AUDITOR UNDERREPORTING AND PREMATURE SIGN-OFF:

A BEHAVIOURAL STUDY

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ABSTRACT

This study examined the potential for auditors to underreport the time spent on an audit task or to underaudit when encountering time-budget pressures. The sample includes 152 managers and 342 seniors who responded to a vignette in which auditor history and an audit's time-budget status were manipulated. The results indicate that underreporting is still a problem that may occur in over 67 per cent of the overtime situations. The research indicates that auditors with a history of time-budget problems are more likely to underreport but not to sign off prematurely.

INTRODUCTION

Rhode (1978) found that the majority of public accountants in the United States had at one time or another signed off on a required audit step without performing that task either directly or through another audit step (premature sign-off). Rhode also found that auditors completed required audit steps without charging in the time they devoted to this work (underreporting of time). Underreporting involves accomplishing all of the necessary audit steps to ensure a proper audit but not reporting all of the time required to do these steps; premature sign-off is a quality reduction act that increases the probability of accepting the client's statements as correct when they are misstated (i.e., increases audit risk). Although the

applicable professional codes of ethics do not specifically prohibit this behaviour, various sections of the codes provide strong implications that they are undesirable (Pany et al., 1989).

Firms have established policies that prohibit these dysfunctional behaviours (underreporting and premature sign-off), with potential penalties that include losing one's job. Actions to encourage auditors to report all of their time include: paying overtime for reported hours; including several hundred hours of overtime in an auditor's base salary; and emphasising the need to report all time spent on the audit. Yet, studies still show that the frequency of underreporting and premature sign-off has remained relatively constant since the Rhode research (Raghunathan, 1991; Kelley and Margheim, 1987; Lightner et al., 1983; Lightner, 1981).

Prior research indicates that time-budget pressures are a significant cause of auditors underreporting or prematurely signing off (Lightner et al., 1983; Lightner et al., 1982; Kelley and Seiler, 1982; Lightner, 1981). Investigations also reveal that time pressure is felt most by auditors at the senior level (Kelley and Seiler, 1982; Cook and Kelley, 1988).

When faced with having over-spent their time budget, auditors have several behavioural choices other than premature sign-off or under-reporting. These alternatives include requesting an increase in the time budget, shifting chargeable time to non-chargeable categories, or accomplishing the audit task by using other less time-consuming audit procedures. Prior research shows that auditors frequently use these alternatives (Cook and Kelley, 1988; Kelley and Seiler, 1982). However, when one's supervisor provides additional time, shifts time, or approves using less time-consuming audit procedures, these actions are reflected in reporting and allocating future time to audit tasks for that client. On the other hand, most research on the problems of time-budget pressures has focused on the specific undesirable acts of underreporting and premature sign-off (Kelley and Margheim, 1990; Pany et al., 1989; Kelley and Margheim, 1987; Margheim and Pany, 1986). Underreporting leads to inaccurate reporting and potentially unachievable future time budgets that could lead to premature sign-off, which is the real danger in auditing.

This research examines the propensity of auditors to underreport and/or prematurely sign off when alternatives such as increasing or shifting

chargeable time (i.e., modifying the time budget) are not available. The research focuses on the effects of the severity of the time-budget overruns, the auditor's history of meeting time budgets, and the interaction between history and severity of the time-budget overrun. **Table 1** reviews the literature and where this research adds to prior research.

Table 1: Research of Underreporting and Sign-off

		Area Reported on and Sample				
Author(s)	**Year**	**Under-report**	**Sign-off**	**Jointly**	**(n)**	**Factors Manipulated**
Rhode	1978	All			1,526	None
Lightner	1981	All			841	None
Alderman & Dietrick	1982		All		274	None
Kelley & Seiler	1982	All			91	None
Lightner et al.	1982	All			1,016	None
Lightner et al.	1983	All			972	None
Margheim & Pany	1986	AICPA	AICPA		170	Quality Control & Efficiency
Cook & Kelley	1988	All	All		73	None
Pany et al.	1989	Student	Student		107	Quality Control & Overtime Pay
Kelley & Margheim	1990	Match	Match		88	None
Raghunathan	1991		All		409	None
Ponemon	1992	Staff			193	Time & Peer Pressure
Shapeero & Killough	1993	Student			109	Employment Code & Budget Status
Bernardi & Arnold	1996			Mgr & Snr	494	Budget Status & Auditor History

Subjects:		**Where:**	
AICPA	Sample from AICPA members	Underreport	Underreporting evaluated separately
All	All levels of Big 8	Sign-off	Sign-off evaluated separately
Match	Staff matched with seniors	Jointly	Underreporting and
Mgr & Snr	Big 6 managers and seniors		sign-off evaluated as joint considerations

BACKGROUND AND RESEARCH QUESTIONS

Auditors frequently face the dilemma of doing the type of quality audit work that is expected by their firm and the public who rely upon the integrity of the audit report, and meeting their established time-budget for the audit. When faced with time-budget overruns, auditors may underreport their time or prematurely sign off on the audit task rather than report all of their overtime or exceed their time-budget. Recently, many of the international accounting firms have attempted to strengthen their control systems to reduce this dysfunctional behaviour (Bernardi, 1995).

