instructions state that there are three methods of IPO sales: book building, sales in the exchange, and sales without book building. The book building method consists of three separate methods: Book building at a fixed price, book building with price bids, and book building within a price range. For the sake of simplicity and clarity, these three methods will be referred in order as fixed price method, auction method and book building. From a regulatory point of view,

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<sup>10</sup> Retrieved from <http://www.borsaistanbul.com/>

fixed price method and priced bids (auction) are the subset of book building since the underwriter is required for those methods in Turkey. However, these methods will be exclusively analyzed in the following section as they are done in the academic literature.

### **1.2.1 Book Building Method**

Book building refers to the price determination process undertaken by underwriters through gathering information from fund managers about the number and price range of shares. An underwriter determines the price by building this information into a “book”. Most importantly in book building, the exact price of shares is unknown to the investors. In Book Building within a Price Range method, a base and ceiling prices are set and the difference between two cannot exceed 20%. Demands from investors are collected within the price range and the price is set accordingly. The book building has been the most common IPO method in the U.S. for decades but it was at the center of controversies since book building allows underwriters to have the incentive of allocating shares according to their preferences. This situation brings out the question of fairness. In the beginning such arguments were so heated that in 2004, Google chose auction method over book building despite its popularity in the U.S. <sup>11</sup>

### **1.2.2 Fixed Price Offering**

Fixed Price Offering is the method through which an issuer and its shareholders decide on a specific price. Investors know the price in advance but cannot compromise on it. During the sales process, Investors have to first fill bid forms and submit it to the underwriter during the period stated in the prospectus. The payment corresponding to the demanded amount of shares must be processed to underwriter’s account and then underwriter starts the allocations of shares based on pro-rata basis. After the bid collection process, underwriter sends the issuer a list of allocation of shares to the

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<sup>11</sup> Sherman, A., 2003, “Global Trends in IPO Methods: Book Building vs. Auctions”, Working Paper, University of Notre Dame.

investors within few days. Finally, the issuer approves the list and returns it to the underwriter. There are several studies that compare the book building and fixed price methods in terms of pricing. Ritter (2018) found out that countries that have book building method face less underpricing issues than countries that use fixed-pricing method. Chowdhry and Sherman revealed few reasons why fixed pricing results in underpricing more often. Most importantly, as the time gap between the offer and first day market price widens, a greater information leakages causes larger price deviation. Additionally, the payment done in advance in fixed price method stands out as a second important reason.<sup>12</sup>

### **1.2.3 Auction Method**

There are many kinds of auctions, but in particular Dutch auction is often preferred in IPO sales. In contrast to standard auction, in Dutch auction seller sets the maximum price and then lowers it until someone calls for that particular price. The first bidder calling for the prices wins the auction. In Turkey, auction method is classified under Book Building method as Book Building in which the underwriter implements a specific allocation rule. Different from the Dutch model, an issuer and shareholders agree on a minimum offer price and then bids above that price are collected in Turkey.<sup>13</sup> Even though the auction method is allowed in Turkey, it is not popular. In fact, the auction method has become obsolete not only in Turkey but also in other countries. It had been tried in countries like Italy, the Netherlands, Portugal, Sweden, and Switzerland, and in the 1980s and in emerging markets like Argentina, Malaysia, Singapore, Taiwan in the 1990s but then abandoned.<sup>14</sup>

### **1.2.4 Sales in the Exchange**

“Sales in the Exchange” in Borsa Istanbul is an alternative method in which companies can offer their shares directly on the primary market of the Exchange. It differs from book building

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<sup>12</sup> Chowdhry, B., and A. Sherman, 1996, “International differences in oversubscription and underpricing of IPOs”

<sup>13</sup> Polat, S., 2009, “Initial Public Offering (IPO) Performance: A case study from Istanbul Stock Exchange market”, pp.11

<sup>14</sup> Sherman, A., 2003, “Global Trends in IPO Methods: Book Building vs. Auctions”

methods, which takes place outside the Exchange and undertaken by intermediaries. To go through this method, companies first fill an application and submit it to the Stock Exchange. It must be accepted by the Borsa Istanbul Board and announced before approval of prospectus by CMB. Public offering may start at the second business day after the Exchange announcement that is done considering the CMB regulations on publication of the prospectus and the price determination report.<sup>15</sup>

### **1.2.5 Sales without Book Building**

Sales without Book Building method is used by public companies not listed on any exchange. These companies can offer their shares directly to public via themselves or via the company assigned investment/brokerage at a defined price and offering method defined in the prospectus.

## **1.3 COMPARISON OF THE IPO METHODS IN THE LITERATURE**

The book building has been the most popular method in the U.S. and has become prevalent in the world while the auction is almost over in time. Nevertheless, drawbacks of book building exist, as advantages of auctions do. Basically, the three methods can be separated from each other according to presence of two important traits: price setting and share allocation. Book building method allows underwriter to set the price and make allocations. Fixed offering allows allocation but not price setting whereas auctions don't allow both.

Benveniste and Spindt (1988), Benveniste and Spindt (1989) suggested that American Book Building is more efficient than other methods since it encourages investors to reveal their belief in true value of shares at a cost of initial underpricing. Underwriters in turn allocate shares to the investors in order to compensate them.

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<sup>15</sup> Sales Methods. Retrieved from <http://www.borsaistanbul.com/en>

Loughan, Ritter, and Rydqvist (1994) proved by evidence that the problem of underpricing in fixed price offerings stemmed from widened time gap and increased uncertainty between offer and issuance time.

Chowdry and Sherman (1996) revealed a global pattern that there is a tendency for book building in large orders and for fixed price offerings in small orders. Sherman (2000), (2003) showed that book building is more effective and less costly than both auction and fixed price offerings. Book building gives opportunity to discriminate investors and establish long-term relationship with underwriters. Book building gives the underwriter the opportunity to reflect issuers' investor preferences. Throughout the book building process, the issuer can control access to IPO shares. Fixed price offering on the other hand has a definite advantage over book building.

Ljungqvist, Jenkinson and Wilhelm (2000) analyzed a dataset covering 2,051 IPOs in 61 stock markets in various countries between 1992-1999. According to the study, the direct costs of book building are approximately twice those of fixed price offerings. Auctions might be a better option when there aren't information-gathering issues and when the sales of same securities held at regular time periods.

Chemmenur and Liu (2003) investigated and modeled information acquisition in uniform price auctions and fixed-price public offers. The model proposes that the variance of underpricing in auctions is significantly lower than in fixed price offerings since the offering price in auctions are aggregated and produce by outsiders.

Ljungqvist, Wilhelm, Jenkinson (2003) compared the book building and fixed offerings and found out that the underpricing in book building is less severe when the sales are conducted by U.S. banks targeted at U.S. investors. Despite the prominent use of book building across countries, there is still debate about the best method in IPO sales. Thus, it can be deduced that the choice of sales method depend on issuer preferences, potential costs, and even intermediaries. In summary, the results



of various IPO methods analyzed by Jagannathan and Sherman can be given as follows. First, the book building method is most useful when information gathering is important to avoid underpricing. Second, if the direct costs are relevant to the issuer, the fixed price offer is often successful. Third, the auction is preferable over others when the number of bidders is known so that the winner's curse and free rider problem can be avoided.

## **1.4 UNDERTAKING METHODS**

For an IPO process, an underwriter can practice one of the following methods:

1. **Best Effort**
2. **Broker Undertaking**
  - a) Undertaking of the remaining balance
  - b) Undertaking of the entire balance
  - c) Partially undertaking the remaining balance
  - d) Partially undertaking of the entire balance

### **1.4.1 Best Effort**

Best Effort refers to the underpricing method in which investment banks commit to sell the shares in the period mentioned in the prospectus. If any, unsold shares are returned back to the issuer after the period or they are sold to the 3<sup>rd</sup> parties that committed to buy the shares before. Best effort underwriting is the most common method in Turkey since the issuers demand to price the shares at the highest value possible. Underwriters also do benefit from such method since they don't risk the burden of unsold shares

### **1.4.2 Broker Undertaking**

#### **a) Undertaking of the remaining balance**

Undertaking of the remaining balance refers to the situation in which underwriters commit to buy the unsold shares after the sales period.

#### **b) Undertaking of the entire balance**

Underwriters can also commit to buy all the shares before IPO sales. This method is known as the undertaking of the entire balance.

**c) Partially undertaking the remaining balance**

In this situation, underwriter commits to buy partially the unsold shares after the sales.

**d) Partially undertaking of the entire balance**

Underwriters can also commit to buy a portion of shares before the sales.

The method choice between best effort and broker undertaking depends on the agreement between the issuer and the underwriter. Most importantly, the ultimate goal and tendencies of the issuers play an important role in such a choice.

## **1.5 IPO METHODS**

IPO methods can be classified in 2 categories:

1. Going public at the foundation
2. Going public after the foundation
  - a) Sales of existing shares
  - b) IPO via capital increase

There are CBM regulations if the company desires to go public at its foundation. Thus, companies mostly choose to be listed after they gain an entity. There are also 2 separate ways of going public after foundation: sales of existing shares, IPO via capital increase.

- **Sales of Existing Shares:** This type of IPO method is realized through the sales of existing shares of an owner. The owner has the right on the proceeds after the sales. The company cannot benefit from the funds obtained from the sales.
- **IPO via Capital Increase:** This method involves capital increase through new issuance of shares. Different from sales of existing shares, companies can use the money gained by IPO in their operations.

**CHAPTER 2**  
**UNDERPRICING**

**2.1 UNDERPRICING-AN OVERVIEW**

The shares of IPO might be overpriced, underpriced or might have the exact same price as the offer price at the first day of trading. Most of the IPOs have repeatedly turned out to be underpriced. The presence of underpricing is well-known and well-documented phenomenon across various countries and stock markets. Underpricing can be defined as the situation in which the shares to be sold are priced below the expected value or alternatively, it is the situation when the first price of shares on the secondary market are higher than the issue price. While investors can benefit from the price difference and make profit by selling their shares on the secondary market, underpricing is mostly an unwanted situation for companies since it means the loss of potential capital gain. “Money left on the table” is the term that is referring to such capital loss that could have been raised for companies. The measure of underpricing can be either money left on the table or average first-day return. Ritter (2018) analyzed a dataset of U.S. IPOs between 1980-2017 and proved that underpricing is ubiquitous over years. The results of this study were so striking that average first-day return of all IPOs is 17.8% and aggregate amount left on the table amounts to \$159.09 billion in between 1980 and 2017. In the following table, there is an in-detail decade-to-decade summary of the report.

