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SHORT TERM POST-IPO SHARE PRICE PERFORMANCE COMPARISON OF PUBLICLY OWNED AND PRIVATE COMPANIES

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ÖZEL VE ÖZELLEŞTİRİLEN ŞİRKETLERİN HALKA ARZLARI SONRASI KISA VADELİ HİSSE PERFORMANSLARININ KARŞILAŞTIRMASI

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ABSTRACT

This thesis aims to examine and compare initial trading day and twelve months stock performance of privatization initial public offerings (PIPOs) and private company initial offerings (IPOs) between 1990 and 2019 in Turkey. A sample of 425 IPOs, consisting of 25 PIPOs and 400 private company IPOs are analysed in the study. Consistent with previous literature, underpricing is evident with the mean initial trading day of 8.5% of the entire sample. Privatization IPOs results in Turkey also indicate a higher magnitude of underpricing compared to private company IPOs. This is consistent with previous studies that suggest PIPOs generally offer higher initial excess returns compared to private company IPOs. Regarding the twelve-month period, the cumulative abnormal return method yields 4.3% for all IPOs. Similar to initial day performance, PIPOs also appears to be more underpriced compared to private company IPOs.

Keywords: Initial Public Offering, Underpricing, Short-Term Share Performance, Private company IPO, Privatization IPO

ÖZET

Bu araştırmanın amacı Borsa İstanbul'da, 1990 ve 2019 yılları arasında halka arzı gerçekleştirilen özel şirketlerin ve özelleştirilen devlet şirketlerinin hisse getirilerinin ilk işlem gününde ve on iki aylık süre zarfında gösterdiği performansın incelenmesi ve karşılaştırmasıdır. Çalışmada toplam 425 halka arz incelenmiş olup bu halka arzların 400'ü özel şirket, 25'i ise özelleştirilen devlet şirketlerinden oluşmaktadır. Literatürle uyumlu olarak hisse senetlerinin ortalama ilk işlem günü getirisi %8.5 olarak bulunarak düşük fiyatlamanın var olduğu gözlemlenmiştir. Yine aynı şekilde bu konuda yapılan daha önceki çalışmalarla uyumlu olarak özelleştirilen şirketlerin, özel şirketlere göre daha yüksek oranda düşük fiyatlandırıldığı görülmüştür. Halka arzların on iki aylık dönemdeki hisse performansları incelendiğinde ise tümünün kümülatif anormal getirisi %4.3 olarak bulunmuştur. İlk işlem günü sonuçlarına benzer şekilde özelleştirilen devlet şirketlerinin özel şirketlere göre daha düşük fiyatlandırıldığı sonucuna varılmıştır.

Anahtar Kelimler: İlk Halka Arz, Düşük Fiyatlama, Kısa Vadeli Hisse Performansı, Özelleştirme Halka Arzı, Özel Şirket Halka Arzı

1. INTRODUCTION

IPO markets have exhibited strong increase in the number and market capitalization of trading companies with an increasing diversity of industries and type of companies in recent decades. Fiscal motivations for issuing shares to the public are monetization of investments by shareholders and external funding for the firm other than debt financing.

Initial public offering is the process through which a privately or state-owned company issue shares of stocks to the public for the first time. In case of issued shares that are owned by state or a state affiliated company, this is classified as privatization IPO.

Divesting ownership in state enterprises contribute governments to achieve political objectives. From fiscal perspective, privatization receipts from listing shares are included to government budget. Governments may use proceeds for increase savings or meeting public debt, budget deficit or to fuel growth. Additionally, improved performance with the sale of state-owned enterprises expectation is also considered as a motivation of governments which would yield higher tax revenues for governments in longer term.

The two primary privatization methods are asset sale and issuing stocks of the state enterprise to the stock market. Megginson (2005) asserts that some evidence is present that governments receive higher proceeds by issuing stocks in the stock market compared to asset sale. Privatization through IPO is considered as the most transparent method of selling state owned enterprise. One other benefit stands out as privatization of large firms through IPO contributes to growth of national capital markets.

In case of capital increase, the primary benefit of going public through IPO is to raise capital. The firm can utilize raised capital at the IPO to further enhance its operations, spend on capital expenditure, research or meet debt repayments. Prestige and publicity motivates stand out as other advantages of going public. On the flip side, IPO process takes time and can be costly due to underwriting and filing

fees along with additional report and disclosure requirement after shares start to float in stock exchange.

Investors always seek and prefer to make an investment that gives the highest return. This has added considerable interest in evaluation of stock performances in financial literature. A part of this interest, performances of IPOs in the initial trading day and aftermarket performances have drawn great interest.

Underpricing is defined as the percentage change of stock closing price in the initial trading day to its offering price. Over the last few decades, a vast amount of literature on underpricing and aftermarket performances of IPOs from a variety of different countries have been prepared. These extensive studies indicate, on average, that underpricing is ubiquitous worldwide. An early research study conducted by Ibbotson (1975), reveals an average of 11.4% positive gains in the initial trading day of 120 samples in the US. Kiymaz (2000) examined 163 IPOs in Turkey between 1990 and 1996 and measured underpricing level of 13.1%.

The theoretical reasoning for underpricing phenomenon has been widely examined. The most prominent explanation and the majority of theories derived from asymmetrical information. Other explanations can be summarized as signalling, information cascades, underwriter prestige, litigation insurance and monopsony power of the underwrites.

The efficient market hypothesis suggests that asset prices fully reflect all available information that is relevant to the price. As a result, abnormal returns cannot be earned on a risk adjusted basis. Fama (1970) published his article on the efficient market and defined three forms differing different levels of information: weak, semi-strong and strong. Accordingly, weak-form efficiency suggests that stock prices reflect all past publicly known information. The semi-strong form claims that prices reflect all available information and prices react to reflect new information. Lastly, strong form suggests that prices additional reflect hidden or insider information. In this regard, abnormal returns documented in the literature contradict with the efficient market hypothesis. In this study we investigate the

existence of the efficient market hypothesis in semi-strong form in the Turkish IPOs.

The underpricing phenomenon and ownership structure are important characteristics of IPOs impacting stock performance. Previous studies point out that both private and privatized companies are underpriced in average, while PIPOs offer generally higher initial excess return compared to private company IPOs.

Consensus found in a variety of countries regarding the existence of underpricing does not imply for longer term.

This study examines initial trading day and twelve months stock performance of privatization initial public offerings (PIPOs) and private sector initial offerings (IPOs) in Turkey between 1990 and 2019. We examine initial day and 12-month stock performances subsequent to listing date. Cumulative abnormal return (CAR) method is used in the thesis for calculating twelve months stock performance.

The following section reviews the literature on underpricing, aftermarket performances, empirical evidence of previous studies on private company IPOs and PIPOs. Section three discusses the details of the null and alternative hypothesis. Section four describes the data set used in the thesis, while section five describes the methodology used in the thesis. The outcome of the analysis is presented in section six and followed by the conclusion section.

2. LITERATURE REVIEW

2.1. Underpricing

Underpricing refers to "leaving money on the table" for issuers while yielding positive gains to IPO investors. Leaving money on the table term is the positive difference between a company's market capitalisation on the initial trading day and gross proceeds that the issuer receives. This phenomenon has drawn significant interest, and herewith a considerable number of literature and studies have been conducted in last the decades. Empirical studies suggest that IPOs are generally underpricing worldwide.

An early research study conducted by Ibbotson (1975) reveals a sample of 120 new issue offerings selected from one offering randomly from each month between January 1960 and December 1969 in the US. They were underpriced with performing an initial performance of positive 11.4%. Additionally, 60-month performance was also documented, positive performance in the first year, followed by negative performance in the next three years and a positive performance in the final year.

