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Costly Litigation and the Pricing of Initial Public Offerings

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〈요 약〉

본 연구는 최초공모주식의 저가발행 원인에 대한 보험가설을 미국에서의 실제 소송사례를 중심으로 실증분석한다. Tinic(1988)은 최초공모주의 저가발행이 공모에 따르는 법률적 소송위험과 소송으로 인한 간사회사의 명예손상에 대한 일종의 보험효과를 가지고있으며, 따라서 저가발행의 크기는 소송위험과 음의 관계에 있다고 주장한다. 또한 보험가설에 의하면 실제 소송이 발생했을 경우에도 저가발행의 크기는 소송결과에 유리하게 작용한다고 한다. 본 연구에서는 1933-1990 기간동안 미국증권법 제 11조 조항을 위반하여 소송이 제기되었던 사례가운데 실제소송의 결과가 알려진 판례를 중심으로 보험가설의 주장을 실증분석하였다. 또한 최초공모이후의 공모시장을 통한 기업자금 조달시에 주간사회사의 변경여부를 분석함으로써 소송으로인한 간사회사의 명예손상의 정도를 파악하고자 했다.

연구결과에 따르면 투자자들에 의한 집단소송의 결과와 최초공모주의 저가발행의 크기에는 유의적인 관계가 있음이 실증적으로 제시되었다. 또한 간사회사의 명성과 실제 현금으로 환원한 소송위험간에도 유의적인 관계가 있음을 보여주고 있다. 한편 소송에 관련된 최초공모주의 경우에는 일단 소송이 제기된 후의 공모를 통한 추가기업자금 조달시에 기존의 간사회사를 전원 교체하는 등 통제집단과는 다른 형태를 보여줌으로써 보험가설의 주장을 지지하고 있다.

Ⅰ. Introduction

This study further explores the implications of the insurance hypothesis by examining the resolutions of the actual lawsuits. Specifically, the association between the settlement outcomes and the initial returns is examined. According to the insurance hypothesis, the expected legal liabilities increase with the riskiness of the offerings and large

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underpricing may reduce the liabilities even when the lawsuits were filed. Hence, the resolution data would be expected to show that the settlement amount is negatively related to the initial returns. In contrast, Alexander (1991) argues that trial outcomes have little influence on the settlement outcomes.

If this is the case, the expected association between initial returns and settlement amounts would be weak. Using a subset of Section 11 IPOs where litigation outcomes are obtained, this study sheds some light on this issue.

This study also documents the actual damages and how the consequences of litigation effect the reputation of the investment bankers. Focusing on the differences in the expertise and the ability of the originating investment bankers to conduct due diligence investigation of new start-up firms, Tinic (1988) emphasizes the costly nature of lawsuits and the associated damages to the reputation of the investment bankers. The costly nature of litigation will be examined, using both the total costs of going public and the frequency of retention of the same underwriters

in public offerings subsequent to the initial offerings of the sued firms.

After briefly explaining the sample selection, this paper presents empirical results and concludes with brief summary.

Ⅱ. Sample

This study uses a sample of sued IPOs from Jang (1992a). These IPOs were sued under Section 11 of the Securities Act of 1933. The resolution data were obtained using the following sources: (1) 'FEDSEC' library of Mead Data's LEXIS system, (2) all opinions and verdicts reported in West's *Federal Practice Digest*, (3) previous studies on underwriters' liabilities associated with due diligence investigation, (4) *Newberg on Class Actions*, and (5) attorneys for both plaintiffs and defendants which handled the litigation. Information on the filing dates and the decision dates were obtained from the Clerk's Office of the Federal District Court by telephone and mail interviews. The resolutions were available for fifty six lawsuits out of 65 sued IPOs.[1)]

1) Of nine cases for which final resolutions were not available, Section 11 claims were maintained for two cases. One case was granted certification of class at this writing. The resolution was not

In order to examine the relationship between issuers and underwriters in the subsequent public offerings, *A Decade of Corporate and International Finance: 1960-1969* by the Investment Dealers' Digest and the various issues of *Directory of Corporate Financing* from 1970 to June 1992 were used. Since the *Directory of Corporate Financing* reports only publicly underwritten offerings, it may be that other private placed financings, if any, are not considered in this study.[2)]

Ⅲ. Empirical Results

1. Type of Resolution

Table 1 presents the types of resolutions. Of sixty five Section 11 IPOs, eleven cases were dismissed on average by the forty-third month after the first lawsuit was filed. Forty two cases were settled out of court, four of which were initially dismissed as to Section 11. Three cases are still pending in the court at the time of writing. Resolutions of the suits are not available for the remaining nine cases. In discussing the resolutions and the consequences of lawsuits, this study assumes that the trial outcomes reflect the merit of the case.[3)] In other words, the lawsuits without any merit is assumed to be dismissed. Accordingly, the dismissed cases are defined as non-meritorious. On the other hand, any payments by issuers and the originating investment bankers are assumed to reflect the merit of the cases and are considered meritorious.[4),5)] Four settlements for which Section 11 claims were initially denied in the legal proceedings are considered as non-meritorious. In most cases, the plaintiffs seek compensatory damages, prejudgment

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available for the remaining six cases.

2) For detailed information on the sample selection, see Jang(1992a)

3) Palmrose(1988) used the same approach in classifying the audit-related litigation. Focusing on the litigation activities of independent auditors, Palmrose assumes the positive relation between audit failure and litigation occurrences and/or resolutions. Cases dismissed are defined as being non-meritorious and any payments by auditors are considered as being meritorious.

4) As in Palmrose(1988, p.68), settlement amounts do not consider any subsequent recovery by underwriters from other defendants, especially from the issuing company as this information is difficult to obtain.

5) Of thirty eight cases which were settled out of court, one case was initially dismissed as to Section 11 provision before the decision was reversed in the U.S. Court of Appeals. The case was settled before reaching the final decision.

interest, a recovery of costs and attorney's fees, and such other relief as may be deemed just and proper. In discussing the potential liabilities of lawsuits, this study considers only the actual cash settlement amounts agreed between the plaintiffs and the defendants, including the issuer and any other persons which signed the registration documents, primarily the underwriters.[6] Hence, the total costs of the potential liabilities may be underestimated.

Some cautions are still needed in considering the settlement as being meritorious: (1) As Alexander (1991) argues, the settlement outcomes may have little influence on the cases' strength; (2) Since lawsuits tend to entail lengthy process from the inception to the final resolution, some issuers and particularly prestigious investment bankers may attempt to settle the small amount of claims out of court regardless of their merits, thus making it further difficult to distinguish the strengths of the merits[7]; (3) The cash settlement amount alone does not comprise the entire liabilities arising from litigations. For example, management time and other implicit costs of defending litigation are not included in the calculation of legal liabilities [Tinic (1988)].

Table 1 also presents the types of resolution according to the reputation of investment bankers. As in previous studies from Jang (1992a & 1992b), the investment banker is defined prestigious if it belongs to either Hayes' classification (1971 and 1979) (the sub-major, major, or special group) or Hayes, Spence, and Marks' classification (1983). Otherwise, the investment banker is defined as being non-prestigious.[8] Considering the superior expertise and the ability of the prestigious investment bankers to conduct due diligence investigation, the more reputation capital the investment bankers put at stake, the more likely the legal cases are to be dismissed. When

6) Of forty two cases which were settled out of court, the resolution amount was available for thirty two cases. Among the thirty two cases, five settlements comprise cash settlements and some shares. Two settlements consists of only shares of common stocks. The remaining twenty five cases were in the form of cash settlement.

7) The settlement of the pending litigation was usually reported in either the issuing company's or its underwriter's 10-K reports or annual reports. The typeical statement is as follows: "In agreeing to settle the stockholder class-actions, neither the Company nor any of the other defendants admitted to any of the plaintiffs' allegations, and each of them continues to deny these allegations and any other alleged wrongdoings." The similar point was also addressed by Palmrose(1988). For example, Palmrose classified the cases with auditor payments less than $1 million into the non-meritorious cased where most cases are involved with seasoned offerings.

8) For detailed information on the classification of investment bankers' reputation, see Jang(1992a).

Table 1. Resolution by the underwriter reputation

Panel A: Underwriter classification is based on Hayes (1971, 1979, 1983). An underwriter is defined as being prestigious if the underwriter belongs to either bulge, major, or sub-major groups.

	Non-Meritorious		Meritorious	Others		
	Dismissed	Dismissed & Settled	Settled	Unknown	Pending	N
All	11 (16.1%)	4 (6.2%)	38 (58.4%)	9 (13.8%)	3 (4.6%)	65 (100%)
By Non-Prestigious	2 (8.3%)	1 (4.2%)	15 (62.5%)	4 (16.6%)	2 (8.3%)	24 (100%)
By Prestigious	9 (22%)	3 (7.3%)	23 (56.1%)	5 (12.2%)	1 (2.4%)	41 (100%)

Panel B: Underwriter classification is based on Hayes (1971, 1979, 1983). An underwriter is defined as being prestigious if the underwriter belongs to bulge (special) group.