**Table 5: Average mean first-day return and money left on the table in the U.S**

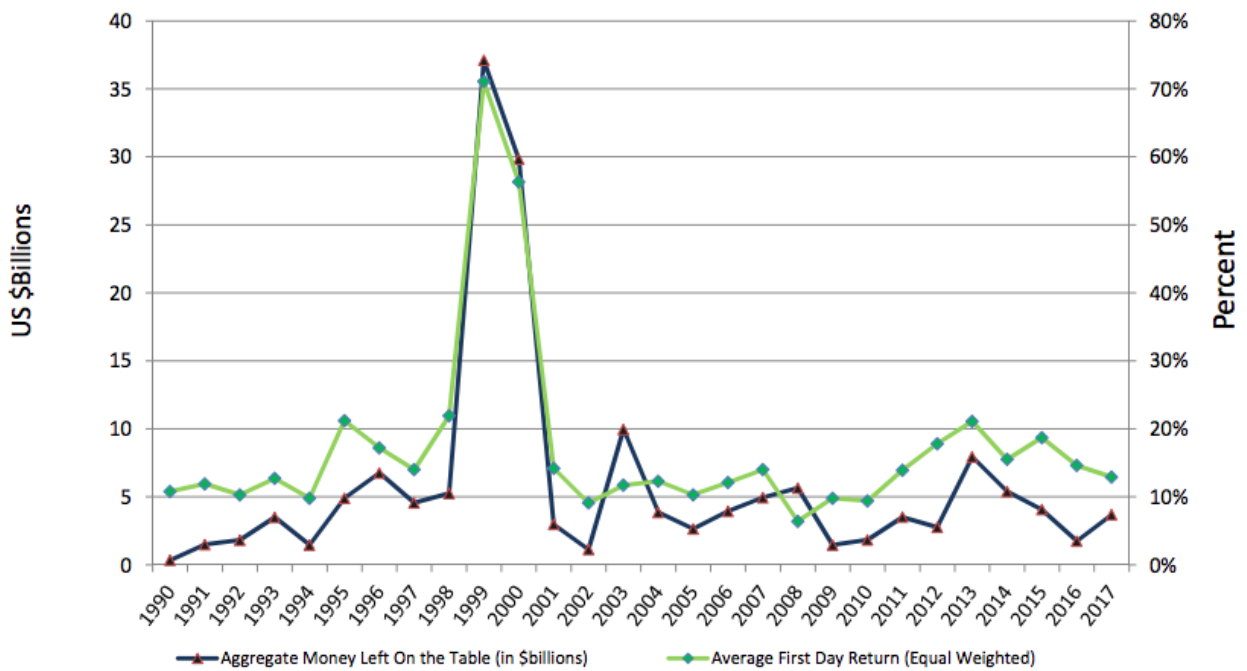
Year	Number of IPOs	Mean first-day return		Aggregate Amount Left on the Table (billion)	Aggregate Proceeds (billion)	Market Value at 1 <sup>st</sup> Closing Market Price (billion)
		Equal-weighted	Proceeds-weighted			
<b>1980-1989</b>	2,049	7.2%	6.1%	\$3.30	\$54.03	\$223

<b>1990-1998</b>	3,612	14.8%	13.3%	\$30.07	\$226.28	\$981
<b>1999-2000</b>	856	64.6%	51.7%	\$66.92	\$129.47	\$1,294
<b>2001-2017</b>	1,843	13.9%	12.9%	\$58.80	\$454.53	\$2,263
<b><u>1980-2017</u></b>	<u>8,360</u>	<u>17.8%</u>	<u>18.5%</u>	<u>\$159.09</u>	<u>\$864.31</u>	<u>\$4,861</u>

Source: J. R., 2018, "Initial Public Offerings: Underpricing", pg.2

In Table 5 above, the effects of dot.com bubble on underpricing can clearly be observed: during the specific period of 1999-2000 the average return reaches 64.6%, which is the peak over other decades. Such periods are called "hot issue markets". From the same analysis of Ritter (2018), this extraordinary period can be better observed in Figure 3 below.

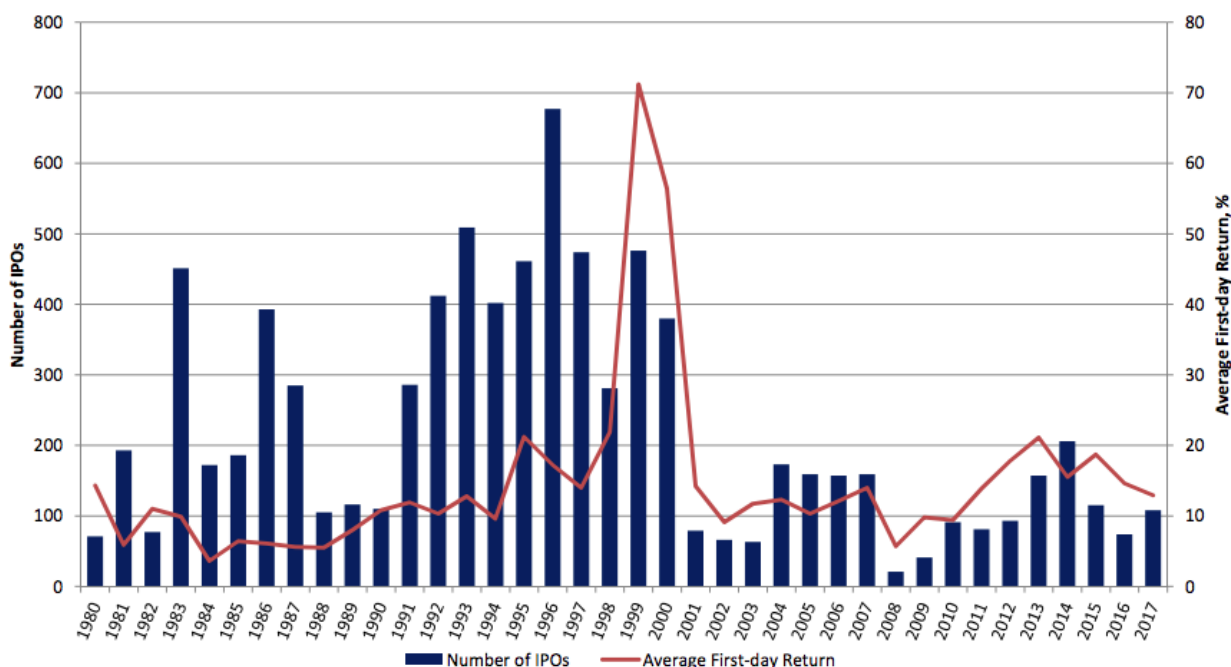
Figure 3: Average First-Day Return and Aggregate Money Left On the Table in the U.S., 1990-2017



Source: Ritter, J. R., 2018, "Initial Public Offerings: Underpricing", pg.10

In the same graph above, it can be also seen that the average first-day return is at its lowest rate in 2008, which is 5.7%. Therefore, looking at the huge gap between 5.7% and 64.6%, it might be proposed that underpricing tends to be proportional to market conditions. Underpricing gets intensified with market tendencies but ebbs as the market does down. In Figure 4 below, Ritter (2018) presents the data of number of IPOs and average first-day returns.

**Figure 4: Number of U.S. Offerings and Average First-Day Return, 1980-2017**



Source: Ritter, J. R., 2018, "Initial Public Offerings: Underpricing", pg.11

Underpricing occurs both in developed and emerging markets. IPO returns across the globe comprehensively can be observed in Table 6. The price gap tends to be narrower in emerging markets due to restrictions on intra-day price movements.

**Table 6: Underpricing in various countries**

<b><u>COUNTRY</u></b>	<b><u>INITIAL RETURN</u></b>	<b><u>Number</u></b>	<b><u>TIME PERIOD</u></b>
<b>Argentina</b>	4.2%	26	1991-2003
<b>Australia</b>	21.8%	1562	1976-2011
<b>Austria</b>	6.4%	103	1971-2013
<b>Canada</b>	6.5%	720	1971-2013
<b>China</b>	118.4%	2512	1990-2013
<b>Denmark</b>	7.4%	164	1984-2011
<b>Finland</b>	16.9%	168	1971-2013
<b>France</b>	10.5%	697	1983-2010
<b>Germany</b>	24.2%	736	1978-2011
<b>Greece</b>	50.8%	373	1976-2013
<b>Hong Kong</b>	15.8%	1486	1980-2013
<b>India</b>	88.5%	2964	1990-2011
<b>Ireland</b>	21.6%	38	1991-2013
<b>Italy</b>	15.2%	312	1985-2013
<b>Japan</b>	41.7%	3236	1970-2013
<b>Jordan</b>	149.0%	53	1999-2008
<b>Korea</b>	58.8%	1758	1980-2014
<b>Netherlands</b>	10.2%	181	1982-2006
<b>New Zealand</b>	18.6%	242	1979-2013

<b>Nigeria</b>	13.1%	122	1989-2013
<b>Portugal</b>	11.9%	32	1992-2013
<b>Russia</b>	3.3%	64	1999-2013
<b>Saudi Arabia</b>	239.8%	80	2003-2011
<b>Spain</b>	10.3%	143	1986-2013
<b>Sweden</b>	27.2%	374	1980-2011
<b>Switzerland</b>	27.3%	164	1983-2013
<b>Taiwan</b>	38.1%	1620	1980-2013
<b>United Kingdom</b>	16.0%	4932	1959-2012
<b>United States</b>	16.9%	12702	1960-2014

Source: Stegehuis J.H., 2016, "IPO underpricing in Europe", pg.8

The concept of underpricing has long been drawing attention of academics. Many studies have been conducted in order to clarify reasons behind underpricing. According to Ljungqvist (2004), these studies can be clustered in four groups:

**1) Asymmetric Information Models**

- The Winner's Curse
- Information Revelation Theories
- Principal-Agent Theories
- Underpricing as a Signal of Firm Quality

**2) Institutional Explanations**

- Legal Liability
- Price Stabilization

**3) Control Considerations**

- Underpricing as a Means to Retain Control
- Underpricing as a Means to Reduce Agency Costs

#### 4) Behavioral Explanations

- Cascades
- Investor Sentiment
- Prospect Theory and Mental Accounting

## 2.2 THEORIES ABOUT UNDERPRICING

### 2.2.1 Asymmetric Information Models

#### ➤ The Winner's Curse

Asymmetric Information by definition is the situation where there is one agent with superior knowledge than another in a transaction. In the case of IPOs, there are three key players: the issuer, the underwriter and the investors. Benveniste & Spindt (1986) identified two types of information asymmetries taking place in IPOs. First, information asymmetries occur between investors. Some investors have greater information about share value than other. Second, it is the issuer having the most information about share values since they know their business better than outside investors. Rock (1986) built a new asymmetric information case-“the Winner's Curse”-on Akerlof's (1970) famous lemon model. According to Rock, agents are divided in two groups: informed investors and uninformed investors. Rock assumes that both the issuer and the underwriter don't have any knowledge about the true value of shares. Informed investors know the true value and only bid for attractively priced IPOs. Uninformed investors unconditionally bid for all the shares. Resultantly, informed agents earn more return from underpriced shares while uninformed agents experience loss from overpriced shares and partially earn returns from underpriced shares. This situation is called the winner's curse on uninformed agents. In order to stay in the game, uninformed agents must at least reach breakeven point in their investments. When their conditional expected returns are negative, uninformed investors are unwilling to make investments in IPOs. As a result, informed investors crowd out uninformed investors in the end. Rock assumes that uninformed investors are needed for



healthy market because the informed investors 'demand would be insufficient even for attractive shares. Therefore, the issuers and underwriters administer underpricing strategy to turn informed investors' expected return into non-negative. A defect to Rock's model might also be proposed: it's true that companies collectively benefit from underpricing, but they can also benefit from avoiding underpricing individually so that they can free-ride. Beatty and Ritter (1986) argues that it is the underwriter that protects certain limits of underpricing level. According to their proposition, underwriters as repeat players have non-salvageable reputation at stake in each transaction. If they underprice too little, future investors will cease doing business with them. On the other hand, if they underprice too much, the future issuers will not work with them. Therefore, it is the underwriter that controls the underpricing limits and forces the issuers to accept the price gap for underpricing.

