

This article was downloaded by: [Universitas Dian Nuswantoro], [Ririh Dian Pratiwi SE Msi]

On: 01 October 2013, At: 01:09

Publisher: Routledge

Informa Ltd Registered in England and Wales Registered Number: 1072954 Registered office: Mortimer House, 37-41 Mortimer Street, London W1T 3JH, UK



## Accounting and Business Research

Publication details, including instructions for authors and subscription information:

<http://www.tandfonline.com/loi/rabr20>

### Accounting manipulations and political costs: Tooth & Co Ltd, 1910-1965

Mark Wilson<sup>a</sup> & Greg Shailer<sup>b</sup>

<sup>a</sup> School of Accounting & Business Information Systems, The Australian National University, Hanna Neumann Building 21, Canberra, ACT, 0200, Australia E-mail:

<sup>b</sup> Australian National University

Published online: 04 Jan 2011.

To cite this article: Mark Wilson & Greg Shailer (2007) Accounting manipulations and political costs: Tooth & Co Ltd, 1910-1965, *Accounting and Business Research*, 37:4, 247-266, DOI: [10.1080/00014788.2007.9663311](https://doi.org/10.1080/00014788.2007.9663311)

To link to this article: <http://dx.doi.org/10.1080/00014788.2007.9663311>

PLEASE SCROLL DOWN FOR ARTICLE

Taylor & Francis makes every effort to ensure the accuracy of all the information (the "Content") contained in the publications on our platform. However, Taylor & Francis, our agents, and our licensors make no representations or warranties whatsoever as to the accuracy, completeness, or suitability for any purpose of the Content. Any opinions and views expressed in this publication are the opinions and views of the authors, and are not the views of or endorsed by Taylor & Francis. The accuracy of the Content should not be relied upon and should be independently verified with primary sources of information. Taylor and Francis shall not be liable for any losses, actions, claims, proceedings, demands, costs, expenses, damages, and other liabilities whatsoever or howsoever caused arising directly or indirectly in connection with, in relation to or arising out of the use of the Content.

This article may be used for research, teaching, and private study purposes. Any substantial or systematic reproduction, redistribution, reselling, loan, sub-licensing, systematic supply, or distribution in any form to anyone is expressly forbidden. Terms & Conditions of access and use can be found at <http://www.tandfonline.com/page/terms-and-conditions>

# Accounting manipulations and political costs: Tooth & Co Ltd, 1910–1965

Mark Wilson & Greg Shailer\*

**Abstract**—Positive accounting theory posits that political costs influence accounting choices by large firms. Most studies rely on cross-sectional analyses of large samples using coarse data. We employ rich archival data to analyse the profit measurement and disclosure practices of Tooth & Co, a large Australian brewing company, from 1910 to 1965. This period provides considerable variation in scope and incentives to manipulate reported profit. Reporting discretion changed significantly from early voluntary disclosure through to the extensive scheduled disclosure requirements of the *Companies Act 1961*. Varying incentives include changes in excise duties levied on beer production, and dramatic company growth and market dominance resulting from takeovers of competitors and vertical integration. We examine the pattern of reported profit in relation to internal records and the pattern of accruals. We find that Tooth's profit-smoothing practices and understatements were perceived by management as important in justifying dividend policy, while systematic understatements of reported profit were used to avoid potential political costs associated with high profitability and market dominance. The most significant relative increases in profit understatement are shown to occur where dividend policy and political cost motivations coincide.

**Key words:** Earnings management; income smoothing; accounting history; political costs; brewing industry

## 1. Introduction

We investigate the varying relative importance of commonly asserted motivations for earnings management, as revealed in the reporting behaviour of Tooth & Co (a large Australian brewing company), over the period 1910–1965.<sup>1</sup> Using both quantitative and qualitative archival sources, we explicate the interdependent effects of motivations attributable to dividend policy and political costs. Our examination also highlights the effect of major legislative changes, especially the *Companies Act (New South Wales) 1961*, which restricted the scope for opaque earnings management. Our paper differs from the prior literature in the nature of the evidence presented to support our explanation of historical earnings management. We present primary source evidence of the motivations for, and extent of earnings management in, the form of private managerial memoranda and profit estimates.

We identify and examine two forms of earnings management that were persistently applied and assumed significant magnitude at Tooth & Co:

- profit-smoothing behaviour – the manipulation of accounting measures to reduce the variability in reported profits.<sup>2</sup>
- profit-reducing behaviour – the manipulation of accounting measures to understate reported profit.

Because of the reversing nature of accruals, understatements necessarily occur in some periods as a consequence of true smoothing behaviour, but neither understatement nor smoothing is a necessary condition for the other. The relationship between the two phenomena is weaker in this study because, while all accruals eventually reverse, reversals can be delayed for long periods (decades in the case of Tooth & Co) and, under early disclosure regimes, reversals were easily managed to conceal their origins.

The next section provides a brief history of Tooth & Co. In Section 3, we describe our evidence sources and discuss methods and extent of Tooth's earnings manipulation. In Section 4 we discuss the relevance of the motivations for earnings management suggested by the early and recent literature, and the extent to which these appear relevant to the reporting behaviour of Tooth. In

\* The authors are at The Australian National University. They gratefully acknowledge the assistance provided by staff at the Noel Butlin Archive Centre at The Australian National University. The authors wish to thank two anonymous reviewers for the invaluable comments and suggestions provided over several iterations of this paper. The authors also thank seminar participants who provided constructive comments on earlier versions of this work at the: Financial Reporting & Business Communication Research Unit 6th Annual Conference, Cardiff 2004; School of Business and Information Management Research Seminar Series, The Australian National University 2004; and 4th Accounting History International Conference, University of Minho 2005. Correspondence should be addressed to: Mark Wilson, School of Accounting & Business Information Systems, Hanna Neumann Building 21, The Australian National University, Canberra ACT 0200 Australia. Email: mark.wilson@anu.edu.au

This paper was accepted for publication in May 2007.

<sup>1</sup> Tooth & Co Ltd brewing interests were sold in 1983 but the corporation has continued as a listed investment company. Any inferences a reader may draw regarding Tooth & Co Ltd should not reflect on the post-1983 entity in any way.

<sup>2</sup> This is distinguished from other smoothing devices, such as adjusting the timing or magnitude of actual transactions.

Section 5, we examine in detail periods of particularly unusual reporting behaviour in the context of the motivations identified in Section 4.

## 2. Tooth & Co – a brief history

The brewing firm that became Tooth & Co was formed in Sydney in 1835, initially as a partnership between John Tooth and Charles Newnham. The company incorporated in 1859 and its shares were offered for public subscription in 1888, by which time it had secured approximately 31% of the New South Wales (NSW) beer market.<sup>3</sup> A severe economic depression struck the Australian colonies in the early 1890s, which Tooth survived (unlike several competitors) and turned to their advantage by acquiring the freehold titles of many licensed establishments at bargain prices. While the market was superficially competitive in the early 20th century, testimony to a 1901 parliamentary inquiry into the ‘tied-house system’ asserted that Tooth had sufficient market power to shut down every competitor in Sydney if it so chose.<sup>4</sup> Central to this market power was the ‘tied-house system’, whereby brewers secured the trade of licensed pubs in a system where the number of licenses was capped by regulation.<sup>5</sup>

Initially, ‘tying’ was effected predominantly by means of loan covenants, and brewers used contractual restrictions or other pressure to prevent publicans from extinguishing the tie by clearing the debt. Stubbs (1999: 94) estimates that, by 1901, 90% of the Sydney market was ‘tied’ by the major brewers, with Tooth representing the majority of these interests. Brewers spent considerable resources trying to gain control of hotels tied to competitors but the ‘loan-tie system’ was expensive to administer and the ‘clogging’ of trade ties was eventually struck down by the House of Lords in 1902.<sup>6</sup> Ultimately, the larger brewers secured retail trade by acquiring the freehold titles and either appointing a licensee-manager or sub-letting the hotel under an exclusive supply agreement.

By 1911, when Tooth and a significant competitor (Toohey’s) jointly purchased and liquidated the large Marshall’s Brewery, the company’s market share had reached 55%. In 1918, the five surviving major brewers in NSW signed an agreement to fix prices and refrain from interfering with each others’ tied houses.<sup>7</sup> By 1929, when Tooth took over the large but financially crippled Resch’s Ltd, Tooth had assumed control of all but one of the signatories to the 1918 agreement. Thus, in 1929, Tooth controlled 80% of the NSW market and had a single significant competitor, Toohey’s, with whom Tooth dominated the United Licensed Victuallers Association (ULVA), which dictated minimum retail prices.

Overlapping this period, the temperance movement had some influence on political actions in

Australia, culminating in the *Liquor Act 1905* that introduced a ‘local option’ to prohibit alcohol sales and increased the powers of the newly formed License Reduction Board (LRB). The LRB had the power to de-license premises for various reasons, and the number of licensed premises in NSW fell from 3,063 in 1905 to 2,059 in 1925, increasing the value of surviving licensed premises. Subsequently, the Great Depression temporarily stunted Tooth’s growth but, after the initial demand shock, Tooth embarked upon a massive expansion in their retail interests, increasing their freehold titles from 420 to 553 between 1932 and 1936. The then NSW market was only 2,037 hotels. Allowing for long-term leasehold properties and tied houses, we estimate that Tooth directly controlled approximately 50% of the hotels in the state by the end of the decade.

The Second World War (WWII) inhibited operations in traditional retail markets due to the rationing of beer, moratoria on capital works and huge excise increases but, as will be shown later, these effects were well cushioned by the extra demand created by the allied armed services and increased profitability of company-operated hotels. The NSW Parliament passed the *Monopolies Act* in 1941, prohibiting price-fixing and strengthening provisions against anti-competitive behaviour. Legal advice indicated that the price-fixing restriction were of no direct consequence to Tooth because the ULVA, over which Tooth exerted significant influence, officially determined minimum prices.<sup>8</sup> Government regulation of retail prices, which began in 1942 and continued in some form until 1955, was also of little consequence to Tooth’s profits. Production costs, excluding excise, were falling during this period and the combination of price controls and rationing ensured an active black market in bottled beer, the profits from which trickled down into rents on public houses. Rationing and capital works restrictions continued beyond WWII and the resulting pent-up demand, once released, saw record levels of inflation in the early 1950s. This reduced the present value of long-term sub-leases on hotels.

Two significant regulatory changes in the late 1940s and early 1950s were licensing changes that allowed an explosion in the number of ‘clubs’ sell-

<sup>3</sup> Market share has been estimated by dividing Tooth’s gallonage by Estimated NSW Consumption (Noel Butlin Archives Centre, Australian National University (hereafter NBAC). Tooth & Co Archive, Z223/86, Sales).

