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The direct costs of UK rights issues and open offers

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Abstract

The paper describes selling and underwriting procedures in rights issues and open offers, and analyses the costs of issue reported in prospectuses, including the substantial costs which are not for underwriting. The impression is often given that costs are fixed at 2% of gross proceeds, but they vary and average 5.78% (median 4.28%). Controlling for economies of scale and fees not related to the issue, costs increase with the proportion of the issue underwritten and with the depth of discount, and decrease with the proportion of the company owned by large shareholders.

Keywords: *rights issues; open offers; direct costs*

JEL classification: G24

1. Introduction

This paper reports the direct costs of seasoned equity offers (SEOs) in the UK and analyses factors affecting these costs. It includes background information on selling and underwriting procedures, which have changed since the late 1980s with the introduction of open offers and more selling of shares and underwriting before the issue is publicly announced. These developments have yet to feature in descriptions of UK SEOs. The paper analyses all the direct costs of issue, not just the underwriting costs which have attracted most attention to date. The impression is often given that rights issues have a fixed cost of 2% of

the gross proceeds, consisting of 0.50% for the arranger or lead underwriter, 0.25% for the broker and 1.25% for the sub-underwriters (investing institutions).¹ The apparently fixed rates attracted the attention of the Office of Fair Trading, which in 1997 referred the underwriting process to the Monopolies and Mergers Commission, whose review is still in progress at the time of writing. The fixed 1.25% for sub-underwriting rights issues was indeed the norm until late 1996, when sub-underwriting for some issues started to be put out to tender. However, the total costs of issue are considerably more than 2%, and the 0.50% for the arranger and 0.25% for the broker should be viewed as minimums. There are large economies of scale in the fees which are not for underwriting, and the paper identifies a number of other factors which affect the costs of issue and which have hitherto not been documented for the UK.

2. Rights issues and open offers²

UK companies normally use their 'relationship' merchant (investment) bank and/or stockbroker to arrange a share issue. There is no competitive tendering for the business. The main functions of the arranger are to advise the company, to co-ordinate writing of the prospectus and to act as sponsor to the issue and lead underwriter. If the arranger is a merchant bank, a separate stockbroker is used to find sub-underwriters or placees, to liaise with the Stock Exchange and to advise on the offer price. In some issues, usually by smaller companies, the broker is also the arranger. There is negotiation in a majority of cases concerning fees and the offer price discount (DGFT, 1996).

In a rights issue the new shares are issued pro rata to existing shareholders in nil-paid form as provisional allotment letters (PALs), which can be accepted in full, accepted in part and renounced in part, or renounced in full. Entitlements renounced by shareholders to whom they were originally sent can be sold and traded during the offer period, which begins on the

day the offer is formally announced and must last a minimum of three weeks. The offer price is set the evening before the announcement. There is no gap between the announcement of an offer and the start of the offer period, unless an extraordinary general meeting (EGM) is necessary to authorise issue of the requisite number of new shares. An EGM requires 14 or 21 days' notice depending on the nature of the resolutions to be passed. Notice is given when the offer is announced, and PALs can not be sent out until the resolutions have been passed at the EGM, so in these cases the offer period is delayed by two or three weeks.

The terms of an open offer are similar to those of a rights issue except that shareholders who do not take up their entitlements can not sell them. If an EGM is necessary this can be held immediately after the offer period, which avoids having to pay for extra weeks of underwriting. The reason is that in an open offer the new shares are not issued until after the close of the offer, whereas in a rights issue the new shares are issued in nil-paid form as PALs at the start of the offer period, so that the authorisation to issue has to be obtained before PALs can be posted. If an open offer is not approved at the subsequent EGM, the money raised is returned to subscribers.

Since the late 1980s it has become normal practice for the broker and arranger to seek agreements to buy or to underwrite shares *before* the issue is publicly announced. This may involve the company giving presentations to potential subscribers. The agreements obtained may be verbal and not legally binding until they are given in writing on or after the announcement day. Investors who know about the issue in advance are obliged not to trade in the shares until the announcement day. The process is similar to bookbuilding in the USA, except that a US SEO is publicly announced before bookbuilding starts.