Ritter (1984) analysed initial return of 1,028 first offerings between 1977-82 and found a 16.3% average rise in stock prices in the first day while 15 Month period starting from Jan 19080 newly issued stocks averaged 48.4%. It is also reported that the initial return is 18.8% of over 5,000 IPOs in the US between 1960 and 1982.

Aktas et al. (2003) examined 190 IPOs in the BIST between 1992 and 2000 and measured underpricing and short-term performance of 7-day and 15 day. Accordingly, the underpricing level was measured at 9.2%. Short – Term CARs are computed as follows; seventh-day performance as 13.9% and fifteenth-day performance is calculated at 12.5%.

The theoretical reasoning for this phenomenon has been widely examined. The most prominent explanation and the majority of theories derived from asymmetrical information.

2.1.1. Asymmetry information

According to Baron's (1982) model is based on asymmetric information between the issuer and the underwriter. Underwriter, investment banks have superior information on capital market compared to issuer, thus in a position to gauge demand for the IPO and determine offering price. Issuer compensates investment bank's superior market information with discretion over the offering price. The model suggests that the higher information asymmetric and uncertainty about offering price leads to higher demand for underpricing.

2.1.2. The Winner's Curse

Rock's (1986) introduced a model that not all investors have the same level of information and his model categorises new issues offering investors into two groups by information heterogeneity; informed and uninformed. Informed investors have superior knowledge than the issuer and all other investors. Therefore informed can distinguish whether the new issue offering is underpriced or overpriced while uninformed investors participate in all IPOs. Accordingly, uninformed investors are more likely to participate in less profitable IPOs than informed investors who participates in particular offerings. This situation leads to winner's curse and underpricing. Accordingly, capital of uninformed investors is needed for sale of all shares IPO market, even for underpriced offerings, the issuers underprice offerings to keep them.

Koh & Walter (1989) with Singapore Stock Exchange and Levis (1990) with London Stock Exchange data implemented Rock's (1986) model and confirm significant empirical implications.

2.1.3. The ex-ante uncertainty hypothesis

Beatty & Ritter (1986) prepared an empirical model an extension to Rock's (1916) model, arguing that ex ante uncertainty about the intrinsic value is directly related to degree of underpricing at the offering. In case ex-ante uncertainty increases, the winner's curse problem intensifies. Therefore, higher level of ex-ante uncertainty induces investor to demand higher degree of underpricing.

2.1.4. Signalling

Ibbotson (1975) states that companies with good prospects and can underprice their initial offering and receive fair funding in future. In Ibbotson's words, underpriced new issues "leave a good taste in investors' mouths".

Similarly, Allen & Faulhaber (1989) proposes that underpriced initial offerings are signal to the market that the firm is a high-quality firm. These firms prefer aftermarket valuation to initial losses at the IPO, when subsequent high quality financial performance and dividends revealed. Meanwhile, other firms are in knowledge that they cannot recover their losses in initial with future performance and thus can not afford to signal.

Welch et al., (1989) agreeing with Allen & Faulhaber (1989) additionally suggests that low-quality firms incur costs to imitate high quality firms.

2.1.5. Information Cascades

Derived from behavioral finance, information cascades or also known as bandwagon effect is one of the hypotheses for the explanation of underpricing phenomenon. Welch (1992) stated that uninformed investors imitate investment decisions of informed investors. The more interest of informed investors positions IPO more attractive for uninformed investors. Therefore, higher participation of informed investors in IPOs initiate cascade effect and thus higher demand from uninformed investors. In the contrary case, if IPO is considered as overvalued by informed investors, this could have negative impact on uninformed investor investors. As a consequence, issuers intentionally underprice IPOs to attract informed investors and set off cascades for uninformed investors to invest.

2.1.6. The underwriter prestige hypothesis

Carter and Manaster (1990) examined the relationship between prestige of underwriters and the degree of underpricing at IPOs. Developed model is similar to

Rock (1986) and an extension of Beatty & Ritter (1986) model. The paper examines 501 IPOs and ranks underwrites of these IPOs by their previous tombstone announcements and categorises them into to two groups; prestigious and

non-prestigious underwrites. Accordingly, empirical study indicate that prestigious underwriters are associated with lower underpricing, thus there is negative relation between underwriter reputation and underpricing.

2.1.7. Litigation Insurance

Ibbotson (1975) suggest that issuers and underwriters may intentionally underprice as a protection against future litigation risks. Tinic (1988) examined 70 IPOs between 1923 and 134 IPOs between 1966 and 1971 in the US. Tinic (1988) found that average level of underpricing increased subsequent to the enactment Securities Act of 1933, which assumed to have increased litigation risk of companies.

2.1.8. Monopsony power

According to Ritter (1984) underpricing may be caused by the monopsony power of investments that underwrite small firms. Accordingly, prestigious investment banks do not tend to underwrite small, start up firms due to reputation reasons. Investment banks that accept underwriting these small firms possess greater bargaining power over the firm. These investment banks intentionally underprice and allocate these shares to their favoured clients.

2.2. Aftermarket Performance

Firms start to trade on the stock market upon completion of IPO process. Although underpricing is a common occurrence worldwide, empirical studies suggest mixed results for aftermarket performance.

Ritter (1991) was the first to examine 3 years IPO performances by documenting 1,526 IPOs between 1975-84 period in the US. Cumulative average adjusted returns (CAR) and 3-year buy and hold return (BHAR) measurements were used for evaluation. Initial excess return was 14.32%. In three years period after listing, IPOs generated 34.47% return in the three years after listing, underperforming a sample set of peer companies in terms of industry and market value that recorded an average return of 62.86%. In other words, IPOs

underperformed similar size and industry firms by 29%. The academic study suggests that IPOs were overpriced.

Levis (1993), on the basis of a sample of 712 IPOs between in 1980 and 1988, document a 14.3% initial excess return. Offers for sales and placements offered 11.5% and 15.28% first trading gains, respectively. Three years CAR returns suggest negative returns ranging from 11.38% to 22.95% depending on benchmark index used.

Rapid development of Chinese financial markets occurred in the last decades with unique characteristics such as high level of ownership in privatized companies in the Shanghai Stock Exchange. Chi et al. (2010) studied long-run outperformance of 897 A share IPOs listed on two Chinese stock exchanges from 1996 to 2002. Market adjusted initial day excess return of these samples were reported at 131.69%. Cumulative abnormal return (CAR), buy-and-hold abnormal return (BHAR) and the Fama-French three-factor models were used for long term performances. Average CAR for three years of trading after listing was 10.8% while average BHAR was reported at 18.2%. Controlling for market, size, and book-to-market effect variables used in Fama-Franch three-factor model, which resulted in significantly positive.

Kiymaz (2000) examined 163 IPOs in the Borsa Istanbul between 1990 and 1996. Accordingly, average initial market adjusted returns are calculated at 13.1% for all IPOs. The sub sector results are 12.2% for industrials, 15.3% financials and 18.5% for others. Additionally, CARs method was used for measuring 3-month stock performance. Accordingly, average CAR of all IPOs are reported at 3.0% , industrials at 2.5%, financials at -3.6% and other segment at 28.3%.

Fads hypothesis, the window of opportunity and divergence of opinion are the primary hypothesis in the literature for explaining aftermarket performances.

2.2.1. Fads

Aggarwal & Rivoli (1990) reveals empirical results consisting stocks that have abnormal returns in the initial trading days underperform the market in a year

time. It is argued that besides underwriters systematically undervaluing IPOs to their intrinsic value, abnormal positive returns are the result of overvaluation of or the presence of fads by the investors in early aftermarket trading. Ritter's (1991) and Levis (1993) findings are also in consistent with this hypothesis.

