

# **THE VICAR, THE WIDOW, OR THE GENTLEMAN: WHO GETS ALLOCATED IPO SHARES?**

**Sturla Fjesme\***      **Neal Galpin\***      **Lyndon Moore\***

## **Abstract**

Rock's (1986) seminal paper derives that 'informed' investors will be allocated more shares in good (more underpriced) IPOs rather than bad IPOs, whereas 'uninformed' investors receive more shares in bad IPOs. Due to data limitations the literature typically characterizes institutional investors as 'informed' and retail investors as 'uninformed'. We examine 554 IPOs in the U.K. from 1891 to 1911. We have data on the occupation and geographical location of all allocated shareholders for 141 of these IPOs. Shareholders who are both occupationally and geographically close to the firm receive larger allocations of good IPOs, and avoid bad IPOs. In contrast institutions receive smaller allocations of good IPOs.

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\* The University of Melbourne, 198 Berkeley Street, Victoria, Australia, 3010.

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## 1. Introduction

The underpricing of Initial Public Offerings (IPOs) is well documented across time and markets. Explanations for underpriced IPOs often focus on information asymmetry between the firm, the underwriter(s), and investors (e.g., Baron, 1982; Rock, 1986; Benveniste and Spindt, 1989, and Welch, 1989) or motivate underpricing as an agency problem between the firm and the underwriter.<sup>1</sup> A closely related issue to underpricing is how the IPO shares are allocated and to whom. The information asymmetry and rent-seeking theories derive that highly underpriced shares are mostly allocated to informed and selectively chosen institutional investors, respectively.

Data on actual IPO allocations are very hard to obtain, which may not be surprising if principal-agent problems between the firm and underwriter are driving the allocation process. Examining the allocation predictions of the information asymmetry and agency based models has proven to be very difficult.<sup>2</sup> Only Cornelli and Goldreich (2001, 2003) and Jenkinson and Jones (2004) have obtained disaggregated IPO allocation data. Their data come from a single underwriter's voluntary disclosure of deal information, which raises questions of sample selection.

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<sup>1</sup> These underwriter-based explanations include underwriter allocations to favoured clients (also known as 'rent-seeking', see e.g., Loughran and Ritter, 2004, and Reuter, 2006), fear of litigation (see e.g., Tinic, 1988; Hughes and Thankor, 1992, and Hensler, 1995), price stabilization that eliminates overpriced IPOs (see e.g. Ruud, 1993), tax benefits of underpricing (see e.g. Rydqvist 1997, and Taranto, 2003), underpricing as a means to retain control (see e.g. Brennan and Franks, 1997), underpricing as a means to reduce agency costs (Stoughton and Zechner, 1998), informational cascades (see Welch, 1992), investor sentiment (see Ljungqvist, Nanda, and Singh, 2004), prospect theory (see Loughran and Ritter, 2002), and a hold-up problem between the underwriter and the firm (see Jenkinson and Jones, 2004).

<sup>2</sup> The literature has proceeded by either assuming that uninformed investors apply for all IPO shares indiscriminately (e.g., Koh and Walter, 1989; Levis, 1990; Keloharju, 1993, and Amihud, Hauser, and Kirsh, 2003) or categorizing institutions as informed and all others as uninformed (e.g., Michaely and Shaw, 1994; Hanley and Wilhelm, 1995, and Aggarwal, Prabhala, and Puri, 2002). Ljungqvist (2007) has pointed out that it is possible that information differences are even larger within these groups than between the retail and institutional groups.

In contrast, we observe the actual allocation lists (or the shareholders' list together with trading information soon thereafter) of a random sample of all British firms that undertook an IPO over a 20 year window.

We investigate Rock's (1986) conclusion that informed investors are able to avoid overpriced issues and only obtain underpriced issues. Rock (1986) assumes some investors are perfectly informed about the value of all IPOs, in fact better informed than the firms and their underwriters. He suggests such superior valuation prowess may come from the pooled knowledge of individual investors, some of whom may have (p 190): "inside information about a competitor". As Rock's paper is primarily theoretical he does not suggest ways to empirically identify such informed investors. Since using inside information is currently illegal in most markets, it seems very difficult, if not impossible, to identify a group of investors who were informed *à la* Rock for all IPOs in our sample.

We adopt a different approach to defining informed investors. We allow for the possibility that some investors may only possess private information about certain IPOs. For instance a brewer might have an informational advantage when a brewing company undertakes an IPO (an occupational advantage) or a Novocastrian may have an advantage when a Newcastle steel manufacturer goes public (a geographical advantage). Clearly we will measure 'informed' with error using this approach; not all brewers possess superior information to the crowd when evaluating a brewery IPO for example. The likely measurement error in our approach will tend to bias our results to finding no effect of 'informed' investors. Consequently, if we find an ability of occupationally or geographically close investors to choose underpriced IPOs it will be a strong result.

We examine allocation data for U.K. IPOs at the turn of the 20<sup>th</sup> century. Chambers and Dimson (2009) say that IPO firms at this time did not typically use underwriters. Rather, shares were applied for and allocated directly by the company, thereby eliminating most of the rationales for underpricing and the discretionary allocation of shares. With the underwriter-based theories rendered less important by the institutional features of the time period, the motivations for IPOs should more closely follow the information asymmetry models of IPO underpricing, if those motivations are truly important. We use investor occupation, investor status as an institution or not, and geographical proximity to the IPO firm as measures likely to be correlated with informed investors.

In a setting without the principal-agent problems that underwriting entails, we are able to test if informed investors receive more underpriced IPO shares. Ritter (2011) suspects that in such a setting: ‘asymmetric information-based theories would [plausibly generate an] average first-day return was in the vicinity of 2%, or maybe even 5%.’ Michaely and Shaw (1994) show that in IPOs with only retail investors (who are assumed to be uninformed), the shares are not underpriced. Hanley and Wilhelm (1995) find that institutions capture most of the very good and very bad IPOs, and suspect that part of this result is due to repeated interaction (with implicit expectations for favoured clients to buy some of the ‘bad’ IPO shares) between the underwriter and institutions. Aggarwal, Prabhala, and Puri (2002) document that institutions (as a whole) receive more IPO shares of firms that experience a large first day return.

We find that institutions, geographically close, and occupationally close investors are allocated more shares in those IPOs. Investors who are either geographically or occupationally close (but not both) to the firm receive larger allocations of poorly performing IPOs. However, investors who are both geographically and occupationally close receive larger allocations in ‘hot’

IPOs. Institutional investors play a very small role in the U.K. IPO market in our sample, taking an average of 2.4% of all shares allocated. We find that institutions receive lower allocations of ‘hot’ IPOs. These facts generally support Rock’s prediction that informed investors receive better allocations than uninformed investors.<sup>3</sup> We find average underpricing of 7.2% over our 20 year sample, peaking at 33% in 1893. We document overpricing of IPOs, by 32%, in 1911.

The remainder of the paper is organised as follows. In section 2 we describe the historical background. In section 3 we describe the data. In section 4 we present the results while section 5 concludes.