Agreements to buy are made when existing shareholders undertake to buy shares to which they are entitled or when shares renounced in advance by those entitled to them are placed firm with other investors. Also, some offers are accompanied by a private placing of shares which will not be offered pro rata to existing shareholders and will not be part of the rights issue or open offer. Agreements to underwrite are made when parties undertake to buy shares to which they are not entitled. The arranger frequently underwrites some or all of the issue, the underwriting contract being signed the night before the announcement. The arranger normally sells the underwriting to investing institutions, either on the announcement day or verbally a day or two beforehand, which allows more time for the process and reduces the risk that the arranger will be left with unsold underwriting. Participation in the underwriting is known as sub-underwriting in a rights issue or placing with clawback or conditional placing in an open offer.

Sub-underwriters/placees are allocated any new shares which have not been sold by the close of the offer in proportion to the percentage they have underwritten. They are therefore at risk from the announcement day to the day after the close of the offer. If an EGM is required in a rights issue, the sub-underwriters are at risk for an extra two or three weeks, and it is conventional to charge an extra eighth of a percent for each additional week. So long as the market price of the existing shares is above the offer price at the close, the broker in a rights issue will be able to find buyers for the new shares not yet subscribed for and none will be left with the sub-underwriters. But in an open offer, placees can expect to receive some shares at the offer close. This is because shares which are not subscribed for by those entitled to them are issued to the placees rather than sold in the market.

The ability of shareholders to sell their rights in a rights issue means that the level of discount does not affect the wealth of existing shareholders, and therefore does not imply a higher cost of share capital, at least in theory. The value of the rights compensates non-subscribing shareholders for the fall in the share price ex-rights, and non-subscribers do not even have to do anything; their rights are sold for them automatically at the end of the offer. However, shareholders who renounce their entitlements before the offer starts only receive 50% of the difference between the offer price and the theoretical ex-rights price (London Stock Exchange, 1997, 4.17(c)). In an open offer, there is no compensation to non-subscribers for a fall in the share price caused by the offer being at a discount. For a given number of new shares, a deeper discount implies a greater transfer of wealth from non-subscribers to buyers of the renounced shares.

3. The sample

Data was collected on 928 rights issues and 450 open offers made between 1 January 1985 and 30 September 1996. They involve a general offer for cash to existing shareholders, so similar factors can be expected to affect their costs. Private placings not combined with a general offer to shareholders are excluded.³ The value of a placing if combined with an open offer or rights issue is included because its costs are not given separately. Similarly, issues solely to shareholders of a company being acquired are excluded as they do not involve a general offer to the issuer's existing shareholders, but if an issue to an acquired company's shareholders is combined with a general offer, the values of both issues are included. Finally, issues by foreign companies and by investment trusts (closed end investment funds) are excluded. The costs of a foreign company issue are affected by the costs of issue on the company's home market. Investment trusts are a special case as they are pure investment vehicles, with no operations of their own.

Information on issues is from prospectuses, also known as listing particulars. Scanned copies from 1 July 1991 onwards are available from Extel Financial Ltd, which aims to include all issues by listed companies. Extel keeps some prospectuses on microfiche for issues before 1 July 1991, though its collection is incomplete. All appropriate issues from 1 January 1985 to 30 September 1996 are included for which Extel has a prospectus. The scanned copies yielded 1,016 issues and the fiches 362.

The median size of issue is £11.5m and the median size (market capitalisation) of the issuer on the day before the announcement is £32.6m, both in September 1996 pounds. The largest issue is £1,349.2m and the smallest £0.1m. Open offers first appear in the sample in 1987 and have since been increasing steadily as a proportion of the total, comprising 53% of all issues in 1996. The median open offer is £7.6m, the median rights issue £17.6m. Only 11 offers lapsed before closing.

4. Direct costs of issue

4.1 Definitions and preliminary evidence

It is a requirement of the Stock Exchange that an estimate of total costs be disclosed in the prospectus, together with underwriting commissions if applicable.⁴ Unfortunately, fees relating to on-going acquisitions and capital reorganisations are not separated out from the costs of issue. We therefore analyse both the full sample and a sample purged of issues for which one of the motives is an on-going acquisition or which are part of a capital reorganisation.⁵ Issues for which one of the motives is to finance unspecified future acquisitions remain in the purged sample.

