

The Distribution of Fees Within the IPO Syndicate

Sami Torstila*

This paper examines the division of fees within the IPO underwriting syndicate using data on 4,186 US IPOs in the 1990s. Like the 7% gross spread, the standard contract of 20% management fee, 20% underwriting fee, and 60% selling concession has become more common in recent years. There exists, however, significant variation from these standard percentages. The percentage of the total spread paid as selling concessions increases with offering size. This result is attributed to differential economies of scale in managing and underwriting an IPO versus selling it and to differences in bargaining power.

“For every minute spent negotiating the gross spread with the client, we probably spend well over 20 times negotiating the split of the gross spread among the various underwriters and co-managers.”

– Timothy Main, head of the equity syndicate desk at J.P. Morgan (Picker, 1998)

The level of IPO gross spreads has recently been of great interest to the industry and academicians. Yet how the spread is shared among underwriters in syndicates has remained almost undiscussed.

The gross spread is divided into a management fee, an underwriting fee, and a selling concession. The split is typically 20% management fee, 20% underwriting fee, and 60% selling concession. Like the 7% gross spread (Chen and Ritter, 2000), the 20/20/60 division is widely recognized as the industry standard.

A look at the data is enough to show that the 20/20/60 standard is hardly universal. In fact, according to even the most liberal definitions in this paper, under one-third of all US IPOs in the 1990s followed the standard split. Like the 7% gross spread, however, the 20/20/60 split has become more common over time. Only 10% of IPOs used the standard split in 1990 compared to 36% in 1999.

The division of fees is hardly a trivial matter, given the amounts at stake. In the largest IPOs in the sample, a shift of only one percentage point from the underwriting fee to the selling concession may transfer over \$1 million in fees from the rest of the syndicate to the lead manager. In an IPO of average size, such a change would probably have an impact of tens of thousands of dollars.

Given that there is variation in the division of the gross spread within the IPO syndicate, what factors drive it? The paper develops hypotheses to explain the observed cross-sectional variation and tests them empirically. The data used come from the Securities Data Corporation (SDC) New Issues database and consist of all US IPOs during the 1990s for which data on the division of fees are available (excluding unit offerings, closed-end funds,

This paper has benefited greatly from helpful comments by an anonymous referee, the Editors, Matti Keloharju, Kenneth Högholm, Antti Kanto, Inmoo Lee, and the participants of the GSFFA seminar in Helsinki. I wish to thank Harri Toivonen for assistance with the data. I would also like to thank the practitioners who participated in the survey.

*Sami Torstila is an Acting Professor at the Helsinki School of Economics, Helsinki, Finland.

and REITs). The sample totals 4,186 IPOs.

The strongest results obtained relate to the effect of IPO size. The evidence shows that the proportion of the selling concession increases monotonically with gross IPO fees; the management and underwriting fees decrease with gross IPO fees. Other results show that "hot" IPOs (measured by first-day returns or price adjustment) are associated with higher selling concessions, while inclusion of warrants as partial underwriter compensation is associated with lower selling concessions.

The effect of size on the division of fees could be due to differential economies of scale. The extent of investment banker work in writing the prospectus and preparing the roadshow, for example, is somewhat fixed, while the amount of sales work is not. Larger deals will not involve tens of times more investment banker work, but may demand tens of times more sales effort, requiring an increase in the proportion of the selling concession. Alternatively, it may be that when an IPO is large and the fees are high, the junior banks are more likely to join a syndicate, even if they receive a smaller share of the fees in the form of a lower selling concession.

The rest of this paper is organized as follows. Section I examines the typical contractual framework of the division of the gross spread. Section II describes the sample data. Section III looks at whether there is variation in the contractual division. Section IV develops predictions on the economic implications of the cross-sectional variation and tests these predictions empirically. Section V concludes.

I. Contractual Framework

IPOs are normally underwritten by a syndicate composed of a managing group, an underwriting group, and a selling group. The managing group, the underwriting group, and the selling group, in which memberships will overlap, are together known as the syndicate. A representative division of fees, adapted from Chen and Ritter (2000), is shown in Table I.

The managing group is composed of a lead underwriter (also known as the managing underwriter) and often several co-managers. The managers, and particularly the lead underwriters, are responsible for structuring the syndicate. The lead underwriter is also responsible for the structure of the IPO and the due diligence process. The lead underwriter bears the greatest responsibility for the offering and typically receives more than half of the total fees. For its services and general project management responsibility, the managing group receives a management fee, typically 20% of the gross spread.¹ The management fee is distributed among the managing group in a manner not disclosed to the public.

The lead underwriter assembles an underwriting group by invitation. The managing group and the underwriting group together are known as the underwriters. Underwriters make an underwriting commitment for a given number of shares, which appears in the IPO prospectus. The underwriters assume, in principle at least, financial risk for the amount of shares they have underwritten. The current practice of bookbuilding, however, reduces the de facto underwriting risk to counterparty settlement risk (see Benveniste and Wilhelm, 1997).

The underwriters receive an underwriting fee 20% of the gross spread, which they divide among themselves in proportion to their underwriting commitments. Syndicate expenses, including stabilization expenses, are credited against the underwriting fee. Aggarwal (2000) reports that the costs of stabilization activity in IPOs are actually quite low.

Finally, the managing underwriter may assemble a selling group, which typically receives

¹References to the management fee, underwriting fee, or the selling concession are to percentages of the gross spread. Dollar amounts are meant only when explicitly specified.

Table I. Distribution of Fees Within the Syndicate: An Example

The table is an example from Chen and Ritter (2000) with the addition of an analysis of the lead manager's share of each fee component on the last line. Panel A shows the basic facts about the IPO together with the management fee/underwriting fee/selling concession split. Panel B shows the results of the split in monetary terms. Typically, the sales credits are more biased toward the lead manager than the underwriting commitment. The lead manager's share as a percentage of each component of the gross spread is presented on the last line. In this example, the lead manager receives 76% of the selling concession, 50% of the management fee, and 32 % of the underwriting fee, for a total of 66% of the gross spread.

