

On the Origin of IPO Profits*

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Abstract

By combining investors' portfolio holdings and trading and commissions data, we analyze the relations between investor characteristics and IPO allocations. We distinguish among common explanations for investors' IPO profits: information revelation, quid pro quo arrangements (related to commissions), and post-IPO trading behaviors. We find that information proxies explain the majority of the variation in IPO profits, while commissions and post-IPO trading behaviors explain relatively little. Commissions and post-IPO trading matter at the extensive, but not intensive, margins, while information matters at both. Different explanations matter for allocations and IPO profits to Investment Managers, Hedge Funds, and Banks/Pensions/Insurers.

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1 Introduction

It is well established that initial public offerings (IPOs) experience significant first-day price increases, with initial returns averaging upwards of 15% (Loughran et al., 1994; Loughran and Ritter, 2002; Ritter and Welch, 2002; Ljungqvist, 2007). These large initial returns translate into billions of dollars of profits, or money left on the table, for institutional investors. Several theories propose alternative explanations for why investors receive IPO profits. Money left on the table can be viewed as compensation for institutional investors' value-adding activities, such as information revealed during the bookbuilding process or desirable post-IPO trading behaviors. Alternatively, IPO profits can be viewed as rents extracted from firms and shared between institutional investors and underwriters on a quid pro quo basis. For regulators observing the declining use of public equity markets, understanding the economic importance of these explanations and the origins of IPO profits is of utmost importance.

The existing literature shows that these mechanisms impact IPO allocations and the resulting money left on the table. A number of cases surrounding the tech bubble of the late 1990s and early 2000s demonstrated the existence of quid pro quo arrangements between investors and underwriters. More recently, several papers link investors' trading commissions to more favorable allocations from underwriters (Reuter (2006), Goldstein et al. (2011), Jenkinson et al. (2018)). Some of the same papers, and several others (Jenkinson and Jones (2004), Cornelli and Goldreich (2001)), also find evidence that information plays a significant role in allocations. And still other papers show that investor behaviors such as price support (Fjesme (2016)) and long-term holding (Chemmanur et al. (2010)) affect allocations. It is, thus, clear that many factors affect IPO allocations, but which of these factors matter most? And do some factors matter more for different groups of investors?

To answer these questions, we assemble comprehensive data on 24,326 inferred allocations in 1,612 U.S. IPOs between 1999 and 2010. By combining 13F institutional holdings data with AN-cerno trading and commissions data that links investors to underwriters, we are able to simultaneously analyze multiple mechanisms that drive IPO allocations. In particular, we use investor size and industry specialization to proxy for the information mechanism, commissions paid to underwriters to proxy for quid pro quo, and past price support, flipping, and holding duration as proxies

for investors' post-IPO behaviors. Moreover, ANcerno data enables us to identify the institutional investors who participate in IPOs and characterize them as Hedge Funds, Investment Managers, or Banks/Pensions/Insurers, and to analyze which channels help different groups of investors to get profitable IPO allocations.

At the extensive margin of whether investors receive an allocation, we find evidence consistent with each mechanism, particularly investors' information and quid pro quo. At the intensive margins of how large or valuable allocations are, only factors related to the information mechanism are economically and statistically significant. Thus, while quid pro quo arrangements are associated with more allocations, investor size and information are the dominant factors associated with larger and more profitable allocations. We also find that different mechanisms matter to different groups of investors. While investor size is a major determinant of allocations for all investors, commissions are only related to allocations for Investment Managers, and industry specialization is significant for Investment Managers and Hedge Funds. Thus, it appears that information plays little role in the allocations to Banks/Pensions/Insurers and quid pro quo arrangements mainly benefit Investment Managers. Finally, we estimate the relative importance of investor size, industry specialization and commissions to IPO profits. Overall, we estimate that 72.6% of variation in IPO profits are related to investors' size and information, while only 12.6% is related to commissions paid to underwriters.

To study the origins of IPO profits, we assemble a sample that is large and broad: it includes 24,326 inferred allocations made to 319 investors by 91 underwriters in 1,612 IPOs. Our sample is unique in that it links 13F institutional holdings data to ANcerno trading and commissions data using the names of investors and brokers.¹ By using names to link investors' portfolio holdings to trading data, we infer IPO allocations at a larger scale than prior studies. For comparison, Chemmanur et al. (2010) infers allocations using similar but anonymized data to study 4,620 allocations to 48 investors across 888 IPOs. Beyond increasing the size of our sample, investor and broker names allow us to combine traditionally disparate data. Chemmanur et al. (2010) link portfolio holdings to trades but not to commissions; Goldstein et al. (2011) link trades to commissions but not to portfolio holdings; we link portfolio holdings to both trades and commissions.

¹For a brief period in 2010, ANcerno provided both investors' and brokers' names, allowing us to link previously anonymous data.

There are strengths and weaknesses associated with studying IPO profits using inferred allocations. The first strength is a large sample size. Studies that use actual order books to analyze allocations, such as Cornelli and Goldreich (2001) and Jenkinson and Jones (2004), are often limited to a single underwriter and relatively few offerings. Jenkinson et al. (2018) is an exception, in that they utilize order book data on 221 IPOs across 19 underwriters. In contrast, we analyze 1,612 IPOs across 91 underwriters. The second strength of using inferred allocations is the ability to link those allocations to investors' portfolio holdings. While Jenkinson et al. (2018) study a large sample of IPOs from many underwriters, their study is limited by an inability to link investors across underwriters. Our sample allows for an investor-focused perspective on allocations and IPO profits. There are two main weaknesses of inferred allocations. The first is the noise inherent in the calculation, which relies on both noisy trading data and noisy holdings data.² The second is the lack of detailed order book data, which is useful for testing information-based theories of underpricing.

Given the strengths of our data, we take an investor-centric approach to analyzing IPO allocations. By having data on investors' portfolios, investors' trading behaviors, and commissions paid to underwriters, we can control for the time-varying nature of each of these. For example, it is particularly important to have both time-varying portfolio and commissions data given the mechanical effect of investors' portfolio sizes on their trading activity and commissions paid. By focusing on investors' performances in IPOs, which are equilibrium outcomes of the bookbuilding and allocation processes, we gain insight into which investor characteristics are broadly related to allocations and IPO profits. Given the equilibrium nature of the outcomes we observe, we cannot identify causal effects of investor characteristics on IPO allocations and their initial returns. However, by focusing on which investors receive allocations and how large and profitable those allocations are, we can determine which mechanisms and investor characteristics are most associated with IPO allocations and profits.

Our empirical strategy leverages fixed effects and the breadth of our data to distinguish among the mechanisms associated with IPO allocations. In each of our analyses we include specifica-

²Institutional investors report most (but not all) of their trading activity to ANcerno, and investors are only required to report position of at least 10,000 shares in their 13F filings.

tions without fixed effects, with investor fixed effects and with investor-underwriter fixed effects. Jenkinson et al. (2018) argue that investor and investor-underwriter fixed effects allow for cleaner identification of quid pro quo in IPO allocations. Focusing on variation across investor or investor-underwriter-pair observations controls for the average investor size and the average quality of underwriter relationships, which are likely strongly related to commission payments. While we agree that these fixed effects help in the identification of quid pro quo effects, these fixed effects do not capture time variation in investor size and behaviors, industry specialization, or in the relationships between investors and underwriters. For example, a positive association between allocations and commissions paid within an investor-underwriter pair could be due to a strengthening relationship and increased communication (and flow of information) between an investor and an underwriter, or due to an investors' increasing size and trading volume, either of which can lead to more commissions *and* more IPO allocations. While we cannot control for time-varying relationships (and thus cannot completely validate the quid pro quo mechanism), our data allow us to control for the more mechanical investor size effect and, thus, to better delineate between quid pro quo and information-based explanations.

We construct measures of commissions payments, investor behaviors, and portfolio holdings to distinguish among the competing mechanisms. Following Goldstein et al. (2011), we construct two measures of commissions: *ClientSize* measures the share of an underwriter's commissions received from an investor over the prior 9 months, and *AbnormalComissions* measures excess commissions in the 10 days prior to the IPO. A positive relation between commissions and allocations would be consistent with quid pro quo. The prior literature shows that price support (Fjesme (2016)) and holding duration (Chemmanur et al. (2010)) are related to allocations, and that investors flip a portion of their allocations (Aggarwal (2003)). We create *PastPriceSupport*, *PastHoldTime* and *PastFlipping* to measure each of these behaviors. Our variables are all created based on past investor actions and are measurable at the time of an IPO. If underwriters reward investors for past behaviors, these variables will be positively related to allocations. Finally, we construct *LogInvestorAUM* and *IndustrySpecialization* using portfolio holdings. *LogInvestorAUM* is the natural logarithm of total 13F assets and *IndustrySpecialization* is the excess portfolio weight of

an IPO firm's industry relative to the market weight of that industry (similar to Reuter (2006)). We interpret *LogInvestorAUM* as a broad measure of investor skill a la Berk and Green (2004) and we interpret *IndustrySpecialization* as measure of an investor's expertise and information in a particular IPO.

Following Chemmanur et al. (2010), we first regress an indicator for whether an investor receives an allocation on our investor characteristics and IPO control variables. With the exception of *AbnormalComissions*, all of the investor characteristics are significantly positively related to IPO allocations, with and without fixed effects. *LogInvestorAUM* has the strongest relation with IPO allocations: a one-standard deviation increase is associated with a 4.28% higher probability of receiving an allocation (with investor-underwriter fixed effects). *ClientSize* and *IndustrySpecialization* are associated with 2.20% and 1.54% higher probabilities.

The dependent variable in our second set of regressions is the percentage of the offering allocated to an investor. Without fixed effects, *LogInvestorAUM*, *ClientSize*, *IndustrySpecialization*, *AbnormalComissions* and *PastPriceSupport* are all positively related to allocation size, while *PastHoldTime* and *PastFlipping* are negatively related to allocation size. With investor-underwriter fixed effects, only *LogInvestorAUM* and *IndustrySpecialization* are positively related to allocation size. This finding suggests that while investors who pay more commissions or provide more price support after the IPO tend to get larger allocations, underwriters do not reward those behaviors as they vary for investors. However, as investors get bigger or when an IPO is in an industry they specialize in, they are rewarded with larger allocations.

The first two sets of regressions do not distinguish between good and bad allocations, and treat all allocations equally. However, there are large difference across IPOs due to hot and cold IPO markets and variation in initial returns between contemporaneous offerings. To account for the quality of the allocations, and thus the profits earned by investors, our third set of regressions use money left on the table as the dependent variable. Money left on the table is equal to the size of the allocation in dollars multiplied by the price increase on the first day of trading. Thus, it measures the IPO profits earned by an investor from their allocations.³ Without fixed effects,

³While money left on the table represents paper profits, Chemmanur et al. (2010) show that, on average, investors realize those profits.

investors IPO profits are increasing in *LogInvestorAUM*, *ClientSize*, *IndustrySpecialization* and *PastPriceSupport*. One-standard deviation increases in *LogInvestorAUM* and *ClientSize* both lead to an additional \$110,000 in profit per IPO. With investor-underwriter fixed effects, only *LogInvestorAUM* and *IndustrySpecialization* are positively related to IPO profits. One-standard deviation increases in *LogInvestorAUM* and *IndustrySpecialization* lead to \$140,000 and \$60,000 in additional profits per IPO. Thus, our results suggest that investor skill, broadly interpreted, and industry information are the most important determinants of IPO profits.

While our full sample results provide insight into the main determinants of IPO allocations and profits, they disguise significant heterogeneity among investors. To better understand this heterogeneity, we separate investors into groups of either Hedge Funds, Investment Managers, or Banks/Pensions/Insurers. Both with and without fixed effects, IPO profits of Banks/Pensions/Insurers are significantly related to only *LogInvestorAUM*. Thus, Banks/Pensions/Insurers do not appear to be providing IPO-specific information nor do they appear to be favored in quid pro quo arrangements. Instead, Banks/Pensions/ Insurers can be viewed as generalists in the IPO market. Without fixed effects, IPO profits of Investment Managers and Hedge Funds are most significantly related to *LogInvestorAUM*, but are also positively related to *ClientSize* and *IndustrySpecialization*. With investor-underwriter fixed effects, *LogInvestorAUM* and *IndustrySpecialization* are significantly positively related to IPO profits for both groups. *ClientSize*, however, is only positively related to IPO profits for Investment Managers (the corresponding coefficient is statistically significant at a 10% confidence level). While the relation is weak statistically (t -statistic of 1.77), the economic significance is similar to those of *LogInvestorAUM* and *IndustrySpecialization*. Thus, the data suggest that both Investment Managers and Hedge Funds are rewarded for providing information, but only Investment Managers potentially benefit from quid pro quo arrangements.

Our final analysis quantifies the relative importance of the different mechanisms for IPO profits by conducting a variance decomposition. To do so, we repeat our money left on the table regressions, removing each investor characteristic, one at a time, to measure its contribution to the overall R^2 of the regression. We then compare the relative additions to total explanatory power across investor characteristics. Focusing on our full sample and the specification with investor-underwriter fixed

effects, *IndustrySpecialization* accounts for 47.5% of the incremental explained variation and *LogInvestorAUM* accounts for 25.1%. *PastFlipping* is the third most important, accounting for 12.7% of incremental explained variation and *ClientSize* accounts for 12.2%. Thus, overall, investor characteristics related to investor skill and information account for nearly three-quarters of the incremental explanatory power, and the quid pro quo channel appears less important. However, within Investment Managers, the story changes. While *IndustrySpecialization* accounts for the largest share at 42.4%, *ClientSize* accounts for 33.1% of the incremental explained variation. Thus, we cannot rule out quid pro quo as a major factor in determining IPO allocations, and profits, for Investment Managers.

We make several contributions to the IPO literature. First, our main contribution is elucidating the relative importance of different mechanisms associated with IPO profits. By analyzing investors' money left on the table, and how it is associated with investor characteristics, we show that information proxies explain the majority of the explainable variation in IPO profits within investor-underwriter pairs. Overall, quid pro quo arrangements only explain a small portion of the explainable variation in overall IPO profits. Second, we separately analyze IPO allocations at the extensive (whether investors receive allocations) and intensive margins (how large and how profitable are those allocations). While information proxies, underwriter-support activities, and quid pro quo arrangements are all associated with receiving allocations, only the information proxies are significantly associated with the size and profitability of allocations. Third, our analyses demonstrate that different mechanism matter for different groups of investors. We find that commissions are strongly related to IPO profits for Investment Managers, consistent with quid pro arrangements influencing IPO allocations. Information drives allocations to Investment Managers and Hedge Funds, while Banks/Pensions/Insurers receive allocations based on their overall size.

Our analysis confirms that many factors influence IPO allocations. While many anecdotes demonstrate that underwriters and institutional investors have profited at the expense of issuing firms, we find that quid pro quo arrangements are less important than information in determining investors' IPO profits. While commissions are related to IPO profits for some investors, care must be taken in analyzing this result, as we cannot distinguish between quid pro quo effects and potentially

dynamic relationships between investors and underwriters. Bookbuilding methods introduce the potential for quid pro quo and rent extraction from issuing firms, however, our results suggest that regulators should acknowledge the more significant role information plays in determining IPO allocations and investors' IPO profits.

2 Data and Summary Statistics

2.1 Institutional Trading Data

We use execution-level data from ANcerno/Abel Noser, the industry-leading provider of Transaction Cost Analysis (TCA) for investment managers, consultants and brokers, for the period from 1999 to 2011.⁴ The data contains detailed information about institutional trades, broker commissions, and identifiers of institutions and brokers.

Our sample represents the most complete version of Ancerno trading data. According to the recent estimation of Hu et al. (2018), ANcerno data covers around 15% of all institutional trading volume over the sample period (1999-2011). The data contains transaction information, including *CUSIP* and *symbol* of the traded stock, price, volume, side (Buy or Sell) and commissions paid to a broker executing the trade. Each client sending their trades to ANcerno is attributed a unique numeric *clientcode*. *Clientmgrcode* provided by the client identifies investment managing companies, funds, or separately managed accounts initiating the trade. A *ManagerXref* file including an updated list of *clientcodes* and *clientmgrcodes* was updated quarterly during the 2008-2011 subscription period. ANcerno maps each *clientmgrcodes* to a specific institution (managing company) for internal purposes in the *MasterManagerXref* identification file including *managercode* and *managername*. The *MasterManagerXref* was available to academic subscribers for a very short period of time in 2010, hence it was not available to researchers before and after this date. Similarly, ANcerno associates the variable *clientbkrcode* with names of brokers executing the trades in its *BrokerXref* identification file that allowed us to match brokers to IPO underwriters in Thomson

⁴The sample period is restricted by the availability of manager identification files crucial for our analysis. After the 3rd quarter of 2011, all client/manager identifiers were removed by the data provider, and in 2017 ANcerno stopped providing data to academics

SDC data and Jay Ritter’s underwriters’ list. This unique data configuration permitted to construct several investor- and underwriter-specific measures and analyze them in cross-section and across time. For this purpose, we match stocks, investors, and brokers(underwriters) across several databases.

2.1.1 Matching with CRSP stocks

Stocks in ANcerno are identified by *stockkey* (ANcerno-specific identifier), *CUSIP*, and *symbol*. The major issues with using these identifiers for matching with CRSP are discussed by Hu et al. (2018). *CUSIPs* and *symbols* provided by institutions may have different formats for the same stocks, for some transactions they are missing. For example, 7.6% of transactions report no *CUSIP*. Hence, matching stocks using these identifiers may result in a substantial loss of observations (up to 30% of the data). We perform a multi-step cleaning and matching procedure and create a matching table that reliably matches up to 98.9% of ANcerno transactions to CRSP *PERMNOs*.

2.1.2 Matching institutions

To match ANcerno institutions to the institutions in 13F filings, we follow a two-step procedure. We compute quarterly IPO net buying for each ANcerno institution identified by *clientcode* and *clientmgrcode*. For each quarter we build all pairwise combinations of IPO holdings and ANcerno net buying positions without conditioning on name matches provided in the *MasterManagerXref* file. We calculate the correlations between position changes in ANcerno sample and 13F filings, as well as matching measures implemented by Chemmanur et al. (2010). The Match1 is the percentage of position changes that match exactly, Match2 is the percentage of position changes that match within 10%, and Match3 is the percentage of position changes that are in the same direction. We then base our final match decision on the name match and matching measures described above. Every single matched case is validated by at least two co-authors of this paper. As a result, we confidently match 319 institutions engaging in after-market trading of IPO stocks. For example, previous study that used an anonymized version of ANcerno institutions (Chemmanur et al. (2010)) manages to identify 48 institutions.

2.1.3 Matching underwriters

We manually match IPO underwriters in our sample to ANcerno brokers by name using *BrokerXref* identification file. Broker identification files were updated quarterly by ANcerno. While most of the brokers matched to the list of underwriters unambiguously, we had to go through a substantial number of cases manually. These cases include name changes and mergers among brokers. After completing the matching procedures described above, we map institutional investors to their trades in ANcerno and construct IPO allocations and allocation sales as described in the next subsection.

2.2 Identifying IPO Allocations and IPO Allocation Sales

To identify IPO allocations, we combine ANcerno trades and quarterly 13F filings provided by Thomson Reuters. We calculate the net after-market trading position of each institution in an IPO stock starting from the first day of trading until the last date of the quarter following the IPO, and subtract it from the end-of-quarter holdings reported in 13F. We record a zero allocation in an IPO, whenever 13F holdings information and ANcerno trades are available for a given institution but not for the IPO in question.

Using the identified allocations we compute the main variables of interest for our study: *AllocInd* - indicator variable equal to one if an allocation is greater than zero; *AllocationSize* - the end-of-quarter shares held as reported in the 13F institutional holdings data minus net shares bought to the quarter end from the ANcerno data; *AllocPct* - *AllocationSize* divided by the shares offered in the IPO, and, finally, *MoneyLeft*: $AllocationSize \times OfferPrice \times InitialReturn$. *OfferPrice* is the final offering price and *InitialReturn* is the return from the IPO offer price to the price at the end of the first day of trading. For the definitions of these variables and other variables used in this study refer to the appendix to the main paper.

To infer IPO allocation sales (flipping) at a given date and separate them from the after-market trading, we follow the algorithm implemented by Chemmanur et al. (2010)⁵. Consider a simple example of an institution that sells 100 stocks of an IPO on day 1, buys 200 stocks of the same IPO on day 2, and then sells 300 stocks on day 3. The allocation sales will be equal to 100 stocks

⁵the algorithm is consistent with the Depository Trust Company's (DTC) IPO Tracking System

on day 1, 0 on day 2, and 100 stocks on day 3 ($|200 - 300|$). The cumulative amount of allocation sales by the end of day 3 is 200 stocks. The order of daily trading positions matters, therefore, we compute cumulative daily positions and allocation sales for each trading day recursively. For the purpose of our analysis we compute allocation sales (flipping) that occurred in the first 30 days after the IPO.

2.3 IPO Data

We use the Thomson Securities Data Corporation (SDC) Platinum Global New Issues database. Our sample includes IPOs of U.S. firms' common stocks completed between 1999 and 2010. As is common in the literature, we exclude unit offerings, real estate investment trusts, rights issues, closed-end funds and trusts, and IPOs with an offer price less than five dollars. To be included in the sample, we require that a firm be in the Center for Research in Security Prices (CRSP) database and that at least one institution reports holding shares in the first quarter after the IPO. Holdings data are from the Thomson-Reuters 13F Institutional Holdings database. Consumer Price Index (CPI) data from the Bureau of Labor Statistics is used to adjust dollar values to year 2005 dollars. Founding dates, monthly underpricing and issuance activity, and underwriter rankings are taken from Jay Ritter's website.⁶ Data are winsorized at the 1% and 99% levels to reduce the influence of outliers. The resulting sample includes 1612 IPOs with median return of 14% which is in the range of what is typically documented in the literature.

2.4 Summary Statistics

Table 1 displays summary statistics for our sample: Panel A has IPO statistics by years in our sample 1999-2010, and Panel B shows statistics for different underwriters. We use IPOs that took place in the US between 1999 and 2010. One can see that the IPO market was extremely active during the dotcom bubble years 1999 and 2000 having 413 and 306 IPOs completed within a year correspondingly, and only 17 deals during the financial crisis of 2008. Overall our sample covers 1612 IPOs over 12 years, we infer allocations from ANcerno reports for 319 investors, with around 16

⁶The data are available at <https://site.warrington.ufl.edu/ritter/ipo-data/>

allocations to these investors per IPO. The dollar value of IPO proceeds that we observe corresponds to 29.4% of total IPO proceeds in our sample, which is substantial and comparable to what other papers using ANcerno data have reported. We also see that the underwriting business is rather concentrated with 16 top underwriters conducting 1357 IPOs, and the remaining 75 underwriters conducting only 245 IPOs in total.

We show manager-level summary statistics in Table 3. We divide the 319 institutions we identified into quartiles by number of IPO allocations in our sample: institutions with very high, high, low, and very low allocations. The institutions in the *veryhigh* group receive 270 allocations on average (median number is 199 for this group) and participate in 20.8% (median 13.4%) of IPO issues. The average (median) size of their allocations amounts to 1.7% (1.4%) of the issued shares, which represents the mean (median) of \$3.4 (\$2.4) million value per allocation and around \$1 million (\$0.74 million) of money left of the table. The number of allocations and allocation frequency are very skewed across the sample institutions. The next closest quartile of the institutions receive significantly less allocations with the mean (median) of 37 (31) per institution. The bottom quartile managers get as low as 1 allocation in the whole sample. The summary statistics reveal an interesting pattern: low and very low quartiles obtain a much larger dollar amount of allocations than institutions in the two top quartiles, however, with a lower volume of money left on the table. This is indicative of some investors in this group being able to get huge allocations with potentially lower initial-returns.

Summary statistics for the main variables used in the analysis are reported in Table 2. Note, that the number of allocations per investor in our sample is highly skewed, so that a median investors receives 14 IPO allocations in 12 years. We drop these investors with below median allocations from the main analysis, because they correspond to a small number of allocations and add noise, their exclusion does not affect main results.

3 Determinants of IPO allocations and profits

There are many theories that predict certain characteristics or certain behavior of investors and underwriters to be associated with high allocations of shares in IPOs. In a typical IPO, underwriters

“build the book” by contacting potential investors and eliciting their opinions and willingness to buy shares. Once investors submit bids, underwriters use their discretion to allocate shares to investors. Through this bookbuilding process, underwriters can direct allocations to valued investors. In bookbuilding models, underwriters use allocation quantities and offer prices (and the associated underpricing) to elicit private information from investors (Benveniste and Spindt, 1989), or even to compensate investors’ information production costs (Sherman and Titman, 2002). Alternatively, underwriters may direct large allocations of underpriced shares to the investors who are most likely to return a portion of their gains through other lines of business (see Ljungqvist (2007) for a review of several favoritism-based theories and Reuter (2006); Goldstein et al. (2011); Jenkinson et al. (2018) for empirical evidence). Alternatively, underwriters can favor some investors in exchange for analyst coverage (Cliff and Denis, 2004; Loughran and Ritter, 2004). We refer to these and related hypotheses as *favoritism*. Finally, some investors can simply be experts in certain industries, and by using their expertise would choose to participate in the most profitable IPOs as in the seminal Rock (1986) paper. In either of these cases, some investor characteristics or their behavior can make them more likely to report holdings in certain kinds of IPOs.

We start our main analysis by investigating factors enabling investors to receive shares in IPOs using two measures of allocations and one measure of profits. First, we look whether an investor gets any shares at all, i.e. whether an investor had positive holdings of shares after the IPO. Second, we take investors that received positive allocations, and look what explains the size of their allocation as a percentage of total shares sold in the IPO. Finally, we measure an individual investor’s IPO profits by multiplying the number of shares received by the first-day price jump. We regress these three measures on the number of explanatory variables attempting to distinguish different channels enabling investors to get shares in IPOs.

The first channel relates to how underwriters can use their discretion in bookbuilding to benefit their favored clients. More specifically, some investors may get access to IPOs in exchange for buying other services from underwriters and paying them high commissions (Reuter, 2006; Goldstein et al., 2011; Jenkinson et al., 2018). We capture this possibility by introducing two measures: *Client Size* measures the fraction of the underwriter’s commission revenue coming from a particular investor,

and *Abnormal Commissions* measure the commissions paid by an investor in the previous 12 month above the typical amount of commissions paid by the investor. We expect commissions to play a role in explaining investors' IPO allocations and profits.