Total costs are divided into 'underwriting' and 'non-underwriting' costs. Underwriting costs are all fees which are paid to the arranger and/or investing institutions and/or existing shareholders and/or placees explicitly as a reward for undertaking to buy shares. They include fees for sub-underwriting, the underwriting fee paid to the arranger and all types of placing and take-up fee.⁶ This definition undoubtedly includes fee elements which are not really for taking underwriting risk. The arranger's underwriting fee is mainly for organising the issue, and a placing fee for firm placed shares which the placee is guaranteed to receive is a fee for purchasing rather than underwriting shares. The reasons why we isolate underwriting costs, in the broad sense explained, is that they should reflect the difficulty of assuring that the issue will be sold, and that we know what they are. The arranger's underwriting fee, and the sub-underwriting, placing and take-up fees, if any, are recorded separately in the prospectus and are charged as a percentage of the proceeds underwritten, placed or taken up. The arranger's underwriting fee conventionally includes 0.25% for the broker, but this is clearly not a fee for taking underwriting risk or agreeing to buy shares, so we subtract 0.25% from the arranger's underwriting fee and add it to the non-underwriting costs unless a separate broker's fee is given, in which case we include it in non-underwriting costs and do not adjust the arranger's underwriting fee.

Non-underwriting costs are all the other expenses connected with the issue. They are estimated by subtracting the underwriting fees from the total costs, since little or no financial detail is given about non-underwriting costs in prospectuses. In many issues, especially smaller ones, the arranger receives a 'corporate finance' fee in addition to any underwriting fee, and the broker receives more than 0.25%, but the additional amounts are often not disclosed. Since these additional fees are not mentioned in the descriptions of costs in Marsh (1977) or in Bank of England (1986), they may be a recent development. The other non-

underwriting costs, never given separately, are fees for solicitors to the issuer and to the arranger, an accountants' fee, prospectus printing costs, Stock Exchange listing fees, and any other cash costs included in the total costs recorded in the prospectus. A typical breakdown for a £10m underwritten issue would be 1.25% for the sub-underwriters or placees, 1.5% to 2.0% for the arranger (of which 0.5% is counted as an underwriting fee), 0.5% or more for each of the broker, solicitors (total cost) and accountants, and 0.3% in printing, listing and other costs (1% capital duty was abolished in 1988 and is not included in our data).

Table 1 shows for the purged sample average costs of issue as a percentage of gross proceeds for ten categories of issue size. The average cost for all UK issues is 5.78% (median 4.28%). There are large economies of scale which are entirely in the non-underwriting costs and are probably greatest in the fees for solicitors and accountants, who charge by the hour rather than as a percentage of proceeds. Non-underwriting costs exceed underwriting costs in 65.6% of issues, mostly smaller ones of less than £30m. The average non-underwriting cost is 4.18% (median 2.55%); the average underwriting cost is 1.53% (1.75%). For the full sample (not shown), the underwriting costs are very similar but the average for non-underwriting costs increases to 4.96% (3.68%).

Table 1 around here

The variation in rights issue underwriting costs is due almost entirely to differing proportions underwritten. Underwriting fee rates are the same across most rights issues, in line with general belief. In the 725 rights issues in the full sample with some underwriting and in which the sub-underwriting fee is separated from the arranger's underwriting fee, the rate for sub-underwriting is the standard 1.25% plus 0.125% for each extra week in 96.5% of

cases (in 3.2% it is higher, 0.3% lower). The arranger's underwriting fee is the standard 0.5% in 94.6% of cases (1.5% higher, 3.9% lower). In open offers, underwriting fee rates are more variable both for placees and for the arranger.

Table 1 also includes comparable US evidence from Lee et al (1996). The UK average is 19% lower than the average US cost of 7.11%. Since there is a higher proportion of small issues in the UK, a more accurate measure is the average of the differences between US and UK costs across the nine comparable size categories (there are no US issues in the smallest). On this basis UK issues are 35% cheaper. The UK sample probably includes a higher proportion of non-underwritten issues than the US sample, since 98% of US SEOs are firm commitments rather than best efforts (Kumar & Tsetsekos, 1993). Restricting the UK sample to issues 90% or more underwritten (not shown), UK issues are 31% cheaper on average across the nine comparable size categories.

