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IPO PROFIT GUARANTEES AND INCOME SMOOTHING

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ABSTRACT

A unique feature of the initial public offering (IPO) market in Malaysia during 1996-1999 was the imposition of IPO profit guarantees for a three-year period subsequent to listing on the major shareholders of the newly listed Second Board companies. This study investigates the income smoothing behavior on a sample of 92 IPO companies with profit guarantees, of which 54 of them reported profit guarantee surpluses. For each of the companies, Eckel's Income Smoothing Index (1981) is calculated based on two sub-periods i.e. (1) ten-year period comprising five years before and five years after listing and (2) profit guarantee period a year before the start of the profit guarantee period and a year after the end of the profit guarantee period.

The evidence indicates that there is no significant difference in income smoothing between companies with IPO profit guarantee surplus and IPO profit guarantee shortfall for both sub-periods. We argue that the controlling shareholders need not resort to income smoothing to avoid the costly profit guarantee shortfall as they could easily seek variations in the original profit guarantee agreement. Further analyses show that income smoothing is more prevalent among smaller companies and construction companies, based on a ten-year period but not on the profit guarantee period.

ABSTRAK

Satu ciri unik yang terdapat dalam terbitan awam awalan di Malaysia sepanjang tempoh 1996-1999 adalah pengenaan jaminan keuntungan selama

tiga tahun ke atas pemegang saham utama syarikat yang ingin disenaraikan di Papan Kedua Bursa Saham Kuala Lumpur (BSKL). Kajian ini menyelidik aktiviti pelarasan pendapatan menggunakan sampel 92 buah syarikat yang mempunyai jaminan keuntungan semasa terbitan awam awalan. Dari jumlah tersebut, 54 buah syarikat melaporkan lebihan jaminan keuntungan. Bagi mengesan sama ada wujudnya aktiviti pelarasan pendapatan, kajian ini menggunakan Indeks Pelarasan Pendapatan yang dibangunkan oleh Eckel (1981) meliputi dua jangka masa, iaitu (1) sepuluh tahun merangkumi lima tahun sebelum dan lima tahun selepas syarikat tersebut disenaraikan, dan (2) tempoh jaminan keuntungan meliputi satu tahun sebelum dan satu tahun selepas tempoh jaminan keuntungan.

Kajian ini mendapati tidak wujud perbezaan aktiviti pelarasan pendapatan antara syarikat-syarikat yang mempunyai lebihan atau defisit dalam jaminan keuntungan bagi kedua-dua jangka masa tersebut. Kami berpendapat pemegang saham terbesar selaku penjamin tidak perlu membuat pelarasan pendapatan untuk mengelakkan defisit memandangkan mereka dengan agak mudah boleh memohon untuk meminda syarat-syarat asal jaminan keuntungan. Analisis selanjutnya mendapati aktiviti pelarasan pendapatan lebih berleluasa di kalangan syarikat bersaiz kecil dan syarikat pembinaan sepanjang tempoh sepuluh tahun tetapi tidak sepanjang tempoh jaminan keuntungan.

INTRODUCTION

Income smoothing is a specific example of earnings management (Beattie, Brown, Ewers, John, Manson, Thomas & Turner, 1994). It refers to the deliberate attempt by management to level the trend of earnings. Or as Worthy (1984) colourfully put it, executives engage in income smoothing "to purge the wiggles and spikes from the lines that chart their profits." Moses (1987) defines the smoothing behaviour as an effort to reduce fluctuations in reported earnings, rather than to maximise or minimise reported earnings.

Hepworth (1953) is arguably the first to introduce the concept of income smoothing. He suggested that income smoothing creates stable earnings that give owners and creditors a more confident feeling toward management. To smooth income, a manager takes action to increase the reported income when economic income is low and takes action to decrease the reported income when economic income is relatively high (Stolowy & Breton, 2000) rather than trying to inflate earnings in all states (Fudenberg & Tirole, 1995).

Dascher and Malcom (1970), Imhoff (1977), Horwitz (1977) and Eckel (1981) distinguish two different types of income smoothing; naturally smoothed and intentionally smoothed (real or artificial). Ashari, Hian, Soh & Wei, (1994), Zhemin and Williams (1994), Beattie *et al.* (1994), Fern, Brown & DicKey (1994), Carlson and Bathala (1997) and Godfrey and Jones (1999) examine the factors that motivate managers to opportunistically smooth income.