#### ➤ **Information Revelation Theories**

Rock's "Winner's Curse" Hypothesis is based on the assumption that there isn't underwriter involvement in share allocation and price setting. However, the book building has become prevalent pricing method over years around the globe and underwriters have gained the power of share allocation. In book building method, the underwriter elicits intentions of interest from various investors. In this way, they can set price, avoiding "the winner's curse". But there is another issue with bookbuilding. Revealing positive information to underwriters is on the opposite side of the interests of investors. Positive information about shares subsequently will raise the price, reducing the money left on the table. Additionally, investors are better off giving negative information in terms of their gain. Under these conditions, underwriters need to create a mechanism that will supply incentive to investors that reveal positive information. Benveniste and Spindt (1989), Benvenist and Wilhelm (1990), and Spatt and Srivastava (1991) propose that bookbuilng can be such a mechanism depending upon some certain conditions. First, conservative investors that reveal negative information must be punished and consequently must get few share allocations or none. Second, underwriters must supply an incentive for those investors who give out positive information. If the underwriter sets the price so high, investors gain nothing. As a consequence, they will never reveal positive information. Therefore, underwriters must reward such investors' truthful reporting via underpricing.

### ➤ **Principal-Agent Models**

The principal-agent problem arises when one entity (agent) has right to take decision on behalf of another (principal). In such situations, the agents might act in their best interests rather than those of principles. In case of IPOs, the agent is the underwriter and the principal is the issuer. The underwriter has the right to set the price and allocate shares on behalf of the issuer. The fact is that underwriters have superior knowledge about the share price than issuers do. Therefore they can exploit this advantage by favoring some clients and seeking side-payments in form of payments on unrelated transactions. Secondly, underwriters can also take advantage of their share allocation power by favoring clients in exchange for future business opportunities. One solution to solve agency problem is to link underwriting fees to IPO proceeds so that the underwriter would be less likely to underprice intentionally. Another solution to alleviate agency problems is that the issuer can monitor and supervise the underwriter.

### ➤ **Underpricing as a Signal of Firm Quality**

Underpricing as a Signal of Firm Quality model proposes the exact opposite of information asymmetry existing between investors and issuers. In this case, it is the issuer having superior knowledge than investors since the company knows better its investments, projects, future cash flows, and risks. The investors would not be able to distinguish the high quality firm from the low quality firm. High quality firm can benefit from underpricing as a signal of firm quality even if it is costly. By underpricing its shares, the issuer leaves money on the table but would gain more in future public offerings. On the contrary, low quality firms cannot bear such a cost, so that they would avoid underpricing. Knowing that only high quality firms use underpricing as a signal, investors choose high-quality issuers.

## 2.2.2 Institutional Explanations

### ➤ Legal Liability

Underpricing as a legal insurance is another hypothesis proposing that in order to avoid potential litigation from investors after listing, issuers and underwriters intentionally realize underpricing. Investors in the U.S. are more likely to be litigious on the grounds that they can claim the IPO prospectus is misleading. Such litigation risk is prevalent in the U.S. due to the strict disclosure rules. For instance, Facebook was sued over its 2012 IPO and accused of concealing internal concerns about how growth in mobile devices might have reduced revenues in the future<sup>16</sup>. Nearly 6 percent of companies listed in the U.S. between 1988 and 1995 subsequently faced lawsuits related to the IPO<sup>17</sup>. According to the legal insurance or lawsuit avoidance theories, investors are more inclined to sue when the shares are overpriced. However, they are more satisfied with the results when they gain more with underpricing. Issuers and underwriters consider direct and indirect cost that come along with lawsuits and intentionally underprice the shares. Even though issuer leaves money on the table and underwriter loses a portion of commissions, they both profit from underpricing in the long run.

### ➤ Price Stabilization

Price Stabilization assumes that contrary to previous theories, underwriters don't underprice intentionally. Rather, they intervene in the aftermarket to match the offering price. Statistical research of Rund (1983) shows that the mean of underpricing distribution doesn't stand on positive value. In fact, the mean is at zero. The stabilization effort of underwriters in after-market trading causes the elimination of the left tail of the distribution, which leads the mean to become positive in turn. The stabilization act of shares by underwriters are called Greenshoe Options, which is a legal mechanism

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<sup>16</sup> *Facebook settles lawsuit over 2012 IPO for \$35 million*, (Feb. 26, 2018). Retrieved from <https://www.reuters.com/>

<sup>17</sup> Ljungqvist, A., 2004, "Handbooks in Finance", pg. 41

and allows underwriters to buy up to certain amount of shares at the offering price. Greenshoe Option also known as over-allotment option might be exercised if the demand for shares exceeds expectations, forcing share prices to increase above sharing price.

### **2.2.3 Control Considerations**

#### **➤ Underpricing as a Means to Retain Control**

Retaining control theory proposed by Brennan and Franks (1997) attributes the reason behind the underpricing to managers. One of the disadvantages of going public is the loss of absolute control over company from managers' standpoint. Thus, they might seek to mitigate the effect of this unwanted side effect of IPOs by allocations small portions to investors. Underpricing is a way to give out small portions of shares since underpriced shares would create high demand and result in greater ownership dispersion.

#### **➤ Underpricing as a Means to Reduce Agency Costs**

Brennan and Franks (1997) proposed the maximization effort by managers contribute to the underpricing. On the contrary, Stoughton and Zechner (1998) propose that managers are better of minimizing the scope of their control rather than maximizing. Thus, there will be better monitoring of company and this will result in the reduction in agency costs. Otherwise, all owners would bear the agency costs in the form of lower IPO proceeds and market value of the shares in the aftermarket. Managers are also partial-owners so that they too face the agency costs. In contrast to Brennan and Franks (1997), allocating shares in large portion to an investor is the best option in terms of monitoring. However, buying shares in large stakes isn't optimal from investors' standpoint since it means less diversification in their portfolio. Therefore, underpricing the shares is the incentive given to investors to make them buy company shares.

## 2.2.4 Behavioral Explanations

### ➤ Cascades

Welch (1992) proposes that investors can make their investment decisions sequentially looking at previous investors actions. In case of IPOs, a positive result of initial sales is a good signal, which makes subsequent investors favorable towards the shares, creating information cascades. On the other hand, unsuccessful initial sales discourage subsequent investors. In such a case, demand for shares will remain very low. The potential of cascades gives early investors the power of negotiation for underpricing in exchange for committing to the IPO. However, cascades don't occur if the IPO is salad via bookbuilding because in book building the demand for shares can be kept in secrecy.

### ➤ Investor Sentiment

Investor Sentiment is the subject of Behavioral Finance that asserts the effect of sentimental or irrational investors is important. Such an effect by sentiment investors is more prominent in IPO markets because companies going public are new and there isn't adequate information about such companies to be evaluated. Assumption holds that sentiment investors are inclined to evaluate the IPO companies optimistically over their future prospects. Thus, the issuer can benefit from the presence of sentiment investors by maximizing the excess surplus under the demand curve of sentiment investors. In order to realize this maximization, issuers can restrict stock supply. However, regulatory constraints keep issuers from implementing such a strategy directly. Instead, issuers can allocate the shares to institutional investors who can resale the shares to sentiment investors subsequently. There is the risk of an immature end of hot issue market. Therefore, institutional investors can demand underpricing from issuer in exchange for carrying the IPO stock in inventory.

### ➤ **Prospect Theory and Mental Accounting**

Loughran and Ritter (2002) argue that behavioral complications exist among decision-makers instead of investors. It can be assumed that the issuers would be dissatisfied when they leave money on the table in the form of first-day returns. However, they mostly focus on the wealth gain as the share price goes up in the aftermarket. The issuers would be satisfied with the results if their received wealth gain exceeds the loss caused by underpriced shares. Under these circumstances, underwriters benefit the most by allocating underpriced shares to the rent-seeking investors.

## **CHAPTER 3**

### **UNDERPRICING IN TURKEY**

#### **3.1 LITERATURE REVIEW**

Many studies have been conducted in order to understand reasons behind underpricing phenomenon. Both empirical and theoretical researches are abundant in finance literature. In Turkey, academic studies regarding the same subject started in 1990s. Most of these researches investigate whether underpricing exists in Turkey.

Güzelhan and Ağar (1991) is one of the first studies in Turkey. 36 IPOs between 1989-1991 were analyzed. The mean was calculated 2,6% as the first-day, 9,5% as the first-week, and 9,5% as the first-month return.

Aydoğan and Yıldırım (1992) investigated 33 IPOs between 1989-1991. The research showed that the mean underpricing was 1,2% as the first-day, %-0,1 as the 20th-day, and %18 as the 100th day returns.

Kıymaz (1996) investigated 88 IPOs that took place between 1990-1995. The research showed that the mean return of the companies was 15,3% as the first-day and -2,5% as the 5<sup>th</sup>-month returns. Kıymaz asserted that the reason behind underpricing was the institutional lag, which is essentially a large time period between pricing and offering periods. Additionally, Kıymaz also claimed the winner's curse is present in Istanbul Stock Exchange, which put pressure on underwriters to reduce the offering price in order to convince informed investors.

Özer (1999) investigated 89 IPOs that took place between November 1989 and April 1994. The results showed that offered shares yielded more return than the overall stock market in the first-day and the first three days in the aftermarket. However, after three days, the mean return was at the average of the stock market.

Kıymaz (2000) extended the scope of his research and included 163 stocks listed in the period between 1990-1996. He pointed out that the major factors for underpricing were the size of the issuer, the hot issue markets and self-issued offering in the short run while company size and ratios of shares are the factors affecting pricing in the long run.

Türüdü (2001) analyzed 21 companies' IPO results in the period between January 01, 1999 and April 30, 2000. The study revealed that the mean was 14,49% as the first-day return, 27,11% as the first-week return, 67,12% as the first-month return and 78,12% as the six-month return. The results proved the presence of underpricing in IPO market in Turkey.

Durukan (2002) investigated 173 IPOs between 1990-1997. The initial return was proved to be 14,61% for the given sample. In addition, Durukan extended the scope of returns in the aftermarket to 36 months and found out that these initial returns are related to the size of issuer, gross proceeds, age of the company, and debt level in the firm capital structure in the year prior to IPO, institutional ownership and self-issued offering.

Teker and Ekit (2003) focused on 34 IPOs during 2000. They showed the abnormal return in the first two days of offered shares and the significant impact of market trends on the IPO returns in the short run.

Savaşkan (2005) investigated IPOs that took place in between 2004 and 2005. His paper showed that the investors tend to buy new offered shares with the motivation based on speculation. If the shares turn out to be overpriced, they tend to sell their shares at all costs.

Küçükkoçaoğlu (2004) examines the different IPO sales methods. The choice of sales method has significant impact on the initial abnormal returns. The fixed price method has higher mean of abnormal return as the first-day return. In the paper, the mean for fixed price was calculated 11,47%.