Shiller (1990) argues that investment banks acts like impresarios. Investments banks intentionally underprice IPO to attract more IPO investors. Participation of more investors in IPO yields to excess demand and creates optimism towards the stock. The hypothesis states that IPOs with high initial return should underperform as the initial performance is not related to company fundamentals but fads in the IPO market.

2.2.2. The Window of Opportunity

As an extension to Aggarwal & Rivoli's (1990) fads hypothesis, Ritter (1991) introduced window of opportunity hypothesis suggesting at times of overvaluation by investors, issuers can take this opportunity to float shares at higher prices than intrinsic value. In such periods, listed overvalued IPOs compared to other companies would have relatively lower stock performance.

2.2.3. The Divergence of Opinion

Miller (1977) states that divergence of opinion can lead to stock overvaluation in markets with restricted short-selling, such as IPO, as the optimistic investor determine the price. As short-selling restriction ends, with wider divergence of opinion, stock prices would move towards the firm’s fundamental value over time– suggesting an underperformance in the long run.

2.3. Privatization IPOs

Previous studies point out that both private and privatized companies are underpriced in average, while PIPOs tend to be more underpriced compared to private company IPOs.

Megginson et al. (2000) analysed long term performances, one, three, five year periods of 158 share issue privatizations from 33 countries, consisting both

emerging and developed countries for the period between 1981- 1997. The author compared long term returns of the PIPO's performances to national, international, US market indexes and industry matched peer companies. Buy-and-Hold return with dividends reinvested, wealth relative, and cumulative abnormal returns (CAR) methods were used for evaluation of SIP performances. Return calculations were made in local currency and with initial trading day closing, leaving out the initial day stock performance. Consequently, the SIPs consistently outperform in comparison to relative index or group of companies.

In a study Paudyal et al. (1998), studied initial premium and secondary market performance of Malaysian IPOs with a sample of 17 PIPOs along with 77 IPOs in the period January 1984 and September 1995. Reportedly, both IPOs and PIPOs were found to be underpriced in average with gaining 62% and 103% in the initial trading day, respectively. Paudyal et al., (1998) used empirical model developed by Menyah et al., (1995) in a try to explain initial trading day premium. Five variable explanatory variables, demand multiple, market volatility, proportion of shares sold and underwriters reputation explained 78% and 10% variations in PIPOs and IPOs, respectively. The model explained 36% variation in all IPOs. On long-term performance basis, IPOs recorded excess return of 12.85% over a period of three years while PIPOs generated a 7.46% loss.

Aussenegg (2000) examined 159 IPOs in the Warsaw Stock Exchange between 1991 and 1999. Sample consists of total of 159 Polish IPOs, 52 of which are PIPOs and 107 private company IPOs. Polish IPOs are found to be significantly underpriced. Overall Polish IPOs are found to be underpriced, gaining 38.5% in the initial trading day. Private company IPOs raw return is 25.3% while return of PIPOs was considerably higher at 65.6%. The market-adjusted returns are reported as 33.1% for all IPOs, 60.4% for PIPOs and 19.8% for private company IPOs. BHARs and wealth relatives (WRs) methods are used for measuring long term performance. Over the three years period, BHAR of all IPOs is 11.5% and WR is calculated at 1.037. The three-year mean BHAR of PIPOs is calculated at 39.5%.

Perotti & Guney (1993) examined underpricing in privatized companies in total of 13 developed and emerging countries, including Turkey. Accordingly, extensive of underpricing is observed, on average, greater in PIPOs than in IPOs of private companies. It is also documented that the highest magnitude of underpriced is observed in companies such as utilities, with large taxable rents. The paper consists of 22 Turkish PIPOs between March 1988 and July 1991. Underpricing level for these PIPOs is computed at 5.7%. Four out of 22 firms (or 18% of total) have initial have positive returns in the initial trading day.

Study conducted by Menyah et al., (1995) consists of a comparison of 40 privatization IPOs on the London Stock Exchange between 1981 and 1991 and private company IPOs. The breakdown of these PIPOs in terms of sectors are; 16 are utilities, 10 are water companies and the rest are various sectors. Reportedly, the underpricing measured at 41.4% for PIPOs vs. 3.5% of private company IPOs. Over one year period, PIPOs continue to outperform other IPOs with 102.9% stock price appreciation (market adjusted 87.8%) compared to private company IPOs' of 38.6% (market adjusted 13.0%).

The first paper in the field of aftermarket performance of Turkish IPOs is published by Guzelhan & Agar (1991). Timeframe of the study is between 1989 – March 1991, covering total of 36 IPOs. 8 of the total offering are private company IPOs while PIPOs amounts to 8. Initial trading day, week and month performances were documented. Accordingly, underpricing level of all IPOs was measured at 2.6%. Of the 36 companies, 26 had positive and 10 negative returns in the initial day. Private company IPOs were slightly more underpriced than PIPOs. Private IPOs gained an average of 2.7% vs PIPOs increased by 2.4%. However, driven by Adana C stock's short term strong performance, one week return for all IPOs stood at 16.3%, PIPOs at 38.7% and other private company IPOs at 9.9%. Over one month period, all IPOs gained 12.7%, PIPOs gained 45.3% and private sector 3.4%. Excluding Adana C stock performance, PIPOs still had strong performance of 16.2% vs. 3.4% of private company IPOs.

Dewenter & Malatesta's (1997) study primarily focuses on the comparison of initial trading day performances of IPOs of private companies and state-owned enterprises. The study examines 109 eight countries consisting of both primitive and develop capital markets including Canada, Japan, Hungary, France, Japan, Thailand, the United Kingdom and Malaysia. Full PIPO sample results a positive average gain of 25.6% and 23.7% excess return in the first day. These results are significantly greater than zero at the 0.01 level. Malaysia, Poland and Thailand record highest gains with an average of 50% in both unadjusted & market adjusted returns. In comparison to of PIPOs to private company IPOs, underpricing for PIPOs in the UK and France are greater than private company IPOS while the opposite is true for Japan, Malaysia and Thailand. In general terms, no tendency is found for PIPOs to be more underpriced than private company IPOs. Accordingly, t-statistic output is statistically insignificant. The study also compares privatization IPO performance of developed and primitive capital markets. Unadjusted return of 45 PIPOs in Hungary, Malaysia, Poland and Thailand is 42.5% compared to average of 64 PIPOs in Canada, France, Japan and the UK of 13.7%. The authors state that this finding confirms that higher magnitude of uncertainty regarding the offer value in primitive capital markets results in higher level of underpricing. Additionally, this is also aligned with the notion that where capital markets are primitive, governments seek to promote widespread share ownership through underpricing privatization listings.

Erdogan et al. (2017) examined impact of events on stock performance of secondary public offerings of partially privatized enterprises in the Borsa Istanbul between 1997 and 2006. Accordingly, abnormal returns of these privatized companies compared to a portfolio of private companies. Both groups of stocks exhibit a significant difference at a level of 0.01 at the days just before and after the event day. Accordingly, significant differentiation in CAR pattern before and after the issue indicates asymmetry regarding the information perception by the investor side.