4.2 *Factors affecting costs*

Table 2 shows results for ordinary least squares regressions in which the dependent variable is either total costs, non-underwriting costs or underwriting costs, each expressed as a percentage of gross issue proceeds. The models include explanatory variables significant at the 1% level or better for at least one type of cost. More reliance should be placed on the purged than on the full sample results. Although a dummy variable controls for non-issue-related costs in the full sample regressions, there are more outliers with very high costs in the full sample and there is evidence that the contaminating costs are related to the risk of the issuer and the type of offer. The *extraneous factors* dummy equals one if a motive for the issue is to finance an acquisition or if the company announces a capital reorganisation, and

zero otherwise. It has a positive and highly significant coefficient in the regressions for total and non-underwriting costs.

Table 2 around here

Size. Size of issue is measured by gross proceeds in September 1996 pounds. The relationship between issue size and non-underwriting and total costs is more L-shaped than linear (see Table 1). To accommodate this, we include two size variables, the natural log of size and the square of $\ln(\text{size})$. The negative coefficient on $\ln(\text{size})$ and positive coefficient on the square of $\ln(\text{size})$ produce a cost curve which is U-shaped, as in Bhagat & Frost (1986), Eckbo & Masulis (1992), and Hansen & Torregrosa (1992), but the increase beyond the minimum is marginal over the size range of interest. Eckbo & Masulis (1992) find that issue size divided by the market capitalisation of the company is a significant variable, with a positive coefficient, but this variable is not significant in our regressions.

% underwritten. The proportion of the issue underwritten by the arranger is the most significant variable affecting total costs after issue size; 42% of issues are less than 100% underwritten.⁷ It is much the most important variable in the regressions for underwriting costs, and it is also positive and significant for non-underwriting costs. This is partly because the broker's 0.25% is charged on the proportion underwritten, but *% underwritten* remains significant after excluding the broker's 0.25%, so it is likely that the corporate finance fee and any further fee for the broker are to some extent related to the proportion underwritten.

The proportion underwritten is, in turn, determined primarily by the proportion of the issue for which commitments have been received before the announcement; either shares

privately placed, or shares to which existing shareholders are entitled and which they have undertaken to buy, or shares underwritten by others than the arranger. It is generally not considered necessary for the arranger to underwrite shares for which commitments have been received in advance (Armitage, 1999). However, if the arranger has pre-sold some or all of the sub-underwriting or placing with clawback to institutions, it normally still underwrites the shares itself.

Discount. For the 858 rights issues and 393 open offers for which a discount can be calculated, the average discount to the market price the day before the announcement is 18.4% (median 16.0%); for rights issues it is 21.0% (17.6%) compared with 13.0% (7.8%) for open offers.⁸ A deeper discount might be expected to imply lower costs, because it makes an issue easier to sell and underwriting can be avoided through a sufficiently deep discount. However, a deeper discount is associated with *larger* total and non-underwriting costs. The significance of the *discount* variable is due to extra non-underwriting costs in deep discount issues. When *discount* is replaced with a dummy variable which equals one if the discount is 30% or deeper, and zero otherwise, the coefficients on the dummy for full and purged samples are positive and for the purged sample are significant at the 1% level, with *t*-statistics similar to those for *discount* (not shown).

The reason why deep discount offers do not save on underwriting costs is that a deep discount is rarely used on its own as a substitute for underwriting. There are 127 rights issues and 47 open offers at a discount of 30% or deeper, comprising 14% of the sample for which discounts can be calculated. The average proportion underwritten by the arranger or for which pre-commitments have been received is 89%, and in many deep discount offers those making pre-commitments receive a fee, which we include in underwriting costs. There are only 16

issues in which the proportion underwritten or pre-committed is less than 50% of the offer value, ie which appear to rely primarily on the deep discount to ensure subscription. The reason why deep discounts are associated with relatively high non-underwriting costs is not as clear, but the need for a deep discount *and* underwriting/selling in advance is consistent with anecdotal evidence that deep discounts are often used to help sell ‘difficult’ offers which require more work than usual on the part of the arranger and broker.

Ownership. The proportion of the issuer’s shares owned by shareholders with stakes of 10% or more is negatively related to both types of cost, as in the USA.⁹ It is likely to be easier to organise and sell an issue if ownership is concentrated, which would reduce the corporate finance and broker fees. The negative relation with underwriting costs is probably because *ownership* and *% underwritten* are negatively related.