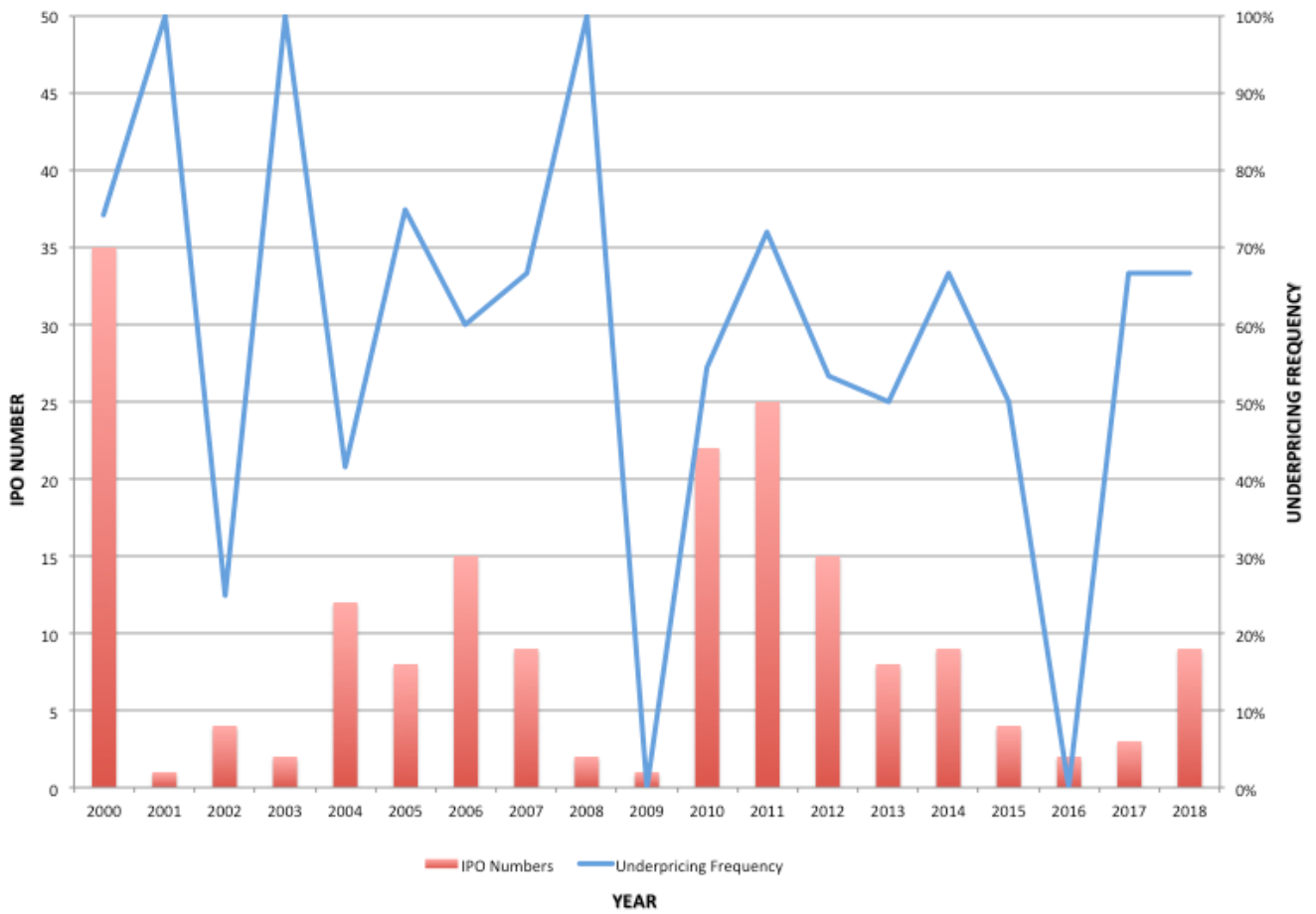
### **3.2 DATA**

The dataset subject to this research covers all the IPOs that took place in Turkey from January 1, 2000 to June 30, 2018. Few IPOs are excluded from the sample due to their abrupt failure in the aftermarket. Overall, the total number of IPOs during this period amounts 186. The data relating to the IPO price, date and company names were obtained from Borsa Istanbul's website. Other data such as the market index and first-day closing price were taken from various online sources such as investing.com and bigpara.hurriyet.com. For the sake of the consistency, data from previous academic studies investigating IPOs of 1990s and 2000s were also taken into consideration. All the data are nominal and calculated in Turkish Liras.

Figure 5 reports the IPO numbers by year and underpricing frequency. Out of all 186 IPOs, there are 116 underpricing instances. The average frequency of underpricing is 62,37% in years between 2000 and 2018. Looking at Figure 5 below, fluctuation over years is observable. The impact of 2001 financial crisis in Turkey and the impact 2008 financial crisis in the world on IPO numbers are clear in the graph. Underpricing didn't occur only in 2009 and 2016.



**Figure 5: IPO Numbers and Underpricing Frequency between 2000-2018**



### 3.3 METHODOLOGY

The initial return for stock  $i$  is calculated as in the Equation (I):

$$R_{i,t} = \frac{P_{i,t}}{P_0} - 1 \tag{I}$$

- $R_{i,t}$ , the initial (simple) return at period  $t$
- $P_{i,t}$ , the price of the stock  $i$  at the end of 1<sup>st</sup> trading day (period  $t$ )
- $P_0$ , the IPO price

The market return at period  $t$  is calculated as in the Equation (II). In this study, BIST 100 is the market index chosen for the calculations.

$$R_{m,t} = \frac{P_{m,t}}{P_{m,t-1}} - 1 \quad (\text{II})$$

- $P_{m,t}$  the market index at the end of period  $t$
- $P_{m,t-1}$ , the market index at the end of period  $t-1$

The prices used in these equations are all in nominal terms and denominated in Turkish Liras. The two measures are calculated for each initial public offering.

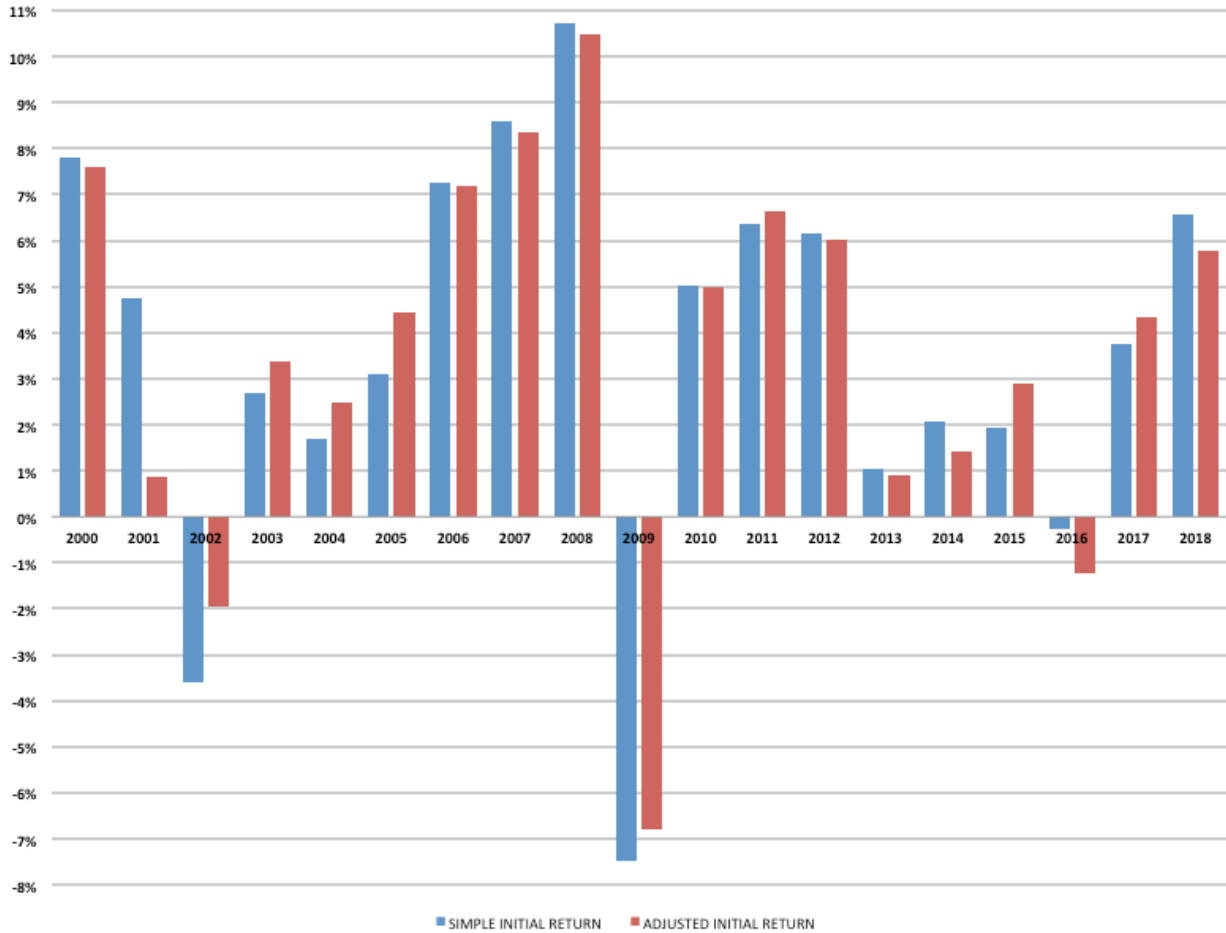
The adjusted initial return is the raw initial return while the simple initial return is considered relative. The adjusted initial return is calculated as in the equation (III)

$$AR_i = R_{i,t} - R_{m,t} \quad (\text{III})$$

### 3.4 EMPIRICAL RESULTS

Figure 6 presents the simple initial returns and adjusted initial returns by year. Table 7 supplies in-detail information about mean IPO numbers, underpricing frequency, simple initial return, adjusted initial return and standard deviation. The mean simple initial return for the period 2000-2018 is 5,28% with 10,58% standard deviation. The mean adjusted initial return for the same period is calculated as 5,31% with 10,72% standard deviation. These results prove that the given data aren't clustered around the mean. Rather, they are quite dispersed.

**Figure 6: Simple and Adjusted Initial Returns between 2000-2018**



The results also show that even though the underpricing frequency is as high as 62,37%, the degree of the underpricing as first-day return is quite low compared to the degree of underpricing in other countries. One of the underlying reasons behind this situation is Borsa Istanbul’s price band regulation. Price band refers to the maximum and minimum price that a security can reach within a trading day. Borsa Istanbul has set the price band to 21%. Indeed, in the appendix, there isn’t a single stock with an initial return higher than 21% or lower than -21%.

As seen in Table 7 below, the initial returns fluctuate through the years. The underpricing usually takes a value between 0 and 10 percent. 2008 is the only year that the underpricing reaches

10%. The sample period witnessed 2001 economic crisis of Turkey and 2008 financial crisis. There are only three years that the mean initial return is negative: 2002, 2009 and 2018. In fact, after negative financial interruptions in 2001 and 2008, the IPOs went exceptionally overpriced in following years. Starting from 2003 and 2010, the underpricing recovers immediately and starts increasing in the following year.

2000 is the record year in terms of IPO numbers. Out of 35, 26 underpricing instances occurred during 2000. 2011 comes after with 18 underpriced IPOs out of 25. Both 2000 and 2011 are the only years that have higher underpricing frequency and mean initial return than average.