<sup>4</sup> NSW, Select Committee on Tied Houses, ‘Report’ 1901.

<sup>5</sup> See Knox (1958) for a discussion of this phenomenon in the UK brewing industry.

<sup>6</sup> Noakes & Co Limited vs Rice [1902] AC 24.

<sup>7</sup> NBAC. Tooth and Co Archive, N20/1279, Liquor Trades Defence Union File.

<sup>8</sup> NBAC. Tooth & Co Archive, N20/2875, Monopolies Act File.

ing alcohol and the end of compulsory 6 p.m. closing in 1955. The number of licensed clubs in NSW increased from 87 in 1947 to almost 1,000 in 1960, posing substantial competition to Tooth's hotel market.<sup>9</sup> Although the major brewers secured the trade of some clubs by installing beer drawing equipment at discounted rates, in 1956 Tooth experienced their largest single-year fall in market share. Coinciding with a major excise rise in the same year, they reported a substantial drop in profits. However, by the end of our sample period in 1965, the company's performance had improved to record levels in both real and nominal terms, although Tooth's market share remained below 72%.

Our study ends in 1965, after which Tooth experienced turbulent changes and eventual demise as a brewer. In the years following 1965, Tooth faced a substantial competitive disadvantage against Toohey's caused by the size of Tooth's inner-city brewery relative to its competitor's much larger, modern, suburban site.

During the 1970s, many freehold hotels were sold in a market that Tooth had effectively flooded. The *Trade Practices Act 1974* outlawed the exclusive trade deals, even for brewery-owned premises. When the final appeal against this decision was lost in 1979, Tooth became the focus of takeover speculation and, in 1983, were taken over by Adsteam Ltd and their brewing assets sold to Elders-IXL Ltd (now Fosters Brewing Group).

### 3. Tooth's manipulations of reported profits

Throughout its existence as a listed brewing company (1888–1983), Tooth maintained *internal profit* records for use by management. We compare the internal profit measures derived from these records to the *reported profit* measures contained in the published annual reports.

The format of the internal records varied over time, but the internal profit measures were consistent across our sample period (1910–1965). We omit the years prior to 1910 because of the unavailability of tax return data,<sup>10</sup> which we use to estimate internal profit for the years 1910–1924 and to corroborate the measures of internal profit for the years 1925–1965. The internal records do not specify a unique profit for the years 1910–1924; therefore, we rely on taxable income, as disclosed in the state tax returns, as the measure for 'internal' income.<sup>11</sup> Federal taxation law allowed state taxation paid as a deduction and so federally reported taxable income understates internal income. Dividends paid were an allowable deduction under state law until 1920, and are added back to determine internal income. Because reported profit is net of tax, we adjust the pre-tax internal profit by actual or estimated tax paid. For the years 1925–1965, we take our measures of internal profit from detailed six-monthly income

statements that the company produced for internal use.<sup>12</sup> Internal data covering 18 months during 1955–1956 are unavailable, during which period Tooth changed their financial year-end from September to March. These years are excised from our later time series analysis. The series of annual published profits and internal profits are listed in Table 1.

We begin our analysis by considering the methods used to manipulate earnings and extent of earnings management across the sample period. In Section 4 we conduct more detailed analysis of the temporal variations in the level of earnings management.

Tooth's reported profits were managed primarily through the use of 'secret reserves'. From its early years as a public company, 'provisions' (contra-assets) made against the value of fixed assets, receivables and inventory exceeded the amount necessary to report those items in an unbiased fashion. Prior to 1963, only the net carry values of these items were disclosed in the published financial statements. From 1963, the new *Companies Act 1961* required the disclosure of the gross value of the assets, their provisions and the balance of the 'provision for tax' (tax payable).<sup>13</sup> As summarised in Table 2, in any given year for our study period, increases in Tooth's 'secret reserves' decreased reported profit.

Tooth had up to 25 separate 'secret reserve' accounts recorded in its sundry creditors ledger. Balance day entries to reduce reported profit deployed the 'secret reserves' to reduce reported fixed assets, receivables or inventory. To make the balance-sheet composition appear reasonable, the off-sets were made against different asset accounts in different years, with no particular relationship between the offset accounts; for example, in one instance, a provision for depreciation account was offset against reported net receivables. An exception to the practice of off-setting secret reserves against assets was the treatment of the 'provision for taxation'. This balance was buried in, and represented at least 70% of, 'sundry creditors' until its

<sup>9</sup> Off-license sales of alcohol were restricted to on-licensed premises and a relatively small number of wine merchants.

<sup>10</sup> NBAC. Tooth & Co Archive, Z352/37–42, Tax Returns.

<sup>11</sup> A reconciliation of tax return data and individual line items within Tooth's internal profit and loss ledger across the entire study period suggests that taxable income is a reasonable proxy for internal income across these years.

<sup>12</sup> NBAC. Tooth & Co Archive, N20/360–365, Departmental & Combined Trading and P/L Accounts.

<sup>13</sup> The use of 'secret reserves' is distinguished from the current situation when an entity excessively depreciates fixed assets because, in the contemporary environment, depreciation expense, gross asset values and accumulated depreciation must be disclosed. Similarly, contemporary manipulations of bad debts expense is constrained by disclosure requirements for the gross and net receivables, exposing the allowance for doubtful debts to a credibility check.

**Table 1**  
**Published and internal profit**

<i>Year</i>	<i>Published profit</i> £	<i>Internal profit</i> £	<i>Year</i>	<i>Published profit</i> £	<i>Internal profit</i> £
1910	159,711	185,415	1938	841,839	1,876,379
1911	217,565	246,930	1939	855,709	1,848,770
1912	229,706	288,039	1940	870,299	1,872,290
1913	246,544	292,731	1941	809,036	1,959,608
1914	288,963	308,170	1942	763,439	2,055,822
1915	284,795	290,201	1943	789,041	2,160,348
1916	201,923	260,131	1944	839,623	2,232,758
1917	172,654	189,747	1945	858,022	2,338,101
1918	162,575	336,678	1946	862,956	2,392,114
1919	157,008	295,836	1947	884,516	2,530,343
1920	171,190	330,402	1948	916,292	2,108,289
1921	225,949	445,713	1949	943,159	2,143,611
1922	235,175	469,721	1950	958,808	2,406,949
1923	293,373	667,578	1951	949,246	2,149,276
1924	311,706	701,236	1952	952,776	2,024,133
1925	367,650	718,000	1953	1,013,740	2,364,005
1926	440,228	769,995	1954	1,075,075	2,599,483
1927	509,085	808,318	1955	1,180,909	N/A
1928	590,133	879,522	1956	619,361	N/A
1929	634,054	1,019,464	1957	1,238,963	2,312,274
1930	686,391	1,057,771	1958	1,278,412	2,652,770
1931	480,830	833,349	1959	1,322,170	2,455,374
1932	467,473	782,087	1960	1,368,171	2,828,139
1933	482,204	831,061	1961	1,470,422	2,807,779
1934	567,119	1,173,345	1962	1,504,830	2,571,429
1935	628,699	1,304,050	1963	1,911,231	2,831,660
1936	696,027	1,348,741	1964	2,189,437	2,890,702
1937	774,695	1,594,299	1965	2,252,895	2,907,695

legislated disclosure in 1963. The undisclosed 'provision for taxation' account approximated actual tax payable until 1934. Thereafter, tax expense is significantly overstated until the early 1950s, peaking at an overstatement of £472,000 (76%) in 1942.

The extent to which understatements of reported profits used the secret reserves is illustrated in Table 2. Aggregate increases in secret reserves for 1910–1962 (£27.5m after adjusting for asset revaluations) account for 74% of the accumulated understatements in reported profits for the period. The remaining understatements are attributed to balance day adjustments made directly to asset 'cost' accounts. The secret reserves do not reflect plausible provisions against assets values.<sup>14</sup> Reported profits were always less than internal profit but the extent to which the secret reserves were defensible as smoothing provisions for future losses, at the time they were created, remains moot. This is portrayed graphically in Figure 1, where the understated reported profit series also

appears much smoother than the internal profit series.<sup>15</sup> A detailed analysis of the smoothing and understatements is presented in Sections 4 and 5.

Although the understatement of reported profits persisted throughout the study period, the balances of the secret reserves did not grow unabated. This is illustrated in Figure 2, which graphs the annual balances of the secret reserves. This reveals substantial reductions in the secret reserves in 1927, 1948, 1954, 1958 and 1963. The reduction in the secret reserves in 1927 was capitalised via a bonus issue and a compensating write-up of asset values. The 1948 reduction reflected a decision to disclose, as an increase in accumulated surplus, almost £2m

<sup>14</sup> Amounts provided against receivables, for example, frequently exceeded 35% of the balance owing and in most years were more than 10 times the bad debts actually written-off.

<sup>15</sup> The reduced measure and volatility of reported profits is also evidenced by the first two moments of the distributions: The standard deviation of reported profit is £494,733 against a mean £753,639, while the standard deviation of internal profit is £1,117,221 against a mean £1,471,066.

**Table 2**  
**Changes in secret reserve and profit understatements**

Year	Change in secret reserves £	Profit understatement £	Year	Changes in secret reserves £	Profit understatement £
1911	62,138	29,365	1938	1,006,382	1,034,540
1912	66,652	58,333	1939	930,162	993,061
1913	-209,695	46,187	1940	778,835	1,001,991
1914	89,728	19,207	1941	953,362	1,150,572
1915	37,773	5,406	1942	517,449	1,292,383
1916	21,583	58,208	1943	639,241	1,371,307
1917	37,574	17,093	1944	684,755	1,393,135
1918	168,009	174,103	1945	1,079,282	1,480,079
1919	103,574	138,828	1946	1,074,773	1,529,158
1920	169,973	159,212	1947	1,278,154	1,645,827
1921	491,183	219,765	1948*	-2,300,492	1,191,997
1922	233,998	234,547	1949	720,487	1,200,452
1923	223,881	374,205	1950	948,680	1,448,141
1924	442,045	389,530	1951	697,277	1,200,030
1925	340,339	350,350	1952	262,736	1,071,357
1926	230,994	329,767	1953	985,950	1,350,265
1927*	-532,619	299,233	1954*	-2,602,173	1,524,408
1928	357,974	289,389	1955	1,248,504	N/A
1929	583,882	385,410	1956	471,971	N/A
1930	331,699	371,380	1957	1,447,117	1,073,311
1931	-9,031	352,519	1958*	-3,452,102	1,374,358
1932	28,446	314,614	1959	1,607,292	1,133,204
1933	71,134	348,857	1960	1,347,291	1,459,968
1934	372,569	606,226	1961	1,718,038	1,337,357
1935	612,101	675,351	1962	908,526	1,066,599
1936	635,114	652,714	1963*	-14,778,410	920,429
1937	701,177	819,604	1964	124,853	701,265
			1965	-843,673	654,800

\*Years in which reserves were closed to 'companion' accounts or disclosed as part of accumulated surplus

of 'previously un-disclosed reserves no longer deemed necessary'. Reductions in 1954 and 1958 were associated with reported asset revaluations, in which provisions (contra-asset accounts) were closed off to their companion accounts (fixed asset and receivable accounts) prior to asset revaluations through the reported asset revaluation reserve. The largest adjustment occurred in 1963, when the *Companies Act 1961* required balance sheet disclosure of all 'provisions' against the value of fixed assets and receivables. The secret reserve accounts and their 'companion' asset accounts were written down by £13m, and the balance in the previously secret reserves (approximately £4m) appeared on the balance sheet as the required contra-asset accounts, along with the provision for taxation.

