

DO NONAUDIT SERVICE FEES ASSOCIATE WITH ACCRUAL EARNINGS MANAGEMENT DURING THE IPO?

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Abstract

The objectives of this paper is to examine the association between nonaudit service fees and accrual earnings management that take place during the IPO year. While nonaudit service fees and accrual earnings management has been examined in a number of settings, to date, there has been no work that analyses this association for IPO firm. The findings of this paper find evidence for clients of low quality audit firms that nonaudit service fees are positively associated with accrual earnings management during the IPO year, suggesting that nonaudit service fees compromise auditor independence.

Keywords: Nonaudit Service Fees, Initial Public Offerings, Accrual Earnings Management

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1 Introduction

The impact of non-audit services (NAS) on auditor independence has received an increased interest in recent decades due to the importance of financial reporting quality and its consequences on the capital market participants. Audit firms have an important role to ensure the integrity of their clients' financial reporting and, therefore, the size of NAS may lead auditors to turn a blind eye to opportunistic accounting practices by their clients. In line with this view, prior research has investigated this relationship and found evidence that NAS are associated with opportunistic activities such as earnings management activities e.g. Frankel et al. (2002). Given the importance of this issue, regulators and policy makers have started to apply many reforms for their regulations and rules to reduce the impact of NAS on auditor independence. More recently, the European Union (EU) has issued a new legislation to reform the audit market with the EU⁸. Specifically, in December 2013 the European Commission, Parliament and Council of Ministers agreed on draft legislation that has a cap on the total amount of NAS that can be charged and a list of prohibited NAS that auditors should not provide to their clients within the EU. The EU Parliament was voted on the legislation in April 2014 and it came into force in mid-2014. Despite this new reform on the audit environment in the EU, many other countries in this world still allow the audit firms to provide the NAS for their clients without any restrictions.

One of the common research settings to address whether NAS fees compromise auditors independence was by examining the association between NAS fees and accrual earnings management. Specifically, prior research find a positive association between the level of accrual-based manipulation and the level of NAS fees, suggesting that NAS fees lead to compromise auditors independence. For example, Frankel et al. (2002) and Ferguson (2004) find evidence that NAS fees are positively associated with discretionary accruals. Basioudis et al. (2008) find financially stressed firms that paid high NAS fees are less likely to receive a going-concern modified audit report. However, a few other studies find different results that questioning the view that NAS fees may lead to compromise auditor independence. For example, Lim and Tan (2008) find that non-audit fees are associated with high-quality auditing, but just for firms audited by auditor industry expertise. Krishnan et al. (2011) discuss this mixed evidence concerning the association between NAS and earnings management and refer this to two factors; economic dependence and harmful NAS (see e.g., Chung and Kallapur, 2003; Larcker and Richardson, 2004). The economic dependence means that the auditor is financially dependent on the fees of their clients, and the harmful NAS suggests there are two types of the NAS may be provided to the client (good NAS vs. harmful NAS).

Despite this mixed evidence on the impact of NAS on auditor independence (through the use of earnings management), no research to date has examined this association based on the Initial Public Offerings (IPOs) setting. This paper therefore aims to explore further whether NAS may compromise auditor independence by focusing on earnings

⁸ See the following link for more details on the NAS issue within the EU http://europa.eu/rapid/press-release_MEMO-14-427_en.htm

management activities that take place during the IPO in the United Kingdom (UK) for several reasons. First, the IPO represents a unique setting to address such issue due to the strong incentives to manage reported earnings upward (e.g., Teoh et al., 1998; Morsfield and Tan, 2006; Chang et al., 2010; Lee and Masulis, 2011; Chahine et al., 2012; Wongsunwai, 2012), and due to the high levels of NAS fees that charged during the IPO year. Second, the IPO is an important event in the firms' life cycle where auditors play a vital role not to ensure the integrity of the financial reporting but also to the success of the offering. Specifically, the IPO firm is a private firm in the early stage of their life cycle that just went public and, therefore, the expertise and the knowledge of their auditors (which provided through the NAS) can contribute positively to the whole process of the IPO. Further, in the UK the Companies Regulations (disclosure of Auditor Remuneration) require listed companies to disclose the amount of audit and NAS fees in their annual reports⁹. This disclosure in turn allows differentiating between audit and NAS fees to examine their impact on manager opportunistic practices such as earnings management activities.

Overall, it is expected that the size of NAS that auditors provide to their clients during the IPO would be more than the size of audit service¹⁰. Thus, whether this large amount of NAS fees that is paid to the auditor during the IPO would lead to conflict of interest is still an interesting research question.

By examining a sample of 548 IPO firms that went public on the London Stock Exchanges (the UK Main Market and the Alternative Investment Market [AIM]) between 1998 and 2008, the results show evidence that NAS compromise auditor independence. Specifically, after splitting the IPOs sample based on quality of the audit firms, the results show for IPO clients of low quality audit firms (non-big N) that NAS fees are positively associated with the level of discretionary accruals during the IPO. While for the clients of high quality audit firms (big N) the results show no evidence on the association between NAS fees and earnings management. Big N audit firms are expected to provide high quality auditing during the IPO given the high probability of reputation damage and litigation risk that may result from earnings manipulation. Thus, findings of this paper support the new legislation that just is approved by the EU to have a cap on the amount of NAS fees that can be charged by the auditors, and the new restriction on a list of NAS that should not be provided by the auditors to their clients. Further, the findings contribute to literature by adding new evidence on the association between NAS and accrual earnings

management by examining a new setting (the IPO setting), which has received little attention by prior research.