Logic leads us to believe that increasing controls should reduce the amount of underreporting and premature sign-off. While Shapeero and Killough (1993) find that these firm-wide standards and policies were a factor when underreporting was combined with peer pressure (i.e. 'my co-workers are following the rules'), other research has not shown this to be the case (Margheim and Pany, 1986). Given the perceived importance of completing work within the budgeted time and the increased emphasis on firms' policies on underreporting, one might *currently* expect *to observe* a decrease in this dysfunctional behaviour compared to prior research findings. This research examines four possible alternatives auditors might chose when faced with a time-budget overrun:

1. Doing all of the required additional audit work and reporting all of the time-budget overrun (referred to as ALL in the research)
2. Doing all of the required additional audit work and reporting some, but not all, of the time-budget overrun (referred to as SOME)
3. Doing all of the required additional audit work but not reporting any of the time-budget overrun (referred to as BUDGET)
4. Doing none of the required additional audit work and signing off at the budgeted time (referred to as SIGNOFF).

Since prior research indicates that auditors often engage in dysfunctional behaviour, the first research question examined whether there has in fact been a reduction in underreporting of time and premature sign-off. If the firms' policies on reporting all time spent on the audit are successful, then the magnitude of the four actions should decrease from complete reporting (ALL) to signing off on the task at the allocated budget (SIGNOFF).

Accordingly, the first research hypothesis is stated in the desired order of reporting time-budget overruns (alternate form):

H1a: Prob(All) > Prob(Some) > Prob(Budget) > Prob(Signoff)

The second research issue examined the effect of prior audit history of meeting a time budget on the auditor's propensity to underreport or sign off prematurely. Prior research has examined numerous factors that might influence underreporting time or signing off prematurely. This research includes overtime pay (Pany al., 1989), auditor's disapproval of underreporting (Lightner et al., 1982), Type A and B personalities of the staff and supervising senior (Kelley and Margheim, 1990), moral reasoning and peer pressure (Ponemon, 1992), and the distaste for unethical activities and internal work motivation (Shapeero and Killough, 1993).

Surprisingly, the only previous research that examines an auditor's history of problems meeting time budgets was Lightner (1981). Lightner examined responses of a small group of subjects who self-reported as having 'inferior' past performance. It would seem that, if an auditor already has a history of having problems meeting the time budgets, this auditor would be more prone to follow the dysfunctional behaviours of either signing off prematurely or underreporting. These auditors might conclude that further time-budget problems could easily lead to their losing their job. Accordingly, the second research hypothesis (in its alternate form) maintains that individuals who have had frequent problems meeting time budgets would probably have a greater propensity to underreport or prematurely sign off than would auditors who have consistently been at or below their budgeted time.

> **H2a:** Auditors with a history of time-budget problems will be more likely to underreport and/or prematurely sign off.

The third research issue examined was whether or not the severity of the time-budget overrun affects an auditor's propensity to underreport or prematurely sign off. Prior research provides mixed findings on this question. A recent study by Shapeero and Killough (1993) found an increase in underreporting with the severity of the budget overrun, indicating that further investigation of the effect of the severity of the time-budget overrun is needed. Since the severity of the problems with budget allocations should also influence an auditor's decision-making

process, this would imply that an auditor facing a situation where an entire audit is well over the time budget would have a greater propensity to underreport or prematurely sign-off than an auditor faced with an audit that is only slightly over the time budget. Hypothesis 3 can therefore be stated (alternate form):

> **H3a:** Underreporting and premature sign-off will increase as the severity of the time-budget overrun increases.

Potentially, the interaction between an auditor's past performance and the severity of the time-budget overrun can influence an auditor's response. While most audit scheduling calls for each individual to work on a separate section or sub-section of the audit (for example, only one person verifies the bank reconciliations or confirms the accounts receivable), the entire audit (of at least the larger firms) is usually done by a team of auditors. While an auditor's propensity to underreport or sign off prematurely might be influenced by their history with time-budget problems, this propensity might also be affected by the desire to be a team player and do what it takes to 'bring the final audit in within or near the time-budget'. Hypothesis 4 can be stated (alternate form):

> **H4a:** Auditors with histories of time-budget problems will underreport and/or prematurely sign off more as the severity of the time-budget problems increases.