	Non-Meritorious		Meritorious	Others		
	Dismissed	Dismissed & Settled	Settled	Unknown	Pending	N
All	11 (16.1%)	4 (6.2%)	38 (58.4%)	9 (13.8%)	3 (4.6%)	65 (100%)
By Non-Prestigious	8 (15.4%)	3 (5.8%)	30 (57.7%)	8 (15.4%)	3 (5.8%)	52 (100%)
By Prestigious	3 (23.1%)	1 (7.7%)	8 (61.5%)	1 (7.7%)	0 (0%)	13 (100%)

Panel C: Underwriter classification is based on Hayes (1971, 1979, 1983). An underwriter is defined as being prestigious if the underwriter belongs to either bulge or major group.

	Non-Meritorious		Meritorious	Others		
	Dismissed	Dismissed & Settled	Settled	Unknown	Pending	N
All	11 (16.1%)	4 (6.2%)	38 (58.4%)	9 (13.8%)	3 (4.6%)	65 (100%)
By Non-Prestigious	3 (12%)	1 (4.0%)	15 (60.0%)	4 (16.0%)	2 (8.0%)	25 (100%)
By Prestigious	8 (20%)	3 (7.5%)	23 (57.5%)	5 (12.5%)	1 (2.5%)	40 (100%)

considering only meritorious and non-meritorious cases under each of the two groups, it appears that more cases by the prestigious investment bankers (29%) were dismissed than the cases by the non-prestigious investment bankers (14%).[9] Excluding 'others' category which includes the cases whose resolutions are unknown or still pending, the association between the underwriter reputation and the type of resolution is examined

9) Each percentage is based on the sum of 'dismissed' and 'dismissed and settled' categories in table 1.

using the 2x2 contingency table. A chi-square statistic of 1.82 with one degree of freedom cannot reject the null hypothesis that the dismissal rate of lawsuits is the same between the two classes of investment bankers, prestigious vs. non-prestigious, at the conventional significance level. In order to examine the association between the dismissal rate and the various definitions of the investment banker's reputation, the similar 2x2 contingency tables are tested. The results qualitatively change little.

2. The Resolution Classified by Industry

Table 2 reports resolutions categorized by both the underwriter reputation and the industry classification. There may be differences in the competitive structure among investment bankers, and the investment bankers may differ in their client concentrations [Hayes, Spence, and Marks (1983)].[10] While the negative aftermarket performance of Section 11 IPOs appeared to be a widespread phenomenon, the previous studies suggest that the initial and the aftermarket performance can vary, depending on the industry to which the issuing firm belongs [Jang (1992a), Mauer and Senbet ((1992), and Ritter (1991)]. Given the association between the negative aftermarket performances and the litigation occurrences, the intra-industry examination may yield further insights into the resolution pattern. The data indicate that the issuers in 'computer, electronic equipment', 'services', and 'computer and data processing services' tend to have more lawsuits settled out of court compared with the issuers in other industries. To formally test the association between the type of resolution (non-meritorious vs meritorious) and the industry classification, 2x9 contingency table and a chi-square statistic were estimated. A chi-square statistic of 4.27 with 8 degrees of freedom cannot reject the null hypothesis, suggesting that the resolution pattern is not significantly different across the industries. Table 2 also presents the type of resolution according to the reputation of investment bankers.

Although a formal test was not conducted due to small numbers of legal cases in each category, evidence reveals that the issuers in computer and data processing services tend to have more lawsuits settled out of court.

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10)Examining the auditor litigation intra-industry, Palmrose(1988, p.65) also states that "propensity for auditor litigation may be influenced by business risks as captured through client industry affiliation."

Table 2. Resolution by Underwriter Reputation and Industry Classification

		All			Non-Prestigious		Prestigious	
Industry Categories	SIC Codes[1]	Non-Merit[2]	Merit[2]	Others[2]	Non-Merit[2]	Merit[2]	Non-Merit[2]	Merit[2]
Agriculture, Mining, Construction	011, 071, 109, 138, 152	2 (40%)	3 (60%)	0	1 (50%)	1 (50%)	1 (33.3%)	2 (66.7%)
Manufacturing[3]	205-399	2	(28.5%)	3	(42.9%)	2	(28.6%)	0
Computer, Electronic Equipment	357-369	3	(25%)	7	(58.3%)	2	(16.7%)	0
Transportation, Communication, Warehouse	422-495	2	(50%)	2	(50%)	0		1
Wholesale	510-519	1	(50%)	1	(50%)	0		na
Retail	520-599	0		4	(57.1%)	3	(42.9%)	0
Financial Institution	614, 615, 621, 633, 651, 655, 6795	2	(25%)	6	(75%)	0		0
Services[4]	731-891	1	(11.1%)	5	(55.6%)	3	(33.3%)	1
Computer and Data Processing Services	737	2	(18.2%)	7	(63.6%)	2	(18.2%)	0
Total		15	(23.1%)	38	(58.5%)	12	(18.4%)	3

1. Industry SIC codes were available from CRSP and COMPUSTAT. For offerings whose SIC codes are not available from CRSP/COMPUSTAT (19 for Section 11 IPOs), then prospectus of each offering is examined to determine the closest industry classification at the offering date.
2. A case is classified as being non-meritorious if the lawsuit is dismissed. Two cases were settled out of court after the claims under Section 11 of the Act were dismissed. These two cases are considered non-meritorious as to due-diligence claims. 'Others' comprises cases which are pending as this research is going on. Row percentages are in parentheses.
3. Exclusive of computer and electronic equipment
4. Exclusive of computer and data processing services
5. No REIT is included in this sample. One restaurant chain is classified by CRSP as having 6794, patent owners and lessors.

3. Descriptive Statistics of the Resolutions

Table 3 presents the summary statistics for the resolutions of civil actions for Section 11 IPOs. Length of the class period is obtained from the court decisions and/or the issuers' 10-K reports. For all cases but one, the class period starts at the offering date. Mean (median) length of the class period is eleven months (ten months). Length of the file period is computed from the offering date to the date of lawsuit. Mean (median) length of the file period is 15 months (12 months). Time interval to resolution is defined as the period from the date of lawsuit to the final case settlement or decision date. For cases where the disposition of the civil action is unknown or unresolved, the most recent court decision dates are used. Hence, the figures reported in Panel A of Table 3 are underestimated. Panel A also reports the price change from the offering date to the following day of the class period and the price change from the offering date to the date of lawsuit. As shown in Panel A, mean (median) values for both price changes are significantly negative.

For comparison purpose, the dollar value of the aftermarket loss (F_LOSS) was computed from the date of offer to the date of lawsuit. F_LOSS is the difference between the offering price and the price at the filing date multiplied by the number of shares in the offering. The mean (median) value of F_LOSS is about $18 million ($10 million) for the aggregate sample. The mean (median) dollar value of the aftermarket loss appears to be substantially larger for the subset of cases by the prestigious investment bankers relative to the subset of cases by the non-prestigious investment bankers: $25.2 million ($19.9 million) vs $5.6 million ($3.5 million).[11] The test for difference in means between the two subgroups (the prestigious - the non-prestigious) is statistically significant with a t-statistic of 5.45. Given the substantial difference in the offering size between the two subgroups underwritten by the prestigious and the non-prestigious investment bankers, however, the difference in the aftermarket loss between the two subgroups is not surprising. The range of the aftermarket losses reported in table 3 is contrasted with Alexander's (1991). She reports that her sample firms suffered an aftermarket loss of at least $20 million. She also suggests that these aftermarket losses may provide plaintiffs' lawyers with a method of locating potential securities class actions, thereby

11)Alexander's(1991) claim that only large losses attract lawsuits is contradicated by these data.

Table 3. Description of Resolution Data on the Section 11 IPOs

Panel A: All Sample (Median is in parenthesis)

	All		Non-Prestigious		Prestigious Mean	
	Mean (Median)	N	Mean (Median)	N	Mean (Median)	N
Initial Return[1]	0.1382 (0.0447)	65	0.1857 (0.1107)	24	0.1103 (0.0287)	41
Length of Class Period[2] (months)	11.31 (10)	51	8.83 (9)	18	12.67 (10)	33
Length of File Period[3] (months)	14.89 (12)	65	12.50 (11)	24	16.29 (15)	41
Time Interval to Resolution[4] (months)	32.54 (30)	63	32.35 (30)	23	32.65 (32)	40
Price Change Since IPO to the Class Date[5]	-0.4576 (-0.5313)	51	-0.4356 (-0.5885)	18	-0.4696 (-0.4750)	33
Price Change Since IPO to the File Date[6]	-0.5680 (-0.5938)	65	-0.5525 (-0.6730)	24	-0.5770 (-0.5588)	41
Aftermarket Loss (in thousands)[7] (F_LOSS)	17,961 (9,900)	65	5,627 (3,519)	24	25,182 (19,888)	41
Settlement (in thousands)	4,908.75 (1,875)	30	3,357.94 (1,000)	9	5573.38 (2,850)	21
Settlement/Aftermarket Loss (PF_PRC)	-0.0198[8] (0.1721)	30	-0.62798 (0.1758)	9	0.2409 (0.1684)	21
Settlement/Gross Proceeds	0.1854 (0.0995)	30	0.3043 (0.16)	9	0.1344 (0.0938)	21
Settlement/Gross Spreads	2.4771 (1.4211)	30	3.5443 (1.7647)	9	2.0197 (1.3507)	21

주) 1. Initial return is the percentage change from the offering price to the price at the end of the first trading day.