The rest of the paper is organized as follows. Section 2 reviews the related literature and presents our hypotheses development. Section 3 discusses data and empirical methodology. Sections 4 discuss empirical evidence on the association between NAS and accrual earnings management during the IPO. Section 5 presents the additional analysis. Section 6 concludes.

2 Theoretical framework, literature review and hypotheses development

2.1 Accrual Earnings Management and Big N Audit Firms Around IPOs

Prior research indicates that the abnormal level of information asymmetry during the IPO leads to many agency conflicts e.g. between managers and shareholders and, this in turn, may lead to opportunistic earnings management (e.g., Ritter and Welch, 2002; Bruton et al., 2009; Darrrough and Rangan 2005, Wongsunwai 2012). Thus, hiring high quality audit firms during IPOs would help IPO firms to send a positive signal about the offer to outside investors (Titman and Trueman, 1986; Brau and Fawcett, 2006). This is due to the fact that high quality auditors consider the potential litigation risks that are associated with the IPO event and, therefore, they are expected to provide high quality audits that overall help to reduce information asymmetry and IPO underpricing (Balvers et al. 1988; Beatty 1989; Datar et al. 1991; Hogan, 1997). However, not all IPO firms can afford to pay the fees of high quality audit firms and, therefore, they may hire low quality audit firms.

In line with the above view, prior research finds consistent evidence that IPO firms engage in earnings management to manage reported earnings upward at the end of the IPO year to meet different incentives (e.g., Friedlan, 1994; Teoh et al. 1998a; Gramlich and Sorensen, 2004; Morsfield and Tan, 2006). Teoh et al. (1998) for example discuss these incentives and indicate that managerial shares selling post-IPO, avoiding an abnormal reduction in stock prices, executive remunerations, and earnings forecast are the most common incentives to manage earnings during the IPO year. Prior research also shows that IPO firms have strong incentives to hire high quality auditors to send positive signals about the offer to outsiders (Titman and Trueman, 1986; Brau and Fawcett, 2006). This is due to the fact that high quality auditors (big N) are expected to provide high-quality audits to avoid any future litigation risks and to protect their reputation in the capital market (DeAngelo, 1981; Francis and Krishnan, 1999). Khurana and Raman (2004) examined the association between litigation risk, reputation damage, and enhanced audit quality.

9 For more details see http://www.legislation.gov.uk/uksi/2011/2198/pdfs/uksem_20112198_en.pdf

10 For example, in our sample over 80% of the IPO firms paid more on the NAS fees as compared to the audit fees for their auditors.

Their results showed that avoiding litigation risk is the primary driver for providing high quality audits by more reputable audit firms. Heninger (2001) meanwhile finds evidence that the level of accrual earnings management is positively associated with the probability of litigation risk.

Thus, it is expected that IPO firms to have strong incentives to manage earnings upward during the IPO year, but hiring high quality audit firms would reduce the flexibility to engage in such opportunistic earnings management activities. Elder and Zhou (2002), Chen et al. (2005) and Alhadab et al. (2013a) find similar evidence that the presence of high quality auditors is associated with a lower level of accrual earnings management during the IPO year.

2.2 Nonaudit Service Fees and Accrual Earnings Management around IPOs

The main objective of this study is to examine whether the NAS fees are associated with accrual earnings management that take place during the IPO year. An IPO firm is a private firm with limited information that is mostly in the early stage of its life cycle, and that suffer for lack of knowledge and expertise as compared to other mature listed firms. Therefore, the NAS that provided by the audit firms would play an effective role to help and advice the IPO firm at this stage, and even the NAS fees that are charged during the IPO would be much higher than the charged audit service fees at the same period.

As a result, how audit firms would react to any opportunistic earnings management that undertaken by their clients during the IPO year, may depend on two factors; the quality of auditors and the size of NAS fees. On the one hand, high quality audit firms are expected to be economically dependent from their clients and, therefore, provide high quality monitoring to any earnings management practices, ignoring the size of NAS fees. On the other hand, low quality audit firms are usually small audit firms and therefore economically dependent on the NAS fees that are paid by their clients. Such financial dependence may lead these low quality audit firms to turn a blind eye on any earnings management activities that take place during the IPO. Thus, for low quality audit firms it is expected that NAS fees will compromise the auditor independence, which may lead their IPO clients to engage in a higher level of earnings management to manage reported earnings upward during the IPO, notably the IPO firms have strong incentives to do so.

Frankel et al. (2002) focus on the association between earnings management and audit and non-audit fees. By examining a sample of 3,074 US firms, Frankel et al. (2002) find evidence that audit fees are negatively associated with discretionary accruals, suggesting that the higher audit fees imply higher audit quality and, this in turn, leads to a lower level of accrual-based manipulation. However, they find non-audit fees are positively associated with discretionary

accruals and small earnings surprises, suggesting that non-audit fees might compromise auditor independence. Further, Sohn (2011) examines the association between audit fees and real earnings management and finds evidence that audit fees are positively associated with real activities-based manipulation, confirming recent evidence (Cohen and Zarowin, 2010; Chi et al, 2011) on the positive association between enhanced audit quality and real earnings management activities. In addition, Basioudis et al. (2008) find evidence that the issuance of going-concern modified audit report is positively associated with the level of audit fees for financially stressed firms in the UK. While for financially stressed firms that paid high non-audit fees Basioudis et al. (2008) find evidence that these firms are less likely to receive a going-concern modified audit report.¹¹ Ferguson et al. (2004) examine UK listed firms over the period 1996-1998 and find similar evidence that NAS are associated positively with earnings management. They examine different proxies of NAS and find their results are consistent, confirming the view that NAS fees compromise auditor independence. Although prior research has focused on examining the association between NAS fees and accrual-based earnings management, no research to date has examined whether NAS are associated with accrual earnings management during the IPO.