Hypothesis 1: commissions paid by an investor to an underwriter should be positively related to the investor's allocations and profits in IPOs conducted by the underwriter.

The second channel that can potentially make certain investors valuable to underwriters is related to investors' behavior in the post-IPO market. Investors that buy shares in an IPO may enjoy significant first trading day returns and can be tempted to sell their shares to realize their profits. Yet, selling by such investors pushes the company's share price downwards and may require a costly intervention by underwriters who may buy shares in order to support the price. In order to reduce such intervention underwriters may prefer to allocate shares to investors who do not sell shares immediately, hold them for a long time, or even engage in price support by buying shares in the post-IPO market and by doing so helping the underwriters. The idea that investors commit (implicitly) to purchase shares after an IPO in exchange for an allocation of underpriced shares is theorized in Hao (2007). Empirical studies Cornelli and Goldreich (2001), Chemmanur et al. (2010), Jenkinson et al. (2018) find evidence that underwriters favor long-term investors with allocations. For each investor and IPO we build variables *Past Price Support* and *Past Holding* that measure respectively to what extent the investor engaged in price support and for how long the investor was holding shares in previous IPOs.

Hypothesis 2: an investor's holding period of past IPOs and post-IPO price support should be positively related to the investor's allocations and profits in IPOs.

Finally, a broad set of theories starting with Rock (1986) and Benveniste and Spindt (1989) suggests that some investors may be well-informed, which would help them get allocations. Also, many models have linked information asymmetry to high initial returns, predicting that informed investors will receive more allocations in IPOs with high initial returns Sherman and Titman (2002). Similarly, many models have linked various value-adding activities to high initial returns. As examples, Mello and Parsons (1998) and Stoughton and Zechner (1998) propose investors add value through monitoring, Holmstrom and Tirole (1993) and Brown (2017) consider investors' impacts

on firm value by increasing price informativeness. All of these theories commonly predict that expert investors' allocations in IPOs are positively correlated with initial returns, and importantly, most of the value-add theories rely on investors' being informed to some degree. To capture this channel we introduce a variable *Industry Specialization* that measures the relative weight of the IPO firm's industry in the investor's portfolio as a proxy for the investor's expertise in the IPO firm's industry. We also use the logarithm of assets under management (*LogAUM*) to control for the investor's size, and as an alternative proxy for the investor's skill. Finally, we control for how actively the investor trades by calculating his total trading volume reported to ANcerno and taking the logarithm (*LogVolume*). We test the following hypotheses motivated by the previous literature.

Hypothesis 3: an investor's industry specialization and assets under management should be positively related to the investor's IPO allocations and profits in IPOs.

3.1 Which Investors Receive Allocations?

Table 5 shows which factors impact whether investors receive allocations in IPOs using *AllocInd* as the dependent variable. The dependent variable is zero if an investor gets no shares, and it is equal to one if the investor gets some shares. We regress this variable on the explanatory variables described above, and on the set of usual controls denoted by X_j in the equation 1 below:

$$\begin{aligned}
AllocInd_{i,j} = & \alpha + \beta_1 ClientSize_{i,uw(j),t(j)} + \beta_2 AbnormalComms_{i,uw(j),t(j)} + \\
& \beta_3 PastPriceSupport_{i,uw(j),t(j)} + \beta_4 PastFlipping_{i,uw(j),t(j)} + \\
& \beta_5 PastHoldTime_{i,uw(j),t(j)} + \beta_6 LogAUM_{i,t(j)} + \\
& \beta_7 IndSpecialization_{i,t(j)} + \beta_8 LogVolume_{i,t(j)} + \Gamma X_j + \epsilon_{i,j}
\end{aligned} \tag{1}$$

The first column of Table 5 provides our baseline results without any fixed effects. As all of the independent variables are standardized by subtracting their means and dividing by their standard deviations, the coefficient estimates can be interpreted as increases in probabilities of receiving an allocation for a one-standard deviation increase in the independent variables. *InvestorAUM* and *ClientSize* are most strongly related to whether investors receive allocations. A one-standard deviation increase in *InvestorAUM* is associated with a 5.23% increase (t -statistic of 13.92) in

the probability of receiving an allocation, while *ClientSize* is associated with a 3.97% increase (t -statistic of 9.13). *PastPriceSupport*, *IndSpecialization* and, perhaps surprisingly, *PastFlipping* are also all positively associated with receiving an allocation, increasing the allocation probabilities by 2.45% (t -statistic of 6.36), 2.07% (t -statistic of 8.36) and 1.98% (t -statistic of 5.51). While flipping is often viewed negatively, some degree of flipping is essential to secondary market trading and is expected by underwriters. A one-standard deviation increase in *PastHoldTime* is associated with a 0.68% (t -statistic of 2.29) increase in the probability of an allocation, indicating that past holding behavior is a less important determinant of allocations. The coefficient on *AbnormalCommissions* is not significantly related to allocation probabilities.

Several control variables are significantly related to whether investors receive allocations. Consistent with larger offerings giving allocations to more investors, a one-standard deviation increase in *LogProceeds* is associated with a 4.04% (t -statistic of 12.77) increase in probability. Investors are also more likely to receive allocations in *HighDemand* IPOs (2.96%, t -statistic of 8.35) in which the final offer price is above the initial offer price range. Similarly, a one-standard deviation increase in the offer price revision is associated with a 2.91% (t -statistic of 4.90) increase in the probability of an allocation. Investors with more ANcerno trading volume, *LogAncernoVolume*, are also more likely to receive an allocation (3.57%, t -statistic of 5.32). Finally, *LowDemand* IPOs are associated with lower allocations probabilities (−0.95%, t -statistic of −2.38), and *VC – Backed* IPOs are associated with higher allocation probabilities (1.13%, t -statistic of 3.87).

Columns 2, 3 and 4 of Table 5 show the effects of including underwriter, investor, and underwriter-investor fixed effects. Underwriter fixed effects control for differences across underwriters in the number of allocations made. Column 2 shows that coefficient estimates and standard errors are generally unchanged from our baseline results, suggesting small differences across investors in the number of allocations made.⁷

Investor fixed effects control for time-invariant differences across investors, and Column 3 uses within-investor variation to identify the coefficient estimates. In general, focusing on within-

⁷Note that underwriter fixed effects do not control for potentially different relations between allocations and our control variables, so underwriters may vary substantially in which independent variables are more related to allocations.

investor variation leads to dampened, but still significant, coefficient estimates. *InvestorAUM* and *ClientSize* are still most strongly related to whether investors receive allocations. A one-standard deviation increase in *InvestorAUM* is associated with a 4.15% probability increase (t -statistic of 6.95), which is 79% of the baseline effect, while *ClientSize* is associated with a 2.40% increase (t -statistic of 7.26), which is 60% of the baseline effect. *IndSpecialization* coefficient estimate is 75% of the baseline effect, while *PastPriceSupport* and *PastFlipping* are 62% and 43% of their baseline effects. *PastHoldTime* is 156% of the baseline effect in the investor-fixed-effects regression.

Including investor-underwriter fixed effects focuses on the variation in allocation probabilities due to differences across IPOs within investor-underwriter pairs. In other words, does an investor receive more allocations from an underwriter when investor characteristics change? Column 4 of Table 5 shows which factors are more important within investor-underwriter pairs. *InvestorAUM* and *ClientSize* are still most important and statistically significant, with effects that are 82% and 55% of the baseline effects. *IndSpecialization* is also important and statistically significant, with an effect that is 74% of the baseline effect. The effects of *PastPriceSupport*, *PastFlipping* and *PastHoldTime* are significant and similar to those in the investor fixed-effects regression.

The results in Columns 1 through 4 suggest several channels help to explain IPO allocations: *ClientSize* indicates the presence of quid pro quo arrangements, *PastPriceSupport*, *PastFlipping* and *PastHoldTime* indicate that investors are rewarded for supporting underwriters, and *InvestorAUM* and *IndSpecialization* indicate that more informed investors are more likely to receive allocations. Yet, these overall findings hide substantial heterogeneity among investors, in Section 4 we compare three distinct groups of investors: 1) Banks, Pension Funds, and Insurers, 2) Investment Managers, and 3) Hedge Funds, and find significant differences between the groups.

3.2 How Big Are the Allocations Investors Receive?

In this section we analyze the determinants of the size of the allocations that investors receive in an IPO. Our dependent variable $AllocPct_{i,j}$ is the number of shares allocated to investor i in an IPO managed by an underwriter j divided by the number of shares offered in an IPO. We focus on the same set of explanatory variables as in the previous subsection, and evaluate different channels

that might help investors to receive more shares in an IPO (see equation 2 below). We include in our sample observations with positive allocations.

$$\begin{aligned}
AllocPct_{i,j} = & \alpha + \beta_1 ClientSize_{i,uw(j),t(j)} + \beta_2 AbnormalComms_{i,uw(j),t(j)} + \\
& \beta_3 PastPriceSupport_{i,uw(j),t(j)} + \beta_4 PastFlipping_{i,uw(j),t(j)} + \\
& \beta_5 PastHoldTime_{i,uw(j),t(j)} + \beta_6 LogInvestorAUM_{i,t(j)} + \\
& \beta_7 IndSpecialization_{i,t(j)} + \Gamma X_j + \epsilon_{i,j}
\end{aligned} \tag{2}$$

In Columns 1-4 of Table 6 we report results for an average investor. Column 1 represents our baseline result. Consistent with the information theories of IPO allocations, the size of the investor and the industry specialization have the most explanatory power for the allocation size and remain significant across all specifications. A one-standard deviation increase in *LogInvestorAUM* is associated with a 0.36% increase in the size of the allocation (t-statistic of 5.58) and 0.38% increase in the *IndustrySpecialization* (t-statistic of 6.86).

Commissions appear important for allocations in columns 1 and 2: a one standard deviation increase in *ClientSize* is related to 0.14% increase in the *AllocPct* (t-statistic of 3.55). However, once we control for investor fixed effects (Column 3) or for investor-underwriter fixed effect (Column 4) the corresponding coefficients are no longer significant. The coefficient on *AbnormalCommissions* is positive but small in Columns 1-3: a one standard deviation increase in excess commissions is related to 0.03% increase in *AllocPct* (t-statistic of 2.80). The variable shows little significance in other settings.

While past flipping does not seem to negatively affect the probability of an allocation in Table 6, it is negatively related to the allocation size in many specifications. One standard deviation increase in *PastFlipping* is related to 0.22% decrease in *AllocPct* (t-statistic of -6.36).

Surprisingly, *PastHoldTime* is negatively associated with the allocation size, the opposite of what one could expect. As before, these effects hide substantial heterogeneity among investors.

Overall, our results suggest that somewhat different factors explain the size of allocations from the factors that explain whether an investor gets an allocation. Industry specialization seems to be

robust in its effect and positively affect both allocation measures, therefore, the information-based explanation is relevant for both measures. At the same time, high commissions paid to underwriters seem to help investors to get an allocation, but do not influence its size. Suggesting that overall importance of this channel for explaining IPO allocations is limited. Finally, factors associated with long-term holding appear to help investors to get an allocation, but conditionally on getting it, they are negatively associated with its size. This is probably because underwriters do try to attract long term investors to IPOs, yet these investors buy less shares than those investors that plan to sell them quickly after the IPO.

3.3 The origins of IPO profits

While many papers have focused on factors that might affect IPO allocations, few have tried to look at individual investors' profits measured as money left on the table, i.e., first-day price jump multiplied by the number of shares allocated to the investor. Clearly, similar factors that affect IPO allocations can also explain investors' profits: past commissions, past holding behavior, and investors' expertise can help investors to get profitable IPO allocations.

We take an individual investor's profit as a dependent variable and regress it on the same explanatory variables as in previous sections. Specifically, we relate *MoneyLeft* of investor i in an IPO conducted by an underwriter j to different investor's and underwriter's characteristics, measures of their past relationships, and common IPO characteristics:

$$\begin{aligned}
 MoneyLeft_{i,j} = & \alpha + \beta_1 ClientSize_{i,uw(j),t(j)} + \beta_2 AbnormalComms_{i,uw(j),t(j)} + \\
 & \beta_3 PastPriceSupport_{i,uw(j),t(j)} + \beta_4 PastFlipping_{i,uw(j),t(j)} + \\
 & \beta_5 PastHoldTime_{i,uw(j),t(j)} + \beta_6 LogAUM_{i,t(j)} + \\
 & \beta_7 IndSpecialization_{i,t(j)} + \beta_8 LogVolume_{i,t(j)} + \Gamma X_j + \epsilon_{i,j}
 \end{aligned} \tag{3}$$

The results are reported in Table 7. It turns out that for an average investor, past commissions seem to positively affect IPO profits, the corresponding coefficient is statistically significant at 1 % level in Columns 1, 2, and 3, and is in the range of 0.09-0.11, implying that a one standard

deviation increase in *ClientSize* is associated with extra 90-110 thousand \$ in IPO profits. Yet, once we control for a persistent investor-underwriter relationship with investor-underwriter fixed effects in Column 4, the coefficient is reduced to 0.06 and has a lower statistical significance (t-statistic of 1.68), which suggests that variation in *ClientSize* within investor-underwriter pair has weak relation with the investor's realized profits in IPOs conducted by the underwriter. In other words, the same investors are important clients for underwriters through the sample period, and investor-underwriter fixed effects fully capture that.

In the baseline regression measures of investors' post-IPO behaviour are related to their profits. Columns 1 of Table 7 shows that a one standard deviation increase in *PastPriceSupport* is associated with 40 thousands \$ extra profits (coefficient is 0.04 and t-statics is 2.75), a one standard deviation increase in *PastFlipping* is associated with 50 thousands \$ less profits (coefficient is -0.05 and t-statics is -3.16), and one standard deviation increase in *PastHoldTime*, is associated with 40 thousands \$ less profits (coefficient is -0.04 and t-statics is -2.77). The results are intuitive for *PastPriceSupport* and *PastFlipping*: underwriters favor investors that engage in price support and penalize those that flip (i.e., sell) shares soon after the IPO. Negative relationship between *PastHoldTime* and IPO profits is less intuitive, this might be explain by the fact that many long-term investors are passive and purchase many IPOs without trying to pick the best deals, as a result they tend to get somewhat less profits than other IPO investors. These results are effectively unchanged when we introduce underwriter, or investor fixed effect (Columns 2 and 4). Yet, when we introduce investor-underwriter fixed effects the coefficient estimates become smaller and less statistically significant, suggesting that a stable relationship between investor and underwriter can explain investors' post IPO behaviour. Interestingly, in this case *PastHoldTime* is negatively associated with profits (the coefficient is -0.03 and t-statistic is -2.13).

Our measures of investor's skill an information, proxied by *LogInvestorAUM* and *IndustrySpecialization*, are positively associated with IPO profits in all regression specifications: the magnitude of corresponding coefficient and their significance are almost the same in Columns 1-4 in Table 7. Even when we control for investor-underwriter fixed effects, a one standard deviation increase in *LogInvestorAUM* is associated with \$140 thousand increase in profits (the coefficient is 0.14 and

t-statistic is 4.64).

Overall, our results suggest the importance of commissions-based motives for IPO allocations and profits is limited, especially when controlling for investor-underwriter relationships. Similarly, arguments suggesting that long-term investors or investors that engage in price support will be favored by underwriters find mixed support. While past price support does help an investor to receive an allocation, it has negative effect on the allocation size, and no effect on profits. Overall, our results suggest that information based theories find strong and robust support in all three sets of regressions.

4 Investor Heterogeneity

Prior studies document that different mechanisms help investors receive shares in IPOs in different environments. Motivated by this, we hypothesize that different factors can matter for different investors. Our unique sample and our ability to classify investors allows us to see if different investors play different roles, and receive IPO allocations for different reasons. As a starting point, we consider heterogeneity in investors' sizes and IPO profits. Figure 1 plots investors' assets under management (AUM) and their profits from participating in IPOs (realized Money Left). One might expect the largest investors to make the highest profits, but this is not necessarily the case. There are relatively small funds that make a lot of money in IPOs, e.g., the second-ranked investor. At the same time, some very large funds gain little from participating in IPOs. Figure 2 shows a similar pattern for the number of IPO allocations. Once again, some investors participate in many IPOs but do not realize high profits in them, while others manage to earn significant profits by participating in a smaller number of IPOs.

Our data allow us to identify investors, which in turn enables us to see if different entities pursue different strategies in IPOs. We split our investors into three categories according to their main business: 1) Hedge Funds, 2) Investment Mangers, and 3) Banks, Pension funds, and Insurers. In the next section, we compare investor characteristics across these three categories and find significant differences.

4.1 Summary Statistics and Hypotheses

Table 4 reports summary statistics for Hedge Funds, Investment Mangers, and Banks, Pension funds, and Insurers. All three categories have similar AUM (Assets Under Management), however, Banks, Pension funds, and Insurers on average get allocations more often (205 allocations, compared with 150 for Investment Managers, and 131 for Hedge Funds). The average dollar value of allocations *Allocation Dollar Value* is the highest for Investment Managers: \$4.1 million compared with \$2.6 million for Hedge Funds, and \$2.6 million for Banks, Pension Funds, and Insurers. Similarly, Investment Managers get the highest profits from participating in IPOs (*Money Left*) of \$1.3 million, compared with \$655 thousand for Hedge Funds, and with \$711 thousand for Banks, Pension funds, and Insurers. From these statistics alone we can see that Banks, Pension funds, and Insurers often participate in IPOs but do not make as much profits per IPO as Hedge Funds or Investment Mangers, which suggest that these types of investors may play different roles in IPOs, and their IPO allocations are driven by different factors.

Table 4 shows that investors behave differently in the post-IPO market. For instance, Investment Managers more actively engage in price support activities (average value of *PastPriceSupport* is 0.158), than Hedge Funds (0.126), or Banks, Pension funds, and Insurers (0.091). At the same time, Banks, Pension Funds, and Insurers hold IPOs for a longer time period (average value of *PastHoldTime* is 0.204) compared to Investment Managers (0.090) and Hedge Funds (-0.087). Underwriters may need both long-term investors and those who provide price support. As a result, in different IPOs different investors can be treated favorably, i.e., sometimes underwriters may prefer Banks, Pension funds, and Insurers over Hedge Funds, and sometimes the other way around.

Underwriters also value investors' industry expertise and private information about the IPO firm. We follow Reuter (2006) and proxy for investor's expertise with the variable *IndustrySpecialization* that measures the percentage of an investor's 13F holdings in the IPO firm's industry minus the percentage of all investor's 13F holdings in the IPO firm's industry. We implicitly assume that an investor with a portfolio concentrated in a particular industry has an expertise in this industry and may have superior information about an IPO firm in this industry relative to other investors. Our three groups of inventors differ substantially on this measure: Investment Managers tend do be

more specialized in the industries related to their IPO allocations (average *IndustrySpecialization* of 0.014) compared to less specialized Hedge Funds (0.007), and non-specialized Banks, Pension Funds and Insurers (-0.002). Naturally, we expect these groups of investors to play different roles in IPOs and to be treated differently by underwriters.

Investors' heterogeneity suggests that they may play substantially different roles in IPOs and can receive allocations for a number of reasons. Therefore, on top of hypotheses 1,2, and 3 formulated for a representative investor in Section 3 we formulate hypotheses about investors' roles in IPOs motivated by their heterogeneity, and test them in the subsequent analysis.

Hypotheses motivated by heterogeneity

The summary statistics in Table 4 show that Banks, Pension funds, Insurers, and Hedge funds on average pay significantly higher commissions to underwriters than Investment managers. Hence, we expect commissions to matter less for Investment managers relative to other investors.

Hypothesis 1b: commissions paid by Investment managers to underwriters should be less related to their allocations and profits in IPOs relative to commissions paid by Banks, Pension funds, Insurers, and Hedge funds.

The summary statistics in Table 4 also show that Banks, Insurers and Pension funds tend to be long term investors, but do not engage much in price support, while Hedge Funds and Investment Managers do the opposite: they sell shares relatively quickly but they do support prices immediately after the IPO. This motivates two of our hypotheses:

Hypothesis 2b: holding period of past IPOs for Banks, Insurers and Pension Funds should be more related to their allocations and profits in IPOs than for Hedge Funds and Investment Managers.

Hypothesis 2c: past price support activity of Hedge Funds and Investment Managers should be more related to their allocations and profits in IPOs than that of Banks, Insurers and Pension Funds.

Finally, since Banks, Pension Funds, and Insurers appear to hold diversified portfolios and do not specialize in IPO firms' industries we do not expect *Industry Specialization* to matter for them.

Hypothesis 3b: industry specialization of Hedge Funds and Investment Managers should be more related to their allocations and profits in IPOs than that of Banks, Insurers and Pension Funds.

We test these hypotheses in the same order as in the main analysis: we first investigate what helps investors to get allocations in IPOs, then what factors explain the size of allocations, and, finally, what factors explain investors' profits in IPOs.

4.2 Factors explaining IPO allocations for different groups of investors.

For each group of investors we regress *AllocInd* on the same set of explanatory variables as in the main analysis, i.e. we estimate equation (1) in three different samples of investors. Columns 5-10 of Table 5 report the results.

Columns 5 and 6 show regression results for Banks, Pension Funds, and Insurers, without fixed effects and with investor-underwriter fixed effects. Without fixed effects, *InvestorAUM* is the only significant, non-control determinant of allocations. A one-standard deviation increase in *InvestorAUM* is associated with a 8.46% increase (t -statistic of 9.71) in the probability of receiving an allocation, which is over 60% larger than the baseline effect. Including investor-underwriter fixed effects only reduces the coefficient slightly, to 8.25 (t -statistic of 8.04). With investor-underwriter fixed effects, *IndSpecialization* and *PastPriceSupport* are positive and marginally significant. This evidence suggests that investor size is the most important determinant of whether a Bank, Pension Fund or Insurer receives an allocation, and information specialization, post-IPO support and quid pro quo arrangements are not important for this group of investors.

Columns 7 and 8 show that all channels are important in determining which Investment Managers receive allocations. *ClientSize* is the most significant determinant, as with (without) fixed-effects, a one-standard deviation increase is associated with a 4.51% (2.82%) increase in allocation probability (t -statistics of 9.67 and 5.47). *InvestorAUM* has a stronger relation to allocation probability without fixed effects (4.72%, t -statistic of 10.90) than with fixed-effects (1.49%, t -statistic of 2.26), and *IndSpecialization* has similar relations without and with fixed effects (1.86% and 1.42%, t -statistics of 8.52 and 8.05). Results for *PastPriceSupport*, *PastFlipping* and *PastHoldTime* are similar to our baseline results.

Columns 9 and 10 show that information appears most important for Hedge Funds' receiving allocations. Relative to the other types of investors, *IndSpecialization* is most strongly related

to allocation probabilities for Hedge Funds, both without and with fixed effects. A one-standard deviation increase in *IndSpecialization* is associated with 3.46% (t -statistic of 5.42) and 2.36% (t -statistic of 7.49) increases in allocation probabilities, nearly twice the effect for Investment Managers. *InvestorAUM* is still significantly related to allocation probabilities, albeit with lesser magnitudes than for other investors. While *ClientSize* is also significantly related to allocation probabilities, the coefficient is smaller with fixed effects as compared to Investment Managers (1.73% versus 2.82%) and is only marginally significant (t -statistic of 1.81). These results suggest that information is more important, and quid pro quo less important, in determining whether Hedge Funds receive allocations.

Overall, the results in Table 5 suggest that all three channels help investors receive allocations, yet only Investment Managers tend to use all the three. Banks, Pension Funds, and Insurers appear to be uninformed and not to benefit from commissions they pay to underwriters. Hedge Funds appear to get allocations because of superior information, but not necessarily because of paying high commissions to underwriters.

4.3 Factors explaining the size of allocations for different groups of investors

We repeat the analysis of Section 3.2 for different groups of investors: we regress the number of shares allocated to investor i in an IPO managed by an underwriter j divided by the number of shares offered in an IPO ($AllocPct_{i,j}$) on the same set of explanatory variables as before (see equation 2 for details). We only consider positive allocations and report the results in columns 5-10 of Table 6.

First, we see that *ClientSize* appears to be positively related to the size of allocations for Investment Managers and Hedge Funds in a specification without fixed effects only (columns 7 and 9 in Table 5). Yet this relation is not statistically significant in the specification with investor-underwriter fixed effects (columns 8 and 10), which suggests that cross-sectional variation in *ClientSize* explains allocations size, and not variation within investor-underwriter relationships. As within investor-underwriter variation is indicative of quid pro quo arrangements, this evidence does not support quid pro quo explanations for allocation size. For Banks, Pension Funds, and Insurers the coeffi-

cient in front of *ClientSize* is not statistically different from zero (columns 5 and 6 in Table 5). Analogously, *AbnormalCommissions* are not related to the size of the allocations in most specifications. All in all, it appears that commissions paid by investors to underwriters do not explain the size of investors' IPO allocations.

For Banks, Pension Funds, and Insurers the coefficient on *PastFlipping* is positive and significant at the 5 % level. This suggests that investors that hold shares longer do not tend to get as many shares in IPOs as investors who sell them quickly after the IPO. We document similar effects for Investment Managers and Hedge Funds (Columns 8 and 10), *PastPriceSupport* and *PastHoldTime* are negatively associated with allocation size. This is probably because other things being equal investors who plan to liquidate shares quickly are ready to buy more shares in an IPO than investors planing to hold them for a long horizon. Moreover, for investment managers the effect of *PastPriceSupport* is positive when we do not control for investor-underwriter fixed effects, but becomes negative once we control for them. This indicates that investor-underwriter relationships measured by the fixed effects are positively related to *PastPriceSupport*, and *per se* both investor-underwriter relationship and *PastPriceSupport* are associated with larger allocations.

For all three groups of investors coefficients on industry specialization and assets under management are positive and significant in most specifications (columns 5-10 in Table 5), suggesting that managers' skill and information help them to get more shares in an IPO. Moreover, the magnitude of the estimated coefficient for industry specialization is similar for the three groups of investors, implying that information is equally important for all investors. Overall, our estimates indicate that investors' superior information and skills enable them to receive large allocations in IPOs, but not commissions paid to underwriters or their post IPO behaviours.