Panel A. Key Figures				
Fee Split	%	Per Share (\$)	Total	
Gross Spread Divided Into:	7	0.84	2,704,800	
Management Fee	20.24	0.17	547,400	
Underwriting Fee	22.62	0.19	611,800	
Selling Concession	57.14	0.48	1,545,600	
No. of Shares	3,200,000	Including 400,000 overallotment option		
Share Price (\$)	12			

Panel B. Allocation of Fees ³				
Management Fee	Commitment	Underwriting	Sales Credits after Designations	Total (\$)
%	\$	%	Shares	%
Lead Manager	273,700	32	900,000	196,650
Co-Manager	273,700	32	900,000	196,650
100,000 Share Bracket (7 Banks)	0	-	25	700,000
50,000 Share Bracket (6 Banks)	0	-	11	300,000
Total	100	547,400	100	2,800,000
<i>Lead Manager's Share</i>	50%	50%	32%	32%

Total Fees: 3,222 million shares * 84 cents per share = 2,704,800
 Syndicate Costs 12 cents per share, deducted from underwriting fee = -450,800
 Total to be split between the syndicate: 2,254,000

a selling concession of around 60% of the gross spread. The investment banks in the selling group simply ask for stock in response to demand from their clients—they bear no financial responsibility for the stock to be sold. The selling concession is split among the syndicate members according to the sales credited to each member. The final sales allocation typically allots fewer shares to the junior banks in the syndicate than the underwriting allocation.

II. Data

This section describes the data used and criteria for inclusion of the sample. The section also contains descriptive statistics showing, among other things, how most fees accrue from the largest IPOs, and how the management fee, underwriting fee, and selling concession vary with total fees.

A. Sample

The original data include all US equity listings in the SDC New Issues database between January 1, 1990, and December 31, 1999, excluding unit offerings and closed-end funds. This amounts to a total of 4,780 IPOs. SDC has no gross spread data available in seven cases. For the remaining IPOs, a breakdown of the gross spread into management fee, underwriting fee, and selling concession components is not available in 414 cases.² Forty-eight further cases are excluded as the three components do not sum up to the gross spread.

After excluding two additional investment funds and 123 REITs, the final sample totals 4,186 IPOs. All dollar amounts are expressed in real 4Q 1999 terms.

B. Descriptive Statistics

A disproportionate share of fees come from the largest IPOs, and a large share of these fees go to the bulge bracket banks that concentrate on the larger deals. The total gross fees in an IPO are very highly correlated with IPO size.

Figure I shows that only 1% of IPOs generate 20% of the total fees, while 10% of IPOs account for over half of the total fees. By dividing the IPOs into five size quintiles according to proceeds, the largest quintile represents 65% of total fees. Assume all the fees are allocated to the lead bank, then bulge bracket investment banks receive 78% of the fees in the largest quintile (defining a bulge bracket bank as a Carter-Manaster (1990) index of 8.88 or above, as calculated by Carter et al. 1998).

Table II shows averages of the management fee, underwriting fee, and selling concession as a percentage of the total gross spread. In the complete sample of 4,186 IPOs, the average management fee is 20.82%, the average underwriting fee 21.79%, and the average selling concession 57.39%.

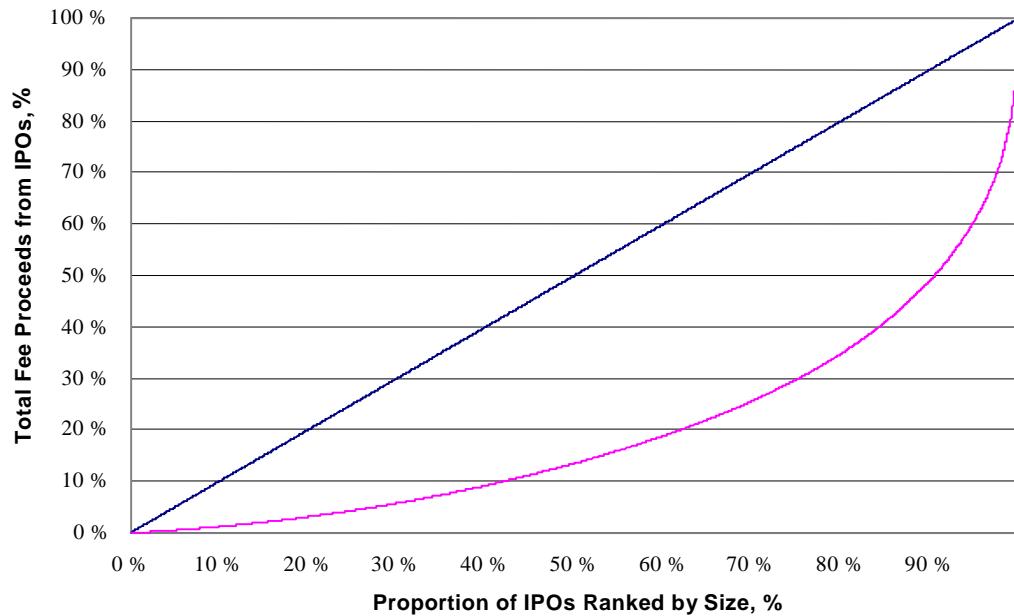
When the IPOs are grouped into deciles according to size (measured by total gross fees), the selling concession increases with size. Looking at the largest IPOs in further detail, the selling concession is found to increase in size even within that select group. By dividing the 5% of IPOs with the highest fees into five groups by 1 percentage point each, I find the selling concession to still increase monotonically with total fees.