Extending prior research on income smoothing, this study investigates income smoothing among Initial Public Offering (IPO) companies with profit guarantees in Malaysia. A unique feature of the IPO market in Malaysia from 1996 to 1999 was the imposition of profit guarantees by the IPO regulator on the major shareholders as a way to protect the minority shareholders. IPO profit guarantee is viewed as an investor protection tool since it helps to align the controlling shareholders and minority shareholders interests (Wan-Hussin & Yeap, 2002).

An IPO profit guarantee is also a costly financial incentive to the controlling shareholders since in the event that actual profit is less than the guaranteed profit, the controlling shareholders have to make compensation for the profit guarantee shortfall. Thus, the controlling shareholders may resort to income smoothing to avoid the need to top-up the profit guarantee shortfall from their own pockets. This study seeks to find out whether that is the case i.e. income smoothing is more prevalent among companies with IPO profit guarantee surpluses.

MODUS OPERANDI AND DEMISE OF IPO PROFIT GUARANTEE

The imposition of IPO profit guarantees was common among companies that seek listings on the Second Board of the Kuala Lumpur Stock Exchange (KLSE) from 1996 to 1999. Wan-Hussin & Yeap (2002) examined 224 IPOs between 1 January 1996 and 31 December 1999 and found that 103 IPOs have profit guarantee agreements. They documented that 99 out of 148 IPOs in the Second Board (or 67%) have profit guarantees whereas the incidence of profit guarantees in the Main Board is merely 5% (four out of 76 IPOs).

An IPO profit guarantee, an alternative to a share moratorium or lockup, was introduced by the Securities Commission (SC) in November 1994 for the purpose of providing protection to the minority shareholders (Tan, 1997). Under the current share moratorium rules, the

major shareholders are prohibited from selling, transferring or assigning their shares amounting to 45% of the nominal issued and paid-up capital of the company for a period of one year following the listing.[1] The main purpose is to prevent the major shareholders from cashing out immediately after the listings.[2]

Wan-Hussin and Yeap (2002) provided a detailed modus operandi of an IPO profit guarantee. An IPO profit guarantee is a contractual agreement involving three parties namely; (1) the major shareholders as guarantors, (2) the company and (3) a financial intermediary. In a profit guarantee agreement, the controlling shareholders or guarantors must collectively guarantee that the company will achieve at least 90% of the pre-tax profit after minority interest as forecasted in the IPO prospectus. They also must collectively guarantee 90% of the submitted maintainable pre-tax profits after minority interest for the following two financial years. The guarantee is secured in the form of a bank guarantee or placement of securities (typically shares held beneficially by the controlling shareholders) with an independent third party as a stakeholder.

In the event that the actual pre-tax profit is less than the guaranteed profit, the company is said to have a profit guarantee shortfall. In this situation, the guarantors are required to compensate the company for the shortfall for each financial year, usually subject to the maximum compensation not exceeding the respective guaranteed profit. If the guarantors fail to compensate the company, the stakeholder is authorised to sell the deposited securities to make up the deficiency. Alternatively, the company is entitled to demand the shortfall from the financial institution that provides the extant bank guarantee. With the profit guarantee agreement in place, IPO investors can take comfort that the specified profits of the newly listed companies will be maintained for a three-year period after listing.

However, as it turned out, following the Asian Financial Crisis of 1997-1998, the credibility of the profit guarantee is smeared and the "guarantee" is widely perceived as an illusion (Wan-Hussin & Yeap, 2002) and offering false comfort to investors (The Edge Malaysia, 2002). In April 1999, the profit guarantee requirement for listing had been dispensed with. In its place is a standard requirement for the imposition of share moratorium on certain companies.

As argued by Wan-Hussin and Yeap (2002), the Asian Financial Crisis contributed to the demise of IPO profit guarantee. The economic slowdown led to profit deterioration and as a result, short-

falls in guaranteed profits were pervasive. A few guarantors were unable or unwilling to top up the original shortfalls as promised. Consequently, the defaulting guarantors sought ways to ease their obligations either by asking for a time extension to meet the guaranteed profits or requesting for part of the guaranteed profits to be waived and the minority shareholders would be given warrants as compensation. Notwithstanding the profit guarantee variations, Wan-Hussin and Yeap (2002) documented that 40% of IPO companies suffered profit guarantee shortfalls. This widespread non-compliance with the profit guarantee obligations coupled with the difficulty to enforce the agreements led the SC to withdraw the requirement for major shareholders to provide profit guarantees in IPOs in April 1999.