<sup>16</sup> We do not examine the considerable literature covering incentives to overstate earnings, as this phenomenon was not observed at Tooth & Co during our study period.

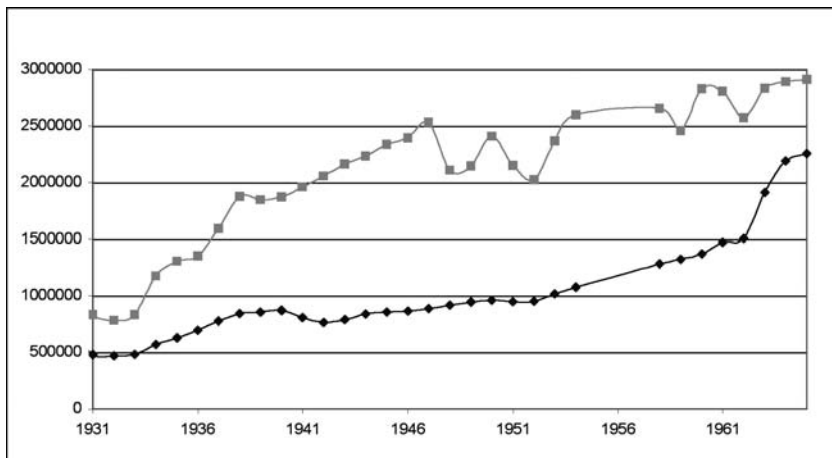
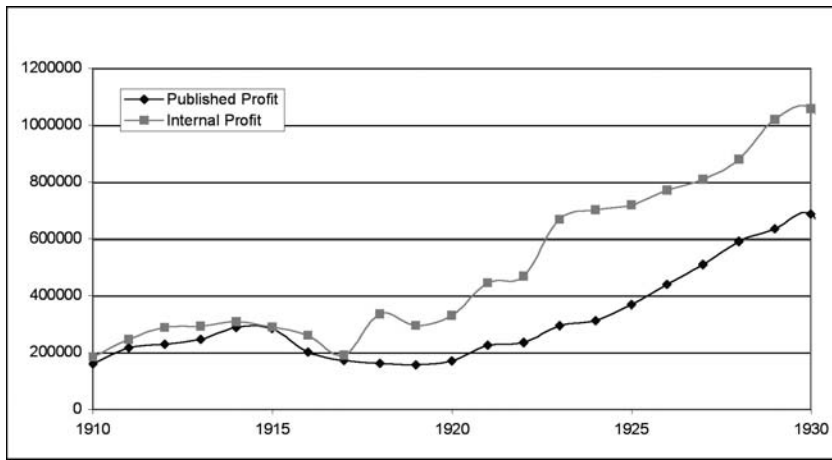
<sup>17</sup> The invaluable review of the US smoothing literature in Buckmaster (2001) directed our attention to many of these early references.

#### 4. Motives for Tooth's profit manipulations

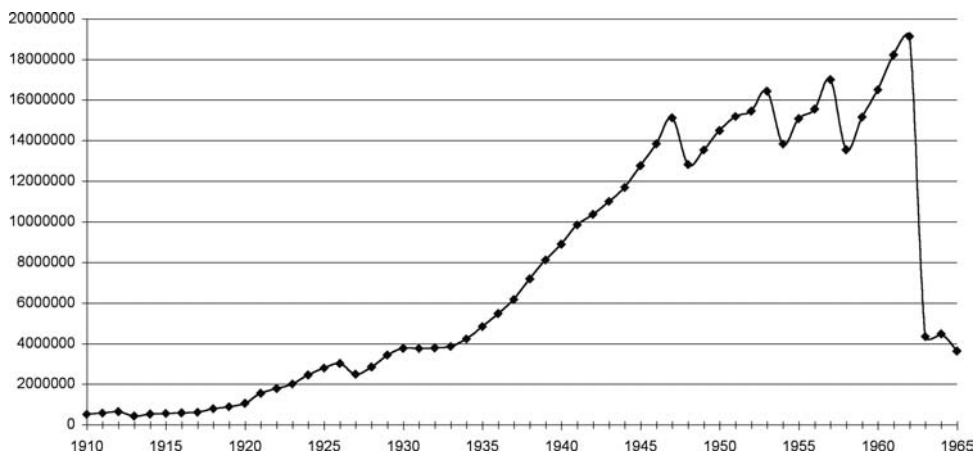
The existence of persistent and significant understatements of reported profits may be explained by both long-term and short-term motivations.<sup>16</sup> The study period commences several decades prior to the development of the accounting literature that addresses political costs and smoothing. Therefore, to contextualise Tooth's behaviour, we consider both the relevant literature of the early 20th century and the main implications of the post-1950 earnings management literature.<sup>17</sup>

The accounting literature of the early 20th century discussed accounting manipulations for the purpose of smoothing or reducing profit (e.g. Dicksee, 1903; Littleton et al., 1929). Some accountants actively championed the use of secret reserves for smoothing purposes; for example, Walton (1909) as cited by Buckmaster (2001). Smoothing was portrayed as a means of achieving a lower cost of capital and to promote stable dividend payments, implying a market aversion to volatility in annual profits, irrespective of long-

**Figure 1**  
**Internal profit v published profit 1910–1965**



**Figure 2**  
**Total secret reserves and tax over-provisions**



Downloaded by [Universitas Dian Nuswantoro], [Ririh Dian Pratiwi SE Msi] at 01:09 01 October 2013

term performance. The contemporaneous relationship between reported annual profit and investors' expectations of the dividend was a driving factor behind the creation of 'secret reserves' and subsequent smoothing (Dicksee, 1903). Where a firm's underlying profit exceeded the 'prudent' level of dividends, management were encouraged to understate reported earnings by creating undisclosed reserves, which could be reversed subsequently when the periodic profit was less than the desired dividend payment. The rationale for such a close relationship between current period earnings and 'expected' dividends was not legislative, given that dividends could also be legally appropriated from accumulated surplus, but may include the relative financial literacy of investors (Paton, 1932).

While early theorists accepted that secret reserves were often accumulated well in excess of plausible smoothing requirements, they did not identify reasons, additional to the dividend policy motivation, for long-run profit understatement. Dicksee's essay is representative of those opposed to the use of secret reserves:

'Occasionally Reserves are provided far in excess of any loss that may be reasonably expected, even by the most pessimistic. Such Reserves are, of course, indefensible theoretically, for from this point of view it is as improper to understate as it is ... to overstate.' (Dicksee, 1903: 49)

Criticism of smoothing is again reflected in Paton (1932). Paton tackled issues such as the direct crediting of gains to surplus (retained earnings) and arbitrary depreciation adjustments in a rejection of smoothing as sound business behaviour:

'This whole proposition of developing stable statistics for business enterprise characterised in reality by marked instability is one of the most unwholesome attitudes ... After all is there anything involved here but more or less sophisticated misrepresentation?' (Paton, 1932: 262).

The consequences of using undisclosed reserves to *enhance* reported profits were highlighted in the spectacular collapse of the Royal Mail Group in 1930–1931, which may represent a turning point in popular perceptions of the acceptability of the use of secret reserves.<sup>18</sup> In his commentary on the Royal Mail case, Hastings (1962) quotes evidence presented in the case that the use of secret reserves was generally acceptable through the 1920s. Davies and Bourne (1972) attribute some degree of causation between the Royal Mail Group collapse and several provisions of the UK *Companies Act* of 1948, in particular the prohibition of the formation and use of secret reserves.

Recent rationales of earnings management are

more circumspect. While stable dividends policies may still be sought, the current nexus between disclosed annual profit and dividends is tenuous. Following the focus on equity investor satisfaction, which continued to emphasise earnings stability (e.g. Hepworth, 1953), and concurrent with developments in finance theory, the literature matured to admit earnings management motivations relating directly to other stakeholders in the firm. The plausible motivations for earnings management include: managerial self-interest; earnings quality considerations; equity market preferences, which include the earlier focus on dividend policy; debt market preferences; and political cost considerations. In the following sections, each of these incentives to manage reported earnings is developed in relation to the Tooth & Co case.

#### *4.1. Earnings manipulations and managerial self-interest*

Theories of earnings management based on managerial self-interest generally fall into one of two categories: agency theory adaptations and bonus plan incentives. An example of an agency theory adaptation is the suggestion that secret reserves, rather than pertaining to the control of a firm's dividend policy, provide opportunities to enhance the manager's utility. The existence of managerial bonus plans affected by reported earnings precipitate well-known incentives for earnings management (see Healy, 1985). Relevant to both categories, it has been argued that incoming CEOs manage earnings downwards in the initial year of their incumbency and upwards in subsequent years (see Wells, 2002; Godfrey et al., 2003). Neither category seems relevant to Tooth. There were only two CEO changes during 1910–1965, each of which was planned and resulted in the deputy CEO assuming control, and Tooth's management were not paid formal bonuses.

It is also argued that a manager's utility is enhanced by obtaining control over free cash flows (Jensen, 1986). For this to be effective, the levels of free cash flows should not be externally observable. In the case of Tooth, the balance sheets clearly reveal cash equivalents levels and changes. From 1930 to 1955, Tooth's cash equivalents bal-

<sup>18</sup> For more than a decade, the Royal Mail Group had been trading at marginal profits or substantial losses, but reported income was boosted via transfers from excessive provisions for taxation held over from World War I. Lord Kysant, the company's chairman was subsequently convicted of knowingly issuing a false prospectus (for a debenture issue) that contained representations in regard to annual profits. Kysant was acquitted of issuing misleading accounts because the phrase 'Including adjustment of taxation reserves' was disclosed in relation to the calculation of profits, although there was no disclosure of the magnitude of such adjustments.



ances were substantially larger than reported profits.<sup>19</sup> This would indicate to investors that management had control over large levels of discretionary resources, suggesting that concealment of this was not an objective in manipulating reported earnings.