Therefore, and based on the previous discussion, it is expected for the clients of low quality audit firms that the NAS fees to be positively associated with the level of accrual earnings management during the IPO year, suggesting that NAS fees compromise low quality audit firm independence. The main hypothesis is as follows:

H1: For IPO clients of low quality audit firms, the levels of NAS fees are positively associated with the level of accrual earnings during the IPO year.

3 Data and research methods

3.1 Sample Construction

The sample consists of 548 IPO firms that went public on either the Main market or the Alternative Investment Market (AIM) of the London Stock Exchange over the period 1998-2008.¹² IPOs to be included into the sample, they must have the necessary data to estimate accrual earnings management, available prospectuses, and other required data for the control variables. Due to differences in the accrual generating process all

¹¹ In contrast with the evidence of Frankel et al. (2002) and Basioudis et al. (2008), Lim and Tan (2008) find evidence that non-audit fees are associated with high-quality auditing, but just for firms audited by auditor industry expertise.

¹² Information about IPOs on the Main market is available starting from 1998, while for the AIM market it is available starting from 1995. Thus, the sample covers the period 1998 – 2008 to ensure consistency.

financial IPO firms are excluded from the sample (e.g., Teoh et al., 1998; Chen et al., 2005; Morsfield and Tan, 2006; Fan, 2007; Chang et al., 2010; Lee and Masulis, 2011; Chahine et al., 2012; Wongsunwai, 2012).

Data are collected using difference sources e.g., London Stock Exchange website, Plum and Lexis-Nexis databases, WorldScope database, IPO prospectuses, Thomson One Banker database, Fame database, DataStream, and Companies House. Data concerning audit quality (NAS fees, audit fees, the name of auditors, and audit tenure) for IPO firms are collected from Fame and cross checked with the prospectuses. All missing data are manually collected from IPO prospectuses. An audit firm is classified as a big N auditor (high quality auditor) if it is considered as one of the big 4 audit firms. After imposing the restriction to all non-financial IPO firms with available prospectuses and the necessary data to analyze the association between NAS fees and accrual earnings management, the final sample consists of 548 IPOs (258 IPOs audited by big N and 290 IPOs

audited by non-big N audit firms) over the period 1998-2008.

3.2 Variable Measurement

3.2.1 Measuring Accrual-Based Earnings Management

The estimation process involves two stages. First, normal accruals are estimated for the control sample (all non-IPO UK firms over the period 1998-2008) for each year-industry group. This approach aims to control for any changes in economic conditions that may lead to bias in the estimation (e.g., DeFond and Jambalvo, 1994, Kasznik, 1999; Cohen and Zarovin, 2010). Further, following Rosner, (2003), Iqbal et al. (2009), and Athanasakou et al. (2011) any industry-year group of the control sample with less than 6 observations are excluded.

The following model therefore is used to estimate normal accruals for all non-IPO UK firms:

$$\frac{TA_{it}}{AvAssets_{it}} = \alpha_0 + \beta_1 \frac{1}{AvAssets_{it}} + \beta_2 \frac{\Delta SALES_{it}}{AvAssets_{it}} + \beta_3 \frac{PPE_{it}}{AvAssets_{it}} + \beta_4 ROA_{it} + \varepsilon_{it} \quad (1)$$

Where $TA_{i,t}$ is total accruals that are defined as earnings before extraordinary items minus operating cash flows; $AvAssets_{i,t}$ is the sum of total assets at the beginning and at the end of the year divided by 2; $\Delta SALES_{i,t}$ is the change in sales during a year; $PPE_{i,t}$ is the gross value of property, plant and equipment ;

and $ROA_{i,t}$ is return on assets. All variables are scaled by average total assets.

In the second stage, normal accruals ($NA_{i,t}$) for the IPO sample are calculated using the estimated coefficients α_0 , β_1 , β_2 , β_3 and β_4 from equation (1) above, and as follows,

$$NA_{it} = \hat{\alpha}_0 + \hat{\beta}_1 \frac{1}{AvAssets_{it}} + \hat{\beta}_2 \frac{\Delta SALES_{it} - \Delta REC_{it}}{AvAssets_{it}} + \hat{\beta}_3 \frac{PPE_{it}}{AvAssets_{it}} + \hat{\beta}_4 ROA_{it} \quad (2)$$

Where $\Delta REC_{i,t}$ is the change in receivables during the year scaled by average total assets. Finally,

Discretionary accruals ($DA_{i,t}$) are calculated as total accruals minus the fitted normal as follows,

$$DA_{it} = \left(\frac{TA_{it}}{AvAssets_{it}} \right) - NA_{it} \quad (3)$$

4 Results

4.1 Descriptive Statistics

Table 1 presents descriptive statistics of key variables for the sample at the IPO. Table 1 shows that the average total assets of IPO firms prior to go public is £57.24 million, the median is £4.54 million, the standard deviation is £273.78 million, the minimum amount is £0.07 million, and the maximum amount is £1969.10 million. This large difference in total assets values is due to the fact that the sample comprises very small IPO firms (AIM market IPOs) and very large firms (Main market IPOs). The AIM market is designed to fit the needs of small, growing IPO firms.