Durukan (2002) documented 173 IPOs in the BIST between 1990 and 1997. Initial day performance was measured in three different ways. Conventional initial day return for the full sample is 14.61% with a t-statistic of 5.067. The second way is the percentage change of the stock from IPO price to opening price of the stock. The second calculation yields to 16.16% change, indicating that opening price is higher than the initial day closing price. The third calculation consists of percentage change of first day stock closing price to opening price. The third method indicates a 7.27% positive gains. The study also compares the performances of privatization IPOs and non-privatizations. Accordingly, mean return of 13 PIPOs is 2.33%, considerable below 16.61% average of 80 other IPOs. Percentage change of IPO price to opening price mean for 18 PIPOs is 3.50%, compared to 17.68% average of 150 private company IPOs. Lastly, closing price to opening price average for 13 PIPOs is negative 0.69% compared to 8.49% of 85 other IPOs. Despite relatively lower returns of PIPO in the initial day, mean return is 87.32% for 18 PIPOs compared to negative average of 5.92% of other IPOs. PIPOs extend positive gains and end 24 months with 260% gains, while mean return of other IPOs is negative 1.91%. At the end of 36 months, PIPOs positive return declines to 213.22% level while other IPOs return is negative 6.63%. The author additionally states that opening price and intraday return of the initial trading day are negatively correlated and the results are statistically significant at the 0.05 level. IPO investors realize gains during the trading hours from underpricing at the opening. The study also includes abnormal return for 12, 24 and 36 months. Mean return of the full sample declines to 5.82% at the end of 12 months but then increases to 34.05% by the end of 24 months. At the end of 36 months, mean falls down to 29.66% level. The univariate regression analysis conducted on 36 months abnormal returns, provides evidence to the fads hypothesis. Accordingly, overvaluation of the presence of fads in the early aftermarket trading is corrected in the long term. The author additionally states that the presence of the initial day positive returns confirm the Winner's Curse Hypothesis.

3. HYPOTHESIS

The semi-strong form of efficient market hypothesis suggests that prices reflect all publicly available information such that no abnormal returns can be earned. In inefficient market would mean that abnormal returns can be achieved. Therefore, based on this approach we established our hypothesis as follows:

H_0 = Abnormal stock returns of private sector and privatization companies equal to zero in the initial trading day and in 12 months subsequent to offering dates.

H_1= Abnormal stock returns of private sector and privatization companies do not equal to zero in the initial trading day and in 12 months subsequent to their offering dates.

4. DATA

An extensive set of IPO and stock market data is prepared for this study. This thesis consists of 425 IPOs in the Borsa Istanbul between January 1990 to August 2019. 113 IPOs are not included in the study primarily due to two reasons: i. insufficient data and ii. Stocks that start trading directly without holding IPO. Considering that this study focuses on stock performance subsequent to IPO, secondary public offerings are not included.

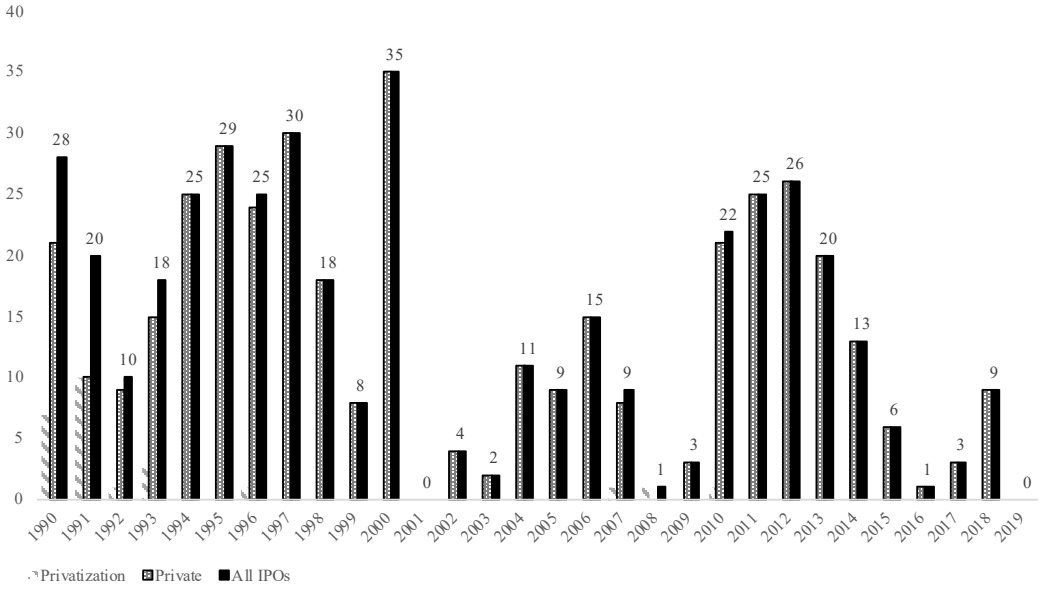
IPO details are compiled from the IPO bulletins of the Borsa Istanbul and Capital Markets Board, data vendor Finnet along with academic and news articles. Sources for unadjusted stock prices are Borsa Istanbul monthly stock prices data and Finnet. Adjusted stock prices for dividend pay-outs, rights offerings and stock splits are obtained from Finnet's database.

This thesis analyses stock price performances of both private and state-owned enterprises. Shareholder structures of companies are investigated at the time of IPOs through Borsa Istanbul IPO Bulletins and news articles. Shares that were offered to the public owned by the State or wholly owned State-owned enterprises are recognised as privatization and therefore PIPOs.

Among 425 IPOs that are analysed, 400 of which are categorised as private company IPOs and the remaining 25 are PIPOs between 1990 – 2019.

Figure 1

IPO Dates Covered in this Study



5. METHODOLOGY

Initial trading return also phenomenon known as underpricing, is calculated using the conventional method. It is the rate of return in the initial trading day compared to its IPO price, expressed as percentage change. The results indicate whether IPO is underpriced or overpriced. When rate of return is positive, that indicates an underpricing and when the result is negative, it suggests an overpricing. Initial day performance is computed with IPO prices taken from the Borsa Istanbul IPO bulletins and unadjusted stock prices in the first trading day from the Borsa Istanbul monthly stock data and Finnet.

$$R_i = \frac{P_1 - P_0}{P_0}$$

Where P_1 is the initial day closing price and P_0 is the listing price.

Stock prices are impacted by various factors besides the company's fundamentals, such as economy and market sentiment. Therefore, the result in aftermarket performance could be impacted by conditions other than company's own dynamics which could lead to misleading result for stock performance. Impact of these exogenous factors is eliminated by subtracting the benchmark index performance from stock return. BIST 100 index is used as benchmark index in this thesis. To measure stock price performance, adjusted stock prices are used for Abnormal and Cumulative Abnormal Return (CAR) calculations.

The formula for Abnormal Return is defined as follows:

$$AR_{i,t} = R_{i,t} - R_{m,t}$$

Where $R_{i,t}$ represents adjusted stock price return in period t and $R_{m,t}$ is denoted BIST 100 index return for the corresponding date.

Based on Ritter's (1991) definition, a month is defined as a successive 21 trading days of a stock. In case a trading of a particular stock is halted, then the next day is taken into consideration.

The average benchmark index adjusted return of n IPOs at month t is the equally weighted arithmetic average of abnormal returns.

$$AAR_t = \frac{1}{n}\sum_{i=1}^{n} AR_{i,t}$$

The cumulative abnormal return performance from the beginning month q to event month s is the summation of average adjusted returns:

$$CAR_{q,s} = \sum_{t=q}^{s} AAR_t$$

The statistical significance of CAR results is assessed for each period by:

$$t(CAR_t) = \frac{CAR_t}{S.E.(CAR_t)}$$

where S.E. (CAR_t) is the standard error of the average cumulative abnormal return on period t and t(CAR_t) is the t-statistics for null hypothesis that CAR_t is equal to zero.

