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**An empirical investigation into the relation between differential  
annual report informativeness and the association of stock  
returns with accounting earnings: The case of the "Financial  
Post" annual report awards**

**Sutley, Kenneth R., Ph.D.**

**The University of Chicago, 1994**

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**THE UNIVERSITY OF CHICAGO**

**AN EMPIRICAL INVESTIGATION INTO THE RELATION BETWEEN DIFFERENTIAL  
ANNUAL REPORT INFORMATIVENESS AND THE ASSOCIATION OF STOCK  
RETURNS WITH ACCOUNTING EARNINGS: THE CASE OF  
THE FINANCIAL POST ANNUAL REPORT AWARDS**

**A DISSERTATION SUBMITTED TO  
THE FACULTY OF THE GRADUATE SCHOOL OF BUSINESS  
IN CANDIDACY FOR THE DEGREE OF  
DOCTOR OF PHILOSOPHY**

**BY**

**KENNETH R. SUTLEY**

**CHICAGO, ILLINOIS**

**AUGUST 1994**



**To Bonnie, Thomas, and Amy**

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## CHAPTER 1

### INTRODUCTION

Each year since 1950, the Financial Post, a leading Canadian financial newspaper, has presented awards for the best annual reports in Canada.<sup>1</sup> The stated purpose of the awards program is to encourage and recognize a high standard of financial reporting.<sup>2</sup> The award-winning reports ("winners") are judged to have achieved a higher standard of financial reporting than other firms in the same industry category which did not win ("nonwinners"). The existence of the program suggests that the Financial Post, the judging organizations and the judges presume there are significant differences in financial reporting among firms and these differences are important to the investment community.<sup>3</sup> The awards program therefore provides an opportunity to explore several topics related to differences in standards of financial reporting achieved in annual reports, with the intention of improving our understanding of the

---

<sup>1</sup>In the years 1982-86, for example, the reports of over 200 major publicly-held firms were classified into ten industry categories and ranked by independent panels of judges. The three top-ranked reports in each industry category were winners of that year's awards. A more detailed description of the awards program is given in Appendix 1.

<sup>2</sup>Financial Post Information Service, 1986, p.1. In this regard, Deloitte & Touche (Canada) recently sponsored "a study of the characteristics of the 36 award-winning reports in the 1990 Financial Post contest" which states, "There can be little doubt that it has helped to raise the standard of reporting among Canadian public companies." (Creighton, Mason and Richmond 1991, p.i).

<sup>3</sup>It is difficult to see how the awards program could encourage a high standard of financial reporting unless the differences between winning and nonwinning reports are expected to be useful to the investment community.

effects of financial reporting on investor behavior generally and the role of the annual report in this process in particular.<sup>4</sup>

This study first examines the published comments of the judges on both winning and nonwinning reports to develop a parsimonious description of the construct captured by the awards. Over 2,600 comments on 1,309 firms from the 1982-87 award years were analyzed and the results are described in Chapter 2. The comments reveal that the concepts of informativeness and usefulness to investors are important determinants of the judges' rankings. This evidence suggests that winners' annual reports are perceived to contain more useful information than nonwinners' in the same industry category. If this perception is correct, the effects of the additional information should be reflected in differences in observed stock price behavior. Whether this apparent differential informativeness is reflected in differential stock price behavior is the major question addressed in this research.

I examine two measures of the effects of differential informativeness on stock prices -- the earnings response coefficient linking unexpected returns to contemporaneous earnings forecast errors and the variability of unexpected returns around the week the annual report is released. The first measure is used to evaluate differences between winners and nonwinners in the contemporaneous association between returns and earnings. Based on previous research documenting a highly significant association between returns and earnings, it seemed appropriate to compare winners and nonwinners on a measure where strong results could be expected for both groups combined. Due to data limitations, however, the association test design uses long event windows so that any observed differences between winners and nonwinners cannot

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<sup>4</sup>My research focuses on a Canadian awards program. No similar program exists in the United States. An awards program is sponsored in the U.K. by The Accountant and the International Stock Exchange but U.K. data were not readily available to me. Therefore, only firms whose stock is traded on a Canadian stock exchange are represented in the sample.

be attributed unambiguously to additional disclosures in the annual report.<sup>5</sup> The second measure is used to address the question of the informativeness of the annual report itself by comparing the variability of winners' and nonwinners' abnormal returns in a short window around the time of the annual report's release. By keeping the event window short, any observed differences in the return behavior of winners and nonwinners is more likely to be attributable to additional information in the annual report.

This analysis attempts to link earnings response coefficients to the differential informativeness on which the awards appear to be based, not the awards themselves. The awards are used to identify firms whose annual reports are perceived to be relatively more informative; that is, the judges' evaluations are assumed to proxy for investors' evaluations made at the time the report is released, usually several months before the awards are announced. The awards themselves, therefore, are not expected to convey new information to investors.<sup>6</sup> To the extent the judges' evaluations differ from investors', tests will be biased against finding significant effects.

The sample selection process is described in Chapter 3. The sample consists of 239 firm/year observations, 116 winning firm/years and 123 nonwinning firm/years. Winners were found, on average, to be larger than nonwinners, and to have lower stock return variances, more precise estimates of systematic risk, and higher first order serial correlation in their

---

<sup>5</sup>Another reason a long event window was chosen is that the date the information in the annual report is released to market participants cannot be determined as precisely as an earnings announcement date. A short window study was also conducted to complement the long window study.

<sup>6</sup>Although the announcement of awards is not expected to have information content, future research could address this question empirically.



earnings series. Other than size differences, however, there is little indication of systematic selection bias in the sample.<sup>7</sup>

The relation between differential informativeness in the annual report and both the "earnings response coefficient" (ERC) and  $R^2$  in the cross-sectional regression of unexpected stock returns on earnings forecast errors is explored in Chapter 3 using monthly stock returns, annual earnings and a random walk model of earnings expectations. The recent interest in the determinants of cross-sectional variation in ERCs, the suggestion by Lev (1989) that  $R^2$  is a natural measure of the usefulness of accounting earnings, and the stated prominence of accounting earnings in financial reporting standards all suggest the empirical relation between differential informativeness and both ERCs and  $R^2$  is an interesting issue.<sup>8</sup>

The results indicate that both the ERCs and  $R^2$  of nonwinners are larger, on average, than those of winners, although the statistical significance of the differences is sensitive to the presence of several extreme and influential observations. The results are robust to the inclusion of other factors which have been shown to affect the return/earnings relation such as size, systematic risk, persistence and growth. Taken as a whole, the evidence suggests that changes in winners' stock prices are less highly correlated with contemporaneous changes in reported earnings than are those of nonwinners'. Several possible explanations for these results are discussed. One is that winners provide a finer information environment than

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<sup>7</sup>Larger winners are not necessarily an indication of bias on the part of the judges if larger firms are more likely to produce a more informative report.

<sup>8</sup>Recent work on the cross-sectional determinants of ERCs includes Kormendi and Lipe (1987), Easton and Zmijewski (1989), Rayburn (1986) and Collins and Kothari (1989). Lev (1989) concentrates on the  $R^2$  measure but shows in his Appendix A that the ERC is positively related to the  $R^2$ . The prominence of earnings is reflected in FASB Statement of Accounting Concepts No. 1, "The primary focus of financial reporting is information about an enterprise's performance provided by measures of earnings ..." (1978, paragraph 43), and the wide use of expected earnings to express beliefs about future performance.

nonwinners, inducing, for winners, relatively more measurement error when the change in reported earnings is used as a proxy for the change in the market's expectation of earnings. A related explanation is that winners disclose more value-relevant information in addition to earnings, making earnings relatively less value-relevant than nonwinners' earnings. Unfortunately, the long event windows are too long to attribute lower winner ERCs to additional disclosures in winners' annual reports. Potential explanations which are not related to differential informativeness include size related measurement error in market model prediction errors and sample selection bias.

Differences between winners and nonwinners in the incremental variability of stock returns in the week the annual report is released are investigated in Chapter 4. Previous research suggests that if the annual report has information content, the variability of unexpected returns is expected to increase around the time of its release.<sup>9</sup> If winning reports are more informative than nonwinning reports, winners should experience a relatively larger increase in the variability of unexpected returns than nonwinners at the release date. The results are generally consistent with winning reports being more informative than nonwinning reports but several limitations in the research design preclude drawing strong conclusions.

Chapter 5 concludes the paper with a summary of the results and suggestions for future research.

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<sup>9</sup>Beaver (1968) and Patell (1976) showed that return variability increases around the announcement date of earnings and management earnings forecasts, respectively. Ohlson (1979) developed a model which predicts that firms which release more information will have a higher price variance, *ceteris paribus*.

## CHAPTER 2

### DO THE JUDGES' DECISIONS REFLECT DIFFERENTIAL INFORMATIVENESS?

The construct captured by the judges in the Financial Post awards program is important for this study. If the judges' decisions do not reflect differential informativeness between the annual reports of winners and nonwinners, one would not expect to observe differences in stock price behavior between the two groups. This chapter describes the judging process and the judges' published comments to provide evidence on the construct captured by the judges' decisions. The evidence is consistent with the view that winning reports are judged to be more informative than nonwinning reports.

#### Judging Criteria, Weighting and Guidelines

A description of the Financial Post awards program is contained in Appendix 1. In the six years covered by this study, 1982-87, judges for the awards contest were provided by the Canadian Institute of Chartered Accountants (CICA) and the Canadian Council of Financial Analysts (CCFA). Both organizations provided written guidelines and suggested category weights to each judge. Each judge received the same guidelines. The two coordinators of the awards program kindly supplied the 1985 guidelines and indicated that the guidelines changed very little over the 1982-87 period. The 1985 guidelines are reproduced in Appendix 2.<sup>1</sup>

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<sup>1</sup>I am grateful to P. Creighton (CICA) and P. Baxter (CCFA) for providing copies of the guidelines, arranging informal meetings with several judges and helpful discussions.

The areas considered important by the two organizations and the weightings attached to them are summarized in Table 1. As might be expected, the two organizations differ in how they weight the various components of an annual report. The professional accountants place more emphasis on the financial statements and the accompanying notes than do financial analysts. The financial statements and notes, however, are the most heavily weighted item in both organizations' guidelines, accounting for 75% of the CICA score and 45% of the CCFA score.

Further insight into the guidelines is obtained from the detailed instructions in Appendix 2. For example, the CICA guidelines suggest judging should be based in part on:

... completeness and clarity in presenting the information necessary for appraising the securities of the company and the record of management stewardship ... (emphasis added) (p.1).

The CCFA guidelines also appear to be concerned with disclosures relevant to security valuation. For example, the President's Letter is expected to contain information about activities which might affect future earnings such as research and development efforts, capital spending programs and acquisition or divestment activity. Among other things, the financial statements and notes are evaluated on the nature of disclosures related to: operating results of unconsolidated subsidiaries and affiliates; differences between statutory and effective income tax rates; valuation of investments; debt repayment schedules; assumptions underlying pension and lease liabilities; results and forecasts of capital expenditure and research and development programs; unusual charges against income; and, intangible assets such as goodwill. Analysts commonly use such disclosures to adjust reported accounting earnings when predicting future earnings or assessing the ability of a firm to meet its obligations as they come due.<sup>2</sup> There-

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<sup>2</sup>See for example, O'Glove (1986) and Altman, Haldeman and Narayanan (1977).

TABLE 1

**SUMMARY OF JUDGES' GUIDELINES AND WEIGHTS  
FOR THE 1985 FINANCIAL POST AWARDS**

CCFA		CICA	
Financial Highlights .....	5%	General Readability .....	25%
President's Letter .....	15%	Financial Statements .....	45%
Officers and Directors .....	5%	Notes .....	30%
Statement of Corporate Goals .....	10%	<b>TOTAL</b> .....	<b>100%</b>
Review of Divisional and Foreign Operations .....	20%	<b>Bonus Points:</b>	
Financial Statements and Notes .....	45%	Innovative Disclosures .....	20%
<b>TOTAL</b> .....	<b>100%</b>	Interim Reports .....	5%

fore, while informativeness is clearly not the only factor, the guidelines suggest that the informativeness of the report for the purposes of security valuation should be an important component of the judges' decision.

### A Synthesis of the Judges' Published Comments

Although the judging guidelines provide some evidence of the important factors in the judging decision, the judges are not required to follow the guidelines and the criteria they use may differ from those proposed by the judging organizations.<sup>3</sup> As described in Appendix 1, the Financial Post annually publishes judges' comments about the reports judged that year. To the extent that the comments reflect the criteria used by the judges to rank the reports, an analysis of the comments will provide additional evidence of what the judges are looking for in a winning report. Computer-assisted content analysis was used to construct frequency distributions of the words and phrases used by the judges.<sup>4</sup> By examining the words and phrases most often used we obtain evidence as to whether informativeness is an important consideration in selecting a winner.

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<sup>3</sup>The judging coordinators for the two organizations believed the judges followed the guidelines very closely. A number of judges indicated that they follow the guidelines, but exercise considerable individual discretion. Thus the guidelines alone are not conclusive.

<sup>4</sup>An alternative approach involves subjectively coding each comment into predefined categories. For example, one could identify comments concerned with the quality of the paper stock, the informativeness of the information (defined in some fashion) or whether the accounting methods chosen were liberal or conservative. This approach is subjective since it relies on the opinion of the coder and different coders may code comments differently. Computerized content analysis avoids using a coding scheme and is objective in the sense that it describes the content of the comments. The major advantage of this method is that the reader is provided with the raw data and may draw his or her own conclusions.

Content analysis is an extensive field and I have utilized only one small aspect, frequency distributions of the words used. An introduction to content analysis can be obtained from Weber (1985) and Krippendorff (1980).

### Content Analysis Procedure

An optical scanner was used to create a computer-readable version of each booklet and the text was analyzed with a content analysis software package.<sup>5</sup> The software determined which phrases of one, two, three, four and five words occurred in the text at least 50, 25, 25, 10 and 10 times, respectively.<sup>6</sup> The minimums were chosen to retain a sufficient number of the most frequently used words and phrases to summarize the important features of the comments while eliminating infrequently used words and phrases.

The frequency distributions were then edited to eliminate pronouns, prepositions or similar words; qualifiers (good, excellent, better, for example); and longer phrases whose content is subsumed by a shorter phrase. For example, the two word phrase, "the report", was excluded because it does not add substantially to the one word phrase, "report". Similarly, the three word phrase "financial statements are" was excluded because it adds little to the two word phrase "financial statements".

### Results

The six booklets contain 2,618 comments on 1,309 firms. The comments include 5028 different words and 114,615 words in total.<sup>7</sup> Both judges comment on each report but the CICA judges tend to make longer comments (approximately 55% of the total words) than the

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<sup>5</sup>The software used was TACT, designed by John Bradley of the University of Toronto.

<sup>6</sup>A word is sometimes referred to as a one-word phrase to maintain consistency.

<sup>7</sup>Content analysis software uses common punctuation marks to separate words. Therefore, the term "word" includes some character patterns which we would not recognize as words in English. The pattern "i.e.", for example, is counted by TACT as two one-letter "words".

CCFA judges. Lists of the most frequently used one-, two-, three-, four- and five-word phrases are contained in Tables 2 through 6, respectively.

Consider the list of most frequently used words contained in Table 2. Although 5,028 different words are used by the judges, only 387 words (8%) are used more than 50 times, accounting for 91,914 occurrences, or 80% of the total. After excluding 39 articles, prepositions and similar words and 47 qualifier words, 301 words remain.<sup>8</sup> Table 2 lists these 301 words grouped into 194 word groups; they account for 6% of all words but 38% of all occurrences (43,471 of 114,615) so a substantial portion of the judges' comments are summarized in the table. Among the 194 word groups, the two most frequently encountered words are "report" (including the plural "reports") and "financial". It is clear from Table 2 that the frequency of specific words declines rapidly and one gets a good impression of what is important from the first two columns. The decision to truncate the distribution at 50 occurrences should not affect the inferences. This applies for the longer phrases in Tables 3 through 6 as well.

To assess the factors used in forming decisions, it seems relevant that the two words "information" and "informativeness" together rank third in Table 2 and "information" ranks fourteenth even when excluded words are considered. If one considers the words "information", "discussion", "disclosure", "detailed", "data", and "useful" to indicate an emphasis on information and disclosure issues, six of the 20 most frequently used words indicate an emphasis on information and disclosure issues. Word groups which indicate an emphasis on future-oriented information include "goals" (310 occurrences), "strategy" (268), "outlook" (222), "objectives" (217), "future" (211), and "plans" (154). While an examination of the individual words used by judges provides some information, one of the problems with

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<sup>8</sup>A complete list of excluded one word phrases is provided in note a to Table 2.



TABLE 2

PARTIAL FREQUENCY DISTRIBUTION OF WORDS  
USED IN JUDGES COMMENTS, 1982-1987<sup>a</sup>

Rnk	Frq	Word <sup>b</sup>	Rnk	Frq	Word	Rnk	Frq	Word
4	2503	report/s	56	335	section/s	83	215	performance
7	2072	financial	50	325	graphs	85	211	future
14	1378	information	60	316	highlights//	85	211	accounting
		/informative	53	312	use	92	195	breakdown
20	1373	operations/ing	54	310	goals	93	192	interesting
		/s'//	172	295	photographs	108	192	description
23	1254	statements//			/photos/pictures			/describe
13	1174	discussion/ed/	127	291	lacks/ing//	94	190	comprehensive
		s//es	57	283	income	162	190	product/s
25	1143	company/'s/ies	79	279	management/'s	115	187	president's//
16	969	review/s	125	279	changes/ing	95	186	capital
26	774	disclosure/s	59	276	ten-year	95	186	complete
		/ed//	117	273	given/es/e/ing	193	185	debt/loan/loans
41	718	notes//footnotes	97	272	contains/ing	98	184	brief
61	696	provided/s/ing	62	269	annual	145	183	rate/s
55	688	detailed//s	112	268	statistics/al	146	181	assets//
52	597	segmented//s	120	268	strategy/ies/ic	100	178	particularly
		/segmentation	63	263	industry	118	177	ratios//
104	597	including//s/ed	159	263	comments/ary//	196	176	directors'/s
		/inclusion	64	262	analysis	142	174	activities/y
31	557	summary/ies	137	248	read/able	103	172	group
35	490	data	88	247	graphics//	164	169	tables//
65	488	divisional//s	72	237	business	105	167	average
38	479	corporate/tion	122	236	market/s	106	166	earnings
67	477	presentation/ed	110	232	tax/es	111	161	reader
39	446	useful	90	227	helpful//	180	154	plans//
49	414	charts//	75	226	sales	204	154	investment/s
81	410	year/s/'s	76	224	five-year	114	152	production
44	373	results	77	222	outlook	155	151	share/s
73	361	clear/ly	80	217	objectives	165	150	improved//
48	357	shareholders//	156	217	cost/s	209	148	property/ies

TABLE 2 -- CONTINUED

Rnk	Frq	Word <sup>b</sup>	Rnk	Frq	Word	Rnk	Frq	Word
211	148	layout/laid	174	102	like	230	73	basis
119	146	major	236	102	chairman's//	234	72	profile
124	144	historical	229	101	pension/s	239	71	real
195	143	prices//	282	101	revenue/s	244	69	significant
221	140	general/ly	258	100	expenses//	252	67	geographic
133	139	interim	181	99	difficult	254	66	concerning
133	139	inflation	186	96	cash	254	66	terms
135	138	problems	188	95	per	261	65	bar
139	136	concise	191	94	about	263	64	value
138	136	interest	194	92	regarding	263	64	key
140	135	letter	278	92	full/ly	267	63	expanded
140	135	position	293	92	showing/shown	267	63	reference
248	135	effects//	305	92	makes//	277	62	items
243	130	areas//	198	91	gas	283	61	long-term
219	129	easy/easily	198	91	sheet	283	61	return
176	127	explanation /explained	203	87	related	287	60	prospects
208	127	reserves//	320	84	profit/ability	287	60	new
147	126	written	206	83	reporting	287	60	consolidated
149	125	effective	206	83	narrative	287	60	unique
149	125	current	213	81	made	295	58	text
276	124	number/s	215	80	specific	295	58	philosophy
153	120	out	215	80	message	295	58	environment
286	116	development/s	341	80	store/s	295	58	overview
268	114	policy/ies	324	79	understanding//	301	57	organized
250	108	maps//	220	78	extensive	303	56	frank
166	107	impact	334	78	needs/ed	303	56	few
168	106	balance	363	77	supplementary/al	303	56	funds
169	105	thorough	223	75	quarterly	303	56	sensitivity
169	105	oil	364	74	organization/al	311	55	individual
315	105	subsidiary/ies	230	73	format	311	55	outstanding
247	103	canadian/canada	230	73	candid	311	55	foreign
			230	73	equity	316	54	size

TABLE 2 -- CONTINUED

Rnk	Frq	Word <sup>b</sup>	Rnk	Frq	Word	Rnk	Frq	Word
319	53	portfolio	326	52	figures	342	50	regulatory
319	53	quality	326	52	square	342	50	relevant
319	53	bank	326	52	flow	342	50	expenditures
326	52	issues	337	51	color	342	50	direction
326	52	net	337	51	confusing			
<hr/>								
Number of Word Groups						194		
Number of Words						301	(6%)	
Number of Occurrences						43,471	(38%)	

<sup>a</sup>Excludes the 39 words: the, of, and, is, a, to, in, on, are, with, for, be, an, by, as, this, which, it, or, its, have, there, from, that, does, been, than, has, at, into, page, eg, if, while, between, how, etc, 1985, these. These words are used a total of 37,377 times (33%) and are listed in order of declining relative frequency which ranges from 7014 to 50. Also excludes the 47 "qualifying" words: good, very, excellent, well, would, no, not, more, but, could, however, some, little, also, each, other, one, should, although, too, overall, only, adequate, additional, all, various, any, most, minimal, limited, much, both, basic, better, best, such, above, especially, poor, throughout, somewhat, rather, quite, two, many, three, five. These qualifiers are used a total of 11,066 times (9%) and are listed in order of declining relative frequency which ranges from 1,702 to 50.