INCOME SMOOTHING AND DETECTION

Income Smoothing Motives

According to Hepworth (1953), it is logical and rational for managers to attempt to smooth income by using certain accounting devices. He contended that the owners and the creditors of an enterprise will feel more confident toward a corporate management which is able to report stable earnings, than when considerable fluctuations of reported earnings exist. Consistent with Hepworth (1953), Gordon (1964) stated that the management may smooth income to increase the shareholders' satisfaction through the stability of a firm's income.

Beidleman (1973) found that management is more likely to smooth income for the purpose of creating a stable earnings stream and to reduce the covariance of returns with the market. In addition, Barnea, Ronen and Sadan (1975), and Ronen and Sadan (1981) suggested that the reason why managers are involved in income smoothing activities is to reduce the fluctuations in reported income and to enhance the analysts' and investors' ability to predict future cash flows.

Zhemin and Thomas (1994) showed that firms with a smoother income pattern are perceived by the security market as being less risky. Bricker, Previts, Robinson and Young (1995) provided evidence that analysts associate firms that manage to avoid negative earnings surprises as having quality earnings. Michelson, Jordan, Wagner and Wootton (2000) provided empirical evidence that "investors do give preference to smoother income streams and that smoothing is related to positive abnormal returns."

The literature discussed above suggests that the driving force behind the managers' propensity to smooth income is to satisfy the shareholders and investors. There is also literature on income smoothing which looks at the benefits to the managers themselves such as to maximise their personal wealth from bonus compensation and minimise the probability of them being fired.

Ronen and Sadan (1981) found that income smoothing is consistent with the management's desire to maximise their compensation and Healy (1985) showed that the managers' bonus compensation is in tandem with the target level of earnings growth. DeFond and Park (1997) found that managers of firms experiencing poor (good) performance in the current period and expected good (poor) performance in the next period choose income-increasing (income-decreasing) accounting methods in order to reduce the threat of being dismissed.

Trueman and Titman (1988) provided an explanation for income smoothing as well as earnings manipulation from the debt perspective. They proposed that income smoothing is beneficial to firms because it dampens the variance of observed earnings and thereby reduces the firms' cost of borrowing.

Extending the previous research, this study investigates another possible motive for income smoothing, i.e. managers of IPO companies smooth reported income to avoid profit guarantee shortfall. They do so by borrowing more income from the future when firms' pre-managed earnings are below the guaranteed profits, and they save more income for the future when firms' pre-managed earnings are above the guaranteed profits.

Income Smoothing Detection

As previously noted, the main purpose of this study is to examine the income smoothing practices by companies with IPO profit guarantees, particularly among companies with reported surpluses. Manipulated income smoothing can be divided into two types; (1) artificial smoothing and (2) real smoothing.

An artificial smoothing represents accounting manipulation undertaken by management that shifts costs and/or revenues from one period to another while leaving cash flows unaffected. For example, a firm could increase or decrease reported income simply by changing its actuarial assumptions concerning pension costs. This type of smoothing is opposed to 'real' smoothing, that is smoothing that repre-

sents management actions undertaken to control underlying economic events. Two examples of real smoothing which affects cash flows are changing the timing of investments and providing promotional discounts to pump up sales toward the end of the quarter (Goel & Thakor, 2003).

The focus of this paper is on artificial income smoothing i.e. managers opportunistically manage earnings to bring about a desired level of reported earnings by using the reporting flexibility provided by Generally Accepted Accounting Principles. Eckel (1981) introduced an income smoothing index to measure the degree of artificial income smoothing. Eckel's Index is calculated as follows:

$$\text{Income Smoothing Index} = \text{Absolute} \left| CV\ \Delta I / CV\ \Delta S \right|$$

where:

ΔI = One Period Change in Income

ΔS = One Period Change in Sales

CV = Coefficient of Variation = $\frac{\text{Standard Deviation}}{\text{Expected Value}}$

The Eckel's Index is a dichotomous measure of income smoothing whereby firms are categorised as smoothers when the index is less than one and as non-smoothers when the index is more than one. Subsequent studies that have used the coefficient of variation model to measure income smoothing are Albrecht and Richardson (1990), Ashari *et al.* (1994), Booth, Kallunki and Martikainen (1996), Michelson *et al.* (1995, 2000) and Carlson and Bathala (1997).