6. RESULTS

6.1. Initial Trading Day Performance

Table 2 presents unadjusted and adjusted results of total of 425 IPOs in the Borsa Istanbul between 1990 and 2019. Results indicate that worldwide documented existence of underpricing phenomenon is also valid for Turkish IPOs. 288 companies had positive initial returns (an average of 68%) while remaining 116 had negative returns with an average of 27% and price of 21 IPOs remained unchanged compared to their listing prices. Accordingly, average initial return and market-adjusted returns of all IPOs were both 8.5%. Median of all IPOs was measured at positive 5.2%. The average market adjusted one day return was associated with a t-statistic of 8.80, rejecting the null hypothesis at the 0.01 significance level.

Table 1
Inital Trading Day Returns of all IPOs

	Number of IPOs	Initial Return	Market Adjusted Initial Return	t-statistic	std. Dev
All IPOs	425	8.5%	8.5%	8.80***	0.20
Private	400	8.2%	8.3%	8.57***	0.19
Privatization	25	12.9%	12.6%	2.18**	0.29

*** Significant at the 0.01 level
** Significant at the 0.05 level
* Significant at the 0.10 level

The average initial day and market adjusted return of private company IPOs were measured at 8.2% and 8.3%, respectively. T-statistic of 8.57 indicates a 0.01 significance level. Median was calculated at 5% for all private company IPOs. Of the 400 IPOs, 280 stocks had positive abnormal gains (an average of 70%) in the first day of trading while the remaining 120 IPOs had negative return (an average of 30%).

Privatization IPOs exhibited higher degree of underpricing compared to private company IPOs. Accordingly, average initial day return was measured at 12.9% while average market adjusted return was 12.6%. Median for all PIPOs were 8.0%. Accounting for 80% of PIPOs, 20 PIPOs had abnormal positive gains in the initial trading while 5 of them were overpriced (an average of 20%).

6.2. 12 Months Performance

The results presented in Table 3 shows AR and CAR results for 12 months subsequent to IPO dates. Full sample average results largely reflect results of private company IPOs on the back of large share in the sample size.

Table 2
Abnormal Return and Cumulative Abnormal Returns of all IPOs

Months	Number of IPOs	AR	t - stat	CAR	t-stat
1	425	5.7%	2.69***	5.7%	2.69***
2	425	1.3%	1.10	6.9%	2.76***
3	425	-0.5%	0.47	6.4%	2.42**
4	425	-0.9%	0.95	5.5%	1.98**
5	425	-0.5%	0.48	5.0%	1.71*
6	425	-1.0%	1.04	4.0%	1.30
7	425	0.0%	0.03	4.0%	1.26
8	425	-0.2%	0.21	3.9%	1.17
9	425	0.0%	0.04	3.8%	1.10
10	425	-0.7%	0.83	3.1%	0.89
11	425	0.2%	0.15	3.3%	0.93
12	425	1.0%	1.02	4.3%	1.16

*** Significant at the 0.01 level

** Significant at the 0.05 level

* Significant at the 0.10 level

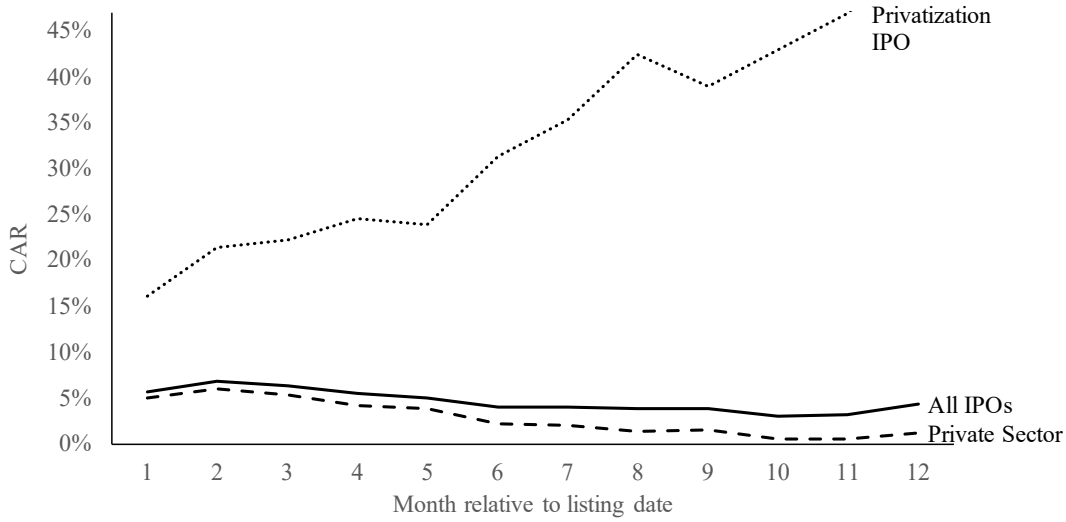
Following a positive initial day performance, underpricing for all IPOs continued to be present for the next two months, bringing CAR figure to 6.9%. Starting from the third month, positive trend reversed until the tenth month. Negative relative performance prevailing for seven months brought down the CAR figure to 3.1% at the end of tenth month. The aforementioned negative trend is followed by positive return of total 1.2% in the next two months. Thus, twelve-

month period ended with CAR figure of 4.3%. Median calculated for all individual months were negative ranging between -4% and -2%.

T-statistic of CAR for the first two months and third and fourth months were significantly different from zero at the 0.01 and the 0.05 levels, respectively. Fifth month result was significant at 0.1 level. Remaining months indicates that t-statistic results were insignificantly different from zero.

Figure 2

Cumulative Average Abnormal Return (CAR) for equally weighted portfolio of all IPOs, private company IPOs and privatization IPOs



6.3. 12 Months CAR Comparison of Private Company IPOs and Privatization IPOs

In this section, we examine results separately for private company IPOs and Privation IPOs.

6.3.1. Private company IPOs

Underpricing appears to be present for private company IPOs for the next two months, CAR increasing to 6.0%. The highest rate of return in a month was observed in the first month with 5.0% positive gain. Negative gains amounting at 4.5% in the following six months brought CAR down to 1.5% at the end of eighth month. A slight positive gain in the ninth month was followed by a total of 1.0%

decline in two months and CAR came down to the lowest level of 0.6% in the study timeframe. In the final month, AR was calculated at 0.6%, lifting CAR to 1.2%. Median of AR of seven months were positive, ranging between 1% and 4% while median of the remaining five months was negative (ranging between -3% and -1%).

T-statistic results indicate that results of the initial three months are significantly different from zero at the 0.05 level.

Table 3
Abnormal Return and Cumulative Abnormal Returns of Private Company IPOs

Months	Number of IPOs	AR	t - stat	CAR	t-stat
1	400	5.0%	2.35**	5.0%	2.35**
2	400	1.0%	0.85	6.0%	2.38**
3	400	-0.6%	0.53	5.4%	2.03**
4	400	-1.1%	1.14	4.3%	1.54
5	400	-0.5%	0.45	3.9%	1.29
6	400	-1.6%	1.57	2.3%	0.74
7	400	-0.2%	0.19	2.1%	0.64
8	400	-0.6%	0.70	1.5%	0.44
9	400	0.2%	0.17	1.6%	0.46
10	400	-1.0%	1.20	0.7%	0.18
11	400	-0.1%	0.08	0.6%	0.16
12	400	0.6%	0.63	1.2%	0.32

*** Significant at the 0.01 level

** Significant at the 0.05 level

* Significant at the 0.10 level

6.3.2. Privatization IPOs

Initial month performance of PIPOs was the highest change in a month in our sample. Positive gain of 16.1% in the first month was followed by a cumulative 8.5% positive abnormal performance in the following three months and thus CAR reached 24.6% at the end of fourth month. Mean AR in the fifth month indicated a negative gain of 0.6%. The following three months, total of 18.4% increase brought cumulative performance to 42.4%. In ninth month a 3.3% decline in mean average lowered CAR figure to 39.1%. In the final three months, total of 15.0% positive

gains brought twelve month CAR figure to 54.0%. Median for all months were negative for privatization IPOs ranging between 2% to 4%.