<sup>b</sup>Variations of words such as plurals are grouped together. Variations are listed in order of relative frequency separated by slashes (/). Two slashes together (//) indicate the root word. Rnk indicates the rank among all one-word phrases. For word groups, Rnk indicates the rank of the first variation in the group, the variation with the highest relative frequency. Frq indicates the number of occurrences of all words in the group.

frequency distributions of words becomes rapidly evident. Individual words do not convey the context in which the words were used. To address this issue, the words were combined into successively longer phrases and new frequency distributions obtained.

The most common two-word phrases are listed in Table 3. Two-word phrases containing at least one article, preposition or similar word were excluded but those containing qualifier words were not excluded because these provide additional perspective. For example, the words "too" and "brief" were both excluded from Table 2 but "too brief" is included in Table 3 because it indicates the judges are criticizing a report. When read in conjunction with Table 2, the two-word phrases convey additional meaning. For example, Table 3 shows that the word "information" is used by judges in conjunction with the words "segmented" (185 occurrences), "financial" (76), "more" (48), "useful" (32), "little" (27) and "supplementary" (27). There were 497 two-word phrases which occurred more than 25 times totalling 69,042 occurrences.<sup>9</sup> The most common two-word phrase is "financial statements", which occurs 659 times in the 2618 comments and accounts for 1,318 (over 1%) of the 114,615 words used. This evidence is consistent with the suggestion contained in the judges' guidelines that the financial statements should be an important factor.

The remaining three tables can be read in the same fashion as Table 3. Summarizing the most frequent phrases from these tables, it appears the judges place importance on the financial statements and accompanying notes, financial reviews and summaries, segmented information, corporate goals and objectives, operating results, some version of a report to shareholders (either from the directors or the president), and presentation issues (writing clarity, use of graphs, charts, and photographs, layout, and organization).

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<sup>9</sup>The 69,042 figure is overstated and not completely comparable to the total words of 114,615 since some words appear as both first and second words. This overstatement occurs with all phrases longer than one word and gets relatively larger as the phrase gets longer.

TABLE 3

SELECTED TWO-WORD PHRASES USED BY JUDGES, 1982-87<sup>a</sup>

Rnk	Frq	Phrase	Rnk	Frq	Phrase
2	659	financial statements	178	54	good description
15	299	financial review	182	53	income tax
21	223	annual report	202	50	financial data
25	192	very good	202	50	financial disclosure
27	185	segmented information	205	49	note disclosure
42	138	financial highlights	210	48	more information
43	137	good discussion	210	48	real estate
44	135	corporate goals	216	47	corporate objectives
53	118	ten-year summary	221	46	very little
59	106	financial statement	226	45	good review
66	101	good use	226	45	inflation accounting
72	98	good report	226	45	operations' review
74	93	excellent report	226	45	business segments
79	90	well presented	226	45	ten-year review
83	87	interim report	235	44	very complete
83	87	report contains	235	44	income taxes
86	86	balance sheet	244	42	divisional operations
88	85	financial position	244	42	interest rate
88	85	income statement	244	42	report includes
88	85	well written	244	42	informative report
93	84	would like	244	42	per share
96	83	good financial	253	41	bar charts
99	79	operating results	253	41	capital expenditures
102	76	financial information	253	41	changing prices
111	70	financial summary	253	41	company's operations
115	68	directors' report	253	41	corporate profile
115	68	five-year summary	253	41	management discussion
120	67	accounting policy(ies)	253	41	financial ratios
132	65	laid out	253	41	well organized
138	63	above average	263	40	too brief
146	61	president's report	263	40	property portfolio
151	59	report provides	271	39	cash flow
154	58	financial results	271	39	very detailed
161	57	good disclosure	271	39	report good
161	57	well laid	271	39	statistical summary
164	56	very well	271	39	very useful
171	55	average report	284	38	more detailed
171	55	no discussion	284	38	report lacks
171	55	very informative	291	37	working capital
171	55	president's letter	291	37	segmented data

TABLE 3 -- CONTINUED

Rnk	Frq	Phrase	Rnk	Frq	Phrase
291	37	excellent financial	383	30	statement notes
300	36	basic report	383	30	rate sensitivity
300	36	good detail	383	30	ten years
300	36	insight into	383	30	very thorough
311	35	no financial	399	29	current cost
317	34	ten-year financial	399	29	long-term debt
317	34	report would	399	29	statement disclosure
326	33	more detail	399	29	good presentation
326	33	report excellent	399	29	good ten-year
326	33	highlights section	419	28	report could
338	32	very comprehensive	419	28	related party
338	32	financial performance	419	28	tax rate
338	32	five-year financial	433	27	little discussion
338	32	square footage	433	27	good segmented
338	32	historical summary	433	27	little information
338	32	information provided	433	27	supplementary information
338	32	useful information	433	27	president's message
338	32	market share	433	27	operating review
338	32	operating statistics	452	26	corporate strategy
359	31	business segment	452	26	five-year review
359	31	excellent discussion	452	26	like more
359	31	frank discussion	452	26	operations review
359	31	each division	452	26	three years
383	30	excellent use	473	25	very brief

<sup>a</sup>Phrases used less than 25 times or not adding context to shorter phrases listed previously such as "the report" are excluded. Rnk indicates the rank among all two-word phrases, Frq the number of occurrences.

TABLE 4

SELECTED THREE-WORD PHRASES USED BY JUDGES, 1982-87<sup>a</sup>

Rnk	Frq	Phrase	Rnk	Frq	Phrase
1	266	the financial statements	63	40	use of graphics
2	202	report to shareholders	65	39	use of charts
6	128	review of operations	65	39	to the reader
8	124	would be useful	68	38	financial and operating
11	98	good use of	68	38	graphs and charts
14	94	would be helpful	76	35	discussion and analysis
20	69	there is no	81	33	difficult to read
24	62	discussion of operations	84	32	could be expanded
24	62	in the group	91	30	during the year
30	60	statement of corporate	91	30	interest rate sensitivity
30	60	one of the	95	29	operating and financial
33	57	well laid out	95	29	financial statement disclosure
35	56	oil and gas	95	29	financial statement notes
35	56	use of graphs	95	29	very good report
38	54	statements and notes	95	29	excellent use of
38	54	changes in financial	102	28	charts and graphs
40	53	notes to financial	102	28	report does not
43	51	could be improved	102	28	throughout the report
43	51	easy to read	109	27	could be more
45	50	statement of changes	109	27	discussion of corporate
51	43	the effects of	114	26	the outlook for
55	42	letter to shareholders	114	26	report on operations
60	41	the use of	121	25	discussion of financial

<sup>a</sup>Phrases used less than 25 times or not adding context to shorter phrases listed previously such as "of the company" are excluded. Rnk indicates the rank among all three-word phrases, Frq the number of occurrences.

**TABLE 5**  
**SELECTED FOUR-WORD PHRASES USED BY JUDGES, 1982-87<sup>a</sup>**

<b>Rnk</b>	<b>Frq</b>	<b>Phrase</b>	<b>Rnk</b>	<b>Frq</b>	<b>Phrase</b>
2	81	notes to the financial	77	13	good use of charts
4	54	changes in financial position	77	13	the effects of inflation
7	52	financial statements and notes	83	12	best in the group
7	52	notes to financial statements	83	12	discussion of financial results
9	47	statement of changes in	95	11	corporate goals and strategies
13	41	statement of corporate goals	95	11	discussion of the future
16	24	would have been helpful	95	11	excellent report to shareholders
23	21	effects of changing prices	95	11	good use of photographs
30	20	one of the few	95	11	president's report to shareholders
32	19	financial statements are well	95	11	problems facing the company
32	19	good use of graphs	95	11	very good annual report
32	19	good use of graphics	115	10	corporate goals and objectives
43	18	discussion of the company's	115	10	directors' report to shareholders
45	17	financial statements and footnotes	115	10	discussion of operating results
51	16	one of the best	115	10	effect of changing prices
51	16	would like to see	115	10	excellent review of operations
57	15	good review of operations	115	10	expanded to ten years
57	15	helpful to the reader	115	10	good report to shareholders
57	15	management discussion and analysis	115	10	report with an excellent
57	15	report to the shareholders	115	10	report provides a good
57	15	would have been useful	115	10	report with a good
68	14	description of the company's	115	10	report contains a good
68	14	sales per square foot	115	10	set of financial statements
			115	10	useful to the reader

<sup>a</sup>Phrases used less than ten times or not adding context to shorter phrases listed previously such as "to the financial statements" are excluded. Rnk indicates the rank among all four-word phrases, Frq the number of occurrences.



TABLE 6

SELECTED FIVE-WORD PHRASES USED BY JUDGES, 1982-87<sup>a</sup>

Rnk	Frq	Phrase
1	81	notes to the financial statements
2	48	the notes to the financial
3	47	of changes in financial position
4	45	statement of changes in financial
5	24	to the financial statements are
6	23	financial statements and notes are
7	22	notes to financial statements are
8	20	the report to shareholders is
9	20	in the notes to the
10	19	changes in financial position is
11	17	the statement of corporate goals
12	16	the effects of changing prices
13	14	use of graphs and charts
14	14	the statement of changes in
15	14	the financial statements and notes
16	13	the review of operations is
17	12	the best in the group
18	12	one of the few companies
19	12	on the effects of changing
20	11	of the few companies in
21	10	statement of corporate goals and
22	10	of the company and its
23	10	in the report to shareholders

<sup>a</sup>Phrases used less than ten times are excluded. Rnk indicates the rank among all five-word phrases, Frq the number of occurrences.

### Discussion of Results

While the content analysis provides some information on the factors considered to be important by the judges, the approach has several weaknesses. For example, it is difficult to summarize the information conveniently. In addition, the phrases are taken out of context. The examination of longer phrases helps put the shorter phrases in context but there was no attempt to review the context of any particular phrase. The listed words and phrases also generally do not tell us whether the judges' comments were positive or negative. For example, we know that the judges frequently comment on the financial statements but we do not know whether they think the winners' financial statements are too long, too brief, or just right. Finally, the scope of the analysis did not extend to breakdowns of the words and phrases by judging organization, by year, by winners/nonwinners, or by industry category.

The analysis of judges' comments indicates that, in general, the guidelines are useful descriptions of judging criteria. The weights attached to the various areas may differ from the guidelines but the relative rankings appear to be similar. Furthermore, the concepts of disclosure, informativeness and usefulness to investors, while not the only factors, appear to be among the important factors in a judge's ranking.

### Implications for Subsequent Empirical Work

The subsequent empirical work relies on the assumption that winners can be expected to have more informative reports than nonwinners. The analysis in this chapter neither proves nor refutes this assumption. Taken as a whole, however, the evidence contained in the guidelines issued by the judging organizations and the analysis of the words and phrases in the judges' comments supports the view that the informativeness of the report to investors is an important determinant of the judges' decisions.

CHAPTER 3  
INFORMATIVENESS AND CROSS-SECTIONAL VARIATION  
IN EARNINGS RESPONSE COEFFICIENTS

One objective of this research is to determine whether the apparent differential informativeness of the annual reports of winners and nonwinners of Financial Post awards is reflected in cross-sectional differences in the contemporaneous return/earnings relation for these firms. Specifically, I examine whether the ERCs and  $R^2$  of winners, as measured in OLS regressions of unexpected returns on earnings changes, tend to be larger or smaller than the ERCs and  $R^2$  of nonwinners during the year the annual report is released.

Earnings Response Coefficients

Recent research has posited a relation between unexpected stock returns and current earnings forecast errors of the type,<sup>1</sup>

$$UR_{jt} = a + b_{jt} EFE_{jt} + u_{jt}, \quad (3.1)$$

where

$UR_{jt}$  is the unexpected return to the stock of firm  $j$  in period  $t$ ,

$EFE_{jt}$  is the unexpected earnings of firm  $j$  in period  $t$  (possibly scaled by market value), and

$u_{jt}$  is a disturbance term.

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<sup>1</sup>More general specifications are possible but the specification in (3.1) is consistent with several recent studies. For example, the coefficient  $a$  could be allowed to vary across firms, time or both.

The coefficient  $b_{jt}$  is interpreted as the response of unexpected return to a given earnings forecast error (EFE) and is referred to as the earnings response coefficient (ERC). Early research generally assumed (either explicitly or implicitly) that  $b_{jt}$  was constant across time and firms (or across portfolios of firms).<sup>2</sup> More recently, however, research has been concerned with identifying factors which cause  $b_{jt}$  to vary across firms and time.<sup>3</sup>

The variation in  $b_{jt}$  can be modelled by assuming that  $b_{jt}$  is a linear function of certain underlying variables. For example, a linear response function such as

$$b_{jt} = k_0 + k_1 X_{1jt} + \dots + k_m X_{mjt} \quad (3.2)$$

suggests that  $b_{jt}$  will vary according to the  $m+1$  explanatory variables ( $1, X_{1jt}, \dots, X_{mjt}$ ) where the coefficients,  $k_0, \dots, k_m$ , are assumed to be constant across firms and time.<sup>4</sup> If the explanatory variables vary across firms and time, so will the ERC. When (3.2) is substituted into (3.1), we get,

$$UR_{jt} = a + k_0 EFE_{jt} + k_1 (X_{1jt} \cdot EFE_{jt}) + \dots + k_m (X_{mjt} \cdot EFE_{jt}) + u_{jt} \quad (3.3)$$

Equation (3.3) is a model of unexpected returns where each explanatory variable from the response function enters interactively with EFE.

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<sup>2</sup>Early studies include Ball and Brown (1968), Foster (1977), and Beaver, Clarke and Wright (1979).

<sup>3</sup>See for example, Grant (1980), Pincus (1983), Miller and Rock (1985), Rayburn (1986), Kormendi and Lipe (1987), Collins and Kothari (1989), and Easton and Zmijewski (1989).

<sup>4</sup>The interpretation of  $b_{jt}$  as a response coefficient and (3.2) as a response function is discussed in Judge *et al.* (1980, Ch.10).

### Annual Report Informativeness and ERCs

The influence of differential annual report informativeness on ERCs is examined by creating a dummy variable,  $DWIN_{jt}$ , which equals one if firm  $j$  won an award for the year  $t-1$  annual report released in year  $t$  and zero otherwise. The ERC is assumed to be linearly related to  $DWIN_{jt}$ ; that is, ignoring other variables which cause ERCs to vary, the response function is modelled as,

$$b_{jt} = k_0 + k_1 DWIN_{jt}. \quad (3.4)$$

If differential annual report informativeness affects ERCs and if the Financial Post annual report awards are an adequate proxy for information differences between winners and nonwinners, the coefficient of  $DWIN_{jt}$  should be significantly different from zero.

### Other Determinants of Variation in ERCs

To control for sources of cross-sectional and intertemporal variation in ERCs other than annual report informativeness, proxies for systematic risk, expected growth, persistence of earnings (cash flow) streams, and firm size were included in the response function.<sup>5</sup> These variables have been found by previous researchers to be significant determinants of variation in

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<sup>5</sup>Kormendi and Lipe (1987) and Easton and Zmijewski (1989) jointly estimated systems of equations to link ERCs to their measures of persistence. Kormendi and Lipe, however, report that a two-step procedure which first estimates the EFE and then uses these estimates in a second regression of the form of equation (3.1), "... yielded results similar to those from the joint estimation ...," (n.8, p.327).

ERCs.<sup>6</sup> Based on the findings of Easton and Zmijewski (1989) and Collins and Kothari (1989), firm size may provide an additional control for unspecified correlated omitted variables.

With risk averse investors higher systematic risk is expected to reduce the ERC. Greater earnings persistence is expected to lead to a greater revision in expectations per dollar of EFE and therefore a larger ERC. Higher growth is also expected to increase the ERC. As size may proxy for other omitted variables, it is not clear whether ERCs should go up or down with size but empirically, ERCs have been found to be negatively related to size.<sup>7</sup>

### Research Design

#### Sample Selection Process

The sample used in the empirical work consists of 239 firm/year observations (116 winning reports, 123 nonwinning reports) for 122 Canadian publicly-traded stocks selected from among the 1,309 annual reports included in the Financial Post Annual Report Awards program for the years 1982 through 1987.<sup>8</sup> Each year, over 200 annual reports were judged within ten or twelve industry categories with the three top-ranked reports in each industry

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<sup>6</sup>See Kormendi and Lipe (1987) and Collins and Kothari (1989) for discussions of the underlying valuation theory. For example, Collins and Kothari (1989) suggest that systematic risk, the riskfree rate of interest, growth expectations and the persistence of earnings are possible explanatory variables based on their dividend valuation model. Kormendi and Lipe (1987) found that firms with different time series properties of earnings or earnings persistence display different ERCs. Easton and Zmijewski (1989) show that the ERC is positively correlated with the coefficient which links analysts' forecast revisions to EFE.

<sup>7</sup>See Foster, Olsen and Shevlin (1984), for example.

<sup>8</sup>These year references are to the year of the announcement of the Financial Post awards. The announcement of the awards occurs several months after the release of the annual reports judged.

category receiving awards each year.<sup>9</sup> The initial sample of winner firm/years consisted of the 186 winning reports selected by the judges over the six year sample period.

For each of the 186 winning reports, one nonwinning report from the same year and industry category was selected from the annual Financial Post booklet.<sup>10</sup> The judges' comments indicate that some nonwinning reports are rated as close competitors to the winning reports. Because the judges do not rank the nonwinning reports (as they do the winners) the selection of nonwinning reports was based on my subjective evaluation of both judges' published comments in order to maximize the apparent information differential between winning and nonwinning reports. This process overstates the average difference between winning and nonwinning reports and the results should be interpreted accordingly.<sup>11</sup>

The comments of each judge on each nonwinning report in each year were reviewed for negative phrases such as "below-average report", "disappointing", and "not up to the standard of others in this group". Three nonwinning reports with comments critical of the information and disclosure contained in the annual report were chosen in order to have three winners and three nonwinners from each industry category in each year in the initial sample. Reports were not selected if the comments contained positive phrases which indicated little difference between the nonwinning report and the winning reports in that category (for

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<sup>9</sup>Firms were classified into ten industry categories during 1982-86 and twelve in 1987. More than twenty reports were judged in each industry category each year. The awards program is described in more detail in Appendix 1.

<sup>10</sup>The sample is choice-based, not random, and some selection bias may be induced. The strength of such a sample, however, lies in the direct comparison of reports by the judges. A random sample of reports not included in the awards program would not possess this advantage.

<sup>11</sup>The presumption that firms not included in the contest have less informative reports than either winners or nonwinners should be made with care since little information is available about how the Financial Post selects the initial set of reports for judging each year.

example, "very good report" or "above average report"). In addition, reports were not selected if the two judges seemed to disagree about the ranking of the report or if the comments referred to unusual economic conditions facing the firm. For example, reports were excluded if the judges made comments such as "substantial growth recently", "major restructuring", or "major financial troubles".

The initial sample of 372 firm/year observations (186 winners and 186 nonwinners) was then subjected to certain data availability conditions. Firm/year observations were dropped if:

1. earnings data were not available on the Compustat II Canadian Annual Industrial file for the fiscal year in which the judged annual report was released and the previous fiscal year,
2. return data were not available on the Toronto Stock Exchange/University of Western Ontario (TSE/W) monthly data base for the 15 months commencing at the beginning of the fiscal year in which the judged annual report was released and at least 50 of the 60 previous months, or,
3. the firm changed its year end during the fiscal year the report was released or the previous fiscal year.

Table 7 summarizes how these criteria affect the composition of the final sample. For the period 1982-87, 239 firm/year observations for 122 firms met the above conditions - 116 winners and 123 nonwinners.<sup>12</sup> Tables 8 and 9 provide breakdowns of the sample by year and industry, respectively. The sample is not concentrated in any particular year or industry.

Table 10 provides information about the number of individual firms in the sample. Of the 122 firms represented in the 239 firm/year observations, 60 (49.2%) entered the sample only once and 95 (77.9%) entered the sample at most twice. Thus the sample as a whole does

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<sup>12</sup>Additional data conditions are imposed for various purposes later in the paper. Accordingly, these 239 firm/year observations are referred to as the "full sample".



**TABLE 7**  
**FIRM/YEAR OBSERVATIONS ELIMINATED DUE TO**  
**DATA AVAILABILITY CONDITIONS, 1982-87**

	Winners	Nonwinners	Total
Firm/years in initial sample <sup>a</sup>	186	186	372
Firm/years eliminated for:			
a) Lack of earnings data <sup>b</sup>	53	45	98
b) Lack of return data	15	15	30
c) Change of year-end	<u>2</u>	<u>3</u>	<u>5</u>
Total eliminated	<u>70</u>	<u>63</u>	<u>133</u>
Firm/years in final sample	116	123	239
Firms in final sample <sup>c</sup>	50	81	122

<sup>a</sup>Consists of three winning reports and three selected nonwinning reports in the Financial Post annual report awards program in each of ten industry categories for 1982-86 and twelve industry categories for 1987.

<sup>b</sup>Includes 36 firms in the financial industry category not included on Compustat's Canadian Industrial file.

<sup>c</sup>Nine firms enter both groups in different years. See Table 10.

**TABLE 8**  
**COMPOSITION OF SAMPLE BY YEAR**  
**239 FIRM/YEARS, 1982-87**

<b>Year</b>	<b>Winners</b>	<b>Nonwinners</b>	<b>Total</b>
1982	21	17	38
1983	19	16	35
1984	19	21	40
1985	19	19	38
1986	16	25	41
1987 <sup>a</sup>	22	25	47
<b>Total</b>	<b>116</b>	<b>123</b>	<b>239</b>

<sup>a</sup>Firms were judged in the same ten industry categories during the years 1982-86 and in twelve industry categories in 1987.

TABLE 9

**COMPOSITION OF SAMPLE BY INDUSTRY CATEGORY<sup>a</sup>**  
**239 FIRM/YEAR OBSERVATIONS, 1982-87**

Industry	Winners	Nonwinners	Total
1 Manufacturing - metals	16	17	33
2 Other Mfg - primary	15	12	27
3 Other Mfg - secondary	13	17	30
4 Merchandising	13	15	28
5 Mining	14	12	26
6 Petroleum	11	16	27
7 Utilities	14	12	26
8 Financial	-	-	_b
9 Real Estate	5	5	10
10 Transport, Comm., Other	15	17	32
<b>Total</b>	<b>116</b>	<b>123</b>	<b>239</b>

<sup>a</sup>Firms were judged in ten industry categories during the 1982-86 period and twelve industry categories in 1987. For this table, 1987 firms were assigned to the 1986 classifications.