2. All class periods but one start from the offering date for both purported and certified class action lawsuits.

3. Length of file period is the period from the offering date to the date of lawsuit.

4. Time interval to resolution is defined as the period from the date of lawsuit to the final resolution date. For cases where the resolution is unknown, the most recent court decision date is referenced. Hence, the figures are underestimated.

5. Price change since IPO to the class period is calculated as the percentage change from the offering date to the date immediately following the end of class period.

6. Price change since IPO to the file date is computed using the offering price and the average of bid and ask price on the date of lawsuit.

7. Aftermarket loss is the difference between the offering price and the price at the date of lawsuit multiplied by the number of shares.

8. For one case for which settlement amount is known, the price at the date of lawsuit was greater than the offering price.

Table 3. (continued)Description of Resolution Data on the Section 11 IPOs

Panel B: Excluding five firms whose stock price at the end of the class period is greater than the offering price. (Median is in parenthesis)

	All		Non-Prestigious		Prestigious Mean	
	Mean (Median)	N	Mean (Median)	N	Mean (Median)	N
Initial Return[1]	0.1172 (0.0309)	60	0.1387 (0.1012)	21	0.1057 (0.0287)	39
Length of Class Period[2] (months)	11.98 (10)	46	9.4 (10)	15	13.23 (11)	31
Length of File Period[3] (months)	14.72 (12)	60	12.67 (11)	21	15.82 (15)	39
Time Interval to Resolution[4] (months)	31.22 (29)	58	30.8 (29)	20	31.45 (32)	38
Price Change Since IPO to the IPO to the Class Date[5]	-0.5717 (-0.5585)	46	-0.6378 (-0.6667)	15	-0.5396 (-0.5000)	31
Price Change Since IPO to the the File Date[6]	-0.5941 (-0.5969)	60	-0.6441 (-0.7333)	21	-0.5672 (-0.5429)	39
Aftermarket Loss (in thousands)[7]	18,416 (10,049)	60	6,538 (3960)	21	24,812 (18,150)	38
Settlement (in thousands)	4,636.64 (1,800)	29	2,178 (950)	8	5,573 (2,850)	21
Settlement/Aftermarket Loss (PF_PRC)	0.2620 (0.1758)	29	0.3176 (0.1876)	8	0.2409 (0.1684)	21
Settlement/Gross Proceeds	0.1624 (0.0990)	29	0.2357 (0.1425)	8	0.1344 (0.0938)	21
Settlement/Gross Spreads	2.1947 (1.4137)	29	2.6540 (1.6824)	8	2.0197 (1.3507)	21

주) 1. Initial return is the percentage change from the offering price to the price at the end of the first trading day.

2. All class periods but one start from the offering date for both purported and certified class action lawsuits.

3. Length of file period is the period from the offering date to the date of lawsuit.

4. Time interval to resolution is defined as the period from the date of lawsuit to the final resolution date. For cases where the resolution is unknown, the most recent court decision date is referenced. Hence, the figures are underestimated.

5. Price change since IPO to the class period is calculated as the percentage change from the offering date to the date immediately following the end of class period.

6. Price change since IPO to the file date is computed using the offering price and the average of bid and ask price on the date of lawsuit.

7. Aftermarket loss is the difference between the offering price and the price at the date of lawsuit multiplied by the number of shares.

Table 3. (continued) Description of Resolution Data on the Section 11 IPOs

Panel C: Excluding four firms for which two offerings were involved in lawsuits under Section 11. (Median is in parenthesis)

	All		Non-Prestigious		Prestigious Mean	
	Mean (Median)	N	Mean (Median)	N	Mean (Median)	N
Initial Return[1]	0.1425 (0.0472)	61	0.1857 (0.1107)	24	0.1145 (0.0232)	37
Length of Class Period[2] (months)	10.15 (9)	47	8.83 (9)	18	10.97 (9)	29
Length of File Period[3] (months)	14.31 (12)	61	12.5 (11)	24	15.49 (15)	37
Time Interval to Resolution[4] (months)	33.37 (31)	59	32.35 (30)	23	34.03 (36.5)	36
Price Change Since IPO to the IPO to the Class Date[5]	-0.4486 (-0.5313)	47	-0.4356 (-0.5886)	18	-0.4567 (-0.4750)	29
Price Change Since IPO to the the File Date[6]	-0.5642 (-0.5938)	61	-0.5525 (-0.6730)	24	-0.5718 (-0.5429)	37
Aftermarket Loss (in thousands)[7]	18,029 (9,813)	61	5,627 (3,519)	24	26,074 (19,888)	37
Settlement (in thousands)	4,456 (1,700)	26	3,358 (1,000)	9	5,038 (1,800)	17
Settlement/Aftermarket Loss (PF_PRC)	-0.1010[8] (0.1373)	26	-0.6279[8] (0.1758)	9	0.1779 (0.1330)	17
Settlement/Gross Proceeds	0.1641 (0.0959)	26	0.3043 (0.1600)	9	0.0899 (0.0868)	17
Settlement/Gross Spreads	2.1356 (1.3763)	26	3.5443 (1.7647)	9	1.3898 (1.2500)	17

주) 1. Initial return is the percentage change from the offering price to the price at the end of the first trading day.

2. All class periods but one start from the offering date for both purported and certified class action lawsuits.

3. Length of file period is the period from the offering date to the date of lawsuit.

4. Time interval to resolution is defined as the period from the date of lawsuit to the final resolution date. For cases where the resolution is unknown, the most recent court decision date is referenced. Hence, the figures are underestimated.

5. Price change since IPO to the class period is calculated as the percentage change from the offering date to the date immediately following the end of class period.

6. Price change since IPO to the file date is computed using the offering price and the average of bid and ask price on the date of lawsuit.

7. Aftermarket loss is the difference between the offering price and the price at the date of lawsuit multiplied by the number of shares.

8. For one case for which settlement amount is known, the price at the date of lawsuit was greater than the offering price.

Table 3. (continued)Description of Resolution Data on the Section 11 IPOs

Panel D: Excluding both the firms whose stock price at the end of the class period is greater than the offering price and the firms which had two public offerings sued under Section 11. (Median is in parenthesis)

	All		Non-Prestigious		Prestigious Mean	
	Mean (Median)	N	Mean (Median)	N	Mean (Median)	N
Initial Return[1]	0.1205 (0.0369)	56	0.1387 (0.1013)	21	0.1097 (0.0232)	35
Length of Class Period[2] (months)	10.74 (10)	42	9.40 (10)	15	11.48 (10)	27
Length of File Period[3] (months)	14.07 (12)	56	12.67 (11)	21	14.91 (12)	35
Time Interval to Resolution[4] (months)	32.04 (30.50)	54	30.80 (29)	20	32.76 (36.5)	34
Price Change Since IPO to the IPO to the Class Date[5]	-0.5725 (-0.5585)	42	-0.6378 (-0.6667)	15	-0.5362 (-0.5000)	27
Price Change Since IPO to the the File Date[6]	-0.5919 (-0.5969)	56	-0.6441 (-0.7333)	21	-0.5605 (-0.5341)	35
Aftermarket Loss (in thousands)[7]	18,522 (9,856)	56	6,538 (3,960)	21	25,712 (18,150)	35
Settlement (in thousands)	4,122 (1,600)	25	2,177 (950)	8	5,038 (1,800)	17
Settlement/Aftermarket Loss (PF_PRC)	-0.2226 (0.1373)	25	-0.3176 (0.1758)	8	0.1779 (0.1330)	17
Settlement/Gross Proceeds	0.1366 (0.0938)	25	0.2357 (0.1425)	9	0.0899 (0.0868)	17
Settlement/Gross Spreads	1.7943 (1.3507)	25	2.6540 (1.6824)	8	1.3898 (1.2500)	17

주) 1. Initial return is the percentage change from the offering price to the price at the end of the first trading day.

2. All class periods but one start from the offering date for both purported and certified class action lawsuits.

3. Length of file period is the period from the offering date to the date of lawsuit.

4. Time interval to resolution is defined as the period from the date of lawsuit to the final resolution date. For cases where the resolution is unknown, the most recent court decision date is referenced. Hence, the figures are underestimated.

5. Price change since IPO to the class period is calculated as the percentage change from the offering date to the date immediately following the end of class period.

6. Price change since IPO to the file date is computed using the offering price and the average of bid and ask price on the date of lawsuit.

7. Aftermarket loss is the difference between the offering price and the price at the date of lawsuit multiplied by the number of shares.

increasing the likelihood of suing the firms which actually did not violate securities regulations.

To address the main issue of this paper, the mean (median) settlement amount is computed for thirty Section 11 IPOs for which this information was available. The mean (median) settlement is $4.9 million ($1.9 million) for the aggregate sample of 30 Section 11 IPOs. The mean (median) settlement amount is $3.4 million ($1 million) for 9 Section 11 IPOs which were underwritten by the non-prestigious investment bankers. The corresponding mean (median) value was $5.6 million ($2.9 million) for the subset of IPOs by the prestigious investment bankers. Though the dollar value of the settlement amount appears to be larger for the cases by the prestigious investment bankers than for the cases by the non-prestigious investment bankers, the difference between the two subgroups is not statistically significant.[12)]

For comparison purpose, the settlement as a percentage of the aftermarket loss (PF_PRC) is calculated with the mean (median) value of -1.98 (17.21) percent for the aggregate sample of 30 Section 11 IPOs. The negative mean value is due to the one case whose offering price is smaller than the price on the day following the end of the class period.[13)] To the extent that the claims under Section 11 of the Act are stated only in case that the loss incurred and that the damages recoverable under Section 11 are limited to the offering price, it may be that the case with the offering price lower than the price at the date of lawsuit violated the provisions other than Section 11. Panel B of table 3 presents PF_PRC which is computed based on the 29 Section 11 IPOs whose offering prices are greater than the prices at the filing date. The mean (median) PF_PRC is 26.20 percent (17.58 percent). These results are quite similar to Alexander's results, though the variance of 28 percent appears to be larger than Alexander's.