SUBJECTS AND MEASURES

The sample consisted of 494 auditors (62 senior managers, 90 managers, and 342 seniors) from five Big-Six firms located in the United States. The subjects were among those auditors available on the day of the lead author's visit to their office. Since the sample was one of convenience, a concern exists that the sample may not be representative of the overall population. While this concern might be valid had the sample come from just a handful of offices, the sample came from 40 different offices. In addition, the firms provided data on the gender mix during the period when the sample was gathered. The sample (actual) percentages of females for all firms were 47.4 per cent (43.6 per cent) for seniors and 27.6 per cent (26.9 per cent) for managers. Sample demographics for the three staff levels are shown in **Table 2**.

Table 2: Demographic Characteristics of the Sample

		Senior		Junior Manager		Senior Manager	
Characteristic		**Male**	**Female**	**Male**	**Female**	**Male**	**Female**
Average Age	(yr)	26.5	26.3	29.4	28.5	32.9	32.0
Position Tenure	(yr)	1.7	1.7	1.1	0.9	2.2	1.0
Sample	(n)	180	162	58	32	52	10
Education:							
Bachelor's	(%)	100.0	100.0	100.0	100.0	100.0	100.0
Master's	(%)	15.0	8.0	13.8	9.4	13.5	30.0
GPA:*							
4.00–3.50	(%)	37.2	50.0	51.7	46.9	40.4	60.0
3.49–3.00	(%)	52.2	42.6	37.9	50.0	51.9	40.0
2.99–2.50	(%)	10.6	7.4	10.4	3.1	7.7	0.0
Passed CPA Exam:							
Yes	(%)	73.3	77.7	100.0	100.0	100.0	100.0
Tries	(n)	2.7	2.4	2.6	2.4	2.5	2.8
No	(%)	26.7	22.3	n/a	n/a	n/a	n/a
Tries	(n)	3.3	2.6	n/a	n/a	n/a	n/a

* Overall Undergraduate Grade Point Average.

n/a Not applicable; one must be a CPA before promotion to manager.

This research used a questionnaire based on four versions of a single scenario. Varying information in a scenario as a research technique has been used by Ponemon and Gabhart (1993), Reckers and Wong-On-Wing (1991), Schroeder and Verreault (1987), Kaplan and Reckers (1984), and Joyce and Biddle (1981). The research scenarios were developed with the help of partners and managers from large and regional accounting firms and accounting faculties who teach auditing. The basic scenario had four different versions that were formed using a 2 x 2 research design. The research design manipulated both auditor history and the severity of the time-budget overrun (Appendix) and provided both 'problem' and 'non-problem' senior histories.

The subjects were asked to predict the reporting behaviour of the audit senior described in their scenario. Arnold and Ponemon (1991) note that 'framing the research question in the third person provides a reliable

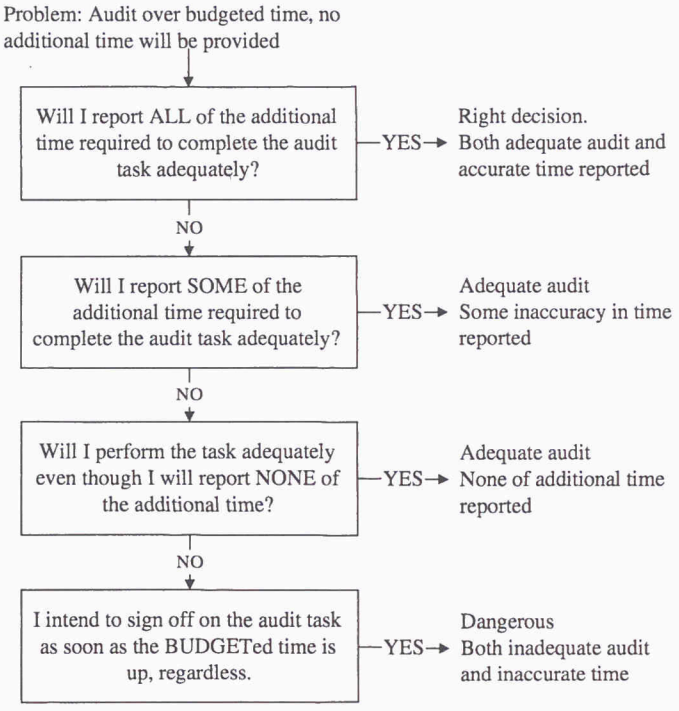
measure of what the individual actually believes'. The justification for using the 'third person' format is found, in part, in the 'False Consensus Effect' phenomena. In a mega-analysis, Ross, Greene, and House (1977, p. 294) note that many studies 'offer strong support for the hypothesis that raters' [subjects] perceptions of social consensus and their social inferences about actors [others] reflect the raters' [subjects'] own behavioural choices.' Applying this phenomenon in research appears to be most appropriate when it is 'employ[ed on] a single target group . . . focusing on peers . . . within settings in which the subjects can easily picture themselves' and the research is examining 'opinions, evaluations, attributes and behaviours' (Marks and Miller, 1987, p. 75).