The Eckel's approach measures income smoothing by aggregating the effects of several potential smoothing variables instead of just one income variable at a time. In addition, the approach investigates the pattern of income smoothing behaviour over a period of time (i.e. time series data are used to compute the income smoothing index instead of just one year's data). Lastly and essentially, the ability of this approach to compute the income variability with sales variability could help to control for the effects of real smoothing (due to actual economic transactions/events) and naturally (inherently) smooth income streams (Ashari *et al.*, 1994).

TESTABLE HYPOTHESIS

As mentioned before, there are several reasons why managers smooth income. In the IPO context, Aharony, Lin and Loeb (1993), Friedlan

(1994), Teoh, Welch and Wong (1998), Teoh, Wong and Rao (1998) and Chaney and Lewis (1998)[3] provided empirical evidence that suggested earnings are managed in anticipation of going public. For example, Teoh, Welch and Wong (1998) showed that discretionary accruals, a research construct commonly used to detect potential earnings management, are highest in the year of IPO and are negatively correlated with future net income and cash flow from operations. They also documented that discretionary accruals and post-IPO stock performance are negatively correlated.

In the case of a company with IPO profit guarantee, this study asks a slightly different research question. By focusing on income smoothing behaviour after going public, this study seeks to find out whether a company that reported an IPO profit guarantee surplus engaged in income smoothing. The controlling managers may engage in income smoothing in order to avoid paying compensation for any profit guarantee shortfalls.

At the outset, we expect that companies with IPO profit guarantees engage in income smoothing in order to avoid having unfavourable profit guarantee shortfalls. This leads to the following null hypothesis:

There is no association between the incidence of income smoothing and whether a company reported profit guarantee surplus or shortfall.

RESEARCH METHODOLOGY

To investigate whether post-IPO companies with profit guarantee surpluses engage in income smoothing or not, we examine a sample of 95 companies listed on the KLSE during the 1996-1999 period that had IPO profit guarantees. These companies were mainly listed on the Second Board.

The smoothing objects, whose variations over time are to be dampened, that are used by previous researchers vary and include *inter alia*, ordinary income, operating income after depreciation, net income and fully diluted earnings per share. In this study, income before tax is used as the smoothing object since the determination of profit guarantee shortfall or surplus is based on the comparison between the actual pre-tax profit and the guaranteed income before tax.

As for the smoothing period, Moses (1987) states that an adequate time series and multi-period studies capture achievements of smooth-

ing whereas one-period studies reflect attempts to smooth. In addition, Imhoff (1981) and Eckel (1981) assert that any cross-sectional sample that examines only a single period can easily bias the result. Thus, they suggest that income smoothing studies should encompass an extended time period.

Taking into consideration of the above, this study analyses the smoothing behavior over two sub-periods: (1) ten-year period, i.e. five years before and five years after listing and (2) profit guarantee period i.e. one year before the start of the profit guarantee period and one year after the end of the profit guarantee period.

Apart from the desire to achieve profit guarantee surplus, and following the lead in previous studies by Moses (1987), Albrecht and Richardson (1990), Belkaoui and Picur (1994), Becker, Defond, Jiambalvo and Subramanyam (1998) and Michelson *et al.* (2000), we also test whether income smoothing is associated with sectoral classification, firm size and type of auditor. For each company, the following financial information is obtained in order to calculate the Eckel's Income Smoothing Index: (1) sales and (2) income before tax. The financial information is extracted from the companies' prospectuses (five-year historical data), KLSE Annual Companies Handbook, companies' annual reports/audited accounts and KLSE-RIS database (http://www.klse-ris.com.my)[4].