In her sample of nine IPOs, the settlement amount ranged from 20 to 27.5 percent of the "stakes" which is the price on the day after the close of the class period multiplied by the number of shares in the offering.[14)]

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12)In addition, the Pearson correlation coefficient between the settlement amount and the reputation was not significant: 0.1851 with a significance level of 0.3275.

13)The settlement as a percentage of the aftermarket loss was -8.2 percent for one case.

14)For comparison purpose, the settlement amount as a percent of the stakes was computed for a sample of 27 Section 11 IPOs(cases with the class periods known, excluding one case whose offering price is smaller than the price at the data of lawsuit). The average mean(median)value was 30.1 percent(21.4 percent). The close inspection of the variance reveals that six out of eight

The data indicate no difference in the settlement as a percentage of the aftermarket loss between the two classes of investment bankers, though the mean and median values by the non-prestigious investment bankers appear to be slightly larger than the corresponding values by the prestigious investment bankers.[15]

The tenth row of Panel A (table 3) also shows the settlement amount as a percentage of the gross proceeds of the IPO. The mean and median values are 18.54 percent and 9.95 percent for the aggregate sample, respectively. When the sample is disaggregated by the reputation of investment bankers, the figures show an interesting contrast between the two classes of investment bankers. The mean and median values are 30.43 percent and 16 percent for a subset of Section 11 IPOs by the non-prestigious investment bankers. The corresponding figures for a subset by the prestigious investment bankers are 13.44 percent and 9.38 percent, respectively. The evidence suggests that to the extent that the merit has influence on the settlement outcomes, the potential legal liabilities appear to be larger for the IPOs by the non-prestigious investment bankers, compared to those by the prestigious investment bankers.[16] As presented in panel B, the results remain virtually the same after excluding the cases where the prices at the date of lawsuit are greater than the offering price. Further inspection of the court decisions identifies that four cases have the first two public offerings involved in lawsuits (including each IPO).[17] These cases were all settled out of court and all of four cases were underwritten by the prestigious investment bankers. Therefore, it is likely that the settlement amount of these four cases may be overestimated relative to other cases.

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cases with the available information(75 percent) settled for between the 20 to 27 percent of the stakes in Alexander's sample. In contrast, 9 out of 29 cases(31 percent) settled for betwwen the above ranges, while 12 cases(41 percent) settled for in the range of below 20 percent of the stakes.

15)Although not formally reported here, the regression of the settlement amount as a percentage of the aftermarket loss(PF_PRC) on the dummy variable(NUW) was estimated: NUW is equal to one if the investment banker's reputaion is prestigious and zero otherwise. The estimated ocefficient was positive byt statistically insignificant with an adjusted R2 of 0.0334. The results indicated no relationship of the reputation of the investment bankers to the settlement amount as a percentage of the aftermarket loss. In addition, the Pearson correlation coefficient between NUW and PF_PRC is statistically insignificant: 0.2583 with a significance level of 0.1682.

16)For example, the Pearson correlation coefficient between the reputation and the settlement as a percentage of the gross proceeds is statistically significant: -0.3335 with a significance level of 0.0718.

17)These four firms include National Healthcare Inc., Pace Membership Warehouse, TSO Financial Corp., Jiffy Lube International.

Indeed, panel C confirms our conjecture that the ratio of the settlement amount as a percentage of the gross proceeds is slightly smaller than the figure in panel A. The results, however, remain qualitatively unchanged. Panel D of table 3 presents results which are obtained after excluding both the cases whose offering prices are smaller than the price on the date of lawsuit and the cases which have two public offerings sued under Section 11. The results remain qualitatively the same.

1) The Descriptive Statistics of the Resolution: Dismissed vs. Settled Cases

Table 4 presents the descriptive statistics of the resolutions for only the cases which were either dismissed or settled out of court. As defined earlier, these cases are classified into the non-meritorious and the meritorious. The results are also presented for both aggregated and disaggregated samples according to the reputation of the investment bankers. Panel A comprises all sample firms which were either dismissed or settled out of court. Panel B excludes the cases whose aftermarket price on the date of lawsuit was greater than the offering price. The cases which have the first two public offerings (including the IPO) involved in Section 11 lawsuits are excluded in Panel C. Finally, Panel D presents the results for all but the cases either with the offering price smaller than the price on the date of lawsuit or with the two public offerings being sued pursuant to Section 11.

While the results appear to be qualitatively the same as those reported in table 3, table 4 reveals several interesting points. First of all, it appears that the market-adjusted initial returns were on average larger for the non-meritorious subset of cases than for the meritorious subset of cases. When the data are disaggregated according to the investment bankers' reputation, the difference becomes evident. For the non-meritorious partition of cases which were underwritten by the prestigious investment bankers, the average initial return was 17.80 percent. The median is 11.70 percent. In contrast, the corresponding mean and median initial returns are 6.32 percent and 1.62 percent, respectively for the meritorious partition of cases which were underwritten by the prestigious investment bankers. The t-statistic of 1.91 with the thirty three degrees of freedom rejects the equality of the mean initial returns between the two partitions (p-value = 0.0654): i.e. the underpricing was more pronounced for the non-meritorious partition of cases which were underwritten by the prestigious investment bankers. The non-parametric test also rejects the equality of the mean initial returns between the two parti-

Table 4. Description of Resolution Data on the Section 11 IPOs

Panel A: All Sample

	All		Non-Prestigious		Prestigious Mean	
	Non-Merit[1]	Merit[1]	Non-Merit	Merit	Non-Merit	Merit
Sample Size	15	38	3	15	12	23
Initial Return[2]	0.1463 (0.1132)	0.1110 (0.0262)	0.0193 (0.0579)	0.1842 (0.1154)	0.1780 (0.1170)	0.0632 (0.0162)
Length of Class Period[3] (months)	6.6 (6)	12.5 (11)	na	8.9 (9.5)	6.6 (6)	14.9 (13)
Length of File Period[4] (months)	15.5 (11)	15.3 (13)	14.3 (10)	12.6 (11)	15.8 (11.5)	17.1 (16)
Time Interval toResolution[5] (months)	43.6 (45)	30.9 (32)	61.7 (62)	29.2 (28)	39.1 (36.5)	32.1 (37)
Price Change Since IPO to the Class Date[6]	-0.1294 (-0.2368)	-0.5294 (-0.5599)	na	-0.4783 (-0.625)	-0.1294 (-0.2368)	-0.5635 (-0.5571)
Price Change Since IPO to the File Date[7]	-0.5853 (-0.5714)	-0.6072 (-0.6264)	-0.6270 (-0.675)	-0.6583 (-0.7619)	-0.5749 (-0.5513)	-0.5738 (-0.5588)
Aftermarket Loss (in thousands)[8] (F_LOSS)	26,405 (15,964)	17,071 (11,013)	7,125 (4,188)	6,688 (3,938)	31,224 (27,196)	23,843 (18,150)
Settlement (in thousands)	6,413[9] (6,413)	4,801 (1,875)	na	3,358 (1,000)	6,413[9] (6,413)	5,485 (2,850)
Settlement/Aftermarket Loss (PF_PRC)	0.1945[9] (0.1945)	-0.0351[10] (0.1585)	na	-0.6279[10] (0.1758)	0.1945[9] (0.1945)	0.2458 (0.1333)
Settlement/Gross Proceeds	0.0856[9] (0.0856)	0.1925 (0.0995)	na	0.3043 (0.16)	0.0856[9] (0.0856)	0.1396 (0.0938)
Settlement/Gross Spreads	1.2426[9] (1.2426)	2.5653 (1.4211)	na	3.5443 (1.7647)	1.2426[9] (1.2426)	2.1015 (1.3507)

주) 1. A case is classified as being non-meritorious if the lawsuit is dismissed. Two cases were settled out of court after the claims under Section 11 of the Act were dismissed. These two cases are considered non-meritorious as to due-diligence claims. Medians are in parentheses.

2. Initial return is the percentage change from the offering price to the price at the end of the first trading day.
3. All class periods but one start from the offering date for both purported and certified class action lawsuits.
4. Length of file period is the period from the offering date to the date of lawsuit.
5. Time interval to resolution is defined as the period from the date of lawsuit to the final resolution date.
6. Price change since IPO to the class period is calculated as the percentage change from the offering date to the date immediately following the end of class period.
7. Price change since IPO to the file date is computed using the offering price and the average of bid and ask price on the date of lawsuit.
8. Aftermarket loss is the difference between the offering price and the price at the date of lawsuit multiplied by the number of shares.
9. Figures are based on two cases which were settled out of court after being dismissed as to Section 11 claims.
10. For one case whose settlement amount is available, the price at the date of lawsuit was greater than the offering price.

Table 4. Description of Resolution Data on the Section 11 IPOs

Panel B: Excluding five firms whose stock price at the end of the class period is greater thanthe offering price.