Subsequent research also shows that scenario-based ethics research questions worded in the 'first person', as opposed to the 'third person', can produce social-desirability-response bias (McDonald and Ho, 1995). This bias might explain the underreporting and underauditing findings of Margheim and Pany (1986). For each of 16 combinations of subsets, Margheim and Pany's subjects indicated that on average they ('first person') would be *less* likely to sign off prematurely or underreport hours than the typical assistant ('third person'). In essence, these subjects are saying: 'I would not sin, but other auditors would.' From this, it can be argued that a 'third person' approach should be preferred to a 'first person' approach.

Consistent with prior research, the senior in each of the four scenarios requested additional time from their supervisor, which was denied. The supervisor tells the auditor that the entire time budget for the audit is already 'slightly over' or 'well over' the allowed budget. Additional data were also provided on the senior's reputation for meeting time budgets. The two manipulations of auditor history were that the senior had a reputation for 'completing all tasks at or below budget' or 'having frequent problems meeting the time budget.' While the potential for a misinterpretation cannot be completely eliminated, the wording of the audit senior's performance history was designed to reflect a reputation for actually completing work on time, rather than just for having reported meeting the allocated budgeted time. Discussions during the pilot testing and with representatives of the firms indicated that the wording was clearly understood.

The ordering of choices (i.e., ALL, SOME, BUDGET, and SIGNOFF — See Appendix) was not altered during the research because this ordering deals with cascaded decision making. It would be expected that an auditor's first tendency would be to report all time and as a last-ditch defence they may acquiesce to signing off on the audit task at the budgeted time. **Figure 1** shows the thought process that one might use when faced with the potential of being over time. Given the natural hierarchy of choices, altering the ordering would produce its own bias since most auditors would not find their options in a 'logical' sequence.

Figure 1: Cascaded Decision Logic for Reporting Overtime



Subjects were randomly assigned to one of the four scenarios for the time-budget exercise. In this exercise, each auditor was asked to read and assign probabilities to a set of four responses. The auditors were told that their

responses were to be dependent solely upon the information provided (See Appendix). At each of the 40 participating offices, auditors had an equal probability of being assigned to one of the four scenarios included; this randomisation procedure resulted in slightly different cell sizes for the four scenarios which are reported in **Table 3**. These procedures were pilot tested on 14 auditors (three managers and 11 seniors) from two regional accounting firms, whose responses were not used in the final analysis.

Table 3: Research Design Matrix

		Senior's History	
		At or Below Budget	**Frequent Problems Meeting Budget**
Time Budget Overrun for the Entire Audit	Slightly Over	Scenario 1 (n = 115)	Scenario 2 (n = 116)
	Well Over	Scenario 3 (n = 135)	Scenario 4 (n = 128)

ANALYSIS

Overview

The data were analysed using the Multivariate Analysis of Variance (MANOVA) procedure because the four dependent variables (ALL, SOME, BUDGET, and SIGNOFF) were not independent of each other. In fact, the question sheet required that the auditors' responses added to 100 per cent (Appendix).

While tests indicated that there were no differences in the responses for the three staff levels, there were differences among the five participating firms. Since the firms were promised anonymity, a full disclosure of firms' reporting policies is not possible. However, the analysis indicated that firm(s) who include overtime in the employees' base salary reported more of the overtime (i.e., higher average for ALL) than firm(s) that either paid overtime as it was reported or did not pay for overtime. The data were collapsed by staff level and firm for the remainder of the research.