4.4 Factors explaining profits for different groups of investors

Finally, we analyze factors that explain IPO profits of investors in three groups by estimating equation (3) separately for Investment Managers, Hedge Funds, and Banks, Pension Funds, and Insurers. As before, we use *MoneyLeft* as a measure of investor's profits equal to first-day price jump multiplied by the number of shares allocated to the investor. We regress *MoneyLeft* of investor

i in an IPO of an underwriter j on the same explanatory variables as in previous sections. Columns 5-10 in Table 7 present the results.

We find that different factors matter for different groups of investors. First, for Banks, Pension Funds, and Insurers (Columns 5 and 6) only investor skill and expertise proxied by size matter. Their IPO profits are explained by *LogInvestorAUM* and IPO characteristics, while their commissions paid to underwriters and their post-IPO behaviours are not related to IPO profits.

In Columns 7-10 we report the results for Investment Managers and Hedge Funds, and we find that only industry specialization and *LogInvestorAUM* are positively associated with IPO profits in most specifications. The positive effect of past commissions on profits reported in columns 7 and 9 for a specification without fixed effects disappears once we introduce investor-underwriter fixed effects (columns 8 and 10). This suggests that stable investor-underwriter relationships explain IPO profits but not past commissions. Finally, we see that investors' post-IPO behaviour is not related to their IPO profits.

We conclude that investors' skill measured by their assets under management helps investors in all three groups to increase their profits from participating in IPOs. Factors related to post-IPO behaviour play no role for all three groups of investors. Finally, Investment Managers and Hedge Funds also benefit from specialization in the IPO firms' industry. This supports the idea that part of their IPO profits are due to their superior information. At the same time, for Banks, Pension Funds, and Insurers this channel is not relevant, and this is possibly because they do not specialize in particular industries and buy many IPOs including those with not very high first-day returns, or even if they specialize in some industries they do not pick the most profitable IPOs in those industries but simply buy many of them. Overall, this evidence supports information-based explanations for investors' IPO profits.

5 Variance decomposition

In the previous analysis we highlighted individual factors that have statistically significant effects on investors' IPO allocations and profits. In this section we check what fraction of the variation in investors' profits is explained by different factors, i.e. what factors explain most of the differences

in IPO profits among investors. We also check if different factors matter for different investors.

We decompose the variance by analyzing the marginal explanatory power of the variables associated with commissions, post-IPO actions, and investor characteristics. To do so we run regressions for investors' profits (money left) excluding each individual variable and compute the incremental addition to the total R^2 from each variable, i.e. if V is the collection of all explanatory variables and $v \in V$ is a particular variable, the incremental R^2 can be calculated as follows

$$\Delta R_v^2 = R_V^2 - R_{V/v}^2$$

Then we compute the contribution of each explanatory variable v' to an increase in R^2 as follows

$$PercentExplainedVariance(v') = \frac{\Delta R_{v'}^2}{\sum_{v \in V} \Delta R_v^2}$$

We run regressions with usual controls. The results are presented in Table 8: Panel A corresponds to regressions without fixed effect, Panel B has regressions with investor fixed effects, and panel C has regressions with investor-underwriter fixed effects. Note that in our sample, a median investor participates in seven IPOs throughout the whole sample period, and for most of the analysis we only look at the investors with above median number of allocations, i.e. with more than seven allocations (the results are reported in the first row in each panel).

Due to substantial heterogeneity among investors we consider separately the same three groups of investors as before: Hedge Funds, Investment Managers, and Banks, Pension funds and Insurers. As we can see from panel A in Table 8, different factors explain variation in money left for different investors. Consistent with what we have documented in the previous section, money left on the table for Banks, Pension funds and Insurers is mainly explained by their assets under management (55.5% of the variance), and post-IPO actions such as flipping and holding time (10.6% and 14.9% correspondingly), followed by client size (9.2%), while industry specialization and abnormal commissions are not very important. Overall, Banks, Pension funds and Insurers appear to be uninformed investors, they can get money left on the table if they are large in size, hold shares for a long time, and if they pay substantial commissions to underwriters in other lines of

their business. The picture is completely different for Hedge Funds: most of their money left is explained by industry specialization (45.5% of the variance), followed by assets under management (20.4%), price support (16.9%), and client size (10.0%). This suggests that hedge funds make profits in IPOs because of their informational advantage, their engagement in price support, and their importance as clients for underwriters. It is plausible that some investors in this group provide additional information to underwriters during the bookbuilding process and promise price support in the aftermarket. By doing so they get compensated by underwriters with profitable allocations in IPOs. Investment Managers also look quite different from the previous two groups, their IPO profits are explained primarily by their client size (45.5% of the variance), followed by assets under management (34.7 %), and by their industry specialization (12.3 %). It appears that quid-pro-quo relationships with underwriters is the main source of IPO profits for this group of investors, followed by their size and informational advantage. Overall, our findings are consistent with a number of theories and mechanisms explaining IPO underpricing, and substantial IPO profits accruing to some investors. Different channels are relevant for different groups, but all three main channels are at work: commissions paid to underwriters, informational advantage, and post-IPO actions help different investors receive substantial profits in IPOs.

Another way to compare different investors is to split them according to how often they get IPO allocations. Since we only consider investors with above median allocations, we split our sample in two: investors with very high allocations, and investors with high allocations.⁸ We observe that for investors with very high allocations assets under management and client's size are relatively more important in explaining their profits. While for investors with high allocations industry specialization and post-IPO actions, such as holding time and past flipping, are relatively more important. This suggests that for the largest investors, who very often participate in IPOs, their commissions paid to underwriters through other lines of business help them getting access to profitable IPOs. At the same time, for smaller investors the commissions paid are not important, while supportive post-IPO actions and possibly superior information allow to get allocations in profitable IPOs.

⁸Effectively these two group correspond to the forth and the third quartile of investors according to the number of allocations in our original uncensored sample.

One potential problem with the above findings is that they can be driven by substantial heterogeneity among investors within each group. Indeed, Figure 3 shows that our regressions predict investors' profits with substantial errors, and some investors receiving substantially more money left than our regressions predict. As a robustness check for our variance decomposition results we run similar regressions with investor fixed effects and investor-underwriter fixed effects. Clearly, fixed effects would capture some of the investor/underwriter heterogeneity and could potentially reduce the importance of investors' characteristics and actions in explaining the money left on the table for investors. Yet, the variance decomposition reported in Panels B and C of Table 8 shows that our results are qualitatively the same, the most important factors explaining money left are as follows: Assets Under Management and post-IPO actions matter for Banks, Pension Funds, and Insurers; Industry Specialization and Assets Under Management matter for Hedge Funds; Industry Specialization and Client Size matter for Investment Managers.

Given the substantial heterogeneity among investor groups we look at variance decomposition for the most active investors in our sample. Figure 4 shows the variance decomposition for the top 31 investors in terms of total money left in our sample by grouping explanatory variables in three categories: 1) *investor variables* including assets under management, industry specialization, trading volume 2) *post-IPO variables* including holding period, flipping, and price support, 3) *commissions variables* including client size and abnormal commissions. As we observe on figure4, different channels explain IPO profits for different investors. For some of them commission are extremely important, while for most of them investor characteristics and post IPO actions are the main factors explaining IPO profits. One may think that these differences between investors are because of different investors belonging to the three different groups discussed above, yet additional unreported tests show that this is not the case, and there are significant differences among investors belonging to the same group. Overall, our analysis suggests that several mechanisms are important for explaining IPO allocations and investors' profits, and further exploration of the heterogeneity among investors may help us understanding different roles investors play in the IPO process.

6 Conclusion

We combine 13F institutional holdings with ANcerno trading and commissions data between 1999 and 2010 and infer 24,325 allocations of 319 institutional investors in 1,612 IPOs conducted by 91 underwriters. We simultaneously test competing explanations for why institutional investors get allocations and profits in IPOs: 1) paying high commissions to underwriters, 2) having large size or specializing in the IPO firm's industry, 3) or engaging in post-IPO price support activity and holding shares. In our full sample, we find that all explanations help investors to receive an allocation in an IPO, yet the size of the allocation and its profitability are only related to an investor's sizes and industry specialization. We further show that the bulk of investors' IPO profits are explained by these two factors. We split investors into Hedge Funds, Investment Managers, and Banks/Pensions/Insurers, and find that different channels matter for each group. Industry specialization helps Investment Managers and Hedge Funds to receive allocations, while size helps Banks/Pensions/Insurers. We also find that commissions are positively related to IPO profits for Investment Managers.

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Figure 1: The figure shows individual investors' assets under management (grey bars and right axis) and total money left on the table (blue line and left axis). The 100 largest investors, based on their total money left on the table, are ordered based on their total money left on the table across all sample IPOs.

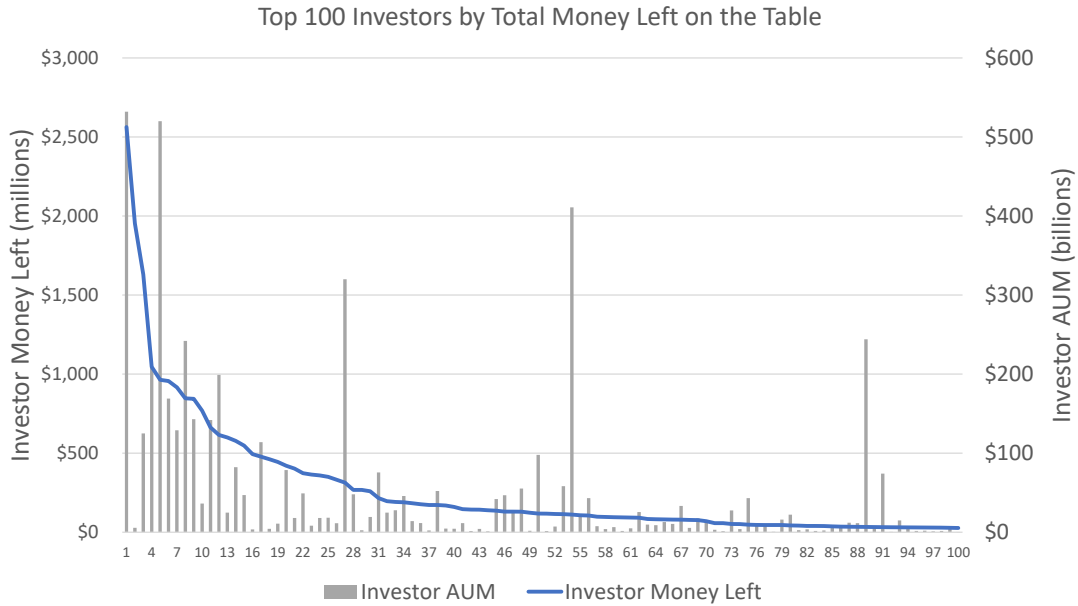


Figure 2: The figure shows individual investors' number of allocations (grey bars and right axis) and total money left on the table (blue line and left axis). The 100 largest investors, based on their total money left on the table, are ordered based on their total money left on the table across all sample IPOs.

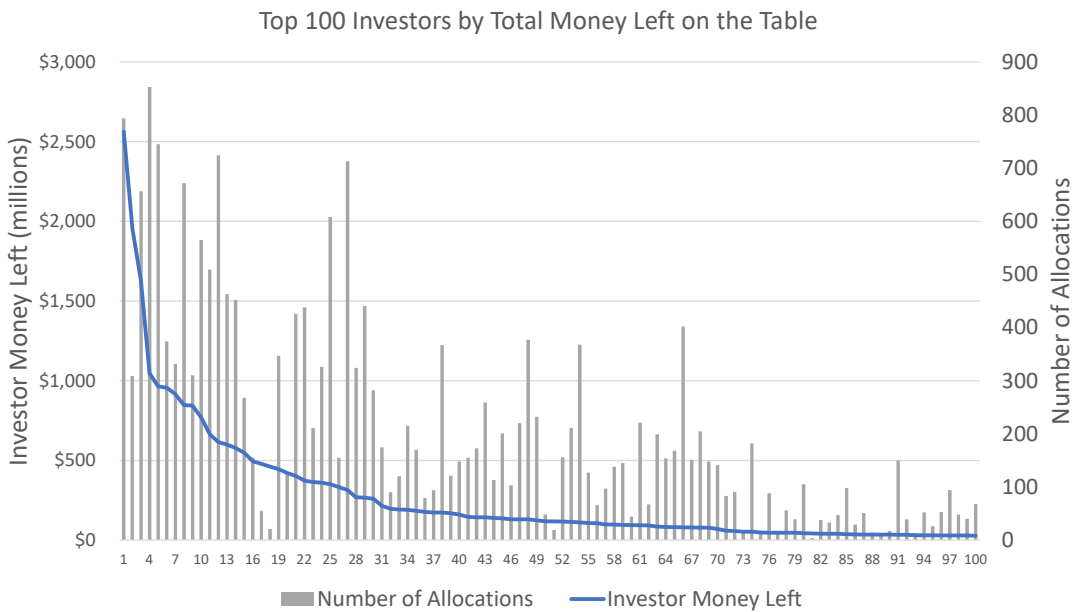


Figure 3: The figure shows individual investors' expected money left on the table (grey bars and right axis) and actual total money left on the table (blue line and left axis). The 100 largest investors, based on their total money left on the table, are ordered based on their total money left on the table across all sample IPOs. Expected money left on the table is estimated based on the fitted values in column 4 of Table 7.

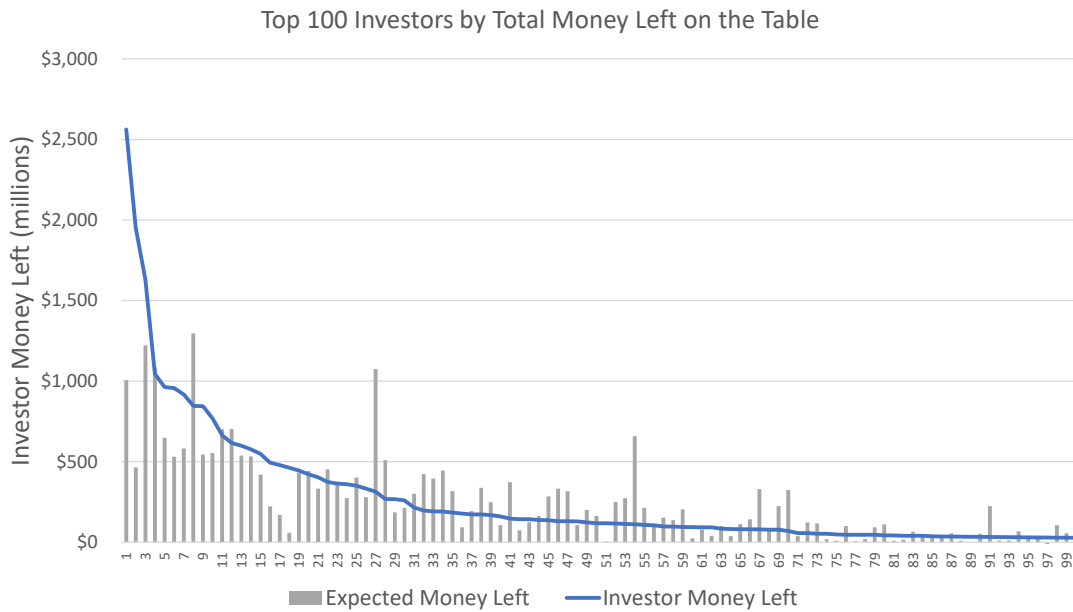


Figure 4: The figure shows the variance decompositions for individual investors' money left on the table into categories of Investor Variables (*LogInvestorAUM* and *IndustrySpecialization*), Post-IPO Variables (*PastPriceSupport*, *PastHoldTime* and *PastFlipping*), and Commissions Variables (*ClientSize* and *AbnormalComissions*). The 31 largest investors, based on their total money left on the table, are ordered based on their total money left on the table across all sample IPOs.

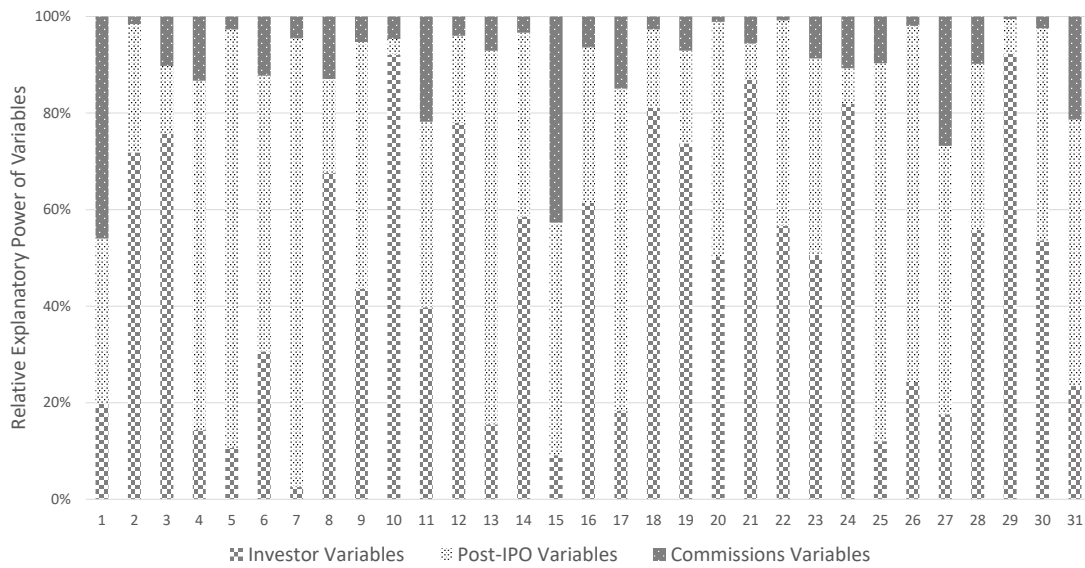


Table 1: Sample Summary. Panel A displays sample statistics by year and Panel B displays sample statistics by underwriter. Each panel lists the number of IPOs in our sample, the number of inferred allocations, the number of managers who receive an allocation, the total proceeds of all IPOs, the total dollar value of all inferred allocations, and the percent of the proceeds represented by our inferred allocations. Allocations are inferred by combining the 13F institutional holdings data with ANcerno trading data.

Panel A: Summary Statistics by Year						
Year	Number of IPOs	Allocations per IPO	Number of Managers	Total Proceeds	Allocation Dollars	Percent of Proceeds
1999	413	16.7	169	\$69,746	\$17,963	25.8%
2000	306	15.7	158	\$46,377	\$13,717	29.6%
2001	69	19.3	142	\$31,648	\$10,402	32.9%
2002	54	21.3	137	\$18,512	\$7,129	38.5%
2003	53	20.5	114	\$9,320	\$3,383	36.3%
2004	157	13.9	157	\$29,699	\$10,625	35.8%
2005	127	13.7	133	\$24,629	\$6,078	24.7%
2006	152	13.8	137	\$29,820	\$7,633	25.6%
2007	142	14.9	142	\$30,447	\$9,981	32.8%
2008	17	13.2	84	\$4,043	\$1,140	28.2%
2009	30	14.4	83	\$8,856	\$3,028	34.2%
2010	92	10.2	112	\$27,331	\$6,147	22.5%
Total	1612	15.5	319	\$330,429	\$97,225	29.4%

Panel B: Summary Statistics by Underwriter						
Year	Number of IPOs	Allocations per IPO	Number of Managers	Total Proceeds	Allocation Dollars	Percent of Proceeds
Goldman Sachs & Co	198	20.1	227	\$70,389	\$22,976	32.6%
Credit Suisse First Boston	195	19.6	213	\$49,837	\$15,536	31.2%
Morgan Stanley Dean Witter	171	22.1	240	\$77,655	\$20,845	26.8%
Merrill Lynch	110	14.6	190	\$20,777	\$6,346	30.5%
Lehman Brothers	92	13.8	157	\$14,364	\$3,661	25.5%
Salomon Smith Barney	88	14.6	176	\$21,544	\$5,997	27.8%
JP Morgan	78	14.5	161	\$14,015	\$5,231	37.3%
Fleet Boston Corp	68	17.8	100	\$5,030	\$1,286	25.6%
Deutsche Bank Securities Corp	65	13.7	128	\$6,432	\$1,581	24.6%
Chase H&Q	55	10.7	98	\$3,701	\$825	22.3%
Donaldson Lufkin & Jenrette	51	14.6	97	\$6,840	\$1,737	25.4%
UBS Warburg	46	10.1	113	\$5,535	\$1,114	20.1%
Bear Stearns & Co Inc	46	18.0	142	\$6,198	\$2,365	38.2%
Banc of America Securities LLC	42	15.7	129	\$6,133	\$2,016	32.9%
Piper Jaffray Cos	32	12.0	102	\$2,405	\$821	34.1%
SG Cowen Securities Corp	30	8.0	87	\$1,762	\$413	23.4%
75 Other Underwriters	245	8.6	186	\$17,813	\$4,473	25.1%
Total	1612	15.5	319	\$330,429	\$97,225	29.4%

Table 2: Sample Summary Statistics (above median). The tables displays means, standard deviations, and distributional values for the dependent and independent variables used in our regression analyses. Positive allocations are inferred by combining the 13F institutional holdings data with ANcerno trading data. Zero allocations are inferred when both 13F institutional holdings data and ANcerno trading data are available and no positive allocation exists. Variable definitions are provided in the appendix.

Variable	Observations	Mean	Std. Dev.	Min	10th Pctl.	Median	90th Pctl.	Max
Allocation Indicator	177,426	0.137	0.344	0.000	0.000	0.000	1.000	1.000
Client Size	177,426	0.005	0.018	0.000	0.000	0.000	0.009	0.111
Abnormal Commissions	177,426	-0.001	0.053	-0.222	-0.015	0.000	0.007	0.244
Past Price Support	177,426	0.095	0.205	0.000	0.000	0.000	0.333	1.000
Past Flipping	177,426	-0.031	0.285	-0.776	-0.449	0.000	0.405	0.876
Past Holding	177,426	0.050	0.480	-1.597	-0.600	0.000	0.882	1.556
Log AUM	177,426	22.952	1.747	18.617	20.833	22.872	25.411	26.829
Industry Specialization	177,426	0.002	0.037	-0.116	-0.040	-0.002	0.050	0.107
Log Ancerno Volume	177,426	17.140	2.350	10.272	14.388	16.972	20.423	22.548
Average Flipping	177,426	12.821	6.769	0.000	3.319	12.668	22.060	24.000
Average Holding	177,426	0.389	0.278	0.000	0.030	0.408	0.770	1.061
Offer Price Revision	177,426	0.019	0.145	-0.353	-0.175	0.000	0.190	0.438
Low Demand	177,426	0.270	0.444	0.000	0.000	0.000	1.000	1.000
High Demand	177,426	0.171	0.376	0.000	0.000	0.000	1.000	1.000
Underwriter Rank	177,426	8.246	1.235	3.001	7.001	9.001	9.001	9.001
Log Firm Age	177,426	2.345	0.976	0.000	1.386	2.197	3.761	4.779
Tech Firm	177,426	0.505	0.500	0.000	0.000	1.000	1.000	1.000
VC Backed	177,426	0.522	0.500	0.000	0.000	1.000	1.000	1.000
Log Proceeds	177,426	4.685	0.879	2.958	3.743	4.534	5.880	7.711
Allocation Size	24,326	0.018	0.032	0.000	0.000	0.005	0.051	0.196
Money Left (\$million)	24,326	1.142	4.465	-11.1	0.000	0.150	2.419	163.6

Table 3: Manager Summary Statistics. Managers are divided into categories based on the number of inferred allocations in our sample. The very high number of allocations group has 79 managers and each other group has 80 managers. Averages are calculated by first averaging within manager (across IPOs) and then averaging across managers (within category). Variable definitions are provided in the appendix.

	Very High # of Allocations		High # of Allocations		Low # of Allocations		Very Low # of Allocations	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Number of Allocations	270	199	37	31	7	7	1	1
Allocation Frequency (%)	20.8	13.4	4.0	3.7	0.8	0.8	0.2	0.1
Allocation Size (%)	1.7	1.4	1.8	1.2	1.4	0.7	1.0	0.1
Allocation Value (\$thousands)	3,395.2	2,422.4	3,644.6	2,441.8	8,345.4	1,739.9	4,748.8	566.5
Money Left (\$thousands)	1,028.2	742.0	1,078.9	450.5	714.4	280.5	332.1	25.1
Client Size	0.009	0.002	0.002	0.000	0.001	0.000	0.000	0.000
Abnormal Commissions	-0.001	0.000	-0.001	0.000	0.000	0.000	0.001	0.000
Past Price Support	0.156	0.125	0.124	0.093	0.063	0.000	0.000	0.000
Past Flipping	-0.016	-0.050	-0.037	-0.063	-0.033	-0.043	-0.002	0.000
Past Holding	0.042	0.041	0.082	0.021	0.046	0.000	0.006	0.000
Log AUM	23.6	23.4	22.2	22.1	21.8	21.6	21.5	21.6
Industry Specialization	0.008	0.004	0.012	0.006	0.008	0.004	0.004	0.001
Log Ancerno Volume	18.0	17.6	16.7	16.5	15.7	15.5	15.7	16.1
Average Holding (months)	11.2	11.6	13.1	11.9	14.9	16.4	13.8	18.7
Average Flipping (%)	46.0	43.4	36.6	35.6	30.0	19.2	29.5	0.0

Table 4: Investor Summary Statistics by Type. Investors are divided into categories of either hedge funds, investment managers or banks / pensions / insurers. Averages are calculated by first averaging within manager (across IPOs) and then averaging across managers (within category). Variable definitions are provided in the appendix.