	All		Non-Prestigious		Prestigious Mean	
	Non-Merit[1]	Merit[1]	Non-Merit	Merit	Non-Merit	Merit
Sample Size	13	36	3	13	10	23
Initial Return[2]	0.1380 (0.1132)	0.0994 (0.0199)	0.0193 (0.0579)	0.1635 (0.1060)	0.1736 (0.1170)	0.0632 (0.0162)
Length of Class Period[3] (months)	7.6 (6)	12.94 (11)	na	9.6 (10)	7.6 (6)	14.9 (13)
Length of File Period[4] (months)	14 (11)	15.7 (14)	14.3 (10)	13.1 (12)	13.9 (11.5)	17.1 (16)
Time Interval toResolution[5] (months)	41.77 (45)	29.8 (29.5)	61.7 (62)	25.5 (27)	35.8 (36.5)	32.1 (37)
Price Change Since IPO to the Class Date[6]	-0.4276 (-0.4290)	-0.5926 (-0.5833)	na	-0.6437 (-0.6689)	-0.4276 (-0.4290)	-0.5635 (-0.5571)
Price Change Since IPO to the File Date[7]	-0.5571 (-0.5313)	-0.6288 (-0.6603)	-0.6270 (-0.6750)	-0.7262 (-0.7647)	-0.5362 (-0.5128)	-0.5738 (-0.5588)
Aftermarket Loss (in thousands)[8] (F_LOSS)	25,482[9] (9,813)	18,058 (12,906)	7,125 (4,188)	7,823 (3,960)	30,989 (21,481)	23,843 (18,150)
Settlement (in thousands)	6,413[9] (6,413)	4,505 (1,800)	na	2,178 (950)	6,413[9] (6,413)	5,485 (2,850)
Settlement/Aftermarket Loss (PF_PRC)	0.1945[9] (0.1945)	0.2670 (0.1758)	na	0.3176 (0.1876)	0.1945[9] (0.1945)	0.2458 (0.1333)
Settlement/Gross Proceeds	0.0856[9] (0.0856)	0.1680 (0.0990)	na	0.2357 (0.1425)	0.0856[9] (0.0856)	0.1396 (0.0938)
Settlement/Gross Spreads	1.2426[9] (1.2426)	2.2652 (1.4137)	na	2.6540 (1.6824)	1.2426[9] (1.2426)	2.1015 (1.3507)

주) 1. A case is classified as being non-meritorious if the lawsuit is dismissed. Two cases were settled out of court after the claims under Section 11 of the Act were dismissed. These two cases are considered non-meritorious as to due-diligence claims. Medians are in parentheses.

2. Initial return is the percentage change from the offering price to the price at the end of the first trading day.
3. All class periods but one start from the offering date for both purported and certified class action lawsuits.
4. Length of file period is the period from the offering date to the date of lawsuit.
5. Time interval to resolution is defined as the period from the date of lawsuit to the final resolution date.
6. Price change since IPO to the class period is calculated as the percentage change from the offering date to the date immediately following the end of class period.
7. Price change since IPO to the file date is computed using the offering price and the average of bid and ask price on the date of lawsuit.
8. Aftermarket loss is the difference between the offering price and the price at the date of lawsuit multiplied by the number of shares.
9. Figures are based on two cases which were settled out of court after being dismissed as to Section 11 claims.

Table 4. Description of Resolution Data on the Section 11 IPOs

Panel C: Excluding four firms for which two offerings were involved in lawsuits under Section 11.

	All		Non-Prestigious		Prestigious Mean	
	Non-Merit[1]	Merit[1]	Non-Merit	Merit	Non-Merit	Merit
Sample Size	15	34	3	15	12	19
Initial Return[2]	0.1463 (0.1132)	0.1156 (0.0155)	0.0193 (0.0579)	0.1842 (0.1153)	0.1780 (0.1170)	0.0615 (-0.0088)
Length of Class Period[3] (months)	6.6 (6)	10.8 (10)	na	8.86 (9.5)	6.6 (6)	12.5 (11)
Length of File Period[4] (months)	15.5 (11)	14.4 (12)	14.3 (10)	12.6 (11)	15.8 (11.5)	15.7 (16)
Time Interval toResolution[5] (months)	43.6 (45)	32.2 (33)	61.67 (62)	29.2 (28)	39.1 (36.5)	34.6 (39)
Price Change Since IPO to the Class Date[6]	-0.1294 (-0.2368)	-0.5251 (-0.5599)	na	-0.4783 (-0.6250)	-0.1294 (-0.2368)	-0.5635 (-0.5571)
Price Change Since IPO to the File Date[7]	-0.5853 (-0.5714)	-0.6050 (-0.6264)	-0.6270 (-0.675)	-0.6583 (-0.7619)	-0.5749 (-0.5513)	-0.5629 (-0.5429)
Aftermarket Loss (in thousands)[8] (F_LOSS)	26,405 (15,964)	17,088 (9,825)	7,125 (4,188)	6,688 (3,938)	31,224 (27,196)	25,298 (18,150)
Settlement (in thousands)	6,413[9] (6,413)	4,293 (1,700)	na	3,358 (1,000)	6,413[9] (6,413)	4,854 (1,800)
Settlement/Aftermarket Loss (PF_PRC)	0.1945[9] (0.1945)	-0.1257[10] (0.1332)	na	-0.6279[10] (0.1758)	0.1945[9] (0.1945)	0.1757 (0.1238)
Settlement/Gross Proceeds	0.0856[9] (0.0856)	0.1707 (0.0959)	na	0.3043 (0.16)	0.0856[9] (0.0856)	0.0905 (0.0868)
Settlement/Gross Spreads	1.2426[9] (1.2426)	2.2100 (1.3763)	na	3.5443 (1.7647)	1.2426[9] (1.2426)	1.4094 (1.2500)

주) 1. A case is classified as being non-meritorious if the lawsuit is dismissed. Two cases were settled out of court after the claims under Section 11 of the Act were dismissed. These two cases are considered non-meritorious as to due-diligence claims. Medians are in parentheses.

2. Initial return is the percentage change from the offering price to the price at the end of the first trading day.
3. All class periods but one start from the offering date for both purported and certified class action lawsuits.
4. Length of file period is the period from the offering date to the date of lawsuit.
5. Time interval to resolution is defined as the period from the date of lawsuit to the final resolution date.
6. Price change since IPO to the class period is calculated as the percentage change from the offering date to the date immediately following the end of class period.
7. Price change since IPO to the file date is computed using the offering price and the average of bid and ask price on the date of lawsuit.
8. Aftermarket lawsuit is the difference between the offering price and the price at the date of lawsuit multiplied by the number of shares.
9. Figures are based on two cases which were settled out of court after being dismissed as to Section 11 claims.
10. For one case whose settlement amount is available, the price at the date of lawsuit was greater than the offering price.

Table 4. Description of Resolution Data on the Section 11 IPOs

Panel D: Excluding both the firms whose stock price at the end of the class period is greaterthan the offering price and the firms which had two public offerings sued under Section 11.

	All		Non-Prestigious		Prestigious Mean	
	Non-Merit[1]	Merit[1]	Non-Merit	Merit	Non-Merit	Merit
Sample Size	13	32	3	13	10	19
Initial Return[2]	0.1380 (0.1132)	0.1029 (0.0068)	0.0193 (0.0579)	0.1635 (0.1060)	0.1736 (0.1170)	0.0615 (-0.0088)
Length of Class Period[3] (months)	7.6 (6)	11.3 (10)	na	9.6 (10)	7.6 (6)	12.47 (11)
Length of File Period[4] (months)	14 (11)	14.7 (12)	14.3 (10)	13.1 (12)	13.9 (11.5)	15.7 (16)
Time Interval toResolution[5] (months)	41.8 (45)	30.9 (32)	61.7 (62)	25.5 (27)	35.8 (36.5)	34.6 (39)
Price Change Since IPO to the Class Date[6]	-0.4276 (-0.4290)	-0.5967 (-0.5833)	na	-0.6437 (-0.6689)	-0.4276 (-0.4290)	-0.5635 (-0.5571)
Price Change Since IPO to the File Date[7]	-0.5571 (-0.5313)	-0.6292 (-0.6603)	-0.6270 (-0.6750)	-0.7262 (-0.7647)	-0.5362 (-0.5128)	-0.5629 (-0.5429)
Aftermarket Loss (in thousands)[8] (F_LOSS)	25,482 (9,813)	18,199 (11,794)	7,125 (4,188)	7,823 (3,960)	30,989 (21,481)	25,298 (18,150)
Settlement (in thousands)	6,413[9] (6,413)	3,923 (1,600)	na	2,178 (950)	6,413[9] (6,413)	4,854 (1,800)
Settlement/Aftermarket Loss (PF_PRC)	0.1945[9] (0.1945)	0.2250 (0.1333)	na	0.3176 (0.1876)	0.1945[9] (0.1945)	0.1757 (0.1238)
Settlement/Gross Proceeds	0.0856[9] (0.0856)	0.1410 (0.0938)	na	0.2357 (0.1425)	0.0856[9] (0.0856)	0.0905 (0.0868)
Settlement/Gross Spreads	1.24269 (1.2426)	1.8423 (1.3763)	na	2.6540 (1.6824)	1.2426[9] (1.2426)	1.4094 (1.2500)

주) 1. A case is classified as being non-meritorious if the lawsuit is dismissed. Two cases were settled out of court after theclaims under Section 11 of the Act were dismissed. These two cases are considered non-meritorious as to due-diligence claims. Medians are in parentheses.