Table III presents pairwise Pearson correlations for the key variables used. The fact that the lead underwriter receives a large relative share of the selling concession but a small relative share of the underwriting fee points to a trade-off between these two components. Indeed, the selling concession is strongly negatively related to both the management fee and the underwriting fee (correlations -0.56 and -0.72, respectively), while the management and underwriting fees have a much lower correlation coefficient of -0.18. In other words, any

²IPOs for which breakdowns are not available are on average smaller, with average gross proceeds of \$39 million versus average gross proceeds of \$98 million for IPOs for which breakdowns are available.

Figure I. Underwriting Fees and IPO Size

Cumulative IPO fees as a function of IPO size. The x-axis represents the 4,186 US IPOs from the 1990s ranked by total dollar proceeds. Proceeds and fees are measured in terms of 4Q 1999 dollars. The IPOs are ranked on the x-axis according to their size, so that the largest IPOs are on the right. The y-axis represents the cumulative percentage of total fees accruing from the IPOs on the x-axis. The table below shows selected details from the figure in numerical form.



% of IPOs Ranked by Size	% of Total Fees
10 %	1.2%
20 %	3.1%
30 %	5.7%
40 %	9.2%
50 %	13.5%
60 %	18.8%
70 %	25.6%
80 %	34.8%
90 %	49.0 %
95 %	60.7 %
96 %	63.8 %
97 %	67.6 %
98 %	72.4 %
99 %	79.6 %
99.5%	85.7 %
99.9%	95.7 %
100 %	100 %

Table II. Management Fee, Underwriting Fee, and Selling Concession Split

The table presents averages of the management fee, underwriting fee, and selling concession (as a percentage of the gross spread) for size subsamples and the total sample of 4,186 US IPOs in the 1990s. The total gross fees are calculated as IPO gross proceeds times the gross spread percentage.

	Average Management Fee (%)	Average Underwriting Fee (%)	Average Selling Concession (%)	N
All Observations	20.82	21.79	57.39	4186
<i>By Total Gross Fees:</i>				
Group 1 (Smallest)	23.40	22.26	54.34	419
Group 2	21.65	23.28	55.07	419
Group 3	20.73	22.95	56.32	419
Group 4	20.47	22.45	57.08	418
Group 5	20.36	21.95	57.69	419
Group 6	20.37	21.56	58.07	419
Group 7	20.46	21.31	58.23	418
Group 8	20.40	21.26	58.35	419
Group 9	20.17	20.76	59.07	418
Group 10 (Largest)	20.19	20.06	59.75	418

trade-off between the fee components takes place essentially between the selling concession and the two other components, not between the management fee and the underwriting fee.

The joint determination of fees seems to turn on the trade-off between the selling concession and the underwriting fee. When the selling concession is below 60%, the underwriting fee is typically increased more than the management fee. This happens in 1,917 cases of the 3,218 for which the selling concession is under 60%. In 832 cases, the management fee and the underwriting fee are increased by the same amount; however, in only 469, is the management fee increased more.

Figure II shows scatter diagrams of logarithmic total gross fees against the three components of the gross spread. The asymmetry of the deviations from the standard 20/20/60 split is striking. There are a significant proportion of IPOs with a selling concession below 60% (and management fees and underwriting fees above 20%), but relatively few with a selling concession above 60%. Apart from concentration of the selling concession on the 60% line, 50% is a popular selling concession (115 cases). Most IPOs have selling concessions between 50% and 60% inclusive, but selling concessions below 50% do occur.

When the selling concession is particularly low, the transaction seems highly likely to be a small IPO, with a low offer price per share and a relatively small lead underwriter, such as D.H. Blair which lead-managed six of the 15 IPOs with the lowest selling concessions in the sample. At the other end of the scale, the IPOs with the highest selling concessions appear to be very large IPOs, with a high offer price per share, and a well-known bulge bracket lead underwriter. Of the 15 IPOs with the highest selling concessions, eight were lead-managed by bulge bracket underwriters.

III. Variation in the Syndicate Contract

This section discusses the frequency and use of the standard 20/20/60 contract, which has become more common over time. The proportion of IPOs with the 20/20/60 split has increased from 10% in 1990 to 36% in 1999. Even after a number of rounding procedures are investigated, however, less than one third of all IPOs obey the 20/20/60 split.

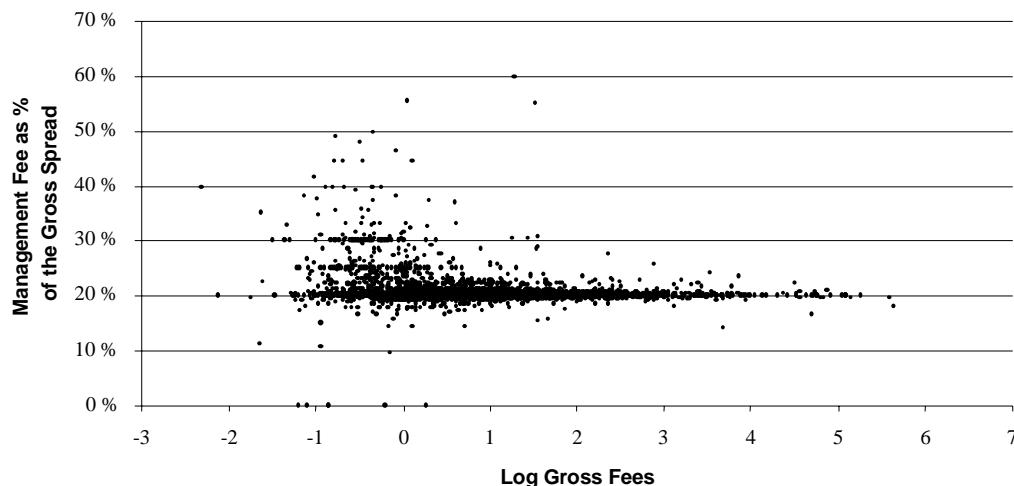
Table III. Correlation Matrix of Key Variables

The table presents Pearson correlation coefficients between the key variables used in the regression analysis. All monetary amounts are in 4Q 1999 dollars. The management fee, underwriting fee, and selling concession are measured as a percentage of the gross spread. Abnormal bid-ask spread is calculated according to the model in Hanley, Kumar, and Seguin (1993) and is an average of the first ten trading days. The Carter-Manaster index is from Carter, Dark, and Singh (1998). The sample includes 4,186 US IPOs during 1990-1999. The correlations for the following variables are based on a smaller number of observations due to missing data points: revenue 3,394 observations, first-day return 3,882 observations, and abnormal bid-ask spread 2,004 observations. All significance tests are two-sided.