Consistent with this, Table 1 shows that the mean market capitalization for IPO firms is £113.87 million and the median is £25.91 million with a range from £1.44 million to £2,020.68 million. Table 1 also shows that the money raised by IPO firms ranges from £0.14 million to £1499.85 million with a mean of £43.90 million and a median of £7.31 million. With regards to the net income of IPO firms, Table 1 shows that the operating performance (net income) for IPO firms on average £2.03 million with a standard deviation of £25.89 million and a median of £-0.01 million. The minimum and the maximum amount of net income range from £-124.10 million to approximately £398 million. Table 1 also shows that NAS (audit fees) for IPO firms on average £0.27

(0.08) million with a median of 0.04 (0.03) million, while the minimum and maximum amount of NAS (audit fees) range from £0.00 (0.01) million to approximately £13.15 (2.37) million. This difference

between the NAS and audit fees is due to the fact that IPO firms are in the yearly stage of their life cycle and, therefore, they need more NAS as compared to the audit service.

Table 1. Descriptive statistics for sample IPO firms during 1998-2008

	<i>Total assets</i> (£ mill.)	<i>Net income</i> (£ mill.)	<i>Market value</i> (£ mill.)	<i>Money raised</i> (£ mill.)	<i>NAS fees</i> (£ mill.)	<i>Audit fees</i> (£ mill.)
<i>Panel A: Pooled sample (n=548)</i>						
Mean	57.24	2.03	113.87	43.90	0.27	0.08
Median	4.54	-0.01	25.91	7.31	0.034	0.03
Std. dev	237.78	25.89	301.41	138.19	1.02	0.22
Minimum	0.07	-124.1	1.44	0.14	0.00	0.01
Maximum	1969.10	397.47	2020.68	1499.85	13.15	2.37
<i>Panel B: IPO clients of big-N audit firms sample (n=258)</i>						
Mean	111.25	4.25	206.97	81.28	0.49	0.14
Median	9.65	0.17	56.16	21.16	0.07	0.05
Std. dev	335.97	37.43	400.65	185.94	1.43	0.31
Minimum	0.20	-124.10	2.39	0.24	0.00	0.01
Maximum	1969.10	397.47	2020.68	1499.85	13.15	2.37
<i>Panel C: IPO clients of non-big-N audit firms sample (n=290)</i>						
Mean	9.20	0.06	31.04	10.65	0.07	0.03
Median	2.04	-0.07	14.70	3.50	0.01	0.02
Std. dev	41.45	3.82	120.75	55.16	0.23	0.05
Minimum	0.07	-11.84	1.44	0.14	0.00	0.01
Maximum	671.60	37.67	147.66	928.80	3.25	0.65

Notes: This table presents sample descriptive statistics for the pooled IPOs, IPO clients of big-N auditors, and IPO clients of non-big-N auditors over the period 1998-2008. Total assets are the beginning of period total assets; net income is at the ending of period net income; market value is the market capitalization for IPO firms immediately after the listing; money raised is the offer amount of the IPO. NAS is the nonaudit service fees. NAS and audit fees are at the ending of period. Total assets and net income are obtained from the WorldScope database; market value and money raised are obtained from the London Stock Exchange website; NAS and audit fees are obtained from Fame database.

Table 2 presents the distribution of IPOs and shows that four years (2000, 2004, 2005, and 2006) account for more than 60% of IPOs. Consistent with the internet bubble the highest number of IPOs (102 IPOs) in the sample is in 2000. These statistics are also consistent with the view that IPO firms usually time their offerings to take advantage of the hot market (Ibbotson and Jaffe, 1975; Lowry and Schwert, 2002). While the lowest number of IPOs in the sample is in 2008 due to the recent global financial crisis. Table 2 (Panel A) reports also the distribution of IPOs audited by big N auditors over the period 1998 to 2008 and shows that the years 2000, 2004, and 2005 account for more than 50% of the sample, while the majority of other years have similar percentages of IPOs. For IPO firms audited by non-big N audit firms Table 2 (Panel A) shows that more than 50% of IPOs have gone public during 2004, 2005, and 2006 with the highest number of IPOs (57 IPOs) is in 2005.

Table 2 (Panel B) presents the frequency of IPOs based on the industry standard classification, measured by 2-digit SIC codes. The Business Services industry accounts for approximately 32% of the total sample, while the majority of other industries have

similar percentages of IPOs ranging from 1% to 10%. While for both IPO firms audited by big N and non-big N Table 2 (Panel B) shows similar statistics that the Business Services industry accounts for more than 30% of the sample.

Table 3 reports descriptive statistics for all the variables in our regression models for the pooled sample. The results are interpreted based on the mean values. Table 3 shows that the mean (median) discretionary accruals is positive 0.02 (0.01)¹³. Table 3 also shows that 47% of the IPO sample is audited by big-N audit firms, which suggests the IPO sub-samples are an approximately equal (big-N Vs non-big-N IPO clients), which provide conservative test for the association between NAS and accrual earnings management. In addition, Table 3 shows that 75% of the IPO sample is listed on the AIM market. The AIM

13 The unreported results show that the mean (median) values of discretionary accruals are and statistically significant at the 5% (1%) level, suggesting that IPO firm exhibit a level of accrual-based manipulation during the IPO year. This is consistent with prior research that finds IPO firms engage in high level of earnings management during the offer year. The results are not reported as the focus of this paper on examining the association between NAS and accrual earnings management around the IPO.

market is designed to fit the needs of small, growing IPO firms as compared to the Main market listing. Table 3 also shows (as a percentage of the pooled IPOs sample) that 22% of IPOs are backed by venture capitalists and 19% of IPOs have prestigious

underwriters. With regards to corporate governance, Table 1 shows that 8% of the IPOs sample has Chairman/CEO duality, the average number of outside directors on board is approximately 3 directors, and the average board size is 5 directors.