**Table 7: Initial Returns and Underpricing Frequency over years**

<b>YEAR</b>	<b>NUMBER OF IPOs</b>	<b>UNDERPRICING OCCURANCE</b>	<b>FREQUENCY (%)</b>	<b>INITIAL RETURN (%)</b>	<b>ADJUSTED INITIAL RETURN (%)</b>	<b>STANDARD DEVIATION</b>
2000	35	26	74,29	7,82	7,60	12,07
2001	1	1	100,00	4,76	0,87	0,00
2002	4	1	25,00	-3,59	-1,96	10,94
2003	2	2	100,00	2,70	3,37	4,71
2004	12	5	41,67	1,70	2,48	12,11
2005	8	6	75,00	3,11	4,44	5,32
2006	15	9	60,00	7,25	7,18	11,69
2007	9	6	66,67	8,59	8,34	10,14
2008	2	2	100,00	10,72	10,48	14,54
2009	1	0	0,00	-7,47	-6,78	0,00
2010	22	12	54,55	5,03	4,99	10,76
2011	25	18	72,00	6,37	6,63	13,58
2012	15	8	53,33	6,15	6,00	10,58
2013	8	4	50,00	1,02	0,91	4,85
2014	9	6	66,67	2,08	1,41	5,64
2015	4	2	50,00	1,94	2,89	4,55
2016	2	0	0,00	-0,25	-1,24	1,34
2017	3	2	66,67	3,75	4,34	4,30
2018	9	6	66,67	6,58	5,79	10,63

Figure 7 presents the frequency of IPO sales methods in the chosen period. The most popular method is fixed price with 73 instances. The direct sale at exchange comes after fixed price with total 65 instances. Bookbuilding within a price range placed last in terms of frequency with 47 instances. Correspondingly, the occurrence rate is 39,46% for fixed price, 35,14% for sale at exchange and 25,41 for price range.

Figure 7 also presents the fact that auction is out of use during the chosen period. In fact, the auction method used to be the most popular option. 18 IPOs out of 25 were salad through auction method in 1994, but its popularity came to end quickly. The last auction in Borsa Istanbul was done in 1997<sup>18</sup> and has never been used ever since.

**Figure 7: IPO Sales Method Frequencies (Number)**

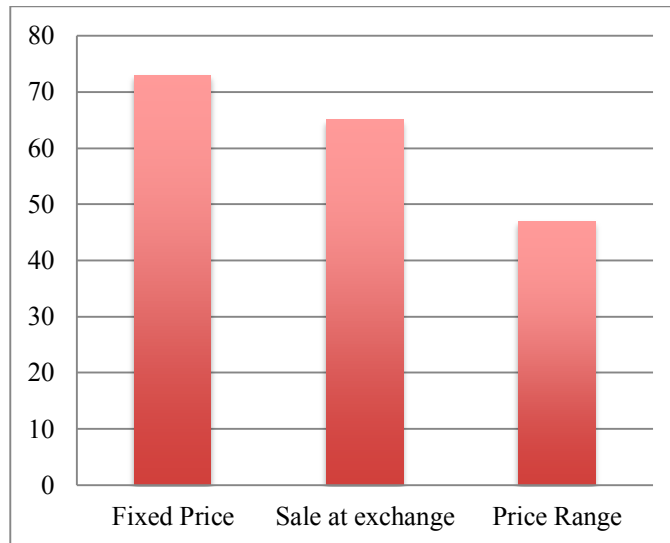


Figure 8 presents the underpricing rates based on IPO sales methods. In contrast to its first place in the sales methods, fixed price has the lowest underpricing with rate as 4,53%. The highest underpricing is observed among directs sales at the exchange with 6,28%. The price range method is ranked in between with 5,52% underpricing. Considering the overall underpricing average of 5,31

<sup>18</sup> Gökalp, N. M., 2014, “Sermaye Piyasalarında Halka Arz”, pp. 204

between 2000-2018, the fixed price underpricing is lower than the mean whereas direct sale underpricing is higher than the average. The underpricing is the price range is method is almost the same as the average with 0,21% deviation.

**Figure 8: Underpricing Among Sales Methods**

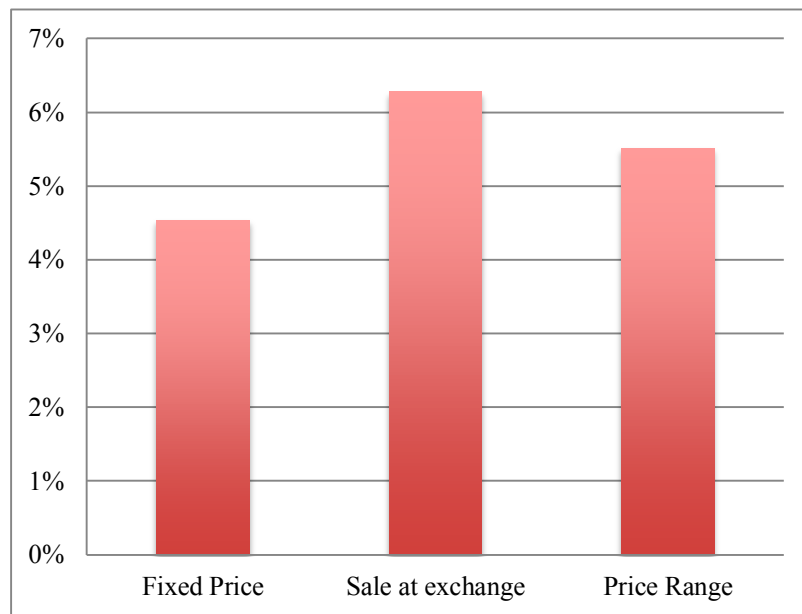
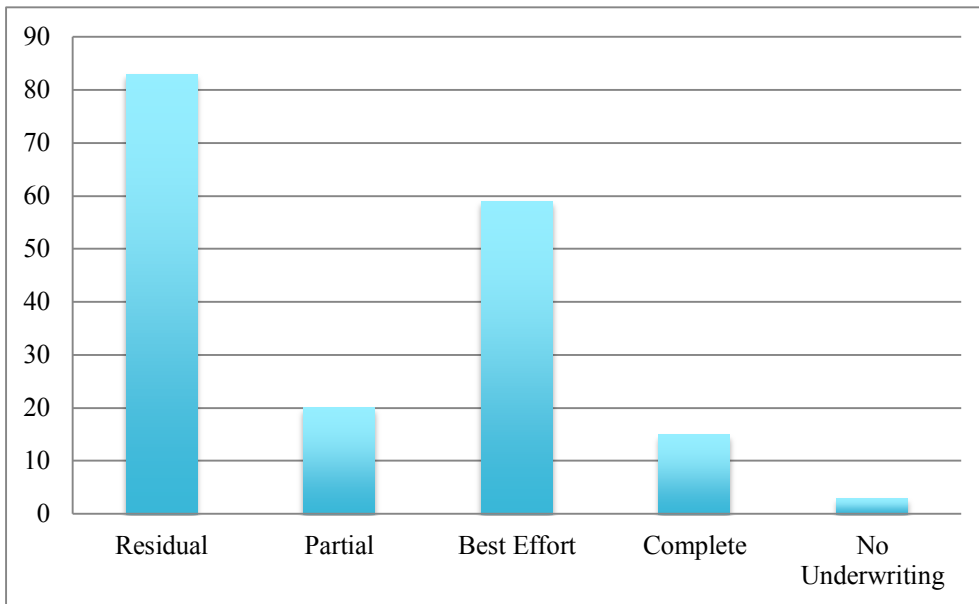


Figure 9 shows the underwriting type choice between 2000 and 2018. Residual undertaking or also known as undertaking of the remaining balance is by far the most popular underwriting method. Out of 180, 83 IPOs were undertaken by residual underwriting. Best effort is the second most used method in the given period. 59 IPOs took place with this method. Best effort has reached its popularity in the second half of 2000s. In the given dataset, the first best effort is used in 2008. Thus, considering the recent years, best effort is favored as much as residual underwriting is. The other underwriting methods are quite scarce compared to best effort and residual underwriting.

**Figure 9: Underwriting Method Frequencies**



**Figure 10: Underpricing Among Undertaking Methods**

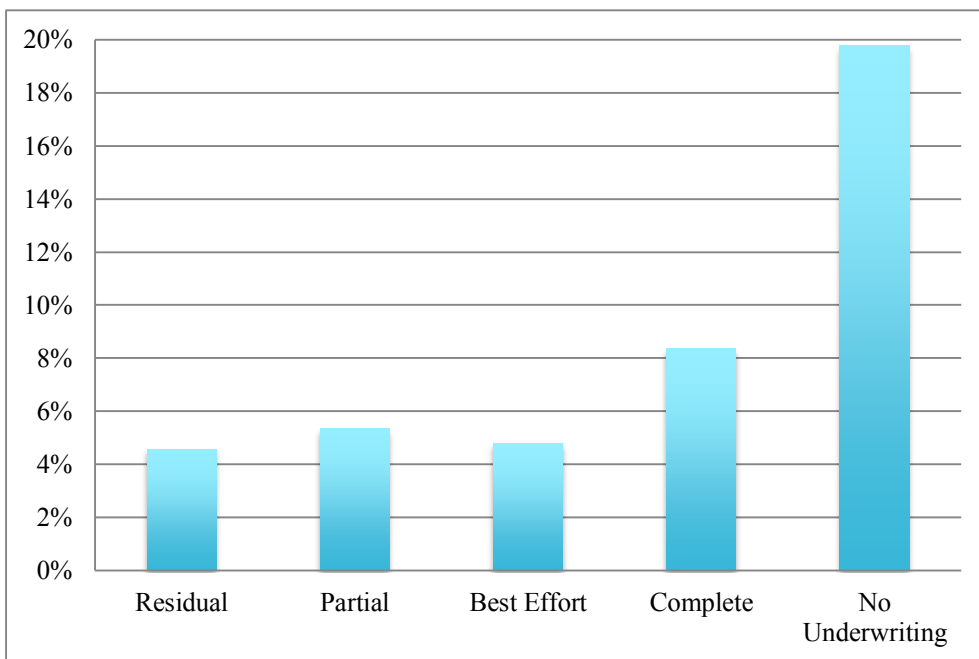




Figure 10 shows the underpricing frequency for each underwriting methods. The highest degree of underpricing is observed in cases of underwriter absence. Even though there are only 3 such instances, 19,78% underpricing is quite noteworthy. Complete underwriting or undertaking of the entire balance method proves to have very high underpricing rate compared to other methods. Between 2000 and 2018, the complete underwriting is used only 15 times. However, the underpricing is 8,33%. Considering the average underpricing 5,31% in the given period, complete undertaking has higher value than the mean. On the other hand, partial underwriting method has a very close value of 5,35%. Residual and best effort underwriting methods are lower than the mean. The former has 4,58% and the latter 4,79%. In conclusion, the inverse proportion between the popularity and the initial returns is observable for underwriting types.

## CONCLUSION

Companies create financial resources by issuing shares to public in an organized and monitored stock market. The industry they belong to and their financial status reveal the importance of creating new financial resources. Different from loans and bonds, shares do not create the problem of repayment of the principal and the interest at maturity. Thus, IPOs is usually preferable option to create financial resources. In Turkey, the firms have been increasingly tending towards the IPO option for additional financing since the foundation of Borsa Istanbul in 1980s.

The first chapter of this study offers the fundamental information about the IPO Process in Turkey. From the company's IPO decision in the beginning to the gong ceremony in the end, the three phases of overall IPO process were introduced to the reader, supplying information about the institutions involved such as Borsa Istanbul and Capital Markets Board of Turkey, the IPO methods, IPO sales methods, and undertaking methods of underwriters.