	Hedge Funds		Investment Managers		Banks/Pensions/Insurers	
	Mean	Median	Mean	Median	Mean	Median
Number of Allocations	131	71	150	89	205	120
Allocation Frequency	13.6	7.4	12.7	6.9	19.3	10.1
Allocation Percent	1.3	1.1	2.1	1.8	1.2	1.0
Allocation Dollar Value	2,614.2	1,974.0	4,112.9	2,962.7	2,625.4	1,654.1
Money Left	654.9	519.0	1,302.0	692.4	711.1	423.8
Client Size	0.007	0.001	0.005	0.001	0.008	0.001
Abnormal Commissions	0.000	0.000	-0.001	0.000	-0.003	0.000
Past Price Support	0.126	0.092	0.158	0.124	0.091	0.071
Past Flipping	0.107	0.119	-0.058	-0.075	-0.128	-0.116
Past Holding	-0.087	-0.060	0.090	0.092	0.204	0.244
Log AUM	22.1	22.1	22.8	22.7	24.2	24.1
Industry Specialization	0.007	0.002	0.014	0.009	-0.002	-0.002
Log Ancerno Volume	17.5	17.1	17.2	17.1	17.5	18.0
Average Holding	8.2	7.5	13.3	12.7	14.0	13.6
Average Flipping	59.5	63.2	36.1	38.7	31.1	33.4

Table 5: Explaining Whether an Investor Receives an Allocation

The table displays the results of the regressions of 177,426 IPO allocation outcomes to institutional investors in the US IPOs between 1999 and 2010 on several investor and relationship characteristics. The dependent variable *AllocInd* is equal to 1 if an investor received an allocation in an IPO and 0 otherwise. *ClientSize* is the total brokerage revenue paid by an investor to an underwriter (UW) divided by the total brokerage revenue received by that UW from all investors [-270;-21] days before an IPO; *AbnormalCommissions* is the excess daily brokerage revenue paid by an investor to an UW in the 10 days before an IPO (in excess to the daily brokerage revenue [-60;-21] days prior to an IPO) normalized by the UW's average daily revenue from all investors [-60;-21] days prior to an IPO; *PastPriceSupport* is the % of the past allocations from an UW in which the investor purchased shares in the 30 days after the IPO; *PastFlipping* % of the allocation sold by investor in the 1st month in past IPOs by the UW minus the % of allocations sold in the first month in past IPOs by all investors for that UW; *PastHoldTime* is an investor's average holding time of allocations in past IPOs from the UW minus the average holding time of allocations in past IPOs by all investors for that UW; *LogInvestorAUM* is a log of the total 13F assets reported in the quarter; *IndustrySpecialization* is the % of an investor's 13F holdings in the IPO firm's industry minus the % of all investors' 13F holdings in the IPO firm's industry. We control for the *LogAncernoVolume*, the log of the total shares traded by investor in ANcerno across all securities per quarter and include the set of the control variables common to the IPO literature. All independent variables are standardized by subtracting their means and dividing by their standard deviations. We provide a detailed description of all variables in Table A1. Standard errors clustered at the investor-underwriter level, *t*-statistics are below the estimates in parentheses, and ***, **, and * indicate statistical significance at the 1%, 5%, and 10% respectively.

	Full Sample				Banks, Pensions and Insurers		Investment Managers		Hedge Funds	
	(1) AllocInd	(2) AllocInd	(3) AllocInd	(4) AllocInd	(5) AllocInd	(6) AllocInd	(7) AllocInd	(8) AllocInd	(9) AllocInd	(10) AllocInd
Client Size	3.97*** (9.13)	3.90*** (9.21)	2.40*** (7.26)	2.20*** (4.62)	1.24 (1.24)	-0.20 (-0.18)	4.51*** (9.67)	2.82*** (5.47)	4.81*** (7.20)	1.73* (1.81)
Abnormal Commissions	-0.07 (-0.55)	-0.07 (-0.52)	-0.06 (-0.64)	-0.13 (-1.22)	0.41 (1.31)	0.29 (1.01)	-0.28** (-2.07)	-0.32** (-2.17)	0.13 (0.46)	0.04 (0.18)
Past Price Support	2.45*** (6.36)	2.45*** (6.37)	1.51*** (6.64)	1.48*** (6.58)	-0.03 (-0.05)	1.04** (2.08)	3.19*** (7.09)	1.78*** (7.00)	2.47*** (5.23)	1.21*** (3.42)
Past Flipping	1.98*** (5.51)	1.99*** (5.49)	0.85*** (3.97)	0.67*** (2.84)	-0.12 (-0.16)	-0.12 (-0.15)	1.97*** (4.36)	0.99*** (3.47)	3.57*** (5.03)	0.49 (0.77)
Past Hold Time	0.68** (2.29)	0.70** (2.31)	1.06*** (3.59)	1.05*** (3.86)	0.45 (0.58)	0.64 (0.78)	0.20 (0.55)	0.73** (2.54)	1.01 (1.52)	1.62** (2.35)
Log Investor AUM	5.23*** (13.92)	5.21*** (13.98)	4.15*** (6.95)	4.28*** (6.52)	8.46*** (9.71)	8.25*** (8.04)	4.72*** (10.90)	1.49** (2.26)	1.96*** (3.91)	3.48** (2.61)
Industry Specialization	2.07*** (8.36)	2.08*** (8.48)	1.55*** (8.29)	1.54*** (9.07)	0.30 (0.87)	0.53* (2.00)	1.86*** (8.52)	1.42*** (8.05)	3.46*** (5.42)	2.36*** (7.49)
Log Investor Volume	3.57*** (5.32)	3.69*** (5.79)	2.09*** (2.73)	2.15** (2.58)	6.77*** (6.81)	2.28*** (2.75)	2.65*** (3.94)	2.18** (2.41)	3.32*** (3.96)	2.59** (2.28)
Offer Price Revision	2.91*** (4.90)	2.91*** (4.50)	2.75*** (4.61)	2.73*** (4.19)	1.93** (2.03)	1.43 (1.37)	2.90*** (5.19)	2.78*** (4.56)	3.83*** (4.91)	3.45*** (4.14)
High Demand	2.96*** (8.35)	3.00*** (8.50)	3.01*** (8.53)	3.07*** (8.67)	3.80*** (6.24)	3.97*** (6.80)	2.69*** (8.16)	2.79*** (8.29)	3.31*** (6.90)	3.52*** (7.28)
Low Demand	-0.95** (-2.38)	-1.01** (-2.34)	-0.96** (-2.46)	-0.99** (-2.35)	-1.60** (-2.55)	-1.68** (-2.60)	-0.78** (-2.09)	-0.78** (-1.96)	-1.04** (-2.04)	-1.18** (-2.23)
Underwriter Rank	0.38 (1.61)	0.52 (0.51)	0.47** (2.28)	0.46 (0.48)	1.50*** (3.15)	2.14 (0.97)	0.14 (0.55)	0.03 (0.03)	0.24 (0.81)	0.89 (0.73)
Log Firm Age	0.43 (1.58)	0.41 (1.57)	0.52** (2.03)	0.51** (2.04)	1.21*** (2.80)	1.47*** (3.46)	0.33 (1.32)	0.38 (1.67)	0.13 (0.32)	0.31 (0.85)
Tech Firm	0.04 (0.16)	0.06 (0.25)	-0.01 (-0.05)	0.01 (0.03)	0.35 (0.97)	0.13 (0.35)	0.04 (0.15)	0.01 (0.03)	-0.07 (-0.19)	-0.03 (-0.10)
VC Backed	1.13*** (3.87)	1.17*** (3.71)	1.15*** (4.36)	1.18*** (4.14)	1.62*** (3.02)	1.82*** (3.69)	1.00*** (3.57)	1.02*** (3.78)	1.25*** (3.79)	1.30*** (3.64)
Log Proceeds	4.04*** (12.77)	4.08*** (10.82)	4.11*** (13.33)	4.08*** (11.38)	6.42*** (11.06)	6.59*** (11.51)	3.60*** (12.23)	3.68*** (11.25)	3.84*** (7.81)	3.83*** (7.33)
Constant	13.71*** (29.52)	13.71*** (31.32)	13.71*** (39.10)	13.93*** (45.06)	19.32*** (20.61)	19.68*** (44.33)	12.72*** (26.96)	12.91*** (44.91)	13.55*** (21.72)	13.78*** (40.16)
Fixed Effects	None	UW	Inv	InvUW	None	InvUW	None	InvUW	None	InvUW
Sample	Full Sample	Full Sample	Full Sample	Full Sample	BnkPnsIns	BnkPnsIns	InvMgr	InvMgr	HedgeFund	HedgeFund
Adjusted R ²	0.150	0.153	0.206	0.226	0.184	0.250	0.148	0.221	0.149	0.214
Observations	177,426	177,426	177,426	172,814	24,415	23,771	113,011	110,124	38,529	37,481

Table 6: Explaining the Size of an Allocation

The table displays the results of the regressions of 24'326 non-zero IPO allocations to institutional investors in the US IPOs between 1999 and 2010 on several investor and relationship characteristics. The dependent variable *AllocPct* is the end-of-quarter shares held reported in the 13F institutional holdings data minus net shares bought from the IPO data to the quarter end from the ANcerno data divided by the shares offered in the IPO. *ClientSize* is the total brokerage revenue paid by an investor to an underwriter (UW) divided by the total brokerage revenue received by that UW from all investors [-270;-21] days before an IPO; *AbnormalCommissions* is the excess daily brokerage revenue paid by an investor to an UW in the 10 days before an IPO (in excess to the daily brokerage revenue [-60;-21] days prior to an IPO) normalized by the UW's average daily revenue from all investors [-60;-21] days prior to an IPO; *PastPriceSupport* is the % of the past allocations from an UW in which the investor purchased shares in the 30 days after the IPO; *PastFlipping* % of the allocation sold by investor in the 1st month in past IPOs by the UW minus the % of allocations sold in the first month in past IPOs by all investors for that UW; *PastHoldTime* is an investor's average holding time of allocations in past IPOs from the UW minus the average holding time of allocations in past IPOs by all investors for that UW; *LogInvestorAUM* is a log of the total 13F assets reported in the quarter; *IndustrySpecialization* is the % of an investor's 13F holdings in the IPO firm's industry minus the % of all investors' 13F holdings in the IPO firm's industry. We control for the *LogAncernoVolume*, the log of the total shares traded by investor in ANcerno across all securities per quarter and include the set of the control variables common to the IPO literature. All independent variables are standardized by subtracting their means and dividing by their standard deviations. We provide a detailed description of all variables in Table A1. Standard errors clustered at the investor-underwriter level, *t*-statistics are below the estimates in parentheses, and ***, **, and * indicate statistical significance at the 1%, 5%, and 10% respectively.

	Full Sample				Banks, Pensions and Insurers		Investment Managers		Hedge Funds	
	(1) AllocPct	(2) AllocPct	(3) AllocPct	(4) AllocPct	(5) AllocPct	(6) AllocPct	(7) AllocPct	(8) AllocPct	(9) AllocPct	(10) AllocPct
Client Size	0.14*** (3.55)	0.15*** (3.79)	0.05 (1.46)	-0.06 (-0.84)	0.05 (1.07)	-0.08 (-1.02)	0.11** (2.30)	-0.05 (-0.65)	0.14** (2.36)	-0.00 (-0.01)
Abnormal Commissions	0.04*** (2.80)	0.03*** (2.75)	0.02* (2.00)	0.02 (1.34)	0.04 (1.47)	0.05* (1.70)	0.04** (2.65)	0.01 (0.39)	0.03 (0.92)	0.00 (0.06)
Past Price Support	0.21*** (4.45)	0.21*** (4.43)	0.00 (0.12)	-0.17*** (-4.10)	0.06 (1.10)	-0.07 (-1.44)	0.09 (1.62)	-0.16*** (-3.28)	0.34*** (4.02)	-0.29*** (-3.12)
Past Flipping	-0.22*** (-6.36)	-0.22*** (-6.43)	-0.14*** (-4.76)	0.08* (1.92)	-0.09 (-1.16)	0.19** (2.45)	-0.29*** (-7.45)	0.06 (1.15)	-0.41*** (-3.12)	0.04 (0.40)
Past Hold Time	-0.13*** (-3.63)	-0.12*** (-3.51)	-0.09** (-2.67)	-0.17*** (-4.40)	-0.10** (-2.45)	-0.03 (-0.51)	-0.07 (-1.51)	-0.15*** (-3.94)	-0.06 (-0.56)	-0.25* (-2.00)
Log Investor AUM	0.36*** (5.58)	0.36*** (5.62)	0.86*** (7.65)	0.86*** (6.39)	0.11 (0.89)	0.30** (2.43)	0.56*** (5.34)	0.81*** (4.52)	0.64*** (8.75)	1.42*** (4.60)
Industry Specialization	0.38*** (6.86)	0.38*** (7.04)	0.22*** (5.34)	0.21*** (4.53)	0.22*** (2.96)	0.21** (2.55)	0.29*** (4.50)	0.20*** (3.17)	0.40*** (5.64)	0.20*** (3.71)
Log Investor Volume	-0.26*** (-3.14)	-0.27*** (-3.35)	-0.18** (-2.29)	-0.09 (-1.39)	0.22* (2.01)	0.04 (0.46)	-0.45*** (-3.24)	-0.15 (-1.50)	-0.14** (-2.07)	-0.06 (-0.75)
Offer Price Revision	-0.62*** (-5.73)	-0.57*** (-5.42)	-0.58*** (-5.66)	-0.48*** (-5.04)	-0.32*** (-3.20)	-0.28** (-2.49)	-0.70*** (-4.97)	-0.51*** (-4.14)	-0.66*** (-4.52)	-0.56*** (-4.52)
High Demand	0.01 (0.43)	0.01 (0.50)	-0.00 (-0.01)	-0.01 (-0.19)	-0.04 (-0.68)	-0.02 (-0.31)	0.02 (0.42)	-0.02 (-0.36)	0.06 (1.45)	0.03 (0.69)
Low Demand	0.30*** (3.66)	0.31*** (3.69)	0.31*** (3.95)	0.31*** (3.91)	0.09 (1.00)	0.07 (0.78)	0.36*** (3.56)	0.38*** (3.90)	0.63*** (4.34)	0.61*** (4.59)
Underwriter Rank	-0.24*** (-3.95)	0.04 (0.28)	-0.17*** (-3.18)	0.03 (0.20)	-0.14 (-1.46)	-0.24 (-1.12)	-0.25*** (-3.45)	0.14 (0.65)	-0.19* (-1.89)	-0.00 (-0.01)
Log Firm Age	0.09** (2.58)	0.08** (2.57)	0.09** (2.54)	0.09*** (2.78)	-0.04 (-0.83)	-0.01 (-0.13)	0.16*** (3.53)	0.14*** (3.50)	0.06 (1.15)	0.02 (0.46)
Tech Firm	0.03 (0.71)	0.04 (1.03)	0.03 (0.69)	0.04 (1.26)	0.01 (0.09)	-0.01 (-0.23)	0.03 (0.65)	0.07 (1.60)	0.02 (0.48)	0.02 (0.42)
VC Backed	-0.02 (-0.38)	-0.03 (-0.64)	-0.03 (-0.78)	-0.05 (-1.21)	-0.04 (-0.68)	-0.07* (-1.78)	-0.01 (-0.14)	-0.03 (-0.55)	-0.03 (-0.67)	-0.08 (-1.57)
Log Proceeds	-0.42*** (-9.74)	-0.41*** (-9.80)	-0.41*** (-10.56)	-0.39*** (-9.53)	-0.28*** (-6.63)	-0.28*** (-6.30)	-0.48*** (-8.20)	-0.43*** (-7.80)	-0.42*** (-7.44)	-0.39*** (-6.87)
Constant	2.13*** (26.50)	2.05*** (25.04)	1.89*** (17.97)	1.77*** (15.33)	1.54*** (14.80)	1.61*** (15.57)	2.46*** (20.19)	2.05*** (11.90)	1.93*** (17.74)	1.54*** (9.51)
Fixed Effects	None	UW	Inv	InvUW	None	InvUW	None	InvUW	None	InvUW
Sample	Full Sample	Full Sample	Full Sample	Full Sample	BnkPnsIns	BnkPnsIns	InvMgr	InvMgr	HedgeFund	HedgeFund
Adjusted R ²	0.106	0.116	0.227	0.241	0.052	0.143	0.114	0.232	0.217	0.330
Observations	24,326	24,314	24,326	23,039	4,718	4,526	14,373	13,575	5,221	4,934

Table 7: Explaining Money Left on the Table

The table displays the results of the regressions of money left on the table per investor-IPO between 1999 and 2010 on several investor and relationship characteristics (the sample includes zero allocations). The dependent variable *MoneyLeft* is the *dollar amount of the allocation* \times *final offering price* \times *initial return*. *ClientSize* is the total brokerage revenue paid by an investor to an underwriter (UW) divided by the total brokerage revenue received by that UW from all investors [-270;-21] days before an IPO; *AbnormalCommissions* is the excess daily brokerage revenue paid by an investor to an UW in the 10 days before an IPO (in excess to the daily brokerage revenue [-60;-21] days prior to an IPO) normalized by the UW's average daily revenue from all investors [-60;-21] days prior to an IPO; *PastPriceSupport* is the % of the past allocations from an UW in which the investor purchased shares in the 30 days after the IPO; *PastFlipping* % of the allocation sold by investor in the 1st month in past IPOs by the UW minus the % of allocations sold in the first month in past IPOs by all investors for that UW; *PastHoldTime* is an investor's average holding time of allocations in past IPOs from the UW minus the average holding time of allocations in past IPOs by all investors for that UW; *LogInvestorAUM* is a log of the total 13F assets reported in the quarter; *IndustrySpecialization* is the % of an investor's 13F holdings in the IPO firm's industry minus the % of all investors' 13F holdings in the IPO firm's industry. We control for the *LogAncernoVolume*, the log of the total shares traded by investor in ANcerno across all securities per quarter and include the set of the control variables common to the IPO literature. All independent variables are standardized by subtracting their means and dividing by their standard deviations. We provide a detailed description of all variables in Table A1. Standard errors clustered at the investor-underwriter level, *t*-statistics are below the estimates in parentheses, and ***, **, and * indicate statistical significance at the 1%, 5%, and 10% respectively.

	Full Sample				Banks, Pensions and Insurers		Investment Managers		Hedge Funds	
	(1) MoneyLeft	(2) MoneyLeft	(3) MoneyLeft	(4) MoneyLeft	(5) MoneyLeft	(6) MoneyLeft	(7) MoneyLeft	(8) MoneyLeft	(9) MoneyLeft	(10) MoneyLeft
Client Size	0.11*** (3.80)	0.11*** (3.78)	0.09*** (3.12)	0.06 (1.68)	0.04 (1.54)	-0.04 (-1.36)	0.15*** (3.32)	0.10* (1.77)	0.07*** (3.81)	-0.01 (-0.33)
Abnormal Commissions	0.00 (0.09)	0.00 (0.09)	-0.00 (-0.19)	-0.01 (-0.38)	0.01 (0.58)	0.01 (0.71)	0.00 (0.09)	-0.01 (-0.55)	-0.00 (-0.16)	-0.01 (-0.47)
Past Price Support	0.04*** (2.75)	0.04*** (2.81)	0.01 (1.29)	-0.01 (-0.60)	-0.02** (-2.24)	-0.02 (-1.45)	0.03** (2.47)	0.01 (0.81)	0.07** (2.16)	-0.04 (-1.45)
Past Flipping	-0.05*** (-3.16)	-0.05*** (-3.18)	-0.04*** (-3.15)	-0.01 (-0.77)	-0.05 (-1.61)	-0.01 (-0.57)	-0.04*** (-2.80)	-0.01 (-0.72)	-0.06* (-1.79)	-0.00 (-0.17)
Past Hold Time	-0.04*** (-2.77)	-0.04*** (-2.78)	-0.03** (-2.13)	-0.05** (-2.26)	-0.07 (-1.68)	-0.08 (-1.46)	-0.03*** (-2.82)	-0.03* (-1.87)	-0.03 (-1.23)	-0.07* (-1.70)
Log Investor AUM	0.11*** (5.12)	0.11*** (5.07)	0.11*** (4.64)	0.14*** (4.41)	0.11*** (3.63)	0.09*** (3.45)	0.13*** (5.29)	0.13*** (3.39)	0.09*** (3.70)	0.22** (2.50)
Industry Specialization	0.08*** (4.85)	0.08*** (4.86)	0.06*** (5.34)	0.06*** (5.15)	0.01 (0.96)	0.02 (1.02)	0.07*** (5.60)	0.07*** (5.39)	0.11*** (2.73)	0.08** (2.43)
Log Investor Volume	-0.01 (-1.35)	-0.01 (-1.39)	-0.03** (-2.41)	-0.02* (-1.74)	0.03 (1.32)	-0.03 (-1.28)	-0.03** (-2.69)	-0.02 (-1.57)	-0.01 (-0.60)	0.00 (0.27)
Offer Price Revision	-0.02 (-0.60)	-0.02 (-0.66)	-0.02 (-0.68)	-0.03 (-0.77)	-0.03 (-0.91)	-0.05 (-0.91)	-0.03 (-0.70)	-0.03 (-0.78)	-0.00 (-0.05)	-0.01 (-0.44)
High Demand	0.12*** (3.91)	0.12*** (3.98)	0.12*** (3.92)	0.12*** (3.99)	0.13*** (2.93)	0.14*** (3.01)	0.13*** (4.09)	0.13*** (4.14)	0.09*** (2.98)	0.09*** (3.02)
Low Demand	-0.03 (-1.60)	-0.03 (-1.58)	-0.03 (-1.60)	-0.03 (-1.58)	-0.04 (-1.49)	-0.05 (-1.62)	-0.03 (-1.47)	-0.03 (-1.42)	-0.02* (-1.88)	-0.02* (-1.93)
Underwriter Rank	-0.03*** (-3.14)	0.02 (0.82)	0.02 (-2.55)	0.02 (0.63)	0.02 (-0.39)	0.02 (0.51)	-0.03*** (-3.06)	0.00 (0.17)	-0.02** (-2.40)	0.04 (1.48)
Log Firm Age	-0.03*** (-2.72)	-0.03*** (-2.86)	-0.03** (-2.58)	-0.03*** (-2.71)	-0.02* (-1.74)	-0.02 (-1.23)	-0.03*** (-2.79)	-0.03*** (-2.93)	-0.03* (-1.85)	-0.03* (-1.68)
Tech Firm	0.02** (2.05)	0.03** (2.10)	0.02* (1.96)	0.02* (1.92)	0.02 (1.43)	0.01 (1.05)	0.03* (1.91)	0.03* (1.86)	0.01* (1.88)	0.02 (1.62)
VC Backed	0.05*** (4.00)	0.05*** (3.95)	0.05*** (3.99)	0.05*** (3.92)	0.04** (2.65)	0.05** (2.58)	0.06*** (4.25)	0.06*** (4.18)	0.03** (2.38)	0.04** (2.46)
Log Proceeds	0.17*** (4.86)	0.18*** (5.35)	0.17*** (4.86)	0.18*** (5.34)	0.17*** (3.90)	0.18*** (4.15)	0.19*** (4.84)	0.20*** (5.26)	0.11*** (3.78)	0.12*** (4.30)
Constant	0.16*** (8.13)	0.16*** (8.18)	0.16*** (8.95)	0.16*** (9.77)	0.17*** (6.11)	0.17*** (8.86)	0.17*** (8.98)	0.17*** (11.25)	0.12*** (5.20)	0.13*** (8.06)
Fixed Effects	None	UW	Inv	InvUW	None	InvUW	None	InvUW	None	InvUW
Sample	Full Sample	Full Sample	Full Sample	Full Sample	BankPnsIns	BankPnsIns	InvMgr	InvMgr	HedgeFund	HedgeFund
Adjusted R ²	0.028	0.029	0.040	0.023	0.040	0.031	0.030	0.022	0.028	0.033
Observations	177,426	177,426	177,426	172,814	24,415	23,771	113,011	110,124	38,529	37,481

Table 8: Money Left Variance Decomposition. This table shows the percentage of variance explained by commissions variables (client size and abnormal commissions), post-IPO variables (price support, holding period and flipping), and investor variables (AUM, industry specialization and trading volume). To calculate the percentages, we first regress money left on all explanatory variables (plus control variables) and regressions with each variable omitted. We then calculate the incremental R^2 contributed by each variable, and then divide by the sum of the incremental R^2 s for all variables. Panel A includes all allocations (and non-allocations) in the regressions. Panel B regresses managers' actual money left on the predicted money left based on the regressions in Panel A. Panel C analyzes each manager's allocations (and non-allocations) individually, and then averages across managers.)

	Money Left Explained By:								
	Obs.	Client Size	Abnormal Commissions	Price Support	Holding	Flipping	AUM	Industry Spec.	Ancerno Volume
Panel A: No Fixed Effects									
Above Median Investors	177,426	31.4%	0.0%	4.9%	3.8%	2.5%	35.1%	21.9%	0.4%
Very High Allocation Investors	104,404	26.4%	0.0%	5.1%	4.1%	2.2%	35.2%	26.2%	0.7%
High Allocation Investors	73,022	0.8%	0.4%	0.3%	11.4%	6.1%	20.7%	59.9%	0.4%
Banks, Pensions and Insurers	25,886	9.2%	0.5%	2.6%	10.6%	14.9%	55.5%	2.9%	3.8%
Hedge Funds	38,529	10.0%	0.0%	16.9%	5.6%	1.4%	20.4%	45.5%	0.1%
Investment Managers	113,011	46.2%	0.0%	1.8%	2.0%	1.1%	34.7%	12.3%	2.0%
Panel B: Investor Fixed Effects									
Above Median Investors	177,426	36.2%	0.1%	0.7%	6.0%	4.9%	14.2%	35.5%	2.4%
Very High Allocation Investors	104,404	36.2%	0.1%	0.4%	6.0%	2.9%	16.1%	36.8%	1.6%
High Allocation Investors	73,022	0.0%	0.6%	0.6%	14.0%	11.8%	12.1%	59.4%	1.4%
Banks, Pensions and Insurers	25,886	2.2%	1.9%	2.7%	14.2%	37.4%	26.2%	7.0%	8.3%
Hedge Funds	38,529	2.7%	0.1%	0.1%	4.7%	10.9%	34.0%	47.5%	0.0%
Investment Managers	113,011	58.6%	0.2%	0.9%	3.4%	1.2%	7.7%	25.8%	2.2%
Panel C: Investor-Underwriter Fixed Effects									
Above Median Investors	177,426	12.2%	0.4%	0.2%	0.3%	12.7%	25.1%	47.5%	1.7%
Very High Allocation Investors	104,404	12.1%	0.4%	0.6%	0.2%	9.9%	27.9%	48.1%	0.7%
High Allocation Investors	73,022	0.1%	0.5%	0.0%	0.1%	22.0%	17.3%	58.3%	1.7%
Banks, Pensions and Insurers	25,886	6.2%	2.2%	2.4%	1.6%	41.5%	33.0%	6.6%	6.6%
Hedge Funds	38,529	0.2%	0.2%	6.3%	0.0%	16.3%	37.0%	39.9%	0.0%
Investment Managers	113,011	33.1%	1.2%	0.1%	0.2%	5.2%	15.7%	42.4%	2.0%

A Variable Definitions and Additional Results

This appendix defines the variables used in the paper and motivates and describes our robustness tests.