Table 2. Time and industry distribution

Panel A: Time distribution of IPOs during 1998-2008

Year	Pooled sample		Big-N clients		non- Big-N clients	
	<i>Freq</i>	<i>%</i>	<i>Freq</i>	<i>%</i>	<i>Freq</i>	<i>%</i>
1998	35	6.39	26	10.08	9	3.10
1999	27	4.93	10	3.88	17	5.68
2000	102	18.61	65	25.19	37	12.76
2001	43	7.85	19	7.36	24	8.28
2002	32	5.84	16	6.20	16	5.52
2003	21	3.83	10	3.88	11	3.79
2004	90	16.42	39	15.12	51	17.59
2005	90	16.42	33	12.79	57	19.66
2006	68	12.41	22	8.53	46	15.68
2007	38	6.93	17	6.59	21	7.24
2008	2	0.36	1	0.39	1	0.34
Total	548	100.00	258	100.00	290	100.00

Panel B: Industry distribution of IPOs during 1998-2008

Industry	<i>2-digit SIC</i>	Pooled Sample		Big-N clients		non-Big-N clients	
		<i>Freq</i>	<i>%</i>	<i>Freq</i>	<i>%</i>	<i>Freq</i>	<i>%</i>
<i>Oil and gas extraction</i>	13	25	4.56	10	3.88	15	5.17
<i>Food products</i>	20	11	2.01	3	1.16	8	2.76
<i>Printing and publishing</i>	27	12	2.19	6	2.33	6	2.07
<i>Chemicals and allied products</i>	28	36	6.57	20	7.75	16	5.52
<i>Industrial machinery</i>	35	15	2.74	9	3.49	6	2.07
<i>Electronic equipment</i>	36	34	6.2	18	6.98	16	5.52
<i>Instruments and related products</i>	38	22	4.01	10	3.88	12	4.14
<i>Communications</i>	48	27	4.93	15	5.81	12	4.14
<i>Electric, gas, and sanitation</i>	49	9	1.64	2	0.78	7	2.41
<i>Durable goods</i>	50	10	1.82	5	1.94	5	1.72
<i>Eating and drinking establishments</i>	58	14	2.55	5	1.94	9	3.1
<i>Retail</i>	59	8	1.46	3	1.16	5	1.72
<i>Business services</i>	73	176	32.12	89	34.5	87	30
<i>Media and entertainment</i>	78	8	1.46	3	1.16	5	1.72
<i>Amusement and recreation</i>	79	27	4.93	7	2.71	20	6.9
<i>Engineering and management services</i>	87	57	10.4	19	7.36	38	13.1
<i>All others</i>	-	52	9.50	34	13.17	23	7.94
Total		548	100.00	258	100.00	290	100.00

Notes: This table reports time and industry distributions for the the pooled IPOs sample, IPO clients of big-N auditors, and IPO clients of non-big-N auditors over the period 1998 -2009. Panel A presents the time distribution, while Panel B presents the industry distribution.

Table 3. Descriptive statistics for the all the variables in the regressions models

	<i>Mean</i>	<i>Median</i>	<i>First Quartile</i>	<i>Standard Deviation</i>	<i>Third Quartile</i>
<i>Discretionary accruals</i>	0.02	0.01	-0.09	0.51	0.11
<i>NAS</i>	0.27	0.34	0.01	1.02	0.13
<i>TotalFees</i>	0.31	0.07	0.03	0.84	0.2
<i>Big-N</i>	0.47	-	-	0.5	-
<i>Ln(MK)</i>	3.41	3.25	2.37	1.47	4.25
<i>BM</i>	0.23	0.15	0.02	1.58	0.28
<i>Ln(1+age)</i>	1.06	0.08	0.26	0.89	1.72
<i>Capex growth</i>	3.93	0.24	0.03	12.78	1.44
<i>Leverage</i>	0.36	0.11	0.01	0.65	0.44
<i>Audit Tenure</i>	0.37	-	-	1.01	-
<i>Loss</i>	0.5	-	-	0.5	-
<i>ROA</i>	-1.05	-0.01	-0.8	4.24	0.14
<i>SEO</i>	0.05	-	-	0.21	-
<i>AIM</i>	0.75	-	-	0.43	-
<i>VC</i>	0.22	-	-	0.41	-
<i>Underwriter</i>	0.19	-	-	0.39	-
<i>Chrm/CEO</i>	0.08	-	-	0.28	-
<i>OutDirectors</i>	2.6	2	2	1.29	3
<i>BrdSize</i>	5.73	6	5	1.75	7