<sup>b</sup>The financial industry group was omitted because Compustat's Canadian industrial file does not include financial firms.

**TABLE 10**  
**COMPOSITION OF SAMPLE BY INDIVIDUAL FIRM**  
**239 FIRM/YEARS, 1982-87**

Years in sample (Maximum = Six)	Winner	Nonwinner	Both	Total
One	18	42	-	60
Two	7	22	6	35
Three	4	7	-	11
Four	5	-	1	6
Five	5	1	1	7
Six	2	-	1	3
Number of firms	41	72	9	122
Number of firm/years	101	112	26	239
Average years per firm	2.5	1.6	2.9	2.0

not appear to be dominated by a few firms. On the other hand, the winner group is more concentrated than the nonwinner group. For example, 16 (39%) of 41 firms consistently entering the sample as winners enter the sample more than twice but only 8 (11%) of 72 firms consistently entering the sample as nonwinners enter the sample more than twice. The difference could be attributable to the procedure used to select nonwinning reports.<sup>13</sup>

### Period Examined

I examine whether winners and nonwinners differ in the degree of association between returns and earnings changes in the year investors learn of the information contained in the annual report. In the absence of knowledge about prior disclosure, investors are assumed to learn of the information when the annual report is released. This assumption would typically lead to the use of a short event window in an information content research design. Unfortunately, data to construct the EFEs necessary to estimate a short window ERC, analysts' forecasts for example, were not readily available for my sample.<sup>14</sup> Accordingly, I used annual earnings data to construct the EFE and accumulated UR over a 15 month event window chosen to be contemporaneous with annual earnings. The effects, if any, of differential annual report informativeness should be reflected in UR when the information is made public; therefore, returns and earnings were lined up on the year the annual report is released.

For convenience, I label the fiscal year for which the report is issued the 'report year' and the subsequent fiscal year the 'award year'. For firms with a December 31 year end (81%

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<sup>13</sup>The difference could also result if the Financial Post guaranteed last year's winners a spot in the contest but replaced nonwinning firms if their ranking fell below some threshold level. In this situation, we could see fewer repeated nonwinning firms in the sample.

<sup>14</sup>The problem with this design choice is that any observed ERC differences cannot be unambiguously attributed to the information in the annual report. To address this problem, a short window test which does not require an estimate of EFE is conducted and discussed in Ch. 4.

of the sample), the annual report was released and judged in the award year.<sup>15</sup> An example of the chronology of events for a typical December 31 year end firm is given in Figure 1. Using these labels, this chapter examines the contemporaneous association between UR and EFE during the award year.

### Data

A random walk model was used as a proxy for the market's expectation of earnings.<sup>16</sup> Earnings forecast errors were computed as the annual change in earnings per share, adjusted for stock splits and dividends.

Earnings per share data for the award year and the report year were taken from the Compustat II Canadian Industrial file. Unexpected earnings were scaled by the price of the stock at the beginning of the event period. The scaled earnings forecast error for each firm/-year,  $EFES_{jt}$ , was computed as,

$$EFES_{jt} = \frac{EPS_{jt} - EPS_{j,t-1}}{P_{j,t-1}} \quad (3.5)$$

where EPS is earnings per share and P is the price per share.<sup>17</sup>

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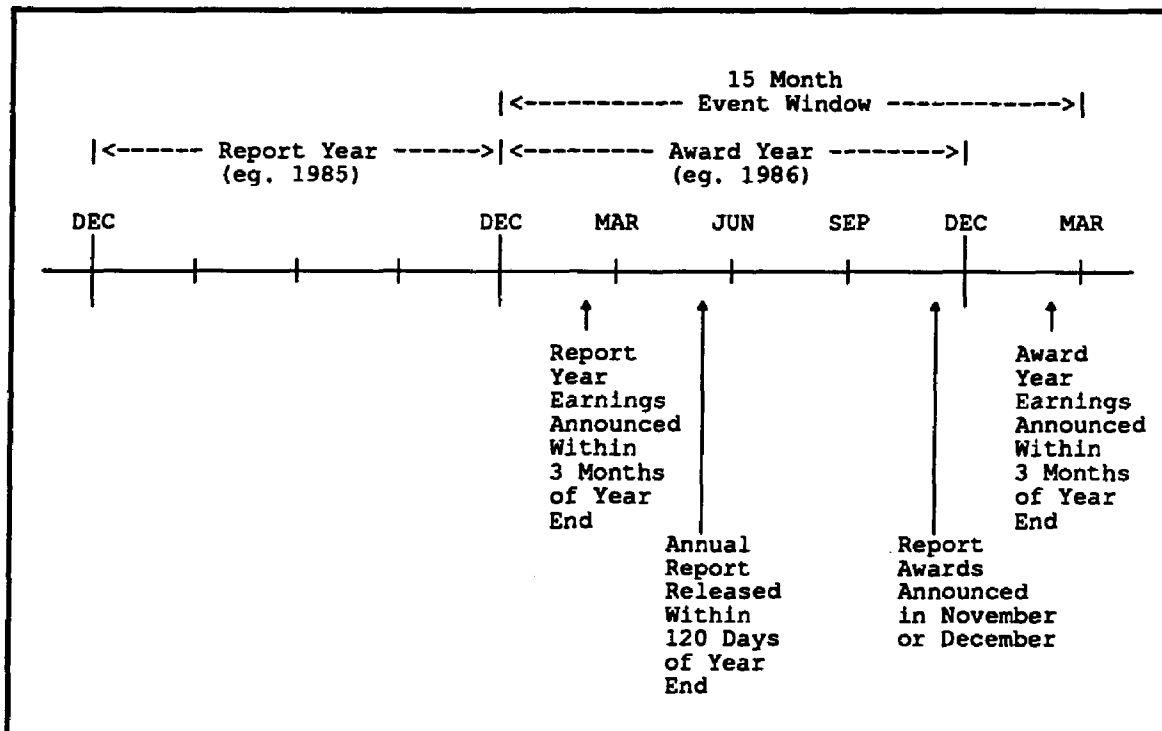
<sup>15</sup>One can also think of the award year as year t and the report year as year t-1. While the 'award year' label matches the year the report is judged and the awards announced for 94% of the firm/years in the sample, the remaining 6% have year ends such that the report is judged and the awards announced in their year t+1.

<sup>16</sup>While analysts' forecasts may have provided a better proxy for market expectations, they were not readily available for my sample. The impact of this design choice on the interpretation of the results is discussed later in the paper. Had a time series model based on a minimum of ten years' earnings been used to generate expectations, 88 firm/year observations, 37% of the sample, would have been lost.

<sup>17</sup>All variables are expressed in terms of share units at the beginning of the 15-month event period.

FIGURE 1

## EXAMPLE OF A TYPICAL CHRONOLOGY FOR A DECEMBER 31 YEAR END FIRM



Monthly stock returns were obtained from the TSE/Western database. Unexpected returns in the event period were generated using the market model; a value weighted index of all firms traded on the Toronto Stock Exchange provided the market returns. The parameters of the market model were estimated over the 60 months prior to the beginning of the award year. Firm/years with fewer than 50 monthly returns in the estimation period were dropped from the sample as were firm/years missing returns within the event period. To ensure that the estimation and event periods did not overlap, the return for the month immediately prior to the event period was not used in the estimation of the market model parameters.

Unexpected returns were compounded over a 15 month event period commencing in the first month of the award year and ending three months after the end of the award year. For example, for a December year end firm, unexpected returns were compounded from January of the award year (year  $t$ ) through March of the subsequent year (year  $t+1$ ) (see Figure 1). The announcement of annual earnings for the award year was expected to occur within the first three months of the subsequent fiscal year.<sup>18</sup>

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<sup>18</sup>The 15 month accumulation period was suggested by the results of Collins and Kothari (1989) who concluded that a 15 month period resulted in increased explanatory power when the random walk model is used as a proxy for the market's expectation of earnings. The expectation that annual earnings is announced within three months of the year end is common in studies using annual earnings and was also made by Collins and Kothari (1989). In the current sample, approximately 95% of the earnings announcements were made within the three month period.

One problem with the current 15 month return metric is that it will generally include any effects of the annual earnings announcement for the report year (year  $t-1$ ) as well as the award year (see Figure 1). Unexpected returns were also cumulated over two other event windows with little impact on the reported results. One commenced the month the annual report was filed with the Ontario Securities Commission (See Chapter 4) and the other commenced the month after year  $t-1$  earnings were announced. Both ended the month year  $t$  earnings were announced.



The compounded cumulative unexpected return for each observation,  $CUR_{jt}$ , was computed as,

$$CUR_{jt} = \prod_{l=1}^{15} (1 + UR_{jlt}) - 1 \quad (3.6)$$

where  $UR_{jlt}$  is the unexpected return from the market model for firm  $j$ , year  $t$  and month  $l$ .

The estimate of  $\beta_{jt}$  obtained in the market model regressions was used to proxy for systematic risk. Firm size,  $LMV_{jt}$ , was defined as the natural log of the market value of the firm's stock at the beginning of the 15 month event period. Persistence and growth proxies were computed for a subsample of 183 firm/years (95 winners and 88 nonwinners) which had at least ten consecutive years of earnings data available.<sup>19</sup> The proxy used for persistence,  $PERS_{jt}$ , was computed as  $(1-\theta_j)$ , where  $\theta_j$  is the parameter from an IMA(1,1) time series model. The rate of change in total assets in the year prior to the award year is taken as a proxy for growth,  $GR_{jt}$ .<sup>20</sup>

### Descriptive Statistics

Table 11 describes the cross-sectional distribution of the sample's return series statistics. For example, the first two rows of Table 11 report on individual winners' and nonwinners' mean monthly returns over the 60 month market model estimation period. The first seven columns report the fractiles of the mean monthly return across the winners and nonwin-

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<sup>19</sup>The estimation used all available annual earnings data on the CompustatII Canadian Industrial file. Firms were required to have at least ten consecutive years' data available; the range was from 10 to 19 years. The same persistence estimate was used for each year the firm entered the sample.

<sup>20</sup>Collins and Kothari (1989) used the same proxy for persistence but used the market-to-book value ratio to proxy for growth. Since this ratio is likely to be affected by determinants of ERCs other than growth, I used a measure of recent asset growth.

TABLE 11

**DISTRIBUTIONS OF DESCRIPTIVE STATISTICS FOR MONTHLY RETURNS  
AND MARKET MODEL REGRESSIONS FOR 116 WINNING AND  
123 NONWINNING FIRM/YEARS, 1982-87**

Variable <sup>a</sup>	Fractiles							Mean <sup>b</sup>	Std Dev
	Min	.10	.25	.50	.75	.90	Max		
$\bar{R}$ - W	-0.004	0.007	0.014	0.017	0.024	0.031	0.048	0.019 <sup>b</sup>	0.009 <sup>c</sup>
- NW	-0.016	0.004	0.009	0.016	0.025	0.031	0.042	0.016	0.011
$S_R$ - W	0.049	0.067	0.078	0.088	0.101	0.123	0.165	0.092	0.024 <sup>c</sup>
- NW	0.043	0.058	0.075	0.097	0.116	0.139	0.217	0.099	0.034
$\beta$ - W	0.296	0.471	0.645	0.835	1.181	1.378	2.168	0.909	0.373 <sup>c</sup>
- NW	-0.385	0.332	0.435	0.798	1.175	1.552	2.325	0.857	0.485
$t(\beta)$ - W	1.180	2.510	3.920	4.830	6.530	7.830	11.770	5.176 <sup>b</sup>	2.089
- NW	-1.440	2.020	2.800	3.820	5.320	7.030	8.350	4.075	1.867
$S_e$ - W	0.044	0.055	0.063	0.073	0.083	0.102	0.147	0.076 <sup>b</sup>	0.019 <sup>c</sup>
- NW	0.042	0.053	0.064	0.083	0.102	0.120	0.203	0.086	0.029
$R^2$ - W	0.007	0.082	0.196	0.281	0.415	0.514	0.700	0.298 <sup>b</sup>	0.157
- NW	-0.165	0.050	0.104	0.188	0.316	0.451	0.538	0.216	0.144
DW - W	1.280	1.660	1.800	2.030	2.270	2.390	2.740	2.030	0.281
- NW	0.990	1.760	1.900	2.090	2.310	2.470	2.650	2.105	0.285
N - W	56.	58.	60.	60.	60.	60.	60.	59.534	0.927
- NW	56.	58.	59.	60.	60.	60.	60.	59.431	1.049

<sup>a</sup>Each row reports cross-sectional statistics for the time series variable listed in the first column.  $\bar{R}$  and  $S_R$  are the mean and standard deviation of monthly returns in the estimation period;  $\beta$  is the estimated intercept from the market model;  $t(\beta)$  is the t-statistic;  $S_e$  is the estimated standard error of the residuals;  $R^2$  is adjusted  $R^2$ ; DW is the Durbin-Watson statistic; and N is the number of monthly observations. W and NW label the winning and nonwinning groups, respectively. The estimation period is the 60 months prior to the end of the report year.

<sup>b</sup>The t-statistic for the test that the two means are equal is significant at less than the 5% level. The test does not assume equal variances and has 115 degrees of freedom, the degrees of freedom for the smaller of the two groups. See Lindgren (1976, p.352).

<sup>c</sup>The F-statistic for the test that the two variances are equal is significant at less than the 5% level.

ners in the sample. For example, the median winner's (nonwinner's) mean monthly return was 0.017 (0.016). The last two columns report the cross-sectional mean and standard deviation.

The winners' mean monthly return over the (approximately) five year period (0.019) is significantly higher, on average, than the nonwinners' (0.016) and has a significantly smaller cross-sectional variance (0.009 compared to 0.011).<sup>21</sup> The difference is likely related to the higher mean  $\beta$  estimated for winners -- firms with higher systematic risk are expected to earn higher returns. Winners have a lower mean return standard deviation (0.092 vs. 0.099) but a greater mean covariance with overall market movements (0.909 vs. 0.857) than nonwinners. While neither difference is statistically significant, it is unusual to observe a negative correlation between the variance of returns and systematic risk.<sup>22</sup> The  $\beta$  estimates of nonwinners have a lower mean but a significantly higher variance across firms, where significance was assessed using a standard F-test for differences in variances.<sup>23</sup> In addition, the market model regressions of winners have a significantly higher mean t-statistic and mean  $R^2$  as well as a significantly lower mean residual standard error. Thus, on average, the market model fits the winners' monthly return behavior better than it does the nonwinners' and provides more precise estimates of systematic risk.<sup>24</sup>

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<sup>21</sup>Statistical significance is assessed at the 5% level throughout this section.

<sup>22</sup>See Fama (1976, p.255-56).

<sup>23</sup>The t-statistic used to test for equality of means does not assume equal variances and has 115 degrees of freedom, the degrees of freedom for the smaller of the two groups. See Lindgren (1976, p.352). The firm/year observations are not, however, strictly independent and the test statistics should be interpreted accordingly.

<sup>24</sup>It is shown in Table 12 that the winners tend to be larger than the nonwinners. Therefore the observed return differences may be due to a size effect. The influence of size on the market model prediction errors is discussed beginning on p.38.

Table 12 provides, for both winners and nonwinners, descriptive statistics for the cross-sectional distributions of CUR, EFES,  $\beta$ , LMV, PERS and GR. In general, nonwinners' variables tend to have larger variances than winners', though most differences are not statistically significant at the 5% level using an F-test. The exception is EFES; the variance of EFES is larger for nonwinners and the difference is significant at the 5% level. Both winners' and nonwinners' CUR distributions display a relatively large number of observations with extreme high or low values. For example, 10% of the winners (nonwinners) suffered cumulative abnormal losses of over 36.9% (37.7%) while another 10% gained over 37.9% (50.5%).

Winners have an average LMV of 6.204 (\$494 million); nonwinners an average of 5.066 (\$158 million).<sup>25</sup> A t-test rejects the equality of the two means at less than the 5% level and it is clear from the fractiles of the distributions that the winners tend to be larger than nonwinners. LMV is included in the response function to control for mean size effects in estimated ERCs. The effect of size on CUR is discussed in more detail beginning on p.64.

The correlations among the variables, reported in Table 13 for all 239 firm/years and for winners and nonwinners separately, are similar for the two groups with three noteworthy exceptions --  $\text{Corr}(\text{CUR}, \text{EFES})$ ,  $\text{Corr}(\text{CUR}, \beta)$ , and  $\text{Corr}(\beta, \text{PERS})$ . The correlation between CUR and EFES is 0.47 for nonwinners and 0.27 for winners, a result suggestive of the regression results to follow.

The effects of systematic risk on returns have been removed and CUR is expected to be uncorrelated with  $\beta$ . The correlation for winners, -0.03 is not significantly different from zero, but, for nonwinners, it is significantly negative (-0.20). This unexpected result may indicate greater measurement error in estimates of  $\beta$  for nonwinners; it was noted above that

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<sup>25</sup>Average market values are not reported but would be much larger because the log transformation is concave.

**TABLE 12**  
**DISTRIBUTIONS OF DEPENDENT AND INDEPENDENT VARIABLES**  
**FOR WINNING AND NONWINNING FIRM/YEARS, 1982-87**

	N	Fractiles						Mean <sup>b</sup>	Std Dev	
		Min	.10	.25	.50	.75	.90			Max
<b>Panel A: Winning Firm/Years</b>										
CUR <sup>a</sup>	116	-0.540	-0.369	-0.180	-0.007	0.190	0.379	1.948	0.034	0.374
EFES	116	-0.302	-0.116	-0.010	0.008	0.029	0.084	0.286	0.003	0.076 <sup>c</sup>
$\beta$	116	0.296	0.471	0.645	0.835	1.181	1.378	2.168	0.909	0.373
LMV	116	2.449	3.831	5.612	6.432	7.259	7.713	9.028	6.204 <sup>b</sup>	1.459
PERS	95	0.165	0.534	0.727	1.000	1.323	1.479	1.601	1.006	0.377
GR	95	-0.456	-0.023	0.025	0.086	0.170	0.304	0.456	0.104	0.138
<b>Panel B: Nonwinning Firm/Years</b>										
CUR	123	-0.800	-0.377	-0.236	0.023	0.262	0.505	1.910	0.048	0.416
EFES	123	-0.242	-0.067	-0.018	0.008	0.038	0.084	0.449	0.011	0.089 <sup>c</sup>
$\beta$	123	-0.385	0.332	0.435	0.798	1.175	1.552	2.324	0.857	0.485
LMV	123	1.705	3.087	3.963	5.016	5.943	7.217	9.189	5.066 <sup>b</sup>	1.593
PERS	88	0.333	0.555	0.786	0.909	1.193	1.421	1.601	0.979	0.301
GR	88	-0.281	-0.064	-0.014	0.053	0.142	0.256	0.476	0.069	0.134

<sup>a</sup>Each row reports cross-sectional statistics for the time series variable in the first column. CUR is the compounded market model residual for the 15 months from the beginning of the year to 3 months after the year end; EFES is the change in annual EPS (adjusted for stock splits and dividends) scaled by the stock price at the beginning of the year;  $\beta$  is the slope coefficient from the market model; LMV is  $\ln(\text{market value of equity at the beginning of the year})$ ; PERS is the persistence parameter from an IMA(1,1) model; and GR is the growth rate in total assets during the previous year.

<sup>b</sup>The t-statistic for the test that the two means are equal is significant at less than the 5% level.

<sup>c</sup>The F-statistic for the test that the two variances are equal is significant at less than the 5% level.

**TABLE 13**  
**PEARSON PRODUCT MOMENT CORRELATIONS BETWEEN**  
**REGRESSION VARIABLES, 1982-1987 <sup>a</sup>**

		CUR	EFES	DWIN	$\beta$	LMV	PERS
<b>Panel A: Winning and Nonwinning Firm/Years</b>							
N = 239	EFES	0.39 <sup>b</sup>					
	DWIN	-0.02	-0.05				
	$\beta$	-0.14 <sup>b</sup>	-0.00	0.06			
	LMV	-0.20 <sup>b</sup>	-0.09	0.35 <sup>b</sup>	0.17 <sup>b</sup>		
.....							
N = 183	PERS	0.10	-0.02	0.04	0.11	-0.02	
	GR	-0.21 <sup>b</sup>	-0.24 <sup>b</sup>	0.13	-0.17 <sup>b</sup>	0.07	-0.09
<b>Panel B: Winning Firm/Years</b>							
N = 116	EFES	0.27 <sup>b</sup>					
	$\beta$	-0.03	-0.05				
	LMV	-0.20 <sup>b</sup>	-0.07		0.26 <sup>b</sup>		
.....							
N = 95	PERS	0.08	0.04		0.46 <sup>b</sup>	-0.09	
	GR	-0.25 <sup>b</sup>	-0.26 <sup>b</sup>		-0.24 <sup>b</sup>	-0.10	-0.27 <sup>b</sup>
<b>Panel C: Nonwinning Firm/Years</b>							
N = 123	EFES	0.47 <sup>b</sup>					
	$\beta$	-0.20 <sup>b</sup>	0.03				
	LMV	-0.22 <sup>b</sup>	-0.08		0.10		
.....							
N = 88	PERS	0.13	-0.09		-0.20	0.02	
	GR	-0.17	-0.21 <sup>b</sup>		-0.14	0.14	0.14

<sup>a</sup>CUR is the compounded market model residual for the 15 months from the beginning of the year to 3 months after the year end; EFES is the change in annual EPS (adjusted for stock splits and dividends) scaled by the stock price at the beginning of the year; DWIN equals 1 if the firm's annual report won a Financial Post award and 0 otherwise;  $\beta$  is the slope coefficient from the market model; LMV is  $\ln(\text{market value of equity at the beginning of the year})$ ; PERS is the persistence parameter from an IMA(1,1) model; and GR is the growth rate in total assets during the previous year.