2. Initial return is the percentage change from the offering price to the price at the end of the first trading day.
3. All class periods but one start from the offering date for both purported and certified class action lawsuits.
4. Length of file period is the period from the offering date to the date of lawsuit.
5. Time interval to resolution is defined as the period from the date of lawsuit to the final resolution date.
6. Price change since IPO to the class period is calculated as the percentage change from the offering date to the date immediately following the end of class period.
7. Price change since IPO to the file date is computed using the offering price and the average of bid and ask price on the date of lawsuit.
8. Aftermarket loss is the difference between the offering price and the price at the date of lawsuit multiplied by the number of shares.
9. Figures are based on two cases which were settled out of court after being dismissed as to Section 11 claims.

tions.[18] The results from other panels (B through D) remain virtually the same, confirming the robustness of the results in panel A.

In contrast, the same is not true for the subset of cases by the non-prestigious investment bankers. The mean and median initial returns appear to be smaller for the non-meritorious partition than for the meritorious partition. Despite the very small number of non-meritorious cases, both the parametric and the non-parametric tests are performed to test the hypothesis that the mean market-adjusted initial returns are the same between the non-meritorious and the meritorious partitions of the IPOs which were underwritten by the non-prestigious investment bankers. Both test statistics cannot reject the equality of the average market-adjusted initial returns.

These results notwithstanding, the evidence from the subset by the prestigious investment bankers is consistent with the implication of the insurance hypothesis that large underpricing may reduce the potential litigation risk.

In addition, the data indicate the difference in the length of class period (CL_TIME) between the non-meritorious and the meritorious partitions. The data on the subset of cases by the prestigious investment bankers reveal that the length of class period is much shorter for the non-meritorious partition of the sample than for the meritorious cases. The hypothesis that CL_TIME is equal between the non-meritorious and the meritorious partitions is tested using both the parametric and the non-parametric tests. Both tests reject the equality of the mean class period between the two partitions by the prestigious investment bankers.[19] Unlike the class period, both the length of file period and the length of resolution for the subset of cases by the prestigious investment bankers show no difference between the two partitions: non-meritorious vs meritorious.[20] Due to the lack of data on the class period, the comparison was impossible for the subset of

18)A Van der Waerden test was employed to test the equality of the market-adjusted initial returns. A normalized Z-score of 1.72 rejects the null hypothesis again(p-value=0.0854). A median test was also performed. A chi-square statistic of 4.96 rejects the equality of the median initial returns(p-value=0.0259) between the two partitions.

19)A t-statistic was -2.84(p-value=0.0097) for different variances. The Van der Waerden Z-score of -2.00(p-value=0.0453) also rejects the null hypothesis, suggesting that the class period was shorter for the non-meritorious partition relative to the meritorious partition.

20)Although not reported here, both the parametric and the non-parametric tests were performed to test the equality of the length of file period and the equality of length of resolution between the non-meritorious and the meritorious partitions. None of the test statistics reject the null hypothesis that the length of file period and the length of resolution were the same between the two partitions(both of which were underwritten by the prestigious investment bankers).

cases underwritten by the non-prestigious investment bankers.

It is also noteworthy that the meritorious cases appeared to suffer greater average aftermarket loss from the offering date to the date following the close of the class period, as compared with the average loss of the non-meritorious partition of cases by the prestigious investment bankers. The t-test (the non-meritorious - the meritorious) is performed to test the null hypothesis that the average price changes from the offering date to the date following the close of the class period are the same between the two partitions. The t-statistic of 1.85 is just short of rejecting the null hypothesis (p-value=0.1109). However, the non-parametric test rejects the null hypothesis with a Van der Waerden Z-score of 2.08 (p-value=0.0377). The non-meritorious cases performed better in the aftermarket relative to the meritorious counterpart until the date following the close of the class period. In contrast, the non-meritorious partition appears to suffer as large a loss as the meritorious partition by the time the lawsuit was brought to the court.

These results bear on the observation that the sudden price decline may be one of the reason to trigger the lawsuits [Alexander (1991), Lerach (1985)]. Given that the cases in this study were dismissed through adjudication, it is conceivable that the price decline did not result from the issuer's misstatements or omissions of material facts. It can be caused by other factors such as bad luck or bad judgement in normal operation.[21),22)] Indeed, the data provide considerable support to this conjecture by indicating that the substantial amount of price decline continued after the close of the class period for the non-meritorious partition relative to the meritorious partition. In order to further examine the assertion, the price change since IPO to the class date (CLPRCCHG) is subtracted from the price change since IPO to the file date (FPRCCHG), and then compared between the non-meritorious and the meritorious partitions.

Due to the lack of the class period data for the subset of cases which were underwritten by the non-prestigious investment bankers, the comparison is made only between

21)The non-issuers such as the underwriters have due diligence defense available to Section 11 claims. It is suggested that the issuer has only two defenses to Section 11 claims: (1) the issuer may prove that the plaintiff knew of the misstatement or omission at the time he purchased the security; or (2) the damages did not result from the misstatement[Schloendorn(1985)].

22)Alexander(1991) pointed out that while the sudden decline in stock price may provide tools to located the potential securities violation, it may be overinclusive. According to this sort of search method, Alexander(1991, p.514) said, "it will identify not only genuine securities violations, but also instances in which bad luck, wrong(but not fraudulent) business judgment, or unforeseen industry developments casued price declines."

the two partitions which were underwritten by the prestigious investment bankers. The results are significant under the non-parametric test.[23)]

It may be that CLPRCCHG is overestimated because of the cases whose offering prices are smaller than the prices at the date of lawsuit. Panel B indicates that while the difference between CLPRCCHG and FPRCCHG appears to be slightly larger for the non-meritorious partition than for the meritorious partition, the differences between the two partitions are not statistically significant. Otherwise the results which are reported in panel B remain qualitatively unchanged from those in panel A.

2) The Regression Analysis

To examine the association between the settlement outcomes and such variables as NUW, IR, FPRCCHG, multiple regressions are estimated. In all regressions, the dependant variable is the ratio of the settlement amount to the gross proceeds (PSETTLE). The independent variables are the reputation of investment bankers (NUW), the initial return (IR), and the percentage change of the stock price from the offering date to the date of lawsuit (FPRCCHG).

Considering the uncertainty facing the non-prestigious investment bankers which tend to underwrite the small and risky issues, the insurance hypothesis suggests that the potential legal liabilities might be greater for the issues by the non-prestigious investment bankers relative to those by the prestigious investment bankers. NUW and IR are expected to be negatively related to PSETTLE. The variable, FPRCCHG, is included in the regressions to examine the association between the aftermarket loss and the settlement outcome. Obviously, the settlement amount is likely to be larger for the cases which suffered the more loss than others. Since the initial offering size (i.e. gross proceeds) differs from case to case, the relative values are obtained by dividing both the aftermarket loss and the settlement amount by the gross proceeds. The percentage price change from the offering date to the date of lawsuit (FPRCCHG) is also expected to show negative relation to the percentage settlement outcome (PSETTLE): the larger negative price change is likely to entail the larger percentage settlement amount. The results of the regressions are reported in table 5.

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23)The t-test statistic of -1.53 cannot reject the null hypothesis that the difference between CLPRCCHG and FPRCCHG is larger for the non-meritorious partition than for the meritorious partition. Given the asymmetry of distribution, the Van der Waerden Z score of -1.97 rejects the null hypothesis(p-value=0.0490).

Table 5. Regression of the settlement amount as a percentage of gross proceeds on the reputation of investment bankers

The dependant variables the ratio of settlement to the gross proceeds. The independent variables are the reputation of investment bankers (NUW), the initial return of each IPO (IR), and the aftermarket loss as a percentage of the gross proceeds (FPRCCHG). NUW is equal to one if the investment bankers are prestigious or zero otherwise. The classification of the reputation of the investment bankers is based on Hayes [(1971) (1979)] and Hayes, Spence, and Marks (1983). IR is measured as a percentage change from the offer price to either bid or close price on the first trading day. FPRCCHG is computed as a percentage change from the offer price to the price at the date of lawsuit. N is the sample size, which is the number of cases for which the settlement amount was available. Significance level is in parenthesis.

$$PSETTLE_i = \beta_0 + \beta_1 NUW + \beta_2 IRi + \beta_3 FPRCCHG_i$$

	Estimated Coefficients						
Eq.	b0 b0>0	b1 b1<0	b2 b2<0	b3 b3<0	Adj R2	F-statistics	N
(1)	0.3043 (0.0004)	-0.1699 (0.0718)			0.0794	3.50 (0.0718)	30
(2)	0.1856 (0.0011)		-0.0022 (0.9949)		-0.0357	0.00 (0.9949)	30
(3)	0.2631 (0.0366)			0.1330 (0.4920)	-0.0181	0.49 (0.4920)	30
(4)	0.3278 (0.0010)	-0.1842 (0.0649)	-0.1842 (0.5950)		0.0555	1.85 (0.1764)	30
(5)	0.4204 (0.0053)	-0.1826 (0.0566)		0.1834 (0.3260)	0.0795	2.25 (0.1246)	30
(6)	0.2636 (0.0446)		-0.0062 (0.9859)	0.1330 (0.4998)	-0.0558	0.23 (0.7930)	30
(7)	0.4505 (0.0056)	-0.1988 (0.0499)	-0.2043 (0.5561)	0.1898 (0.3166)	0.0570	1.58 (0.2172)	30

As presented in equations (1) through (7), the coefficient of the reputation variable (NUW) is negative and significant, with or without other variables. The results indicate that the IPOs underwritten by the non-prestigious investment bankers tend to have larger actual legal liabilities relative to the IPOs by the prestigious investment bankers even at the lawsuit, consistent with Tinic (1988). The coefficient of the initial return (IR) has the correct sign but is insignificant. The percentage price change since the offering (FPRCCHG) has a positive sign, contrary to our expectation. The coefficient is, however, insignificant in all equations with virtually no explanatory power of the model. The results are mixed. While the weak association between the initial return and the settlement outcome is not consistent with the prediction of the insurance hypothesis, the interpretation is limited because of the poor association of the settlement outcomes with the percentage aftermarket loss. As mentioned earlier, the insurance hypothesis assumes the positive relation of the merit on the settlement outcomes. However, the poor association between PSETTLE and FPRCCHG suggests that the merit has poor influence on the settlement outcome, consistent with Alexander (1991).