Notes: For our dummy variables such as Big-N, SEO and AIM we only report the mean and standard deviation. This table reports descriptive statistics for the all the variables in our regressions models. Where *Discretionary accruals* is discretionary accruals, *NAS* is the nonaudit service fees, *TotalFees* is the total of NAS and audit fees, *Big-N* = 1 if the firm is audited by big-N audit firm and 0 otherwise, *Ln(MK)* is the natural logarithm of market value, *BM* is the book-to-market ratio calculated as the book value of equity divided by the market value of equity, *Ln(1+age)* is the natural logarithm of 1+ IPO firm age where the IPO firm's age is calculated as the difference between the founding date of the IPO firm and the date of its IPO, *Capex growth* is capital expenditure growth which is computed as capital expenditure for the IPO year minus previous year scaled by total assets the year prior, *Leverage* is total debt divided by total assets in the year prior to the IPO, (*AuditTenure*) is a continues variable that measures the cumulative number of years of the auditor-client relationship, *Loss* = 1 if the firm reported a loss during the IPO year and 0 otherwise, *ROA* is return on assets measured as earnings before extraordinary items divided by total assets in the year prior to the IPO, , *SEO*= 1 if the firms issue seasoned equity offering during the IPO year and 0 otherwise, *AIM*= 1 if the firms listed on the Alternative Investment Market (AIM) and 0 otherwise, *VC*= 1 if the firm is backed by a venture capitalist and 0 otherwise, and *Underwriter*=1 if the firm is underwritten by a prestigious underwriter and 0 otherwise, *Chrm/CEO* = 1 if the chairman of the board and the CEO is the same director and zero otherwise, *OutDirectors* is measured as the percentage of outside directors on the board, *BrdSize* is the number of directors on the board.

4.2 Ordinary Least Square (OLS) Results -NAS and Accrual Earnings Management

To test whether NAS fees are associated with accrual earnings management during the IPO year, the

$$\begin{aligned}
 DA_{i,t} = & a_0 + \beta_1 \text{NASProx} + \beta_3 \text{Ln}(\text{MK}) + \beta_4 \text{BM} + \beta_5 \text{Ln}(1 + \text{age}) + \beta_9 \text{CapexGrowth} \\
 & + \beta_6 \text{Leverage} + \beta_2 \text{AuditTenure} + \beta_7 \text{Loss} + \beta_8 \text{ROA} + \beta_{10} \text{SEO} + \beta_{11} \text{AIM} \\
 & + \beta_{12} \text{VC} + \beta_{13} \text{Underwriter} + \beta_{14} \text{Chrm/CEO} + \beta_{15} \text{OutDirectors} + \beta_{16} \text{BrdSize} \\
 & + \text{IND} + \text{Year} + \varepsilon_{i,t}
 \end{aligned} \quad (4)$$

Where ($DA_{i,t}$) is discretionary accruals, the proxy of accrual-earnings management, during the IPO year and (*NASProx*) represents the different proxies of NAS fees, namely *NAS-Rank* and *Ln(NAS)*. *NAS-Rank* is the percentile rank of the percentage of nonaudit fees to the total audit fees, while

following model is estimated for the IPO sub-samples (IPOs audited by big N sample vs. IPO audited non-big N sample):

Ln(NASfees) is the natural logarithm of nonaudit service fees during the IPO year¹⁴.

¹⁴ The percentile rank of all variables (dependent and independent) is used in the regression models to avoid the influence of outliers (e.g., Gerakos et al. 2013). Leone et al. (2012) point out that Winsorizing just the independent variables without considering the dependent variable leads to

Following prior research (e.g., Teoh et al., 1998; Fan, 2007; Cohen et al., 2008; Chi et al., 2011), a set of control variables that have been found to impact the use of accrual earnings management are added into the model. The possible impact of a size effect is controlled by adding the natural logarithm of market value $Ln(MK)$ to the model, calculated as the offer price multiplied by the number of outstanding shares on the first day of listing.

In order to control for growth opportunities the model includes book-to-market ratio (BM); calculated as the book value of equity divided by the market value of equity. IPO firm age [$ln(1+age)$] calculated as the natural logarithm of 1+IPO firm age, where firm age is calculated as the difference between the founding date and the date of its IPO. Capital expenditure growth ($CapexGrowth$) computed as capital expenditure during the IPO year minus the capital expenditure in the previous year scaled by total assets in the year prior to the IPO year (e.g., Rangan, 1998; Teoh et al., 1998; Roosenboom et al., 2003; Cohen and Zarowin, 2010).

Prior research (e.g., Becker et al., 1998; Balsam et al., 2003; Krishnan, 2003) controls for auditor-client relationship as this may impact the quality of auditing. Thus, audit tenure ($AudTenure$) is added into the model; which is a continuous variable that measures the cumulative number of years of the auditor-client relationship. In addition, leverage ratio ($Leverage$) measured as total debt_t/total assets_{t-1} to control for the level of debt, as firms with high levels of debt have a higher probability to manage earnings either upward or downward (see e.g., DeFond and Jiambalvo, 1994).

The model also controls for profitability by adding two variables; loss ($Loss$) is a dummy variable that equalling 1 for firms that have reported a loss and zero otherwise; while ROA (ROA) as measured as return on assets (e.g., Kothari et al., 2005; Gunny, 2010; Chi et al., 2011). Further, prior research shows that Seasoned Equity Offering Firms (SEOs) have a strong incentive to manage earnings upward. Thus, a SEO (SEO) dummy is added that equalling 1 if the firms undertakes a seasoned equity offering during the IPO year and zero otherwise. More recently, Gerakos et al. (2013) and Alhadab et al. (2013b) find evidence that IPO firms listed on the AIM market exhibit a higher level of earnings management than IPOs listed on the Main market. Thus, to control for the market the model includes AIM (AIM) dummy that equalling 1 if the IPO firms listed on AIM market and zero for firms listed on the Main market.

Financial intermediaries are also found to play a significant role to monitor earnings management activities. For example, Morsfield and Tan (2006), Lee and Masulis (2011) and Wongsunwai (2012) find that IPO firms that have a prestigious underwriter or backed by venture capitalists have a lower level of

earnings management activities and, therefore, the model includes two control variables (VC) and ($Underwriter$). Venture capitalist (VC) is a dummy variable that equals 1 if the IPO firms backed by venture capitalists and zero otherwise, and ($Underwriter$) a dummy variable equalling 1 if the IPO firms have high profile underwriters and zero otherwise¹⁵.