- Table A2 addresses the concern that excessive zeros or non-linearities in the allocations data may be altering our results. Rather than using a log transformation requiring adding one to each zero, we use the inverse hyperbolic sine transformation following Bellemare and Wichman (2020). The results are generally consistent with our main regression results. The main exception is that Client Size is significantly related to Money Left when including Investor-Underwriter fixed effects.
- Table A3, Table A4 and Table A5 address the concern that we may be including too many zero allocations in our data. Our main regressions includes zero allocations for investors who report 13F holdings and ANcerno trades within a quarter. In Table A3, we require that investors also receive at least one positive allocation in the same quarter. In Table A4, we require that investors report 13F holdings and ANcerno trades within a quarter and receive at least one positive allocation from the same underwriter (anytime in the sample). In Table A5, we require that investors report 13F holdings and ANcerno trades within a quarter, receive at least one positive allocation in the same quarter, and receive at least one positive allocation from the same underwriter (anytime in the sample, not only in the quarter of interest). Across the tables, the results are qualitatively consistent with our main regression results.
- Table A6 and Table A7 address the concern that our results are driven by the dot-com bubble of the late 1990s and early 2000s and Table A8 and Table A9 address the concern that our results are driven by hot and cold IPO markets. Table A6 analyzes IPOs in 1999 and 2000, while Table A7 analyzes IPOs from 2001 to 2010. Table A8 analyzes hot IPO markets in 1999, 2000, 2004 – 2007, and 2010 while Table A9 analyzes IPOs cold IPO markets in 2001–2003 and 2008–2009. The main results are generally consistent with our main regression results. Relations are often stronger during hot IPO markets, although that is not always the case.
- Table A10, Table A11, Table A12 and Table A13 address the concern that our results are driven by hot IPOs. Table A10 (Table A11) presents results for IPOs with above (below) median initial returns, in which the median is calculated over the full sample. Table A12 and Table A13 also presents results for IPOs with above and below median initial returns, and instead calculate median initial returns within quarter. Across the tables, the results are qualitatively consistent with our main regression results. Effects are generally stronger in Hot IPOs versus Cold IPOs.
- Table A14 Table A15 address the concern that results may differ between VC-backed and non-VC-backed IPOs. Effects appear slightly stronger in VC-backed IPOs, although conclusions are not significantly different across samples.
- Table A16 utilizes an alternative measure of industry specialization. Rather than using portfolio holdings from the 13F data, we construct a measure of industry concentration based on institutions' ANcerno trading volume by industry for each year in our sample. For each investor in each year, we compare the percentage of their trading volume in a given industry to

the percent of all institutions' trading volume in that industry. The results are qualitatively consistent with our main regression results.

- Table A18 and Table A17 include investors who receive less than the median level of allocations (i.e. 13 or fewer allocations). Table A18 presents the consolidated results of our main analyses when including all investors in the sample (i.e. investors who receive both above and below median number of allocations), and Table A17 presents the consolidated results of our main analyses when including only the low allocation investors. While many of the relations identified in our main analyses are present for the below-median allocations investors, the relations are generally weaker and are often not significant.
- Table A19 reconciles our results with respect to holding period with those of Chemmanur et al. (2010). The first two columns present our main regression results, using measures of past holding and flipping that are measurable at the time of the IPOs. In these regressions, past holding time is negatively related to the size of allocations. In the third and fourth columns, we use measures of holding periods and flipping based on our full sample. In these regressions, holding period is either negatively related to allocation size, or is not significantly different from zero. In the fifth and sixth columns, we use measures of holding period based on our full sample, and exclude the controls for flipping. Once we use the full sample measure of holding period, and exclude controls for flipping, we see a significant positive relation between holding period and allocation size. Furthermore, as in Chemmanur et al. (2010), the relation is stronger for holding period in cold IPOs versus hot IPOs.

Table A1: Variable Definitions

This table contains the definitions and descriptions of the variables used in the paper.

Variable	Definition
<i>AllocInd</i>	An indicator variable equal to one if <i>AllocationSize</i> is greater than zero.
<i>AllocactionSize</i>	The end-of-quarter shares held reported in the 13F institutional holdings data minus net shares bought from the IPO data to the quarter end from the ANcerno data.
<i>AllocPct</i>	<i>AllocationSize</i> divided by the shares offered in the IPO.
<i>ClientSize</i>	The total brokerage revenue paid by an investor to an underwriter divided by the total brokerage revenues received by that underwriter from all investors, measured from -270 to -21 days before an IPO, following Goldstein et al. (2011).
<i>AbnormalCommissions</i>	The excess daily brokerage revenue paid by an investor to an underwriter in the 10 days before an IPO, following Goldstein et al. (2011). Excess daily brokerage revenue is calculated by subtracting average daily brokerage revenue from -60 to -21 days prior to an IPO from the average daily brokerage revenue from -10 to -1 days prior to an IPO. The excess daily brokerage revenues are normalized by the underwriter's average daily brokerage revenue from all investors from from -60 to -21 days prior to an IPO.
<i>PastPriceSupport</i>	The percentage of the past allocations from an underwriter to an investor in which the investor purchased shares in the first 30 days after the IPO, following Fjesme (2016).
<i>PastFlipping</i>	An investor's percentage of their allocation sold in the first month in past IPOs by the underwriter minus the percentage of allocations sold in the first month in past IPOs by all investors for that underwriter. Past IPOs must have occurred at least 30 days prior to the sample IPO's date.
<i>PastHolding</i>	An investor's average holding time of allocations in past IPOs from the underwriter minus the average hold time of allocations in past IPOs by all investors for that underwriter. Past IPOs must have occurred at least 365 days prior to the sample IPO's date to ensure holding times are measurable as of that date. Average holding time is calculated as the weighted average time each share allocated is held, and shares held at the end of the first year are assumed to be held 2 years, as in Chemmanur et al. (2010).
<i>LogInvestorAUM</i>	Natural logarithm of the total 13F assets reported in the quarter.
<i>IndustrySpecialization</i>	The percentage of an investor's 13F holdings in the IPO firm's industry minus the percentage of all investor's 13F holdings in the IPO firm's industry, similar to <i>FracSameSIC</i> used in Reuter (2006).
<i>LogAncernoVolume</i>	Natural logarithm of the total shares traded in ANcerno across all securities, measured quarterly.
<i>AverageFlipping</i>	An investor's percentage of their allocation sold in the first month after an IPO, averaged over all of the investors allocations.
<i>AverageHolding</i>	An investor's average holding time across all of their allocations. Average holding time is calculated as the weighted average time each share allocated is held, and shares held at the end of the first year are assumed to be held 2 years, as in Chemmanur et al. (2010).
<i>OfferPriceRevision</i>	Percentage change from the midpoint of the first offer price range to the final offering price. The positive relationship between underpricing and offer price revisions was first documented by Hanley (1993).
<i>LowDemand</i>	An indicator variable equal to one if the offer price is lower than the minimum of the first offer price range, as in Chemmanur et al. (2010).

Table A1: continued from previous page

Variable	Definition
<i>HighDemand</i>	An indicator variable equal to one if the offer price is higher than the maximum of the first offer price range, as in Chemmanur et al. (2010).
<i>UnderwriterRank</i>	Carter–Manaster rank originated in Carter and Manaster (1990), and further updated in Carter et al. (1998) and Loughran and Ritter (2004). The data are taken from Jay Ritter’s website.
<i>LogFirmAge</i>	Natural logarithm of firms age based on founding dates taken from Jay Ritter’s website.
<i>TechFirm</i>	Indicator variable equal to one if the firm’s SIC code is in a technology sector as defined by Cliff and Denis (2004).
<i>VC – Backed</i>	Indicator variable equal to one if the firm is backed by a venture capital firm.
<i>LogProceeds</i>	Natural logarithm of the total IPO proceeds adjusted to year 2005 dollars.
<i>MoneyLeft</i>	$AllocationSize \times OfferPrice \times InitialReturn$. <i>OfferPrice</i> is the final offering price and <i>InitialReturn</i> is the return from the IPO offer price to the price at the end of the first day of trading.

Table A2: Main Regression Results: Inverse Hyperbolic Sine Transformation

The table displays regressions of inverse hyperbolic sine transformations of allocation indicators, percent allocated and money left on the table on control variables and manager and relationship characteristics, using no fixed effects, investor fixed effects, and investor-underwriter fixed effects. The sample includes zero allocations for investors who report 13F holdings and ANcerno trades within a quarter. Standard errors are clustered at the investor-underwriter level, t -statistics are shown below the estimates in parentheses, and ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels.

	Allocation Indicator			Allocation Percent			Money Left		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	IHS:AllocInd	IHS:AllocInd	IHS:AllocInd	IHS:AllocPct	IHS:AllocPct	IHS:AllocPct	IHS:MoneyLeft	IHS:MoneyLeft	IHS:MoneyLeft
Client Size	0.03*** (9.13)	0.02*** (7.26)	0.02*** (4.62)	0.00*** (3.55)	0.00 (1.48)	-0.00 (-0.83)	0.50*** (8.67)	0.31*** (7.11)	0.25*** (4.00)
Abnormal Commissions	-0.00 (-0.55)	-0.00 (-0.64)	-0.00 (-1.22)	0.00*** (2.80)	0.00*** (2.00)	0.00 (1.33)	0.01 (0.65)	0.01 (0.77)	0.01 (0.43)
Past Price Support	0.02*** (6.37)	0.01*** (6.63)	0.01*** (6.53)	0.00*** (4.49)	0.00 (0.18)	-0.00*** (-4.06)	0.29*** (5.83)	0.16*** (5.42)	0.15*** (5.23)
Past Flipping	0.02*** (5.51)	0.01*** (3.96)	0.01*** (2.83)	-0.00*** (-6.36)	-0.00*** (-4.73)	0.00* (1.94)	0.17*** (4.57)	0.07*** (3.19)	0.06** (2.42)
Past Hold Time	0.01** (2.29)	0.01*** (3.59)	0.01*** (3.87)	-0.00*** (-3.63)	-0.00** (-2.67)	-0.00*** (-4.40)	0.04 (1.48)	0.10*** (3.15)	0.09*** (2.71)
Log Investor AUM	0.05*** (13.92)	0.04*** (6.95)	0.04*** (6.53)	0.00*** (5.60)	0.01*** (7.66)	0.01*** (6.40)	0.55*** (10.11)	0.44*** (6.77)	0.46*** (6.25)
Industry Specialization	0.02*** (8.36)	0.01*** (8.29)	0.01*** (9.07)	0.00*** (6.86)	0.00*** (5.35)	0.00*** (4.53)	0.27*** (8.24)	0.19*** (8.70)	0.19*** (9.25)
Log Investor Volume	0.03*** (5.33)	0.02*** (2.73)	0.02** (2.59)	-0.00*** (-3.15)	-0.00** (-2.29)	-0.00 (-1.39)	0.38*** (5.08)	0.21** (2.57)	0.23** (2.59)
Offer Price Revision	0.03*** (4.90)	0.02*** (4.61)	0.02*** (4.19)	-0.01*** (-5.74)	-0.01*** (-5.56)	-0.00*** (-5.04)	0.39*** (3.99)	0.37*** (3.77)	0.38*** (3.53)
High Demand	0.03*** (8.35)	0.03*** (8.53)	0.03*** (8.67)	0.00 (0.42)	0.00 (-0.02)	-0.00 (-0.20)	0.50*** (7.94)	0.51*** (8.00)	0.52*** (8.28)
Low Demand	-0.01** (-2.38)	-0.01** (-2.46)	-0.01** (-2.35)	0.00*** (3.66)	0.00*** (3.94)	0.00*** (3.91)	-0.16** (-2.37)	-0.16** (-2.39)	-0.17** (-2.35)
Underwriter Rank	0.00 (1.62)	0.00** (2.29)	0.00 (0.48)	-0.00*** (-3.96)	-0.00*** (-3.19)	0.00 (0.20)	0.04 (1.19)	0.06* (1.73)	0.10 (0.63)
Log Firm Age	0.00 (1.58)	0.00** (2.03)	0.00** (2.04)	0.00** (2.58)	0.00** (2.55)	0.00*** (2.78)	0.03 (0.62)	0.04 (0.93)	0.04 (1.02)
Tech Firm	0.00 (0.16)	-0.00 (-0.05)	0.00 (0.03)	0.00 (0.71)	0.00 (0.69)	0.00 (1.26)	-0.00 (-0.03)	-0.01 (-0.15)	-0.00 (-0.03)
VC Backed	0.01*** (3.88)	0.01*** (4.36)	0.01*** (4.14)	-0.00 (-0.39)	-0.00 (-0.79)	-0.00 (-1.22)	0.18*** (4.19)	0.18*** (4.49)	0.18*** (4.17)
Log Proceeds	0.04*** (12.77)	0.04*** (13.33)	0.04*** (11.37)	-0.00*** (-9.75)	-0.00*** (-10.56)	-0.00*** (-9.54)	0.41*** (6.08)	0.42*** (6.17)	0.42*** (5.52)
Constant	0.12*** (29.52)	0.12*** (39.11)	0.12*** (45.09)	0.02*** (26.53)	0.02*** (18.01)	0.02*** (15.36)	1.47*** (24.23)	1.47*** (29.65)	1.49*** (33.45)
Fixed Effects	None	Inv	InvUW	None	Inv	InvUW	None	Inv	InvUW
Sample	Full Sample	Full Sample	Full Sample	Full Sample	Full Sample	Full Sample	Full Sample	Full Sample	Full Sample
Adjusted R^2	0.150	0.206	0.226	0.106	0.227	0.242	0.134	0.172	0.185
Observations	177,426	177,426	172,814	24,326	24,326	23,039	177,426	177,426	172,814

Table A3: Main Regression Results: Sample Requires Allocation in Same Quarter

The table displays regressions of allocation indicators, percent allocated and money left on the table on control variables and manager and relationship characteristics, using no fixed effects, investor fixed effects, and investor-underwriter fixed effects. The sample includes zero allocations for investors who report 13F holdings and ANcerno trades within a quarter and who receive at least one positive allocation in that quarter. All variables are defined in Table A1. Standard errors are clustered at the investor-underwriter level, t -statistics are shown below the estimates in parentheses, and ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels.

	Allocation Indicator			Allocation Percent			Money Left		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	AllocInd	AllocInd	AllocInd	AllocPct	AllocPct	AllocPct	MoneyLeft	MoneyLeft	MoneyLeft
Client Size	3.59*** (6.94)	2.39*** (6.79)	2.10*** (3.99)	0.16*** (3.55)	0.05 (1.46)	-0.06 (-0.84)	0.11*** (3.65)	0.10*** (3.09)	0.07 (1.60)
Abnormal Commissions	-0.10 (-0.68)	-0.10 (-0.90)	-0.16 (-1.38)	0.04*** (2.80)	0.02* (2.00)	0.02 (1.33)	0.00 (0.04)	-0.00 (-0.24)	-0.01 (-0.40)
Past Price Support	2.60*** (6.36)	1.87*** (7.95)	1.95*** (8.05)	0.22*** (4.48)	0.01 (0.18)	-0.17*** (-4.05)	0.04*** (2.74)	0.01 (1.18)	-0.01 (-0.49)
Past Flipping	2.26*** (5.98)	0.92*** (3.59)	0.84*** (2.77)	-0.22*** (-6.35)	-0.14*** (-4.73)	0.09* (1.94)	-0.05*** (-3.20)	-0.04*** (-3.27)	-0.01 (-0.53)
Past Hold Time	0.69** (2.10)	1.13*** (3.22)	0.96*** (2.96)	-0.12*** (-3.63)	-0.09** (-2.67)	-0.16*** (-4.40)	-0.03** (-2.69)	-0.03* (-1.85)	-0.05** (-2.02)
Log Investor AUM	5.48*** (13.40)	4.27*** (5.23)	4.21*** (4.71)	0.36*** (5.59)	0.86*** (7.65)	0.86*** (6.39)	0.13*** (5.31)	0.14*** (4.35)	0.17*** (4.12)
Industry Specialization	2.25*** (8.78)	1.93*** (8.74)	1.91*** (9.31)	0.37*** (6.85)	0.22*** (5.34)	0.21*** (4.53)	0.09*** (5.41)	0.07*** (5.98)	0.08*** (5.73)
Log Investor Volume	3.99*** (4.92)	2.26** (2.36)	2.34** (2.28)	-0.26*** (-3.15)	-0.18** (-2.29)	-0.09 (-1.39)	-0.02 (-1.55)	-0.04** (-2.60)	-0.03* (-1.94)
Offer Price Revision	3.02*** (3.85)	3.01*** (3.84)	2.96*** (3.48)	-0.62*** (-5.73)	-0.58*** (-5.56)	-0.48*** (-5.04)	-0.03 (-0.77)	-0.03 (-0.80)	-0.04 (-0.90)
High Demand	3.72*** (8.87)	3.75*** (8.94)	3.89*** (9.13)	0.01 (0.43)	-0.00 (-0.01)	-0.01 (-0.19)	0.14*** (4.22)	0.15*** (4.22)	0.15*** (4.33)
Low Demand	-1.47*** (-3.03)	-1.49*** (-3.11)	-1.57*** (-3.02)	0.30*** (3.66)	0.31*** (3.95)	0.30*** (3.91)	-0.04* (-1.82)	-0.04* (-1.81)	-0.05* (-1.81)
Underwriter Rank	0.56* (1.86)	0.63** (2.38)	0.21 (0.17)	-0.24*** (-3.95)	-0.17*** (-3.19)	0.03 (0.20)	-0.03*** (-3.10)	-0.03** (-2.51)	0.02 (0.61)
Log Firm Age	0.79** (2.45)	0.80** (2.49)	0.81** (2.55)	0.09** (2.58)	0.09** (2.54)	0.09*** (2.78)	-0.04*** (-2.74)	-0.03** (-2.59)	-0.04*** (-2.75)
Tech Firm	-0.08 (-0.23)	-0.11 (-0.33)	-0.12 (-0.41)	0.03 (0.71)	0.03 (0.69)	0.04 (1.26)	0.03** (2.02)	0.03* (1.95)	0.03* (1.83)
VC Backed	1.30*** (3.52)	1.33*** (3.85)	1.43*** (3.75)	-0.02 (-0.38)	-0.03 (-0.78)	-0.05 (-1.21)	0.06*** (4.09)	0.06*** (4.10)	0.07*** (4.00)
Log Proceeds	5.27*** (14.02)	5.31*** (14.69)	5.17*** (11.75)	-0.41*** (-9.74)	-0.41*** (-10.56)	-0.39*** (-9.53)	0.22*** (5.31)	0.22*** (5.30)	0.22*** (5.80)
Constant	17.36*** (34.06)	17.36*** (42.99)	17.71*** (48.72)	2.15*** (27.11)	1.96*** (20.62)	1.84*** (18.04)	0.20*** (9.06)	0.20*** (9.57)	0.20*** (10.44)
Fixed Effects	None	Inv	InvUW	None	Inv	InvUW	None	Inv	InvUW
Sample	QtrReq	QtrReq	QtrReq	QtrReq	QtrReq	QtrReq	QtrReq	QtrReq	QtrReq
Adjusted R^2	0.150	0.196	0.214	0.106	0.227	0.241	0.031	0.043	0.024
Observations	140,165	140,165	135,832	24,326	24,326	23,039	140,165	140,165	135,832

Table A4: Main Regression Results: Sample Requires Allocation from Underwriter

The table displays regressions of allocation indicators, percent allocated and money left on the table on control variables and manager and relationship characteristics, using no fixed effects, investor fixed effects, and investor-underwriter fixed effects. The sample includes zero allocations for investors who report 13F holdings and ANcerno trades within a quarter and who receive at least one positive allocation from the IPO's underwriter. Standard errors are clustered at the investor-underwriter level, t -statistics are shown below the estimates in parentheses, and ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels.

	Allocation Indicator			Allocation Percent			Money Left		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	AllocInd	AllocInd	AllocInd	AllocPct	AllocPct	AllocPct	MoneyLeft	MoneyLeft	MoneyLeft
Client Size	3.91*** (7.60)	2.25*** (5.84)	2.42*** (4.51)	0.15*** (3.55)	0.05 (1.46)	-0.06 (-0.84)	0.12*** (3.75)	0.10*** (2.99)	0.07* (1.70)
Abnormal Commissions	-0.12 (-0.87)	-0.12 (-1.09)	-0.15 (-1.34)	0.04*** (2.80)	0.02* (2.00)	0.02 (1.33)	-0.00 (-0.01)	-0.00 (-0.28)	-0.01 (-0.40)
Past Price Support	2.08*** (5.12)	1.18*** (5.45)	1.56*** (6.58)	0.23*** (4.48)	0.01 (0.18)	-0.18*** (-4.05)	0.04*** (2.79)	0.01 (0.76)	-0.01 (-0.58)
Past Flipping	2.28*** (5.31)	0.70*** (2.88)	0.74*** (2.88)	-0.24*** (-6.35)	-0.16*** (-4.73)	0.09* (1.94)	-0.04*** (-2.94)	-0.03** (-2.56)	-0.01 (-0.71)
Past Hold Time	0.78** (2.24)	1.32*** (3.58)	1.21*** (3.86)	-0.14*** (-3.63)	-0.10** (-2.67)	-0.18*** (-4.40)	-0.04*** (-2.74)	-0.03** (-2.08)	-0.05** (-2.20)
Log Investor AUM	5.78*** (13.34)	4.97*** (7.27)	4.93*** (6.84)	0.36*** (5.59)	0.86*** (7.65)	0.86*** (6.39)	0.14*** (5.11)	0.14*** (4.66)	0.16*** (4.39)
Industry Specialization	2.50*** (7.96)	1.92*** (7.97)	1.85*** (8.72)	0.37*** (6.85)	0.22*** (5.34)	0.21*** (4.53)	0.10*** (4.89)	0.08*** (5.38)	0.08*** (5.11)
Log Investor Volume	4.03*** (4.98)	2.76*** (2.83)	2.53** (2.58)	-0.26*** (-3.15)	-0.18** (-2.29)	-0.09 (-1.39)	-0.02* (-1.70)	-0.03** (-2.32)	-0.02* (-1.76)
Offer Price Revision	4.12*** (5.07)	3.96*** (4.90)	3.65*** (4.57)	-0.62*** (-5.73)	-0.58*** (-5.56)	-0.48*** (-5.04)	-0.02 (-0.45)	-0.02 (-0.53)	-0.03 (-0.63)
High Demand	3.22*** (7.41)	3.28*** (7.55)	3.40*** (8.00)	0.01 (0.43)	-0.00 (-0.01)	-0.01 (-0.19)	0.14*** (3.76)	0.14*** (3.77)	0.14*** (3.86)
Low Demand	-0.92* (-1.76)	-0.94* (-1.85)	-1.00* (-1.92)	0.30*** (3.66)	0.31*** (3.95)	0.31*** (3.91)	-0.03 (-1.44)	-0.03 (-1.43)	-0.04 (-1.43)
Underwriter Rank	-2.08*** (-5.29)	-1.25*** (-3.38)	0.58 (0.66)	-0.16*** (-3.95)	-0.11*** (-3.19)	0.02 (0.20)	-0.01 (-1.67)	-0.00 (-0.16)	0.02 (0.81)
Log Firm Age	0.53 (1.60)	0.59* (1.86)	0.61** (2.05)	0.10** (2.58)	0.09** (2.54)	0.09*** (2.78)	-0.04*** (-2.92)	-0.04*** (-2.85)	-0.04*** (-2.86)
Tech Firm	-0.18 (-0.57)	-0.20 (-0.71)	-0.09 (-0.31)	0.03 (0.71)	0.03 (0.69)	0.04 (1.26)	0.02* (1.80)	0.02* (1.72)	0.02 (1.64)
VC Backed	1.16*** (2.96)	1.18*** (3.29)	1.37*** (3.89)	-0.02 (-0.38)	-0.03 (-0.78)	-0.05 (-1.21)	0.07*** (3.84)	0.07*** (3.86)	0.06*** (3.77)
Log Proceeds	4.34*** (10.16)	4.54*** (10.85)	4.64*** (11.28)	-0.41*** (-9.74)	-0.41*** (-10.56)	-0.39*** (-9.53)	0.20*** (4.93)	0.21*** (4.95)	0.20*** (5.39)
Constant	17.25*** (32.09)	17.25*** (41.75)	17.11*** (46.65)	2.05*** (27.64)	1.84*** (20.17)	1.77*** (18.29)	0.20*** (8.39)	0.20*** (9.30)	0.20*** (9.99)
Fixed Effects	None	Inv	InvUW	None	Inv	InvUW	None	Inv	InvUW
Sample	UWReq	UWReq	UWReq	UWReq	UWReq	UWReq	UWReq	UWReq	UWReq
Adjusted R^2	0.144	0.197	0.221	0.106	0.227	0.241	0.031	0.043	0.043
Observations	141,003	141,003	140,757	24,326	24,326	23,039	141,003	141,003	140,757

Table A5: Main Regression Results: Sample Requires Allocation in Same Quarter and Allocation from Underwriter

The table displays regressions of allocation indicators, percent allocated and money left on the table on control variables and manager and relationship characteristics, using no fixed effects, investor fixed effects, and investor-underwriter fixed effects. The sample includes zero allocations for investors who report 13F holdings and ANcerno trades within a quarter, who receive at least one positive allocation in that quarter, and who receive at least one positive allocation from the IPO's underwriter. Standard errors are clustered at the investor-underwriter level, *t*-statistics are shown below the estimates in parentheses, and ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels.