4. The Costs of Going Public

Table 6 presents the costs of going public for both Section 11 IPOs and the control group of IPOs. The costs of going public are defined in two ways: the initial costs of going public vs. the total costs of going public. As in Ritter (1987), the initial costs of going public are defined as the sum of underpricing (market-adjusted initial returns), underwriting commission (underwriting spread), and out-of-pocket expenses (other underwriting expense). Measured as a percentage of the issue price, the underwriting spread is directly incurred by the issuers and reflects due diligence costs [Tinic (1988), Megginson and Weiss (1991)]. The out-of-pocket expense which is measured as a percentage of the issue price includes such costs as auditor, legal, printing and registration fees. The data on the underwriting spread and the other underwriting expense are obtained from the offering prospecti. The total costs of going public consist of the initial costs of going pubic and the actual legal liabilities in the cash settlement.

As presented in panel A, the average initial costs of going public are 25.11 percent for Section 11 IPOs. The median is 19.72 percent. The corresponding mean and median values are 28.47 percent and 19.42 percent, respectively for the control group of IPOs.

Although the mean appears to be slightly larger for the control group of IPOs relative to the Section 11 IPOs, the difference between the two aggregate samples is not statistically significant as evidenced in panel B. However, the comparison between the subsets disaggregated by the investment bankers' reputation indicates differences. For the 'non-prestigious' subsets, the average initial costs of going public are substantially larger for the control group (52.04 percent) than the Section 11 IPOs (33.30 percent). Given the less underpricing pronounced for the 'non-prestigious' subset of Section 11 IPOs, however, it is not surprising that the initial costs of going public are lower for the 'non-prestigious' subset of the Section 11 IPOs than the corresponding control group.

In contrast, the difference in the initial costs of going public is not statistically significant for the 'prestigious' subsets: 19.9 percent for the Section 11 IPOs vs. 13.74 percent for the control group.

The last row of panel A of table 5 shows the total costs of going public. As defined earlier, the total costs of going public is computed by adding the cash settlement amount to the initial costs of going public for the Section 11 IPOs. The mean and median values are 37.50 percent and 27.96 percent, respectively for the Section 11 IPOs where the settlement amounts are available. To make a direct comparison with the Section 11 IPOs, the total costs of going public for the control group were estimated for a subset of twenty nine IPOs which were directly matched to the Section 11 IPOs by the offering price and the gross proceeds. The mean and median figures are 24.48 percent and 20.05 percent, respectively for the control group. The parametric and the non-parametric tests reject the equality of the mean total costs of going public between the two aggregate samples. The results indicate that the total costs of going public are substantially larger for the Section 11 IPOs than for the control group.

Similar tests are also performed to test the equality of the mean total costs of going public between the two subsets of the same prestige. Although the total costs of going public appear to be larger for the 'non-prestigious' subset of the Section 11 IPOs than the corresponding subset of the control group, the difference is not statistically significant. In contrast, the total costs of going public are substantially larger for the 'prestigious' subset of the Section 11 IPOs than the corresponding control group. These results suggest that the Section 11 IPOs could save the initial costs of going public by employing the non-prestigious investment bankers than the IPOs in the corresponding control

group. As is evident in panels A and B, however, the relative cost savings that the 'non-prestigious' subset of the Section 11 IPOs realized from the less underpricing cannot be sustainable, given the amount of the actual liabilities. It must be noted again that the actual liabilities above only include the actual cash settlement. If the other potential costs such as the poor aftermarket performance, management time, and the damaged reputation are considered together, then the potential liabilities facing the Section 11 IPOs could be much severe.

5. The Subsequent Offerings and the Underwriter Change

One of the touted advantages of going public is that going public makes it easier for an issuing firm to seek additional public capital when the need arises after the IPO. Previous studies suggest that the client-investment banker relationship has been relatively stable, and that in the majority of cases, the issuing firms tend to keep the same underwriter in their seasoned public offerings.[24] For example, Hayes, Spence, and Marks (1983) investigated the client-investment banker relationship in the period 1970-1978, based on the data compiled from the list of Fortune 500 industrial affiliations in 1970 and the 1978 Institutional Investor list. Their analysis shows that although there had been some changes made over the period studied, the majority of changes in underwriters were attributable to 'dropouts of the listing' rather than the switching to other investment bankers.[25] James (1992) reports similar results. Based on a sample of IPOs by issuers that made at least one subsequent public security offering in the period up to eight years after the IPO, he identified that about thirty-five percent of the firms that have additional offerings switched the lead underwriter.[26]

In order to examine the potential damage of litigations on the investment banker's

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24)In some cases, the proposed underwriting agreement at the IPO might obligate the issuing firm to use the same investment banker for the subsequent public offering made by the firm[Weiss(1988)]: First Refusal Right.

25)For example, the five special bracket investment bankers lost 41 percent of former clients, 73 percent of which indeed went to no other investment bankers. Only eleven percent of the former clients of the fine special bracket firms was lost during the study period. Over the same period, the top 20 investment bankers as a whole lost fifty percent of the former clients, only 31 percent of which actually switched to other investment bankers.

26)James(1992) also finds that the likelihood of switching increases with the time period between the IPO and the subsequent security offering and decreases with the investment banker's pricing performance in the IPO.

reputation, this study examines the subsequent public offerings by the firms and the frequency of changes in lead underwriters. For each firms in the combined sample of 130 IPOs (both Section 11 IPOs and the control group), I searched the Investment Dealers Digest's *Directory of Corporate Financing* to identify subsequent public offerings from the date of the IPO until June 1992. Thus, the search period varies depending upon the year at which the IPO is made.[27] The time from the IPO to the subsequent offering may be biased due to the search procedure above. For a firm which made a subsequent public offering after being acquired, I assume that the subsequent offering was not made.

Panel A of table 6 describes the summary statistics of the subsequent public offerings by the type of security for both Section 11 IPOs and the control group. Fifteen out of sixty five sued firms (23.1 percent) made at least one subsequent offering, while twenty eight out of sixty five matching firms (43.1 percent) made at least one subsequent issue.[28] The data indicate that the average time period from the IPO to the subsequent equity offer is longer for the Section 11 IPOs than the control group. As will be discussed later, however, the difference in the time period from the IPO to the subsequent equity offering may be attributable to the sued firms which made a subsequent issue after the lawsuit was brought. The average issue price in the subsequent common stock offerings tend to be smaller for Section 11 IPOs relative to the control group. The issue price difference between the Section 11 IPOs and the control group (Section 11 IPOs - the control group) is significant under the non-parametric test, suggesting that the issue price of subse-

27)The minimun search period which can be extended equally for all combined samples of IPOs is five and half years after excluding issues which went public after 1987. Only four of the litigated firms made the subsequent public offerings in more than five and half years after the IPO: 68 months, 82 months, and 140 months. These search procedures left only ten sued firms with at least one subsequent offering, two of which made the subsequent offering after the suit. In contrast, all but one matching firms made subsequent offerings in less than five and half years: it took 102 months for only one matching firm to make a subsequent issue. Based on these figures, the percentages of the firms which made at least one subsequent offering are 16.67 percent for the Section 11 IPOs(10 firms) and 40.32 percent for the control group(25 firms).

28)Of fifteen Section 11 IPOs, one firm made two subsequent offerings and firm made three subsequent public offerings during the period studied. The remaining thirteen Section 11 IPOs made only one subsequent public offering. In contrast, elevent out of twenty eight firms in the control group made two subsequent public offers and three firms in the control group three subsequent offers. The remaining fourteen firms in the control group made only one subsequent offering.

quent common stocks is on average smaller for Section 11 IPOs.[29] The Section 11 IPOs appear to pay more underwriting commission in their subsequent common stock offerings relative to the corresponding control group. However, the difference between the two samples is not significant under both the parametric and the non-parametric tests.