#### 4.2. *Earnings management and the predictability of future earnings*

An alternative perspective on the motivation for the smoothing of earnings is that the 'smoothed' published earnings figure better represents management's perception of the long-run earning capacity of the firm, and thus the fair value of the firm. This implies that a neutral application of accounting standards results in an earnings level that is an inferior predictor of future earnings than the 'smoothed' or otherwise managed earnings. Recent evidence demonstrates that earnings that have been adjusted to remove transient components possess greater information content than GAAP earnings (Bradshaw and Sloan, 2002; Burgstahler et al., 2002). However, the available records of Tooth & Co do not provide any evidence that Tooth's earnings management was intended to improve the reliability of reported earnings as predictors of future earnings.

#### 4.3. *Earnings management as a function of equity market preference*

A frequently cited motivation for earnings management is equity investor preferences for stable earnings and dividends (e.g. Michelson et al., 2000). While there is considerable variation in the posited manifestation of such shareholder preferences, two central conjectures are common in the literature: (1) risk-averse investors associate greater volatility in reported earnings with greater risk, which is reflected in an increased cost of capital;<sup>20</sup> and (2) there are investors with preferences for stable cash dividends. We consider the latter with the emphasis in earlier literature on the contemporaneous relationship between annual profits and dividends in our discussion of this dividend focus.

<sup>19</sup> This assumes that cash equivalent balances and changes are a reliable indicator of potential free cash flows.

<sup>20</sup> A firm's cost of equity capital is equivalent to investor's required return on equity, which in turn is a function of expected future dividends and capital growth. Changes in required return impact upon stock price.

<sup>21</sup> Gordon *does* explicitly identify the usefulness of current reported earnings in predicting future earnings as being advantageous to shareholders.

<sup>22</sup> Systematic risk reflects the sensitivity of a firm's stock return to market-wide returns, and as such cannot be costlessly diversified away.

<sup>23</sup> This presumes investors are systematically misled by the smoothed reported income stream and that there exists a differential level of smoothing across firms (Ronen and Sadan, 1981).

### **Equity investor risk aversion**

Investor disutility from perceived investment risk is an accepted axiom of financial economics that includes arguments that volatility in reported earnings affects perceived investment risk. Hepworth (1953) is typical of the early literature in regard to earnings management, in that the relationship between earnings volatility and perceived investment risk was implied rather than explicitly stated:

'Certainly the owners and creditors of an enterprise will feel more confident toward a corporate management which is able to report stable earnings than if considerable fluctuation in earnings exists.' (Hepworth, 1953: 33)

Gordon (1964) develops an axiomatic theory of income smoothing in which management rely on continued shareholder satisfaction that, in turn, is a function of 'the stability of its income' (1964: 262); but does not explicitly identify risk-aversion as the motivation.<sup>21</sup>

The later literature emphasises a connection between profit smoothing and systematic risk, which is priced by the market (Sharpe, 1964).<sup>22</sup> Beidleman (1973) refines the earlier arguments, positing that, by smoothing earnings, the perceived systematic risk of the firm's equity could be reduced, thus reducing the cost of capital.<sup>23</sup> The conjectured association between smooth profit streams and cost of capital does not require dividends to be stabilised. Lev and Kunitzky (1974) report a significant correlation between accounting earnings volatility and systematic risk, and Michelson et al. (2000) report that 'smoothing firms' enjoy significantly greater stock returns than others (for US S&P 500). The 'perceived risk' motivation is also supported by evidence regarding the effects of earnings volatility on expected non-diversifiable bankruptcy costs (e.g. Titman and Trueman, 1986). Concern for the cost of capital will be greater when capital raising is planned. Teoh et al. (1998) find evidence of upward earnings management prior to seasoned public equity offerings, consistent with a motivation to maximise the proceeds from issues.

Tooth made seasoned equity issues in 1936 and 1962. However, both were rights issues priced at less than 30% of the diluted minimum market value of the shares in the five years prior to each issue. It seems highly unlikely that Tooth perceived any need to smooth reported profits to maximise the proceeds of these offers and we find no direct evidence of such concerns in Board memoranda. Also, we know that Tooth persistently managed reported profits downwards, which is inconsistent with promoting the equity issues. Managerial self-interest may provide an incentive for this prior to a rights offering because Tooth's

rights offers allowed unsubscribed shares to be taken up by other shareholders. The substantial management shareholdings in the company provide an incentive to understate profits prior to the offers, if they expect this to induce a lower share price and a lower acceptance rate among external shareholders. This may allow internal shareholders to acquire a greater proportion of shares and at a lower price than internal profits might suggest, effectively transferring wealth from the external shareholders to management. Such a wealth effect would, of course, only be realised if subsequent information was released informing the market of the 'true' profitability of the entity. However, Tooth's issues were offered at a massive discount on the diluted market value; this would have encouraged external shareholders taking up their rights and so it seems unlikely that such wealth transfers were a motive.

### Dividend focus

We previously noted two dividend policy motivations for earnings management. These concern the relationship between investor's expectations regarding reported profit and the magnitude of cash dividends: (1) management reduce reported profits to ameliorate pressure to pay high dividends, because higher distributions may be contrary to either the firm's or managers' long-term interests; and (2) earnings management to smooth earnings may facilitate a stable dividend payout policy, which investors may prefer.

Gibson (1971), describing early Australian practice, argues that the income statement was regarded as little more than a justification for the current dividend.<sup>24</sup> Similarly, Buckmaster (2001), citing a series of early articles from the professional literature, identifies a widespread attitude among UK and US investors that 'accounting income measures the proper amount of resources to be distributed as dividends for that period and corporate directors apparently felt pressure to make such distributions' (p.25). Dicksee (1903, p.49) attributes both smoothing and long-term profit understatements to the 'notorious weakness of shareholders' in regard to their dividend demands and their adverse reaction to firms maintaining large reported reserves. Such attitudes persisted into the 1940s, when US accounting regulators explicitly warned companies that reserves for war contingencies were not to be used to smooth in-

come or dividends (Buckmaster, 2001: 25). Investors' expectations have matured since the first half of the 20th century, and the more recent literature that focuses on earnings smoothing identifies the dividend-related objective as facilitating a stable dividend policy, rather than the level of distributed dividends relative to reported profits (e.g. Hepworth, 1953; Ely and Mande, 1996; Fudenberg and Tirole, 1995).

Tooth's 'dividend focus' is revealed in two ways: via the contents of internal company communication, and through the observed relationship between current reported profit and dividends.

A 1931 Board Memorandum argues for the maintenance of secret reserves: 'to enable a dividend to be paid in bad times'.<sup>25</sup> A 1933 Board Memorandum asserts the following in regard to the effect of increasing dividends:<sup>26</sup>

'This will satisfy the shareholders for the time being, but they will probably look for a similar dividend next year and will be disappointed if they don't get it ...'

'... The shareholders are ... already well satisfied with their return from the Company's shares, which has been more stable than probably that of any other organisation throughout the depression.'

The relationship between Tooth's reported profit and internal profit, dividends and disclosed cash equivalents (cash and government bonds) are illustrated in Figure 3. The graphs indicate a close connection between periodic reported profits and dividends, with some divergence becoming more apparent in 1963. A dividend policy based on internal profit would have produced a more erratic stream and, potentially, a greater drain on cash.

### 4.4. Debt market preferences

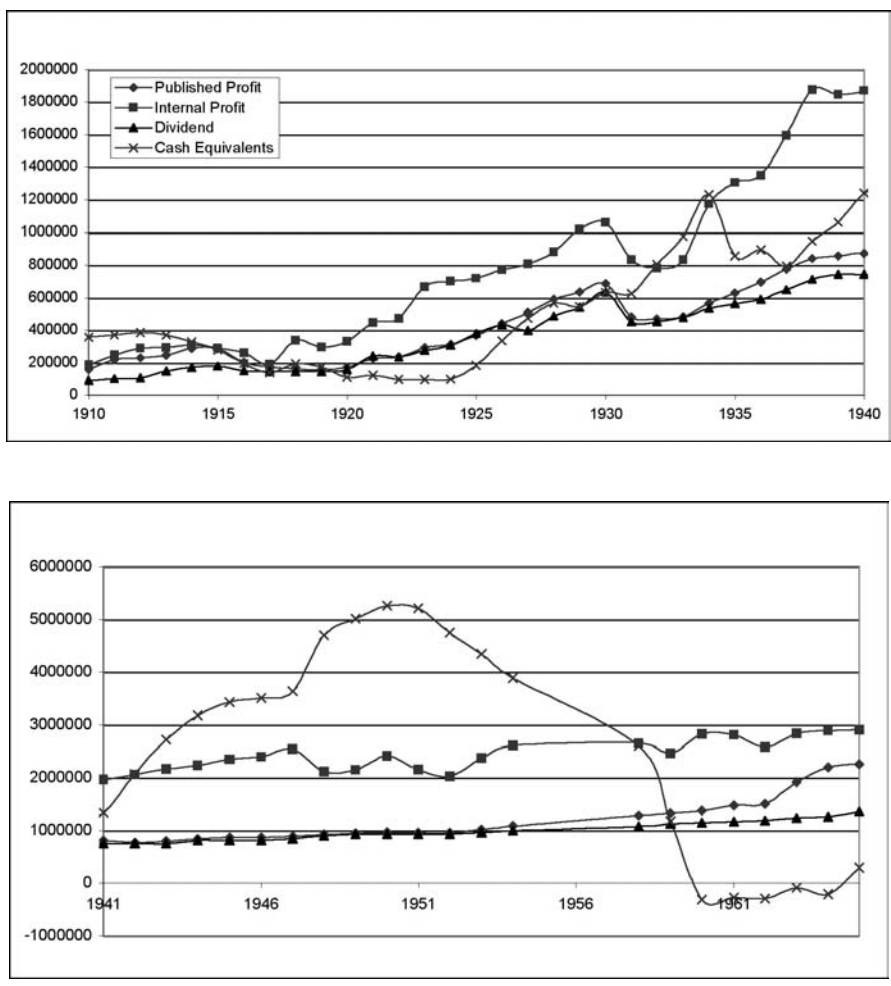
The earnings management literature identifies two aspects of motivations for profit smoothing (or short-run profit-increasing manipulations) arising from a debt market preference for borrowers with stable earnings. First, it is argued that a stable pattern of historical earnings will reduce a lender's perception of the risk of the potential debtor and thus reduce the cost of debt (Hepworth, 1953). Second, where restrictive loan covenants attach to existing loans or debenture issues are written in terms of accounting earnings or ratios, manipulation of reported profit may sometimes allow a borrower to avoid breaching such covenants. Defond and Jiambalvo (1994) report a higher likelihood of profit-increasing manipulations in years prior to the breach of debt covenants. However, neither the cost of debt capital nor the avoidance of debt covenant breaches are relevant, as Tooth had no debt other than low levels of short-term trade credit.