## **2. Historical background**

The U.K. financial market was the largest and best developed in the world before World War One (see Chambers and Dimson, 2009; Hannah, 2007, and Rajan and Zingales, 2003). Within the U.K. the London Stock Exchange: ‘dominated the securities market [but] it by no means monopolized it’ (Michie, 2004, p. 123), since there were 18 provincial exchanges spread across the country. All of these exchanges were linked by telephone at the end of the 19<sup>th</sup> century and orders were quickly transmitted between London and the provinces, although only the London market provided the depth and liquidity for most of the larger securities. Investing was

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<sup>3</sup> Studies with modern data have to take into account the potential conflicts of interest between the firm and underwriter in the IPO process as well as conflicts between the underwriter and its clients. Modern practices such as flipping (see e.g. Aggarwal, 2002 and Krigman, Shaw and Womack, 1999), spinning (see e.g., Liu and Ritter, 2007), and laddering (see e.g., Hao, 2007) make it virtually impossible to cleanly test Rock’s (1986) model since principal-agent problems are not present in his setting. Even in settings with an ameliorated principal-agent problem, such as rules which restrict underwriters to follow a pre-specified allocation rule (see e.g. Koh and Walter, 1989; Keloharju, 1993, and Amihud, Hauser, and Kirsh, 2003), data constraints mean it is very hard to classify participants in the IPO process into informed and uninformed types.

concentrated within a small section of society, with the percentage of the population classed as investors rising from 0.8% in 1870 to 2.2% by 1914 (see Michie, 2004, p. 72).

## 2.1 *Investors and IPOs*

In the period from 1880 to 1914 there was a boom in British IPOs (see Armstrong, 1990). Rutterford (2011) explains that the late 19<sup>th</sup> century saw a large influx of less wealthy IPO investors as the IPO market became much more approachable in this period (for instance by reducing offer prices from an average of £100 to £10).<sup>4</sup> Although investors in this period received less media coverage of business affairs and had a less formalized economic understanding, they arguably had closer connections with local firms and less complex business models to analyse. There were some professional investors such as stock brokers and investment trusts that were active in applying for IPO shares at this time. Banks and insurance companies did not participate to any great degree in the IPO market.

The London Stock Exchange did not restrict the securities traded, even on the exchange floor, but it only reported securities with an Official Quotation in the *Stock Exchange Daily Official List* and disseminated their trades via ticker-tape. An Official Quotation was granted at the discretion of the London Stock Exchange (see Michie, 2004, p. 87). Non-quoted securities, typically smaller and less liquid ones, could be traded in the exchange building under ‘special settlement’, although securities with an Official Quotation were: ‘more attractive to the investing public’ (see Michie p. 87). The London Stock Exchange at the start of our period was heavily concentrated in listing U.K. and foreign government bonds (39.5% of all securities by nominal

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<sup>4</sup> Offer prices of £1 and £5 are by far the most common in our sample. In addition, there appears to have been no requirement to subscribe for a ‘round lot’ of shares, many shareholders were allocated two or three shares only.

capital in 1893) and railways (49.4%). However, most of the growth came from increased listing of banks (1.3% in 1893 to 3.1% in 1913), utilities (2.9% to 4.6%), and commercial and industrials (3.5% to 9.6%).<sup>5</sup>

Firms during this time period were undergoing a change from private, often family, ownership into public hands (see Franks, Mayer, Rossi, 2009). This broadening of ownership was often accompanied by the raising of additional capital and listing on London or a provincial exchange, namely an IPO. Although the London market was preeminent within the U.K., newly listing firms often chose a: ‘stock exchange proximate to the company’s head office and main focus of operations’ (Michie, 2004, p. 93, see also Chambers and Dimson, 2009, p. 1438). The London market was very international in flavour, listing both stocks and bonds from all corners of the world, and it: ‘gave an enthusiastic welcome to securities that could only be characterized as involving a high degree of risk’ (Michie p. 138).

IPOs could be organized via merchant (investment) banks, individuals known as company promoters, or simply issued directly by the firm itself with the aid of a lawyer or a stockbroker (see Cheffins p. 198). According to Chambers and Dimson (2009), Lavington (1921), and Rutterford (2011) merchant banks were only occasionally involved in IPOs of large companies before 1914, and we find little evidence of their involvement. The term ‘underwriter’ in the late 19<sup>th</sup> century was commonly used, although it had a slightly different connotation to today. Today, an underwriter is usually involved in an arm’s-length transaction with a firm seeking a stock exchange listing in return for a fixed fee, averaging around 7% of the IPO proceeds. In Victorian Britain the IPO vendors (often the firm’s founding family) would often act as ‘underwriters’ and

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<sup>5</sup> All figures from Michie (2004) p. 89.

then serve on the company board post-IPO. For example, McArthur Atkins and Co., Limited, paid a 5% underwriting commission to Messrs. A. McArthur and Co. and Mr Henry Atkins in April 1905. William Alexander McArthur, George Wigram McArthur, and Henry Atkins then sat on the board after the IPO. We do not consider such arrangements underwriting, since the interests of the firm and the ‘underwriter’ appear to be very closely aligned, there is little laying-off of risk, and consequently principal-agent problems are greatly reduced. In many cases a firm would state that it had engaged an underwriter, but provide no further details. We have classed such transactions as bona-fide underwriting, although some of these are probably not arms-length deals.

Prospectuses would appear in newspapers, usually including the *Times of London*, a London daily newspaper, and would also be mailed directly to investors and/or available for perusal at the firm’s bank (see Rutterford, 2011). We only include IPOs in which the prospectus was included in the *Times Book of Prospectuses* (a compendium of prospectuses that had appeared in the *Times of London* throughout the year). Some IPOs did not appear in this source, for example we have found that the prospectus of Seddon’s Pneumatic Tyre was advertised in *Freeman’s Journal*, a Dublin daily, in 1892 prior to listing on the Dublin exchange. It was not advertised in the *Times Book of Prospectuses* therefore we exclude it from our sample. Therefore our sample will have a slight bias towards London companies, although it must be stressed that many companies from across the United Kingdom and around the world did advertise in the *Times Book of Prospectuses* even if the firm subsequently listed on a provincial exchange.

Company promoters had a mixed reputation at the time, often trading off reputational concerns against the desire to make a quick profit. One of the most infamous promoters, E.T.

Hooley, claimed that: ‘I was never one to concern myself with what happened afterwards.’<sup>6</sup> Assistance with organizing an IPO did not usually include underwriting the IPO (see Burhop, Chambers, and Cheffins, 2012), and we do not find any instances of ‘firm commitment’ underwriting. The financial press would discuss prospectuses currently circulating, although there was often the suspicion that this coverage had been ‘compromised’ by the companies coming on to market (see Cheffins p. 201). Asymmetric information concerns between promoters and potential shareholders were paramount, and Kennedy (1984) argues that: ‘Victorian company promoters were ... ludicrously better informed about the prospects of the ventures they were selling than were the vast majority of potential buyers.’<sup>7</sup> Company promoters would seek to overcome the information asymmetry problem by methods such as portraying personal financial success (see Cheffins p. 208), adding politicians or nobles to the board of directors (see Armstrong, 1990 and Braggion and Moore, 2013), or seeking local investors (see Lavington, 1921; Franks, Mayer and Rossi, 2009; Chambers and Dimson, 2009, and Cheffins p. 211).