<sup>b</sup>Significantly different from zero at less than the 5% level.

the estimates of  $\beta$  for nonwinners were less precise than those of winners. A negative correlation could occur if, as is commonly found,  $\beta$  estimates are mean-reverting.<sup>26</sup> There may be a greater tendency for high  $\beta$ s to be overestimated and low  $\beta$ s to be underestimated in my sample of nonwinners than in my sample of winners.

The correlation between  $\beta$  and PERS for winners is 0.46 while the corresponding correlation for nonwinners is -0.20. This implies that winners (nonwinners) with above average  $\beta$  estimates tend to have above (below) average persistence estimates. It is not obvious why one should expect the correlation between  $\beta$  and PERS to have any particular sign but it seems unusual to observe different signs for winners and nonwinners. Unfortunately, I am not able to predict what effect, if any, this difference may have on the results.

### Regression Results

#### Assuming ERCs are Constant across Firms and Time

The results of estimating the following pooled time series cross-sectional regression are presented in the first column of Table 14,

$$CUR_{jt} = a + k_0 EFES_{jt} + u_{jt}, \quad (3.7)$$

In (3.7), the ERC is restricted to be constant across firms and time, that is,  $b_{jt} = k_0$ , and the disturbance term,  $u_{jt}$ , is assumed to be cross-sectionally and intertemporally independent with a zero mean and constant variance. The estimate of  $k_0$  is 1.836 with a t-statistic of 6.42. The adjusted  $R^2$  for the regression is 14.5%, relatively high compared with  $R^2$  levels obtained in

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<sup>26</sup>See Blume (1975) for example.

TABLE 14

**EFFECT OF ANNUAL REPORT INFORMATIVENESS ON EARNINGS RESPONSE  
COEFFICIENTS -- POOLED OLS ESTIMATION, 1982-1987**

Variable	Exp. Sign	Coefficient Estimates (t-statistics in parentheses)				
		N = 239			N = 183	
		Eq.(3.7)	Eq.(3.8)	Eq.(3.9)	Eq.(3.8)	Eq.(3.10)
Intercept		0.029 (1.21)	0.027 (1.16)	-0.106 (-2.02) <sup>c</sup>	0.019 (0.66)	-0.140 (-2.19) <sup>c</sup>
EFES	+	1.836 (6.42) <sup>d</sup>	2.180 (5.90) <sup>d</sup>	1.995 (1.87) <sup>b</sup>	2.143 (5.00) <sup>d</sup>	1.287 (0.92)
DWIN·EFES	+/-		-0.853 (-1.47)	-0.953 (-1.48)	-0.846 (-1.27)	-0.946 (-1.27)
β·EFES	-			-1.045 (-2.06) <sup>c</sup>		-1.246 (-1.92) <sup>b</sup>
LMV·EFES	-			0.362 (1.73) <sup>b</sup>		0.187 (0.74)
PERS·EFES	+					1.509 (1.55)
GR·EFES	+					4.847 (2.13) <sup>c</sup>
D82				0.260 (3.07) <sup>d</sup>		0.334 (3.50) <sup>d</sup>
D83				0.161 (2.01) <sup>c</sup>		0.188 (1.97) <sup>c</sup>
D84				0.086 (1.12)		0.092 (0.97)
D85				0.098 (1.25)		0.141 (1.51)
D86				0.211 (2.76) <sup>d</sup>		0.248 (2.71) <sup>d</sup>



TABLE 14 -- CONTINUED

Variable	Exp. Sign	Coefficient Estimates (t-statistics in parentheses)				
		N = 239			N = 183	
		Eq.(3.7)	Eq.(3.8)	Eq.(3.9)	Eq.(3.8)	Eq.(3.10)
Adj. R <sup>2</sup>		14.5%	14.9%	19.4%	14.0%	22.1%
S.e.		0.3659	0.3650	0.3553	0.3810	0.3625
D.f.		237	236	229	180	171

<sup>a</sup>The dependent variable is CUR, the compounded market model residual for 15 months from the beginning of the year to 3 months after the year end; EFES is the change in annual EPS (adjusted for stock splits and dividends) scaled by the stock price at the beginning of the year; DWIN equals 1 if the firm's annual report won a Financial Post award and 0 otherwise;  $\beta$  is the slope coefficient from the market model; LMV is  $\ln(\text{market value of equity at the beginning of the year})$ ; PERS is the persistence parameter from an IMA(1,1) model; GR is the growth rate in total assets in the previous year; and D82-D86 are dummy variables for the award years 1982-86.

<sup>b</sup>The p-value is less than 10% using a two-tailed test.

<sup>c</sup>The p-value is less than 5% using a two-tailed test.

<sup>d</sup>The p-value is less than 1% using a two-tailed test.

previous studies.<sup>27</sup> These results confirm that unexpected returns are significantly positively correlated with earnings forecast errors in my sample.

**Allowing ERCs to Vary across Firms and Time:  
The Influence of Annual Report Informativeness**

When the response function is given by (3.4), the regression equation becomes,<sup>28</sup>

$$CUR_{jt} = a + k_0 EFES_{jt} + k_1 (DWIN_{jt} \cdot EFES_{jt}) + u_{jt} \quad (3.8)$$

The results from estimating (3.8) using OLS on the combined sample are shown in the second column of Table 14. The ERC estimated for nonwinners is 2.180 and the estimate of  $k_1$  is -0.853, implying an ERC for winners of 1.327. With a t-statistic of -1.47 the ERCs are not significantly different at conventional levels (the p-value is approximately 14%). In fact, the adjusted  $R^2$  increases only 0.4% when  $DWIN \cdot EFES$  is added to the model.

**Residual independence and homoscedasticity**

Assessing the assumptions of independence and homoscedasticity is difficult with the current sample structure. For example, heteroscedasticity is expected to reduce the efficiency of the estimates but they remain consistent. Standard errors were computed as suggested by White (1980), with only marginal differences from the standard errors and significance levels reported in Table 14.

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<sup>27</sup>Lev, for example, reports that 5% appears to be a representative  $R^2$  for large, heterogeneous samples (1989, p.173).

<sup>28</sup>Other explanatory variables are excluded at this stage to focus the discussion on  $DWIN$ . The use of a dummy variable assumes that the other coefficients in the model and the variance of the regression disturbance are the same for both groups. The results of estimating (3.7) separately for winners and nonwinners are similar except for differences in  $R^2$ , reported in Table 17. The dummy variable approach is presented because the test on the dummy variable is easier to interpret when other variables enter the response function.

Cross-sectional correlation in the disturbances can lead to biased coefficient estimates as well as biased test statistics. My sample structure is not well-suited to methods such as Zellner's (1962) seemingly unrelated regressions or the maximum likelihood methods used by Kormendi and Lipe (1987) and Easton and Zmijewski (1989). Annual dummy variables were added to the model to reduce the effects of correlation across disturbances.<sup>29</sup> It is worth noting, however, that the 'best' control is to model the source of the correlation. To the extent the response function variables capture the source of cross-sectional and intertemporal variation in unexpected returns, any correlation will be reduced. The extent of remaining correlation is unknown, as are the effects, if any, on the parameter estimates and statistical tests. The results should be interpreted with this in mind.

Allowing ERCs to Vary across Firms and Time: The Influence of Annual Report Informativeness Holding Other Influences Constant

Equation (3.8) assumes that annual report informativeness is the only difference between winners and nonwinners causing ERCs to vary. Alternatively, (3.8) assumes the sample contains a sufficiently broad cross-section of firms for both groups that variations in other factors are diversified away. To examine the incremental explanatory power of DWIN, after controlling for other factors, proxies for systematic risk, earnings persistence, growth, and firm size were added to the response function.<sup>30</sup> Five annual dummy variables for the years 1982 through 1986, labelled D82 through D86, were also added to the model to capture any variation in the intercept over time and to reduce the effects of possible cross-sectional correlation in the disturbance terms. The intercept term captures effects common to all firms in 1987.

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<sup>29</sup>Annual dummies control for economy-wide commonalities which affect unexpected returns in a particular year.

<sup>30</sup>The addition of size to the response function controls for the size difference between winners and nonwinners observed in Table 12.

The third column of Table 14 reports the results of estimating,

$$CUR_{jt} = a_0 + a_1 D82_{jt} + a_2 D83_{jt} + a_3 D84_{jt} + a_4 D85_{jt} + a_5 D86_{jt} + k_0 EFES_{jt} + k_1 (DWIN_{jt} \cdot EFES_{jt}) + k_2 (B_{jt} \cdot EFES_{jt}) + k_3 (LMV_{jt} \cdot EFES_{jt}) + u_{jt} \quad (3.9)$$

using all 239 firm/year observations, and the fifth column contains the results of estimating,

$$CUR_{jt} = a_0 + a_1 D82_{jt} + a_2 D83_{jt} + a_3 D84_{jt} + a_4 D85_{jt} + a_5 D86_{jt} + k_0 EFES_{jt} + k_1 (DWIN_{jt} \cdot EFES_{jt}) + k_2 (B_{jt} \cdot EFES_{jt}) + k_3 (LMV_{jt} \cdot EFES_{jt}) + k_4 (PERS_{jt} \cdot EFES_{jt}) + k_5 (GR_{jt} \cdot EFES_{jt}) + u_{jt} \quad (3.10)$$

using the 183 firm/years with data available for PERS and GR. For comparison, the fourth column shows the results of reestimating (3.8) with the smaller sample.

The results using the smaller sample are similar to those using the full sample. Several of the coefficients of the annual dummies are significantly different from zero. The coefficients of  $\beta \cdot EFES$ ,  $PERS \cdot EFES$  and  $GR \cdot EFES$  have the anticipated signs and all but the persistence variable are significant at the 10% level or less.<sup>31</sup> Note that the estimates (and significance levels) of  $k_1$  are stable when  $\beta$ ,  $LMV$ ,  $PERS$ ,  $GR$  and the annual dummies are added to the model. Thus  $DWIN$  does not appear to proxy for any of these variables.

#### Nonnormal Disturbances and Extreme Observations

The regressions in Table 14 display several residuals which are unusually large relative to a normal distribution and several observations have an unusually large influence on the

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<sup>31</sup>There is evidence that multicollinearity among the response function variables may be causing imprecise estimates of coefficients and standard errors. In particular,  $EFES$ ,  $LMV \cdot EFES$  and  $PERS \cdot EFES$  display high pairwise correlations (approximately 95%). As reported in Table 13, the response function variables do not have high pairwise correlations but the interaction variables are very highly correlated. This collinearity does not, however, appear to affect either the estimates or significance of  $k_1$ .

coefficient estimates.<sup>32</sup> When regression disturbances are not normal, the coefficient and residual variance estimates are still unbiased and consistent but they are not efficient, even asymptotically. The t-statistics on the coefficients, however, retain an asymptotic justification although they are not necessarily valid in finite samples.<sup>33</sup> Two commonly used *ad hoc* approaches to the problem are adopted here.

#### Elimination of extreme observations

The methods suggested by Belsley, Kuh and Welsch (BKW) were used to identify observations with extreme residuals or significant influence on the coefficient estimates. Essentially the same observations were identified regardless of the form of the regression equation so the following discussion is phrased in terms of (3.8). To illustrate the situation, Figure 2 graphs CUR against EFES for the 239 firm/year observations in the full sample. Figure 2 also displays the fitted regression lines for winners and nonwinners obtained from the estimates in column two of Table 14.

In general, the observations identified by the BKW statistics were observations in the extreme upper or lower tails of the distributions of one or more of the regression variables. For example, all seven observations with a CUR above 1.0 and the one observation with a negative estimated  $\beta$  were identified. In total, 19 firm/year observations were eliminated,<sup>34</sup>

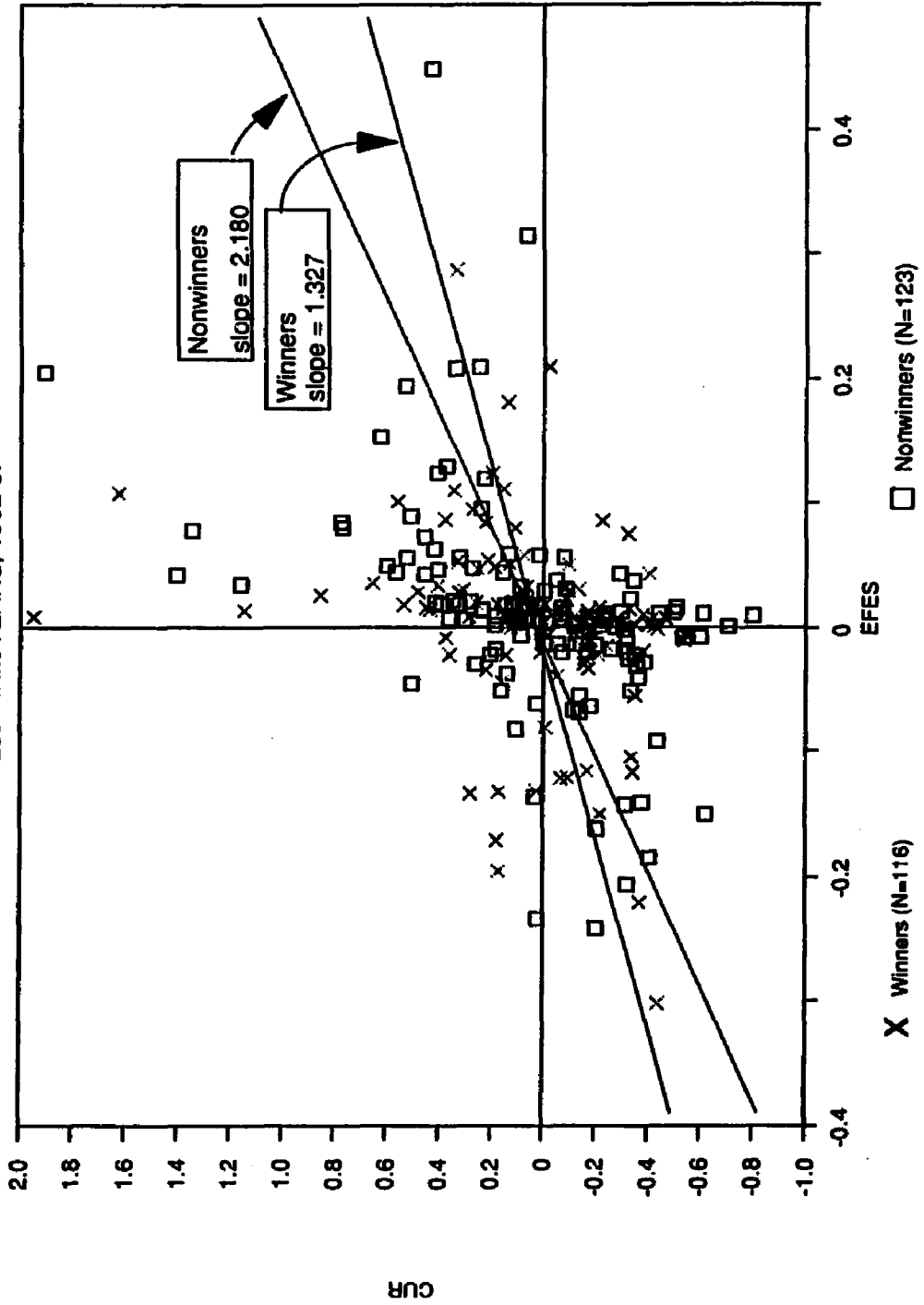
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<sup>32</sup>See Belsley, Kuh and Welsch (1980).

<sup>33</sup>Judge *et al.* (1985, p.824).

<sup>34</sup>Before eliminating any firm/year observation, the data were verified, then the Canadian Business Publication Index was searched for news reports of unusual events which might explain the extreme values. For example, some firms were involved in significant takeover activity, either as targets or bidders, and one firm reported a significant gold strike. For many of the 19 observations eventually eliminated, however, no obvious reason for eliminating the firm/year could be identified. For this reason, results are presented for both the full sample and the reduced sample.

**FIGURE 2**  
**CUR vs. EFES**  
**239 FIRM YEARS, 1982-87**



CUR

X Winners (N=116)

□ Nonwinners (N=123)

consisting of all seven firm/years with  $CUR > 1$ ; the one firm/year with  $CUR < -0.79$ ; nine firm/years with  $|EFES| > 0.20$  and the two firm/years with the largest and smallest  $\beta$ . The remaining 220 observations contain 110 winner firm/years and 110 nonwinner firm/years. I refer to this subset as the reduced sample. Sixteen of these firm/years were also present in and deleted from the 183 firm/years with persistence and growth data.

Equations (3.8) and (3.9) ((3.8) and (3.10)) were reestimated using 220 (167) observations and the results are contained in Table 15. Eliminating 19 (16) extreme observations has a large effect on the estimates of the response function variables. The estimates of  $k_1$  range from -1.905 to -2.870 and all are significantly different from zero at less than the 1% level. As before, the addition of the other response function variables has little effect on the estimates or significance of  $k_1$ . Although  $\beta$ , PERS and GR have the anticipated signs, none is significantly different from zero at less than the 5% level. This result is surprising given the results of Collins and Kothari (1989) but may arise because I have a smaller sample or because of the previously noted collinearity among these variables. This study, however, is primarily concerned with the coefficient of  $DWIN \cdot EFES$  and multicollinearity does not appear to affect this estimate or its standard error.

The results presented in Table 15 should be interpreted with caution. The procedure used to eliminate firm/years was arbitrary and guided by a preliminary analysis of the data. Furthermore, it is never obvious where to draw the line between an 'outlier' and a large random disturbance. Unnecessary elimination of the latter will result in unwarranted decreases (increases) in estimated standard errors (test statistics). Finally, after eliminating these observations, the residuals are closer to normal but they still display significant departures from normality. To address some of these concerns, a second solution to nonnormal residuals was also used.

TABLE 15

**EFFECT OF ANNUAL REPORT INFORMATIVENESS ON EARNINGS RESPONSE  
COEFFICIENTS -- POOLED OLS ESTIMATION AFTER ELIMINATING  
19 EXTREME OBSERVATIONS, 1982-1987<sup>a</sup>**

Variable	Exp. Sign	Coefficient Estimates (t-statistics in parentheses)			
		N = 220		N = 167	
		Eq.(3.8)	Eq.(3.9)	Eq.(3.8)	Eq.(3.10)
Intercept		-0.011 (-0.60)	-0.141 (-3.53) <sup>d</sup>	-0.021 (-1.00)	-0.162 (-3.30) <sup>d</sup>
EFES	+	2.975 (7.03) <sup>d</sup>	2.516 (2.13) <sup>c</sup>	3.701 (6.65) <sup>d</sup>	4.007 (2.18) <sup>c</sup>
DWIN·EFES	+/-	-1.905 (-3.26) <sup>d</sup>	-1.982 (-2.83) <sup>d</sup>	-2.735 (-3.75) <sup>d</sup>	-2.870 (-2.89) <sup>d</sup>
$\beta$ ·EFES	-		-0.227 (-0.35)		-0.996 (-0.83)
LMV·EFES	-		0.205 (0.81)		0.299 (0.89)
PERS·EFES	+				-0.341 (-0.26)
GR·EFES	+				0.055 (0.02)
D82			0.230 (3.44) <sup>d</sup>		0.268 (3.52) <sup>d</sup>
D83			0.180 (2.94) <sup>d</sup>		0.164 (2.20) <sup>c</sup>
D84			0.132 (2.28) <sup>c</sup>		0.117 (1.61)
D85			0.132 (2.18) <sup>c</sup>		0.129 (1.76) <sup>b</sup>
D86			0.133 (2.22) <sup>c</sup>		0.151 (2.10) <sup>c</sup>



TABLE 15 -- CONTINUED

Variable	Exp. Sign	Coefficient Estimates (t-statistics in parentheses)			
		N = 220		N = 167	
		Eq.(3.8)	Eq.(3.9)	Eq.(3.8)	Eq.(3.10)
Adj. R <sup>2</sup>		19.9%	23.1%	21.9%	24.1%
S.e.		0.2684	0.2631	0.2762	0.2716
D.f.		217	210	164	155

<sup>a</sup>The dependent variable is CUR, the compounded market model residual for 15 months from the beginning of the year to 3 months after the year end; EFES is the change in annual EPS (adjusted for stock splits and dividends) scaled by the stock price at the beginning of the year; DWIN equals 1 if the firm's annual report won a Financial Post award and 0 otherwise;  $\beta$  is the slope coefficient from the market model; LMV is  $\ln(\text{market value of equity at the beginning of the year})$ ; PERS is the persistence parameter from an IMA(1,1) model; GR is the growth rate in total assets in the previous year, and D82-D86 are dummy variables for the award years 1982-86.

<sup>b</sup>The p-value is less than 10% using a two-tailed test.

<sup>c</sup>The p-value is less than 5% using a two-tailed test.

<sup>d</sup>The p-value is less than 1% using a two-tailed test.

### Robust estimation

Robust estimation methods, specifically designed to reduce the effect of unusual observations and nonnormally distributed disturbances, are generally more efficient and provide more powerful test statistics than OLS for heavy tailed distributions.<sup>35</sup> The particular robust technique used is a three-stage procedure known as trimmed least squares (TLS). In the first two stages, the  $\alpha$ th and  $(1-\alpha)$ th regression quantiles are estimated using linear programming methods.<sup>36</sup> Observations where the residual from the  $\alpha$ th regression quantile is negative or the residual from the  $(1-\alpha)$ th regression quantile is positive are eliminated from the sample. The last stage obtains coefficient estimates using OLS on the trimmed sample. While using TLS is similar to eliminating outliers it is an objective procedure in the sense that the researcher does not pick the observations to be eliminated. A further advantage is that coefficient and residual standard errors are not OLS standard errors but are derived from a consistent, nonparametric estimator which accounts for the trimming.

Equations (3.8), (3.9) and (3.10) were reestimated using TLS and the results are contained in Table 16. The coefficient of DWIN·EFES is negative and significant at less than the 10% (1%) level in equation (3.8) (equations (3.9) and (3.10)). Comparing Table 16 to Table 14 confirms that TLS has increased the efficiency of the estimates. While the magnitudes of the estimates are comparable, the t-statistics are generally higher in Table 16. Of the ten coefficients estimated for (3.9), for example, two are significant at less than the 10% level, one is

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<sup>35</sup>This paragraph summarizes Judge *et al.* (1985, p.824-40).