Figure II. Gross Spread Components and Total Gross Fees

These figures show the relationship between IPO total gross fees and the three components of the gross spread, measured as a percentage of the gross spread, for 4,186 US IPOs in the 1990s. The fees are shown as the natural logarithm of the total gross fees in millions of 4Q 1999 dollars (i.e., an IPO with total gross fees of \$20 million shows as a log value of approximately 3 and an IPO with total gross fees of \$400 million as a log value of approximately 6).

Panel A. Management Fee vs. Log Gross Fees



Panel B. Underwriting Fee vs. Log Gross Fees

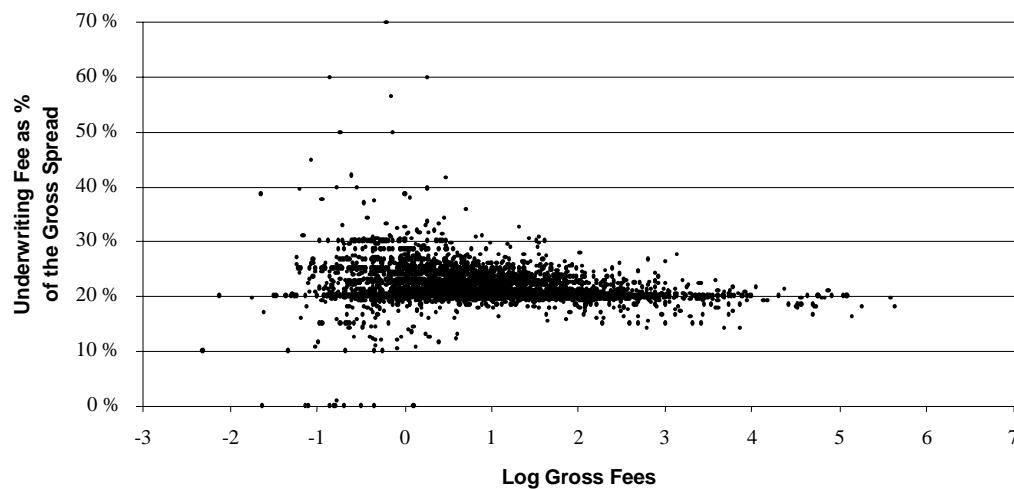
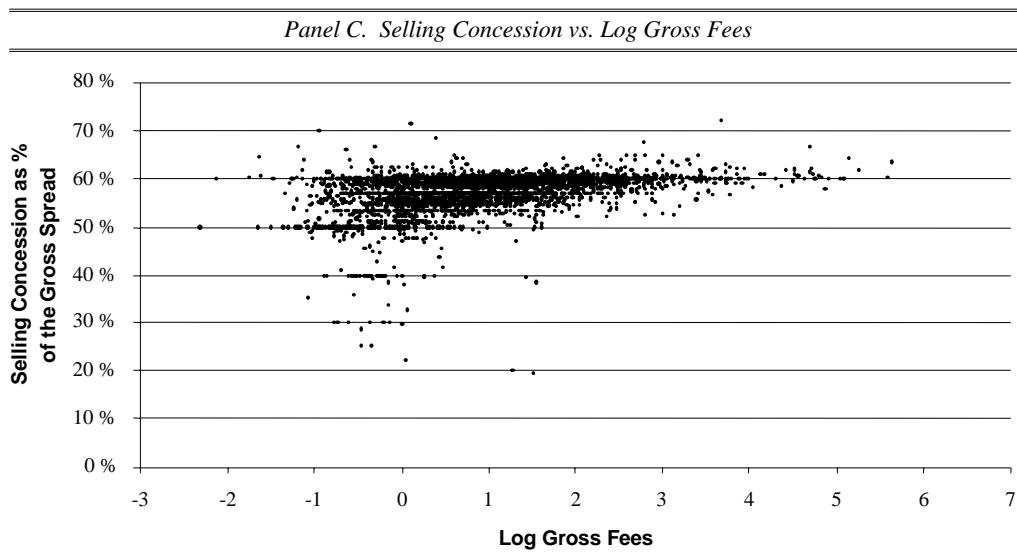


Figure II. Gross Spread Components and Total Gross Fees (Continued)

A. Standard Split

Standard fees and agreements sometimes raise concerns as to the workings of competition in the market. Legal scholars, in particular, have long recognized the imbalances inherent in standardized contractual practices. “Standard contracts are typically used by enterprises with strong bargaining power. The weaker party … is frequently not in a position to shop around for better terms, either because the author of the standard contract has a monopoly … or because all competitors use the same clauses” (Kessler, 1943).

Chen and Ritter (2000) show that in recent years, 90% of US IPOs with proceeds of \$20-\$80 million have had a gross spread of 7%. Such a tendency toward a standard contract has raised concerns of collusion in the underwriting market. Hansen (2001) argues that this standard gross spread is merely an efficient contractual standardization and that underwriters do compete with each other on the basis of quality.³

As the overall gross spread is so standardized, it is no surprise that some established practice prevails as well in the way the underwriting contract divides the gross spread. The typical contract splits the spread into a 20% management fee, a 20% underwriting fee, and a 60% selling concession. Applied to the standard 7% gross spread, this gives a 1.4% management fee, a 1.4% underwriting fee, and a 4.2% selling concession. This split is widely recognized as the industry standard.