Finally, the model controls for the governance structure of IPO firms due to its constraining role on the use of earnings management activities (for more details see Klein, 2002; Osmo, 2008; amongst others). The governance proxies are as follows; Chairman/CEO duality ($Chrm/CEO$) is a dummy variable equalling 1 if the chairman of the board and the CEO is the same director and zero otherwise; outside directors ($OutDirectors$) is measured as the percentage of outside directors on the board, and board size ($BrdSize$) is the number of directors on the board. The model also includes controls for industry (IND) and year ($Year$) effects.

Table 4 reports the results for IPO firms audited by low quality audit firms, and presents evidence that NAS fees are positively associated with accrual earnings management. Specifically, the results show a positive coefficient of 0.150 ($p < 0.05$) on $NAS-Rank$ in the discretionary accruals regression. This evidence suggests for IPO firms audited by low quality firms that firms who pay high NAS fees have a higher level of accrual earnings management. This in turn is consistent with the view that NAS fees compromise auditor independence. Further, the results show similar evidence when using the second proxy of nonaudit service fees, namely the natural logarithm of nonaudit service fees. The results show a positive coefficient of 0.213 ($p < 0.05$) on $Ln(NAS)$ in the discretionary accruals regression.¹⁶

Table 5 reports the results for IPO firms audited by high quality audit firms and shows no evidence on the association between NAS fees and accrual earnings management during the IPO year. Specifically, the results show negative coefficients of -0.016 on $NAS-Rank$ and -0.010 on $Ln(NAF)$ in the discretionary accrual regressions, but they are statistically insignificant. This evidence is consistent with Alhadab et al. (2013a) that high quality auditors constrain accruals manipulation around IPOs

estimation bias of the coefficient. Thus, the percentile rank is used for both dependent and independent variables.

¹⁵ Prestigious underwriters are those global investment banks as defined by Derrien and Kecskes (2007), while venture capitalist are those investors who hold more than 3% of a firm's shares and appear in the list of venture capitalists provided by the British Venture Capitalist Association. Specifically, data are collected from the prospectuses about all the shareholders who hold more than 3% of the total shares and then a shareholder's name is matched with a list of venture capitalists, which is obtained from the British Venture Capitalist Association.

¹⁶ The analysis is also repeated by adding the audit fees as a control variable into the model. The unreported results show similar evidence to those reported in Table 4.

Table 4. Relation between accrual earnings management and NAS fees for IPO firms audited by low quality audit firms (clients of non-Big N sample)

	<i>Discretionary accruals</i>	<i>Discretionary accruals</i>
Intercept	0.051 (0.189)	-0.089 (-0.320)
NAS-F-Rank	0.150 (2.348)**	
Ln(NAS-F)		0.213 (2.507)**
<i>Ln(MK)</i>	0.233 (2.454)**	0.233 (2.166)**
<i>BM</i>	0.049 (0.699)	0.071 (0.954)
<i>Ln(1+age)</i>	0.031 (0.452)	0.031 (0.384)
<i>Capex growth</i>	0.015 (0.178)	-0.062 (-0.653)
<i>Leverage</i>	0.026 (0.414)	0.055 (0.788)
<i>Audit Tenure</i>	-0.040 (-0.705)	-0.074 (-1.147)
<i>Loss</i>	0.018 (0.232)	0.061 (0.674)
<i>ROA</i>	-0.169 (-1.228)	-0.066 (-0.411)
<i>SEO</i>	0.073 (0.981)	0.090 (0.952)
<i>AIM</i>	-0.034 (-0.329)	-0.014 (-0.131)
<i>VC</i>	-0.025 (-0.474)	-0.017 (-0.284)
<i>Underwriter</i>	0.006 (0.086)	-0.023 (-0.311)
<i>Chrm/CEO</i>	-0.036 (-0.534)	-0.036 (-0.462)
<i>OutDirectors</i>	-0.049 (-0.673)	-0.029 (-0.355)
<i>BrsSize</i>	0.053 (0.733)	0.053 (0.678)
N	290	245
Adj. R ²	0.146	0.130

Note: *, **, *** Denote 0.1, 0.05, and 0.01 significance levels, respectively.

This table reports the regression of accrual earnings management measures on NAS fees proxies for IPO firms audited by low quality audit firms, and other associated control variables. All models include year and industry dummies to control for time and industry effects, and robust *t*-statistics (appear in parentheses). All variables are previously defined.

In summary, the results in Tables 4 and 5 confirm our hypothesis for IPO firms audited by low quality audit firms that NAS fees are positively associated with the level of accrual earnings management during the IPO year.

5 Additional analysis

5.1 Current Discretionary Accruals and NAF Fees

For robustness this paper also examines the association between NAF and discretionary current

accruals rather than total accruals. Current accruals are defined as the difference between the change in noncash current assets and change in operating current liabilities (Teoh et al., 1998; Morsfield and Tan, 2006). The unreported results show similar evidence to those reported in Table 4, confirming that NAS fees compromise auditor independence for IPO firms audited by low quality audit firms. Specifically, discretionary current accruals are found to be positively associated with level of NAS fees just for IPO firms audited by low quality audit firms.