<sup>36</sup>Regression quantiles are analogous to the fractiles of a distribution. The  $\alpha$ th regression quantile ( $0 < \alpha < 1$ ) is defined as any estimate of the coefficient vector which minimizes the weighted sum of the absolute values of the residuals. Positive residuals are weighted by  $\alpha$  and negative residuals by  $(1-\alpha)$ . Therefore a different coefficient vector may be associated with each level of  $\alpha$  and multiple solutions are possible. The TLS estimator is the limiting case of the least absolute errors (LAE) estimator where  $\alpha = \frac{1}{2}$ .

TABLE 16

**EFFECT OF ANNUAL REPORT INFORMATIVENESS ON EARNINGS RESPONSE  
COEFFICIENTS -- POOLED TRIMMED LEAST SQUARES  
ESTIMATION, 1982-1987<sup>a</sup>**

Variable <sup>b</sup>	Exp. Sign	Coefficient Estimates (t-statistics in parentheses)			
		N = 239		N = 183	
		Eq.(3.8)	Eq.(3.9)	Eq.(3.8)	Eq.(3.10)
Intercept		0.003 (0.13)	-0.137 (-3.09) <sup>e</sup>	-0.008 (-0.34)	-0.137 (-2.56) <sup>e</sup>
EFES	+	1.903 (6.28) <sup>e</sup>	1.625 (1.79) <sup>c</sup>	1.913 (5.29) <sup>e</sup>	3.564 (3.04) <sup>e</sup>
DWIN·EFES	+/-	-0.794 (-1.67) <sup>c</sup>	-1.421 (-2.61) <sup>e</sup>	-0.935 (-1.68) <sup>c</sup>	-1.431 (-2.29) <sup>d</sup>
$\beta$ ·EFES	-		-0.955 (-2.22) <sup>e</sup>		-2.153 (-3.95) <sup>e</sup>
LMV·EFES	-		0.446 (2.52) <sup>e</sup>		0.150 (0.71)
PERS·EFES	+				0.493 (0.60)
GR·EFES	+				2.165 (1.13)
D82			0.225 (3.14) <sup>e</sup>		0.249 (3.12) <sup>e</sup>
D83			0.189 (2.78) <sup>e</sup>		0.161 (2.00) <sup>d</sup>
D84			0.121 (1.86) <sup>c</sup>		0.088 (1.11)
D85			0.145 (2.18) <sup>d</sup>		0.114 (1.46)
D86			0.153 (2.36) <sup>e</sup>		0.153 (1.99) <sup>d</sup>

TABLE 16 -- CONTINUED

Variable <sup>b</sup>	Exp. Sign	Coefficient Estimates (t-statistics in parentheses)			
		N = 239		N = 183	
		Eq.(3.8)	Eq.(3.9)	Eq.(3.8)	Eq.(3.10)
S.e.		0.2988	0.3015	0.3210	0.3041
D.f.		185	168	141	122
N after trimming at 10% and 90%		188	178	144	134

<sup>a</sup>Trimmed least squares applies OLS after deleting observations whose residuals lie below the  $\alpha\%$  and above the  $(1-\alpha)\%$  regression quantiles. The table reports the results of trimming with  $\alpha$  set at 10%.

<sup>b</sup>The dependent variable is CUR, the compounded market model residual for 15 months from the beginning of the year to 3 months after year end; EFES is the change in annual EPS (adjusted for stock splits and dividends) scaled by the stock price at the beginning of the year; DWIN equals 1 if the firm's annual report won a Financial Post award and 0 otherwise;  $\beta$  is the slope coefficient from the market model; LMV is  $\ln(\text{market value of equity at the beginning of the year})$ ; PERS is the persistence parameter from an IMA(1,1) model; GR is the growth rate in total assets in the previous year; and D82-D86 are dummy variables for the award years 1982-86.

<sup>c</sup>The p-value is less than 10% using a two-tailed test.

<sup>d</sup>The p-value is less than 5% using a two-tailed test.

<sup>e</sup>The p-value is less than 1% using a two-tailed test.

significant at less than the 5% level and seven, including the estimate of  $k_1$ , are significant at less than the 1% level.

## $R^2$

The  $R^2$  and several related statistics from the separate estimation of (3.7) for winners and nonwinners are shown in Table 17. When the full sample is used, the residual standard errors of the two groups are comparable (0.3616 vs. 0.3697), but the  $R^2$  of the nonwinners (21.17%) is over three times that of the winners (6.55%). For both groups, the usual regression F-statistic rejects the null hypothesis that  $R^2$  equals zero at less than the 1% level.

When  $R^2$  is not zero, however, its distribution is "a little too complicated to be useful",<sup>37</sup> making statistical comparisons of the two groups difficult. Lindgren describes a transformation of  $R^2$  proposed by R. A. Fisher which allows the construction of confidence intervals.<sup>38</sup> The upper and lower limits of these intervals are also reported in Table 17. Note that the observed  $R^2$  of the nonwinners is larger than the upper bound of the winners and the observed  $R^2$  of the winners is smaller than the lower bound of the nonwinners. On the other hand one cannot reject the null hypothesis that the population parameter,  $\rho^2$ , is the same for winners and nonwinners for certain specific values of  $\rho^2$  because the confidence intervals overlap. For example, we would be unable to reject the hypothesis that the  $\rho^2$  of both groups was 15%.

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<sup>37</sup>Lindgren (1976,p.478).

<sup>38</sup>Specifically, if  $\rho$  is the population parameter, a 95% confidence interval for  $R^2$  is constructed by squaring the following limits (Lindgren 1976, p.478):

$$\text{Prob} \{ | (z' - \xi) \sqrt{N-3} | < 1.96 \} = .95 \quad \text{where } z' = 1/2 \ln(1+R / 1-R),$$

$$E[z'] = \xi = 1/2 \ln(1+\rho/1-\rho), \text{ and } \text{Var}[z'] = 1/N-3$$

**TABLE 17**  
**R<sup>2</sup> OF WINNERS AND NONWINNERS IN OLS ESTIMATIONS OF**  
**CUMULATIVE UNEXPECTED RETURNS ON SCALED CHANGES**  
**IN ACCOUNTING EARNINGS, 1982-87**

	Full Sample		19 Extreme Firm/Years Eliminated	
	Winners	Nonwinners	Winners	Nonwinners
R <sup>2</sup>	6.55%	21.17%	5.33%	30.16%
S <sub>e</sub>	0.3616	0.3697	0.2662	0.2719
N	116	123	110	110
F-statistic testing R <sup>2</sup> = 0	7.99 <sup>a</sup>	32.45 <sup>a</sup>	6.08 <sup>b</sup>	46.64 <sup>a</sup>
Approximate Lower 95% Confidence Bound for R <sup>2</sup> <sup>c</sup>	0.5%	9.5%	0.2%	16.4%
Approximate Upper 95% Confidence Bound for R <sup>2</sup>	17.5%	34.5%	16.0%	44.2%

<sup>a</sup>The p-value is less than 5% using a two-tailed test.

<sup>b</sup>The p-value is less than 1% using a two-tailed test.

<sup>c</sup>Confidence bounds are constructed using the transformation described in Lindgren (1976 p.478).

When the 19 extreme observations are omitted from the sample, the difference between winners and nonwinners is 24.83% (30.16% - 5.33%). The confidence intervals for the reduced samples do not overlap and therefore we can reject the hypothesis of a common population parameter for both groups at the 5% level. This is consistent with the results of the regression analysis where the coefficient of DWIN was significantly negative at conventional levels after extreme observations were eliminated.

### Interpretation of the Results

Both the estimated ERCs and  $R^2$  of winners were found to be smaller than the estimated ERCs and  $R^2$  of nonwinners, although the statistical significance of the differences is sensitive to the presence of extreme observations. The results are robust to the inclusion of other factors which have been shown to affect the return/earnings relation such as size, systematic risk, persistence and growth. While none of the estimations alone is definitive, taken as a whole, the evidence suggests that changes in winners' stock prices are less highly correlated with contemporaneous changes in reported earnings in the award year than are nonwinners'. This section discusses several possible interpretations of these results and also discusses limitations in the research design which may affect these interpretations. In some cases, additional empirical analysis is presented to assess the potential impact of the limitation.

### Measurement Error in Earnings Forecast Errors

When the explanatory variable in a simple regression such as (3.7) contains measurement error, the estimated coefficient is biased downward; the larger the variance of the measurement error relative to the variance of the explanatory variable, the larger the downward

bias.<sup>39</sup> Therefore, a smaller ERC could be observed for winners if their EFES contained relatively more measurement error than the nonwinners' EFES. There is, however, likely to be little error in the measurement of EFES *per se* because EFES is simply the (scaled) change in reported annual earnings. Any significant measurement error is likely due to the extent to which the change in reported earnings is an imperfect proxy for the change in the market's expectations of earnings. A lower ERC for winners requires that the measurement error in the winners' proxy exceed that in the nonwinners'.<sup>40</sup>

The main implication of the measurement error explanation is that the change in winners' earnings is a poorer proxy for the change in the market's expectations of earnings than is the change in nonwinners'. This difference could arise if, at the beginning of the award year, investors have additional information about what winners' earnings are likely to be for the award year, that is, the winners' prior information environment is richer. In this case, the market's expectation of award year earnings will be more precise than the forecast provided by report year earnings alone. When award year earnings are announced, uncertainty is resolved for both winners and nonwinners but due to the more precise forecast, the surprise in announced earnings is less for winners. Under these circumstances, winners' prices would have reflected the additional information when it was disclosed, before the event period

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<sup>39</sup>Judge, *et al.*, p. 709. The discussion focuses on equation (3.7) for two reasons. First, measurement error in EFES is also expected to bias the estimated coefficient of DWIN downward in equation (3.8) since (3.8) is equivalent to separately estimating (3.7) for winners and nonwinners, except that the intercept and residual variance of the two groups are assumed to be the same. Second, the direction of bias is difficult to predict in multiple regressions such as (3.9) and (3.10) but more importantly, equations (3.9) and (3.10) add little to the inferences about DWIN obtained from (3.7) and (3.8).

<sup>40</sup>That is, the variance of the measurement error relative to the variance of EFES must be relatively larger for winners than for nonwinners.



began.<sup>41</sup> This explanation implies the award or sample selection process identified firms with a finer prior information environment. Even if they contained more value-relevant information than nonwinners' reports, winners' annual reports would not be a timely source of such information.

#### Value-relevant Information Omitted from Regression

In an efficient market, investors will assess value using all available value-relevant information, of which earnings is just one element. If winners generally disclose more value-relevant non-earnings information during the event period than do nonwinners, winners' earnings would tend to be less value-relevant relative to nonwinners' earnings. The smaller correlation observed for winners would then be due to the regression models omitting more value-relevant information from the winners' regression than from the nonwinners'. Winners' earnings alone would explain a smaller proportion of the variation in returns and a smaller  $R^2$  would be observed.<sup>42</sup>

This explanation relies on winners disclosing additional value-relevant information during the event period, either in the annual report or using some other means. Although indirect evidence that winners' reports contain more value-relevant information than nonwinners' was presented in Chapter 2, the precise nature of any information differences between winners and nonwinners, and when the market first learns about them, is unknown. The question of the informativeness of the annual report itself is addressed in Chapter 4 where the variability of

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<sup>41</sup>Whether winners display unusual returns in the period before the event period begins is examined below in the context of sample selection bias. No evidence of such bias is found.

<sup>42</sup>This explanation is similar to the measurement error explanation in that both rely on winners disclosing additional value-relevant information. The measurement error explanation, however, assumes earnings expectations play an important role in assessing value whereas the omitted variable explanation assumes a reduced role for earnings expectations relative to other information.

winners' and nonwinners' abnormal returns are compared in a short window around the time of the annual report's release.

#### Winners Do Not Disclose Additional Value-Relevant Information

The explanations offered to this point all rely on DWIN capturing differences in the information environments of winners and nonwinners. The observed results may also be completely unrelated to differential informativeness, either because of random coincidence in the sample or because the dummy variable, DWIN, is correlated with an omitted variable that affects ERCs but which is unrelated to differential informativeness. The former explanation could be tested by replicating the study on different samples of firms or different time periods.

The latter is a more difficult and potentially more serious problem because even with several studies, one can never prove that such a variable does not exist, only that research has not yet discovered it. Recognizing the potential problem, proxies for several variables which had been shown by previous research to affect ERCs were added to the model, with little effect on the results for DWIN. There is, however, the possibility that sample selection bias has caused winners to differ on some other characteristic.

There is also the possibility the control was inadequate either because the proxy variable used (LMV for example) was not a sufficiently good proxy or because the relation between the variable and ERCs is nonlinear. In either case DWIN may be acting as a proxy for the inadequately controlled correlated variable. For example, there is a possibility that the results could be due to the size differential between winners and nonwinners.<sup>43</sup> Winners tend to be larger and lower ERCs have been found for larger firms in previous research.

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<sup>43</sup>See Table 12.

In addition to being larger, however, winners also tend to have more precise estimates of systematic risk than nonwinners.<sup>44</sup> The interaction of size and systematic risk differences suggest another explanation for lower winner ERCs which is discussed next.

#### Size Effects and Measurement Error in Unexpected Returns

Differences in the return behavior of winners and nonwinners observed in Table 11 could be due to a size effect. While LMV was added to the linear response function to control for mean size effects in ERCs, potential size effects in market model prediction errors have yet to be addressed. The finance literature has shown that returns of smaller firms exhibit larger market model prediction errors than those of larger firms.<sup>45</sup> Chan and Chen (1988) provide evidence that the log of market value of equity is a useful proxy for the effects of errors in market model estimates of systematic risk. When the previous regressions were repeated with  $LMV_{jt}$  as a separate explanatory variable to capture mean size effects in CUR, the estimated coefficients of  $LMV_{jt}$  were significantly negative at less than the 1% level, in every case.<sup>46</sup> These results are not reported in detail because the estimates and significance levels of the other coefficients were virtually identical to those reported in Table 14.

Previous research suggests that the coefficient of LMV in the response function (the coefficient of  $LMV \cdot EFES$ ) should be negative but in Table 14 this coefficient is positive and

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<sup>44</sup>See Table 11.

<sup>45</sup>See Banz (1981), Reinganum (1981) and Chan and Chen (1988), for example. For small firms, market model estimates of systematic risk tend to be understated resulting in overestimates of prediction errors, on average, and a negative correlation between LMV and CUR. As shown in Table 13, the correlation between CUR and LMV in my sample is negative for both winners and nonwinners.

<sup>46</sup>As a separate explanatory variable, LMV captures the direct influence of size on CUR; in the response function, LMV captures the indirect influence of size on CUR through its influence on ERC.

significant at less than the 10% level in (3.9) and is positive in (3.10). This could be the result of size-related errors in market model estimates of systematic risk. For example, holding other influences constant, if the response function is not affected by size differences, all firms with the same  $\beta$  estimate will have the same estimated ERC. But if smaller firms'  $\beta$  estimates tend to be understated, their estimated ERCs will tend to be overstated (relative to larger firms with the same estimated ERC) because their CUR estimates would tend to be overstated. When LMV is added to the response function, holding estimated systematic risk and other influences constant, larger firms will tend to be associated with larger estimated ERCs and the coefficient of size will tend to be positive. The positive coefficient observed for LMV•EFES is therefore consistent with size proxying for error in estimates of  $\beta$ .

Some authors have attributed the observed negative relation between size and ERC to differences in the information environments of large and small firms.<sup>47</sup> If so, size then proxies for two influences anticipated to have different effects on ERCs: the prior information environment (negative influence) and errors in  $\beta$  estimates (positive influence). The observation of smaller ERCs for larger firms in this study could be the result of separating these two effects by the addition of DWIN, a variable apparently related to information differences between the two groups. If DWIN captures the effect of information environment differences, size is left to capture the positive effect of errors in estimates of systematic risk.

#### Exploring the Possibility of Sample Selection Bias

Several forms of selection bias affect the sample and generalizations to the population of firms should be made cautiously. For example, firms select what voluntary disclosures to make in the annual report, the Financial Post pre-qualifies and selects those reports included in

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<sup>47</sup>For example, Collins and Kothari (1989, p. 152).

the contest and judged each year, the judges select the winning annual reports and the sample was not randomly selected since both winning and nonwinning firm/years were subjected to data availability requirements. It is important, however, to recognize that the interpretation of results will be affected only if the selection bias is related to differences in the empirical return/earnings relations of winners and nonwinners. For example, judges may systematically give above average rankings to the reports of firms with above average returns or earnings, or firms may be more likely to produce an award-winning report when they are doing well (either to signal their affluence or because they can afford the expense of issuing an award-winning report). This section presents descriptive statistics of the time series of returns and earnings of winners and nonwinners to explore whether winners tend to display good news before being selected for an award.<sup>48</sup>

### Stock Returns

Table 18 describes the distributions, by group, of the means and variances of the sample firm/years' monthly stock return series for three years -- the year before the report year, the report year and the award year. There appears to be little difference between winners and nonwinners in the behavior of mean monthly stock returns in any of the three years. In particular the cross-sectional average of mean monthly stock returns during the report year was 0.016 for winners and 0.015 for nonwinners; the difference is not significant at conventional levels (t-statistic = 0.15).<sup>49</sup> Similar results are observed for the other two years.

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<sup>48</sup>As discussed above, whether winners display unexpected returns prior to the beginning of the event period is also relevant to whether winners have a finer prior information environment.

<sup>49</sup>See footnote 24.

TABLE 18

**DISTRIBUTIONS OF MEAN AND VARIANCE OF MONTHLY STOCK RETURNS  
IN AWARD YEAR AND TWO PREVIOUS YEARS FOR 116 WINNING  
AND 123 NONWINNING FIRM/YEARS, 1982-87**

Variable <sup>a</sup>	Fractiles							Mean <sup>b</sup>	Std Dev
	Min	.10	.25	.50	.75	.90	Max		
<b>Panel A: Year Prior to Report Year</b>									
$\bar{R}$ - W	-0.040	-0.019	-0.001	0.016	0.037	0.054	0.102	0.018	0.028
- NW	-0.070	-0.025	-0.006	0.013	0.033	0.045	0.130	0.012	0.030
$V_R$ - W	0.001	0.003	0.004	0.008	0.011	0.017	0.062	0.009	0.008 <sup>c</sup>
- NW	0.001	0.002	0.004	0.007	0.013	0.022	0.099	0.011	0.012
<b>Panel B: Report Year</b>									
$\bar{R}$ - W	-0.050	-0.018	-0.005	0.016	0.037	0.050	0.102	0.016	0.028
- NW	-0.060	-0.017	-0.006	0.009	0.034	0.058	0.126	0.015	0.032
$V_R$ - W	0.001	0.003	0.004	0.007	0.011	0.014	0.052	0.009	0.008 <sup>c</sup>
- NW	0.001	0.002	0.004	0.007	0.012	0.018	0.070	0.010	0.010
<b>Panel C: Award Year</b>									
$\bar{R}$ - W	-0.035	-0.017	-0.005	0.014	0.031	0.050	0.113	0.015	0.026
- NW	-0.063	-0.022	-0.008	0.014	0.034	0.047	0.107	0.014	0.029
$V_R$ - W	0.001	0.003	0.005	0.007	0.010	0.014	0.046	0.009	0.008 <sup>c</sup>
- NW	0.001	0.002	0.004	0.007	0.012	0.019	0.060	0.010	0.009

<sup>a</sup>Each row reports cross-sectional statistics for the time series variable listed in the first column.  $\bar{R}$  and  $V_R$  are the time series mean and variance of monthly returns in the relevant 12 month period. W and NW label the winning and nonwinning groups, respectively.

<sup>b</sup>None of the t-statistics for the test that the two means are equal is significant at less than the 5% level. The test does not assume equal variances and has 115 degrees of freedom, the degrees of freedom for the smaller of the two groups. See Lindgren (1976, p.352).

<sup>c</sup>The F-statistic for the test that the two variances are equal is significant at less than the 5% level.

The cross-sectional mean (median) of the monthly return variances is also similar for winners and nonwinners. The sample standard deviation of the monthly return variances is smaller for winners, a reflection of greater skewness in the nonwinners' variance distribution.

### Earnings Per Share

Cross-sectional distributions for the time-series mean, variance and first-order serial correlation,  $r_1$ , of the levels and first differences of annual EPS in the years prior to the report year are summarized in Table 19.<sup>50</sup> Panel A reports on the levels and Panel B reports on the first differences,  $\Delta$ EPS. Firm/years were required to have at least 10 consecutive years of EPS data available on the Canadian Compustat file prior to and including the award year yielding a subsample of 78 winner and 73 nonwinner firm/years.<sup>51</sup> The median number of prior years used to construct the time-series statistics was 13 for both winners and nonwinners.

In the years prior to the report year, the distributions of the mean of EPS, the variance of EPS and the mean of  $\Delta$ EPS are similar for winners and nonwinners. The average variability of  $\Delta$ EPS is, however, significantly smaller at less than the 5% level for winners (0.504) than for nonwinners (0.995). For EPS, the mean (standard deviation) of  $r_1$  for winners is 0.569 (0.192) which is higher (lower) than the 0.506 (0.205) observed for nonwinners. The difference in mean  $r_1$  is significant at the 6% level. For  $\Delta$ EPS, the mean (standard deviation) of  $r_1$  for winners is 0.098 (0.243), significantly higher (lower) at the 5% level than the -0.077

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<sup>50</sup>The first order autocorrelation coefficient was computed because previous researchers have estimated the persistence of earnings from time series models and the first order auto-correlation coefficient is expected to be significantly different from zero in several common time series models. In particular, Kormendi and Lipe (1987) estimate a second order auto-regressive model and Collins and Kothari (1989) estimate a first order moving average model. Both these models are expected to display a significant first-order sample autocorrelation.

<sup>51</sup>A subsample of 151 firm/years had at least ten years' earnings available, 88 of the original 239 firm/year observations did not.