Given such a standard, the first research issue has to be its prevalence. Is there cross-sectional variation in the management fee/underwriting fee/selling concession split? Is it as common as the 7% gross spread standard? If not, what economic factors drive the cross-sectional variation?

³Ljungqvist, Jenkinson, and Wilhelm (2001) also relate to the collusion debate. The US Department of Justice’s probe into fee collusion is described in Smith (1999). Earlier work documenting the level and determinants of gross spreads with an emphasis on the US market includes Ritter (1987), Beatty and Welch (1996), and Lee, Lochhead, Ritter, and Zhao (1996).

B. Frequency of the Standard Division and the Effect of Roundings

First of all, only 302 IPOs in the sample (7.2%) show an exact 20/20/60 fee split. The results are reported in Table IV. Rounding of the components might be thought an issue, but a thorough examination reveals that rounding is a limited phenomenon. If I round the components to the nearest 0.1%, 401 IPOs (9.6%) obey the 20/20/60 split; by rounding to the nearest full percentage point, 905 IPOs (21.6%) show a 20/20/60 split.

Like the 7% gross spread, however, the 20/20/60 split has become more common with time. Figure III shows the proportion of IPOs in each year using the 20/20/60 split when the components are rounded to the nearest full percentage point. The proportion has increased from 9.7% in 1990 to 35.9% in 1999.

An alternative approach to rounding the percentage terms of the management fee/underwriting fee/selling concession split is to round the monetary amounts. Chen and Ritter (2000) explain that the gross spread is typically expressed in cents per share. If the number of cents per share is not divisible by five, an exact 20/20/60 division of the gross spread requires the use of fractions of cents. Chen and Ritter (2000) report that in those cases, the management fee is normally rounded up to the nearest whole cent.

I analyze the rounding to full cents as follows. The gross spread in cents per share is first multiplied by 20% for the management fee and the underwriting fee and by 60% for the selling concession. These components are then rounded to the nearest whole cent. The algorithm then checks whether the management fee, underwriting fee, and selling concession (in cents to one decimal place) actually used equal the nearest whole cents possible. This definition gives a total of 751 observations, or 17.9% of the sample, with a 20/20/60 split. Alternatively, the management fee could always be rounded up to the nearest cent as Chen and Ritter (2000) suggest. This definition gives 641 cases with a 20/20/60 split.

As the last and most conservative alternative, the roundings for each component are allowed to be made either upward or downward to a whole cent, regardless of which is closer. Even this comprehensive definition results in only 1,283 observations (30.6% of the sample) with the standard split of 20/20/60. Thus, one must conclude that the 20/20/60 split, while quite common, is not blindly applied. Even according to the most liberal rounding procedures, over two-thirds of all US IPOs deviate from this split. The 20/20/60 standard is less common by far than the 7% gross spread standard.

IV. Cross-Sectional Variation in the Splitting of Fees

This section first develops hypotheses about the cross-sectional variation in the fee division and then proceeds with empirical tests. The hypotheses discussed relate to the costs of the offering, the bargaining power of the lead bank, offering risks, and alternative sources of compensation.

A. The Underwriting Contract vs. the *Ex Post* Split of Fees

It is necessary to understand more completely the relation between the terms of the underwriting contract and the *ex post* monetary compensation the lead manager receives. This *ex post* split of fees is not public information. In the Chen and Ritter (2000) example of the division of fees among syndicate banks in dollar terms in Table I, the lead manager gets 50% of the management fee, 32% of the underwriting fee and 76% of the selling concession. If this is representative, then it would indicate that the selling concession is the component most biased toward the lead manager and the underwriting fee the least so. This is consistent with the lead manager's considerable discretion in the allocation of sales credits.

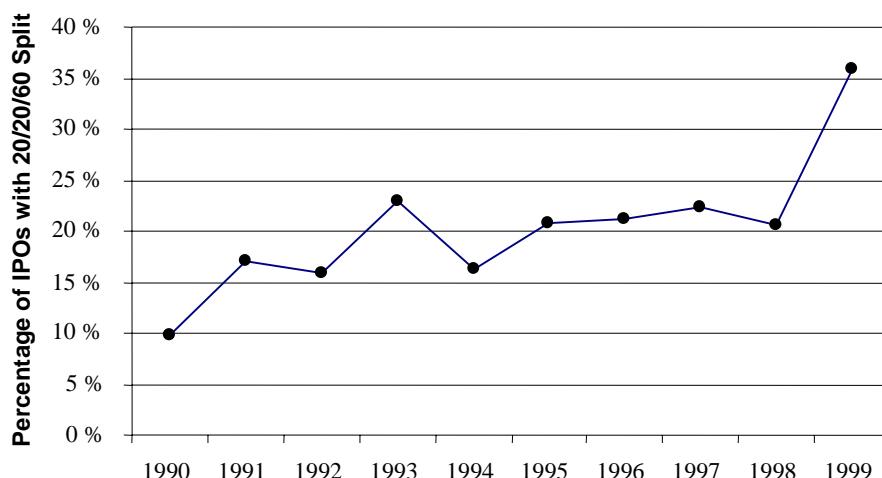
Table IV. Frequency of the 20/20/60 Split

The table shows the frequency of the standard split (20% management fee, 20% underwriting fee, and 60% selling concession) for a sample of 4,186 US IPOs during 1990-1999 using different rounding procedures.

Rounding System Used	No. of 20/20/60 Observations	% of Sample
No Rounding	302	7.2
To the Nearest 0.1%	401	9.6
To the Nearest 1%	905	21.6
To the Nearest Full Cent	751	17.9
To the Full Cent Up or Down	1,283	30.6

Figure III. The 20/20/60 Split Over Time

The figure shows the prevalence of the 20/20/60 management fee, underwriting fee, and selling concession split over time. The proportion of 20/20/60 splits (when rounded to the nearest full percentage points) is calculated year-by-year from the sample of 4,186 US IPOs during 1990 to 1999.