Companies were lightly regulated in this period. Auditors were only required for a company’s financial statements after 1900. In 1908 the government insisted for the first time that a firm’s balance sheet be filed publicly (see Cheffins p. 194).

## *2.2 The allocation process*

Companies were not legally restricted in how they allocated IPO shares, they could and did allocate at their complete discretion. However, companies that wished to list on the London Stock

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<sup>6</sup> See Cheffins p. 200.

<sup>7</sup> Reported in Cheffins (p. 202).

Exchange had to contend with the ‘two-thirds’ rule, which stipulated that the *vendors* (usually the directors of the family firm going public) could retain, at most, one third of the shares offered to the public (see Hannah, 2007a). Two-thirds of the security had to be offered to the general public, the intention being that a large free-float was available to be traded on the exchange. How closely this rule was followed has been debated. Hannah (p. 415) argues that the rule was rigorously followed, and that even shareholders who had received shares via a private placement before the IPO were considered vendors. However, he acknowledges ways around the rule, such as listing first in a foreign market (which the London Stock Exchange’s listing committee considered as sufficient evidence to support a London listing). Another way to avoid the intent of the rule was to create dual classes of shares, such as ordinary and preferred, and issuing two-thirds of the *non-voting* preference shares to the public via an IPO. Cheffins (2008, p. 226) cites *The Economist* in claiming the ‘two-thirds’ rule was constantly evaded by inventive vendors, often by issuing dual class shares.<sup>8</sup> Provincial stock exchanges were not as rigorous as London, declining to use the ‘two-thirds’ rule, yet they could decline a listing to a firm that was ‘insufficiently in the public hands’ (see Cheffins p. 229). We believe this requirement was not tightly binding on a firm wishing to go public, since many companies explicitly advised in their prospectus that they would follow the letter, but not the spirit, of the rule. For example, General Investors and Trustees, Limited, went public in February 1907. The firm issued 60,000 ordinary shares, of which 20,000 “being the maximum allowed by the Rules of the Stock Exchange” would be taken by the vendors, and subscriptions for 40,000 (i.e. two-thirds) were invited from the public. The public were advised that of these 40,000 “the Directors and their friends have applied for 11,000 Ordinary shares”. Other firms such as Canadian and Empire Investment, New Oil Properties, and Imperial and

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<sup>8</sup> Issue of 30<sup>th</sup> May 1885, p. 657-8.

Foreign, publicly advertised in the prospectus that they would avoid the two-thirds rule in a similar fashion. Firms that went public outside the London Stock Exchange were not bound at all by the two-thirds rule.

For a newly formed company to be provisionally registered, it had to have a minimum of seven *members* (shareholders). After provisional registration it was permitted to publish a prospectus with the intention of issuing shares, bonds, or debentures (Companies' Act of 1888, 19(2)). U.K. corporate law required prospectuses for firms issuing securities to the public, although the contents thereof were not heavily regulated prior to 1900 (see Cheffins p. 194). Financial data were not required in a prospectus before 1929 (see Cheffins p. 274), although over three quarters of all firms in our sample had a basic level of financial disclosure (usually a couple of years of audited or unaudited profits were reported). Following the Companies' Act 1892, a prospectus was required to disclose the amount paid by the company for any property currently owned by the vendors. In 1900 firms were required to divulge the compensation to be paid to the company's vendors and promoters as well as the form of underwriting and any contracts that had been entered into between the vendors and the company (see *The Economist*, 26<sup>th</sup> December 1903, p. 2196). To avoid or reduce the impact of this regulation a company could 'introduce' a company to the exchange and then sell off shares to the general public (thereby avoiding a prospectus), alternatively it could provide minimal details of the contracts (such as purely the names of the people party to a contract), or force potential subscribers to visit the firm's lawyers or head office to inspect the contracts. Armstrong (1990, p. 124) has characterized the work of preparing a prospectus as a: 'work of art [that] often owed more to the novelist than the lawyer.' Disclosure requirements for vendors were further tightened in 1908 (see Companies' Act of 1908, 81). However, investors were never protected from their own simplicity, with the Greene Commission

(1925) ruling that: ‘the careless speculator who is willing to accept at their face value statements which are obviously insufficient and unsatisfactory cannot justly expect special protection.’<sup>9</sup>

Allotments needed to be completed within two months of the issue of the prospectus (Companies’ Act of 1888, 25). Companies were not required to follow pro-rata, or any other, rule for allotting shares to applicants, except that every allottee was required to be sent a list of the names and addresses of all other allottees within seven days of allotment taking place (Companies’ Act of 1888, 26). From 1900 onwards the full allotment list, comprising name, address and occupation of allottee, was required to be filed with the registrar of companies within one month (Companies’ Act of 1900, 7(1)).

If an offering of shares was undersubscribed the vendors were forbidden to proceed to allotment after 1898, to avoid directors: ‘caus[ing] ... loss to investors [after] directors have proceeded to allotment on an insufficient subscription of capital’ (Companies’ Acts Amendment Bill of 1898 (Memorandum)).

### *2.3 The listing process*

To list on a British stock exchange companies had to submit a prospectus, articles of association, the applications for shares, the allotment book, the amount of deposits paid for shares, and certificates from the bankers confirming that deposits had been received.<sup>10</sup> We have not been able to locate any application list for shares in an IPO, and these were never legally required to be filed with the authorities.

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<sup>9</sup> Quoted in Franks, Mayer, Rossi (p. 8).

<sup>10</sup> Company law before 1900 did not specify that a prospectus had to be issued when shares were issued to the public. The stock exchange, however, had this requirement for companies intending to list.

The London Stock Exchange was willing to officially quote securities that generated enough trading interest, as long as the companies involved followed fairly basic rules. Around 90% of all applications for an official quotation to the London Stock Exchange for a listing were accepted, the main reason for refusal was too small a size or the absence of demand for trading activity (Michie p. 95-6). The exchange required a company's articles of association to forbid the firm repurchasing its own shares, to restrict directors' borrowing powers (after 1895), to require directors to hold a minimum number of shares and publish a balance sheet (after 1902), and finally in 1909 required reporting of annual profits (see Cheffins, 2008, p. 197).

Gibson (1889) p. 37-38 states that the listing committee would decline applications from 'shady promoters' but were clear in stating to the public that an official quotation did not: 'indicate any opinion, personal or official, as to the value of such issues, or their real genuineness or soundness ... *caveat emptor*.'<sup>11</sup> If a company failed to gain an official quotation it could instead be traded in London under 'special settlement', and indeed several firms did just that (see Burhop, Chambers, and Cheffins, 2012, p. 14). Those authors find no instances of special settlement being denied in the early 20<sup>th</sup> century.

Listing requirements were not as rigorous on the provincial exchanges, and small companies often chose their local exchange for an IPO. One advantage of examining provincial IPOs is the (sometimes) better availability of price information. Most companies that eventually listed on London were first traded for months or years via special settlement, and the prices for these trades was not recorded anywhere (see Chambers and Dimson p. 411). The absence of an official quotation does not, however, imply that trading was slow or non-existent. For example, Beeston

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<sup>11</sup> Quoted in Burhop, Chambers, and Cheffins (2012) p. 14.