<sup>24</sup> Publication of a profit and loss (income) statement was not compulsory for NSW listed companies until 1925, when the Sydney Stock Exchange requirements were strengthened. The NSW companies legislation did not require publication of an income statement until 1936.

<sup>25</sup> NBAC. Tooth & Co Archives, N60/287, Tooth's & Toohey's Financial Figures.

<sup>26</sup> NBAC. Tooth & Co Archives, N60/286, Tooth's & Toohey's Financial Figures.

**Figure 3**  
**Dividend policy, profits and cash equivalents**



**4.5. Earnings management and political costs**

Firms with highly visible earnings may have incentives to understate profits or smooth earnings growth to avoid adverse political attention (Watts and Zimmerman, 1978). Political costs can arise from adverse reactions to reported profits or market power. Costly adverse reactions include labour disputes and demands for higher wages, increases in taxation and excise duties, and industry regulatory responses (such as prohibition, licensing conditions and quotas, controls over trading hours, price controls and actions against anti-competitive behaviour).

**Wage pressure**

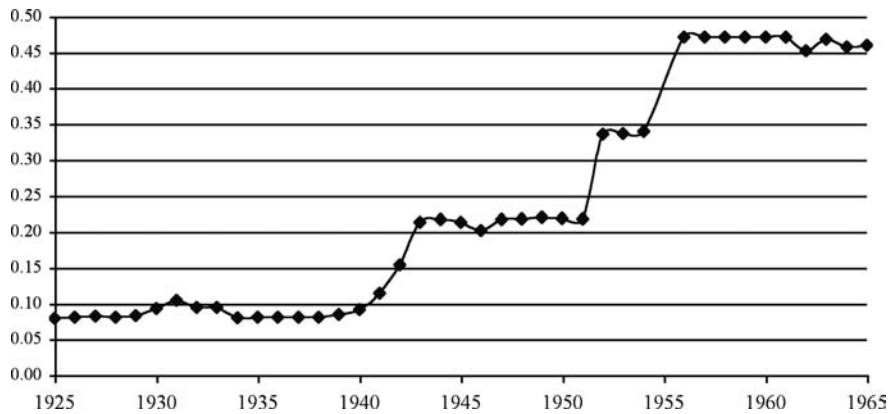
If negotiated wage levels are affected by the employer’s capacity to pay wages, as proxied by reported profits, an employer may perceive an advantage in avoiding significant increases in reported profits, particularly in periods of major

wage negotiations. Godfrey and Jones (1999) report a recent positive relationship between the level of unionisation in a firm’s workforce and income smoothing in modern Australian firms. Earlier, Hepworth (1953) explicitly observes the potential dangers of perceived excessive profits in regard to industrial relations:

‘A sharp increase in reported profits is very likely to produce in the minds of the members of the working force that they should participate to a greater extent in such profits, with resulting demands for wage increases, strikes and general industrial unrest.’ (Hepworth, 1953: 33)

There is direct evidence that pressure for ‘profit sharing’ from wage earners due to increases in reported profits concerned Tooth’s board, as observed in board correspondence of 1931 regarding the effect of high dividend payments on the

**Figure 4**  
Excise payable as a proportion of Tooth's production gallonage



labour market:

'The company has already taken advantage of the 10% cut in wages, recently allowed by the Federal Arbitration Court in certain trades, and is now negotiating with the Brewery Employees Union for a similar reduction ... even continuance [of dividends] at the existing rate may give employees an opportunity to criticise the policy of the company.'<sup>27</sup>

Tooth's recognition of a need to limit or reduce dividends to assuage potential negative labour sentiment is juxtaposed with perceived shareholders' expectations that dividends will appropriate most of the reported earnings. Consequently, understating profits facilitates both lower dividends and less wage pressure.

### Taxation and excise

In regimes where the measurement of taxable income is based heavily on accounting income, the manipulation of reported earnings can directly affect taxation cash flows (Hepworth, 1953: 34). This is unlikely to have played a prominent role in Tooth's reporting decisions because, except for the very early years of federal taxation, the taxation rules were not closely aligned with accounting practices and so the calculation of taxable income was largely independent of accounting income. Manipulations of depreciation, allowances against bad debts and the tax provision itself were Tooth's main methods of understating reported profits, but the maximum allowable depreciation rates for tax purposes were stipulated by law and bad debts were deductible only when actually written-off. As reported earlier, Tooth's taxable income (as disclosed in their tax returns) is closely aligned with our measures of their internal profit.<sup>28</sup>

While we thus discount income taxes as a mo-

tive for Tooth's profit manipulations, excise duty offered greater motivation. Excise duty, a Federal tax on alcohol produced, was the largest single component of Tooth's cost of goods sold, ranging from 40% in 1925 to 73% in 1943. For the years where sufficient information is available to calculate effective excise rates based on Tooth's total gallonage, the relationship between excise and gallonage (in decimalised £s) is shown in Figure 4.<sup>29</sup>

Excise increases caused two undesirable outcomes for Tooth. First, consumer price sensitivity meant passing on excise increases to customers was likely to reduce total alcohol consumption. In February 1939, Tooth's wrote to the Federal Treasurer to unsuccessfully lobby against a proposed excise rate increase, citing an expected fall in demand of 12.5% should the proposed excise increase proceed.<sup>30</sup> Second, passing on increases to consumers induced substitution effects that could have reduced Tooth's profits. For example, wine and spirits became more competitive because excise increases induced smaller percentage increases in their prices, and Tooth's profit margin for their beer was much higher than their margin on wine and spirits for which they were merely resellers. Conversely, excise reductions offered potential gains to the extent that they were not passed on to consumers or through increased consump-

<sup>27</sup> NBAC. Tooth & Co Archives, N60/287, Tooth's and Toohy's Financial Figures.

<sup>28</sup> The reported profitability of large businesses may affect the likelihood and direction of future changes in company tax rates (Adhikari et al., 2005) although it is unlikely that these effects result in periodic changes in behaviour in stable taxation systems.

<sup>29</sup> Explicit amounts for COGS and Excise paid are only available for the period 1925–1965. Prior to 1925 the amount included in internal accounts as Excise expense does not include that amount already embedded in gross profit.

<sup>30</sup> NBAC. Tooth & Co Archives, N60/211, Excise.

tion, and to the extent of any substitution from wine and spirits to the higher yielding beer.

A greater concern may have been the extent of substitution between vending units for draught beer sales. Beer was sold in at least three different sized glasses, and the retail price per fluid ounce varied across these glass sizes. Due to the limited divisibility of currency, it was not possible to precisely adjust retail prices per glass to reflect excise increases. A change in the relative prices of the beer sold in 'middies' and 'schooners' resulted in non-uniform price changes which could shift demand towards the lower yielding glass size. Tooth's concern with this substitution effect is evidenced by the extensive research files maintained on the relationship between excise rates and sales mix.<sup>31</sup>

For excise changes to provide an incentive for earnings management, it is assumed that either: reported profits influence the government's perception of brewers' capacity to pay excise; or that reported profits were believed to influence the public's attitudes. Expected influences on the government's perceptions may induce profit manipulations in advance of prospective excise changes. Both expected government and public responses may induce manipulations subsequent to excise changes. It is, of course, arguable that knowledgeable employees of the Federal Treasury (responsible for providing policy advice to the government), did not regard published earnings as a reliable measure of a firm's capacity to pay. However, the likelihood of further government intervention increases with *public* pressure for action (Watts and Zimmerman, 1978). Increases in reported profit following a change in excise rates may induce public resentment that, in turn, may affect regulatory behaviour and consumer demand. The NSW Labor Council, for example, had a standing Liquor Investigations Committee, which was vocally opposed to the 'enormous accrued profits of the breweries'.<sup>32</sup> Figure 4 graphs excise rate increases in 1930, 1940, 1941, 1942, 1943, 1952 and 1956. Assuming no other influences, the years subsequent to these should exhibit higher than average income-reducing behaviour, and lower than average growth in reported income.

### Regulatory threats

Because brewing is a highly regulated industry, Tooth may have reduced or smoothed profits to influence potential non-tax regulatory responses, including price controls, and market or licensing quotas, if they believed that reported profits influence regulatory decisions. This would be consistent with behaviour observed elsewhere. For example, Jones (1991) reports evidence of income-reducing earnings management by firms subject to import relief investigations and Sivakumar and Waymire (2003) report that in-

creased conservatism in income measurement was significantly associated with regulation of the US Railroad industry in the early 20th century.

Consistent with Watts and Zimmerman (1986; 222–235) regulatory responses are more likely where some degree of monopoly power is evident or competition is weak. Sustaining abnormally high profits is a readily observable signal, to both government and the public, of a non-competitive market. High profits may also attract competition. The economics literature had previously addressed such concerns. For example, Alchian and Kessel (1962) identify potential regulatory responses to excess profitability as incentives to reduce reported profits, Williamson (1963) develops a behavioural model in which reported profits are constrained by the political costs of threatened regulatory changes, and Hall and Weiss (1967) argue that large firms use accounting manipulations to understate reported earnings and so understate the difference in profitability between large and small firms.

Tooth's market power throughout the sample period suggests the threat of regulatory interference was persistent but not of a constant magnitude. It may have been variously affected by Tooth's relative performance, the rate of growth in Tooth's market share, and changes in political and regulatory attitudes. Growth in market share peaked between 1934 and 1940, when Tooth's freeholdings increased from 432 to 605 hotels and market share increased from 80% to 90% of NSW beer consumption and most growth in Tooth's market share occurred near the end of this period. Tooth exhibited the greatest proportionate growth in internal profit in the years 1934–1938, which also included the majority (128) of the hotel acquisitions. Had the cost (or fair value) of the newly acquired hotels appeared on the balance sheet without adjustment, Tooth's increasing domination of the retail market would have been easily discerned by government and by interested sectors of the community (particularly those favouring nationalisation of industry). By understating profit and offsetting the value of fixed assets, the extent of Tooth's increasing market dominance was concealed. The disclosed increase in the net value of property, plant and equipment was only £1.3m compared to the gross increase of £3.8m.

Regulatory concerns in anti-competitive markets often focus on price. In Tooth's case, the only changes in the wholesale price of beer during the entire sample period were those accompanying excise rate changes. While retail prices were official-

<sup>31</sup> NBAC. Tooth & Co Archives, N60/211 and N20/2664, Excise.