	Allocation Indicator			Allocation Percent			Money Left		
	(1) AllocInd	(2) AllocInd	(3) AllocInd	(4) AllocPct	(5) AllocPct	(6) AllocPct	(7) MoneyLeft	(8) MoneyLeft	(9) MoneyLeft
Client Size	3.49*** (5.93)	2.17*** (5.33)	2.25*** (3.89)	0.17*** (3.55)	0.06 (1.46)	-0.07 (-0.84)	0.12*** (3.63)	0.11*** (2.98)	0.07 (1.62)
Abnormal Commissions	-0.15 (-0.97)	-0.15 (-1.23)	-0.19 (-1.47)	0.04*** (2.80)	0.02* (2.00)	0.02 (1.33)	-0.00 (-0.03)	-0.00 (-0.30)	-0.01 (-0.42)
Past Price Support	2.14*** (4.86)	1.53*** (6.53)	2.04*** (8.18)	0.23*** (4.48)	0.01 (0.18)	-0.18*** (-4.05)	0.05*** (2.80)	0.01 (0.80)	-0.01 (-0.46)
Past Flipping	2.53*** (5.78)	0.79*** (2.72)	0.91*** (2.77)	-0.24*** (-6.35)	-0.16*** (-4.73)	0.09* (1.94)	-0.05*** (-2.92)	-0.04** (-2.49)	-0.01 (-0.49)
Past Hold Time	0.74* (1.99)	1.32*** (3.12)	1.08*** (2.97)	-0.13*** (-3.63)	-0.10*** (-2.67)	-0.18*** (-4.40)	-0.04** (-2.63)	-0.03* (-1.74)	-0.05* (-1.98)
Log Investor AUM	5.83*** (12.69)	4.79*** (5.26)	4.65*** (4.81)	0.36*** (5.59)	0.86*** (7.65)	0.86*** (6.39)	0.16*** (5.26)	0.16*** (4.33)	0.19*** (4.10)
Industry Specialization	2.67*** (8.32)	2.30*** (8.47)	2.20*** (9.06)	0.37*** (6.85)	0.21*** (5.34)	0.21*** (4.53)	0.12*** (5.40)	0.09*** (5.99)	0.09*** (5.66)
Log Investor Volume	4.35*** (4.55)	2.89** (2.45)	2.66** (2.27)	-0.26*** (-3.15)	-0.18** (-2.29)	-0.09 (-1.39)	-0.03* (-1.91)	-0.04** (-2.55)	-0.03* (-1.94)
Offer Price Revision	4.10*** (4.06)	4.10*** (4.09)	3.76*** (3.83)	-0.62*** (-5.73)	-0.58*** (-5.56)	-0.49*** (-5.04)	-0.03 (-0.62)	-0.03 (-0.66)	-0.04 (-0.77)
High Demand	3.98*** (8.22)	4.01*** (8.22)	4.21*** (8.84)	0.01 (0.43)	-0.00 (-0.01)	-0.01 (-0.19)	0.16*** (4.05)	0.16*** (4.06)	0.17*** (4.18)
Low Demand	-1.49** (-2.42)	-1.51** (-2.50)	-1.58** (-2.60)	0.30*** (3.66)	0.31*** (3.95)	0.30*** (3.91)	-0.04 (-1.65)	-0.04 (-1.64)	-0.05 (-1.66)
Underwriter Rank	-2.08*** (-4.62)	-1.46*** (-3.34)	0.28 (0.26)	-0.17*** (-3.95)	-0.12*** (-3.19)	0.02 (0.20)	-0.01* (-1.73)	-0.01 (-0.66)	0.02 (0.68)
Log Firm Age	0.91** (2.38)	0.89** (2.33)	0.91** (2.54)	0.09** (2.58)	0.09** (2.54)	0.09*** (2.78)	-0.04*** (-2.96)	-0.04*** (-2.87)	-0.05*** (-2.89)
Tech Firm	-0.32 (-0.85)	-0.33 (-0.93)	-0.20 (-0.57)	0.03 (0.71)	0.03 (0.69)	0.04 (1.26)	0.03* (1.86)	0.03* (1.76)	0.03 (1.67)
VC Backed	1.36*** (2.93)	1.38*** (3.18)	1.61*** (3.67)	-0.02 (-0.38)	-0.03 (-0.78)	-0.05 (-1.21)	0.08*** (4.01)	0.08*** (4.02)	0.08*** (3.87)
Log Proceeds	5.51*** (11.66)	5.66*** (12.17)	5.67*** (11.76)	-0.41*** (-9.74)	-0.40*** (-10.56)	-0.38*** (-9.53)	0.25*** (5.38)	0.25*** (5.36)	0.25*** (5.82)
Constant	20.95*** (36.22)	20.95*** (44.36)	20.77*** (49.64)	2.08*** (27.94)	1.90*** (22.98)	1.83*** (21.33)	0.24*** (9.36)	0.24*** (9.98)	0.24*** (10.67)
Fixed Effects	None	Inv	InvUW	None	Inv	InvUW	None	Inv	InvUW
Sample	QtrUWReq	QtrUWReq	QtrUWReq	QtrUWReq	QtrUWReq	QtrUWReq	QtrUWReq	QtrUWReq	QtrUWReq
Adjusted R ²	0.140	0.184	0.208	0.106	0.227	0.241	0.034	0.046	0.043
Observations	116,099	116,099	115,828	24,326	24,326	23,039	116,099	116,099	115,828

Table A6: Main Regression Results: Bubble Period (1999-2000)

The table displays regressions of allocation indicators, percent allocated and money left on the table on control variables and manager and relationship characteristics, using no fixed effects, investor fixed effects, and investor-underwriter fixed effects. The sample includes IPO occurring between 1999 and 2000 and includes zero allocations for investors who report 13F holdings and ANcerno trades within a quarter. Standard errors are clustered at the investor-underwriter level, *t*-statistics are shown below the estimates in parentheses, and ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels.

	Allocation Indicator			Allocation Percent			Money Left		
	(1) AllocInd	(2) AllocInd	(3) AllocInd	(4) AllocPct	(5) AllocPct	(6) AllocPct	(7) MoneyLeft	(8) MoneyLeft	(9) MoneyLeft
Client Size	4.86*** (7.00)	1.29** (2.57)	0.10 (0.10)	0.05 (1.12)	0.05 (1.42)	-0.09 (-1.67)	0.15** (2.91)	0.13** (2.72)	-0.00 (-0.05)
Abnormal Commissions	-0.19 (-0.83)	-0.07 (-0.38)	-0.06 (-0.31)	0.03* (2.09)	0.02 (1.64)	0.03* (1.07)	-0.00 (-0.02)	-0.01 (-0.31)	-0.02 (-0.59)
Past Price Support	3.43*** (5.41)	2.05*** (6.56)	1.57*** (4.74)	0.19** (2.97)	-0.00 (-0.10)	-0.21*** (-3.54)	0.08** (3.25)	0.03* (2.16)	-0.03 (-1.43)
Past Flipping	2.25*** (4.08)	0.58* (2.36)	0.84* (2.36)	-0.26*** (-7.42)	-0.05 (-1.86)	0.20*** (3.60)	-0.05** (-2.87)	-0.03** (-2.65)	0.03 (1.78)
Past Hold Time	-0.38 (-0.91)	0.22 (0.57)	0.20 (0.45)	-0.02 (-1.25)	-0.02 (-1.13)	-0.04 (-1.48)	-0.02 (-1.36)	-0.02 (-1.27)	-0.03 (-1.53)
Log Investor AUM	5.26*** (8.05)	0.72 (0.52)	0.71 (0.48)	0.26*** (4.77)	1.02** (2.73)	0.78* (2.01)	0.15*** (4.22)	0.14*** (5.48)	0.14** (3.24)
Industry Specialization	2.76*** (6.81)	1.46*** (6.31)	1.39*** (5.77)	0.42*** (4.28)	0.15** (2.46)	0.14* (1.96)	0.14*** (6.97)	0.10*** (7.45)	0.10*** (6.74)
Log Investor Volume	4.18** (2.97)	-0.47 (-0.40)	-0.19 (-0.17)	-0.04 (-0.75)	-0.04 (-0.99)	0.04 (1.12)	0.05* (2.26)	-0.03 (-1.60)	0.01 (0.26)
Offer Price Revision	2.05* (2.28)	1.74* (2.14)	1.56 (1.74)	-0.36*** (-3.51)	-0.31** (-3.39)	-0.28** (-3.37)	-0.06 (-0.99)	-0.07 (-1.06)	-0.08 (-1.20)
High Demand	3.03*** (8.14)	3.15*** (7.63)	3.11*** (7.82)	-0.01 (-0.20)	-0.01 (-0.33)	0.01 (0.35)	0.18*** (3.90)	0.18*** (3.89)	0.19*** (4.07)
Low Demand	-0.75 (-1.50)	-0.78 (-1.59)	-0.86 (-1.49)	0.45*** (5.08)	0.43*** (5.74)	0.42*** (3.97)	-0.04 (-1.15)	-0.04 (-1.14)	-0.04 (-1.16)
Underwriter Rank	0.59 (1.71)	0.71** (3.14)	0.96 (0.79)	-0.15* (-1.99)	-0.05 (-0.85)	0.00 (0.01)	-0.04 (-1.65)	-0.03 (-1.35)	0.01 (0.22)
Log Firm Age	0.08 (0.32)	0.06 (0.21)	0.20 (0.59)	0.15*** (3.77)	0.14*** (3.93)	0.13*** (3.77)	-0.02 (-1.29)	-0.02 (-1.32)	-0.02 (-1.14)
Tech Firm	0.13 (0.29)	0.15 (0.40)	0.15 (0.42)	-0.07** (-2.39)	-0.05* (-2.00)	-0.04 (-1.61)	0.01 (0.37)	0.01 (0.39)	0.01 (0.44)
VC Backed	0.22 (0.63)	0.50** (2.57)	0.41* (1.91)	-0.02 (-0.27)	-0.02 (-0.34)	-0.02 (-0.42)	0.04** (2.55)	0.05** (2.84)	0.04** (2.46)
Log Proceeds	3.90*** (6.69)	4.05*** (7.88)	3.64*** (6.41)	-0.32*** (-6.19)	-0.33*** (-7.60)	-0.30*** (-6.70)	0.25*** (4.30)	0.25*** (4.36)	0.23*** (4.41)
Constant	14.47*** (18.44)	14.47*** (30.83)	14.96*** (37.54)	1.81*** (18.81)	1.40*** (8.09)	1.52*** (7.71)	0.25*** (9.46)	0.25*** (9.58)	0.26*** (11.19)
Fixed Effects	None	Inv	InvUW	None	Inv	InvUW	None	Inv	InvUW
Sample	Bubble	Bubble	Bubble	Bubble	Bubble	Bubble	Bubble	Bubble	Bubble
Adjusted R^2	0.176	0.266	0.295	0.092	0.250	0.271	0.038	0.055	0.059
Observations	79,202	79,202	75,802	11,462	11,460	10,832	79,202	79,202	75,802

Table A7: Main Regression Results: Post-Bubble Period (2001-2010)

The table displays regressions of allocation indicators, percent allocated and money left on the table on control variables and manager and relationship characteristics, using no fixed effects, investor fixed effects, and investor-underwriter fixed effects. The sample includes IPO occurring between 2001 and 2010 and includes zero allocations for investors who report 13F holdings and ANcerno trades within a quarter. Standard errors are clustered at the investor-underwriter level, t -statistics are shown below the estimates in parentheses, and ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels.

	Allocation Indicator			Allocation Percent			Money Left		
	(1) AllocInd	(2) AllocInd	(3) AllocInd	(4) AllocPct	(5) AllocPct	(6) AllocPct	(7) MoneyLeft	(8) MoneyLeft	(9) MoneyLeft
Client Size	2.80*** (8.45)	2.19*** (7.11)	1.70*** (4.00)	0.28*** (7.69)	-0.02 (-0.52)	-0.15* (-1.97)	0.05*** (6.40)	0.02* (1.99)	-0.02 (-0.98)
Abnormal Commissions	0.07 (0.50)	-0.02 (-0.14)	-0.11 (-0.78)	0.04 (1.60)	0.02 (0.93)	0.01 (0.51)	0.00 (1.05)	0.00 (0.49)	-0.00 (-0.11)
Past Price Support	1.79*** (5.85)	1.16*** (6.02)	1.25*** (4.84)	0.22*** (4.12)	-0.01 (-0.36)	-0.22*** (-4.07)	0.01*** (2.74)	0.00 (0.62)	0.01 (1.32)
Past Flipping	1.54*** (3.95)	0.49* (1.94)	0.63* (1.72)	-0.17** (-2.69)	-0.06 (-1.24)	0.10 (1.49)	-0.01** (-2.48)	-0.01* (-1.99)	0.01 (1.28)
Past Hold Time	0.94** (2.28)	0.55** (2.22)	0.50 (1.34)	-0.19** (-2.50)	0.03 (0.57)	-0.12 (-1.61)	-0.01 (-0.87)	0.00 (0.01)	-0.01 (-1.43)
Log Investor AUM	5.06*** (13.99)	3.12*** (4.05)	3.16*** (3.61)	0.47*** (4.79)	0.63*** (3.84)	0.58*** (3.55)	0.07*** (4.67)	0.05*** (3.82)	0.06*** (3.92)
Industry Specialization	1.33*** (8.03)	1.25*** (8.13)	1.22*** (7.79)	0.32*** (9.21)	0.19*** (5.73)	0.18*** (4.86)	0.01*** (5.93)	0.01*** (4.82)	0.01*** (5.01)
Log Investor Volume	3.48*** (10.07)	2.95*** (6.80)	3.10*** (6.62)	-0.55*** (-5.50)	-0.50*** (-4.87)	-0.42*** (-4.08)	-0.01 (-1.01)	-0.01 (-0.62)	0.00 (0.39)
Offer Price Revision	3.91*** (5.75)	3.92*** (5.83)	4.19*** (6.26)	-0.90*** (-8.30)	-0.87*** (-8.69)	-0.78*** (-6.87)	-0.01 (-0.87)	-0.01 (-0.85)	-0.01 (-1.05)
High Demand	2.58*** (5.08)	2.61*** (5.18)	2.73*** (5.23)	0.08** (2.10)	0.06 (1.59)	0.04 (0.87)	0.05*** (3.13)	0.05*** (3.15)	0.05*** (3.27)
Low Demand	-0.16 (-0.37)	-0.14 (-0.35)	0.04 (0.09)	0.04 (0.49)	0.05 (0.63)	0.04 (0.42)	-0.03*** (-3.00)	-0.03*** (-2.97)	-0.03*** (-2.95)
Underwriter Rank	0.11 (0.37)	0.23 (0.80)	-0.39 (-0.35)	-0.28*** (-3.36)	-0.23*** (-3.16)	0.34 (0.98)	-0.02** (-2.50)	-0.02** (-2.23)	-0.00 (-0.14)
Log Firm Age	0.93*** (3.00)	0.92*** (2.94)	0.76** (2.57)	0.01 (0.29)	0.03 (0.58)	0.03 (0.67)	-0.00 (-0.60)	-0.00 (-0.58)	-0.00 (-0.74)
Tech Firm	-0.25 (-0.89)	-0.24 (-0.86)	-0.17 (-0.54)	0.13** (2.25)	0.12** (2.35)	0.11** (2.47)	0.01 (0.96)	0.01 (0.99)	0.01 (0.95)
VC Backed	1.82*** (5.23)	1.81*** (5.17)	1.92*** (5.17)	-0.02 (-0.39)	-0.06 (-0.97)	-0.10 (-1.55)	0.03** (2.52)	0.03** (2.50)	0.04** (2.36)
Log Proceeds	4.31*** (12.04)	4.31*** (12.26)	4.59*** (10.97)	-0.49*** (-7.34)	-0.49*** (-7.76)	-0.47*** (-7.37)	0.11*** (4.39)	0.11*** (4.40)	0.13*** (4.16)
Constant	13.10*** (26.80)	13.10*** (31.81)	13.28*** (36.03)	2.46*** (28.22)	2.53*** (20.14)	2.37*** (15.39)	0.08*** (9.79)	0.08*** (10.38)	0.09*** (11.57)
Fixed Effects	None	Inv	InvUW	None	Inv	InvUW	None	Inv	InvUW
Sample	NotBubble	NotBubble	NotBubble	NotBubble	NotBubble	NotBubble	NotBubble	NotBubble	NotBubble
Adjusted R^2	0.136	0.190	0.203	0.132	0.262	0.265	0.023	0.033	0.004
Observations	98,224	98,224	95,161	12,864	12,864	11,802	98,224	98,224	95,161

Table A8: Main Regression Results: Hot IPO Years

The table displays regressions of allocation indicators, percent allocated and money left on the table on control variables and manager and relationship characteristics, using no fixed effects, investor fixed effects, and investor-underwriter fixed effects. The sample includes IPO occurring in 1999, 2000, 2004-7, and 2010, and includes zero allocations for investors who report 13F holdings and ANcerno trades within a quarter. Standard errors are clustered at the investor-underwriter level, *t*-statistics are shown below the estimates in parentheses, and ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels.

	Allocation Indicator			Allocation Percent			Money Left		
	(1) AllocInd	(2) AllocInd	(3) AllocInd	(4) AllocPct	(5) AllocPct	(6) AllocPct	(7) MoneyLeft	(8) MoneyLeft	(9) MoneyLeft
Client Size	4.16*** (8.84)	2.31*** (6.29)	2.16*** (3.94)	0.13*** (3.24)	0.05 (1.41)	-0.04 (-0.50)	0.12*** (3.66)	0.10*** (2.96)	0.08 (1.60)
Abnormal Commissions	-0.00 (-0.03)	0.02 (0.19)	-0.06 (-0.48)	0.04** (2.67)	0.03** (2.18)	0.02 (1.57)	-0.00 (-0.04)	-0.00 (-0.26)	-0.01 (-0.50)
Past Price Support	2.51*** (6.09)	1.52*** (6.55)	1.55*** (6.62)	0.21*** (4.16)	-0.00 (-0.08)	-0.16*** (-3.34)	0.04** (2.67)	0.01 (1.09)	-0.01 (-0.70)
Past Flipping	2.08*** (5.66)	0.83*** (3.81)	0.70*** (2.84)	-0.23*** (-6.49)	-0.13*** (-4.47)	0.11** (2.39)	-0.05*** (-3.19)	-0.04*** (-3.24)	-0.01 (-0.65)
Past Hold Time	0.65* (2.03)	0.99*** (3.26)	1.02*** (3.36)	-0.12*** (-3.33)	-0.08** (-2.23)	-0.15*** (-3.51)	-0.04** (-2.74)	-0.03** (-2.11)	-0.05** (-2.14)
Log Investor AUM	5.15*** (12.70)	4.71*** (7.71)	4.95*** (7.38)	0.34*** (5.13)	0.94*** (7.35)	0.90*** (5.98)	0.11*** (4.73)	0.10*** (4.20)	0.13*** (4.06)
Industry Specialization	2.12*** (7.64)	1.50*** (7.41)	1.48*** (8.01)	0.39*** (6.23)	0.22*** (4.75)	0.21*** (3.94)	0.08*** (4.98)	0.07*** (5.46)	0.07*** (5.29)
Log Investor Volume	3.23*** (4.41)	1.56* (1.89)	1.56* (1.74)	-0.25*** (-2.77)	-0.19** (-2.06)	-0.10 (-1.37)	-0.01 (-1.05)	-0.02** (-2.23)	-0.02 (-1.52)
Offer Price Revision	2.69*** (4.57)	2.50*** (4.23)	2.40*** (3.80)	-0.58*** (-5.05)	-0.54*** (-4.92)	-0.44*** (-4.52)	-0.03 (-0.71)	-0.03 (-0.79)	-0.04 (-0.91)
High Demand	3.13*** (8.31)	3.18*** (8.42)	3.24*** (8.46)	-0.00 (-0.07)	-0.02 (-0.50)	-0.02 (-0.74)	0.13*** (3.84)	0.13*** (3.85)	0.13*** (3.98)
Low Demand	-0.93** (-2.27)	-0.95** (-2.38)	-1.04** (-2.47)	0.32*** (3.59)	0.33*** (3.80)	0.33*** (3.83)	-0.03 (-1.48)	-0.03 (-1.48)	-0.04 (-1.51)
Underwriter Rank	0.36 (1.41)	0.45* (2.01)	1.27 (1.19)	-0.21*** (-3.30)	-0.13** (-2.42)	0.08 (0.51)	-0.03*** (-2.99)	-0.02** (-2.39)	0.02 (0.89)
Log Firm Age	0.41 (1.37)	0.51* (1.81)	0.48* (1.75)	0.10** (2.35)	0.09** (2.23)	0.11*** (2.93)	-0.02** (-2.23)	-0.02* (-2.03)	-0.02** (-2.07)
Tech Firm	0.15 (0.52)	0.10 (0.34)	0.11 (0.45)	0.04 (1.06)	0.04 (1.07)	0.05 (1.58)	0.03** (2.15)	0.02* (2.05)	0.03* (1.99)
VC Backed	1.11*** (3.48)	1.16*** (4.01)	1.14*** (3.66)	-0.03 (-0.68)	-0.05 (-1.03)	-0.04 (-1.06)	0.05*** (3.83)	0.05*** (3.85)	0.06*** (3.65)
Log Proceeds	3.84*** (11.34)	3.92*** (11.64)	3.86*** (9.79)	-0.42*** (-8.93)	-0.42*** (-9.56)	-0.38*** (-8.17)	0.18*** (4.51)	0.18*** (4.51)	0.18*** (4.88)
Constant	13.27*** (27.59)	13.27*** (37.64)	13.53*** (45.02)	2.11*** (23.35)	1.82*** (16.15)	1.69*** (14.10)	0.17*** (7.67)	0.17*** (8.50)	0.17*** (9.27)
Fixed Effects	None	Inv	InvUW	None	Inv	InvUW	None	Inv	InvUW
Sample	HotYears	HotYears	HotYears	HotYears	HotYears	HotYears	HotYears	HotYears	HotYears
Adjusted R ²	0.149	0.209	0.231	0.105	0.234	0.251	0.029	0.042	0.027
Observations	152,606	152,606	147,938	20,257	20,257	19,029	152,606	152,606	147,938

Table A9: Main Regression Results: Cold IPO Years

The table displays regressions of allocation indicators, percent allocated and money left on the table on control variables and manager and relationship characteristics, using no fixed effects, investor fixed effects, and investor-underwriter fixed effects. The sample includes IPO occurring in 2001-2003 and 2008-2009 and includes zero allocations for investors who report 13F holdings and ANcerno trades within a quarter. Standard errors are clustered at the investor-underwriter level, t -statistics are shown below the estimates in parentheses, and ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels.

	Allocation Indicator			Allocation Percent			Money Left		
	(1) AllocInd	(2) AllocInd	(3) AllocInd	(4) AllocPct	(5) AllocPct	(6) AllocPct	(7) MoneyLeft	(8) MoneyLeft	(9) MoneyLeft
Client Size	2.82*** (5.40)	2.44*** (4.90)	2.41** (2.84)	0.19*** (3.74)	-0.01 (-0.17)	-0.33** (-2.28)	0.05*** (4.22)	0.02** (2.52)	-0.01 (-0.94)
Abnormal Commissions	-0.44 (-1.72)	-0.51** (-2.41)	-0.47 (-1.41)	0.02 (0.80)	0.01 (0.25)	-0.02 (-0.50)	0.01 (1.02)	0.00 (0.56)	0.01 (0.83)
Past Price Support	2.25*** (3.23)	1.50*** (3.23)	1.50** (2.79)	0.23*** (4.03)	0.09 (1.30)	-0.19 (-1.57)	0.01 (1.66)	0.01 (0.80)	-0.00 (-0.28)
Past Flipping	0.57 (0.95)	-0.20 (-0.42)	0.24 (0.28)	-0.05 (-0.43)	-0.00 (-0.01)	0.12 (0.58)	-0.01 (-0.92)	-0.00 (-0.24)	0.03 (1.45)
Past Hold Time	-0.30 (-0.45)	-0.50 (-0.99)	-0.74 (-1.02)	-0.06 (-0.46)	0.03 (0.26)	-0.14 (-0.94)	-0.00 (-0.23)	-0.00 (-0.31)	-0.01 (-0.66)
Log Investor AUM	6.19*** (12.30)	1.09 (0.78)	0.79 (0.49)	0.47*** (5.50)	1.03*** (3.03)	0.98* (2.08)	0.08*** (4.72)	0.08*** (3.82)	0.10*** (3.88)
Industry Specialization	1.58*** (5.13)	1.37*** (4.55)	1.41*** (4.20)	0.26*** (4.13)	0.12 (1.48)	0.11 (1.73)	0.02** (2.54)	0.01* (1.82)	0.01* (1.80)
Log Investor Volume	4.71*** (6.81)	2.88*** (4.42)	3.17*** (4.76)	-0.33*** (-3.72)	-0.41*** (-3.75)	-0.25 (-1.74)	0.00 (0.38)	0.02 (0.92)	0.03 (1.41)
Offer Price Revision	5.39*** (3.49)	5.47*** (3.79)	7.35*** (5.91)	-0.87*** (-6.86)	-0.82*** (-7.29)	-0.69*** (-4.93)	-0.01 (-0.16)	-0.01 (-0.15)	-0.00 (-0.01)
High Demand	1.67 (1.62)	1.80* (1.75)	1.25 (1.05)	0.13** (2.48)	0.13** (2.56)	0.12** (1.97)	0.05 (1.40)	0.05 (1.40)	0.05 (1.12)
Low Demand	-0.19 (-0.15)	-0.04 (-0.03)	0.98 (1.00)	0.15 (1.11)	0.17 (1.44)	0.13 (1.03)	-0.04 (-1.60)	-0.04 (-1.58)	-0.05 (-1.52)
Underwriter Rank	0.89 (1.46)	1.05* (1.81)	-1.25 (-0.22)	-0.46*** (-2.96)	-0.37** (-2.58)	1.09 (0.66)	-0.02 (-1.24)	-0.02 (-1.10)	0.08 (0.60)
Log Firm Age	-0.48 (-0.54)	-0.38 (-0.44)	-0.52 (-0.60)	0.02 (0.56)	0.04 (0.96)	0.01 (0.34)	-0.03 (-1.49)	-0.03 (-1.50)	-0.04 (-1.72)
Tech Firm	-0.29 (-0.66)	-0.33 (-0.73)	0.26 (0.36)	-0.03 (-0.33)	-0.03 (-0.42)	0.02 (0.22)	-0.01 (-0.43)	-0.01 (-0.41)	-0.01 (-0.25)
VC Backed	1.15 (1.67)	1.13* (1.76)	0.86 (1.45)	0.08 (0.85)	0.05 (0.56)	-0.00 (-0.03)	0.02 (1.48)	0.02 (1.45)	0.03* (2.00)
Log Proceeds	4.46*** (5.26)	4.40*** (5.45)	4.58*** (7.02)	-0.35*** (-3.78)	-0.37*** (-4.17)	-0.35*** (-6.11)	0.13** (2.61)	0.13** (2.60)	0.16** (2.44)
Constant	16.39*** (13.92)	16.39*** (16.86)	17.13*** (18.67)	2.27*** (19.07)	2.09*** (14.17)	1.68*** (2.94)	0.10*** (5.91)	0.10*** (6.06)	0.11*** (7.36)
Fixed Effects	None	Inv	InvUW	None	Inv	InvUW	None	Inv	InvUW
Sample	ColdYears	ColdYears	ColdYears	ColdYears	ColdYears	ColdYears	ColdYears	ColdYears	ColdYears
Adjusted R^2	0.160	0.222	0.238	0.115	0.219	0.245	0.027	0.033	-0.041
Observations	24,820	24,820	22,636	4,069	4,064	3,346	24,820	24,820	22,636

Table A10: Main Regression Results: Hot IPOs (overall)

The table displays regressions of allocation indicators, percent allocated and money left on the table on control variables and manager and relationship characteristics, using no fixed effects, investor fixed effects, and investor-underwriter fixed effects. The sample includes IPOs with above median initial returns (based on the full sample median) and includes zero allocations for investors who report 13F holdings and ANcerno trades within a quarter. Standard errors are clustered at the investor-underwriter level, *t*-statistics are shown below the estimates in parentheses, and ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels.