Pneumatic Tyre shares were traded, informally, on the Dublin market prior to an official quotation on that market. *Freeman's Journal* reported on July 1, 1895 that: 'Beeston Pneumatics, the allotments which were out this morning, were very extensively dealt in.' Naked short-selling also appears to have been used, with the same article noting: 'this [price] fall brought in repurchases on the part of those who had speculatively sold at premiums.' However, with the exception of a handful of companies, we are only able to obtain "first-day" prices as the price at which a company officially entered an exchange. Given the long delays usually required for formal listing, we permit a company twenty-four months grace from the date of the prospectus to date of entry to an official quotation for it to qualify as an IPO.

### **3. Data description**

We examine all prospectuses that appear in *The Times Book of Prospectuses* from 1891 until 1911 to locate IPOs. This is the same source used by Chambers and Dimson (2009). We define an IPO as having all of the following characteristics:

- (1) The prospectus offered some ordinary and/or preference shares to the public, possibly in conjunction with a debt issue.
- (2) If the shares offered were preference shares they needed to have voting power in 'normal' situations.<sup>12</sup>

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<sup>12</sup> This excludes preference shares that may only vote if the preference dividend has been omitted, if the preference shareholders' rights are under threat, or similar irregular circumstances. Burhop, Chambers, and Cheffins (2012) include preference shares in their sample, even non-voting ones.

(3) The firm did not, at the time of the prospectus, have any shares listed on a U.K. stock exchange. We find no mention that any of our firms were listed on foreign exchanges at the time of their prospectus either.

(4) The shares offered in the prospectus were subsequently officially listed on a U.K. stock exchange (an Official Quotation in London, or a provincial exchange) within 2 years of the date of the prospectus.

We use the annual publication the *Stock Exchange Official Intelligence* (also known as *Burdett's*) to determine if a firm's preference shares were voting. The same source reveals if the firm had any ordinary or preference shares outstanding on a U.K. stock exchange. If a firm went public on the London Stock Exchange, we can observe the first day and subsequent prices from the *Stock Exchange Daily Official List*. Provincial stock exchange official lists do not appear to have survived to the present day, with the exception of the Glasgow list (an important exchange for Scottish industrial firms) from which we also collect prices. We supplement these official lists with newspaper reports of provincial stock exchange activity, using sources such as: *Freeman's Journal*, *Manchester Courier and Lancashire General Advertiser*, *Liverpool Mercury*, *Bristol Mercury*, *Leeds Mercury*, and *Newcastle Courant*. Therefore we observe all U.K. IPOs (using the *Stock Exchange Official Intelligence*), we can calculate first day returns for all IPOs that took place in London or Glasgow, and we can calculate first day returns for most (but not all) other U.K. IPOs (depending on the availability of historical newspapers).

This classification of an IPO is fairly uncontroversial, with the possible exception of (4). We have excluded firms which traded in London via special settlement (styled a 'junior market' by Burhop, Chambers, and Cheffins), mainly due to the non-reporting of prices for these issues pre-1915. A fair proportion of these securities eventually graduated to the Official List, albeit not

within two years of the prospectus. Firms did not, and could not, claim that their securities would be officially quoted on the London Stock Exchange soon after the IPO. Instead many firms would indicate that listing would be soon sought. For example, the Amazon Telegraph Company stated in their 1895 prospectus that, ‘a Stock Exchange application will be applied for in due course’, and the Castner-Kellner Alkali Company were more explicit in 1895 in stating that ‘application in due course will be made to the [London] Stock Exchange for a [special] settlement and [official] quotation of the Company’s Shares.’

### *3.1 IPO allocations*

From *The Times Book of Prospectuses* we extract IPO specific data on the price and number of shares offered to the public, the number of shares kept by the vendors, the firm’s historical profits (if stated), the industry of the firm, the names of the directors, the bank(s) associated with the IPO, the auditor, the geographical location of the firm’s main office and the main place of operations (for example, a firm could be headquartered in London and operate elsewhere), if any contracts had been entered into between the vendors/directors and the company, and if the desire for a Stock Exchange Official Quotation was mentioned.

Firms that went public after passage of the Companies’ Act of 1900 were required to file an allotment list with the registrar (now Companies House) with the names, addresses, and occupations of allottees. The records of firms which are now ‘dead’ are not retained at Companies House but may have been sent to the National Archives. Shareholders’ lists, also known as Form Es, were required to be filed annually and are stored in The National Archives, allotment lists do not appear to have been retained at the archives. The shareholders’ lists contain the names, addresses, occupations and number of shares held, at the time of the meeting, as well as details of

shares sold (but not bought). Some of these shareholders' lists do report the names of the shareholders who bought shares (as well as those who sold them), therefore we can perfectly reverse engineer an allotment list. For the remaining firms we can quasi-reverse engineer the allotment list, by 'adding back' the shares sold since allotment, however we do not observe who had bought shares after the IPO so we cannot 'subtract off' post-IPO purchases. Although this introduces a measurement error, the low liquidity of these shares (roughly 5% of all shares were traded in between the allotment list and the first shareholders' list) alleviates the problem. For all IPOs we identify the shares retained by the vendor and those allocated to the public. In order of priority, we collect allocation data from:

- (1) Allotment lists at Companies House,
- (2) Shareholder lists at the first annual general meeting following allotment, when details of both buyers and sellers of shares since allotment are available,
- (3) Shareholder lists at the first annual general meeting following allotment, when only details of the sellers of shares after the IPO are available.

We are unable to recover the allotment or shareholder lists for all firms. Pre-1900 IPO firms were not required to file an allotment list, and Companies House does not continue (in general) to hold the records for 'dead' companies. The National Archives, due to space constraints, destroyed many shareholder lists in the 1950s. We are able to recover allotment/shareholder lists for roughly half of all IPO firms. We have been able to recover some shareholder lists from provincial U.K. archives as well as a handful of corporate archives.

### *3.1.1 Geographical classification*

We classify a shareholder's and a firm's geographical location as follows:

- (1) If located outside the U.K. we report the country of residence (e.g., Egypt).
- (2) If located outside a large city (fewer than 100,000 people at the 1911 census) we report the county of residence (e.g., Sussex).
- (3) If located in a large provincial city we report the name of the city (e.g., Glasgow).
- (4) If located in London we report the London postal district of the shareholder (N, NW, SW, SE, W, WC, E or EC).

### *3.1.2 Occupational classification*

We use the self-reported occupation of a shareholder that appears in the firm's allotment or shareholder's list. Not all shareholders reported occupations, and many used non-specific terms such as "gentleman" or "esquire". We classify a shareholder's occupation according to the scheme used by Woollard (1999) for the 1881 Census of England and Wales. To define who *may* be occupationally informed for a particular IPO we first read the prospectus to identify the type of activities the firm participates in. For example, Magadi Soda, which issued shares in January 1911 operated a soda mine and accompanying railway in Kenya (then British East Africa) under a 99 year lease from the Colonial Office (a branch of the British government). The firm mentions that its product is used in: "numerous industries, as, for instance, by Soap, Glass, and Paper Makers, and by Textile Manufacturers for Printing, Bleaching, and Dyeing." We choose to define occupation codes 1.1 (which includes civil service officers and clerks), 3.6 (civil and mining engineers and surveyors), 6.1 (railway officials and clerks), 15.1 (dyeing manufacturers), and 18.6 (textile bleachers, printers and dyers). The classification is necessarily subjective, and the classifications used are available from the authors upon request.