The original profit guarantee periods and their subsequent amendments, if any, are gathered from the IPO prospectuses, KLSE LINK database (http://www.klse.com.my) and Reuters Business Briefing. Non-financial information, such as years of listing, sectoral classifications i.e. Construction, Consumer Products, Industrial Products and Trading/Services, and types of auditor i.e. Big Four (Arthur Andersen, Ernst and Young, KPMG Peat Marwick and PricewaterhouseCoopers) and non-Big Four (other accounting firms) are collected from the KLSE LINK database.

To determine whether a company has an IPO profit guarantee shortfall or surplus, we use the data provided by Wan-Hussin and Yeap (2002). In their study, companies with IPO profit guarantee surpluses or shortfalls are determined by comparing the guaranteed profits (original or revised, if applicable) with the actual profits. When the company's actual profit is less than the guaranteed profit in any financial years during the profit guarantee period, the company is said to suffer profit guarantee shortfall, and vice versa.

To test whether there is a relationship between two nominal variables namely; (1) the incidence of income smoothing and (2) the achievement of profit guarantee surplus/shortfall or whether they are independent of each other, the Chi-square test is used. The Chi-square test is the statistic used to test the hypothesis that the row and column variables are independent, without indicating strength or direction of the relationship. We also investigate whether income smoothing is associated with sector, firm size (measured by average annual sales post-IPO) and type of auditor.

RESULTS AND DISCUSSION

Descriptive Statistics

From the initial sample, three companies are excluded due to incomplete data. The final sample contained 92 companies with IPO profit guarantees which correspond to almost ninety percent of the total observations during the period 1996-1999. Table 1 presents the sample descriptive statistics.

Panels A and B in Table 1 provide the distribution of the sample partitioned by sector, type of auditor and year of listing. The sample companies are mostly listed in 1997, and Industrial Products is the most common sector. In addition, as can be seen from panel B the types of auditor engaged by the sample companies are equally split between the Big Four and non-Big Four throughout the sample period. Panel C shows that the average annual sales post-IPO for the sample companies ranged from RM21 million to RM400 million with a mean of RM101 million.[5]

Table 1
Descriptive Statistics of IPO Companies with Profit Guarantee

Panel A: By Sector and Year of Listing

	1996	1997	1998	1999	**Total**
Construction	3	8	4	2	**17**
Consumer Products	1	13	7	1	**22**
Industrial Products	8	15	8	6	**37**
Trading/Services	1	11	4	0	**16**
Total	**13**	**47**	**23**	**9**	**92**

Results on the incidence of income smoothing by IPO companies with profit guarantees are presented for each of the sub-periods, starting with the ten-year period and followed by the profit guarantee period.[6] A smoothed company is a company with an Eckel's Index score (absolute) of less than one.

Panel B: By Auditor and Year of Listing

	1996	1997	1998	1999	**Total**
Big Four Auditor	6	24	12	5	**47**
Non-Big Four Auditor	7	23	11	4	**45**
Total	**13**	**47**	**23**	**9**	**92**

Panel C: Mean Annual Sales Over a Five-year Period Post-IPO (RM million)

N	Mean	Standard Deviation	First Quartile	Second Quartile	Third Quartile	Min	Max
92	100.8	75.3	50.5	72.7	128.5	21.3	400.0

Income Smoothing Over Ten-Year Period

This section tests empirically whether income smoothing is more prevalent among companies with IPO profit guarantee surpluses. As can be seen from panel A in Table 2, only 15 companies with IPO profit guarantee surpluses smooth their income out of a total of 54 companies (28%) whereas 16 out of 38 companies (42%) with IPO profit guarantee shortfalls have smoothed income. Since the Chi-square test gives a p-value of 0.15, the null hypothesis that there is no association between income smoothing and IPO profit guarantee surplus or shortfall can be accepted.

From panel B in Table 2, the p-value of 0.08 indicates that income smoothing is significantly different at the 10% level across various sectors with smoothing activities more prevalent in the Construction sector as compared to the Consumer Products, Industrial Products and Trading/Services sectors. This could be due to the unique accounting treatment in the Construction sector where revenue from construction contracts is accounted for by the stage of completion method.[7] Panel C shows that income smoothing is more prevalent among the smaller

firms with annual turnover less than RM50 million. From panel D, the p-value of 0.34 suggests that there is no significant difference in income smoothing between companies audited by the Big Four and non-Big Four firms.