**TABLE 19**  
**DISTRIBUTIONS OF TIME SERIES STATISTICS FOR LEVELS AND**  
**FIRST DIFFERENCES OF ANNUAL EPS FOR 78 WINNING**  
**AND 73 NONWINNING FIRM/YEARS, 1982-87**

Variable <sup>a</sup>	Fractiles							Mean <sup>b</sup>	Std Dev
	Min	.10	.25	.50	.75	.90	Max		
<b>Panel A: EPS</b>									
$\overline{\text{EPS}}$ - W	0.028	0.180	0.459	0.747	1.149	2.195	5.191	0.963	0.806
- NW	-0.177	0.113	0.289	0.482	1.242	1.485	4.455	0.817	0.953
$V_E$ - W	0.003	0.015	0.129	0.329	0.712	1.343	6.658	0.765	1.392
- NW	0.002	0.030	0.058	0.310	1.069	2.881	9.020	1.026	1.706 <sup>c</sup>
$r_1$ - W	0.011	0.260	0.455	0.614	0.708	0.770	0.830	0.569	0.192
- NW	0.030	0.230	0.349	0.514	0.665	0.755	0.840	0.506	0.205
N - W	8.	11.	12.	13.	15.	16.	16.	13.192	2.071
- NW	8.	11.	12.	13.	15.	16.	16.	13.274	2.090
<b>Panel B: <math>\Delta</math>EPS</b>									
$\overline{\text{EPS}}$ - W	-0.525	-0.133	0.018	0.066	0.113	0.168	0.332	0.042	0.135
- NW	-0.181	-0.041	0.007	0.044	0.090	0.178	0.740	0.063	0.135
$V_E$ - W	0.001	0.004	0.029	0.161	0.488	1.477	3.671	0.504	0.878
- NW	0.000	0.006	0.025	0.122	1.092	3.255	7.519	0.995 <sup>b</sup>	1.695 <sup>c</sup>
$r_1$ - W	-0.566	-0.320	-0.011	0.164	0.237	0.348	0.689	0.098 <sup>b</sup>	0.243
- NW	-0.714	-0.472	-0.272	-0.091	0.116	0.297	0.722	-0.077	0.302 <sup>c</sup>

<sup>a</sup>Each row reports cross-sectional statistics for the time series variable listed in the first column, estimated over the period prior to the report year for all firms with at least eight consecutive years of data. EPS is annual earnings per share adjusted for stock splits and dividends;  $\overline{\text{EPS}}$  and  $V_E$  are the time series mean and variance; and  $r_1$  is the first-order serial correlation. W and NW label the winning and nonwinning groups, respectively.

<sup>b</sup>The t-statistic for the test that the two means are equal is significant at less than the 5% level. The test does not assume equal variances and has 72 degrees of freedom, the degrees of freedom for the smaller of the two groups. See Lindgren (1976, p.352).

<sup>c</sup>The F-statistic for the test that the two variances are equal is significant at less than the 5% level.



(0.302) of nonwinners. These estimates are based on a short time series so strong conclusions should not be drawn but winners appear to have a higher correlation between successive EPS and  $\Delta$ EPS than nonwinners. As with the market model regressions, the winner group appears to be more homogeneous since the  $r_1$  estimates are less variable across firm/years.

Table 20 reports the distributions of  $\Delta$ EPS relative to both the distribution of past earnings and beginning stock price for the report year (Panel A) and the award year (Panel B). The variable  $t(E)$  is  $\Delta$ EPS standardized by the mean and standard deviation from the years prior to the report year. EFES represents  $\Delta$ EPS scaled by the stock price at the beginning of the year. Neither measure of relative  $\Delta$ EPS displays significant mean differences between winners and nonwinners in the report year or the award year. For both groups and both report and award years, over 65% of the firm/years have  $t(E)$  ratios which are not significantly different from zero at the 5% level.<sup>52</sup>

While differences are observed in winners' and nonwinners' time series of returns and earnings, there is little indication of systematic selection bias. Neither winners nor nonwinners displayed unusually high (or low) return or earnings in either the report year or the award year.

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<sup>52</sup>The distributions of EFES in the award year in Table 20 are comparable to those presented in Table 12 for the full sample. In addition, the earlier regressions were reestimated using these 151 firm/year observations and the results were virtually identical to those presented in Table 14. The distributions observed for the smaller subsample appear to be representative of the larger sample and should be good predictors of what the distributions for the full sample might look like.

**TABLE 20**  
**DISTRIBUTIONS OF TWO MEASURES OF RELATIVE  $\Delta$ EPS FOR**  
**78 WINNING AND 73 NONWINNING FIRMS, 1982-87**

Variable <sup>a</sup>	Fractiles							Mean <sup>b</sup>	Std Dev
	Min	.10	.25	.50	.75	.90	Max		
<b>Panel A: <math>\Delta</math>EPS in Report Year</b>									
t(E) - W	-7.491	-3.401	-1.202	0.009	0.759	1.138	4.081	-0.500	1.941
- NW	-8.800	-2.543	-0.874	-0.169	0.744	1.207	4.398	-0.383	1.979
EFES - W	-0.302	-0.130	-0.021	0.004	0.019	0.069	0.181	-0.008	0.074
- NW	-0.384	-0.164	-0.032	0.001	0.020	0.114	0.981	0.005	0.165 <sup>c</sup>
<b>Panel B: <math>\Delta</math>EPS in Award Year</b>									
t(E) - W	-9.318	-2.676	-1.050	0.295	0.812	1.512	3.367	-0.370	2.098
- NW	-8.340	-1.876	-0.364	0.283	0.915	1.834	13.175	0.217	2.515
EFES - W	-0.302	-0.055	-0.016	0.007	0.028	0.085	0.286	0.004	0.079
- NW	-0.250	-0.069	-0.019	0.011	0.044	0.096	0.449	0.013	0.096 <sup>c</sup>

<sup>a</sup>Each row reports cross-sectional statistics for the time series variable listed in the first column. EPS is annual earnings per share adjusted for stock splits and dividends; t(E) is  $\Delta$ EPS standardized by the time series mean and standard deviation estimated in an earlier period (see Table 19); and EFES is  $\Delta$ EPS scaled by stock price at the beginning of the year. W and NW label the winning and nonwinning groups, respectively.

<sup>b</sup>None of the group mean differences is significant. The t-statistic for the test that the two means are equal does not assume equal variances and has 72 degrees of freedom, the degrees of freedom for the smaller of the two groups. See Lindgren (1976, p.352).

<sup>c</sup>The F-statistic for the test that the two variances are equal is significant at less than the 5% level.

**CHAPTER 4**  
**THE INFORMATION CONTENT OF THE ANNUAL REPORT**

The content analysis of judges' comments in Chapter 2 suggested that the winners of Financial Post awards have annual reports which are more informative to investors than those of nonwinners. If the annual report conveys information which causes investors to revise their assessments of the distribution of future cash flows, an unexpected return results. Since the revision in expectations is as likely to be positive as negative, the cross-sectional mean of unexpected returns is expected to be zero but the variability of unexpected returns is expected to increase, relative to the variability in a nonannouncement period.<sup>1</sup> Thus one way to test the informativeness of the annual report is to conduct a short window event study centered on the date of release of the annual report. If winners' reports have greater informativeness than nonwinners' reports the mean increase in return variability of the winners should be larger than that of the nonwinners.

This chapter describes an empirical test for increased variability of returns around the date the annual report is released and for differences in the return variability of winners and nonwinners. The results weakly support the hypothesis that the incremental variability of winners is larger than the incremental variability of nonwinners. Indirectly, the results are weakly consistent with the hypothesis that winners of awards have more informative annual

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<sup>1</sup>Beaver (1968) showed that the variability of unexpected returns increased, relative to the variability in a nonannouncement period, at the time of an information release. The information release studied by Beaver was the announcement of earnings, which typically precedes the release of the annual report. See also Patell (1976) and Ohlson (1979).

reports than nonwinners. The chapter concludes with a discussion of some of the limitations of the test.

## Research Design

### Sample Selection

The 239 firm/years selected in Chapter 3 provided the initial sample. All 122 firms are listed on the Toronto Stock Exchange and must file a copy of their annual report with the Ontario Securities Commission (OSC) within 120 days of the end of their fiscal year. Some firms are cross-listed in the United States and must file 10-K forms with the SEC. Each document is stamped with the date of receipt by both the OSC and SEC and this date was used as the date the annual report was released to the market. If both dates were available for a firm/year, the earlier date was recorded. Dates could not be found for 23 firm/years; the final sample consists of 216 firm/years, 103 winners and 113 nonwinners, covering the six years 1982-87.

### Data and Variable Definitions

Daily stock returns for each firm/year and for the TSE 300 index were obtained from the Toronto Stock Exchange/University of Western Ontario database for the period commencing 261 trading days before and ending 60 trading days after the date of release of the annual report. For each firm/year, a market model regression was estimated using continuously compounded one-day returns for days -260 to -61 where day 0 is the date the annual report was received by the OSC or SEC. Firm/years were required to have at least 100 one-day returns available to estimate the market model and all 216 firm/years met this requirement.

The event period covers days -60 through +60 and unexpected returns in this period,  $UR_{it}$ , are computed as the prediction errors from the market model. An estimate of the variance of unexpected return for each firm and day in the event period was computed as,

$$S_{it}^{*2} = S_i^2 \cdot C_{it}, \quad (4.1)$$

where:

$S_i^2$  is the residual variance for firm  $i$  from the market model regression in the estimation period,

$C_{it}$  adjusts the residual variance for forecasting outside the estimation period and is computed as,

$$C_{it} = 1 + \frac{1}{T_i} + \frac{(R_{mt} - \bar{R}_m)^2}{(T_i - 1)\hat{\sigma}_m^2} \quad (4.2)$$

$T_i$  is the number of days used to estimate the market model for firm  $i$ , and  $\bar{R}_m$  and  $\hat{\sigma}_m^2$  are the sample mean and variance, respectively, of market returns during the estimation period.

The distributions of daily returns and market model statistics during the estimation period are contained in Table 21. In the estimation period, the mean daily return for winning firms was larger than that of nonwinning firms, but the difference is not significant at the 5% level.<sup>2</sup> The mean  $\beta$  of winning firms is also larger than the mean  $\beta$  of nonwinning firms. This is consistent with the larger mean return as firms with higher systematic risk are expected to earn higher mean returns.

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<sup>2</sup>Test statistics for mean differences were computed without assuming the population variances were equal. The statistic used was

$$|\bar{X}_1 - \bar{X}_2| / \sqrt{S_1^2/n_1 + S_2^2/n_2}$$

Choosing as a critical region the 95th percentile of the  $t$  distribution with  $\min(n_1, n_2)$  degrees of freedom provides a test with a size at least equal to 5%. See Lindgren (1976, p.352).

**TABLE 21**  
**DISTRIBUTIONS OF DAILY RETURN AND MARKET MODEL STATISTICS**  
**IN ESTIMATION PERIOD**

PANEL A: Winning Firm/years (N = 103)							
Variable <sup>a</sup>	Fractiles					Mean <sup>b</sup>	Std Dev
	Min	.25	.50	.75	Max		
$\bar{R} \times 10^2$	-0.327	-0.043	0.089	0.141	0.393	0.058	0.153
$V_R \times 10^4$	0.488	1.844	2.957	4.366	25.525	3.805 <sup>b</sup>	3.347 <sup>c</sup>
$\beta$	-0.287	0.479	0.723	0.982	2.427	0.756 <sup>b</sup>	0.446
$t(\beta)$	-1.070	2.630	4.200	6.490	13.870	4.739 <sup>b</sup>	2.937
$R^2$	0.000	3.400	8.250	17.710	49.540	11.979 <sup>b</sup>	11.124 <sup>c</sup>
$S_e^2 \times 10^4$	0.482	1.594	2.399	3.763	18.383	3.354 <sup>b</sup>	2.852 <sup>c</sup>
DW	1.580	1.940	2.090	2.290	2.820	2.123	0.264
d.f.	167.000	196.000	196.000	196.000	196.000	195.010	3.964

PANEL B: Nonwinning Firm/years (N = 113)							
Variable <sup>a</sup>	Fractiles					Mean <sup>b</sup>	Std Dev
	Min	.25	.50	.75	Max		
$\bar{R} \times 10^2$	-0.486	-0.049	0.064	0.131	0.452	0.048	0.156
$V_R \times 10^4$	0.333	2.920	4.836	7.548	36.093	6.325 <sup>b</sup>	5.859 <sup>c</sup>
$\beta$	-0.331	0.222	0.504	0.955	1.731	0.610 <sup>b</sup>	0.506
$t(\beta)$	-0.870	1.140	2.250	4.480	12.350	3.007 <sup>b</sup>	2.650
$R^2$	0.000	0.660	2.660	9.280	43.780	6.582 <sup>b</sup>	8.674 <sup>c</sup>
$S_e^2 \times 10^4$	0.279	2.798	4.186	7.073	35.322	6.027 <sup>b</sup>	5.779 <sup>c</sup>
DW	1.560	2.030	2.240	2.500	2.950	2.262	0.295
d.f.	125.000	194.000	196.000	196.000	196.000	192.580	10.290

<sup>a</sup>Each row reports cross-sectional statistics for the time series variable listed in the first column.  $\bar{R}$  and  $V_R$  are the time series mean and variance of daily returns,  $\beta$ ,  $t(\beta)$ ,  $R^2$ ,  $S_e^2$ , DW, and d.f. are the slope coefficient, t-statistic, R-squared, residual variance, Durbin-Watson statistic and degrees of freedom from the market model regression, respectively.

<sup>b</sup>The t-statistic for the test that the two means are equal is significant at less than the 5% level.

<sup>c</sup>The F-statistic for the test that the two variances are equal is significant at less than the 5% level.

The most significant differences between the two groups, however, appear in measures of variability.<sup>3</sup> On average, the time series variability of returns for nonwinning firms is significantly greater than the time series variability of returns for winning firms.<sup>4</sup> With respect to the market model estimations, the winning firms display greater precision in the estimate of  $\beta$  (an average t-statistic of 4.74 relative to an average t-statistic for the nonwinners of 3.01), a higher mean proportion of return variance explained by market movements (mean  $R^2$  of 12.0% compared to the nonwinners mean of 6.6%) and a lower residual variance than nonwinning firms (0.000335 compared to 0.000603). Furthermore, the t-statistics testing the equality of the means of these three variables are all significant at less than the 0.001 level.<sup>5</sup>

The differences observed in Table 21 between the return distributions of the two groups in the period prior to the release of the annual report may result from differences in the information environments of the firms. If winners have more informative disclosures generally in addition to providing more informative annual reports, the prior variability of returns will be lower and the incremental informativeness of the annual report will be reduced. The observed return variability of nonwinners surrounding the release of the annual report may exceed that

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<sup>3</sup>In addition, of course, to the differences, particularly the size differential, noted in Chapter 3.

<sup>4</sup>The statistic used to test for variance differences was the ratio of the sample variances. Under the null hypothesis of equal cross-sectional variances, this ratio has an F distribution. If the winning group has  $n_1$  firms and the nonwinning group has  $n_2$  firms, then the ratio of the variance of winning firms to the variance of nonwinning firms is distributed as  $F(n_1-1, n_2-1)$ . Significance is assessed at the 5% level.

<sup>5</sup>Table 21 is based on daily returns for a 200 day period; Table 11, discussed in Chapter 3, reported similar statistics based on monthly returns for a 5 year period. The results for daily returns generally are consistent with those for monthly returns, with one exception. Winners' average returns are significantly larger than those of nonwinners' when measured monthly over a 5 year period but not when measured daily over the last 200 days of that period.

of winners if nonwinners cluster their disclosures in the annual report rather than make frequent disclosures throughout the year.

Another reason for the lower prior return variability observed for winners may be selection bias on the part of the judges. That is, if judges' decisions are affected by observed differences in return variability, a sample of winners could display a lower variability than a sample of nonwinners simply because the winners were selected on the basis of return variability. While the possibility of selection bias cannot be refuted, the evidence in Chapter 3 suggests that this form of selection bias is not a major concern.

Finally, the observed differences could be a size effect since winners are generally larger than nonwinners. Whatever the reason, test statistics (described below) control for the observed differences in prior return variability across firms.

#### Weekly Unexpected Returns and Construction of a Test Statistic

It is difficult to establish the precise date on which market participants receive the annual report. Firms may release the report to shareholders before or after filing the report with the OSC. To allow for possible event date misspecification, the event period was divided into 23 "weeks" of five trading days each, centered on the day the report was filed with the OSC. The  $UR_{it}$  are cumulated over each five day interval to obtain weekly unexpected returns,  $UR_{iw}$ , where  $w$  indexes weeks -11 to +11. Assuming that the  $UR_{it}$  are independent, the estimated variance of  $UR_{iw}$ ,  $S_{iw}^{*2}$ , is the sum of the estimated variances of  $UR_{it}$ ,

$$S_{iw}^{*2} = S_i^2 \sum_{t=1}^5 C_{it}. \quad (4.3)$$



The incremental variability of each firm/week,  $V_{iw}^2$ , was computed by standardizing  $UR_{iw}$  by  $S_{iw}^*$  and squaring,

$$V_{iw}^2 = \frac{UR_{iw}^2}{S_{iw}^{*2}} \quad (4.4)$$

The informativeness of the annual report is expected to be associated with an increase in the variability of unexpected returns in the week surrounding the filing of the annual report with the OSC, relative to the variability in a prior period. If winners' reports are more informative than nonwinners', the incremental return variability of winners should be larger than that of nonwinners. A statistic to test the null hypothesis that the mean incremental return variability of winners is equal to that of nonwinners is constructed below.

Let  $\bar{V}_{kw}^2$  be the cross-sectional mean of  $V_{iw}^2$  for group  $k$  during week  $w$ ,

$$\bar{V}_{kw}^2 = \frac{1}{N_k} \sum_{i=1}^{N_k} V_{iw}^2 \quad (4.5)$$

where  $k$  equals 1 if firm  $i$  is a winner and 2 if a nonwinner,  $N_k$  is the number of firm/years in group  $k$  during week  $w$ , and  $w$  ranges from -11 to +11.

Asymptotically  $V_{iw}^2$  approaches a  $\chi^2$  distribution with 1 degree of freedom under the assumption that the  $UR_{iw}$  are normally distributed and serially and cross-sectionally independent.<sup>6</sup> The test statistic,

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<sup>6</sup>Assuming  $UR_{it}$  is i.i.d  $N(0, C_{it} \cdot \sigma_i^2)$  and  $C_{iw}$  is the sum of the five daily adjustment factors,  $C_{it}$ ,  $UR_{iw}$  is distributed as  $N(0, C_{iw} \cdot \sigma_i^2)$ . The sampling distribution of  $V_{iw}$  is a Student's  $t$  distribution with  $T_i$  degrees of freedom. However, this distribution converges to the unit normal as  $T_i$  gets large. From Table 21,  $T_i$  ranges from 125 to 196 which suggests that the unit normal should be a good approximation of the distribution of  $V_{iw}$  and the  $\chi^2$  with 1 degree of freedom should be a good approximation of the distribution of  $V_{iw}^2$ . The conclusions of tests based on these approximations should be similar to the conclusions of tests based on a more precise sampling distribution (see Patell (1976), for example).

$$F_w = \frac{\bar{V}_{1w}^2}{\bar{V}_{2w}^2} \quad (4.6)$$

represents the winners' mean incremental variability relative to that of the nonwinners and is the ratio of two independent asymptotic  $\chi^2$  variables, each weighted by its respective degrees of freedom. Asymptotically,  $F_w$  has an F distribution with  $(N_1, N_2)$  degrees of freedom. A value of  $F_w$  greater than one indicates winners' mean incremental variability is greater than that of nonwinners. A large observed value of  $F_w$  will lead to a rejection of equal mean incremental variability in favor of the alternative that winners' mean incremental return variability is greater than nonwinners'.

### Results

Table 22 reports for each group the cross-sectional mean squared unexpected return,  $\overline{UR}_{kw}^2$ , the cross-sectional mean squared standardized unexpected return,  $\overline{V}_{kw}^2$ , and the number of firms in each group for 23 weeks surrounding the week the OSC receives the annual report. When either the first or last daily return in any week was missing, the weekly return for that firm was excluded from the mean. The number of firms ranges from 101 to 103 for winners and from 107 to 112 for nonwinners. During the week of the OSC filing, the nonwinners have a higher mean variability than the winners: the mean squared unexpected return,  $\overline{UR}_{kw}^2$ , of the winners (nonwinners) is 0.0143 (0.0171). In fact, the nonwinners' variability is higher than the winners' in 20 of the 23 weeks, which is consistent with the earlier observation that nonwinners have higher variability of market model residuals in general, not only in week 0.

TABLE 22

**MEAN SQUARED RETURNS AND MEAN SQUARED STANDARDIZED RETURNS  
FOR 23 WEEKS SURROUNDING ANNUAL REPORT RELEASE DATE<sup>a</sup>**

Week (w)	Winners			Nonwinners			F <sub>w</sub>
	$\overline{UR}_w^2$ x 10 <sup>4</sup>	$\overline{V}_w^2$	N <sub>w</sub>	$\overline{UR}_w^2$ x 10 <sup>4</sup>	$\overline{V}_w^2$	N <sub>w</sub>	
-11	132.08	0.98	102	171.45	0.81	112	1.22
-10	187.82	1.54	102	283.54	0.98	110	1.57 <sup>b</sup>
-9	150.75	1.07	102	152.73	0.86	111	1.24
-8	216.86	1.63	103	171.76	0.82	112	1.98 <sup>b</sup>
-7	189.09	1.64	103	241.56	0.77	111	2.12 <sup>b</sup>
-6	100.35	0.85	103	227.78	1.02	111	0.84
-5	230.20	1.30	103	260.23	1.04	112	1.24
-4	118.92	1.01	102	254.56	1.16	112	0.87
-3	119.14	0.89	102	259.95	0.99	112	0.90
-2	125.09	0.97	102	155.71	0.70	112	1.39 <sup>b</sup>
-1	144.85	0.96	101	139.92	0.64	112	1.49 <sup>b</sup>
0	142.52	1.20	102	170.97	0.88	110	1.37 <sup>b</sup>
1	136.41	1.10	103	178.54	0.93	108	1.18
2	152.93	0.95	102	207.22	0.94	107	1.01
3	106.53	0.89	102	224.92	0.96	108	0.93
4	151.64	1.39	102	247.41	1.18	108	1.17
5	117.25	0.95	102	192.79	0.84	109	1.13
6	145.14	1.02	103	256.30	0.84	111	1.21
7	194.19	1.14	103	181.81	0.93	112	1.22
8	137.52	1.09	101	181.92	0.87	112	1.25
9	112.72	0.85	101	161.77	0.78	111	1.09
10	126.90	0.98	103	152.40	0.82	110	1.20
11	93.98	0.72	103	164.79	0.87	110	0.83

<sup>a</sup> $\overline{UR}_{kw}^2$  is mean squared prediction error from the market model for group k in week w,  $\overline{V}_{kw}^2$  is the mean squared standardized prediction errors for group k in week w, N<sub>kw</sub> is the number of firms in group k in week w, and k={winners,nonwinners}.