### *3.2 Variables*

*RETURN* (first day underpricing) is calculated as the percentage change from the IPO offer price to the first day closing price, which may be up to 24 months post-prospectus. We define *OCCUPATION* as the percentage of allocated shares given to investors who we regard to be occupationally informed for that IPO. *GEOGRAPHY* is the percentage allocation of shares to investors in the same geographical location (i.e., country/county/city/London area) as the firm's main office. Lavington (1921) claims that: 'local knowledge on the part of the investor both of the business reputation of the vendor and the prospects of his undertaking would do a good deal to eliminate dishonest promotion and ensure that securities were sold at fair prices fairly near their investment values.'<sup>13</sup> Michie (2004) makes a similar claim, and Chambers and Dimson (2009) find some evidence of this. Previous studies (e.g., Michaely and Shaw, 1994; Hanley and Wilhelm, 1995, and Aggarwal et al., 2002) assume that institutional investors are more informed. *INSTITUTION* is the percentage allocation to institutional investors.

Chambers and Dimson (2009) investigate first day returns on the London Stock Exchange from 1917 to 1986. We therefore control for the same measures of firm risk as them. *LNMCAP* is the natural logarithm of outstanding shares (both those retained by the vendors and those issued to the public) multiplied by the offer price. *LNAGE* is the natural logarithm of the age of the company, calculated from the foundation year of the underlying business when reported (or date of incorporation when foundation year is not reported). *TRACK* is the number of years of historic profits reported in the prospectus. *AUDIT* is a dummy variable equal to one if the asset valuation is made by an auditor or professional appraiser and zero otherwise. *UW* is a dummy variable that

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<sup>13</sup> Reported in Franks et al. (p.4018).

takes the value of one if the IPO is underwritten by an arms-length underwriter and zero otherwise. *PROPSOLD* is the proportion of outstanding shares offered to the public in the IPO.

### *3.3 Descriptive statistics*

Table 1 lists the number of IPOs per year and the average first day return for IPOs that took place in that year. We find one clear IPO wave that took place from 1896 to 1899. The wave was broadly based, that is not concentrated in any particular industry. IPO underpricing varies greatly from year to year, without any clear trend. The average over the 1891-1911 period is 7.2%.

Table 2 presents the characteristics of the firms that undertook IPOs. Across the 70 firms which experienced a negative (or zero) first day return, the average first day return was -14%, for the 71 firms which had a positive first day return, the average return was 28%. The average firm issued almost 15% of the shares to investors in the same geographical area as the firm, although some issued none to local investors, and one issued almost half of the capital locally. The average firm allocated 3.1% of the capital to investors with occupations that we have classified as occupationally informed. The mean firm issued 0.86% of the shares to investors who were both geographically and occupationally close to the firm, although one firm allocated 8.5% of the capital to those investors. Shareholders who did not report their occupation were allocated 24% of the IPO shares on average. Institutions as a group only took 2.4% of the firms' shares, with a maximum of 21.3%. The mean firm had 576 investors who were allocated shares, one firm completed an IPO with only 6 public shareholders and the company with the most diverse shareholder base ended up with 5131 public shareholders.

The average firm went public with an issued capital (valued at the IPO offer price, which was usually par) of £342,052. The smallest firm undertook an IPO with a little over £20,000 in

capital and the largest at £1.8 million. The mean firm had existed for 17.6 years prior to the IPO, although one venerable institution had been in existence for a touch over two centuries. The mean firm reported a little under two and a half years of profits in the prospectus, and almost all of those profits were audited. 30% of firms used underwriters that were either acting at arms-length or were not obviously linked to the vendors or the directors. 27% of the firms used “prestigious” auditors, where we define a prestigious auditor to be one of the top three auditors (Price, Waterhouse & Co., Deloitte, Plender, Griffiths and Co., and Turquand, Youngs and Co.) by number of prospectuses audited. Only one per cent of the firms mentioned in their prospectus that they were engaged in research and development. The average firm issued 70.2% of the voting equity to the public (and kept 29.8% for the vendors), although some went public with as little as 7.4% issued to the public and some issued the entire capital to outside investors.

In Table 3 we present summary statistics of the public investors that were allocated shares in our sample. We have excluded from this table the vendors of the private firm that went public. We have a total of 81,191 external investors in the 141 IPOs in our sample, we split these between those that were allocated underpriced (Panel A) shares and those that were allocated overpriced (Panel B) shares. Each observation is an IPO-investor pair, that is, individuals who were allocated shares in multiple IPOs will appear as multiple observations. The average investor received 0.10% of the public shares in an underpriced IPO, compared to 0.11% in an overpriced IPO. Only 5.5% of the allottees in underpriced IPOs were occupationally informed, on average, whereas 15.5% of investors were geographically informed, and 1.0% were institutions. 0.7% of investors were both geographically and occupationally close to an underpriced firm. In overpriced IPOs, 15.2% of the allottees were geographically close to the firm. 4.5% of such allottees were occupationally

informed, and 1.1% were both. The average underpriced IPO allocated shares to 608 individuals, whereas the average overpriced IPO allocated shares to 543 persons.

In Table 4 panel A we report, for selected occupations, whether individuals in that group received more shares in under or overpriced allocations. For each occupation we determine the percentage of all IPO shares that were allotted in under versus overpriced public offerings. Somewhat surprisingly some occupations that might appear to have superior financial acumen, such as accountants and chartered accountants received roughly 7 overpriced shares for every 3 underpriced shares. Gentlemen, reverends, and married women did better, receiving roughly 6 overpriced shares for every 4 underpriced shares. Widows and unmarried women were even more astute, picking up roughly 1 underpriced share for every overpriced share they were allotted. Newsagents avoided, almost completely, overpriced IPOs, although their allotments came in only 8 of the 141 public issues.

In Panel B we report, by the under/over categorization, as well as a total calculation, which investors received IPO shares in aggregate. Bankers, as a group, were allocated almost 3% of all IPO shares issued to the public, with more of those coming in underpriced offerings. Self-styled gentlemen and esquires received 17.6% and 3.9% (with slightly more of this coming in overpriced offers). Married women received almost 5% of the shares on offer, merchants 3.7%, solicitors 1.8% and stockbrokers 1.6%. Widows were allocated slightly under one percent of the shares, and reverends and other ministers of religion a paltry 0.15%. The smaller occupations (aggregated in OTHER) received 26.2% of the shares, and individuals with unreported occupations 26.3%

## **4. Results**

### *4.1 Informed and uninformed investors*

We now investigate econometrically who receives allocated shares in an IPO. Our dependent variable is an investor's percentage allocation (*IPO Allocation*), defined as the number of shares that investor received in a particular IPO divided by the total number allocated to the public. Our main items of interest are the occupation, geographic, and institutional variables. We condition on whether the IPO was underpriced, as well as control for firm size, age, presence of an auditor, auditor quality, whether underwritten or not, whether the firm was engaged in research and development, and the proportion of the shares issued to the public.