	Allocation Indicator			Allocation Percent			Money Left		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	AllocInd	AllocInd	AllocInd	AllocPct	AllocPct	AllocPct	MoneyLeft	MoneyLeft	MoneyLeft
Client Size	5.22*** (8.44)	2.80*** (5.46)	3.40*** (4.80)	0.11*** (2.88)	0.05* (1.80)	-0.06 (-0.89)	0.20*** (4.34)	0.15*** (3.46)	0.10 (1.46)
Abnormal Commissions	-0.11 (-0.44)	-0.05 (-0.32)	-0.06 (-0.40)	0.03*** (3.56)	0.02** (2.22)	0.01 (1.57)	-0.00 (-0.06)	-0.01 (-0.38)	-0.01 (-0.53)
Past Price Support	3.81*** (7.68)	2.21*** (7.52)	2.17*** (6.65)	0.18*** (4.07)	-0.00 (-0.16)	-0.17*** (-3.32)	0.07*** (2.90)	0.01 (0.93)	-0.03 (-1.43)
Past Flipping	3.09*** (6.85)	0.91*** (3.59)	0.35 (1.12)	-0.25*** (-7.76)	-0.10** (-2.64)	0.11** (2.47)	-0.07*** (-3.41)	-0.05*** (-3.45)	-0.01 (-0.51)
Past Hold Time	0.23 (0.63)	0.95** (2.57)	0.95** (2.60)	-0.05* (-1.86)	-0.06** (-2.10)	-0.11*** (-2.98)	-0.05*** (-2.74)	-0.04** (-2.11)	-0.06** (-2.10)
Log Investor AUM	6.63*** (12.61)	5.33*** (6.07)	5.56*** (5.70)	0.37*** (6.85)	0.66*** (6.27)	0.71*** (5.33)	0.21*** (6.28)	0.17*** (4.95)	0.22*** (4.53)
Industry Specialization	3.01*** (8.67)	1.72*** (6.50)	1.72*** (6.62)	0.40*** (6.03)	0.21*** (4.79)	0.20*** (3.75)	0.14*** (6.69)	0.10*** (6.68)	0.11*** (6.36)
Log Investor Volume	5.59*** (4.76)	3.23** (2.17)	3.09** (2.02)	-0.21*** (-2.90)	-0.15* (-1.95)	-0.04 (-0.74)	-0.02 (-0.82)	-0.06*** (-2.74)	-0.05** (-2.48)
Offer Price Revision	1.56** (2.33)	1.35** (2.04)	1.20* (1.72)	-0.29*** (-4.08)	-0.26*** (-3.94)	-0.21*** (-4.09)	-0.04 (-0.91)	-0.05 (-1.14)	-0.05 (-1.03)
High Demand	2.24*** (5.65)	2.34*** (5.94)	2.45*** (6.05)	-0.00 (-0.10)	-0.01 (-0.44)	-0.01 (-0.30)	0.09** (2.30)	0.09** (2.43)	0.09** (2.36)
Low Demand	-1.01*** (-2.72)	-1.00*** (-2.85)	-1.07*** (-2.81)	0.19** (2.33)	0.20** (2.57)	0.18** (2.49)	-0.02 (-0.98)	-0.02 (-0.95)	-0.01 (-0.63)
Underwriter Rank	0.47 (1.40)	0.60** (2.04)	-0.98 (-0.93)	-0.15*** (-3.00)	-0.09** (-2.41)	0.06 (0.48)	-0.05*** (-3.51)	-0.04*** (-2.77)	0.03 (0.91)
Log Firm Age	0.10 (0.33)	0.33 (1.17)	0.34 (1.13)	0.04 (1.20)	0.03 (1.13)	0.03 (1.21)	-0.05** (-2.67)	-0.04* (-1.94)	-0.04* (-1.86)
Tech Firm	-0.14 (-0.34)	-0.22 (-0.61)	-0.32 (-0.89)	0.01 (0.32)	0.02 (0.64)	0.03 (1.04)	0.03 (1.61)	0.03 (1.30)	0.03 (1.16)
VC Backed	0.60 (1.39)	0.73** (2.13)	0.66** (2.03)	-0.02 (-0.59)	-0.04 (-0.94)	-0.04 (-0.91)	0.06*** (3.18)	0.06*** (3.38)	0.07*** (3.43)
Log Proceeds	4.69*** (10.64)	4.86*** (12.61)	4.53*** (10.58)	-0.25*** (-6.83)	-0.25*** (-7.00)	-0.23*** (-5.97)	0.33*** (7.48)	0.34*** (7.59)	0.35*** (8.08)
Constant	19.23*** (28.44)	19.23*** (39.55)	19.64*** (45.11)	1.50*** (21.17)	1.38*** (13.24)	1.28*** (11.81)	0.30*** (9.46)	0.30*** (11.13)	0.31*** (12.34)
Fixed Effects	None	Inv	InvUW	None	Inv	InvUW	None	Inv	InvUW
Sample	HotIPO	HotIPO	HotIPO	HotIPO	HotIPO	HotIPO	HotIPO	HotIPO	HotIPO
Adjusted R ²	0.182	0.265	0.291	0.081	0.203	0.221	0.043	0.064	0.047
Observations	88,758	88,758	85,950	17,072	17,071	16,088	88,758	88,758	85,950

Table A11: Main Regression Results: Cold IPOs (overall)

The table displays regressions of allocation indicators, percent allocated and money left on the table on control variables and manager and relationship characteristics, using no fixed effects, investor fixed effects, and investor-underwriter fixed effects. The sample includes IPOs with below median initial returns (based on the full sample median) and includes zero allocations for investors who report 13F holdings and ANcerno trades within a quarter. Standard errors are clustered at the investor-underwriter level, t -statistics are shown below the estimates in parentheses, and ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels.

	Allocation Indicator			Allocation Percent			Money Left		
	(1) AllocInd	(2) AllocInd	(3) AllocInd	(4) AllocPct	(5) AllocPct	(6) AllocPct	(7) MoneyLeft	(8) MoneyLeft	(9) MoneyLeft
Client Size	2.32*** (8.56)	1.57*** (5.71)	1.15*** (3.11)	0.23*** (3.70)	-0.00 (-0.03)	-0.16* (-1.69)	0.01*** (3.91)	0.01** (2.22)	-0.00 (-0.71)
Abnormal Commissions	-0.04 (-0.35)	-0.05 (-0.38)	-0.17 (-1.33)	0.05 (1.56)	0.04 (1.10)	0.02 (0.62)	0.00 (1.52)	0.00 (1.27)	0.00 (1.07)
Past Price Support	1.01*** (4.87)	0.81*** (5.36)	0.71*** (3.98)	0.27*** (4.05)	-0.03 (-0.71)	-0.24*** (-3.72)	0.00** (2.19)	0.00 (1.06)	0.00 (1.16)
Past Flipping	0.41* (2.00)	0.19 (1.11)	1.02*** (3.64)	-0.06 (-0.90)	-0.19*** (-3.11)	-0.07 (-0.77)	-0.00 (-1.31)	-0.00 (-0.47)	0.00 (1.08)
Past Hold Time	0.44* (1.99)	0.31* (1.97)	0.07 (0.34)	-0.21*** (-2.74)	-0.08 (-1.13)	-0.22** (-2.22)	-0.00 (-1.54)	-0.00 (-1.26)	-0.00 (-1.35)
Log Investor AUM	3.96*** (13.92)	2.83*** (5.55)	2.98*** (5.00)	0.33*** (2.90)	1.23*** (5.60)	1.05*** (4.03)	0.01*** (4.70)	0.01*** (2.88)	0.01*** (2.73)
Industry Specialization	0.94*** (8.95)	0.93*** (8.68)	0.93*** (8.33)	0.39*** (6.08)	0.26*** (4.74)	0.28*** (4.22)	0.00*** (3.29)	0.00*** (3.04)	0.00*** (2.78)
Log Investor Volume	1.85*** (6.22)	1.20*** (3.70)	1.32*** (3.32)	-0.41*** (-3.99)	-0.27*** (-3.06)	-0.16 (-1.63)	-0.00 (-0.25)	0.00 (0.36)	0.00 (1.67)
Offer Price Revision	1.54*** (3.80)	1.54*** (3.80)	1.60*** (3.88)	-0.78*** (-7.33)	-0.76*** (-7.26)	-0.69*** (-6.64)	-0.01 (-1.24)	-0.01 (-1.24)	-0.01 (-1.31)
High Demand	1.30*** (4.24)	1.31*** (4.33)	1.56*** (5.60)	0.04 (1.38)	0.02 (0.60)	-0.00 (-0.02)	0.01 (1.49)	0.01 (1.47)	0.01 (1.46)
Low Demand	-0.44 (-1.48)	-0.42 (-1.43)	-0.43 (-1.39)	0.06 (0.72)	0.04 (0.53)	0.01 (0.06)	-0.01*** (-2.74)	-0.01*** (-2.73)	-0.01*** (-2.76)
Underwriter Rank	-0.05 (-0.24)	-0.01 (-0.08)	1.09 (1.18)	-0.30*** (-3.01)	-0.17* (-1.94)	-0.36 (-0.80)	-0.01** (-2.42)	-0.01** (-2.30)	0.01 (1.60)
Log Firm Age	0.86*** (3.62)	0.86*** (3.71)	0.84*** (3.65)	0.15*** (2.80)	0.17*** (3.31)	0.18*** (3.33)	0.01** (2.25)	0.01** (2.26)	0.01** (2.39)
Tech Firm	0.10 (0.47)	0.09 (0.44)	0.25 (1.29)	0.03 (0.37)	-0.04 (-0.50)	-0.00 (-0.04)	0.00 (0.04)	0.00 (0.03)	-0.00 (-0.29)
VC Backed	0.61* (1.99)	0.60* (1.95)	0.75** (2.30)	0.11 (1.26)	0.08 (0.92)	0.02 (0.36)	0.00 (1.56)	0.00 (1.55)	0.01 (1.53)
Log Proceeds	3.97*** (12.35)	3.99*** (12.83)	4.24*** (11.83)	-0.71*** (-9.37)	-0.74*** (-10.98)	-0.70*** (-10.40)	0.03*** (3.52)	0.03*** (3.53)	0.03*** (3.55)
Constant	8.18*** (24.43)	8.18*** (28.42)	8.35*** (31.55)	3.08*** (30.67)	2.54*** (14.36)	2.64*** (9.43)	0.02*** (5.77)	0.02*** (5.88)	0.02*** (6.17)
Fixed Effects	None	Inv	InvUW	None	Inv	InvUW	None	Inv	InvUW
Sample	ColdIPO	ColdIPO	ColdIPO	ColdIPO	ColdIPO	ColdIPO	ColdIPO	ColdIPO	ColdIPO
Adjusted R^2	0.097	0.137	0.145	0.128	0.287	0.283	0.013	0.016	-0.031
Observations	88,668	88,668	84,168	7,254	7,251	6,185	88,668	88,668	84,168

Table A12: Main Regression Results: Hot IPOs (within quarter)

The table displays regressions of allocation indicators, percent allocated and money left on the table on control variables and manager and relationship characteristics, using no fixed effects, investor fixed effects, and investor-underwriter fixed effects. The sample includes IPOs with above median initial returns (based on within-quarter medians), and includes zero allocations for investors who report 13F holdings and ANcerno trades within a quarter. Standard errors are clustered at the investor-underwriter level, t -statistics are shown below the estimates in parentheses, and ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels.

	Allocation Indicator			Allocation Percent			Money Left		
	(1) AllocInd	(2) AllocInd	(3) AllocInd	(4) AllocPct	(5) AllocPct	(6) AllocPct	(7) MoneyLeft	(8) MoneyLeft	(9) MoneyLeft
Client Size	4.93*** (8.89)	2.97*** (5.88)	3.09*** (4.92)	0.13*** (3.41)	0.06 (1.66)	-0.05 (-0.65)	0.18*** (4.01)	0.15*** (3.29)	0.11* (1.75)
Abnormal Commissions	0.01 (0.05)	0.03 (0.16)	-0.01 (-0.03)	0.03** (2.58)	0.01 (1.45)	0.01 (1.06)	0.01 (0.38)	-0.00 (-0.05)	-0.01 (-0.35)
Past Price Support	3.50*** (6.86)	1.95*** (6.49)	1.99*** (5.86)	0.19*** (4.02)	-0.01 (-0.30)	-0.16*** (-3.18)	0.07*** (2.72)	0.01 (0.85)	-0.02 (-1.37)
Past Flipping	3.08*** (6.56)	1.11*** (3.87)	0.39 (1.12)	-0.26*** (-6.60)	-0.14*** (-3.22)	0.08 (1.48)	-0.07*** (-3.54)	-0.06*** (-3.59)	-0.02 (-0.90)
Past Hold Time	0.77* (1.88)	1.35*** (3.38)	1.40*** (3.73)	-0.09** (-2.58)	-0.09** (-2.51)	-0.16*** (-3.75)	-0.06*** (-3.31)	-0.05** (-2.36)	-0.07** (-2.34)
Log Investor AUM	6.55*** (14.08)	5.63*** (6.98)	5.74*** (6.31)	0.39*** (6.40)	0.77*** (6.78)	0.80*** (5.80)	0.20*** (5.90)	0.20*** (4.62)	0.24*** (4.20)
Industry Specialization	2.88*** (8.88)	1.83*** (7.65)	1.78*** (7.91)	0.41*** (7.41)	0.23*** (5.40)	0.21*** (4.61)	0.14*** (5.23)	0.10*** (5.94)	0.11*** (5.55)
Log Investor Volume	5.26*** (5.73)	3.31*** (2.76)	3.40*** (2.76)	-0.23** (-2.69)	-0.13 (-1.50)	-0.07 (-0.97)	-0.02 (-1.08)	-0.04** (-2.15)	-0.04 (-1.59)
Offer Price Revision	2.46*** (3.23)	2.20*** (2.91)	2.17*** (2.89)	-0.38*** (-4.19)	-0.33*** (-4.06)	-0.28*** (-4.14)	-0.01 (-0.46)	-0.02 (-0.76)	-0.02 (-0.69)
High Demand	2.38*** (5.91)	2.48*** (6.23)	2.58*** (6.01)	0.01 (0.31)	-0.01 (-0.35)	-0.01 (-0.42)	0.10*** (3.38)	0.10*** (3.50)	0.10*** (3.49)
Low Demand	-1.45*** (-2.87)	-1.44*** (-3.01)	-1.50*** (-3.18)	0.35*** (3.89)	0.36*** (3.89)	0.31*** (3.51)	-0.01 (-0.86)	-0.01 (-0.86)	-0.01 (-0.50)
Underwriter Rank	0.54 (1.52)	0.68** (2.09)	-0.76 (-0.67)	-0.16*** (-2.87)	-0.10** (-2.07)	0.03 (0.24)	-0.03** (-2.62)	-0.02* (-1.82)	0.03 (0.77)
Log Firm Age	-0.06 (-0.13)	0.14 (0.34)	0.05 (0.11)	0.08** (2.47)	0.07** (2.27)	0.06* (1.78)	-0.07** (-2.42)	-0.06** (-2.21)	-0.07** (-2.31)
Tech Firm	-0.01 (-0.03)	-0.10 (-0.24)	-0.21 (-0.55)	0.04 (1.08)	0.05 (1.38)	0.06* (1.73)	0.03 (1.58)	0.03 (1.42)	0.03 (1.42)
VC Backed	1.00** (2.38)	1.07*** (2.82)	0.91** (2.50)	-0.02 (-0.40)	-0.03 (-0.87)	-0.04 (-1.02)	0.07*** (3.49)	0.07*** (3.59)	0.08*** (3.54)
Log Proceeds	3.96*** (10.38)	4.10*** (10.97)	3.90*** (9.80)	-0.28*** (-6.81)	-0.28*** (-7.17)	-0.25*** (-6.37)	0.26*** (5.75)	0.27*** (5.77)	0.29*** (6.11)
Constant	18.77*** (31.37)	18.77*** (41.16)	19.05*** (48.05)	1.62*** (21.24)	1.43*** (13.03)	1.34*** (11.71)	0.28*** (8.97)	0.28*** (10.14)	0.29*** (11.11)
Fixed Effects	None	Inv	InvUW	None	Inv	InvUW	None	Inv	InvUW
Sample	HotIPOb	HotIPOb	HotIPOb	HotIPOb	HotIPOb	HotIPOb	HotIPOb	HotIPOb	HotIPOb
Adjusted R^2	0.171	0.247	0.273	0.092	0.208	0.222	0.038	0.060	0.037
Observations	87,519	87,519	84,868	16,428	16,428	15,350	87,519	87,519	84,868

Table A13: Main Regression Results: Cold IPOs (within quarter)

The table displays regressions of allocation indicators, percent allocated and money left on the table on control variables and manager and relationship characteristics, using no fixed effects, investor fixed effects, and investor-underwriter fixed effects. The sample includes IPOs with below median initial returns (based on within-quarter medians) and includes zero allocations for investors who report 13F holdings and ANcerno trades within a quarter. Standard errors are clustered at the investor-underwriter level, t -statistics are shown below the estimates in parentheses, and ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels.

	Allocation Indicator			Allocation Percent			Money Left		
	(1) AllocInd	(2) AllocInd	(3) AllocInd	(4) AllocPct	(5) AllocPct	(6) AllocPct	(7) MoneyLeft	(8) MoneyLeft	(9) MoneyLeft
Client Size	3.01*** (7.89)	1.76*** (6.25)	1.62*** (3.61)	0.15*** (2.93)	0.03 (0.72)	-0.11 (-1.18)	0.03*** (2.79)	0.03** (2.67)	0.02* (1.71)
Abnormal Commissions	-0.18 (-1.33)	-0.16 (-1.09)	-0.25 (-1.62)	0.05* (1.81)	0.03 (1.25)	0.02 (0.69)	-0.01 (-0.56)	-0.01 (-0.61)	-0.01 (-0.66)
Past Price Support	1.29*** (5.02)	0.90*** (5.47)	0.71*** (4.72)	0.26*** (4.01)	0.03 (0.58)	-0.19*** (-2.90)	0.00 (1.17)	-0.00 (-0.48)	-0.00 (-0.59)
Past Flipping	0.80*** (3.21)	0.32** (2.09)	0.85*** (3.59)	-0.13** (-2.47)	-0.17*** (-4.43)	0.02 (0.29)	-0.01 (-1.51)	-0.01 (-1.43)	-0.01 (-0.53)
Past Hold Time	0.44** (2.08)	0.60*** (2.94)	0.50** (2.05)	-0.20*** (-3.10)	-0.09 (-1.59)	-0.17** (-2.39)	-0.01 (-1.50)	-0.01 (-1.39)	-0.02 (-1.55)
Log Investor AUM	4.11*** (12.23)	2.71*** (5.30)	2.93*** (5.15)	0.28*** (3.04)	1.21*** (6.28)	0.96*** (4.30)	0.03** (2.35)	0.02** (2.39)	0.03** (2.17)
Industry Specialization	1.24*** (6.57)	1.12*** (6.72)	1.14*** (7.41)	0.30*** (3.54)	0.17** (2.47)	0.20** (2.17)	0.01** (2.34)	0.01** (2.29)	0.01** (2.20)
Log Investor Volume	1.70*** (3.49)	0.55 (1.25)	0.54 (1.05)	-0.28*** (-2.90)	-0.19** (-2.30)	-0.09 (-0.95)	-0.01** (-2.34)	-0.02** (-2.27)	-0.02** (-2.09)
Offer Price Revision	1.75*** (4.39)	1.66*** (4.15)	1.67*** (3.74)	-0.86*** (-9.94)	-0.82*** (-9.13)	-0.72*** (-6.42)	-0.05 (-1.48)	-0.05 (-1.48)	-0.05 (-1.52)
High Demand	1.92*** (5.80)	1.90*** (6.04)	1.97*** (7.01)	0.05 (1.16)	0.05 (1.49)	0.05 (1.16)	0.06** (2.03)	0.06** (2.03)	0.07** (2.09)
Low Demand	-0.56* (-1.70)	-0.51 (-1.59)	-0.61* (-1.71)	0.05 (0.66)	0.05 (0.57)	0.06 (0.70)	-0.04* (-1.80)	-0.04* (-1.79)	-0.05* (-1.81)
Underwriter Rank	0.09 (0.42)	0.11 (0.58)	1.75** (2.20)	-0.35*** (-3.36)	-0.24** (-2.63)	-0.59* (-1.97)	-0.02* (-1.78)	-0.02* (-1.75)	0.03 (1.42)
Log Firm Age	0.64** (2.49)	0.66*** (2.74)	0.66*** (2.72)	0.12*** (2.73)	0.13*** (3.05)	0.13** (2.67)	0.01 (1.16)	0.01 (1.18)	0.01 (0.82)
Tech Firm	0.26 (1.38)	0.24 (1.30)	0.38** (2.05)	-0.04 (-0.65)	-0.07 (-1.32)	-0.01 (-0.28)	0.01 (1.61)	0.01 (1.59)	0.01 (1.39)
VC Backed	0.66** (2.56)	0.65** (2.65)	0.75*** (2.81)	0.04 (0.18)	0.02 (0.39)	-0.01 (-0.16)	0.01* (1.78)	0.01* (1.75)	0.01 (1.46)
Log Proceeds	4.20*** (9.82)	4.27*** (10.35)	4.42*** (9.54)	-0.62*** (-8.43)	-0.62*** (-9.42)	-0.62*** (-9.89)	0.09** (2.10)	0.09** (2.10)	0.09** (2.19)
Constant	8.78*** (19.36)	8.78*** (23.84)	9.03*** (29.45)	2.88*** (25.27)	2.29*** (15.89)	2.49*** (11.63)	0.04** (2.60)	0.04** (2.67)	0.04*** (2.79)
Fixed Effects	None	Inv	InvUW	None	Inv	InvUW	None	Inv	InvUW
Sample	ColdIPOb	ColdIPOb	ColdIPOb	ColdIPOb	ColdIPOb	ColdIPOb	ColdIPOb	ColdIPOb	ColdIPOb
Adjusted R^2	0.110	0.154	0.165	0.116	0.268	0.268	0.022	0.024	-0.019
Observations	89,907	89,907	85,732	7,898	7,897	6,901	89,907	89,907	85,732

Table A14: Main Regression Results: VC-Backed IPOs

The table displays regressions of allocation indicators, percent allocated and money left on the table on control variables and manager and relationship characteristics, using no fixed effects, investor fixed effects, and investor-underwriter fixed effects. The sample includes IPOs backed by venture capitalists, and includes zero allocations for investors who report 13F holdings and ANcerno trades within a quarter. Standard errors are clustered at the investor-underwriter level, t -statistics are shown below the estimates in parentheses, and ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels.