<sup>b</sup>The F statistic rejects the null hypothesis that the mean squared standardized return of the winners is not greater than that of the nonwinners at less than the 5% level.

Table 22 also reports the mean squared standardized unexpected return,  $\nabla_{kw}^2$ , for each group in each week and  $F_w$  for each week.<sup>7</sup> The standardized return reflects the incremental variability of each firm. The mean incremental variability of winners (1.20) is significantly greater than the mean incremental variability of nonwinners (0.88) in the week the OSC receives the annual report. The F statistic for week 0 is 1.37, with 102 and 110 degrees of freedom, which is significant at less than the 5% level. The winners also display significantly larger incremental variability in the two weeks prior to filing with the OSC. This could indicate that the annual report is released to the market slightly earlier than the date the OSC receives the report. A slightly misspecified event week could also explain why week -1 is one of three weeks where the variability of the winners exceeds the variability of the nonwinners without controlling for prior variability differences. It is noted below that one of the other two weeks coincides well with the announcement of earnings for winning firms.

#### Limitations of the Results

Despite the significance of the F-statistic for week 0, these results should be interpreted with caution. The study has several weaknesses which may limit the ability to generalize the results.

#### Weak Incremental Variability of Individual Groups

The week the OSC receives the annual report is assumed to be the week the report is received by other market participants. Therefore any market response to the release of the annual report is expected to occur in this week. If, as assumed here, both groups are releasing

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<sup>7</sup>The estimated variance of the unexpected return is increased by an adjustment factor  $C_{iw}$  to reflect the increase in variation due to predicting beyond the estimation period. The 4,895 weekly adjustments ranged from 1.0052 to 1.0582 with a mean of 1.0106 and a standard deviation of 0.0055. On average, the estimated variance used to compute the standardized return was 1% larger than the residual variance from the market model.

informative annual reports but the winners' are simply more informative, both groups should display significant incremental variability in the weeks surrounding the OSC date. However, only the winners display incremental variability in week 0 -- the nonwinners display reduced variability. Moreover, the winners' incremental variability in week 0 is not very strong; the  $\chi^2$  statistic of 122.67 is only marginally significant at conventional levels (p-value = 0.07).<sup>8</sup> Finally, the mean incremental variability in week 0 is not the greatest observed in the event period, five other weeks display higher mean incremental variability.

The significance of the F statistics in weeks -2, -1, and 0 is due to a combination of marginally increased variability for the winners and decreased variability for nonwinners. There is little reason to expect a decline in the variability of returns in the week a nonwinning report is released. These results may not extend to another sample in which the nonwinners also experience incremental variability during week 0.

#### Contemporaneous Announcements of Earnings and Other Signals

It is well known that average return variability increases at the time annual earnings are announced. If winners are more likely to make earnings announcements during week 0 than nonwinners, the increased variability may be due to the earnings announcement and not the information in the annual report. To investigate this possibility, I collected the earnings announcement dates for 213 of the 216 firm/years. Figure 3 contains the distribution of the number of weeks between the year end and the date earnings were announced for 102 winners, and 111 nonwinners.

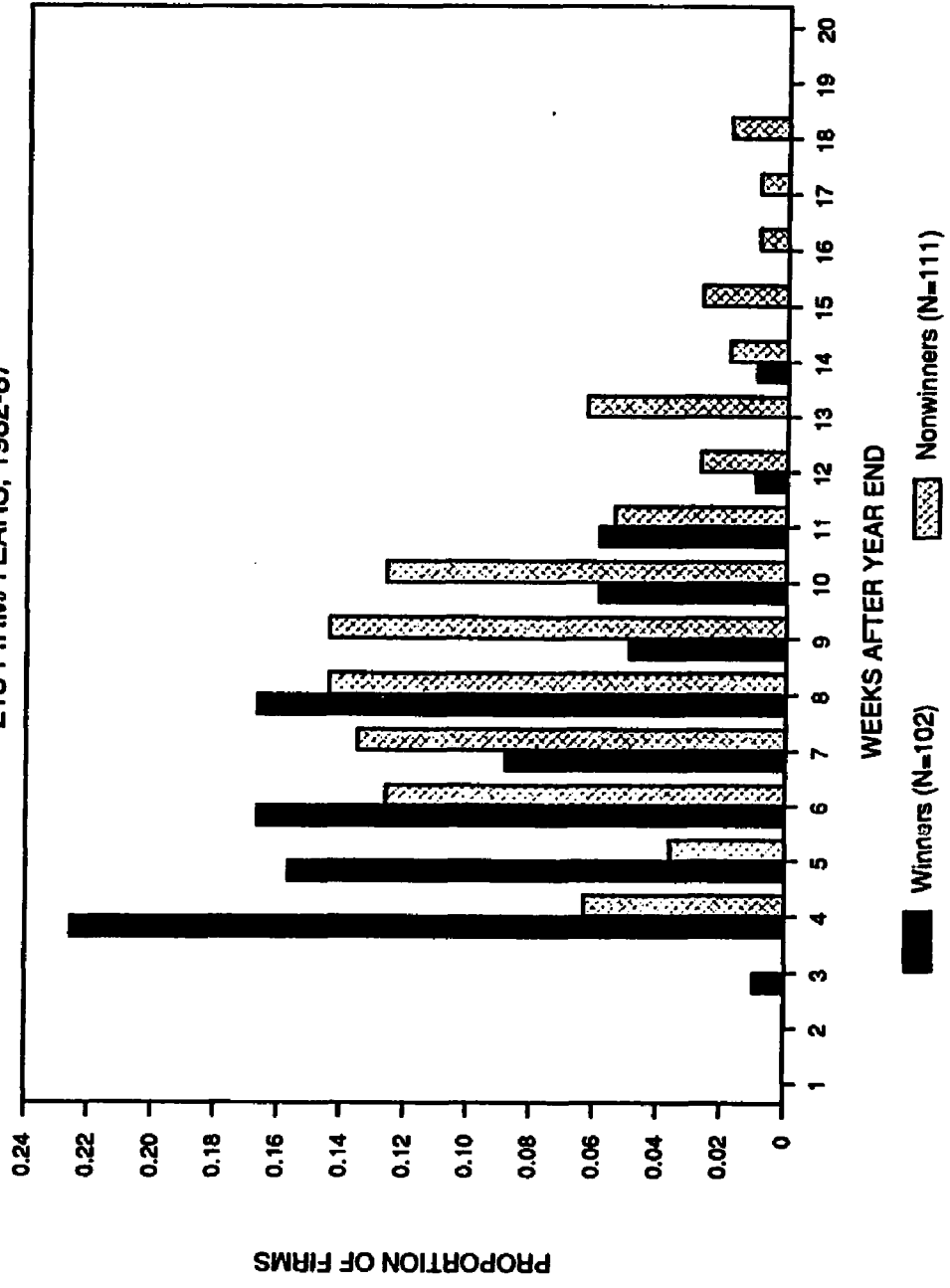
There is a clear difference between the two groups, winners tend to announce their earnings earlier. The mean number of weeks between the year end and the earnings announce-

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<sup>8</sup>Under the previous distributional assumptions, the statistic  $N_k \cdot \nabla_{kw}^2$  has a  $\chi^2$  distribution with  $N_k$  degrees of freedom.

FIGURE 3

WEEKS BETWEEN YEAR END AND ANNUAL EARNINGS ANNOUNCEMENT  
 213 FIRM/YEARS, 1982-87



ment is 6.6 for winners and 8.8 for nonwinners. With a t-statistic of -6.10 this difference is significant at less than the 1% level. A nonparametric test was also conducted. The Kolmogorov-Smirnov (K-S) two-sample statistic tests whether the cumulative frequency distributions of the two samples are different. The K-S statistic of 0.334 is the maximum difference between the two distribution functions. This value exceeds the approximate 5% critical value of 0.167.<sup>9</sup>

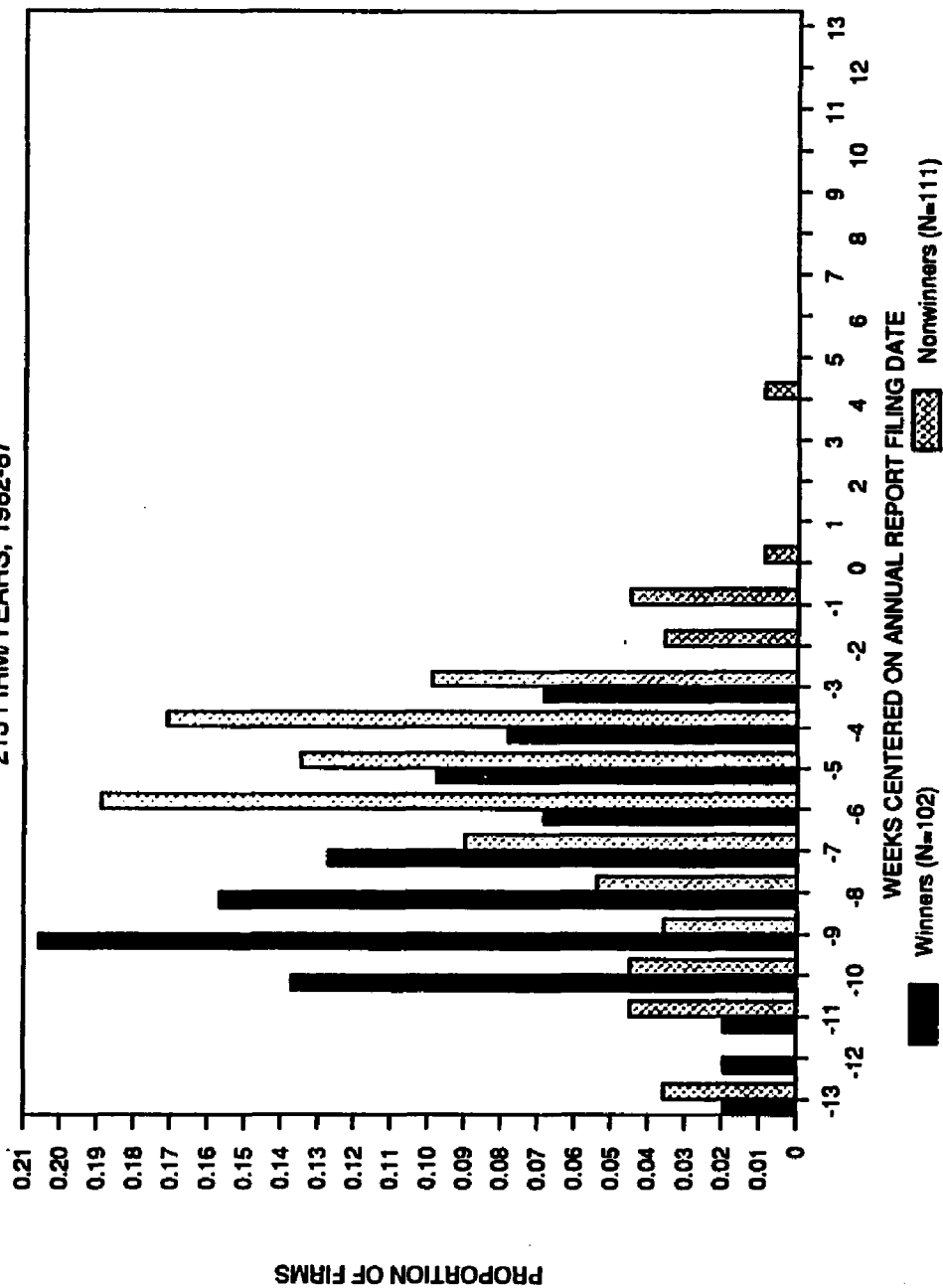
The earnings announcement dates were also compared to the dates of the OSC filings. The lag between these two dates was computed in 7-day calendar weeks centered on the OSC filing date. The distributions of the lags for both winners and nonwinners is shown in Figure 4. Again there is a substantial difference between the two distributions. There is a longer lag between the announcement of earnings and the filing of the annual report for winners than nonwinners. The mean number of weeks between the two dates is -7.6 for the 102 winners and -5.7 for the 111 nonwinners; the difference in mean lag is significant at less than the 1% level.<sup>10</sup> The K-S statistic has a value of 0.380 which is significant at less than the 5% level. Approximately 63% of winners announce their earnings in weeks -7, -8, -9 and -10; only 23% of nonwinners announce their earnings in the same period. On the other hand, 31% of winners announce earnings in weeks -3, -4, -5, and -6; 59% of nonwinners announce earnings in those weeks.

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<sup>9</sup>Lindgren (1976, p.494).

<sup>10</sup>The minus sign indicates the winners announce earnings between 7 and 8 weeks before filing their annual report with the OSC whereas nonwinners announce earnings only 5 to 6 weeks before filing with the OSC. The difference of almost two weeks in the mean lag between earnings announcement and OSC filing is almost identical to the difference in the mean lag between the year end and the annual earnings announcement indicating that winners are announcing earnings earlier than nonwinners but filing their annual reports at approximately the same time.

**FIGURE 4**  
**WEEKS BETWEEN EARNINGS ANNOUNCEMENT**  
**AND ANNUAL REPORT FILING DATE**  
**213 FIRM/YEARS, 1982-87**





For the winners, the largest values of  $\nabla_{kw}^2$  appear in weeks -7 through -10 and three of the  $\chi^2$  statistics for those four weeks are significant at less than the 1% level. Similarly, three of the four largest values for the nonwinners appear in weeks -3 through -6 (though none is significant at the 5% level or less). For each group, these are the weeks with the greatest frequency of annual earnings announcements. It appears that the market's response to the annual earnings announcement is reflected in Table 22 although the sample is not explicitly lined up on the earnings announcement date.

Of the 213 firms, only 10, all nonwinners, announced their earnings in weeks -2 to 0. This evidence indicates that the results of the previous test for incremental variability in week 0 are not contaminated by contemporaneous earnings announcements. No effort was made to control for other disclosures which might have occurred around the time of the OSC filing -- announcements of dividend revisions, for example.

## CHAPTER 5

### SUMMARY AND SUGGESTIONS FOR FUTURE RESEARCH

This research used a sample of winners and nonwinners in the Financial Post awards program to explore several topics related to differential informativeness in annual reports. A content analysis of the specific words and phrases used by the judges in the awards program found that the concepts of informativeness and usefulness to investors, while not the only factors, are important determinants of the judges' rankings. This evidence suggests that winners' annual reports contain more relevant information than do nonwinners'.

Whether this apparent differential informativeness is useful to investors and therefore is reflected in differential stock price behavior was the major question addressed in this research. Winners were found to have a larger incremental increase in return variability during the week the annual report was released than nonwinners, consistent with winners' annual reports being more informative than those of nonwinners, but several limitations in the research design preclude drawing strong conclusions. Winners were also found to have smaller ERCs and  $R^2$  than nonwinners; interpreting these results, however, is difficult because the statistical significance of differences is sensitive to the presence of several extreme and influential observations. Taken as a whole, however, the results suggest that the association of stock price changes with contemporaneous changes in reported earnings is smaller for winners than nonwinners.

Future work in this area could proceed along several different lines. A comparison of winning and nonwinning reports, combined with a predictive model of judges' decisions

similar to a bankruptcy classification study, has the potential to shed light on the specific types of disclosures that are important to judges in separating winners and nonwinners. An event study of the actual awards announcement has the potential to add to our understanding of the role of information specialists in capital markets; some firms get good reviews while others get poor reviews and there is little possibility that the judging is based on private information. Another fruitful area for future research is an examination of the effects of differential informativeness on other market variables such as analysts' forecasts, trading volume and bid/ask spreads. For example, if nonwinners do not use alternative forms of disclosure, the additional information provided by winners should allow market participants to make more precise forecasts of earnings for winners. Both the dispersion of forecasts across analysts and bid/ask spreads may be narrower for winners than for nonwinners. Demski and Feltham (1991) model the effects of differential disclosure on several market variables and their work could provide a starting point for an empirical analysis.

## APPENDIX 1

### A SUMMARY OF THE FINANCIAL POST ANNUAL REPORT AWARDS PROGRAM

#### History

The Financial Post has been presenting awards for the best annual reports in Canada, by industry, for 39 years. The program "is designed to encourage a high standard of financial reporting and to recognize excellence in this area."<sup>1</sup> Within each industry category, first, second and third place awards are given. In addition, the first-place winners in each industry category are judged again for an overall Gold Award which evaluates the top three reports in Canada.

Although changes to the program have occurred over the years, the 1987 program is representative of the period covered by the study, 1982-1987.<sup>2</sup> The following description refers only to the 1987 program unless otherwise noted.

Each year the award winners are announced in the Financial Post, usually in late November or early December. In addition, each year a booklet is published which provides the comments of individual judges on each firm's report, whether it wins or not.<sup>3</sup> These

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<sup>1</sup>Financial Post Information Service (1986, p.1).

<sup>2</sup>For example, the overall Gold Award was not instituted until 1976 and the judging process was revised significantly in 1978. The 1982-1987 time period was chosen for study to maintain consistency in the judging process.

<sup>3</sup>Perhaps significantly, the booklet is not available until after the announcement of the winners in the Financial Post. Similarly, an awards luncheon to honor the winners is not held until the day after the winners are announced in the Financial Post.

comments are usually in the form of very brief notes about each firm. As with the awards themselves, the comments are grouped by industry, but only the reports of the three winners are ranked. To provide some perspective on how the Financial Post itself views these awards, Table 23 lists the dates and titles of the Financial Post articles for each year from 1977-1988.

Much of the information below is taken from the annual information booklets and Financial Post articles. Additional information was obtained in telephone conversations with Ms. B. Riddell and Ms. J. Graham of the Financial Post. I am extremely grateful for their cooperation.

#### Eligibility and Coverage

In 1987 over 200 annual reports of major publicly-held companies for the year 1986 were judged. For judging purposes, any report issued between April 1, 1986 and March 31, 1987 was considered a 1986 report.<sup>4</sup> Each firm was grouped into one of 12 industry categories before judging. During the years 1982 to 1986, only ten industry categories were used and they were not the same as the twelve categories which have been used since 1986. They were, however, consistent in each year of the 1982-1986 period. Table 24 provides the names of the industry categories used and the range of years for which they were effective. The industry categories and firm assignments correspond to those used by the Toronto Stock Exchange. There are usually 20-25 annual reports included for judging in each industry category.

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<sup>4</sup>For December year-end firms, the awards are announced in the year following the date of the annual report. Thus, 1984 annual reports are judged in 1985, 1985 reports in 1986, and so on.

TABLE 23

**DATES AND TITLES OF FINANCIAL POST ARTICLES  
ANNOUNCING AWARD WINNERS, 1977-1988**

<b>Year</b>	<b>Date</b>	<b>Title of Article</b>
1977	Dec 10, 1977	"Winners in the Annual Report Awards: But Judges Still Want More Disclosure"
1978	Dec 9, 1978	"Communication Marks Annual Report Winners: But Even Greater Disclosure Needed by All Companies"
1979	Nov 24, 1979	"Annual Reports Stand Out by Disclosing Extra Details"
1980	Nov 29, 1980	"Polished Pacesetters Show the Way Ahead for the Pack"
1981	Nov 28, 1981	"Telling the Corporate Story with Facts, Style"
1982	Nov 27, 1982	"Pinpointing Corporate Goals Fundamental to the Investor"
1983	Nov 26, 1983	"Wanted: Clear Data in Reports"
1984	Nov 24, 1984	"Seeking Frankness Behind the Gloss"
1985	Nov 16, 1985	"Less Dross and Gloss Wins Praise of Judges"
1986	Nov 17, 1986	"Hunting Hard Numbers: Too Many Firms Still Don't Deliver Vital Statistics in Corporate Reports"
1987	Nov 23, 1987	"Creativity, Color Net Gain in '86 Annual Reports"
1988	Nov 21, 1988	"Looking for the Big Picture: Reports Still Shy of Vital Information"

TABLE 24

INDUSTRY CATEGORIES USED IN FINANCIAL POST AWARD PROGRAM

1977-86	1987-88
1. Financial	1. Communication and Media
2. Manufacturing-metals	2. Consumer Products
3. Merchandising	3. Financial and General Management
4. Mining	4. Financial Services
5. Other Manufacturing - primary	5. Industrial - primary
6. Other Manufacturing - secondary	6. Industrial - secondary
7. Petroleum	7. Merchandising
8. Real Estate	8. Mining
9. Transportation, Communication, Other	9. Oil and Gas
10. Utilities	10. Paper and Forest
	11. Real Estate
	12. Transportation, Pipelines, Utilities

### Judging for Industry Awards

For each industry category, two judges were appointed: one by the Canadian Institute of Chartered Accountants (CICA) and one by the Canadian Council of Financial Analysts (CCFA). Each judge independently graded all the reports in his/her industry. The grading system and specific methods used by the judges to grade the reports were not specified by either the Financial Post or the two professional organizations. The judges were not supplied with guidelines describing what constitutes a "better" annual report or sets of characteristics to look for in the reports.<sup>5</sup> Each judge is responsible for setting his/her own standard of disclosure. Neither the judges' identities nor their grading methods are made public.