Our model indicates that fourth month CAR figure was significant at 10 percent. CAR figures between six and twelfth months were statistically significant at the 0.01 and 0.05 levels.

Table 4
Abnormal Return and Cumulative Abnormal Returns of Privatization IPOs

Months	Number of IPOs	AR	t - stat	CAR	t-stat
1	25	16.1%	1.47	16.1%	1.47
2	25	5.4%	1.29	21.5%	1.61
3	25	0.8%	0.26	22.3%	1.61
4	25	2.3%	0.44	24.6%	1.68*
5	25	-0.6%	0.18	24.0%	1.63
6	25	7.3%	1.27	31.3%	1.97**
7	25	4.1%	1.11	35.5%	2.18**
8	25	7.0%	1.85	42.4%	2.58***
9	25	-3.3%	0.98	39.1%	2.29**
10	25	3.9%	0.73	43.0%	2.32**
11	25	4.0%	0.59	47.0%	2.55**
12	25	7.0%	1.56	54.0%	2.79***

*** Significant at the 0.01 level

** Significant at the 0.05 level

* Significant at the 0.10 level

6.4. IPO Performances by Listing Date

This sub-section reviews IPO performances grouped according to their listing dates. Given that the majority of PIPOs in number took place between 1990 and 1996, the part of the study is prepared on all IPOs. IPOs were grouped into intervals of ten years; i. 1990 – 2000, ii. 2001 – 2010, ii. 2011 – August 2019. In 1990-2000, the highest number of IPOs were observed with 246 IPOs, accompanied by 2011-2019 with 104 IPOs and 77 IPOs from 2001-2010.

6.4.1. 1990 – 2000

Average underpricing level was measured at 11% in all IPOs between 1990 – 2000, the highest figure among other ten year periods. This level of underpricing was followed by two months with positive gains, CAR figure reached 10.0% at the end of the third month. Following four months returns amounted to total of negative 4%, brought down CAR figure to 5.8%. In the next two months, total of 1% gain was erased in the ninth month. With total of 3% abnormal positive gains in the last three months, twelve month CAR stood at 9.2%. Median of the sample was all negative for all months ranging between -6% to -1%.

T-statistic in the initial trading day was 7.01, indicating a significantly different from zero at the 0.01 level. CAR t-statistic values indicate that in the first three month outputs are significant at the 0.05 level.

Table 5
Abnormal Return and Cumulative Abnormal Returns of all IPOs between 1990 - 2000

Months	Number of IPOs	AR	t - stat	CAR	t-stat
1	246	8%	2.37**	8.0%	2.37**
2	246	2%	1.12	10.0%	2.52**
3	246	-1%	0.75	8.9%	2.14**
4	246	-1%	0.89	7.6%	1.77*
5	246	-1%	0.62	6.7%	1.50
6	246	-1%	0.67	5.8%	1.24
7	246	1%	0.45	6.5%	1.34
8	246	0%	0.35	7.0%	1.42
9	246	-1%	0.73	6.0%	1.19
10	246	0%	0.10	6.1%	1.19
11	246	1%	0.75	7.3%	1.37
12	246	2%	1.32	9.2%	1.65*

*** Significant at the 0.01 level

** Significant at the 0.05 level

* Significant at the 0.10 level

6.4.2. 2001 – 2010

The mean initial trading day return on day one for full sample was measured at 5%. Negative returns were observed in the next four months with total of negative

4.0% relative performance. Abnormal returns in the following months were mixed. In the next three months total return is calculated at negative 0.3%. A five-month following negative return amounting to 7% brings CAR down to 10.5% at the end of twelfth month. Median for the two months was positive whilst the remaining months were negative falling between -5% and -1%.

First trading day return indicates a t-statistic of 4.51, significantly different zero at the 0.01 level. On twelve month period, CAR at the twelfth month is significant at the 0.1 level.

Table 6
Abnormal Return and Cumulative Abnormal Returns of all IPOs between 2001 - 2010

Months	Number of IPOs	AR	t - stat	CAR	t-stat
1	76	-1%	0.61	-1.4%	0.61
2	76	0%	0.18	-1.9%	0.50
3	76	-2%	1.08	-3.6%	0.84
4	76	0%	0.02	-3.6%	0.76
5	76	1%	0.29	-3.0%	0.57
6	76	-2%	1.04	-4.9%	0.89
7	76	1%	0.69	-3.9%	0.72
8	76	-1%	0.44	-4.5%	0.82
9	76	-1%	0.35	-5.3%	0.81
10	76	-4%	2.84***	-9.0%	1.46
11	76	0%	0.14	-9.3%	1.47
12	76	-1%	0.95	-10.5%	1.67*

*** Significant at the 0.01 level

** Significant at the 0.05 level

* Significant at the 0.10 level

6.4.3. 2011 – 2019

103 IPOs that were held between 2011 – 2019 were underpriced at 5% level. Positive average initial day performance was followed by positive gains in the following next three months. Accordingly, CAR at the end of third month was measured at 8.0%. Positive gains were erased at a certain extent in the next five months, bringing CAR figure down to 2.7%. With cumulative 0.9% positive gains in the last four months, twelve month performance is measured at 3.6%. Median

results are similar to other periods, eleven months are negative with ranging from --1% to -4%.

Initial day trading figure indicates a t-statistic of 5.32, significantly different from zero at the 0.01 significance level. CAR results for the first and third months were significantly different from zero at the 0.05 level. Meanwhile, the second and fourth month results are greater than zero at the 0.1 level. Over the twelve months, t-statistic of CAR result did not differ significantly from zero at conventional levels.

Table 7
Abnormal Return and Cumulative Abnormal Returns of all IPOs between 2011 - 2019

Months	Number of IPOs	AR	t - stat	CAR	t-stat
1	103	5%	2.11**	5.2%	2.11**
2	103	1%	0.55	6.1%	1.95*
3	103	2%	1.05	8.0%	2.28**
4	103	-1%	0.45	7.3%	1.88*
5	103	0%	0.17	7.0%	1.61
6	103	-1%	0.32	6.4%	1.42
7	103	-2%	1.13	4.1%	0.79
8	103	-1%	1.10	2.7%	0.48
9	103	3%	1.30	5.3%	0.90
10	103	0%	0.27	4.9%	0.79
11	103	-2%	0.86	3.1%	0.54
12	103	0%	0.24	3.6%	0.60

*** Significant at the 0.01 level

** Significant at the 0.05 level

* Significant at the 0.10 level

6.5. IPO Performance by Initial Trading Day Return

Twelve-month performance of IPOs based on the initial day performance is evaluated in this section of the thesis. Of the 425 IPOs, 288 were found to be underpriced, whilst the remaining 116 were overpriced and 21 stocks remained unchanged in the initial day.

6.5.1. Underpriced

The mean adjusted return of 288 IPOs that have positive gains in the initial trading day is measured at 14.8% (unadjusted return: 14.9%). Underpricing trend continued strong in the two months, increasing by 14% over the benchmark index. Relatively negative performance in the third and fourth months lowered CAR figure to 10.3%. Mean average returns in the remaining months were mixed and cumulative underperformance was measured at 0.9%. Over the twelve months period, CAR was calculated at 9.4%

T-statistics for all months, except for eighth and ninth months are significantly from zero at various levels. Accordingly, first five months results are significantly zero at the 0.01 level whilst twelfth month's t-statistic is statistically significant different from zero at the 0.05 level.