Risk of issuer. One would expect issue cost and the riskiness of the issuer to be positively related, which they are in US studies. Booth & Smith (1986) argue that if certification of issuer value is an important aspect of the arranger’s underwriting and other services, its cost should increase with firm-specific risk rather than market-related risk, and they find that the arranger’s fee is positively related to specific risk but unrelated to beta, as do Blackwell et al (1990) and Hansen & Torregrosa (1992), while Bhagat & Frost (1986), Ng & Smith (1996) and Singh (1997) report that the fee is significantly related both to specific risk and beta. We use the same methodology as these studies and estimate beta using daily data and the market model, specific risk by the standard error of the market model (*std error*), and total risk by the standard deviation of daily share returns (*std dev*). Many of the shares in the sample are thinly traded, so we also estimate betas and standard errors using the trade-to-trade method.¹⁰ As a further check, we include betas from London Business School’s *Risk*

Measurement Service, which are calculated with Bayesian adjustments from monthly returns over the previous five years.

The coefficients on the risk variables are positive but mostly not significant. *Std dev* and *std error* are significant for both types of costs in the full sample, though not in the purged sample. Table 2 reports the results using *std dev*; the results using *std error* are similar. Trade-to-trade *std error* is not significant, but the sample is half the size. None of the three beta measures are significant. Altogether, issuer risk as measured appears to have a minor role in explaining the costs of issue. The reason why it is more significant in the full sample regressions may be because companies in difficulties have a relatively volatile share price and are more likely to have a capital reorganisation, which increases the apparent costs of an issue.

Extra eighths is a dummy variable which equals one if there are extra weeks of sub-underwriting, and zero otherwise. Not surprisingly, it is significant in the regressions for underwriting costs (59% of rights issues require an EGM). Finally, *open offer* is a dummy variable which equals one for an open offer and zero for a rights issue. The coefficient is not significant for the purged sample. It is positive and significant for non-underwriting and total costs in the full sample, but 74% of open offers have extraneous factors affecting costs compared with 49% of rights issues. There is therefore no clear difference between the direct costs of the two issue methods, controlling for the absence of extra eighths in open offers.

Proxies for information costs. If part of the function of the arranger is to certify the value of the issue, the costs of issue would be expected to reflect the costs of carrying out certification. We tested three proxies for information costs which Ng and Smith (1996) find

have a significant relationship with costs of issue. They hypothesise that information costs are lower the larger the company, the older it is and the smaller its market value in relation to its book value; the argument for this last relation is that the market-to-book ratio is positively related to the value of intangible assets which are harder to value than tangible assets reflected in book value. However, none of these variables are significant, so they do not appear in Table 2.

6. Conclusion

The paper has described SEO procedures in the UK and sought to explain the variation in issue costs. There are substantial costs which are not for underwriting and which show large economies of scale. In two thirds of issues these non-underwriting costs are the majority of the total. They comprise fees for accountants and solicitors and, in many cases, fees for the arranger and broker in addition to those recorded as underwriting fees. Printing and listing costs are very minor. The fees for professional services are negotiable and their disclosure would improve the transparency of the market for share issue services, enabling better informed negotiations to take place. The figures in Table 1 show the scale of non-underwriting costs for issues of various sizes and provide a rough benchmark for what companies should expect to be paying.

The costs of issue in the UK are about one third less than in the USA, which is consistent with the view of practitioners that introduction of US-style firm commitment offers would increase the direct costs.¹¹ Apart from offer size, the most significant factor affecting costs is the proportion underwritten, which in turn is determined primarily by the proportion of the issue sold before the issue is publicly announced. Deep discount offers would be expected to have relatively low direct costs but in fact are associated with higher costs,

because in practice deep discounts are rarely used on their own as a substitute for underwriting or selling in advance, and because non-underwriting costs are relatively high in these issues. This is consistent with deep discounts being used to help sell difficult issues.

The rapid rise in popularity of open offers is striking and warrants further research. They are no cheaper than rights issues but the median discount to the market price before announcement is 7.8% for open offers compared with 17.6% for rights issues. However, the absence of a market for rights means that *any* discount in an open offer has the effect of transferring wealth from non-subscribing shareholders to investors buying the shares not subscribed for. Presumably the price of a discount closer to zero in an open offer would be a more expensive bookbuilding effort before the offer period and possibly higher fees for places. This could point towards why the direct costs of SEOs are greater in the USA than in the UK, since discounts are negligible in US SEOs.