<sup>32</sup> *Sydney Morning Herald*, 'Probe into New Beer Price', 1/12/1951.

ly set by the ULVA, and such changes flowed through to Tooth's via rents on public houses and returns on company-operated hotels, we have not found any evidence that Tooth identified a direct link between reported profitability and prices charged other than in regard to excise changes. During the period 1942–1955, when price increases required government ratification, regulatory authorities had the power to inspect a company's books of account. The information provided by Tooth when seeking wholesale price increases following excise rate changes in the 1950s included disaggregated information based on their internal profit figures in support of such applications.<sup>33</sup> While the regulator was well-informed, the public were not. We contend that the main political consequences for Tooth derive from public perceptions of profitability.

Substantial civil and economic disruption also raise political costs and adverse public responses as perceived risks. The study period includes the two world wars and the great depression. These and the other events identified as potentially impacting on Tooth's profit manipulations are summarised in Table 3. We use this data in the next section where we examine Tooth's profit manipulations over time.

## 5. Tooth's profit smoothing and under-statements over time

The anecdotal internal evidence indicates that Tooth's partial smoothing and persistent understatement of reported profits apparent in Figure 1 are consistent with the avoidance of dividend demands and some profit-based political costs. Less obvious are the reasons behind the varying degrees of earnings management in different years. We first examine the circumstances of particular periods of seemingly aberrant reporting behaviour, incorporating the relevant arguments raised in Section 4. We then use regression analysis to statistically test the relative importance of the various events and circumstances identified in the discussion.

### 5.1. Periods of seemingly aberrant reporting

Obvious exceptions to the general trend of steady growth in reported profits apparent in Figure 1 are the periods 1916–17, 1930–34, 1940–43, 1951–52, 1956–58 and 1962–1965. These periods also contain most instances of the factors potentially affecting earnings management practice discussed in Section 4 and listed in Table 3, summarised thus:

1916–1917 Genuine deterioration of performance and lower reserves with which to smooth income, 6 p.m. closing 1917.

1930–1934 Excise increase 1930, excise decrease 1932, wage cuts in 1931, retention of cash to finance acquisition of hotels from 1934–1937, anti-trust concerns following acquisition of Resch Ltd.

1941–1943 Excise increases in 1940, 1941, 1942, introduction of rationing, higher dividend pressure due to high cash balance, *Monopolies Act 1941*.

1951–1952 Royal Commission into liquor trade, relaxation of restrictions on clubs, excise rise 1952.

1956–1958 Excise rise 1957.

1961–1965 Introduction of *Companies Act 1961*, Rights issue in 1962.

### Period 1: 1916–1917

The financial years ending in 1916 and 1917 exhibited serious declines in profits. Internal profits declined by 34% over the two years (from £290,201 in 1915 to £260,131 in 1916 and £189,747 in 1917). Instead of using the secret reserves to moderate this decline, the reserves were increased and reported profits exaggerated the decline to 39% (from £284,795 in 1915 to £201,923, in 1916 and £172,654 in 1917). Possible reasons for Tooth's failure to use the secret reserves to maintain smooth profits include:

1. The absence of smoothing incentives – however there is no evidence to suggest that smoothing incentives should be lower during this period and merely reporting the internal profits would have lessened the reported declines;
2. Auditor resistance to overstatements – however there is no documentary evidence of auditor resistance to attempted overstatements of current profit and this would not have encouraged understatements;
3. Management belief that the decline was 'permanent' and should be reflected in reported profits in order to enhance the usefulness of current earnings as a predictor of future earnings;
4. Management perceived advantages in reporting the decline.

While 3 above remains a plausible explanation for Tooth's reporting behaviour in this period but does not explain the increased understatements, we argue that the combination of factors detailed below indicate that perceived advantages to Tooth is the more likely explanation. The previously cited internal evidence indicates that dividend reductions were a driving factor and the dividend

<sup>33</sup> NBAC. Tooth & Co Archives, N20/267, Prices.

**Table 3**  
**Historical events potentially impacting on earnings management**

<i>Financial year</i>	<i>Event</i>	<i>Potential effect on earnings management</i>
1912	Takeover and closure of Marshall's Brewery. Tooth advanced funds to a 3rd brewery for the purpose of taking over Marshalls	Nil. Tooth's interest in the takeover was not publicly known at the time.
1916	6 p.m. closing introduced, Also compulsory rent reductions under Liquor Act	Incentive to depress reported earnings following introduction of these measures.
1919	Introduction of Liquor (Amendment) Act 1919, which extended 6 p.m. closing and introduced compensation for de-licensed premises	Incentive to depress earnings in period prior to finalisation of Act in effort to secure most favourable compensation terms.
1919	Anti-competitive agreement signed with other Brewers	Nil. Existence of the agreement not publicly known.
1920	Rights issue of equity	Ambiguous (see discussion)
1921	Issue of equity to acquire business of Castlemaine Brewery	Incentive to depress reported profit in regard to anti-competitive behaviour.
1924	Acquisition and closure of regional breweries in the Riverina district Rights issue of equity	As above
1928	Referendum considering Prohibition is held and soundly defeated	Long-term incentive to depress earnings prior to referendum (the referendum had been planned since 1919).
1930	Acquisition of Reschs Brewery Excise increase Beginning of Great Depression	Strong incentive to report reduced income.
1931	Government sanctioned wage cuts Reduction in dividends	As above
1932	Excise Reduction	As above
1934	Mass acquisition of freehold hotel properties begins (continues to 1939)	Strong incentive to 'smooth the balance sheet' (to obscure evidence of expansion in retail premises).
1936	Rights issue of equity	Ambiguous (see discussion)
1939	Small excise rise	Incentive to reduce reported income.
1940	Large excise rise	As above
1941	<i>Monopolies Act</i> introduced Large excise rise, rationing of beer and capital works	As above
1942	Large excise rise	As above
1951	Relaxation of legislation allowing explosion in number of licensed clubs Maxwell Royal Commission into the Liquor Industry	As above
1952	Large excise rise	
1955	End of 6 p.m. closing	Ambiguous
1957	Large excise rise	Incentive to reduce reported income.
1961	Companies Act 1961 introduced requiring disclosure of all amounts provided against assets and provision for taxation	Reduced ability (in future years) to reduce reported income.
1962	Rights issue of equity	Ambiguous
1963	First published statement affected by <i>Companies Act 1961</i> requirements	

rate was reduced in 1916, owing to 'increased costs of production' and 'additional taxation'.<sup>34</sup> The increased taxation resulted from the introduction of federal income tax, though the effect on total tax payable was only of the order of £10,000. Hotel trading hours were reduced in the 1917 financial year, during which time a mandated reduction in rents also decreased both reported and internal profit. The sustained decrease in reported profit also coincides with the imposition of new taxes and the *Liquor (Amendment) Act 1916* that instituted 6 p.m. closing of public houses. The regulatory changes may have provided sufficient justification for reduced reported profits to avoid the shareholder-related costs associated with a reduction in the dividend rate.

### Period 2: 1930–1934

The substantial decrease in reported profit for 1931 and lack of recovery until 1934 largely follows internal profits. However, Tooth had more than sufficient secret reserves to report smooth modest growth in reported profit; indeed, reporting unadjusted internal profits would have accomplished this (see Figure 1). Possible reasons for reporting the decline include political costs of anti-competitive behaviour that may have been higher during this period for several reasons, and opportunities for further expansion:

1. The extent of the depression may have indicated some level of reported profit reduction to be prudent because of a possible public or consumer backlash.
2. Tooth's acquisition of Resch Ltd in 1929 increased their market share from 68% to 80%. Most of the remaining market share belonged to Toohey's Ltd, with whom Tooth fixed minimum retail prices via their domination of the ULVA. Reporting performance superior to that of competitors and other consumer product markets may have risked a greater likelihood of increased regulatory action in the brewing industry.
3. Tooth was vocal in its objection to the 1930 excise increase, and reporting a strong fall in profits immediately thereafter would have strengthened their case for repeal. Despite a slight recovery in internal profits, reported profits were kept relatively flat.<sup>35</sup> Subsequently, a 1933 Board memorandum discussing possible uses of undisclosed reserves made the following comment:

'A substantial increase in dividend at this stage might easily lead to a certain amount of public resentment. During the debate in the Federal House on the excise reduction, suggestions were made that the trade had been treated too liberally ... a substantial increase of dividend now would tend to revive a feeling of public resentment and might easily lead to the excise being increased ... In the meantime we are actually aiming for a further reduction in excise.'<sup>36</sup>

4. The above memorandum also reflects the perceived connection between dividend policy and political costs. Given that dividend policy was linked to reported income, this juxtaposition indicates a further incentive to depress reported earnings. Dividends were reduced in the 1931 financial year and did not return to their 1930 level until 1936.
5. Although the depression was harmful to the trading performance of Tooth, discounted asset prices also provided an opportunity for a significant expansion of freehold properties. Tooth's expectations in this regard is evident in the following extract from a 1931 Board memorandum considering dividend policy:

'With the general decline in market value of properties the Company should have opportunities of acquiring valuable freehold hotel properties at prices which would not have been credited say twelve or eighteen months ago ... provided the Company has sufficient ready money available, it will be able to secure valuable trade outlets in solid districts at very low cost.'<sup>37</sup>

During this period Tooth increased its freehold hotels from 400 to 553. The related need for cash resources and the possible political costs associated with the depression, growth in market share, and lobbying in relation to excise, meant that lower dividends and lower reported profits were desirable. The need for cash is evidenced by a rights issue of equity in 1935.

Avoiding the possible political costs associated with the public recognition of the extent of the company's grip on the retail market, which would be facilitated by disclosing these acquisitions, meant that the extent of the increase in fixed assets had to be kept off the balance sheet, further requiring the concealment of profits. Despite an increase in gross fixed assets of £3.6m (based on internal records), net fixed assets increased by just £1.3m on the published balance sheet.

### Period 3: 1941–1943

Despite the pressures of wartime restrictions on domestic demand, Tooth's internally reported profits grew steadily during WWII. Published profits, however, show a decline in both 1941 and 1942. Public and political concerns regarding war-

<sup>34</sup> NBAC. Tooth & Co Archive, N20/4000, Tooth's Annual Reports and Balance Sheets.

<sup>35</sup> From 1932 to 1933, internal profit grew 6.26% but reported profits were increased by only 3.15%.

<sup>36</sup> NBAC. Tooth & Co Archives, N60/286, Tooth and Tooheys Financial Figures.