Table 2
Income Smoothing Over Ten-Year Period

Panel A: Income Smoothing by Profit Guarantee Surplus and Shortfall

	Smoother	Non-Smoother	Total	Test statistics
Surplus	15	39	54	p = 0.15
Shortfall	16	22	38	Chi-sq = 2.05
Total	**31**	**61**	**92**	

Panel B: Income Smoothing by Sector

	Smoother	Non-Smoother	Total	Test statistics
Construction	10	7	17	p = 0.08
Consumer Products	6	16	22	Chi-sq = 6.77
Industrial Product	9	28	37	
Trading/Services	6	10	16	
Total	**31**	**61**	**62**	

Panel C: Income Smoothing By Firm Size

Based on average annual sales post-IPO				
Up to RM50 million	13	10	23	p = 0.06
RM50.1– 72.0 million	5	18	23	Chi-sq = 7.54
RM72.1 – 128.0 million	7	16	23	
At least RM128 million	6	17	23	
Total	**31**	**61**	**92**	

Panel D: Income Smoothing by Big Four and Non-Big Four Auditor

Big Four	18	29	47	p= 0.34
Non-Big Four	13	32	45	Chi-sq = 0.91
Total	**31**	**61**	**92**	

Income Smoothing Over Profit-Guarantee Period

The previous section analyses income smoothing over a ten-year period. In this section, we examine the incidence of income smoothing over the profit guarantee period only. For the purpose of calculating the Eckel's Index, we also include one year before the start of the profit guarantee period and one year after the end of the profit guarantee period in order to obtain the changes in sales and income before tax. The sample is now further reduced to 89 as we are unable to ascertain the profit guarantee period for three companies.

We expect that companies with IPO profit guarantees surpluses have a stronger incentive to smooth income within the profit guarantee period as compared to the ten-year period. Similar to the previous analysis, we test income smoothing over the profit guarantee period against profit guarantee surplus or shortfall, sectoral classification, firm size and type of auditor. The proportion of smoothing during the profit guarantee period (38%) is marginally higher than during the ten-year period (34%).

Panel A in Table 3 shows that there is no association between companies with profit guarantee surpluses or shortfalls and the incidence of income smoothing at the conventional level. Consistent with Table 2 but contrary to our expectation, the data indicates that companies with profit guarantee shortfalls smooth their income more frequently than companies with profit guarantee surpluses.

In the case of association between income smoothing and sector, the p-value of 0.55 shows that there is no significant difference in income smoothing by sectors. The results shown in panel B of Table 3 are slightly different from the results obtained using the ten-year period as shown in Table 2. Using the profit guarantee period as basis to compute the smoothing index, we find no association between income smoothing and sectoral classification. However, these results are consistent with Albrecht and Richardson (1990) who documented that by using different intervals and different time periods, the incidence of income smoothing is different between the core sector firms and periphery sector firms. The results revealed in panel C of Table 3 are also different from Table 2. Based on the profit guarantee period, there is no evidence to indicate that income smoothing is associated with firm size. In tandem with earlier finding, the p-value of 0.16 from panel D in Table 3 provides evidence that there is no significant difference in income smoothing between companies audited by the Big Four firms and non-Big Four firms.

CONCLUSION AND LIMITATIONS

The main objective of this study is to examine the extent of income smoothing among companies with IPO profit guarantee surpluses and

Table 3
Income Smoothing Over Profit Guarantee Period

Panel A: Income Smoothing by Profit Guarantee Surplus and Shortfall				
	Smoother	**Non-Smoother**	**Total**	**Test statistics**
Surplus	17	35	52	p = 0. 20
Shortfall	17	20	37	Chi-sq = 1.61
Total	**34**	**55**	**89**	
Panel B: Income Smoothing by Sector				
Construction	5	10	15	
Consumer Products	7	15	22	p = 0.55
Industrial Product	17	19	36	Chi-sq= 2.10
Trading/Services	5	11	16	
Total	**34**	**55**	**89**	
Panel C: Income Smoothing By Firm Size				
Based on average annual sales post-IPO				
Up to RM50 million	9	14	23	p = 0.36
RM50.1– 72.0 million	10	12	22	Chi-sq = 3.22
RM72.1 – 128.0 million	5	17	22	
At least RM128 million	10	12	22	
Total	**34**	**55**	**89**	
Panel D: Income Smoothing by Big Four and Non-Big Four Auditor				
Big Four	14	31	45	p = 0.16
Non-Big Four	20	24	44	Chi-sq = 1.94
Total	**34**	**55**	**89**	

shortfalls. For the purpose of calculating income smoothing index, we use two sub-periods: (1) ten-year period, i.e. five years before and five years after listing and (2) profit guarantee period (including one year before the start of the profit guarantee period and one year after the end of the profit guarantee period).