Table 8
Abnormal Return and Cumulative Abnormal Returns of all IPOs with positive initial day gains

Months	Number of IPOs	AR	t - stat	CAR	t-stat
1	288	11%	4.14***	10.8%	4.14***
2	288	4%	2.38**	14.4%	4.60***
3	288	-1%	0.60	13.7%	4.11***
4	288	-3%	2.99***	10.3%	3.02***
5	288	1%	0.47	10.9%	3.00***
6	288	-3%	2.32**	8.3%	2.26**
7	288	0%	0.14	8.5%	2.21**
8	288	-1%	0.80	7.7%	1.96*
9	288	1%	0.64	8.5%	1.99**
10	288	-1%	0.65	7.8%	1.83*
11	288	0%	0.06	7.9%	1.82*
12	288	2%	1.32	9.4%	2.09**

*** Significant at the 0.01 level

** Significant at the 0.05 level

* Significant at the 0.10 level

6.5.2. Overpriced

116 IPOs in our sample were computed at 5.5% adjusted negative return (unadjusted: 5.9%) in the initial day. Underperformance relative to the benchmark

index continued for the next two months. At the end of second month, CAR figure was calculated at negative 9.3%. The aforementioned underperformance was followed by a relatively strong performance of 5% in the third month, lifted CAR to negative 3.7%. Over the twelve month CAR was computed at negative 5.0%, suggesting that the negative return in the first day prevailed throughout the twelve month period. In the remaining eight months cumulative negative performance was negative 1.3%.

T-statistic calculated for CAR figure of second and third months are significantly different from zero at the 0.05 and the 0.1 levels, respectively.

Table 9
Abnormal Return and Cumulative Abnormal Returns of all IPOs with negative initial day gains

Months	Number of IPOs	AR	t - stat	CAR	t-stat
1	116	-5%	1.34	-5.2%	1.34
2	116	-4%	2.71***	-9.3%	2.14**
3	116	0%	0.17	-9.0%	1.90*
4	116	5%	2.56**	-3.7%	0.69
5	116	-2%	0.84	-5.2%	0.92
6	116	3%	1.24	-2.6%	0.41
7	116	-1%	0.62	-3.6%	0.54
8	116	2%	1.04	-1.9%	0.28
9	116	-2%	1.33	-4.1%	0.60
10	116	-1%	0.49	-4.8%	0.69
11	116	0%	0.02	-4.9%	0.70
12	116	0%	0.07	-5.0%	0.67

*** Significant at the 0.01 level

** Significant at the 0.05 level

* Significant at the 0.10 level

6.5.3. Unchanged

21 IPOs whose stock price at the first trading day remained unchanged over the listing price underperformed the benchmark index in the first six months with cumulative abnormal return of negative 18.8%. Monthly initial positive excess return was observed in the seventh month. Accordingly, a 4% positive excess return

lowered negative CAR figure to 15.2%. In the remaining months a total of positive 1% outperformance brought the twelve month CAR figure to 13.8%.

The second and third months results were associated with t-statistics of 2.14 and 1.90, implying significantly different from zero at the 0.05 and 1.90 levels, respectively.

Table 10
Abnormal Return and Cumulative Abnormal Returns of all IPOs with no initial day retun

Months	Number of IPOs	AR	t - stat	CAR	t-stat
1	21	-4%	0.78	-4.1%	0.78
2	21	-2%	0.61	-5.9%	1.07
3	21	-1%	0.38	-7.2%	1.17
4	21	-2%	0.58	-9.4%	1.25
5	21	-9%	2.72***	-18.0%	2.13
6	21	-1%	0.13	-18.8%	1.92**
7	21	4%	0.59	-15.2%	1.81*
8	21	-1%	0.20	-16.0%	1.69*
9	21	0%	0.10	-16.3%	1.64*
10	21	0%	0.21	-16.8%	1.60
11	21	2%	0.54	-14.5%	1.39
12	21	1%	0.17	-13.8%	1.19

*** Significant at the 0.01 level

** Significant at the 0.05 level

* Significant at the 0.10 level

7. CONCLUSION

This thesis seeks to examine the initial trading day, twelve months performance of private sector and privatization IPOs that were held between January 1990 and August 2019. Additionally, stock performance of IPOs grouped according to their dates and based on their initial day performances are also evaluated. Entire sample size consists of total of 425 IPOs, 400 of them are private company IPOs and the remaining 25 are PIPOs.

Firstly on underpricing, outputs reveal that IPOs in the Borsa Istanbul are underpriced, statistically significant at the 0.01 level. Entire sample of IPOs indicate

that Turkish IPOs gained 8.5% over the benchmark index in the initial trading day. This results are consistent with previous studies and lower than 13.1% initial return documented by Kiymaz, (2000). The overall mean results that consist of both private company IPOs and PIPOs mainly reflect results of private company IPOs due to relatively larger share in the total sample. Initial trading day return of private company IPOs is measured at 8.2%. Privatization IPOs results indicate a higher magnitude of 12.9%. This is consistent with previous studies that PIPOs generally offer higher initial excess returns compared to private company IPOs.

The twelve-month stock performance results, which is calculated from the first trading day, indicate that underpricing for all IPOs continues to be present. Over the twelve-month period cumulative abnormal return is measured at 4.3% with an association t-statistic of 1.16. This output does not differ significantly from zero at conventional levels of statistical confidence. When private company and privatization IPOs are analysed, PIPOs appear to be significantly more underpriced compared to private company IPOs. Accordingly, CAR of PIPOs is calculated at 54.0% compared to 1.2% of private company IPOs. This suggests that investing in privatization IPOs seem to be good investment in twelve-month period.

Our analysis points out that underpricing level is highest in the IPOs held between 1990 and 2000. Average underpricing is measured at 11% in all IPOs in the aforementioned period whilst 5% underpricing is measured in the other 10-year periods. Over the twelve-month period, CAR of IPOs held between 1990 and 2000 is calculated at 9.2%. The only negative abnormal gains are observed in IPOs held between 2001 and 2010. Accordingly, CAR figure for the aforementioned period is computed at negative 10.5%. Meanwhile CAR figure for 2011 – 2019 period is calculated at 3.6%.

With regards to grouping on initial trading day performance, underpriced companies continue to gain over the benchmark index throughout the study period. Accordingly, CAR at the end of twelve months is calculated at 9.4%. Meanwhile performance of overpriced companies in the first day continues and thus twelve months CAR output is negative 5%. Stocks whose stock price remained unchanged

over the listing price post negative relative performance in average. At the end of twelve months, CAR is calculated at negative 13.8%.

Limitations and Future Research

Although Borsa Istanbul stock prices are digitally available starting from 1988, IPO details prior to 1990 were not available. The important unavailable IPO data include IPO date, initial trading day, listing price. This thesis solely analysis stock performance of private company and privatization IPOs in Turkey. Increasing the number of sample size with the addition of both type of IPOs in other emerging and developed countries is recommended for future research.

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9. APPENDIX

9.1. Information on privation IPOs

In this section, brief information on privatization initial public offerings included in this thesis given. Company tickers are provided in Bloomberg format.

Abana Elektromekanik (ABANA TI)

Abana Elektromekanik's IPO took place in 1992. Shareholders of the firm are state owned enterprises and IPO proceeds were used to raise capital. IPO price was TL 2,500 and closed the first day at TL 2,950, increased by 18%. IPO size was US$ 430 k. Kalkinma Bank was the lead underwriter.