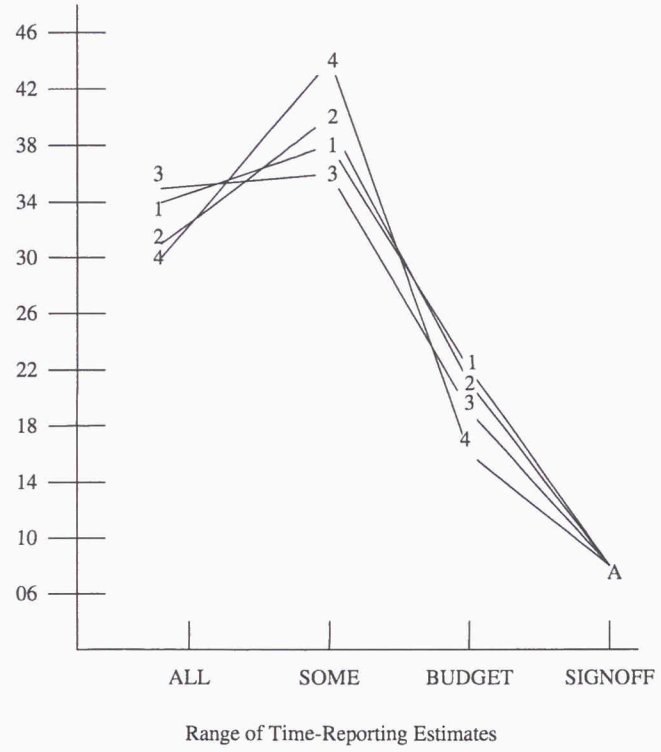
Response Ordering (H1)

Given the firms' policies and potential sanctions concerning under-reporting and premature sign-offs, a range of estimates provided by auditors can be visualised. This range should have a negative slope and be highest at 'perform all work necessary to accomplish the task and report all of the time-budget overrun' (ALL) to a low of 'only auditing until the time budget is reached and then signing off at the allocated time' (SIGNOFF).

As **Figure 2** shows, the actual responses of auditors have a negative slope beginning with the SOME alternative (reporting some, but not all, of the additional time required to complete the audit task). Given this inversion in estimates, the hypothesis (H1) that an auditor's most probable action would be to report all of the overtime (ALL) is not borne out by the data. In fact, in all four scenarios, the mean estimates increase from ALL to SOME (**Figure 2**). Using the entire data set ($n = 494$) and the Mann-Whitney U test (Hollander and Wolfe, 1973), the mean estimate for reporting SOME of the overtime is greater than the mean estimate for reporting ALL of the time-budget overrun ($p < .0001$). **Figure 2** indicates that a revised Hypothesis 1, which examines the data for an ordering of the last three alternatives, should be tested — i.e., Revised H1: Prob(Some) > Prob(Budget) > Prob(Signoff). Using the Jonckheere test for ordered alternatives (Hollander and Wolfe, 1973, pp. 120–123), the data indicate support for the revised hypothesis ($p < .0001$).

Table 4 shows the partial correlation coefficients for the four reporting alternatives. The data indicate that increases in estimates for the SOME, BUDGET, and SIGNOFF alternatives significantly reduce the probability of reporting ALL of the overtime ($p = .0001$). While increases in probability of SIGNOFF significantly reduce the probability of reporting SOME of the overtime, there is not a significant relationship ($p = .1886$) between reporting SOME of the required overtime and reporting only the budgeted time (BUDGET). Interestingly, the **Table 4** data also indicate that a positive relationship exists between the BUDGET and SIGNOFF alternatives.

Figure 2: Mean Reporting Estimates by Scenario



Reporting estimate on vertical axis.
Numbers within the figure represent the means for the four scenarios.
'A' all estimates at essentially the same point.

Auditors who have a propensity to report only the budgeted time (i.e., report none of the overtime – BUDGET) are also more likely ($p = .0240$) to sign-off prematurely (i.e., SIGNOFF at the budgeted time).

Table 4: Partial Correlation Coefficients

	SOME	BUDGET	SIGNOFF
ALL	-0.6848	-0.6007	-0.2720
	(.0001)	(.0001)	(.0001)
SOME		-0.0594	-0.1775
		(.1886)	(.0001)
BUDGET			0.1019
			(.0240)

Where:

ALL	Complete task, report all overtime.
SOME	Complete task, report some but not all of the required overtime.
BUDGET	Complete task, report budgeted time.
SIGNOFF	Work until budgeted time, then sign off on task.