In the second chapter, the underpricing phenomenon is investigated. Regardless of when and where, the underpricing is present in various countries. The fluctuation of underpricing is observable over years. One of the main measures of an IPO's success is the entire proceeds that the company collects after issuance of its shares. It is interesting that companies accept the money left on the table as the form of underpricing. Therefore, the second chapter presented the reader the theories about underpricing under four groups: information asymmetries, institutional explanations, control considerations, and behavioral explanations. This large body of academic literature about underpricing reveals the fact that there might be various reasons behind an underpriced IPO.

The third chapter focuses on the underpricing concept in Turkey. The empirical IPO literature in Turkey is very mature now. Studies investigating the presence of underwriting and the degree of it

have been conducted since early 1990s. The fluctuation of underpricing is observable in all of these studies. The analysis conducted in this paper covers 186 IPOs that took place between January 1, 2000 and June 30, 2018. The average underpricing frequency found as 62,37%. The results also proved that there were sharp declines in IPO numbers as the market conditions worsened after 2001 and 2008 financial crisis. Secondly, the mean first-day initial return between 2000 and 2018 was calculated as 5,31%. The rate turned out to be very low compared to other countries. One of the underlying reasons behind this situation is price range limitations that exists in Borsa Istanbul. Thus, such a low short-term return is comprehensible in the first day of trading. Additionally, undertaking and sales methods are compared in terms of underpricing occurrence. It is found out that the fixed method is the most popular sales method in Turkey while having the lowest underpricing rate of 4,53%. Direct sales at the exchange method proved to have the highest first-day return of 6,28%, which is higher than the average 5,31% of all IPOs between 2000 and 2018. In terms of undertaking methods, residual undertaking is prevailingly the most popular undertaking method with 83 IPOs out of 180 that is almost the half. However, the first-day initial return of residual underwriting method is the lowest among all with 4,58%. It is noteworthy that fixed price as a sales method and residual underwriting as an undertaking method have the lowest underpricing rates among other methods, while being the most popular. Finally, the analysis proved that underpricing phenomenon as initial returns tends to be less potent than before in Turkey. Average Initial Returns have decreased from two-digit to single-digit numbers in recent years. The choice of sales and underwriting methods shows that the players in the IPO market-the investor, the issuer, the underwriter- are inclined to compromise on lower initial returns in the first trading day.

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**APPENDIX**

<b>2000</b>						
<b>COMPANY NAME</b>	<b>OFFER PRICE</b>	<b>FIRST-DAY CLOSING PRICE</b>	<b>SIMPLE RETURN</b>	<b>FIRST-TRADE DATE</b>	<b>BIST100 RETURN</b>	<b>ADJUSTED RETURN</b>
Yazıcılar Otomotiv ve Gıda Yat. ve Paz. San. ve Tic. A.Ş.	53,00	56	<b>5,66</b>	17.02.2000	-3,1	<b>8,76</b>
Karsan Otomotiv Sanayii ve Ticaret A.Ş.	46	51,5	<b>11,96</b>	21.02.2000	-5,17	<b>17,13</b>
Nuh Çimento Sanayii A.Ş.	15	15,25	<b>1,67</b>	24.02.2000	8,96	<b>-7,29</b>
Şeker Piliç ve Yem Sanayi Ticaret A.Ş.	16	16	<b>0,00</b>	24.02.2000	8,96	<b>-8,96</b>
Anadolu Hayat Sigorta A.Ş.	26	31	<b>19,23</b>	24.02.2000	8,96	<b>10,27</b>
Türk Ekonomi Bankası A.Ş.	8,4	9,2	<b>9,52</b>	28.02.2000	-1,94	<b>11,46</b>
Lio Yağ San. ve Ticaret A.Ş.	12,5	12,5	<b>0,00</b>	02.03.2000	-1,51	<b>1,51</b>
Alkim Alkali Kimya Sanayi	7,2	8,8	<b>22,22</b>	02.03.2000	-1,51	<b>23,73</b>
İş Genel Finansal Kiralama A.Ş.	3,5	4,25	<b>21,43</b>	28.03.2000	-1,9	<b>23,33</b>
Doğan Burda Rizzoli	100	105	<b>5,00</b>	28.03.2000	-1,9	<b>6,90</b>
EGS Holding A.Ş.	2,3	2,73	<b>18,70</b>	30.03.2000	-7,46	<b>26,16</b>
Ersu A.Ş.	9,5	9,12	<b>-4,00</b>	30.03.2000	-7,46	<b>3,46</b>
Soda Sanayi A.Ş.	7,2	8,8	<b>22,22</b>	20.04.2000	0,77	<b>21,45</b>
Batisöke Söke Çimento Sanayii A.Ş.	4,5	5,45	<b>21,11</b>	03.05.2000	-1,62	<b>22,73</b>
Logo Yazılım ve Ticaret A.Ş.	29	35,5	<b>22,41</b>	08.05.2000	-4,1	<b>26,51</b>
Sezginler Gıda San. ve Tic. A.Ş.	17,5	21,25	<b>21,43</b>	11.05.2000	0,67	<b>20,76</b>
Zorlu Enerji Elektrik Üret.Otoprodüktör Grubu A.Ş..Ş.	17	20,75	<b>22,06</b>	25.05.2000	3,22	<b>18,84</b>
Altınyag Kombinaları A.Ş.	8,5	7,31	<b>-14,00</b>	25.05.2000	3,22	<b>-17,22</b>
Sınai Yatırım Bankası	3,1	3,3	<b>6,45</b>	01.06.2000	3,48	<b>2,97</b>

Dentaş Ambalaj ve Kağıt Sanayi A.Ş.	3,5	3,36	<b>-4,00</b>	08.06.2000	2,91	<b>-6,91</b>
Acıbadem Sağlık Hizmetleri ve Ticaret A.Ş.	30	25,5	<b>-15,00</b>	15.06.2000	-1,44	<b>-13,56</b>
İpek Matbaacılık Sanayi ve Ticaret A.Ş.	16,5	17,75	<b>7,58</b>	30.06.2000	0,42	<b>7,16</b>
Ak Enerji Elektrik Üretimi Otoprodüktör Grubu A.Ş.	32,5	30,55	<b>-6,00</b>	07.07.2000	1,15	<b>-7,15</b>
Ayen Enerji A.Ş.	48	52	<b>8,33</b>	05.07.2000	3,08	<b>5,25</b>
Vakıf Risk Sermayesi Yatırım Ortaklığı A.Ş.	2,8	3,45	<b>23,21</b>	05.07.2000	3,08	<b>20,13</b>
Turkcell İletişim Hizmetleri A.Ş.	44	46,5	<b>5,68</b>	11.07.2000	-5,43	<b>11,11</b>
Escort Computer Elektronik San. ve Tic.A.Ş.	23,5	23,75	<b>1,06</b>	20.07.2000	-2,38	<b>3,44</b>
Menderes Tekstil A.Ş.	15	13,95	<b>-7,00</b>	27.07.2000	0,11	<b>-7,11</b>
Tek-Art Turizm A.Ş.	28	28,5	<b>1,79</b>	10.08.2000	0,32	<b>1,47</b>
Favori Dinlenme Yerleri A.Ş.	2,75	2,95	<b>7,27</b>	31.08.2000	-1,32	<b>8,59</b>
Sanko Pazarlama İthalat İhracat A.Ş.	16	16,25	<b>1,56</b>	05.10.2000	0,43	<b>1,13</b>
Link Bilgisayar Sistemleri Yazılımı ve Donanımı Sanayi ve Ticaret A.Ş.	25,5	31,5	<b>23,53</b>	26.10.2000	-0,05	<b>23,58</b>
EGS Finansal Kiralama A.Ş.	2,6	2,6	<b>0,00</b>	26.10.2000	-0,05	<b>0,05</b>
Arena Bilgisayar Sanayi ve Ticaret A.Ş.	31	33,5	<b>8,06</b>	02.11.2000	3,1	<b>4,96</b>
Alkim Kağıt San. ve Tic. A.Ş.	3,35	3,5	<b>4,48</b>	02.11.2000	3,1	<b>1,38</b>
<b>2001</b>						
Sınai Yatırım Bankası Yatırım Ortaklığı A.Ş.	1,05	1,1	<b>4,76</b>	23.10.2001	3,89	<b>0,87</b>



<b>2002</b>						
Atakule Gayrimenkul Yatırım Ortaklığı A.Ş.	1,15	1,13	<b>-1,74</b>	14.02.2002	0,16	<b>-1,90</b>
Galatasaray Sportif Sınai ve Ticari Yatırımlar A.Ş.	8,70	8,04	<b>-7,59</b>	20.02.2002	-3,69	<b>-3,90</b>
Beşiktaş Futbol Yatırımları Sanayi ve Ticaret A.Ş.	5,75	4,715	<b>-18,00</b>	20.02.2002	-3,69	<b>-14,31</b>
Metemtur Otelcilik ve Turizm İşletmeleri A.Ş.	10,40	11,75	<b>12,98</b>	23.07.2002	0,7	<b>12,28</b>
<b>2003</b>						
Koza Davetiye Mağaza İşletmeleri ve İhracat A.Ş.	7,895	7,94	<b>0,57</b>	20.02.2003	0,53	<b>0,04</b>
Gersan Elektrik Ticaret Sanayi A.Ş.	3,10	3,25	<b>4,84</b>	14.05.2003	-1,86	<b>6,70</b>
<b>2004</b>						
Fenerbahçe Sportif Hizmetler Sanayi ve Ticaret A.Ş.	10,5	12,8	<b>21,90</b>	20.02.2004	-0,01	<b>21,91</b>
İnfo Menkul Kıymetler Yatırım Ortaklığı A.Ş.	1,16	1,41	<b>21,55</b>	04.03.2004	-0,82	<b>22,37</b>
Doğuş Otomotive Servis ve Ticaret A.Ş.	6,75	6,48	<b>-4,00</b>	17.06.2004	-1,16	<b>-2,84</b>
Türk Traktör ve Ziraat Makineleri A.Ş.	8	7,68	<b>-4,00</b>	11.06.2004	-0,69	<b>-3,31</b>
Burçelik Vana Sanayi ve Ticaret A.Ş.	1,85	1,68	<b>-9,19</b>	17.05.2004	-3,68	<b>-5,51</b>
İndeks Bilgisayar Sistemleri Mühendislik Sanayi ve Ticaret A.Ş.	4,5	4,5	<b>0,00</b>	24.06.2004	0,41	<b>-0,41</b>
Desa Deri Sanayi ve Ticaret A.Ş.	2,8	3,13	<b>11,79</b>	06.05.2004	-3,55	<b>15,34</b>
Şeker Finansal Kiralama A.Ş.	1,4	1,34	<b>-4,29</b>	23.07.2004	0,4	<b>-4,69</b>