<sup>37</sup> NBAC. Tooth & Co Archives, N60/287, Tooth and Tooheys Financial Figures.



time sacrifices and profiteering may have indicated some level of reported profit reduction to be prudent. Government restrictions on repairs and maintenance expenditure also caused the balance of cash equivalents to rise significantly, potentially adding to pressure for dividends if higher profits were disclosed. Superficially, the introduction of the 1941 *Monopolies Act* may appear to have encouraged profit understatements but, as noted earlier, Tooth's legal advice indicated that this legislation was not a cause of great concern and was thus unlikely to have motivated reporting behaviour. However, excise duties again appear to have been a concern. After a very small rise in excise in the 1939 financial year, the excise rates rose three times from late 1940 to late 1942. The aggregate increase in the excise rate during this period was 123% of the 1939 excise rate.

#### Period 4: 1951–1952

The 1951 Maxwell Royal Commission into the Liquor Industry posed a substantial political threat. Its terms of reference covered most aspects of the liquor industry, including the tied-house system, concerns over the monopolistic behaviour in the industry, and the issue of 6 p.m. closing. The Commission sat through 1951–1952 and its findings were generally known in 1953 and formally published in 1954. From Tooth's archives it is clear that very substantial time and resources were devoted to submissions to this inquiry. Over such a period Tooth's earnings must have been highly visible and sensitive.

Most of Tooth's hotel leases were fixed for three to five years and significant inflation in the early 1950s adversely affected Tooth's internal profit.<sup>38</sup> Nonetheless, internal profit remained roughly double the reported profit. Tooth chose to report a small decrease in profit in 1951 and a trivial increase in 1952.

#### Period 5: 1956–1958

The major event of this period was an excise increase affecting the 1957 financial year. Missing data for 1955–1956 limits our analysis of this period but the limited evidence available is consistent with the observed behaviour in other periods following an excise increase. Reported profit growth was near zero.

#### Period 6: 1961–1965

The *Companies Act (New South Wales) 1961* was based on the provisions of the UK *Companies Act 1948* and required companies to disclose provisions for taxation, the gross and net amounts of fixed assets and receivables and various other increases in the detail of the income statement. From Tooth's perspective, the Act caused a significant reduction of scope for understating reported profit. The requirement that 'provisions' against assets had to be disclosed meant that they must be credi-

ble. Furthermore, the requirement to disclose the provision for taxation allowed the market, for the first time, to estimate the company's taxable income as a check on the published profit.

The first of Tooth's published statements to reflect the new disclosure requirements were for the year ending 31 March 1963. In preparing the financial statements for that year, the previously undisclosed reserve accounts were written down by approximately £13m. Approximately £11m of this was matched by a reduction in the value of the 'cost' accounts for fixed assets (thus leaving net asset values unchanged).<sup>39</sup> The 'Provision for Doubtful Debts' was reduced by £2m and approximately £400,000 of excessive depreciation allowances were reversed. Published net profit rose from £1.5m to £1.9m (by far the greatest recorded single-period increase in the firm's profitability). Similarly, the understatement of published income relative to the level of internal income reached its lowest point since 1916.

In 1962 the company issued shares via a rights issue (at a significant discount) for £1.5m. From an agency theory perspective, the timing and terms of this issue may have a managerial self-interest motive. Returns on Tooth's equity in subsequent years were 21% and 30% respectively (double the market yield) and any shareholder who participated in the rights issue enjoyed considerable gains. The low earnings growth in the years prior to this issue appear consistent with management discouraging external shareholders from exercising their rights to buy shares, leaving more for internal shareholders. Similarly, at the time of the issue Tooth's were well aware of the inflationary effect that the 1961 *Companies Act* would have on their reported profits for years 1963 onwards, suggesting that the abnormal subsequent stock returns were to some extent predictable by management. However, we have no evidence regarding the allocation of shares under the rights issue. Furthermore, because the rights price represented such a discount on the diluted market value, it seems unlikely that the profit-reducing behaviour would have significantly impacted on the external shareholders' uptake of the rights issue. It is entirely plausible that the rights issue simply corrected a working capital shortage which had developed since the late 1950s. Massive investment in outer suburban hotels, inspired by the end of 6 p.m. closing in 1955, reduced cash balances from £2.6m in 1955, to -£0.3m in 1957. Negative overall cash balances persisted until the rights issue in 1962.

<sup>38</sup> Retail Price Index inflation for 1950, 1951 and 1952 was 9.22%, 10.97% and 22.81% respectively.

<sup>39</sup> The likelihood that net asset values remained significantly negatively biased is evidenced by the fact that within eight years asset revaluations effectively doubled the disclosed 1963 value of fixed assets.

5.2. A statistical test of the impact of particular events on earnings understatements

Our discussion of events and examination of the graphical evidence exposes discernible differences in particular years, and also emphasises the complexity of events in some periods. Without a basis for weighting the possible multivariate effects, our interpretive analysis is not singularly persuasive. Using a simple regression, we attempt to relate differences in understated profits to particular recurring events. We consider three types of events from Table 3 that we can attribute to particular years:

1. Expected lobbying by Tooth in relation to prospective regulatory changes, for which we expect to observe a larger profit understatement in the year in which lobbying was known to be high (e.g. when trading hours and prohibition were on the agenda) or prior to any actual regulatory change (e.g. 6 p.m. closing).
2. Increases in excise duties, for which we expect a larger understatement of profit in the reporting period following the announced increase.
3. Competition-reducing actions by Tooth (such as price agreements, takeovers and substantial public house acquisitions). We expect larger profit understatement in the reporting period following the acquisition.<sup>40</sup>

The above events are measured using dummy variables, which assume a value of one if the particular event occurred in a given year and zero otherwise.

We measure earnings understatements in ratio form (internal profit/published profit) to avoid scale issues, such as inflation. Because of the persistence of earnings understatements, we use the change in the earnings understatement ratio as the dependent variable and control for changes in the growth in internal profit. Because of the strong evidence of smoothing in our graphical analysis, we also include the square of the change in growth in internal profit. More complex exponential forms may provide better control for smoothing but, because the change in growth variable is less than one in all cases except 1918, we opt for the simpler form but subsequently test the adequacy of the model specification using Ramsey's RESET.

By controlling for growth and smoothing in this manner, the estimated regression coefficients for Excise, Lobby and Competition in Model 1 test for effects on changes in earnings understatements beyond the level which can be explained purely by changes in the rate of growth in internal income.

$$\Delta \text{Understatement}_t = a + b_1 \Delta \text{Growth}_t + b_2 \Delta \text{Growth}_t^2 + b_3 \text{Lobby}_t + b_4 \text{Excise}_{t-1} + b_5 \text{Competition}_{t-1} \quad (1)$$

Where

- $\Delta \text{Understatement}_t$  = Changes in the earnings understatement ration, calculated thus:  $(I_t/P_t - I_{t-1}/P_{t-1}) / (I_{t-1}/P_{t-1})$
- $\Delta \text{Growth}_t$  = Changes in the growth in internal earnings, calculated thus:  $((I_t - I_{t-1}) - (I_{t-1} - I_{t-2})) / (I_{t-1} - I_{t-2})$
- $\Delta \text{Growth}_t^2$  = the square of  $\Delta \text{Growth}_t$
- $I_t$  = internal profit for year t
- $P_t$  = published profit for year t
- $\text{Lobby}_t$  = 1 in years where lobbying behaviour is likely to be abnormally high and 0 otherwise.
- $\text{Excise}_{t-1}$  = 1 if an excise rate increase occurred in the previous year and 0 otherwise.
- $\text{Competition}_{t-1}$  = 1 in periods where Tooth made acquisitions of other breweries or significant numbers of public houses and 0 otherwise.

Descriptive statistics and the correlation matrix for the dependent, control and test variables are presented in Table 4. The correlation matrix suggests possible multicollinearity amongst regression variables; however variance inflation factors and condition indices indicate no significant multicollinearity problems in the regression model.<sup>41</sup> Potential for non-normality in the dependent variable is tested using the Kolmogorov-Smirnov test, which rejects the null hypothesis of normality at  $p=0.001$ . However, this result is attributable to the abnormally high growth measure observed in 1918. Deletion of this outlier results in a Kolmogorov-Smirnov statistic that fails to reject the null of normality ( $p=0.200$ ). Subsequent regression analysis was conducted both with and without the outlying observation. With missing profit data for 1955 and 1956, and the requirement for lagged profits, the number of sample years is 51.

We predict positive coefficients for all the variables, indicating that the variable is associated with an increased level of understatement, relative to the previous financial period. The results for the regression are reported in Table 5.

The test variables Excise, Lobbying and Compensation are significantly associated with changes in proportionate earnings understatement in the predicted direction. Thus, we confirm the apparent associations observed in Table 3.

<sup>40</sup> Other events canvassed earlier do not occur in sufficient numbers to test their impact in this manner.

<sup>41</sup> The largest variance inflation factor was 2.58 and the largest condition index was 3.18.

**Table 4**  
**Descriptive statistics**

*Dummy variables*

Variable	N	Minimum	Maximum	Frequency
Excise <sub>t-1</sub>	51	0	1	6
Lobby <sub>t-1</sub>	51	0	1	6
Competition <sub>t-1</sub>	51	0	1	9

*Continuous variables*

Variable	N	Minimum	Maximum	Mean	Std. Deviation
$\Delta I_t/P_t$	51	-0.196	0.884	0.012	0.157
$\Delta Growth_t$	51	-0.505	1.430	0.019	0.261
$\Delta Growth_t^2$	51	0.000	2.050	0.0674	0.287

*Correlation matrix*

Variable	$\Delta I_t/P_t$	$\Delta Growth_t$	$\Delta Growth_t^2$	Lobby <sub>t</sub>	Excise <sub>t-1</sub>	Competition <sub>t-1</sub>
$\Delta I_t/P_t$	1.000					
$\Delta Growth_t$	0.762	1.000				
$\Delta Growth_t^2$	0.790	0.752	1.000			
Lobby <sub>t</sub>	0.413	0.269	0.366	1.000		
Excise <sub>t-1</sub>	0.103	-0.036	-0.061	-0.133	1.000	
Competition <sub>t-1</sub>	0.025	-0.154	-0.006	-0.169	-0.169	1.000

**Table 5**  
**Results of regression of change in profit understatement ( $\Delta I_t/P_t$ )**

Regression results	R Square	Adjusted R Square	SE of the estimate	F test significance	Durbin-Watson
N = 51	0.759	0.732	0.082	0.000	1.752*
Explanatory variables	B	SE	t	Significance	
Constant	-0.043	0.015	-2.86	0.012 (2-tail)	
$\Delta Growth_t$	0.266	0.068	3.87	0.000 (2-tail)	
$\Delta Growth_t^2$	0.218	0.065	3.37	0.002 (2-tail)	
Excise <sub>t-1</sub>	0.096	0.037	2.62	0.006 (1-tail)	
Lobby <sub>t</sub>	0.098	0.039	2.51	0.008 (1-tail)	
Competition <sub>t-1</sub>	0.067	0.032	2.09	0.021 (1-tail)	

\*The serial correlation of residuals lies in the inconclusive range of the Durbin-Watson critical values (95% confidence level). The Durbin-Watson H statistic of 0.120 and Breusch-Godfrey statistic of 0.139 (for lag = 1), which allow for endogeneity within the model, fail to reject the null hypothesis that there is no autocorrelation between residuals. The critical value for these chi-square statistics is 3.84 (95% confidence level). Breusch-Godfrey statistics were also computed for lags of one to four years and again failed to reject the null. The Breusch-Pagan statistic (0.05), which tests for possible heteroskedasticity is not significant (p=0.821).