Figure 2 also shows that, on average, reporting ALL of the over-budget time occurs only 32.8 per cent of the time. In fact, there was actually a higher probability of some amount of underreporting of the required overtime to complete the task (overall mean for SOME was 41.3 per cent) than reporting all of the time-budget overrun (overall mean for ALL was 32.8 per cent). This suggests that there is a 67.2 per cent probability of dysfunctional acts occurring and faulty information being entered into the budgeting system in time-budget overrun situations. There is about a 6.8 per cent probability that an auditor will prematurely sign off at the allocated budget time (quality reduction) when faced with a time-budget overrun. If one combines the percentages from Raghunathan (1991) for seniors who prematurely signed off 'somewhat frequently' and 'frequently,' the current sample estimated the probability of premature sign-off twice as high as Raghunathan's seniors.

Auditor History (H2)

To test Hypothesis 2, the data set was collapsed by auditor reputation (History). As shown in **Table 3**, history compares auditors with no problems (Scenarios 1 and 3, n = 250) with auditors with frequent time problems (Scenarios 2 and 4, n = 244). **Table 5** indicates that large differences in the

mean estimates provided by auditors, categorised by the senior's history grouping, occur for only the ALL (34.9 v. 30.5) and SOME (38.5 v. 44.3) reporting options ($p = .0674$ and $p = .0027$ respectively). The transformations also indicate that auditor history was significant; all four test criteria provide the same level of significance ($p = .0187$).

Table 5: Reporting Estimates by Scenario

	Overtime Reported			
	All	**Some**	**Budget**	**Signoff**
As Asked				
Scenario 1	33.7	38.8	20.8	6.7
Scenario 2	31.3	41.9	20.2	6.6
Scenario 3	35.9	38.4	18.9	6.8
Scenario 4	29.9	46.1	16.9	7.1
Senior History				
Scenarios 1 & 3	34.9	38.5	19.8	6.8
Scenarios 2 & 4	30.5	44.3	18.4	6.8
Difference	4.4	-5.8	1.4	0.0
Budget Overrun				
Scenarios 1 & 2	32.5	40.4	20.4	6.7
Scenarios 3 & 4	33.0	42.2	17.9	6.9
Difference	-0.5	-1.8	2.5	-0.2

Scenarios	*Senior History*	*Budget Overrun*
1	At or Below	Slightly Over
2	Frequent Problems	Slightly Over
3	At or Below	Well Over
4	Frequent Problems	Well Over

Report	
ALL	Complete task, report all overtime.
SOME	Complete task, report some but not all of the required overtime.
BUDGET	Complete task, report budgeted time.
SIGNOFF	Work until budgeted time, then sign off on task.

Although Lightner (1981) considered auditor history by asking auditors to classify their past performance, 'performance' was not well defined and few

auditors reported themselves as having a history of 'inferior' performance. While the findings of this research differ from Lightner, the current research used a much larger sample by wording the question in a way that increased the potential for assessing the effect of auditor history.

Time-Budget Overrun (H3)

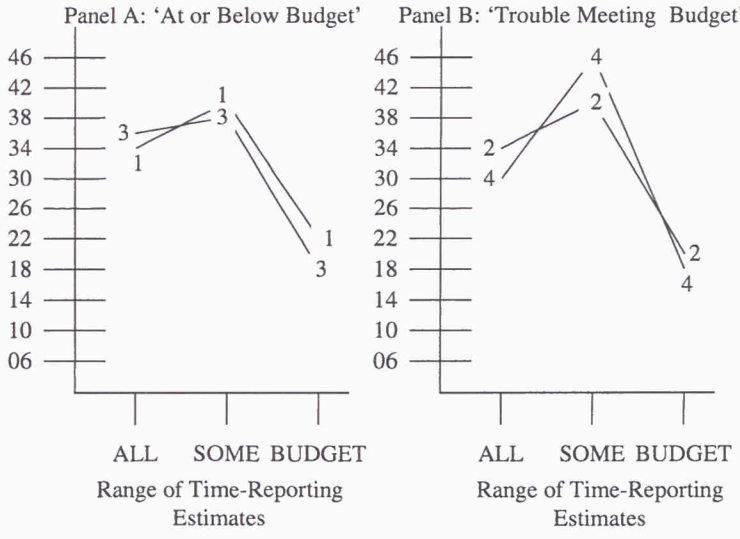
To test Hypothesis 3, the data set was collapsed by the severity of the time-budget overrun (Overrun). As shown in **Table 3**, overrun compares auditors with only minor overrun problems (Scenarios 1 and 2, n = 231) with auditors whose budgets are already well over the budgeted time (Scenarios 3 and 4, n = 263). This design negates the effect of auditor history so that only budget time was evaluated in the MANOVA analysis. Scenario (i.e., severity of the time-budget overrun) was not significant for either data set; this indicates that time-budget problems by themselves do not influence underreporting and/or premature sign-off behaviour. Furthermore, **Table 5** indicates that only small differences exist between the two levels of budget-time problems when the data are collapsed for overrun status of the budget. These differences range from -1.8 per cent for the SOME response to 2.5 per cent for the BUDGET response; however, none of these differences was significant.