AFM Uluslararası Film Prodüksiyon Ticaret ve Sanayi A.Ş.	14,5	11,89	<b>-18,00</b>	19.10.2004	0,19	<b>-18,19</b>
Denizbank A.Ş.	2,875	3,08	<b>7,13</b>	01.10.2004	-0,18	<b>7,31</b>
PLASTİKKA RT Akıllı Kart İletişim Sistemleri Sanayi ve Ticaret A.Ş.	3,2	3,07	<b>-4,06</b>	19.08.2004	-0,42	<b>-3,64</b>
İş Girişim Sermayesi Yatırım Ortaklığı A.Ş.	3,8	3,86	<b>1,58</b>	22.10.2004	0,19	<b>1,39</b>
<b>2005</b>						
Trabzonspor Sportif Yatırım ve Ticaret A.Ş.	5,25	5,15	<b>-1,90</b>	15.04.2005	-2,81	<b>0,91</b>
Akmerkez Gayrimenkul Yatırım Ortaklığı A.Ş.	40	43,5	<b>8,75</b>	15.04.2005	-2,81	<b>11,56</b>
İnfotrend B Tipi Menkul Kıymetler Yatırım Ortaklığı A.Ş.	1,12	1,06	<b>-5,36</b>	09.05.2005	-1	<b>-4,36</b>
Evg Yatırım Ortaklığı A.Ş.	1,15	1,17	<b>1,74</b>	11.07.2005	-0,12	<b>1,86</b>
Bim Birleşik Mağazalar A.Ş.	26,6	28,25	<b>6,20</b>	15.07.2005	-0,26	<b>6,46</b>
Anel Telekomünika syon Elektronik Sistemleri San. ve Tic. A.Ş.	3,74	3,8	<b>1,60</b>	13.09.2005	-0,52	<b>2,12</b>
Hedef Menkul Kıymetler Yatırım Ortaklığı A.Ş.	1,1	1,13	<b>2,73</b>	06.10.2005	-3,64	<b>6,37</b>
Türkiye Vakıflar Bankası T.A.O.	5,4	6	<b>11,11</b>	18.11.2005	0,53	<b>10,58</b>
<b>2006</b>						
Reysaş Taşımacılık ve Lojistik Ticaret A.Ş.	4	4,84	<b>21,00</b>	10.02.2006	1,49	<b>19,51</b>
Datagate Bilgisayar Malzemeleri Ticaret A.Ş.	3,5	4,26	<b>21,71</b>	10.02.2006	1,49	<b>20,22</b>
Vestel Beyaz Eşya Sanayi ve Ticaret A.Ş.	3,2	3,2	<b>0,00</b>	21.04.2006	2,74	<b>-2,74</b>

Selçuk Ecza Deposu Ticaret ve Sanayi A.Ş.	5,35	6,5	<b>21,50</b>	26.04.2006	-1,34	<b>22,84</b>
Asya Katılım Bankası A.Ş.	3,5	4,26	<b>21,71</b>	12.05.2006	-3,99	<b>25,70</b>
Coca Cola	7,25	8,05	<b>11,03</b>	12.05.2006	-3,99	<b>15,02</b>
Başkent Menkul Kıymetler Yatırım Ortaklığı A.Ş.	1,05	1,04	<b>-0,95</b>	25.05.2006	1,74	<b>-2,69</b>
Metro Menkul Kıymetler Yatırım Ortaklığı A.Ş.	1,00	1,21	<b>21,00</b>	02.06.2006	2,32	<b>18,68</b>
Taksim Yatırım Ortaklığı A.Ş.	1,19	1,26	<b>5,88</b>	02.06.2006	2,32	<b>3,56</b>
Armada Bilgisayar Sistemleri Sanayi ve Ticaret A.Ş.	3	2,79	<b>-7,00</b>	15.06.2006	2,21	<b>-9,21</b>
Silverline Endüstri ve Ticaret A.Ş.	2,86	2,64	<b>-7,69</b>	23.06.2006	-3,2	<b>-4,49</b>
Euro Menkul Kıymetler Yatırım Ortaklığı A.Ş.	1,1	1,13	<b>2,73</b>	26.06.2006	1,63	<b>1,10</b>
Tacirler Yatırım Ortaklığı A.Ş.	1,06	1,07	<b>0,94</b>	06.10.2006	-0,49	<b>1,43</b>
Karel Elektronik Sanayi ve Ticaret A.Ş.	4,36	4,27	<b>-2,06</b>	20.10.2006	-0,45	<b>-1,61</b>
Marbaş B Tipi Yatırım Ortaklığı A.Ş.	1	0,99	<b>-1</b>	8.12.2006	-1,35	<b>0,35</b>
<b>2007</b>						
TAV Havalimanları Holding A.Ş.	10	11	<b>10,00</b>	23.02.2007	-0,57	<b>10,57</b>
Sağlam Gayrimenkul Yatırım Ortaklığı A.Ş.	1,1	1,34	<b>21,82</b>	02.02.2007	1,92	<b>19,90</b>
Oyak Yatırım Ortaklığı A.Ş.	1,1	1,06	<b>-3,64</b>	04.05.2007	-0,58	<b>-3,06</b>
Merkez B Tipi Men. Kıy. Yat. Ort. A.Ş.	1,1	1,03	<b>-6,36</b>	04.05.2007	-0,58	<b>-5,78</b>
Türkiye Halk Bankası A.Ş.	8	8,9	<b>11,25</b>	10.05.2007	-0,1	<b>11,35</b>
İş Yatırım Menkul Değerler A.Ş.	2,8	3,36	<b>20,00</b>	18.05.2007	0,47	<b>19,53</b>
Sinpaş Gayrimenkul Yatırım Ortaklığı A.Ş.	7,6	7,45	<b>-1,97</b>	22.06.2007	-0,54	<b>-1,43</b>

Albaraka Türk Katılım Bankası A.Ş.	4,1	4,96	<b>20,98</b>	29.06.2007	1,98	<b>19,00</b>
Tekfen Holding A.Ş.	5,7	6	<b>5,26</b>	23.11.2007	0,25	<b>5,01</b>
<b>2008</b>						
Türk Telekomünikasyon A.Ş.	4,6	4,62	<b>0,43</b>	15.05.2008	0,24	<b>0,19</b>
Euro Trend Yatırım Ortaklığı A.Ş.	1	1,21	<b>21,00</b>	15.05.2008	0,24	<b>20,76</b>
<b>2009</b>						
Ran Lojistik Hizmetleri A.Ş.	3,48	3,22	<b>-7,47</b>	06.11.2009	-0,69	<b>-6,78</b>
<b>2010</b>						
Koza Altın İşletmeleri AŞ	36,8	34,59	<b>-6,01</b>	12.02.2010	-0,62	<b>-5,39</b>
TSKB GYO A.Ş.	1,16	1,08	<b>-6,90</b>	09.04.2010	1,32	<b>-8,22</b>
LATEK LOJİSTİK TİCARET A.Ş.	3,96	4,14	<b>4,55</b>	27.04.2010	-1,4	<b>5,95</b>
AKFEN HOLDİNG AŞ	12,5	13,33	<b>6,64</b>	14.05.2010	-3,77	<b>10,41</b>
AKSA ENERJİ ÜRETİM A.Ş.	4,9	4,76	<b>-2,86</b>	21.05.2010	-0,62	<b>-2,24</b>
MANGO GIDA SAN. ve TİC. A.Ş.	3,6	3,92	<b>8,89</b>	24.05.2010	0,83	<b>8,06</b>
İHLAS GAZETECİLİK A.Ş.	1,65	1,9	<b>15,15</b>	14.06.2010	1,01	<b>14,14</b>
ANEL ELEKTRİK PROJE TAAHHÜT VE TİC. A.Ş.	5,3	5,3	<b>0,00</b>	16.06.2010	-0,03	<b>0,03</b>
EURO YATIRIM MENKUL DEĞERLER AŞ	1,71	2,08	<b>21,64</b>	10.6.2014	1,14	<b>20,50</b>
İDEALİST GAYRİMENKUL Y.O A.Ş.	1,27	1,54	<b>21,26</b>	01.07.2010	-0,56	<b>21,82</b>
ÇEMAŞ DÖKÜM SANAYİİ A.Ş.	2,14	2,33	<b>8,88</b>	02.07.2010	2,02	<b>6,86</b>
REYSAŞ GAYRİMENKUL YATIRIM ORTAKLIĞI A.Ş.	1	1	<b>0,00</b>	12.07.2010	0,73	<b>-0,73</b>

EKİZ YAĞ VE SABUN SANAYİİ A.Ş.	6,65	5,52	<b>-16,99</b>	20.07.2010	0,2	<b>-17,19</b>
GEDİK YATIRIM MENKUL DEĞERLER A.Ş.	1,58	1,92	<b>21,52</b>	29.07.2010	0,55	<b>20,97</b>
MARTI GAYRİMEN KUL YATIRIM ORTAKLIĞI A.Ş.	1,42	1,38	<b>-2,82</b>	24.09.2010	0,08	<b>-2,90</b>
TORUNLAR GAYRİMEN KUL YATIRIM ORTAKLIĞI A.Ş.	7,3	7,08	<b>-3,01</b>	21.10.2010	1,57	<b>-4,58</b>
İHLAS YAYIN HOLDİNG A.Ş.	1,3	1,58	<b>21,54</b>	05.11.2010	-0,18	<b>21,72</b>
KATMERCİLER ARAÇ ÜSTÜ EKİPMAN SANAYİ VE TİCARET A.Ş.	6	5,82	<b>-3,00</b>	11.11.2010	-0,67	<b>-2,33</b>
UYUM GIDA ve İHTİYAÇ MADDELERİ SANAYİ ve TİCARET AŞ	8,75	8,31	<b>-5,03</b>	22.11.2010	-2,69	<b>-2,34</b>
EMLAK KONUT GAYRİMEN KUL YATIRIM ORTAKLIĞI A.Ş.	1,7	1,9	<b>11,76</b>	02.12.2010	1,18	<b>10,58</b>
DO&CO RESTAURANTS AND CATERİNG AG	43,18	49,2	<b>13,94</b>	02.12.2010	1,18	<b>12,76</b>
Despec Bilgisayar Pazarlama ve Ticaret A.Ş.	7,15	7,26	<b>1,54</b>	08.12.2010	-0,25	<b>1,79</b>
<b>2011</b>						
Hateks Hatay Tekstil İşletmeleri A.Ş.	4,25	5,15	<b>21,18</b>	17.01.2011	-1,54	<b>22,72</b>
Kiler Alışveriş Hizmetleri Gıda San. ve Tic. A.Ş.	6,1	7,36	<b>20,66</b>	27.01.2011	-1,4	<b>22,06</b>