Table 1. COSTS OF ISSUE BY ISSUE SIZE

UK rights issues and open offers, purged sample					US SEOs		
Gross proceeds (£m)	N	Non-underwriting costs (%)	Underwriting costs (%)	Total costs (%)	Gross proceeds (\$m)	N	Total costs (%)
312.5+	19	0.72	1.44	2.17	500+	9	3.15
125.0-312.4	32	0.88	1.77	2.65	200-499.9	55	3.47
62.5-124.9	48	1.07	1.71	2.79	100-199.9	152	4.22
50.0-62.4	21	1.60	1.94	3.54	80-99.9	71	4.73
37.5-49.9	31	1.35	1.71	3.07	60-79.9	143	5.18
25.0-37.4	44	1.87	1.83	3.70	40-59.9	261	5.87
12.5-24.9	85	2.03	1.67	3.68	20-39.9	425	6.93
6.25-12.4	86	3.72	1.41	5.16	10-19.9	310	8.72
1.25-6.24	180	6.90	1.39	8.27	2-9.9	167	13.28
0.1-1.24	37	13.48	0.99	14.36			
TOTAL	583	4.18	1.53	5.78		1,593	7.11
Median		2.55	1.75	4.28			

Notes: figures reported are averages of costs as a percentage of gross proceeds. *UK data:* the purged sample excludes issues in which some of the fees may be attributable to an acquisition or capital reorganisation. Gross proceeds are converted to September 1996 pounds to measure an issue's size. UK size categories correspond with those for the US at an exchange rate of \$1.60/£. Underwriting costs are fees payable explicitly to parties undertaking to buy shares. They include any underwriting, sub-underwriting, placing or take-up fees. Non-underwriting costs are fees other than underwriting fees, and include the broker's fee. Sample size is 583

for total costs, 576 for non-underwriting and 581 for underwriting costs, which is why the averages of non-underwriting and underwriting costs do not exactly sum to the average total cost. Source: prospectuses. *US data*: the sample consists of firm commitment offers by domestic industrial and utility companies during 1990-94, excluding shelf issues, issues by closed-end funds, pure secondary issues and rights issues. Gross proceeds are not adjusted for inflation to measure issue size. Source: Lee et al (1996), from Securities Data Company data.

Table 2. REGRESSION ANALYSIS OF FACTORS AFFECTING COSTS OF ISSUE AS A PERCENTAGE OF GROSS PROCEEDS

	TOTAL COSTS		NON-UNDER- WRITING COSTS		UNDERWRITING COSTS	
	Full	Purged	Full	Purged	Full	Purged
Constant	1.480 15.36	1.391 11.66	1.642 16.96	1.647 14.10	0.004 5.54	0.005 5.57
<i>Extraneous factors</i>	0.019 9.38		0.021 10.67		-0.000 -1.01	
$\ln(\text{size})$	-0.158 -13.72	-0.146 -10.19	-0.177 -15.35	-0.178 -12.67		
$[\ln(\text{size})]^2$	0.004 12.15	0.004 8.89	0.005 13.77	0.005 11.33		
<i>% underwritten</i>	0.024 7.26	0.023 4.56	0.013 4.09	0.015 3.36	0.013 26.69	0.012 16.27
<i>Discount</i>	0.037 4.93	0.038 3.69	0.033 4.54	0.034 3.54	0.001 0.69	-0.001 -0.71
<i>Ownership</i>	-0.009 -2.02	-0.024 -3.55	-0.007 -1.46	-0.020 -3.19	-0.002 -3.05	-0.003 -3.30
<i>Std dev</i>	0.202 3.41	0.064 0.82	0.226 3.88	0.134 1.81	0.033 3.44	0.023 1.81
<i>Extra eighths</i>	0.006 2.60	0.004 1.42			0.003 6.48	0.003 6.46
<i>Open offer</i>	0.010 3.66	0.006 1.27	0.007 3.11	0.003 0.79	0.000 0.86	-0.000 -0.37
R^2	51.1%	55.4%	54.5%	61.9%	44.7%	48.6%
N	1,116	484	1,102	477	1,111	480