To test the research hypothesis further and to determine whether there are significant differences among the four auditor responses (ALL, SOME, BUDGET, and SIGNOFF), three transformations were computed by taking the differences of adjacent options (ALL – SOME, SOME – BUDGET, BUDGET – SIGNOFF). Four independent test criteria indicate that there were not significant differences between specified differences resulting from the transformations for either Scenarios 1 and 3 ($p = .8417$) or Scenarios 2 and 4 ($p = .1969$).

Budget Overrun and Auditor History Interaction (H4)

The interaction of the auditor's history and severity of the time-budget overrun appears to be significant for the data 'as asked' for the SOME option for auditors who have past histories of budget problems (**Table 5**). While the severity of the time-budget overrun manipulation was not significant when auditor history is held constant (H3), it appears to exacerbate underreporting (SOME) when combined with auditor history (H4).

Figure 3: Mean Reporting Estimates by Auditor History



Reporting estimate on vertical axis.
Numbers within the figure represent the means for the scenarios.

Figure 3 (Panel A) indicates that there appear to be only minor differences in the response patterns for auditors with a history of being 'at or below the budget' between the ALL and SOME alternatives. The data indicate that a time-budget overrun does not significantly increase the probability of underreporting for an auditor who has a reputation of being at or below the time-budget (i.e., these auditors do not feel compelled to protect their records). However, **Figure 3** (Panel B) indicates a strong interactive effect for auditors with histories of having 'problems meeting time budgets.' This is confirmed by the data in **Table 5**.

The MANOVA analysis indicates that scenario was significant ($p = .0108$) for the 4.2 per cent difference (**Table 5**) between Scenarios 4 and 2 (46.1 per cent v. 41.9 per cent) and about 8 per cent between Scenario 4 (46.1 per cent) and Scenarios 1 (38.8 per cent) and 3 (38.4 per cent) for reporting SOME of the time-budget overrun. However, scenario was not significant for the ALL, BUDGET, and SIGNOFF response options when

all four scenarios were jointly considered. To test Hypothesis 4 further and to determine whether there are significant differences among the four possible responses for auditors (ALL, SOME, BUDGET, and SIGNOFF), three transformations were computed by taking the differences between adjacent options (ALL – SOME, SOME – BUDGET, BUDGET – SIGNOFF). The four test criteria indicate that significant differences exist between the specified differences resulting from the transformation and the four scenarios: Wilks' Lambda ($p = .0733$), Pillari's Trace ($p = .0748$), Hotelling-Lawley Trace ($p = .0718$), and Roy's Greatest Root ($p = .0028$).

These results indicate that auditors with histories of time-budget problems are less likely to report all of the time-budget overrun or to report only the budgeted time when there is a slight time-budget overrun, and that the opposite is true when the entire budget is well over the allocated time for the entire audit. This indicates that auditors with histories of past time-budget problems are only willing to 'eat' a limited amount of time to protect themselves, and will not grossly underreport their time (BUDGET) or sign off prematurely in a severe overrun situation.

SUMMARY AND CONCLUSIONS

Underreporting (SOME and BUDGET) and prematurely signing off at the budgeted time (SIGNOFF) result in erroneous information entering the database for scheduling and competitive bidding purposes, as well as increasing the possibility of reaching an incorrect audit conclusion. Accordingly, firms have attempted to reduce this type of dysfunctional behaviour by: paying overtime for reported hours; including several hundred hours of overtime in an auditor's base salary; and emphasising the need to report all time spent on the audit. This research indicates that these actions may be ineffective since it suggests at least a 67 per cent probability that underreporting and/or premature sign-off will occur in a time-budget overrun situation, which is consistent with prior research. Additionally, the probability of taking whatever actions necessary — either total underreporting (BUDGET) or premature sign-off (SIGNOFF) — to avoid reporting any over-budget time was nearly 25 per cent for all over-budget situations independent of the scenario. This research further indicates that, while an auditor's history of meeting time budgets is an important factor in reporting time-budget overruns, it is not a factor for premature sign-off. It might be argued that the results are not meaningful

since the research asked 'good performers' how 'bad performers' would act; however, if this caused bias, one would also anticipate that this bias actually would cause the level of underreporting and/or premature sign-off to be underestimated.