Specification (1) indicates that geographically close investors received an allotment 0.08 percentage points larger than non-close investors. These investors tended to receive larger allocations in overpriced IPOs than in underpriced issues, which suggests that being geographically close to the firm enabled one to receive more shares, but was not much help in avoiding overpriced offerings. The relation between an investor's occupation and allocation is not statistically robust. Turning to the interaction of geography and occupation, we find that investors which were close in both senses tended to receive 0.04 percentage points lower allocations than other investors in overpriced IPOs, but 0.05 percentage points higher in underpriced IPOs. Allotments tended to be smaller (in other words, there were more allocated investors) in underpriced IPOs, which is perhaps suggestive that underpriced IPOs received more applications for shares. Larger firms ended up with more investors, as did younger firms. Firms that reported more financial information (years of profit history) were associated with more investors, as were IPOs that were underwritten. Somewhat surprisingly, firms that were audited by more well-known accountants had fewer investors at the end of the IPO process. Companies that issued a larger fraction of the capital stock to the public ended up with more shareholders.

Specifications (2) and (3) use firm fixed-effects, rather than controls for firm characteristics. We run separate regressions for under- (2) and over- (3) priced IPOs. In underpriced IPOs geographically close investors receive .03 percentage points more shares than geographically distant investors. However, the close investors receive proportionally more shares (.08) than distant investors in over-priced offerings, which suggests that geographical proximity does not aid one in distinguishing a good from a bad prospectus. Occupationally related investors receive more shares than non-related investors, with the largest effect in over-priced IPOs. Only investors which are both geographically and occupationally close seem to be able to partially screen out the worse companies. Being close in both senses aids one to get a .04 percentage point larger allotment in an under-priced IPO (relative to an investor that is not close in both senses) but a .04 percentage point smaller allotment in over-priced IPOs. Institutions, being naturally larger than most individuals, tend to receive larger allotments. However, they receive even larger allotments in the over-priced offerings rather than the under-priced issues. Aggarwal et al. and Michaely and Shaw show that institutional investors earn higher average returns than retail investors. Aggarwal et al. and Michaely and Shaw argue that this is consistent with Rock as institutions are more likely to be informed. Hanley and William, in contradiction to Aggarwal et al. and Michaely and Shaw, find that institutional investors also participate in less attractive offerings. Our result more closely aligns with that of Hanley and William.

For an individual, being close to the firm, or in a related occupation, by itself leads one to receive more shares in the allocation process, however these are disproportionately acquired in poorly performing IPOs. Only if one is close in both metrics does one seem to have an ability to avoid the worse IPOs. Another way to phrase this is that a Newcastle publican will tend to be

allotted more shares than other individuals when a Newcastle brewery issues under-priced shares, but fewer shares if that offering were over-priced.

In Table 6 we repeat the analysis of Table 5, but we split the sample along three dimensions: whether the IPO was underpriced, whether the firm used an underwriter, and whether the firm used a prestigious auditor. The presence of an underwriter probably reduces the information asymmetry between the firm and the public. Since the underwriter may get stuck holding all or most of the shares, an underwriter will presumably only agree to provide underwriting services for firms above a certain quality threshold. The public will anticipate this certification effect, which may cause occupationally or geographically close investors to have less of an informational advantage. Similarly, a prestigious accounting firm may reduce the information asymmetry for investors.

We find that using certification (an underwriter or a prestigious auditor) leads geographically close investors to receive more shares in the IPO, and that this effect is present in both over- and under-priced offerings. Occupationally close individuals tend to receive more IPO shares than others, and this effect is not strongly affected by the presence or absence of certification. Occupationally and geographically close investors tend to be able to discriminate between good and bad IPOs, and this result holds regardless of whether or not underwriters or prestigious auditors are used. Such investors tend to receive proportionally larger allocations than other investors when there is a lack of certification in a good IPO, perhaps since they do not need certifiers to spot a good bargain. However, the result is reversed for bad IPOs. Occupationally and geographically close investors' ability to reduce their allocations in bad IPOs is aided by underwriters and prestigious auditors. The results for institutions are robust. Institutions receive more shares in over-priced IPOs than under-priced IPOs, and the magnitude of this difference is little changed regardless of whether or not underwriters or auditors are used.

## 5. Conclusion

We observe actual IPO allocations for a random sample of 141 IPO allocations over a 20 year period in the U.K. We have detailed information on the occupation and address of each investor which we believe is likely to be correlated with whether the investor is informed or not about the value of the company issuing a prospectus.

We test Rock's (1986) model of IPO underpricing using actual IPO allocation data for all investors. We find that an investor who possesses occupation or geographical proximity (but not both) tends to receive larger allocations of over-priced (bad) IPOs. However, an individual who is both geographically close and works in a related occupation appears to be able to receive larger allotments in under-priced IPOs, and smaller allotments in over-priced IPOs, than individuals without both forms of proximity.

Institutions do not get allocated more underpriced IPO shares; in fact they take more of the overpriced IPOs. This may indicate that institutional investors who are found to receive better IPO allocations in other data sets do so because of other reasons (such as Benveniste and Spindt's information trade-off or rent seeking).

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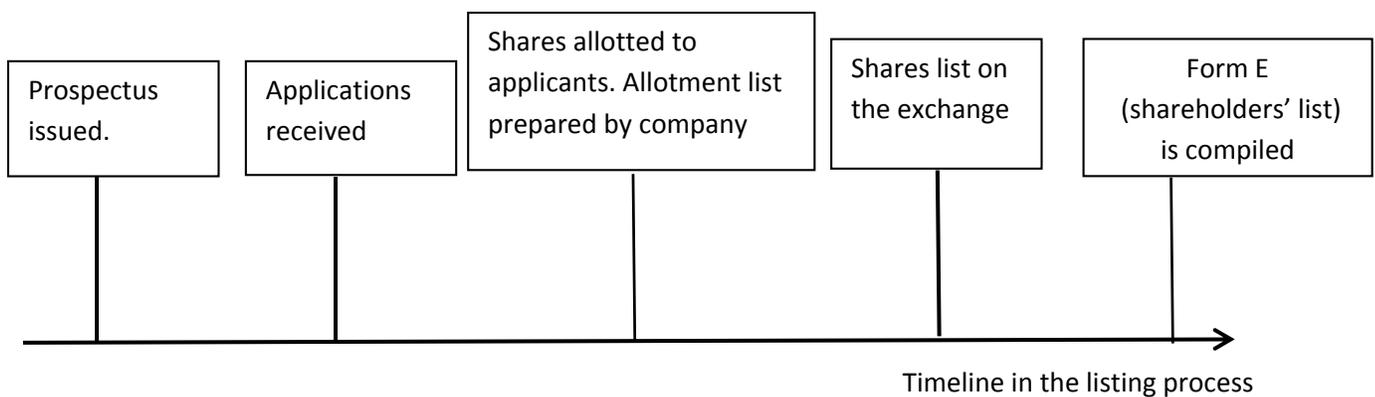
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**Figure 1.** This figure shows the timeline in the listing process.

A prospectus was first issued by the company, and typically advertised in one or more newspapers. Share applications were then made by the public to the firm, followed by an allotment to successful applicants by the company. Companies then approached the stock exchange to request official listing, the listing date is when official secondary trading on the exchange commenced. Fourteen days before the annual general meeting, a Form E (shareholders' list) was required to be submitted to the Registrar of Companies. The form E listed all share sales (and for some companies share purchases) between the date of allotment and the compilation of the form E.