Notes: t-statistics are in italics. Sample numbers vary due to missing data. Extraneous factors = a dummy variable which equals one if some of the costs may relate to an acquisition or capital reorganisation, and zero otherwise; *size* = gross proceeds in September 1996 pounds; *% underwritten* = proportion of issue underwritten by arranger; *discount* = offer price discount in relation to market price at close of day before announcement; *ownership* = proportion of shares of issuer owned by shareholders with stakes of 10% or more; *std dev* = standard deviation of issuer's daily share price; *extra eighths* = a dummy variable which equals one if the issuer incurs extra weeks of sub-underwriting, and zero otherwise; *open offer* = a dummy variable which equals one if the issue is an open offer, and zero if it is a rights issue. Sources: prospectuses; share price data from Extel Financial Ltd.

Notes

1. For example, Marsh (1994, p. 7): ‘the lead underwriter charges a fixed fee (for a standard length issue period) of 2% of the money to be raised’, distributed as described. See also the reports by the Director General of Fair Trading (1995, 1996).
2. The information for this section comes from seven interviews with investment bankers in 1996, perusal of prospectuses, London Stock Exchange (1997), and *Rights Issues and Placings for UK Companies: A Guide*, 1995, privately produced by SG Warburg. The interviews also inform the description of costs in section 4.1.
3. Pure private placings are quite common. At least 160 were announced during 1994-96.
4. The Exchange’s *Listing Rules* require the prospectus to include ‘a statement or estimate of the overall amount and/or the amount per share of the charges relating to the issue payable by the issuer, stating the total remuneration of the financial intermediaries, including the underwriting commission or margin, guarantee commission, placing commission or selling agent’s commission’ (London Stock Exchange, 1997, 6.B.15(i)). Even so, total costs are missing in the sample for 14 rights issues and ten open offers, and underwriting costs are missing for 16 rights issues and 12 open offers.
5. In US studies, contamination of issue costs by fees for other work is not mentioned as a problem, so presumably it does not arise.

6. Take-up fees occur occasionally in open offers and are estimated in the paper by multiplying the value of open offer shares not subscribed for by the fee rate. This estimate is included in the underwriting costs. The estimate of total costs is that given in the prospectus, which includes an (unspecified) estimate in advance of the take-up fees likely to be paid.

7. The 42% does not include issues 100% underwritten except for shares allotted to and accepted by shareholders of companies being acquired, which there is no need to underwrite.

8. In calculating the discount to the market price, the net dividend, if any, to which existing but not new shares are entitled is subtracted from the market price of existing shares. The few premiums of more than 5% are excluded. In most of these cases the premium is illusory because the issue is part of a capital reorganisation in which one new share will replace several existing shares, so the price of the new share will be several times higher. If an open offer is combined with a private placing at a higher price than the open offer shares, the offer price used is that for the open offer. It is not possible to calculate a discount if the company's shares have been suspended. The regression results are similar using the discount to the theoretical ex-rights price (source: Extel Financial), which averages 12.7% (median 12.3%) for all issues, 15.0% (14.3%) for rights issues and 8.4% (6.1%) for open offers.

9. Eckbo & Masulis (1992), Hansen & Pinkerton (1982) and Hansen & Torregrosa (1992) find a negative relationship between ownership concentration and issue costs.

10. The estimation period for *std dev* and for the market model is 80 days before and 80 days after the period from five days before the announcement to 20 days after the close of the offer. For the trade-to-trade method, returns of the share and market index are measured

between days on which the share was traded. Each return is divided by the square root of the number of days in the interval between the relevant trades, and these weighted trade-to-trade returns are used as the observations in a market model regression. Data on trading volume is obtained from Extel, but does not begin until mid-1993 which means that the trade-to-trade sample only has 580 issues. The average trade-to-trade beta is 0.39, exactly the same as the average conventional beta using daily data. The correlation between them is 0.25. The lack of increase in the average trade-to-trade beta is consistent with results reported by Bartholdy & Riding (1994) and Dimson & Marsh (1983), though the reason remains uncertain.

11. For example, the *Financial Times* Lex column notes that ‘only one big argument for the existing system [rights issues] remains: bookbuilding is likely to be more expensive’ (28 January 1997).

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