To assess whether the Chen and Ritter (2000) example is truly representative, I surveyed five investment bankers from four different banks, all active in syndicate work. All five of them responded. The bankers were asked for a range of the percentage of the three components typically received by the lead manager. Calculating from the mid-point of the ranges given, the average answers were as follows: management fee 61%, underwriting fee 52%, and selling concession 72%. The following ranges span all the answers given: management fee 50%-75%, underwriting fee 35%-60%, and selling concession 60%-90%.

In all five answers, the lead manager's relative share was highest for the selling concession and lowest for the underwriting fee. This supports the conjecture that the lead manager typically benefits when the selling concession is a greater percentage of the gross spread. Conversely, other syndicate banks benefit if either the management fee or the underwriting fee is larger (depending on whether the particular bank is in the management group or not).

B. Hypothesis Development

The observation that the fee split varies across IPOs prompts a question as to which factors drive the variation. The following analysis divides these influences into four categories: 1) the costs of the offering, 2) the bargaining power of the lead bank 3) offering risks, and 4) alternative sources of compensation.

1. Costs of the Offering

Gross spreads decrease with offer proceeds (e.g., Ritter, 1987; Lee et al. 1996; and Corwin and Harris, 2001). This effect is generally attributed to economies of scale, but economies of scale may affect the members of the syndicate differentially. The amount of investment banker work in an IPO such as due diligence, writing the prospectus, or organizing the roadshow, is relatively insensitive to the size of the IPO, while the sales effort required can be tens or even hundreds of times greater for large offerings. The investment banker work seems to entail greater economies of scale.

Apart from size, selling costs can be affected by the attractiveness of the offering. Some IPOs are more sought after by investors, and consequently are easier to sell. Other offerings require costly stabilization.

The likelihood of stabilization varies from IPO to IPO. Schultz and Zaman (1994) and Ellis, Michael, and O'Hara (2000) report that the lead manager does most of the stabilization. The costs of stabilization are, however, charged back from the underwriting fee by the lead manager. Finally, many offerings have several joint lead managers. A bank in the management group assumes more duties, thus increasing its costs.

These observations lead to some specific variable hypotheses. First, larger IPOs should have a higher selling concession to provide incentive to the selling group, as larger IPOs are more costly to sell. For the same reason, offerings perceived as hot should have a lower selling concession, as they are easier to sell. As the likelihood of stabilization rises, the underwriting fee, from which stabilization costs are covered, should increase. Finally, offerings with more joint lead managers should have a higher management fee so that all joint leads receive adequate compensation for their organizing efforts.

2. Bargaining Power

Greater bargaining power on the lead manager's side may lead to a higher selling concession, since the lead typically gets a higher share of proceeds from the selling concession. More specific variable predictions emerge from this idea.

The absolute fees (which are almost perfectly correlated with IPO gross proceeds at 0.92) may affect the outcome of bargaining between the lead manager and the junior syndicate banks. The junior banks will have to weigh their costs of participation in the syndicate, such as analyst time, against absolute amounts of fee money. When the fees involved are large, the lead manager may be able to persuade the junior banks to join the syndicate even though they will earn a smaller proportion of total fees. This can be achieved, for example, by increasing the selling concession. This prediction of a higher selling concession for larger offerings is consistent with that reached on the basis of costs.

It is probably easier to attract syndicate members to participate in an attractive, hot IPO. Such IPOs are likely to be easier to sell, to generate more positive publicity for banks associated with them and to provide opportunities to allocate underpriced shares to favored customers.⁴

⁴For a discussion of the strategic allocation of IPOs, see Benveniste and Spindt (1989), Benveniste and Wilhelm (1990), and Hanley and Wilhelm (1995).

Consequently, hot offerings should entail a higher selling concession since junior banks will be more eager to participate, giving the lead more bargaining power. This prediction is contrary to the one made on the basis of costs and makes the anticipated effect ambiguous.

Finally, a prominent lead manager such as a global bulge bracket investment bank may be able to extract a greater share of fees than a less well-known investment bank. Dunbar (2000), for example, reports that well-known lead banks can charge higher abnormal gross spreads and still increase market share. Similarly, a prominent lead manager may also be able to keep a larger share of proceeds through a higher selling concession.

3. Offering Risks

There are two potentially important risks that could affect the division of fees. First, underwriters risk their reputations if they associate themselves with an offering that shows poor performance. Beatty and Ritter (1986) first recognized that, because of repeat business opportunities, investment bankers develop a reputation in the marketplace and can earn a return on this reputation. Hansen and Torregrosa (1992) and Chemmanur and Fulghieri (1994) elaborate on this view. Banks associated with unsuccessful IPOs lose market share (Dunbar, 2000) or may be vulnerable to lawsuits (Drake and Vetsuydens, 1993).

Nanda and Yun (1997) examine the different effects of failed IPOs on the market values of lead underwriters and co-leads. Their conclusion is that the lead bank suffers the most damage from the failed offerings. Its visible role and general project management responsibility, particularly as it comes to pricing and marketing the issue, places the bulk of the responsibility on the lead manager.

Second, there is the more basic issue of underwriter financial liability, which seems significantly diminished by current institutional arrangements. Chen and Ritter (2000) write: "Historically, syndicates existed partly for regulatory capital requirement and risk-sharing purposes, and partly to facilitate the distribution of an issue.... Today, there is little reason to form a syndicate to perform the traditional roles of risk sharing, distribution, and meeting capital requirements"(p. 1120).