**Table 1**  
**IPO data by year**

We report the number of IPOs per year, the average first day return (RETURN) for that year, and the average percentage of firm equity offered to the public (PROPSOLD) for that year.

<b>Year</b>	<b>IPOs</b>	<b>Average RETURN%</b>	<b>Average PROPSOLD %</b>
1891	4	4.1%	78.1%
1892	2	1.3%	61.1%
1893	2	32.5%	96.8%
1894	3	6.7%	50.7%
1895	4	28.8%	73.9%
1896	13	10.2%	59.3%
1897	25	9.0%	79.4%
1898	18	22.5%	66.1%
1899	18	-0.3%	69.3%
1900	5	1.9%	62.4%
1901	5	-12.8%	78.8%
1902	1	10.0%	47.7%
1903	3	-21.3%	69.8%
1904	1	6.3%	50.0%
1905	10	23.8%	64.4%
1906	5	18.0%	80.9%
1907	7	2.8%	65.2%
1909	5	1.5%	53.6%
1910	6	-13.5%	91.7%
1911	4	-32.0%	74.2%
<b>Total</b>	<b>141</b>	<b>7.2%</b>	<b>70.2%</b>

**Table 2**  
**Company characteristics**

We present descriptive statistics for the firms at the time of their IPO. RETURN is the percentage change from the IPO offer price to the first day closing price. OVERPRICED equals RETURN if RETURN is zero or negative. UNDERPRICED equals RETURN if RETURN is positive. GEOGRAPHY is the percentage of shares in an IPO allocated to geographically close investors. OCCUPATION is the percentage of shares in an IPO allocated to occupationally close investors. UNKNOWN OCCUPATION is the percentage of shares in an IPO allocated to investors with no stated occupation. INSTITUTION is the percentage of shares in an IPO allocated to institutional investors. # ALLOTTEES is the number of individuals (or institutions) who were allocated shares. MCAP is the number of outstanding shares multiplied by the offer price, in pounds. AGE is the firm age in years. TRACK is the number of years of historic profits reported in the prospectus. AUDIT is a dummy variable equal to one if the historic profits were audited, and zero otherwise. PRESTIGE is a dummy variable equal to one if the company used one of the top three accounting firms as an auditor. UW is a dummy variable equal to one if the firm used an underwriter during the IPO. RD is a dummy variable equal to one if the firm was engaged in research and development. PROPSOLD is the percentage of outstanding shares offered to the public in the prospectus (rather than being retained by the vendors).

Variable	Obs.	Mean	Std. Dev.	Min	Max
RETURN	141	7.2%	31.91%	-87.5%	125.0%
OVERPRICED	70	-14.0%	19.47%	-87.5%	0.0%
UNDERPRICED	71	28.2%	0.28	3.1%	125.0%
GEOGRAPHY	141	14.78%	11.39%	0%	48.3%
OCCUPATION	141	3.06%	5.22%	0%	35.1%
GEOGRAPHY*OCCUPATION	141	0.86%	1.66%	0%	8.5%
UNKNOWN OCCUPATION	141	24.16%	15.54%	0%	74.8%
INSTITUTION	141	2.43%	3.26%	0%	21.3%
# ALLOTTEES	141	576	713	6	5131
MCAP	141	£342,052	£350,754	£20,750	£1,800,000
AGE	141	17.60	28.08	0	203.0
TRACK	141	2.46	2.95	0	20.0
AUDIT	141	0.96	0.20	0	1
UW	141	0.30	0.46	0	1
PRESTIGE	141	0.27	0.45	0	1
RD	141	0.01	0.08	0	1
PROPSOLD	141	70.23%	25.27%	7.41%	100.00%

**Table 3****Investor characteristics**

We present descriptive statistics for the allocated investors, split between those that were allocated underpriced shares (Panel A) and those that were allocated overpriced (or zero return) shares (Panel B). IPO ALLOCATION is the number of shares allocated to an investor divided by the number of shares offered to the public multiplied by 100.

GEOGRAPHY is a dummy variable equal to one if the investor is geographically close to the firm, OCCUPATION is a dummy variable equal to one if the investor is in a related occupation to the firm, and institution is a variable equal to one if the investor is an institution.

Panel A : Underpriced IPOs					
Variable	Obs.	Mean	Std. Dev.	Min	Max
IPO ALLOCATION	43,162	0.100	0.224	0.00003	2.26
GEOGRAPHY	43,162	0.158	0.365	0	1
OCCUPATION	43,162	0.055	0.227	0	1
GEOGRAPHY * OCCUPATION	43,162	0.007	0.086	0	1
INSTITUTION	43,162	0.010	0.097	0	1
# ALLOTTEES	71	608	744	6	5131
Panel B : Overpriced IPOs					
IPO ALLOCATION	38,029	0.110	0.250	0.00003	2.27
GEOGRAPHY	38,029	0.152	0.359	0	1
OCCUPATION	38,029	0.045	0.208	0	1
GEOGRAPHY * OCCUPATION	38,029	0.011	0.102	0	1
INSTITUTION	38,029	0.013	0.114	0	1
# ALLOTTEES	70	543	684	48	3850

**Table 4: Investor characteristics**

## Panel (A): Occupational allocations by under/over pricing

In Panel A we present, for a particular occupation, the total (across all IPOs) allocation of shares to that occupation in under(over) priced IPOs divided by the total allocation of shares to that occupation in all IPOs multiplied by 100. Occupations with fewer than 260 allocations are aggregated in OTHER. In AGGREGATE we report the number of shares issued in under(over) priced IPOs divided by the total number of shares issued in IPOs.

	% allocation UNDER	% allocation OVER	Total
ACCOUNTANT	30.4	69.6	100
AGENT	35.0	65.0	100
ARCHITECT	44.8	55.2	100
BANK CLERK	58.1	41.9	100
BANK MANAGER	40.6	59.4	100
BANKER	61.3	38.7	100
BUILDER	61.7	38.3	100
CASHIER	58.6	41.4	100
CHARTERED ACCOUNTANT	26.8	73.2	100
CHEMIST	72.8	27.2	100
CLERK	34.5	65.5	100
COMMERCIAL TRAVELLER	50.1	49.9	100
DRAPER	60.9	39.1	100
ENGINEER	40.5	59.5	100
ESQUIRE	44.9	55.1	100
FARMER	32.8	67.2	100
GENTLEMAN	42.6	57.4	100
GROCER	74.5	25.5	100
J. P.	60.9	39.1	100
MANAGER	63.9	36.1	100
MANUFACTURER	46.5	53.5	100
MARRIED	38.9	61.1	100
MARRIED WOMAN	44.5	55.5	100
MERCHANT	36.9	63.1	100
NEWSAGENT	99.9	0.1	100
UNKNOWN OCCUPATION	44.3	55.7	100
REVEREND	38.9	61.1	100
SECRETARY	60.0	40.0	100
SOLICITOR	50.2	49.8	100
STOCK BROKER	25.7	74.3	100
SURGEON	45.9	54.1	100
TRAVELLER	61.2	38.8	100
UNMARRIED WOMAN	49.2	50.8	100
WAREHOUSEMAN	68.6	31.4	100
WIDOW	52.5	47.5	100
OTHER	53.3	46.7	100
<b>AGGREGATE</b>	<b>45.1</b>	<b>54.9</b>	<b>100.0</b>

Panel (B): Occupational allocations by under/over pricing

In Panel B we present the total allocation (across all IPOs) of shares to a particular occupation in under(over) priced IPOs divided by the total allocation of shares in under(over) priced IPOs. We also report the total allocation of shares to an occupation divided by the total allocation of shares in the ALL column.