Panel B presents the results for only Section 11 IPOs and the results are classified by the filing date of lawsuits. Of 15 sued firms which made at least one subsequent offerings, nine firms made a subsequent offer before a lawsuit was brought against the firms, while six firms issued common stock after the lawsuits were brought.[30] In general, the results except for the time from the IPO to the subsequent offer appear to show no difference between the two partitions according to the filing date. Although the issue size appears to be much smaller for the subsequent offers which were made after the resolution of the lawsuits, the difference is not statistically significant under both statistics.

Major difference between the two partitions of Section 11 IPOs which were classified by the filing date of lawsuits can be observed in the pattern of underwriter choices. As presented in panel C, forty percent of Section 11 IPOs (6 firms) used different underwriters in their subsequent public offerings. Further inspection of the panel shows that all six (100 percent) subsequent stock issues were brought to the market after the lawsuits were filed. None of the subsequent offers which were made before the lawsuit switched the underwriters in their seasoned offerings. In contrast, about twenty four percent of the control group of firms (five out of twenty one subsequent common stock offerings) switched the underwriters in their seasoned offerings. The results from the control group are consistent with James' findings (1992). James reports that about twenty eight percent of the subsequent common stock offers switched the lead underwriters. Considered together with the relatively long time period to the subsequent public offers for the Section 11 IPOs, the findings are also consistent with James (1992) who asserts that the underwriter switch is more likely the longer the time between the IPO and the subsequent offering. In light of the tenacity of the relationship between the

29)A t-statistic is -1.68(p-value=0.1039) and Van de Waerden Z-score is -1.70(p-value=0.0893). These two tests are performed only on the common stock offerings. The firms which made both the common stock and the bond offerings are excluded.

30)Of the six firms which made subsequent offering, four firms made subsequent offerings after the lawsuits were settled. The resolutions are unknown for the remaining two firms.

Table 6. Subsequent Offering and Underwriter Change

Panel A: Descriptive statistics of First Subsequent Offerings, Based on a Sample of 65 IPOs for both Section 11 IPOs and the Control Group (Median is in parenthesis)

	Section 11 IPOs				Control Group			
	All	Common Stock	Debt	Common Stock & Debt	All	Common Stock	Debt	Common Stock & Debt
Percent Issuing (Number of Firms) (100% for N=65)	23.1% (N=15)	16.9% (N=11)	4.6% (N=3)	1.5% (N=1)	43.1% (N=28)	32.3% (N=21)	7.7% (N=5)	3.1% (N=2)
Average Amount of First Subsequent Offering (in Thousands)	$44,951 ($36,326)	$26,580 ($27,000)	$95,000 ($80,000)	$96,875	$35,116 ($25,000)	$34,403 ($22,750)	$42,800 ($25,000)	$24,094
Average Amount of First Subsequent Offering relative to IPO	2.63 (1.65)	3.02 (1.45)	1.50 (1.83)	1.79	1.38 (1.15)	1.29 (1.14)	1.55 (1.68)	1.96
Average Number of Months from IPO to First Subsequent Offering	37.3 (14)	45.8 (33)	15.3 (14)	10	19.7 (17.5)	21.5 (17)	14.2 (18)	14.5
Average Issue Price in First Subsequent Common Stock Offering		15.90 (15.5)		14.75		21.52 (22)		23.5[1]
Average Issue Price in the First Subsequent Common Stock Offering relative to IPO		1.48 (1)		0.95		1.47 (1.39)		2.47[1]
Average Underwriting Spread in First Subsequent Common Stock Offering		0.0608 (0.0571)		0.0549		0.0560 (0.0549)		0.0532[1]
Average Underwriting Spread in First Subsequent Common Stock Offering relative to IPO		0.8889 (0.7903)		0.8106		0.7652 (0.7429)		0.7548[1]

주) 1. Data on the issue price in the first subsequent offer is not available for one firm which is a unit offering, consisting of one debt and 30 common stocks.

Table 6. (continued) Subsequent Offering and Underwriter Change

Panel B: Descriptive Statistics of First Subsequent Offers Classified by the Lawsuit Filing Date (Median is in parenthesis)

	Subsequent Offering before Suit				Subsequent Offering after suit
	All	Common Stock	Debt	Common Stock and Debt	Common Stock[1]
Percent Issuing (Number of Firms) (100% for N=15 which made subsequent offers after the IPO)	60% (N=9)	33.3% (N=5)	20.0% (N=3)	6.7% (N=1)	40% (N=6)
Average Amount of First Subsequent Offering (in Thousands)	$62,281 ($55,000)	$35,730 ($36,326)	$95,000 ($80,000)	$96,875	$18,955 ($17,660)
Average Amount of First Subsequent Offering relative to IPO	1.52 (1.5)	1.48 (1.45)	1.50 (1.83)	1.79 (1.22)	4.30[2]
Average Number of Months to First Subsequent Offering	10.89 (10)	8.4 (9)	15.33 (14.0)	10	36.34 (75)
Average Issue Price of First Subsequent Common Stock Offering	15.02 (14.88)	15.08 (15.0)	na	14.75	16.59 (18.375)
Average Issue Price of First Subsequent Common Stock Offering relative to IPO	1.28 (0.99)	1.35 (1.00)	na	0.95	1.58 (1.04)
Average Underwriting Spread of First Subsequent Common Offering	0.0571 (0.0549)	0.0575 (0.0548)	na	0.0549	0.0635 (0.0602)
Average Underwriting Spread of First Subsequent Common Stock Offering relative to IPO	0.8203 (0.8042)	0.8318 (0.7977)	na	0.8107	0.9460 (0.7258)

주) 1. All six subsequent issues offered after the date of lawsuit were common stocks.

2. One subsequent offering has an extreme value of 20.75. Average amount of first subsequent offering relative to IPO was below one for three of the remaining five subsequent offers.

Table 6. (continued) Subsequent Offering and Underwriter Change

Panel C: Lead Underwriter Change in First Subsequent Offerings

	Section 11 IPOs					Control Group			
	All	Subsequent Offerings Made before Suit			Subsequent Offerings Made after Suit				
		Stock	Debt	Stock andDebt	Stock[1]	All	Stock	Debt	Stock andDebt
Firms making subsequent offerings	15	5	3	1	6	28	21	5	2
Firms switching lead underwriters in first subsequent offerings	40% (N=6)	0% (N=0)	0% (N=0)	0% (N=0)	100% (N=6)	21.4% (N=6)	23.8% (N=5)	20% (N=1)	0% (N=0)
Quality of the new lead underwriters[2]									
Unchanged		na	na	na	0% (N=0)	50% (N=3)	60% (N=3)	na	na
Downgraded		na	na	na	16.7% (N=1)	16.7% (N=1)	na	100% (N=1)	na
Upgraded		na	na	na	83.3% (N=5)	33.3% (N=2)	40% (N=2)	na	na

주) 1. All six subsequent offerings made after lawsuit are common stock issues.
2. Quality of the new lead underwriters is based on Hayes' classification.

investment bankers and their clients,.it is conceivable that the investment bankers of the IPOs might have been blamed for the legal action brought after the first offerings.[31)]

Panel C also reports the change in the quality of the investment banker for the subsequent offerings of firms which changed underwriters. The data reveal that five firms (83.3 percent) selected more reputable investment bankers for their subsequent offerings while only one Section 11 IPO (16.7 percent) picked less prestigious underwriter. In contrast, for only two out of five (40 percent) firms in the control group which switched the underwriters in their subsequent common stock offerings, the quality of underwriter was upgraded, whereas the quality of the new underwriter remains unchanged for the remaining three (60 percent) firms.

These results suggest that the litigation might have damaged the reputation of the investment bankers and lead to loss of repeat business.

Ⅳ. Summary

This study examines the resolutions of Section 11 lawsuits. For the subset by the prestigious investment bankers, the data indicate that the underpricing appears to be more pronounced for the subset of IPOs for which Section 11 claims were dismissed, compared with those IPOs which were settled out of court. The evidence is consistent with the insurance hypothesis that large underpricing may reduce the expected liabilities at the settlement of lawsuits. The association between the settlement amounts and the underpricing, however, is very weak, which may be attributable to the lack of merit on the settlement outcomes, consistent with Alexander (1991). The settlement amount measured as a percentage of the gross proceeds appears to be larger for the offerings which were underwritten by the non-prestigious investment bankers. These results are consistent with Tinic (1988). The insurance hypothesis argues that the expected legal

31)In some cases, the underwriters filed cross-claims for indemnity and contribution against the issuer. The suit related to the cross-claims may undermine the relationship that the issuer and the investment banker has established. The court decisions of the six cased were reviewed to find the cross-claims, if any. None of the six firms which made subsequent offerings were involved in cross-claims. Hence, the switch of the investment banker in the subsequent offering is unlikely to be related to the cross-claims.

liabilities vary with the reputation of the investment bankers because of the differences in the expertise and ability of the originating investment bankers to conduct the due diligence investigations of the issuing firms.

In addition, the costly nature of litigation is evidenced by the switch of the investment bankers in the subsequent public equity offerings. All the issuers of the Section 11 IPOs which made subsequent public offerings (after the lawsuits were brought) switched the underwriters in their seasoned public offerings. In contrast, all the other Section 11 IPOs which made subsequent public offerings before the lawsuits were filed employed the same underwriter in their subsequent public offerings. These results suggest that the litigation might have damaging impact on the reputation of the investment bankers which underwrote the Section 11 IPOs. While the empirical findings offer support for the insurance hypothesis, some issues such as the impact of the damaged reputation of the investment bankers need to be explored further.

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