	Allocation Indicator			Allocation Percent			Money Left		
	(1) AllocInd	(2) AllocInd	(3) AllocInd	(4) AllocPct	(5) AllocPct	(6) AllocPct	(7) MoneyLeft	(8) MoneyLeft	(9) MoneyLeft
Client Size	4.36*** (8.92)	2.21*** (5.67)	2.65*** (4.46)	0.12*** (2.86)	0.07* (1.83)	-0.01 (-0.16)	0.13*** (3.34)	0.12*** (3.04)	0.09 (1.54)
Abnormal Commissions	-0.08 (-0.53)	-0.06 (-0.65)	-0.01 (-0.10)	0.03** (2.14)	0.02 (1.40)	0.01 (0.47)	0.01 (0.41)	0.00 (0.11)	-0.00 (-0.11)
Past Price Support	2.93*** (6.61)	1.68*** (6.61)	1.71*** (6.25)	0.22*** (4.22)	0.02 (0.44)	-0.21*** (-3.63)	0.06*** (2.83)	0.01 (1.48)	-0.01 (-0.73)
Past Flipping	2.31*** (4.85)	0.85*** (3.00)	0.42 (1.44)	-0.26*** (-5.78)	-0.11** (-2.34)	0.14** (2.07)	-0.05*** (-2.90)	-0.03** (-2.50)	0.00 (0.26)
Past Hold Time	0.55 (1.37)	1.01* (2.54)	1.03*** (3.01)	-0.08** (-2.56)	-0.08** (-2.15)	-0.15*** (-3.10)	-0.04*** (-2.74)	-0.03* (-2.02)	-0.05** (-2.08)
Log Investor AUM	4.99*** (11.33)	4.14*** (5.67)	4.26*** (5.28)	0.36*** (5.52)	0.81*** (5.54)	0.90*** (5.17)	0.12*** (4.78)	0.13*** (4.44)	0.16*** (3.97)
Industry Specialization	2.44*** (7.16)	1.35*** (6.34)	1.33*** (6.57)	0.46*** (5.46)	0.20*** (2.95)	0.18** (2.64)	0.11*** (5.11)	0.08*** (5.21)	0.08*** (4.89)
Log Investor Volume	4.27*** (5.16)	2.52** (2.58)	2.35** (2.30)	-0.22*** (-2.77)	-0.15** (-2.02)	-0.12* (-1.74)	-0.00 (-0.02)	-0.03** (-2.31)	-0.03* (-1.90)
Offer Price Revision	3.36*** (5.26)	3.12*** (4.89)	3.04*** (4.34)	-0.58*** (-4.30)	-0.51*** (-4.20)	-0.42*** (-4.19)	-0.02 (-0.72)	-0.03 (-0.92)	-0.03 (-0.96)
High Demand	2.60*** (6.21)	2.69*** (6.51)	2.54*** (6.03)	-0.01 (-0.24)	-0.02 (-0.48)	-0.02 (-0.50)	0.10*** (3.29)	0.10*** (3.37)	0.10*** (3.20)
Low Demand	-0.11 (-0.25)	-0.20 (-0.44)	-0.27 (-0.59)	0.49*** (3.46)	0.49*** (3.85)	0.44*** (4.05)	-0.00 (-0.28)	-0.01 (-0.35)	-0.01 (-0.44)
Underwriter Rank	0.32 (1.10)	0.46* (1.79)	0.09 (0.09)	-0.25*** (-2.85)	-0.20** (-2.45)	-0.01 (-0.05)	-0.03** (-2.68)	-0.02* (-1.78)	0.01 (0.19)
Log Firm Age	-0.06 (-0.21)	0.13 (0.49)	0.26 (0.97)	0.07* (1.74)	0.05 (1.20)	0.03 (0.88)	-0.06*** (-4.00)	-0.06*** (-3.77)	-0.05*** (-3.59)
Tech Firm	-0.18 (-0.56)	-0.16 (-0.53)	-0.13 (-0.46)	0.03 (0.69)	0.03 (0.67)	0.04 (1.18)	0.01 (0.74)	0.01 (0.67)	0.01 (0.50)
VC Backed									
Log Proceeds	3.62*** (9.44)	3.69*** (9.59)	3.60*** (8.59)	-0.31*** (-5.37)	-0.32*** (-5.71)	-0.29*** (-6.06)	0.18*** (4.92)	0.18*** (4.91)	0.19*** (5.09)
Constant	14.06*** (29.22)	14.06*** (37.87)	14.26*** (44.64)	2.16*** (18.45)	1.94*** (14.94)	1.76*** (12.19)	0.19*** (9.38)	0.19*** (10.50)	0.19*** (11.91)
Fixed Effects	None	Inv	InvUW	None	Inv	InvUW	None	Inv	InvUW
Sample	VCBacked	VCBacked	VCBacked	VCBacked	VCBacked	VCBacked	VCBacked	VCBacked	VCBacked
Adjusted R^2	0.165	0.234	0.259	0.110	0.243	0.253	0.030	0.046	0.033
Observations	92,559	92,559	90,094	13,012	13,008	12,125	92,559	92,559	90,094

Table A15: Main Regression Results: Not VC-Backed IPOs

The table displays regressions of allocation indicators, percent allocated and money left on the table on control variables and manager and relationship characteristics, using no fixed effects, investor fixed effects, and investor-underwriter fixed effects. The sample includes IPOs not backed by venture capitalists and includes zero allocations for investors who report 13F holdings and ANcerno trades within a quarter. Standard errors are clustered at the investor-underwriter level, t -statistics are shown below the estimates in parentheses, and ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels.

	Allocation Indicator			Allocation Percent			Money Left		
	(1) AllocInd	(2) AllocInd	(3) AllocInd	(4) AllocPct	(5) AllocPct	(6) AllocPct	(7) MoneyLeft	(8) MoneyLeft	(9) MoneyLeft
Client Size	3.45*** (8.53)	2.47*** (7.59)	1.91*** (4.16)	0.17*** (4.01)	0.02 (0.61)	-0.11 (-1.66)	0.08*** (4.65)	0.05*** (4.16)	0.02 (1.42)
Abnormal Commissions	-0.08 (-0.44)	-0.06 (-0.39)	-0.13 (-0.72)	0.04** (2.31)	0.03 (1.46)	0.02 (1.15)	-0.00 (-0.36)	-0.01 (-0.54)	-0.01 (-0.75)
Past Price Support	1.90*** (5.87)	1.25*** (5.99)	1.20*** (5.25)	0.20*** (3.97)	-0.00 (-0.05)	-0.12** (-2.27)	0.02** (2.11)	0.00 (0.42)	-0.01 (-0.69)
Past Flipping	1.40*** (5.21)	0.56** (2.60)	0.68** (2.20)	-0.13*** (-3.22)	-0.12*** (-3.25)	0.04 (0.65)	-0.04*** (-3.03)	-0.04*** (-3.04)	-0.02 (-1.54)
Past Hold Time	0.57** (2.17)	0.81*** (3.44)	0.62** (2.16)	-0.14*** (-2.96)	-0.06* (-1.77)	-0.15*** (-3.29)	-0.03** (-2.30)	-0.03* (-1.95)	-0.05** (-2.35)
Log Investor AUM	5.49*** (14.79)	3.87*** (6.30)	3.88*** (5.18)	0.37*** (4.86)	0.93*** (6.80)	0.79*** (5.33)	0.10*** (5.15)	0.09*** (4.36)	0.11*** (4.00)
Industry Specialization	1.62*** (8.03)	1.46*** (7.60)	1.46*** (8.46)	0.24*** (7.73)	0.18*** (6.03)	0.18*** (5.13)	0.03*** (4.30)	0.03*** (4.86)	0.03*** (4.59)
Log Investor Volume	2.89*** (5.56)	1.64*** (2.83)	1.99*** (2.98)	-0.31*** (-3.20)	-0.22** (-2.22)	-0.11 (-1.16)	-0.02* (-1.92)	-0.02 (-1.45)	-0.02 (-0.98)
Offer Price Revision	2.43*** (2.73)	2.37** (2.67)	2.65*** (2.91)	-0.59*** (-7.17)	-0.58*** (-7.07)	-0.51*** (-5.80)	-0.03 (-0.83)	-0.03 (-0.84)	-0.04 (-0.88)
High Demand	3.09*** (5.31)	3.10*** (5.37)	3.16*** (5.51)	0.03 (0.90)	0.01 (0.37)	0.02 (0.55)	0.12*** (3.42)	0.12*** (3.42)	0.14*** (3.42)
Low Demand	-1.50*** (-2.76)	-1.45*** (-2.72)	-1.39** (-2.44)	0.22*** (2.90)	0.23*** (3.13)	0.22*** (2.74)	-0.05** (-2.03)	-0.05** (-2.02)	-0.05* (-1.99)
Underwriter Rank	0.49 (1.40)	0.52 (1.61)	2.09 (1.31)	-0.21*** (-2.72)	-0.14* (-2.02)	-0.02 (-0.10)	-0.03** (-2.15)	-0.02* (-1.96)	0.02 (0.51)
Log Firm Age	0.95** (2.58)	0.96** (2.67)	0.84** (2.33)	0.08 (1.61)	0.08* (1.80)	0.10** (2.10)	0.01 (1.18)	0.01 (1.20)	0.01 (0.62)
Tech Firm	0.36 (1.04)	0.23 (0.67)	0.17 (0.52)	0.01 (0.19)	0.01 (0.14)	0.02 (0.52)	0.04*** (2.99)	0.04*** (2.80)	0.05** (2.62)
VC Backed									
Log Proceeds	4.15*** (10.26)	4.24*** (10.86)	4.31*** (8.87)	-0.45*** (-8.82)	-0.44*** (-8.75)	-0.41*** (-7.29)	0.15*** (3.99)	0.15*** (3.98)	0.16*** (4.21)
Constant	13.33*** (26.06)	13.33*** (32.63)	13.70*** (38.89)	2.12*** (26.48)	1.84*** (15.63)	1.82*** (14.20)	0.12*** (6.69)	0.12*** (7.03)	0.13*** (7.86)
Fixed Effects	None	Inv	InvUW	None	Inv	InvUW	None	Inv	InvUW
Sample	NotVCBacked	NotVCBacked	NotVCBacked	NotVCBacked	NotVCBacked	NotVCBacked	NotVCBacked	NotVCBacked	NotVCBacked
Adjusted R^2	0.137	0.184	0.198	0.104	0.221	0.225	0.032	0.039	-0.003
Observations	84,867	84,867	80,601	11,314	11,314	10,157	84,867	84,867	80,601

Table A16: Main Regression Results: Alternative Industry Specialization Measure

The table displays regressions of allocation indicators, percent allocated and money left on the table on control variables and manager and relationship characteristics, using no fixed effects, investor fixed effects, and investor-underwriter fixed effects. Industry specialization is measured based on ANcerno trading volume rather than 13F portfolio holdings (as in the main tests). The sample includes IPOs not backed by venture capitalists and includes zero allocations for investors who report 13F holdings and ANcerno trades within a quarter. Standard errors are clustered at the investor-underwriter level, t -statistics are shown below the estimates in parentheses, and ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels.

	Allocation Indicator			Allocation Percent			Money Left		
	(1) AllocInd	(2) AllocInd	(3) AllocInd	(4) AllocPct	(5) AllocPct	(6) AllocPct	(7) MoneyLeft	(8) MoneyLeft	(9) MoneyLeft
Client Size	4.02*** (9.23)	2.41*** (7.35)	2.22*** (4.69)	0.15*** (3.73)	0.05 (1.55)	-0.05 (-0.77)	0.11*** (3.84)	0.09*** (3.13)	0.06* (1.71)
Abnormal Commissions	-0.08 (-0.55)	-0.06 (-0.65)	-0.13 (-1.22)	0.04*** (2.81)	0.02** (2.04)	0.02 (1.38)	0.00 (0.08)	-0.00 (-0.19)	-0.01 (-0.38)
Past Price Support	2.38*** (6.59)	1.51*** (6.71)	1.47*** (6.58)	0.22*** (4.66)	0.01 (0.27)	-0.17*** (-4.03)	0.04*** (2.80)	0.01 (1.36)	-0.01 (-0.57)
Past Flipping	1.90*** (5.43)	0.80*** (3.76)	0.64*** (2.72)	-0.24*** (-6.70)	-0.15*** (-4.96)	0.08* (1.76)	-0.05*** (-3.25)	-0.04*** (-3.26)	-0.01 (-0.85)
Past Hold Time	0.63** (2.14)	0.99*** (3.45)	0.98*** (3.70)	-0.13*** (-3.85)	-0.10*** (-2.84)	-0.17*** (-4.51)	-0.04*** (-2.86)	-0.03** (-2.25)	-0.05** (-2.35)
Log Investor AUM	5.33*** (13.93)	4.22*** (6.89)	4.34*** (6.48)	0.33*** (4.96)	0.88*** (7.78)	0.87*** (6.41)	0.11*** (5.02)	0.11*** (4.51)	0.14*** (4.29)
Ind. Spec. (Volume)	2.27*** (7.14)	1.54*** (8.31)	1.50*** (9.03)	0.25*** (6.31)	0.10*** (3.27)	0.09** (2.62)	0.07*** (4.71)	0.05*** (4.94)	0.05*** (4.56)
Log Investor Volume	3.46*** (5.29)	2.03** (2.69)	2.11** (2.56)	-0.26*** (-3.04)	-0.18** (-2.34)	-0.10 (-1.45)	-0.02* (-1.85)	-0.03** (-2.55)	-0.02* (-1.85)
Offer Price Revision	2.99*** (5.00)	2.81*** (4.69)	2.78*** (4.25)	-0.61*** (-5.61)	-0.58*** (-5.52)	-0.48*** (-5.00)	-0.02 (-0.51)	-0.02 (-0.61)	-0.03 (-0.72)
High Demand	2.94*** (8.28)	2.99*** (8.47)	3.05*** (8.59)	0.01 (0.45)	0.00 (0.00)	-0.01 (-0.19)	0.12*** (3.88)	0.12*** (3.89)	0.12*** (3.96)
Low Demand	-0.94** (-2.34)	-0.96** (-2.43)	-0.99** (-2.34)	0.30*** (3.61)	0.31*** (3.92)	0.31*** (3.88)	-0.03 (-1.56)	-0.03 (-1.57)	-0.03 (-1.56)
Underwriter Rank	0.37 (1.57)	0.46** (2.25)	0.45 (0.47)	-0.24*** (-3.86)	-0.17*** (-3.12)	0.04 (0.24)	-0.03*** (-3.15)	-0.02** (-2.57)	0.02 (0.63)
Log Firm Age	0.38 (1.35)	0.49* (1.87)	0.49* (1.91)	0.09** (2.38)	0.09** (2.48)	0.09*** (2.72)	-0.03*** (-2.78)	-0.03** (-2.63)	-0.03*** (-2.75)
Tech Firm	0.08 (0.28)	0.02 (0.08)	0.04 (0.15)	0.04 (0.93)	0.03 (0.84)	0.04 (1.41)	0.02** (2.20)	0.02** (2.10)	0.03** (2.03)
VC Backed	1.13*** (3.92)	1.16*** (4.37)	1.19*** (4.17)	-0.02 (-0.37)	-0.03 (-0.78)	-0.05 (-1.22)	0.05*** (3.98)	0.05*** (3.98)	0.05*** (3.90)
Log Proceeds	4.07*** (12.69)	4.12*** (13.31)	4.08*** (11.37)	-0.42*** (-9.82)	-0.42*** (-10.67)	-0.39*** (-9.63)	0.17*** (4.85)	0.17*** (4.86)	0.18*** (5.33)
Constant	13.71*** (29.80)	13.71*** (39.38)	13.93*** (45.53)	2.16*** (26.18)	1.89*** (17.72)	1.78*** (14.98)	0.16*** (8.09)	0.16*** (8.91)	0.16*** (9.77)
Fixed Effects	None	Inv	InvUW	None	Inv	InvUW	None	Inv	InvUW
Sample	fullSample	fullSample	fullSample	fullSample	fullSample	fullSample	fullSample	fullSample	fullSample
Adjusted R^2	0.151	0.206	0.226	0.100	0.224	0.239	0.028	0.040	0.023
Observations	177,426	177,426	172,814	24,326	24,326	23,039	177,426	177,426	172,814

Table A17: Main Regression Results: Low Allocation Investors

The table displays regressions of allocation indicators, percent allocated and money left on the table on control variables and manager and relationship characteristics, using no fixed effects, investor fixed effects, and investor-underwriter fixed effects. The sample includes only investors who receive 13 or fewer allocations and includes zero allocations for investors who report 13F holdings and ANcerno trades within a quarter. Standard errors are clustered at the investor-underwriter level, t -statistics are shown below the estimates in parentheses, and ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels.

	Allocation Indicator			Allocation Percent			Money Left		
	(1) AllocInd	(2) AllocInd	(3) AllocInd	(4) AllocPct	(5) AllocPct	(6) AllocPct	(7) MoneyLeft	(8) MoneyLeft	(9) MoneyLeft
Client Size	0.25*** (3.27)	0.19*** (2.76)	0.08* (1.85)	-0.00 (-0.08)	0.00 (0.12)	-0.39** (-2.31)	0.00* (1.80)	0.00 (0.59)	0.00 (0.18)
Abnormal Commissions	0.03 (0.85)	0.01 (0.31)	0.01 (0.19)	0.07 (1.12)	0.09 (1.22)	0.25* (1.96)	0.00 (0.64)	0.00 (0.07)	0.00 (1.07)
Past Price Support	0.33*** (4.23)	0.31*** (4.54)	0.19* (1.86)	0.02 (0.83)	-0.02 (-0.40)	-0.02 (-0.38)	0.00** (2.53)	0.00** (2.15)	0.00 (1.31)
Past Flipping	0.05 (0.79)	0.03 (0.55)	0.47*** (3.56)	0.01 (0.23)	0.11 (0.97)	0.15 (0.96)	-0.00 (-0.06)	-0.00 (-0.04)	0.01** (2.52)
Past Hold Time	-0.04 (-0.64)	-0.05 (-0.94)	-0.02 (-0.19)	0.24* (1.95)	0.20* (1.82)	0.09 (0.64)	-0.00 (-0.19)	-0.00 (-0.39)	-0.00 (-0.74)
Log Investor AUM	-0.03 (-0.65)	-0.13 (-1.44)	-0.05 (-0.43)	0.46*** (3.99)	1.51** (2.11)	1.99* (1.82)	0.00* (2.01)	0.01*** (2.89)	0.01*** (3.05)
Industry Specialization	0.17*** (5.29)	0.17*** (4.70)	0.17*** (4.30)	0.30*** (4.33)	0.22** (2.59)	-0.13 (-0.57)	0.00*** (2.83)	0.00 (1.54)	0.00* (1.80)
Log Investor Volume	-0.01 (-0.14)	-0.04 (-0.71)	-0.00 (-0.07)	-0.22*** (-2.78)	-0.20 (-1.25)	-0.15 (-0.46)	-0.00 (-0.99)	-0.00 (-0.92)	-0.00 (-0.68)
Offer Price Revision	-0.16*** (-2.88)	-0.15** (-2.37)	-0.17*** (-2.74)	-0.47** (-2.62)	-0.56*** (-2.79)	-0.53* (-1.88)	-0.00 (-1.41)	-0.00 (-1.30)	-0.00 (-1.38)
High Demand	0.17*** (3.16)	0.16*** (3.06)	0.16*** (3.01)	0.02 (0.17)	0.13 (1.11)	0.27 (1.25)	0.00* (2.01)	0.00* (1.97)	0.00** (2.09)
Low Demand	-0.13*** (-2.78)	-0.13*** (-2.72)	-0.13*** (-2.76)	0.07 (0.35)	-0.02 (-0.07)	0.21 (0.59)	-0.00* (-1.76)	-0.00* (-1.74)	-0.00* (-1.74)
Underwriter Rank	-0.15*** (-4.97)	-0.16*** (-5.09)	0.12 (1.34)	-0.54** (-2.07)	-0.20 (-1.00)	0.39 (0.26)	-0.00 (-1.64)	-0.00 (-1.52)	0.00 (1.10)
Log Firm Age	0.16*** (3.96)	0.16*** (3.90)	0.17*** (3.89)	0.08 (0.78)	0.03 (0.34)	-0.14 (-0.76)	0.00 (1.09)	0.00 (1.05)	0.00 (1.10)
Tech Firm	0.01 (0.62)	0.02 (1.02)	0.01 (0.27)	-0.17** (-2.09)	-0.11 (-1.06)	-0.00 (-0.01)	0.00 (1.40)	0.00 (1.39)	0.00 (1.11)
VC Backed	0.10*** (2.84)	0.09*** (2.82)	0.13*** (3.11)	-0.02 (-0.20)	-0.03 (-0.20)	0.05 (0.24)	0.00* (1.85)	0.00* (1.78)	0.00* (1.88)
Log Proceeds	0.66*** (8.16)	0.67*** (8.18)	0.71*** (8.11)	-0.43*** (-3.71)	-0.48*** (-4.15)	-0.41 (-1.57)	0.01** (2.37)	0.01** (2.34)	0.01** (2.34)
Constant	0.51*** (12.17)	0.51*** (15.12)	0.51*** (19.38)	1.76*** (10.76)	1.72*** (10.61)	1.65* (1.78)	0.00*** (3.63)	0.00*** (4.21)	0.00*** (5.41)
Fixed Effects	None	Inv	InvUW	None	Inv	InvUW	None	Inv	InvUW
Sample	Full Sample	Full Sample	Full Sample	Full Sample	Full Sample	Full Sample	Full Sample	Full Sample	Full Sample
Adjusted R^2	0.013	0.025	0.030	0.162	0.247	0.182	0.002	0.003	-0.017
Observations	128,542	128,542	124,802	656	601	305	128,542	128,542	124,802

Table A18: Main Regression Results: Low Allocation Investors

The table displays regressions of allocation indicators, percent allocated and money left on the table on control variables and manager and relationship characteristics, using no fixed effects, investor fixed effects, and investor-underwriter fixed effects. The sample includes only investors who receive 13 or fewer allocations and includes zero allocations for investors who report 13F holdings and ANcerno trades within a quarter. Standard errors are clustered at the investor-underwriter level, *t*-statistics are shown below the estimates in parentheses, and ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels.

	Allocation Indicator			Allocation Percent			Money Left		
	(1) AllocInd	(2) AllocInd	(3) AllocInd	(4) AllocPct	(5) AllocPct	(6) AllocPct	(7) MoneyLeft	(8) MoneyLeft	(9) MoneyLeft
Client Size	4.09*** (12.49)	2.00*** (7.75)	1.88*** (5.18)	0.11*** (3.54)	0.04 (1.48)	-0.04 (-0.85)	0.09*** (3.95)	0.07*** (3.08)	0.05 (1.64)
Abnormal Commissions	-0.05 (-0.43)	-0.03 (-0.39)	-0.09 (-1.07)	0.03*** (2.83)	0.02** (2.07)	0.01 (1.37)	0.00 (0.12)	-0.00 (-0.14)	-0.00 (-0.35)
Past Price Support	2.81*** (8.64)	1.43*** (7.56)	1.18*** (6.30)	0.18*** (4.65)	0.00 (0.14)	-0.14*** (-4.03)	0.04*** (3.35)	0.01** (2.42)	-0.00 (-0.65)
Past Flipping	1.51*** (5.98)	0.65*** (4.40)	0.65*** (3.63)	-0.18*** (-6.27)	-0.11*** (-4.76)	0.07* (2.01)	-0.03*** (-3.00)	-0.03*** (-2.99)	-0.01 (-0.90)
Past Hold Time	0.45** (2.27)	0.68*** (3.62)	0.70*** (3.75)	-0.10*** (-3.48)	-0.07** (-2.49)	-0.14*** (-4.30)	-0.03** (-2.61)	-0.02** (-2.25)	-0.04** (-2.27)
Log Investor AUM	4.24*** (13.87)	2.51*** (5.78)	2.65*** (5.54)	0.36*** (5.92)	0.87*** (7.85)	0.87*** (6.52)	0.08*** (5.26)	0.07*** (4.70)	0.09*** (4.53)
Industry Specialization	1.54*** (8.04)	1.01*** (8.36)	1.00*** (8.93)	0.38*** (7.12)	0.22*** (5.52)	0.21*** (4.51)	0.05*** (4.55)	0.04*** (4.73)	0.04*** (4.63)
Log Investor Volume	2.51*** (6.09)	1.23** (2.41)	1.29** (2.38)	-0.26*** (-3.18)	-0.18** (-2.29)	-0.09 (-1.39)	-0.01 (-1.28)	-0.02*** (-2.81)	-0.02** (-1.98)
Offer Price Revision	1.78*** (4.94)	1.57*** (4.39)	1.56*** (4.00)	-0.62*** (-5.83)	-0.58*** (-5.60)	-0.48*** (-5.08)	-0.01 (-0.50)	-0.01 (-0.66)	-0.02 (-0.76)
High Demand	1.77*** (8.14)	1.82*** (8.47)	1.86*** (8.63)	0.01 (0.46)	0.00 (0.07)	-0.01 (-0.18)	0.07*** (3.83)	0.07*** (3.85)	0.07*** (3.94)
Low Demand	-0.60** (-2.37)	-0.60** (-2.49)	-0.62** (-2.40)	0.29*** (3.57)	0.30*** (3.82)	0.31*** (3.88)	-0.02 (-1.58)	-0.02 (-1.60)	-0.02 (-1.58)
Underwriter Rank	0.09 (0.63)	0.20 (1.64)	0.31 (0.53)	-0.25*** (-4.06)	-0.17*** (-3.21)	0.03 (0.20)	-0.02*** (-3.23)	-0.01** (-2.59)	0.01 (0.70)
Log Firm Age	0.24 (1.39)	0.36** (2.30)	0.35** (2.30)	0.09** (2.69)	0.09** (2.51)	0.09** (2.69)	-0.02*** (-2.74)	-0.02** (-2.55)	-0.02** (-2.67)
Tech Firm	0.13 (0.77)	0.04 (0.26)	0.04 (0.27)	0.02 (0.62)	0.02 (0.63)	0.04 (1.30)	0.02** (2.44)	0.01** (2.21)	0.02** (2.08)
VC Backed	0.73*** (4.06)	0.73*** (4.67)	0.76*** (4.51)	-0.02 (-0.38)	-0.03 (-0.79)	-0.05 (-1.25)	0.03*** (4.00)	0.03*** (4.01)	0.03*** (3.95)
Log Proceeds	2.56*** (12.22)	2.64*** (13.12)	2.66*** (11.52)	-0.42*** (-10.19)	-0.42*** (-10.94)	-0.39*** (-9.66)	0.10*** (4.71)	0.10*** (4.72)	0.11*** (5.17)
Constant	8.16*** (23.71)	8.16*** (36.98)	8.31*** (43.05)	2.00*** (23.79)	1.65*** (12.96)	1.56*** (10.66)	0.09*** (7.33)	0.09*** (8.44)	0.09*** (9.28)
Fixed Effects	None	Inv	InvUW	None	Inv	InvUW	None	Inv	InvUW
Sample	Full Sample	Full Sample	Full Sample	Full Sample	Full Sample	Full Sample	Full Sample	Full Sample	Full Sample
Adjusted R ²	0.152	0.227	0.248	0.107	0.226	0.240	0.024	0.037	0.019
Observations	305,968	305,968	297,616	24,982	24,927	23,344	305,968	305,968	297,616

Table A19: Replicating Results in Chemmanur et al. (2010)

The table displays regressions of the percent of an offer received by an investor on hold time measures and other control variables. Standard errors clustered at the institutional investor-underwriter level, t -statistics are shown below the estimates in parentheses, and ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

	(1) AllocPct	(2) AllocPct	(3) AllocPct	(4) AllocPct	(5) AllocPct	(6) AllocPct
Past Flipping	-0.76*** (-6.35)	-0.77*** (-6.41)				
Past Hold Time	-0.26*** (-3.63)					
Past Hold Time Cold		-0.02** (-2.66)				
Past Hold Time Hot		-0.16** (-2.68)				
Avg Flipping			-2.39*** (-4.44)	-2.20*** (-4.70)		
Avg Hold Time			-0.05* (-1.89)		0.05*** (3.53)	
Avg Hold Time Cold				0.02 (1.42)		0.04*** (3.32)
Avg Hold Time Hot				-0.05** (-2.56)		0.01 (0.88)
Constant	2.71*** (2.89)	2.65*** (2.85)	4.92*** (4.97)	4.65*** (4.79)	2.81*** (3.08)	2.70*** (2.94)
Fixed Effects	None	None	None	None	None	None
Sample	Full Sample	Full Sample	Full Sample	Full Sample	Full Sample	Full Sample
Adjusted R^2	0.106	0.106	0.112	0.113	0.109	0.109
Observations	24,326	24,326	24,326	24,312	24,326	24,312