The traditional risk-sharing function is discussed by Wilson (1968) and Chowdry and Nanda (1996). The current reality of the practice of bookbuilding, described by Benveniste and Wilhelm (1997), means that at the moment of pricing, when the banks technically "underwrite" the issue, they already have enough buying commitments (in the form of non-binding indications of interest) from their customers. This reduces the underwriting risk simply to a counterparty settlement risk between the banks and their customers.

The nature of these risks prompts two alternative predictions. On the one hand, given the reputational risks to the lead manager, riskier offerings should have a higher selling concession to compensate the lead. On the other hand, given the financial liability of the underwriters, riskier offerings should have a higher underwriting fee to compensate the underwriters. Since a higher selling concession comes at the expense of the underwriting fee, these two risks would have the opposite effects. Given how bookbuilding mitigates underwriting risks, however, one would expect the effect of reputational risks to dominate.

If the IPO is withdrawn, then the syndicate receives no fees except for out-of-pocket expenses; the lead underwriter in particular may suffer reputational damage. Dunbar (1998) analyzes the likelihood of such withdrawals. By the same logic as before, IPOs more likely to be withdrawn may have higher sales concessions to cover for the lead underwriter's reputation-related risks.

4. Alternative Sources of Compensation

In many offerings, particularly small and risky ones, the lead underwriter is offered warrants

as a component of its total compensation. The use of warrants is discussed in more detail in Barry, Muscarella, and Vetsuydens (1991) and Dunbar (1995). Warrants increase the lead manager's total compensation. Consequently, the use of warrants could be reflected in a smaller proportionate share of the gross spread for the lead manager. A smaller selling concession may result.

C. Regression Results

Table V shows the results of ordinary least squares regressions using the three components of the gross spread as dependent variables. When the simultaneous regressions involve the same set of explanatory variables, OLS methods give identical results with seemingly unrelated GLS regressions (Greene, 1993).

Since a Breusch-Pagan (1979) test reveals the presence of heteroskedasticity, the *t*-values are adjusted for heteroskedasticity using White's (1980) method. As the independent variables are the same for all three regressions, the constants sum to 100% and the coefficients of each independent variable to zero within computational accuracy.

1. Costs of the Offering

IPO size is measured by IPO gross proceeds or gross fees. Both variables are in millions of 4Q 1999 dollars. Proceeds and fees have a very high correlation (0.92) and produce virtually the same results. The variable reported is gross fees. The results show that gross fees are a very significant (*t*-value 10.8) positive determinant of the selling concession. This result supports the prediction that cost and bargaining power effects result in higher selling concessions for larger offerings.

The relation between IPO size and the gross spread components does not have to be linear. Hansen and Torregrosa (1992), for example, find that gross spreads are U-shaped in offering size, suggesting that a firm may find it more difficult to raise capital once past an optimum offering size range. This could also affect the division of the gross spread.

For an IPO that is "too large," the relative share of management and underwriting fees could start to increase again; a higher-than-normal workload and risk would be placed on the managers and the underwriters when the offering grows suboptimally large. The result would be a convex relationship between IPO size and the management and underwriting fees and a concave relationship between IPO size and the selling concession. The squared fees variable is a negative and significant determinant of the selling concession, supporting this conjecture. For the management fee and selling concession, the results are similar with inverse signs.

The hotness of the IPO is measured using first-day returns. First-day returns are a positive and significant determinant of the selling concession. This result is consistent with the prediction based on bargaining power, but against the contrary hypothesis based on offering costs. Replacing first-day returns with price adjustment, defined as the percentage change from the midpoint of the filing range to the offer price as in Hanley (1993), produces similar results. Only one of the variables is used at a time to avoid multicollinearity problems, and first-day returns is the one reported. The total IPO market volume in the month of the IPO is used as a further hotness proxy, but the unreported results are not significant at conventional levels.

Following Hanley, Kumar, and Seguin (1993) the proxy used for anticipated stabilization is based on relative bid-ask spread data obtained from the Center for Research on Security Prices (CRSP). A simple regression model of the expected relative bid-ask spread is constructed using the stock's volume, price, and volatility as independent variables. This model is estimated separately for each trading day for days 1-10 after the IPO. Each expected

Table V. Regressions on Gross Spread Components

The table consists of OLS regressions investigating the determinants of the management fee, underwriting fee, and selling concession, respectively. Variables are defined in Table III. The initial sample includes 4,186 US IPOs during 1990-1999. Specification I has 3,161 observations due to missing variables, mostly revenue. Specification II has 1,557 observations due to missing variables involved in abnormal bid-ask spread calculations. OLS estimates are identical to seemingly unrelated GLS regression estimates since the equations have identical explanatory variables (Greene, 1993). The constants add up to 100 and all coefficients sum to zero across the three regressions, within computational accuracy. *t*-values are reported in parentheses under the coefficients. White's (1980) correction for heteroskedasticity is used in all specifications. All significance tests are two-sided.