Table 5. Relation between accrual earnings management and NAS fees for IPO firms audited by high quality audit firms (clients of Big N sample)

	<i>Discretionary accruals</i>	<i>Discretionary accruals</i>
Intercept	0.493 (2.046)**	0.504 (2.071)**
<i>NAS-F-Rank</i>	-0.016 (-0.231)	
<i>Ln(NAS-F)</i>		-0.010 (-0.117)
<i>Ln(MK)</i>	0.058 (0.398)	0.015 (0.094)
<i>BM</i>	0.245 (3.177)***	0.269 (3.401)***
<i>Ln(1+age)</i>	-0.122 (-1.870)*	-0.154 (-2.374)**
<i>Capex growth</i>	-0.047 (-0.358)	-0.028 (-0.197)
<i>Leverage</i>	0.103 (1.512)	0.124 (1.840)*
<i>Audit Tenure</i>	-0.053 (-0.934)	-0.071 (-1.177)
<i>Loss</i>	-0.020 (-0.252)	-0.059 (-0.706)
<i>ROA</i>	-0.281 (-2.098)**	-0.313 (-2.273)**
<i>SEO</i>	-0.149 (-1.955)*	-0.151 (-2.053)**
<i>AIM</i>	0.032 (0.564)	0.018 (0.313)
<i>VC</i>	-0.039 (-0.879)	-0.024 (-0.545)
<i>Underwriter</i>	-0.004 (-0.080)	-0.015 (-0.340)
<i>Chrm/CEO</i>	0.088 (1.361)	0.090 (1.417)
<i>OutDirectors</i>	0.036 (0.548)	0.108 (1.590)
<i>BrsSize</i>	-0.084 (-1.123)	-0.090 (-1.150)
N	258	239
Adj. R ²	0.136	0.170

Note: *, **, *** Denote 0.1, 0.05, and 0.01 significance levels, respectively.

This table reports the regression of accrual earnings management on NAS fees proxies for IPO firms audited by high quality audit firms, and other associated control variables. All models include year and industry dummies to control for time and industry effects, and robust *t*-statistics (appear in parentheses). All variables are previously defined.

5.2 Real Earnings Management and NAS

This paper also examines the association between real earnings management activities and NAS fees. Recent research shows that IPO firms also engage in real activities in addition to accruals manipulation to manage earnings upward during the IPO year (e.g., Alhadab et al. 2015). Thus, two proxies of real activities are examined; sales-based (abnormal cash flows from operations) and discretionary expenses-based (abnormal discretionary expenses) manipulations. Sales-based manipulation is conducted

through offering more price discounts and/or more lenient credit terms (see Roychowdhury, 2006), and can lead to lower levels of cash flows from operations. While discretionary expenses represent the sum of R&D, advertising expenses, and selling, general and administrative expenses (SG&A). Reducing discretionary expenses in the current period will boost reported earnings in the current period. (Cohen and Zarowin, 2010). The unreported results show no evidence that real earnings management activities are associated with level NAS fees during the IPO.

5.3 One Pooled IPOs Sample

The analysis is also repeated by using one pooled IPOs sample rather two sub-samples (IPO clients of Big N vs. IPO clients of non-big N). Specifically, the

$$DA_{it} = \alpha_0 + \beta_1 \text{NASProx} + \beta_2 \text{Big N} + \beta_3 (\text{NASProx} * \text{Big N}) + \beta_4 \text{Ln}(\text{MK}) + \beta_5 \text{BM} \\ + \beta_6 \text{Ln}(1 + \text{age}) + \beta_7 \text{CapexGrowth} + \beta_8 \text{Leverage} + \beta_9 \text{AudTenure} + \beta_{10} \text{Loss} \\ + \beta_{11} \text{ROA} + \beta_{12} \text{SEO} + \beta_{13} \text{AIM} + \beta_{14} \text{VC} + \beta_{15} \text{Underwriter} + \beta_{16} \text{Chrm/CEO} \\ + \beta_{17} \text{OutDirectors} + \beta_{18} \text{BrdSize} + \text{IND} + \text{Year} + \varepsilon_i \quad (5)$$

Where *Big N* is a dummy variable equalling 1 if the firm is audited by big-N audit firm and 0 otherwise, all other variables are previously defined. The unreported results show similar evidence to those reported by Tables 4 and 5 that a higher level of NAS fees are associated with a higher level of accrual earnings management for IPOs audited by low quality firms. Specifically, the unreported results show that for every 10% increase in the NAS fees, discretionary accruals are 1.32% higher for IPOs audited by low quality audit firms. This evidence in turn confirms the main findings of this paper that NAF compromise auditor independence.

6 Conclusions

This paper examines whether NAS fees are associated with accrual earnings management during the IPO. The results show evidence for IPO firms audited by low quality auditors that NAS fees are positively associated with a higher level of accrual earnings management, suggesting that NAS fees compromise auditor independence. In addition, this paper examines several proxies of NAS fees and accrual earnings management and finds consistent evidence on the association between NAS fees and accrual earnings management. This evidence suggests that high quality audit firms are more concerned about damaging their reputation or/and any future litigation risk and, therefore, they provide high quality auditing for their IPO clients (see e.g., Alhadab et al. 2013a). While for low quality audit firms, it seems they are economically dependent on their clients' fees and, therefore, they are turning a blind eye on opportunistic accrual earnings management that takes place during the IPO year.

Overall, the findings show that NAS fees compromise auditor independence around IPOs. The findings of this chapter, therefore, potentially have implications for the policy makers in the EU who just have issued a new legislation, to reform the audit market with the EU, that to have a cap on the total amount of NAS that can be charged and a list of prohibited NAS that auditors should not provide to their clients within the EU.

model is re-estimated for the whole IPOs sample by adding a new interaction term between NAS proxies and Big N dummy as follows:

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