Because of the potential leverage exerted on the regression by the abnormally large growth measure observed in 1918, the regression model was also estimated without this observation (not reported). The only difference in the sign or significance of the explanatory variables is a reduction in the significance of  $\Delta Growth_t^2$  to p=0.484.

The Breusch-Pagan statistic reported in Table 5

does not indicate any heteroskedasticity problems. Although the Durbin-Watson H statistics and Breusch-Godfrey statistics reported in Table 5 indicate that there is no induced serial correlation in the residuals, we also estimate the regression without  $\Delta Growth_t$  and  $\Delta Growth_t^2$ . If we include  $\Delta Growth_t$  but omit  $\Delta Growth_t^2$ , then Competition, Excise and Lobby remain significant and positive,

but the regression diagnostics (Ramsey's RESET) indicate that non-linear combinations of the explanatory variable would improve the model. When both  $\Delta\text{Growth}$  and  $\Delta\text{Growth}^2$  are omitted, the  $R^2$  is substantially lower and Competition is no longer significant in the under-specified model. Augmented Dickey-Fuller tests, using lags of one to four years, indicate that the change in the earnings understatement ratio and the control variables ( $\Delta\text{Growth}$  and  $\Delta\text{Growth}^2$ ) are stationary (at 95% confidence level).

## 6. Concluding comments

The use of secret reserves for manipulating earnings is broached in the contemporaneous professional literature and noted in the accounting and business research literature. However, there has been little previous evidence indicating the magnitude of such practices. Further, while incentives were usually phrased in the context of investors' dividends expectations, this case demonstrates that political costs, in the sense of positive accounting theory, also explain much of the periodic earnings management.

There is clear evidence that Tooth smoothed reported profits but we also identify persistent understatements in reported profits, with the relative reliability of reported profit varying considerably over time. In particular, periods of high political costs or incentives to influence regulatory actions (particularly in the case of excise changes) are associated with greater understatements, even in circumstances where the company's internal profit was increasing. Our investigation also reveals that Tooth's management of the balance sheet was a strategic response to political costs associated with competition (market share) concerns. There is, of course, a necessary relationship between income and balance sheet management.

Given the limitations associated with the relatively small number of observations in our dataset and the coarseness of our binary proxies for earnings management incentives, caution should be applied in evaluating our statistical results. However, the results obtained complement the descriptive historical evidence presented in the paper. This complementarity between our quantitative and qualitative analyses provides a stronger basis for our conclusions than either analysis considered singularly.

While caution must be exercised in generalising from an analysis of the behaviour of a single firm in a single market, there are undoubted similarities between the reporting incentives facing Tooth and those affecting other large firms operating in markets with weak competition and subject to similarly ineffective disclosure regimes. While the Tooth case is complicated by the politically sensitive nature of the firm's product, most of the issues raised

apply more generally.

The importance of these results for contemporary accounting practices pertains to the impact of disclosure regulation, as exemplified by the role of the *Companies Act 1961* in forcing Tooth's abandonment of persistent large scale earnings understatement. Without such regulation, it seems unlikely that the improved transparency and accuracy would have occurred.

These results indicate that considerable caution should be exercised in analyses that rely on historical time series of reported accounting numbers – notably profits, equity and assets. This is especially so for periods predating regulatory disclosure requirements of the kind that curtailed much of Tooth's mis-reporting practices, such as the *1961 Companies Act* in NSW and the *1948 Act* in the UK. For the business historian, this builds upon the work of Marriner (1980) and Arnold (1996, 1998), who note the importance of secret reserves for the reliability of historical published earnings, by indicating the magnitude of such problems and by relating earnings management activity to both political costs and regulatory changes.

## References

- Adhikari, A., Derashid, C. and Zhang, H. (2005). 'Earnings management to influence tax policy: evidence from large Malaysian firms'. *Journal of International Financial Management and Accounting*, 16(2): 142–163.
- Alchian, A. A. and Kessel, R. (1962). 'Competition, monopoly, and the pursuit of pecuniary gain'. *Aspects of Labor Economics. Princeton: National Bureau of Economic Research*: 157–183.
- Arnold, A.J. (1996). 'Should historians trust late nineteenth-century company financial statements?'. *Business History*, 38(2): 40–52.
- Arnold, A.J. (1998). 'UK accounting disclosure practices and information asymmetry during the first quarter of the Twentieth Century: the effects on book returns and dividend cover'. *Journal of Business Finance & Accounting*, 25(7): 775–794.
- Beidleman, C. R. (1973). 'Income smoothing: the role of management'. *Accounting Review*, 48(4): 653–667.
- Bradshaw, M. T. and Sloan, R.G. (2002). 'GAAP versus the street: an empirical assessment of two alternative definitions of earnings'. *Journal of Accounting Research*, 40(1): 41–66.
- Buckmaster, D. (2001). *Development of the Income Smoothing Literature 1893–1998: A Focus on the United States*. London: JAI.
- Burghstahler, D., Jiambalvo, J. and Shevlin, T. (2002). 'Do stock prices fully reflect the implications of special items for future earnings?'. *Journal of Accounting Research*, 40(3): 585–612.
- Davies, P.M. and Bourne, A.M. (1972). 'Lord Kysant and the Royal Mail'. *Business History*, 14(2): 103–123.
- Defond, M. and Jiambalvo, J. (1994). 'Debt covenant violation and manipulation of accruals'. *Journal of Accounting and Economics*, 17(1–2): 145–176.
- Dicksee, L. R. (1903). *Depreciation, Reserves and Reserve Funds*. London: Gee and Co.
- Ely, K. M. and Mande, V. (1996). 'The interdependent use of earnings and dividends in financial analysts' earnings

- forecasts'. *Contemporary Accounting Research*, 13(2): 435–456.
- Fudenberg, D. and Tirole, J. (1995). 'A theory of income and dividend smoothing based on incumbency rates'. *Journal of Political Economy*, 103(1): 75–93.
- Gibson, R. W. (1971). *Disclosure By Australian Companies*. Carlton, Victoria: Melbourne University Press.
- Godfrey, J. M. and Jones, K.L. (1999). 'Political cost influences on income smoothing via extraordinary item classification'. *Accounting and Finance*, 39(3): 229–254.
- Godfrey, J., Mather, P. and Ramsay, A. (2003). 'Earnings and impression management in financial reports: the case of CEO changes'. *Abacus*, 39(1): 95–123.
- Gordon, M. J. (1964). 'Postulates, principles, and research in accounting'. *Accounting Review*, 39(2): 251–263.
- Hall, M. and Weiss, L. (1967). 'Firm size and profitability'. *Review of Economics and Statistics*, 49(3): 319–331.
- Hastings, Sir P. (1962). 'The case of the Royal Mail' in W.T. Baxter and S. Davidson (eds) *Studies in Accounting Theory*. London: Sweet & Maxwell Limited.
- Healy, P. M. (1985). 'The effect of bonus schemes on accounting decisions'. *Journal of Accounting and Economics*, 7(1–3): 85–107.
- Hepworth, S. (1953). 'Smoothing periodic income'. *Accounting Review*, 28(1): 32–39.
- Jones, J.J. (1991). 'Earnings management during import relief investigations'. *Journal of Accounting Research*, 29(2): 193–228.
- Jensen, M. C. (1986). 'Agency costs of free cash flow, corporate finance and takeovers'. *American Economic Review*, 76(2): 323–329.
- Knox, D. M. (1958). 'The development of the tied house system in London'. *Oxford Economic Papers*, 10(1): 66–83.
- Lev, B. and Kunitzky, S. (1974). 'On the Association between smoothing measures and the risk of common stock'. *Accounting Review*, 49(2): 259–270.
- Littleton, A. C., Morey, L., Himmelblau, D., and Ross, F.E. (1929). 'The international congress on accounting'. *Accounting Review*, 4(4): 234–246.
- Marriner, S. (1980). 'Company financial statements as source material for business historians'. *Business History*, 22(2): 203–235.
- Michelson, S. E., Jordan-Wagner, J. and Wootton, C.W. (2000). 'The relationship between the smoothing of reported income and risk-adjusted returns'. *Journal of Economics and Finance*, 24(2): 141–159.
- Paton, W. A. (1932). 'Accounting problems of the depression'. *Accounting Review*, 7(4): 258–267.
- Ronen, J. and Sadan, S. (1981). *Smoothing Income Numbers: Objectives, Means and Implications*. Addison-Wesley Publishing Co., Reading, Mass.
- Sharpe, W.F. (1964). 'Capital asset prices: a theory of market equilibrium under conditions of risk'. *Journal of Finance*, 19(3), 425–442.
- Sivakumar, K. and Waymire, G. (2003). 'Enforceable accounting rules and income measurement by early 20th Century railroads'. *Journal of Accounting Research*, 41(2): 397–432.
- Stubbs, B. J. (1999). 'Tied houses, taxes, and technology: concentration in the brewing industry of New South Wales, 1882 to 1932'. *Australian Economic History Review*, 39(2): 87–113.
- Teoh, S.H., Welch, I. and Wong, T.J. (1998). 'Earnings management and the underperformance of seasoned equity offerings'. *Journal of Financial Economics*, 50(1): 63–99.
- Titman, S. and Trueman, B. (1986). 'Information quality and the value of new issues'. *Journal of Accounting and Economics*, 8(2): 159–172.
- Walton, S. (1909). 'Earnings and income'. *Journal of Accountancy*, April: 452–469.
- Watts, R. L. and Zimmerman, J.L. (1978). 'Towards a positive theory of the determination of accounting standards'. *Accounting Review*, 53(1): 112–134.
- Watts, R.L. and Zimmerman, J.L. (1986). *Positive Accounting Theory*. Englewood Cliffs, N.J.: Prentice-Hall.
- Wells, P. (2002). 'Earnings management surrounding CEO changes'. *Accounting and Finance*, 42(2): 169–193.
- Williamson, O. E. (1963). 'A model of rational managerial behavior' in R. Cyert and J. March (eds) *A Behavioral Theory of the Firm*. Englewood Cliffs, N.J.: Prentice-Hall.