	Specification I			Specification II		
	Management Fee (%)	Underwriting Fee (%)	Selling Concession (%)	Management Fee (%)	Underwriting Fee (%)	Selling Concession (%)
Constant	21.25*** (67.74)	22.14*** (43.99)	56.61*** (94.95)	20.83*** (49.08)	22.02*** (30.46)	57.15*** (70.60)
Gross Fees	-0.03*** (-4.86)	-0.14*** (-10.25)	0.17*** (10.84)	-0.07*** (-3.60)	-0.28*** (-8.29)	0.35*** (8.41)
Gross Fees Squared	0.0002*** (4.29)	0.0008*** (5.35)	-0.001*** (-5.73)	0.0006*** (3.89)	0.002*** (7.95)	-0.003*** (-8.59)
First-Day Return	-0.04 (-0.54)	-0.58*** (-5.53)	0.62*** (4.43)	-0.01 (-0.10)	-0.50*** (-4.48)	0.51*** (4.28)
Abnormal Bid-Ask Spread				10.71 (1.84)	5.02 (0.82)	-15.75 (-2.70)
No. of Bookrunners	-0.61*** (-2.77)	0.04 (0.10)	0.57 (1.30)	-0.26 (-0.86)	0.56 (1.09)	-0.31 (-0.49)
Carter-Manaster Rank	0.003 (0.10)	0.04 (0.95)	-0.04 (-0.92)	0.02 (0.40)	0.03 (0.51)	-0.05 (-0.73)
Revenues	-0.00002 (-1.58)	-0.00002 (-0.46)	0.00005 (0.79)	-0.00004 (-0.13)	0.0005 (-0.13)	-0.0004 (-0.88)
Withdrawal Likelihood	0.001 (1.59)	-0.001 (-0.33)	0.0002 (0.01)	-0.0005 (-1.23)	0.001 (1.79)	-0.0005 (-0.10)
Warrant Dummy	3.20*** (9.87)	0.06 (0.17)	-3.26*** (-7.66)	2.45*** (5.13)	-0.49 (-0.97)	-1.95*** (-3.26)
Adjusted R ²	0.12	0.05	0.13	0.08	0.05	0.12
F-Value	54.0*** 3161	22.1*** 3161	61.6*** 3161	16.5*** 1557	10.6*** 1557	24.2*** 1557
N						

***Significant at the 0.01 level.

relative spread is then subtracted from the actual relative spread to obtain a measure of unexpected spreads for each company for each day. An average of the unexpected spreads is then calculated over the first ten days for each company.

When this average is negative, the company has lower-than-expected spreads. As Hanley et al. (1993) report, narrow spreads may be caused by stabilization activity. As stabilization costs are covered from the underwriting fee, this component may be increased for the offers most likely to be stabilized. No such effect, however, is found using *ex post* spreads. In a regression setting, narrow abnormal spreads (indicating possible stabilization) are unexpectedly associated with lower underwriting fees, although the results are not significant at conventional levels. Consequently, no support is found for the effect of anticipated stabilization costs.

Finally, syndicate size is first measured using the number of bookrunners in the IPO. As reported in Table V, the effect on the management fee is negative, contrary to expectations. In unreported regressions, the number of co-leads has a slightly positive coefficient in the management fee regression, but the results are not significant at conventional levels.

2. Bargaining Power

The reputation of the lead manager is proxied using the Carter-Manaster (1990) index of underwriter reputation, as reported by Carter, Dark, and Singh (1998). For the banks with no known Carter-Manaster rank, the ranks are estimated as in Hansen (2001) and Booth and Chua (1996) using the ranks, log total proceeds underwritten, and the mean offer price of the banks for which the rank is known. The results for the Carter-Manaster rank do not, however, support the bargaining power based prediction. The Carter-Manaster rank has a negative sign in regressions on the selling concession and is not significant at conventional levels.

An additional robustness check (unreported) is conducted to account for the potential effect of selling concession caps. Junior banks in the syndicate may sometimes be able to cap the percentage of the selling concession that can be allocated to the lead manager. According to the five practitioners surveyed, such caps are typically placed at between 50% and 75% of the selling concession (this range covers all the answers given), but are used mostly in recent large offerings. I constructed a "caps-free" subsample by eliminating the largest 20% of IPOs in the period 1995-1999. The point estimates for the subsample are very similar to those of the whole sample. Different size or time period limits do not change the results.

3. Offering Risks

In the literature, IPO risk proxies have included firm revenues (e.g., Beatty and Welch, 1996), firm age (e.g., James, 1992), and the inverse of the offering price (e.g., Brennan and Hughes, 1991). The first risk proxy analyzed is firm revenues in the year prior to the IPO. The results are reported in Table V.

Revenue is not a significant determinant of any of the three components of the gross spread. For the selling concession and the underwriting fee, the results are not significant at conventional levels, and multicollinearity with IPO size is a potential problem. Alternative risk proxies analyzed are the inverse of price and firm age. I do not report the former in the final specifications, because there is severe multicollinearity with IPO size, and there are few observations available for the latter. Overall, the data provide only limited evidence concerning the prediction that risk proxies affect the division of fees.

The likelihood of IPO withdrawal is calculated following Dunbar (1998). The prediction is that a higher likelihood of withdrawal should increase the selling concession. In regressions on the selling concession, the variable has a *t*-value close to zero. Consequently, no support

4. Alternative Sources of Compensation

I use the SDC variables ADDNOTES to identify a group of 322 IPOs in which warrants were used as additional underwriter compensation. Interestingly, IPOs using warrants have an average selling concession of 53.8%—lower than the average selling concession of 57.4% found for the entire sample. Management and underwriting fees for the warrant group are also significantly higher than for the whole sample. Regressions indicate that the issue of warrants is a significant negative determinant of the selling concession, supporting the prediction that warrants are a substitute for a higher selling concession.

V. Conclusions

The investigation of 4,186 US IPOs reveals that, even after allowing for effects of rounding, fewer than one-third of all IPOs follow the standard split of a 20% management fee, a 20% underwriting fee, and a 60% selling concession. Like the 7% standard gross spread, however, this standard split has become much more common in the 1990s. The standard split prevailed in only 10% of IPOs in 1990 versus 36% in 1999.

The cross-sectional variation of the split exhibits significant regularities. The results clearly show that the selling concession increases with total gross fees from the IPO. This may be due to differential economies of scale for managing and underwriting an issue versus selling it. Alternatively, bargaining for fees between the lead manager and prospective syndicate members may have the same effect. The more fee money there is on the table, the smaller the percentage of fees for which banks will agree to join the syndicate. This would also result in a higher selling concession in large offerings.

Other predictions that receive empirical support relate to higher selling concessions for hot IPOs (measured by high first-day returns or high price adjustment) and lower selling concessions for IPOs in which warrants are used as additional compensation. Further research may provide more light on the inner workings of the syndicate, particularly if data on the *ex post* monetary distribution of fees between banks can be obtained. ■

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