For the sample of companies studied, it appears that income smoothing is not driven by the motive to achieve a profit guarantee surplus. The results indicate that, at the conventional level, there are no statistically significant differences between companies with IPO profit guarantee surpluses and shortfalls and the incidence of income smoothing. Although this seems at odds with what we expected, a possible explanation is the guarantors are provided with other means to avoid the profit guarantee shortfall. A common phenomenon is for them to apply for variations in the original profit guarantee agreement. The finding may provide some comfort to the regulators whereby they need not be overly concerned about earning manipulation or income smoothing practiced by companies with IPO profit guarantees.

This study also investigates whether income smoothing practice among companies with IPO profit guarantees is associated with factors such as firm sector, firm size and type of auditor. Using a ten-year period to measure the smoothing behavior, some evidence is found for the association between income smoothing and firm size and sectoral classification.

This study is subjected to several limitations. As pointed out by Albrecht and Richardson (1990) and Ashari *et al.* (1994), although the Eckel's (1981) classification scheme identifies firms that artificially smooth, it does not necessarily identify all firms that smooth. For example, management's efforts to smooth income may only have been partially successful, and management may have been attempting to smooth but were unsuccessful. These could lead to Eckel's index not classifying the firm with the smoothing group.

This study may also omit other significant factors that can explain income smoothing. For example prior research documents empirical evidence relating owner versus management control and income smoothing behaviour. Smith (1976) and Salamon and Smith (1979) analysed the smoothing behaviour of manager-firms and owner-firms and reported the evidence that income smoothing is more prevalent in manager-firms than in owner-firms, and they suggested that managers of management-controlled firms try to present the operating results of the firm in the most favourable manner possible in order to avoid stockholder unrest or to lessen the probability of proxy contests and takeover attempts. Morck, Shleifer & Vishny(1988) also argued that as managerial ownership increases, there is a corresponding increase in the manager's discretionary ability to modify the revenue generating process through the use of accounting policy choice. Carlson and Bathala (1997) obtained evidence consistent with Morck *et al.* (1988). This study does not examine whether ownership structure and iden-

tity of the major guarantor (CEO or non CEO) influences income smoothing in companies with IPO profit guarantee surpluses and shortfalls.

Future research may also consider splitting the profit guarantee surpluses and shortfalls into four categories, i.e. large and small shortfalls and large and small surpluses. Perhaps income smoothing is more prevalent among companies with small IPO profit guarantee shortfalls or surpluses. It is also interesting to compare income smoothing between companies with and without IPO profit guarantees.

NOTES

1. The moratorium rules for infrastructure project companies are more stringent. For details see Para 6.24, Policies and Guidelines on Issue/Offer of Securities (Securities Commission, April 2003).
2. Prior to 1 May 2003, the moratorium on the disposal of shares is for a period of three years.
3. Chaney & Lewis (1998) use an alternative measure of income smoothing i.e. ratio of the variance of cash flows from operations to the variance of net income before extraordinary items with higher ratio consistent with smoothing behavior.
4. Suspicious sales data contained in the KLSE-RIS are checked against annual reports and amended accordingly. We observed that the KLSE-RIS has wrongly reported sales figures for two companies, i.e. Kenmark Industrial Company (M) Berhad for the year 1997 and Sugar Bun Services Corporation Berhad for the year 1999.
5. For eight companies the mean is based on a four-year period since the results for financial year ended 2003 are not yet available at the time of writing.
6. For eight companies, we are only able to calculate the Index over a nine-year period since the results for financial year ended 2003 are not yet available at the time of writing.
7. We thank a participant at the International Conference on Quality Financial Reporting and Corporate Governance held in Kuala Lumpur, Malaysia on 28-29 July 2003 for pointing this out.

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