	UNDER	OVER	ALL
ACCOUNTANT	0.39	0.73	0.58
AGENT	0.15	0.23	0.20
ARCHITECT	0.18	0.19	0.19
BANK CLERK	0.08	0.05	0.06
BANK MANAGER	0.29	0.34	0.32
BANKER	3.73	1.93	2.74
BUILDER	0.18	0.09	0.13
CASHIER	0.20	0.12	0.16
CHARTERED ACCOUNTANT	0.43	0.97	0.73
CHEMIST	0.22	0.07	0.14
CLERK	0.47	0.74	0.62
COMMERCIAL TRAVELLER	0.11	0.09	0.10
DRAPER	0.53	0.28	0.39
ENGINEER	0.60	0.73	0.67
ESQUIRE	3.88	3.90	3.89
FARMER	0.10	0.16	0.13
GENTLEMAN	16.61	18.36	17.57
GROCER	0.32	0.09	0.20
J. P.	0.85	0.45	0.63
MANAGER	1.21	0.56	0.85
MANUFACTURER	1.25	1.18	1.21
MARRIED	0.62	0.80	0.72
MARRIED WOMAN	4.75	4.88	4.82
MERCHANT	2.98	4.19	3.65
NEWSAGENT	0.14	0.00	0.06
UNKNOWN OCCUPATION	25.86	26.71	26.33
REVEREND	0.13	0.17	0.15
SECRETARY	0.40	0.22	0.30
SOLICITOR	1.96	1.59	1.76
STOCK BROKER	0.90	2.14	1.58
SURGEON	0.25	0.24	0.25
TRAVELLER	0.13	0.07	0.10
UNMARRIED WOMAN	1.71	1.45	1.57
WAREHOUSEMAN	0.23	0.09	0.15
WIDOW	0.97	0.72	0.83
OTHER	27.16	25.46	26.23
<b>TOTAL</b>	<b>100</b>	<b>100</b>	<b>100</b>

**Table 5: IPO Allocations and Informed Investors**

We regress IPO ALLOCATION on various measures of investor informativeness plus controls. In column (1) we use various measures to control for firm characteristics. LNMCAP is the natural logarithm of MCAP, LNAGE is the natural logarithm of AGE, all other variables are as defined in Table 2. In columns (2) and (3) we use firm fixed effects and split the sample between under-priced (2) and over-priced (3) issues. Standard errors are estimated using White's (1980) heteroskedasticity robust method and t-statistics appear in parentheses. IPO ALLOCATION is trimmed at 1% (we drop the top and bottom 1% of observations).

	1		2		3	
Constant	0.9228	(54.11)	0.1884	(11.46)	0.3360	(14.53)
GEOGRAPHY	0.0820	(17.01)	0.0253	(7.11)	0.0773	(16.93)
GEOGRAPHY * UNDER	-0.0311	-(5.11)				
OCCUPATION	0.0068	(1.04)	0.0046	(0.95)	0.0228	(3.69)
OCCUPATION * UNDER	-0.0011	-(0.14)				
GEOGRAPHY * OCCUPATION	-0.0432	-(2.95)	0.0405	(2.12)	-0.0426	-(3.14)
GEOGRAPHY * OCCUPATION * UNDER	0.0963	(3.76)				
INSTITUTION	0.2987	(12.42)	0.1902	(9.76)	0.2618	(11.97)
INSTITUTION * UNDER	-0.0847	-(2.64)				
UNDER	-0.0311	-(13.7)				
LNMCAP	-0.0576	-(47.64)				
LNAGE	0.0048	(7.1)				
TRACK	-0.0037	-(8.25)				
AUDIT	-0.0013	-(0.23)				
UW	-0.0457	-(22.81)				
PRESTIGE	0.0179	(8.8)				
RD	-0.0484	-(8.55)				
PROPSOLD	-0.1004	-(26.47)				
Company FE	NO		YES		YES	
IPOs	ALL		Only UNDER		Only OVER	
Observations	81,191		43,162		38,029	
Adjusted R-squared	6.99%		19.89%		20.83%	

**Table 6: IPO Allocations, Underwriters, and Auditors**

We regress IPO ALLOCATION on various measures of investor informativeness. Columns (1) - (4) only use underpriced IPO allocations, columns (5) - (8) only over-priced allocations. Columns (1), (2), (5), and (6) are IPOs in which a prestigious auditor was used by the firm, the other columns are non-prestigious auditor IPOs. Columns (1), (3), (5), and (7) are IPOs that have been underwritten, whereas the other columns are non-underwritten IPOs. All regressions use firm fixed effects. Standard errors are estimated using White's (1980) heteroskedasticity robust method and t-statistics appear in parentheses. IPO ALLOCATION is trimmed at 1% (we drop the top and bottom 1% of observations).

	IPO allocation							
	1	2	3	4	5	6	7	8
Constant	0.1884 (11.46)	0.1886 (11.48)	0.1891 (11.5)	0.1892 (11.5)	0.3360 (14.53)	0.3374 (14.6)	0.3407 (14.75)	0.3440 (14.9)
GEOGRAPHY	0.0253 (7.11)	0.0215 (5.39)	0.0166 (3.77)	0.0153 (3.18)	0.0773 (16.93)	0.0718 (11.17)	0.0586 (12.03)	0.0454 (7.34)
OCCUPATION	0.0046 (0.95)	0.0082 (1.42)	0.0055 (1.08)	0.0093 (1.51)	0.0228 (3.69)	0.0143 (2.07)	0.0246 (3.47)	0.0137 (1.85)
GEOGRAPHY * OCCUPATION	0.0405 (2.12)	0.0594 (2.72)	0.0577 (2.57)	0.0639 (2.64)	-0.0426 (-3.14)	-0.0405 (-2.66)	-0.0329 (-2.27)	-0.0250 (-1.68)
INSTITUTION	0.1902 (9.76)	0.2046 (9.1)	0.2062 (8.34)	0.2166 (8.26)	0.2618 (11.97)	0.2597 (8.7)	0.2551 (9.23)	0.2524 (6.89)
Company FE	YES	YES	YES	YES	YES	YES	YES	YES
UNDERPRICED?	YES	YES	YES	YES	NO	NO	NO	NO
PRESTIGIOUS AUDITOR?	YES	YES	NO	NO	YES	YES	NO	NO
UW	YES	NO	YES	NO	YES	NO	YES	NO
Observations	43,162	34,704	31,855	24,459	38,029	19,232	29,087	16,006
Adjusted R-squared	19.89%	19.40%	19.71%	19.87%	20.83%	21.98%	20.79%	22.09%