Adana Cimento (A) (ADANA TI)

The privatization Authority privatized 90.95% of Adana Cimento, a cement producer's A type shares in 1991. Listing price was TL 270,000 and increased by 11% to TL 300,000 at the end of the first trading day. The Authority generated US$ 34.3 mn revenues from this sale.

Adana Cimento (C) (ADNAC TI)

Adana Cimento type C shares were also privatized in 1991. Accordingly, shares gained 10% and closed TL 33,000 compared to TL 30,000 listing price. The Privatization Authority received US$ 3.7 mn.

Afyon Cimento (AFYON TI)

IPO of Afyon Cimento, a cement producer took place in 1991. After the listing 48.60% of shares sold to the public. IPO price was set at TL 30,000 while the stock closed at TL 39,000 at the first day, denoting a 30% change over its IPO price. The Privatization Authority received US$ 10 mn from this sale of shares.

Emlak Konut GMYO (EKGYO TI)

Emlak Konut GMYO, real estate investment trust's IPO was held in 2010. Shareholders of the trust are state owned enterprises and IPO proceeds were used

to raise capital. IPO price was TL 1.70 and closed the first day at TL 1.90, increased by 12%. IPO size was US$ 723 mn. TSKB was the lead underwriter.

Gentas (GENTS TI)

Gentas' IPO was held in 1990. Kalkinma Bank sold its 15% shares in the company to the public. IPO price was TL 3,500 and stock showed impressive performance in the initial day and gained 134% in the first day and closed the first day with TL 8,200. Proceeds were amounted at US$ 713 k. Kalkinma Bank was the underwrite.

Halk Bank (HALKB TI)

Halk Bank shares were listed on the Borsa Istanbul in 2007. The Privatization Authority sold its 25% shares of the company and received US$ 1.8 bn. IPO price was TL 8.0 and increased by 11% in the initial trading day and closed at TL 8.9. The lead underwriter was Is Investment, a subsidiary of Is Bank.

Konya Cimento (KONYA TI)

Konya Cimento, a cement producer company was privatized by selling its 39.87% by the Privatization Administration. Shares were offered to the public with price of TL 25,000 and stock price remained unchanged at the end of first trading day. The underwriter of this PIPO was Is Bank.

Kutahya Porselen(KUTPO TI)

Kutahya Porselen, ceramics company's 15% of total shares were sold by Kalkinma Bank in 1990. Offering price was TL10,000 and stock gained 58% in the first trading day and closed the day with TL 15,750. Total proceeds from this sale were amounted at US$ 1.9 mn. The underwriter was Kalkinma Bank.

Migros Ticaret (MGROS TI)

Migros, a food retailer company's 42.22% shares were privatized by the Privatization Authority selling its shares. IPO price TL 8,000 and the stock closed at TL 9,700, suggesting a 21% change over IPO price. Total proceeds from this sale were amounted at US$ 6.4 mn. Current majority shareholder of Migros is

Anadolu Group.

Netas Telekom (NETAS TI)

Netas Telekom's 20% of shares were sold by the Privatization Authority to the public in 1993. IPO price was TL 8,250 and the stock closed the first day at TL 8,100, indicating a 2% decline. The underwriter was Is bank.

OMV Petrol Ofisi (PTOFS TI)

OMV Petrol Ofisi, the largest fuel products distributer company was privatized by sale of 5% shares of the company in 1991. The shares were sold at TL4,000 and the end of the first day the stock closed at TL 4,000, remained unchanged. IPO proceeds were amounted at US$ 18 mn. The underwriter was Is Bank.

Oysa Cimento (OYSAC TI)

Oysa Cimento, previously Nigde Cimento at the time of IPO was privatized in 1991. According to 1991 IPO Bulletin of Borsa Istanbul, 99.8% shares of the Privatization Authority were listed. IPO price was TL 165,000, declined by 12% to TL 145,000 in the initial trading day. Total revenues from this sale were amounted at US$ 20.8 mn. The underwriter was Is Bank.

Petkim (PETKM TI)

Turkey's largest petrochemical producer was privatized in 1990 and shares started trading in 09.07.1990. Shares were sold by the Privatization Administration. Offer price was TL 2,500 and initial day closed at TL 2,400, implying a 4% negative gain. The underwriter was Is Bank.

Soksa (SOKSA TI)

Shares of Soksa was sold at the BIST in 1990. 15% of Soksa's shares that were owned by Kalkinma Bak were sold with IPO price of TL 8,000. Stock gained 13% in the first day and closed the day TL 9,000. Total proceeds from this transaction were amounted at US$ 356 k. The underwriter was Kalkinma Bank.

Tansas (TNSAS TI)

Tansas, a food retailer's shares were floated at the Borsa Istanbul in 1996. The company's 33% of shares were sold by the Izmir Municipality and generated US$ 9.0 mn revenues. Listing price was TL 9,500 and closed at 11,750 in the first day, increased by 24%. Global Securities was the underwriter.

Tofas Oto Ticaret (TOFAS TI)

The Privatization Authority sold Tofas Oto Ticaret's 10% share to the public in 1991. The company's shares were listed at TL 15,000 and closed the first day at TL 16,500, implying a 10% increase. Total proceeds from this transaction was US$ 6.9 mn. Is bank was the underwriter.

Tofas Oto Fabrikasi (TOASO TI)

Tofas Oto Fabrikasi was privatized in 1991. The Privatization Authority sold 6.25% shares with IPO price of TL 19,000. At the end of first day, the stock closed at TL 20,000, denoting a 5% increase. IPO size was US$ 64.6 mn while Is Bank was the underwriter.

Tupras (TUPRS TI)

Turkey's largest oil refinery, initial public offering consisted of selling 2.5% of shares to the public in 1991. Listing price was TL2,000 while the stock closed the first day at TL 1,800, implying a 10% contraction. The Privatization Authority received US$ 9 mn from this sale. Underwriter was Is Bank. Koc Holidng is the current major shareholder.

Turkish Airlines (THYAO TI)

Turkish Airlines shares were privatized in 1990. 5% of the airline company was sold to public by the Privatization Administration with offering price of TL 3,000. Stock ended TL 2,700 in the first trading day, contracting by 10% Total proceeds from this privatization was US$ 16.4 mn. The underwriter of this issuance was Is Bank.

Turk Telekom (TTKOM TI)

Turk Telekom's 15% shares of the company were sold by the Ministry of Treasury and Finance. The listing price was TL4.6 and the stock closed slightly higher at 4.62 in the initial trading day. Ministry of Treasury and Finance received US$ 1.9 bn from this IPO. Garanti Securities was the lead underwriter for domestic sales while international lead underwriter as Deutsche Bank.

Usas Yatırımlar Holding (USAS TI)

Known as Usas Ucak Servisi at the time of IPO was privatized in 1993. The Privatization Authority sold 30% of the firm's shares to the public. IPO price was set at TL 32,000 and the stock ended the first day at TL 35,000, denoting an 11% positive gain. Privatized shares were valued at US$ 15.1 mn. The underwriters of this issuance were Is Bank and Global Securities.

Usak Seramik (USAK TI)

Usak Sermaik, a ceramic producer company went to public by selling its 15% to the BIST in 1990. Its shares were sold by Kalkinma Bank. IPO price was set by TL 5,000 and at the end of first trading day stock price remained unchanged. Kalkinma Bank received US$ 670 k from this sale. The underwrite was Kalkinma Bank.

Unye Cimento (UNYEC TI)

Unye Cimento shares owned by the Privatization Administration were privatized in 1990. 49.21% of shares were sold to the public with IPO price of TL 10,000. Stock price did not change at the end of initial trading day. Proceeds from this privatization were US$ 17.5 mn. The underwriter was Is Bank.