While the data indicate that underreporting and premature sign-off are still problems, auditors have limits on how much of a time-budget overrun they are willing to 'eat'. Subjects who were asked to estimate the actions of auditors with histories of frequent problems meeting their budgeted time were more likely to select underreporting time-budget overruns, regardless of the severity of the time-budget overrun (**Figure 2**). Auditors who were asked to estimate the actions of auditors with histories of consistently completing tasks at or below their budgeted time were less likely to select underreporting. However, subjects agreed that auditors with histories of frequent problems in meeting their budgeted time would not report only the budgeted time when the budget overrun was significant. Apparently, these auditors are willing to 'eat' a small amount of over-budget time (i.e., willing to assume responsibility for slight overruns), presumably to protect their reputations and jobs, but are not willing to 'eat' any significant amount of over-budget time. This distinction may be the source of conflicts regarding the significance of the severity of time-budget overruns in prior research.

One potential limitation of this research is the reliance placed on the 'False Consensus Effect' and 'Social-Desirability Bias' phenomena that suggests the appropriate use of the 'third-person' approach and the use of a subject pool of individuals who have not actually had serious personal histories of meeting time budgets. That is, a rejection of these phenomena could lead to the limitation that the response to the scenarios of auditors with actual histories of being 'at or below' the time budget might be different from that of auditors with actual histories of having 'frequent problems meeting' the time budget. However, it could be argued that the probability of underreporting and/or premature sign-off is likely to be even higher than for the auditor with a history of frequent time-budget problems, because underreporting and/or pre-mature sign-off has become a reality of the work environment for these auditors and is thus deemed to be acceptable behaviour (Shapeero and Killough, 1993). While not randomising the options could have created an order effect, the data for the sign-off option agree with Raghunathan's (1991) sign-off data.

Furthermore, randomisation of the options could have produced another undesirable bias.

Future research should study the relationship between firms' policies on underreporting and auditor history. For example, such research could study the problem in an open response context that seeks to examine potential solutions from all staff members rather than investigate the propensity of auditors simply to underreport or sign off prematurely. Another area needing further examination is the relationship found between reporting only the budgeted time for a task (i.e., maximum underreporting) and premature sign-off on an audit procedure (i.e., maximum increase in audit risk). Future research should also include such factors as promotion status, participation in the budget process, and overtime compensation.

NOTES

1 Three key terms are used throughout the research; their meanings are:
Underreporting — Not reporting all of the time taken to accomplish an audit task (i.e., 'eating time').
Premature sign-off — Signing off on an audit task without accomplishing all of the necessary steps to complete the audit task.
Time-budget overrun — Exceeding the allocated time for the particular task or the entire audit.

2 An advantage of a MANOVA is that it may reveal differences not shown in separate ANOVAs. When compared to a series of separate ANOVAs for each dependent variable, a MANOVA has added protection against Type I errors (Tabachnick and Fidell, 1983).

3 In this case, all four MANOVA test criteria (Wilks' Lambda, Pillari's Trace, Hotelling-Lawley Trace, and Roy's Greatest Root) provide the same probability estimate; however, this is not always the case (SAS Institute, 1985).

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APPENDIX

An auditor with one year's experience as a senior with a firm has been assigned the task of confirming inventory, which is a major account on XYZ Corporation's (a client) balance sheet. After working on this task for nearly the entire budgeted time, it becomes evident that the allocated time is too low. This senior feels uncomfortable expressing an opinion without conducting additional work which will 'push' him over budget. This auditor has reviewed the situation with their supervisor and was told that: 'while the entire audit was (slightly over or well over) the time budget', the time allocated for this particular task was reasonable and would not be modified. Within the past year, this auditor has had a reputation of (completing tasks at or below or having frequent problems meeting) budgeted time (and or but) has never had a significant problem with the quality of her work.

In your opinion, what is the probability that the auditor will do each of the following? In answering this question, please assign a total of 100 points, distributed among the four answers in proportion to the likelihood that each action will be taken.

Continue to perform task until it is adequately completed and then report all of the 'over budget' time	_____points
Continue to perform task until it is adequately completed and then report some but not all of the 'over budget' time	_____points
Continue to perform task until it is adequately completed and then report only the budgeted time	_____points
Continue to perform task until the budgeted time is reached and at that time sign off on the task	_____points
Total	100 points

Notes:

1. The wording in parentheses was either 'slightly over' (for Scenarios 1 and 2) or 'well over' (for Scenarios 3 and 4), and either 'completing tasks at or below budget' (for Scenarios 1 and 3) or 'having frequent problems meeting budgeted time' (for Scenarios 2 and 4).
2. Underlining was present in the actual data to ensure subjects were aware of their manipulation.

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