Lokman Hekim Engürüsağ Sağlık Turizm Eğitim Hizmetleri ve İnşaat Taahhüt A.Ş.	4,13	4,83	<b>16,95</b>	01.02.2011	2,44	<b>14,51</b>
Bizim Toptan Satış Mağazaları AŞ	25	28,85	<b>15,40</b>	03.02.2011	-2,42	<b>17,82</b>
Utopya Turizm İnşaat İşletmecilik Ticaret A.Ş.	3,86	3,2	<b>-17,10</b>	24.02.2011	-3,76	<b>-13,34</b>
Bimeks Bilgi İşlem ve Dış Ticaret A.Ş.	4,5	4,7	<b>4,44</b>	14.04.2011	-0,36	<b>4,80</b>
Kiler Gayrimenkul Yatırım Ortaklığı A.Ş.	6,1	6,35	<b>4,10</b>	20.04.2011	0,46	<b>3,64</b>
Akfın Gayrimenkul Yatırım Ortaklığı A.Ş.	2,28	2,21	<b>-3,07</b>	11.05.2011	-2,4	<b>-0,67</b>
Yaprak Süt ve Besi Çiftlikleri	6	6,58	<b>9,67</b>	13.05.2011	-2,93	<b>12,60</b>
Bilici Yatırım Sanayi ve Ticaret A.Ş.	2,7	3,42	<b>26,67</b>	17.05.2011	-0,05	<b>26,72</b>
Dağı Giyim Sanayi ve Ticaret A.Ş.	2,42	2,9	<b>19,83</b>	02.06.2011	-0,18	<b>20,01</b>
Kron Telekomünikasyon Hizmetleri A.Ş.	3,3	3,42	<b>3,64</b>	27.05.2011	-2,11	<b>5,75</b>
Karkim Sondaj Akışkanları Enerji Mühendislik Hiz. San. ve Tic. A.Ş.	7,18	7,54	<b>5,01</b>	02.06.2011	-0,18	<b>5,19</b>
Ataç İnşaat ve Sanayi A.Ş.	12,5	12,38	<b>-0,96</b>	08.06.2011	-0,61	<b>-0,35</b>
Ericom Telekomünikasyon ve Enerji Teknolojileri A.Ş.	3,55	4,15	<b>16,90</b>	09.06.2011	-0,62	<b>17,52</b>
Saray Matbaacılık Kağıtçılık Kırtasiyecilik Ticaret ve Sanayi A.Ş.	3,2	3,87	<b>20,94</b>	24.06.2011	0,78	<b>20,16</b>
Global Menkul Değerler A.Ş.	1,65	1,75	<b>6,06</b>	29.06.2011	0,29	<b>5,77</b>

Mepet Metro Petrol ve Tesisleri Sanayi Ticaret A.Ş.	5,5	5,7	<b>3,64</b>	25.07.2011	2,08	<b>1,56</b>
Özbal Çelik Boru San ve Tic A.Ş.	4,1	3,94	<b>-3,90</b>	28.07.2011	2,21	<b>-6,11</b>
Mataş Matbaacılık Ambalaj San. Ve Tic. A.Ş.	3,5	3,51	<b>0,29</b>	01.08.2011	-0,59	<b>0,88</b>
Euro Kapital Yatırım Ortaklığı A.Ş.	1	0,67	<b>-33,00</b>	15.08.2011	2,48	<b>-35,48</b>
İnfo Yatırım A.Ş.	1,75	1,87	<b>6,86</b>	11.10.2011	0,58	<b>6,28</b>
Adese Alışveriş Merkezleri Ticaret A.Ş.	7,75	7,44	<b>-4,00</b>	03.11.2011	1,44	<b>-5,44</b>
A.V.O.D Kurutulmuş Gıda ve Tarım Ürünleri Sanayi Ticaret A.Ş.	2,5	2,5	<b>0,00</b>	06.12.2011	-0,94	<b>0,94</b>
Genra Lojistik A.Ş.	2,9	3,45	<b>18,97</b>	05.12.2011	0,78	<b>18,19</b>
<b>2012</b>						
Özak Gayrimenkul Yatırım Ortaklığı A.Ş.	2,5	2,50	<b>0,00</b>	15.02.2012	0,31	<b>-0,31</b>
Niğbaş Niğde Beton Sanayi ve Ticaret A.Ş.	2,04	2,46	<b>20,59</b>	05.03.2012	-2	<b>22,59</b>
Oylum Sınai Yatırımlar A.Ş.	2,3	2,79	<b>21,30</b>	04.05.2012	-0,46	<b>21,76</b>
Orge Enerji Elektrik Taahhüt A.Ş.	3,56	3,28	<b>-7,87</b>	15.05.2012	-0,69	<b>-7,18</b>
Prizma Pres Matbaacılık Yayıncılık Sanayi Ticaret A.Ş.	4	3,96	<b>-1,00</b>	15.05.2012	-0,69	<b>-0,31</b>
Teknosa İç ve Dış Ticaret A.Ş.	7,75	7,6	<b>-1,94</b>	17.05.2012	-1,32	<b>-0,62</b>
Polisan Holding A.Ş.	2,25	2,14	<b>-4,89</b>	24.05.2012	-1,47	<b>-3,42</b>
Ar Tarım Organik Gıda A.Ş.	1,89	2,29	<b>21,16</b>	31.05.2012	-0,05	<b>21,21</b>
TGS Dış Ticaret A.Ş.	5,6	5,49	<b>-1,96</b>	07.06.2012	0,8	<b>-2,76</b>
Flap Kongre Toplantı Hizmetleri Otomotiv ve Turizm A.Ş.	4,9	5,7	<b>16,33</b>	29.06.2012	2,83	<b>13,50</b>

Akdeniz Güvenlik Hizmetleri A.Ş.	10,9	12,35	<b>13,30</b>	03.07.2012	1,24	<b>12,06</b>
Karakaş Atlantis Kıymetli Madenler Kuyumculuk Telekomünikasyon Sanayi ve Ticaret A.Ş.	2,5	2,52	<b>0,80</b>	03.08.2012	2,39	<b>-1,59</b>
Ulaşlar Turizm Yatırımları ve Dayanıklı Tüketim Malları Ticaret Pazarlama A.Ş.	1,9	2,22	<b>16,84</b>	06.08.2012	0,42	<b>16,42</b>
Atlantik Petrol Ürünleri Ticaret ve Sanayi A.Ş.	4,5	4,46	<b>-0,89</b>	15.10.2012	0,24	<b>-1,13</b>
Tümosan Motor ve Traktör Sanayi A.Ş.	4	4,02	<b>0,50</b>	05.12.2012	0,68	<b>-0,18</b>
<b>2013</b>						
Halk Gayrimenkul Yatırım Ortaklığı A.Ş.	1,35	1,30	<b>-3,70</b>	22.02.2013	-1,77	<b>-1,93</b>
Servet Gayrimenkul Yatırım Ortaklığı A.Ş.	2,73	2,78	<b>1,83</b>	24.04.2013	0,9	<b>0,93</b>
Pegasus Hava Taşımacılığı A.Ş.	18,4	18,75	<b>1,90</b>	26.04.2013	0,2	<b>1,70</b>
Royal Halı İplik Tekstil Mobilya San. Ve Tic. A.Ş.	4,45	4,41	<b>-0,90</b>	03.05.2013	0,48	<b>-1,38</b>
Odaş Elektrik Üretim Sanayi Ticaret A.Ş.	5	5,04	<b>0,80</b>	21.05.2013	1,14	<b>-0,34</b>
Panora Gayrimenkul Yatırım Ortaklığı A.Ş.	4,7	4,70	<b>0,00</b>	23.05.2013	-1,96	<b>1,96</b>
Akyürek Tüketim Ürünleri Pazarlama Dağıtım ve Ticaret A.Ş.	2,6	2,55	<b>-1,92</b>	07.06.2013	3,21	<b>-5,13</b>
Verusa Holding A.Ş.	11,3	12,45	<b>10,18</b>	19.11.2013	-1,3	<b>11,48</b>
<b>2014</b>						



Arbul Entegre Tekstil İşletmeleri A.Ş.	2,00	2,20	<b>10,00</b>	28.04.2014	1,41	<b>8,59</b>
Körfez Gayrimenkul Yatırım Ortaklığı A.Ş.	1,15	1,29	<b>12,17</b>	06.05.2014	0,57	<b>11,60</b>
RTA Laboratuvarları Biyolojik Ürünler İlaç ve Makine Sa. Tic. A.Ş.	13	12,55	<b>-3,46</b>	02.06.2014	-0,81	<b>-2,65</b>
Tuççelik Alüminyum ve Metal Mamülleri Sanayi ve Ticaret A.Ş.	4	4,13	<b>3,25</b>	16.06.2014	-1,73	<b>4,98</b>
Lider Faktoring A.Ş.	3	3,01	<b>0,33</b>	19.06.2014	1,23	<b>-0,90</b>
Pergamon Status Dış Ticaret A.Ş.	7,5	7,52	<b>0,27</b>	12.11.2014	2,54	<b>-2,27</b>
AvivaSA Emeklilik ve Hayat A.Ş.	47	47,15	<b>0,32</b>	13.11.2014	0,6	<b>-0,28</b>
Ulusoy Un Sanayi ve Ticaret A.Ş.	3,15	3,04	<b>-3,49</b>	20.11.2014	1,29	<b>-4,78</b>
Ulusoy Elektrik İmalat Taahhüt Ticaret A.Ş.	14	13,90	<b>-0,71</b>	21.11.2014	0,93	<b>-1,64</b>
<b>2015</b>						
Hedef Girişim Sermayesi Yatırım Ortaklığı A.Ş.	1,55	1,52	<b>-1,94</b>	03.02.2015	-2,46	<b>0,52</b>
Senkron Güvenlik ve İletişim Sistemleri A.Ş.	5,25	5,27	<b>0,38</b>	04.03.2015	-2,65	<b>3,03</b>
Bantaş Bandırma Ambalaj San.ve Tic. A.Ş.	2,40	2,40	<b>0,00</b>	18.05.2015	1,2	<b>-1,20</b>
Verusaturk Girişim Sermayesi Yatırım Ortaklığı A.Ş.	2,36	2,58	<b>9,32</b>	17.11.2015	0,13	<b>9,19</b>
<b>2016</b>						
Çuhadaroğlu Metal Sanayi ve Pazarlama A.Ş.	2,00	1,99	<b>-0,50</b>	04.02.2016	1,69	<b>-2,19</b>

Via Gayrimenkul Yatırım Ortaklığı A.Ş.	13,60	13,6	<b>0,00</b>	11.05.2016	0,29	<b>-0,29</b>
<b>2017</b>						
Mistral Gayrimenkul Yatırım Ortaklığı A.Ş.	5,50	5,50	<b>0,00</b>	10.01.2017	0	<b>0,00</b>
Fonet Bilgi Teknolojileri A.Ş.	3,50	3,77	<b>7,71</b>	04.05.2017	-0,88	<b>8,59</b>
Mavi Giyim Sanayi ve Ticaret A.Ş.	43,00	44,52	<b>3,53</b>	15.06.2017	-0,9	<b>4,43</b>
<b>2018( First 6 months)</b>						
Safkar Ege Soğutmacılık Klima Soğuk Hava Tesisleri İhracat İthalat A.Ş.	1,98	2,37	<b>19,70</b>	16.01.2018	2,01	<b>17,69</b>
Trabzon Liman İşletmeciliği A.Ş.	15,5	18,6	<b>20</b>	24.01.2018	1,05	<b>18,95</b>
Enerjisa Enerji A.Ş.	6,25	6,75	<b>8</b>	08.02.2018	-1,13	<b>9,13</b>
MLP Sağlık Hizmetleri A.Ş.	19	18,71	<b>-1,53</b>	13.02.2018	-0,28	<b>-1,25</b>
Peker Gayrimenkul Yatırım Ortaklığı A.Ş.	5,5	5,54	<b>0,73</b>	21.02.2018	2,54	<b>-1,81</b>
Trend Gayrimenkul Yatırım Ortaklığı A.Ş.	1,52	1,42	<b>-6,58</b>	23.02.2018	0,58	<b>-7,16</b>
Kafein Yazılım Hizmetleri Ticaret A.Ş.	4,45	5,34	<b>20</b>	16.05.2018	0,61	<b>19,39</b>
Şok Marketler Ticaret A.Ş.	10,5	10,14	<b>-3,43</b>	18.05.2018	0,63	<b>-4,06</b>
Formet Çelik Kapı Sanayi ve Ticaret A.Ş.	7,33	7,5	<b>2,32</b>	22.05.2018	1,05	<b>1,27</b>