From the two sets of grades on each of the 20-25 annual reports in an industry category, the top three reports were chosen and awards were given for first, second, and third place. Each judge's opinion was given equal weight in the final determination and the Financial Post strives to ensure the choice reflects the judges' opinions (as opposed to the opinions of the Financial Post). Beyond this, however, little was learned about how the final ranking was determined. The manner in which the two sets of grades are combined to determine the final classifications is considered proprietary information by the Financial Post.<sup>6</sup>

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<sup>5</sup>For example, it is not difficult to imagine instructions to the effect that the accounting treatment of capital leases is of particular importance in a particular judging year. To my knowledge, these types of instructions were not provided to the judges during the 1982-87 period. At one time a checklist was sent to the judges. The judges, however, preferred to use their own personal systems so the Financial Post discontinued their checklist.

<sup>6</sup>Based on my knowledge of the process, it seems to me that a useful analogy is that of a teacher assigning final grades based on a weighted sum of test and assignment scores. There are only four possible classifications -- win, place, show, and "also-ran" -- and most reports fall into the last classification. There is likely to be some error in classifying firms, particularly at the margins. For this reason, the empirical work uses only two classifications, winners and nonwinners, ensuring only one margin. The sample of nonwinners are chosen from among the poorest reports to minimize the error which occurs at the margin.



**Judging for the Gold Award**

The first place finisher in each industry category is eligible for the Gold Award given for the best annual report in Canada. For the Gold Award, a separate group of judges is appointed by five organizations:

1. Canadian Institute of Chartered Accountants (CICA)
2. Canadian Council of Financial Analysts (CCFA)
3. Association of Canadian Advertisers (ACA)
4. Canadian Public Relations Society (CPRS)
5. National Investor Relations Institute (NIRI)

The twelve (or ten) industry winners' reports are graded again by each of the five judges. Again, no explicit guidelines are given to the judges and the selection of a winner is based on an equally-weighted assessment of the grades of the individual judges.

**APPENDIX 2**

**COPIES OF GUIDELINES ISSUED BY TWO JUDGING  
ORGANIZATIONS TO JUDGES IN 1985**

**Canadian Institute of Chartered Accountants**

**"MEMORANDUM FOR CICA JUDGES"**

**Dated June 1985**

**FINANCIAL POST ANNUAL REPORT CONTEST**

**MEMORANDUM FOR CICA JUDGES**  
(1984 Annual Reports)

**RECEIVED**

**JUL 10 1985**

**1. BASIS OF JUDGING**

The basis on which the reports are to be judged is:

- (a) completeness and clarity in presenting the information necessary for appraising the securities of the company and the record of management stewardship; and
- (b) effectiveness of the presentation as an aid to the above. This includes appearance, use of charts, use of typography, readability etc.

The Financial Post has done some preliminary sifting of reports order to keep the judges' work within reasonable bounds.

**2. RATING OF REPORTS**

- (a) Suggested points to be considered in judging reports are in Appendix 2 (for the judge's convenience, paragraph or Section references to HANDBOOK Recommendations have been included). In certain categories, the judge may wish to adapt these points or develop other points. The scoring is to be subjective (and only the total score is required for the judge's report). The maximum score suggested for various areas is:

**Annual Report**

<b>A - General Readability and Effectiveness of Communication</b>	<b>25</b>
<b>B - Financial Statements and Their Effectiveness</b>	
(a) General )	
(b) Income statement )	
(c) Balance sheet )	
(d) Surplus statement(s) )	<b>45</b>
(e) Statement of changes in financial position )	
(f) Consolidation of investees )	
(g) Additional information )	
(h) Notes to financial statements )	<b>30</b>
	<b><u>100</u></b>
<b>C - Innovative and Unique Disclosures</b>	
(not covered in the schedule - please specify disclosure made)	
Bonus of up to	<b><u>20</u></b>

**Interim Report** (The Financial Post has provided only one interim report for each company as an example of that company's interim reports).

No scoring other than for particularly good or particularly bad features (please specify feature(s) for which marks are awarded or deducted).

Bonus or deduction of up to **5**

- (b) No annual report should be among the top ranking reports if it has any serious deficiency in the presentation of its financial statements. If the annual report would otherwise have ranked among the top reports, the judge should note this fact and the deficiency concerned.

June 1985

### 3. JUDGE'S REPORT

The purpose of the judge's report is to provide:

1. information for FP to decide the winners in each category based on the results of the judging by the participating organizations;
2. comments on each company for publication; and
3. material for FP to write an interesting and informative story accompanying the list of winners in the Financial Post.

The judge's report should contain:

1. A list in order of merit of all of the companies, setting out the total score for each. The total score will show the relative distance between each company. (It would be helpful if marks relating to innovative and unique disclosures in annual reports and to interim reports were identified.)
2. Comments on each company (Appendix I shows various possible approaches)
  - preferably in capsule point form
  - clearly and briefly stated (bear in mind that readers of comments will probably not have the report to look at)
  - comments on individual annual reports to include any, or all, of:
    - o particularly good features
    - o criticisms of method of disclosure
    - o special commendations on unusual presentations
    - o examples of particularly poor wording
    - o suggestions for possible improvements
  - there will be no comment on the interim report of an individual company except where marks have been awarded or deducted for particularly good or particularly bad features
  - because of the limited space available for publishing comments, the judge should provide no more than 3 significant good points and no more than 3 significant bad points for each company.
3. Brief comments on the category as a whole
  - (a) General comments on the annual reports
    - weaknesses in disclosure most frequently encountered (perhaps identifying some of the companies concerned)
    - things done extremely well (perhaps identifying some of the companies concerned; or identifying a company which did not follow the general trend)
    - other comments that the judge may wish to make
  - (b) General comments on the adequacy or inadequacy of the interim reports, identifying the information that the judge feels should be covered in interim reports in the category.

The judge's report should be sent by August 30, 1985 to the CICA co-ordinator:

Mr. P.W.B. Creighton, FCA  
12 Glenview Avenue,  
TORONTO, Ontario  
M4R 1P6

COMMENTS ON INDIVIDUAL COMPANIES

There is no one "right" way of commenting on individual companies. The following are examples of some of the different approaches judges have used in previous years.

EXAMPLE AA-1 Co. Ltd.Summary Comment

A first rate report that excels in the discussions on management's corporate and financial goals, strategy, and financial planning.

Good Features

1. Excellent report to shareholders which offers a definitive outline of the company's financial goals, a concise and informative summary of Union's operations, and a discussion of the issues liable to affect its future prospects.
2. Clean and crisp presentation of financial statements and related notes.
3. Exceptional innovative disclosures such as, glossary of industrial terms, effects of inflation, metric conversion table, discussions on long range corporate goals and strategy.

Shortcomings

1. A more detailed segmented information note would assist the reader.

A-2 Co. Ltd.Summary Comment

A very brief report with generally adequate condensed discussions on most aspects of its operations, good reports on financial and regulatory issues.

Good Features

1. One of the better corporate profiles amongst companies that supply this information.
2. An informative report on financial issues with inflation accounting discussions.
3. One of the few companies to provide financial statement note disclosures on both pensions and leases.

Shortcomings

1. A production that lacks extra features of higher rated reports, e.g., no information on directors, little photographic support, needs more graphs and charts, lacks corporate goals and objectives, quarterly statistics, etc.
2. Financial statement amounts might be better rounded off to the nearest thousand dollars.

A-3 Co. Ltd.Summary Comment

A lean report that provides a very basic information package with few additional details in any of the discussions.

Good Features

1. Fairly well presented financial statements highlighted by the note disclosure on business segments.
2. Useful common stock trading price information.
3. The ten year historical information summary, though brief, is very useful, particularly the information on dividend payout ratio and return on average common shareholders' equity.

Shortcomings

1. Overall lack of details in the report on financial and operational areas.
2. Absence of graphs, charts, maps and generally poor graphic design plus dull photography.
3. Generally lacks the special features of the higher rated reports, e.g., corporate goals and objectives, long range planning, financial planning, etc.

EXAMPLE BB-1 Co. Ltd.Good features

- o The short introductory overview of the company's activities is useful.
- o "Report of the Directors" is concise, informative and discusses the future.
- o Discussion of individual operations is good and includes reserves (except for U.S. copper mining).

Weaknesses

- o The "Financial review and management's discussion and analysis of the statements of earnings" tends to be more regurgitation than useful analysis.
- o The method of valuing "Short-term securities" should be described and details on the nature of the securities would be useful.
- o More details on "Associated companies", in particular on the provision for future write-offs, would be useful.

B-2 Co. Ltd.Good features

- o "Directors' Report" provides a brief and frank overview of the significant problems being faced by the company and action being taken.
- o Disclosure of reserves is good. The statement that reserves on hand are sufficient for 30 years "production" is informative.

Weaknesses

- o The heading "Taxes provided not currently payable" could be confused with long-term taxes payable. The heading "Deferred taxes" is preferable since the amount is considered to represent the deferring to future periods of a benefit obtained currently.
- o Explanation of the very low effective tax rates for 19X1 and 19X2 would be useful.

B-3 Co. Ltd.Good features

- o The "Report of Directors" discloses that the "proven ore reserves at Thetford Mines ... are sufficient for over 25 years."

Weaknesses

- o The discussions of the various operations is quite confusing to a reader unfamiliar with the names. A map or a summary chart could be helpful.
- o A further description of the "Credit arising on exchange of common share for mining leases" would be helpful.
- o Disclosure should be made of the assets pledged as security for the DM bank loans.

EXAMPLE CC-1 Co. Ltd.Summary comment

An excellent effort to inform the reader of the complex and diverse operations of an international company, its subsidiaries and affiliates.

Good features

- o Excellent discussion in the directors' report of the company's varied operations.
- o Corporate organization structure chart showing subsidiaries and affiliates with percentage ownership and a brief description of their major activities.
- o Notes are excellent (e.g. oil and gas properties reserves are given).

Shortcomings

- o The company owns 31% of W. Co. Limited and has concluded that equity accounting is not applicable to this investment. Since such a large shareholding in another public company would often constitute effective control, it might have been preferable to have noted in the annual report why equity accounting was not considered appropriate in this case.
- o More detail might have been given as to status of X Oil so that reader could better assess possibility of further future write downs or recovery of current year's write down.



C-2 Co. Ltd.Summary comment

Excellent financial statements; however, a lack of in-depth discussion in the directors' report and poor use of pictures and colour prevented this good quality from being outstanding.

Good features

- o Excellent financial statements and notes (e.g. income statement expense detail with supporting note, interest capitalization note).
- o Highlights.
- o Ten year review.

Shortcomings

- o Directors' report could have covered the proposed rate increase, the unsettled union situation and the proposed capital expenditures for the coming year in more depth.
- o The change in the individual working capital items is not disclosed in the statement of changes in financial position although materials and supplies more than doubled. Reason for this increase is disclosed in directors' report.
- o Statements should be rounded to nearest thousand dollars.

C-3 Co. Ltd.Summary comment

Very good in-depth discussion of the company's performance and future plans supported by excellent statistical data and financial statements make this an outstanding report.

Good features

- o Good discussion in the directors' report of the company's future capital expenditures, tariffs and U.S. quotas.
- o Highlights.
- o Financial statements and notes are excellent.

Shortcomings

- o Directors' report might discuss Canadian demand in the future in more depth as was done for U.S.
- o Mentions that Y Research Limited being dissolved yet no disclosure of treatment of costs incurred by the company on that project or the outcome of the project itself.
- o More detail on the Z Project Limited would have been useful, e.g. expected costs, company's share of project.

EXAMPLE DD-1 Co. Ltd.

- Positive - report provides long range plans for investment and future growth
- corporate structure outlined in graphic form
  - financial statement disclosure above average
- Negative - Change in tax rate from prior year discussed, but no explanation of overall rate, which is less than the full rate
- % ownership of subsidiaries not given (it would have been logical to include these % in the graphic outline of the corporate structure).

D-2 Co. Ltd.

- Positive - reasonable good review of operations (although perhaps too condensed) plus an indication of profit trend for coming year
- Negative - no list of subsidiaries and % ownership; no minority interest shown (perhaps there is none, but information lacking)
- income statement exceedingly condensed
  - inventories are carried at cost, but there is no information as to whether this value is less than market.

D-3 Co. Ltd.

- Positive - detail chart of corporate structure could be a model for others, who often fail to disclose this information
- Negative - colorful graphs of sales, book value per share etc. on page 3 all show a rising trend, but no such graph on profits, which have been declining for 2 years
- dividends from a 50% owned company are shown as a source of funds (correct), but the operations source includes equity income of all 50% owned companies, with no apparent deduction - i.e. due (presumably) to poor disclosure, there appears to be a duplication of sources of funds.
  - increase in goodwill on the balance sheet is in excess of the goodwill acquired due to acquisitions during the year, as shown in note 2 - no explanation offered.

THE CANADIAN INSTITUTE OF CHARTERED ACCOUNTANTS  
 Financial Post Annual Report Contest  
 (1984 Annual Reports)

Appendix 2  
 June 1985

Suggested points to be considered in judging reports

ANNUAL REPORT

A - GENERAL READABILITY AND EFFECTIVENESS OF COMMUNICATION

(a) Capacity of Overall Annual Report to Communicate

Relevance to users' needs for the purposes of

- assessing the entity's performance
- assessing the quality of management, and its ability to respond to changing circumstances
- estimating future prospects
- assessing financial strength and stability; solvency; liquidity
- assessing risk and uncertainty
- assessing trends inside the entity or comparisons between entities
- assessing contribution to society

General goals of the annual report

- full disclosure of all information needed for the understanding of the entity
- clarity of presentation
- timeliness of information presented
- freedom from bias in presenting facts
- flexibility in innovative disclosure in supplementary information
- consistency

Good appearance

- clarity
- format and use of colour (but not an advertising document)

Literary standard

- composition clear and meaningful
- excess verbiage and ambiguity avoided

(b) Directors' Report (or other information)

Well presented, clear, meaningful, easy to read

Discriminating and careful choice of material

- confined to important matters (not just more verbiage)

Willingness to candidly discuss company

- important transactions and company difficulties during year
- present operations
- indication of industry problems
- future of industry
- future of company

Comments on financial operations

- informative (not just mere repetition of data)
- comments on operations and financial statements correlated

General character of company's operations

- nature of products
- location of operation assets, sales area, etc.
- major subsidiaries, affiliates and their product lines

Use of graphs and charts (and, where applicable, maps)

- to highlight items
- instead of descriptive passages
- clear, not misleading or out of scale
- do they actually improve report

(c) Summary of Financial and Operating Highlights

Clarity and disclosure

- selection and presentation of information
- so arranged as not to be misleading or out of scale
- avoid improper emphasis

Meaningful ratios and other relationships

- e.g., per share earnings and dividends, profit margin, return on investment, etc.

Other data

- e.g., number of plants or outlets, number of employees, quantity of product produced, etc.

(d) Other Non-mandatory Disclosures

Disclosures that make an annual report better or more informative

- e.g., directors' affiliations, list of subsidiaries, % ownership, etc.

Disclosure items peculiar to the category

- e.g., square footage for retailers; return on investment (permitted and actual) for regulated utilities; exploration and development, reserves and production for mines and oils; etc.

**B - FINANCIAL STATEMENTS AND THEIR EFFECTIVENESS****(a) General**

- Appearance, organization and presentation of data (CICA Handbook Ref: 1500.08)
- position of statements - ease of reference
  - easily comprehended
  - general ease in getting at figures (sub-totals)
  - group immaterial items
- Comparative figures (Ref: 1500.09)  
Cents eliminated, or rounded to nearest thousand dollars (Ref: 1500.08)

**(b) Income Statement (Ref: 1520)**

- Details given adequate for appraisal of securities
- meaning of each important sub-total explained
- Sales figure or gross revenue (Ref: 1520.02(a))  
Cost of goods sold (Ref: 1520.02)  
Gross profit  
Investment income - source (Ref: 1520.02(b))  
Lease income
- direct financing or sales-type leases (Ref: 3065.54)
  - operating leases (Ref: 3065.59)
  - contingent rentals (Ref: 3065.27; 3065.54; 3065.59)
  - sub-lease rentals (Ref: 3065.28; 3065.33)
- Government assistance (Ref: 1520.02(e); 3800)  
Depreciation, depletion and leasehold improvements amortization (Ref: 1520.02(f))  
Amortization of property under a capital lease (Ref: 1520.02(g); 3065.25)  
Amortization of deferred charges (Ref: 1520.02(h))  
Amortization of intangibles (Ref: 1520.02(i))  
Research and development costs (Ref: 1520.02(j))  
Interest expense
- disclosure, segregating long-term (Ref: 1520.02(k))
  - related to capital lease obligations (Ref: 1520.02(l))
- Rental expense
- operating rental expense (Ref: 3065.33)
  - contingent rental expense (Ref: 3065.33)
- Major operating expenses, such as selling and administrative expenses (Ref: 1520.02)  
Unusual ordinary income items (Ref: 3480.11-.12)  
Income taxes (Ref: 3470; 3471)
- reason given, where apparently out of line
  - 3% inventory allowance (Ref: Dec. 1977 Accounting Guideline)
  - Petroleum Incentives Program and the Petroleum and Gas Revenue Tax (Ref: Feb. 1982 Accounting Guideline)
  - treatment and disclosure of timing differences (Ref: 3470.13; 3470.23-.30; 3470.56-.58)
  - treatment and disclosure of loss carry-over credits (Ref: 3470.33-.35)
- Minority interest in income or loss before extraordinary items (Ref: 1600.66-.69)  
Income or loss before extraordinary items (Ref: 3480.09)  
Extraordinary items and related income taxes
- meet criteria (Ref: 3480.04-.05)
  - disclosure (Ref: 3480.08-.10)
- Net income or loss for the year - clearly identified (Ref: 3480.09)  
Earnings per share (Ref: 3500)
- basic EPS (Ref: 3500.09)
  - fully diluted EPS, if applicable (Ref: 3500.30-.32)
  - shown for "income before extraordinary items" and "net income for the period" (Ref: 3500.11; 3500.30)

**(c) Balance Sheet**

- Current asset items segregated by type (Ref: 1510.02, 1510.09)  
Valuation allowances deducted from assets to which they pertain  
Temporary investments (Ref: 3010)
- basis of valuation (Ref: 3010.04)
  - market value (Ref: 3010.05-.06)
- Receivables
- segregated by type (Ref: 3020.01)
  - instalment accounts (Ref: 3020.02)

**Inventories**

- basis of valuation (Ref: 3030.10-.12)
- breakdown by stage of processing (Ref: 3030.10)

**Long-term investments**

- basis of valuation (Ref: 3050.41; 3055.11)
- segregation of types of investment (Ref: 3050.39)
- accounting treatment of
  - non-consolidated subsidiaries (Ref: 3050.07-.15)
  - companies subject to significant influence (Ref: 3050.19-.24)
  - joint ventures (Ref: 3055.25-.30)
  - portfolio investments (Ref: 3050.26; 3050.42-.44)

**Fixed assets**

- basis of valuation (Ref: 3060.02; 3060.04)
- accumulated depreciation and depletion (Ref: 3060.03)
- assets under capital leases and related accumulated amortization (Ref: 3065.21)

**Deferred charges - segregation and basis of amortization (Ref: 3070.02-.03; 3450.17-.35)****Intangible assets - segregation and basis of amortization (Ref: 3080.01-.03; 1580.58; 1580.61)****Current liability items segregated by type (Ref: 1510.07; 1510.09)****Nature of assets underlying secured liabilities (Ref: 1500.12; 1510.08; 3210.06)****Long-term debt**

- details (Ref: 3210.01)
- contractual provisions for sinking funds, redemptions and conversions (Ref: 3210.01)
- amount of payments required in each of the next 5 years (Ref: 3210.02)
- current portion (Ref: 3210.03)
- payment in foreign currency (Ref: 1650.00; 3210.05)
- company's securities purchased but not yet cancelled (Ref: 3210.04)
- company's securities owned by non-consolidated subsidiaries (Ref: 3050.46)
- obligations related to leased assets (Ref: 3065.22-.23)

**Deferred income****Deferred income taxes (Ref: 3470.23-.30)**

- basis of accumulated tax allocation credits and/or debits
- properly described

**Capital stock**

- details (Ref: 3240.01-.03)
- term-preferred shares (Ref: Dec. 1977 Accounting Guideline)
- changes during year (Ref: 3240.04)
- company's own shares acquired (Ref: 3240.11; 1600.48)

**Surplus or deficit**

- proper use of term "surplus" (Ref: 3250.02-.03)
- classification as to source: from "contributions" and from "earnings" (Ref: 3250.07-.09)
- avoidance of improper use of term "capital surplus" (Ref: 3250.02; 3250.08)
- changes during year in surplus accounts (Ref: 3250.11; 3250.13)
- details of conditions restricting or affecting payment of dividends (Ref: 3250.10)

**Reserves**

- avoidance of improper use of term "reserve" (Ref: 3260.01)
- classified as part of shareholders' equity (Ref: 3260.04)
- transfers treated as adjustments of retained earnings or other surplus (Ref: 3260.02-.03)
- changes during year clearly disclosed (Ref: 3260.03)

**Appraisal increase credit**

- classification, description and accounting treatment (Ref: 3270)

**(d) Surplus Statement(s)****Prior period adjustment (Ref: 3600.06-.09)****Change in accounting policy retroactively applied (Ref: 1506.14-.17; 1506.19)****Correction of an error in prior period financial statements (Ref: 1506.29)****Capital transactions (Ref: 3610)**

**(e) Statements of Changes in Financial Position (Ref: 1540)****Presented as part of financial statements****Clear disclosure of sources and use of company's resources**

- informative and appropriate statement presentation (Ref: 1540.14; 1540.31)
- detail and segregation of transactions from which net change in funds arose (Ref: 1540.16)
- purchase of entity to be consolidated (Ref: 1540.36)
- disposal of entity previously consolidated (Ref: 1540.38)

**Funds from current operations (Ref: 1540.16; 1540.21-.23)**

- clearly disclosed
- extraordinary items properly treated (Ref: 1540.21-.22)
- depreciation expense and other items not requiring outlay of funds treated so that they do not appear as a direct source of funds

**(f) Consolidation of Investees (Ref: 3050; 1600)****Basis of consolidation**

- clearly and fully described
- appropriate for the firm, given the present investor-investee relationship
- where one or more subsidiaries not included in consolidation, reason for exclusion clearly stated (Ref: 3050.07-.15)

**Interests of minority shareholders**

- interest in net income or loss for year, separately in income statement (Ref: 1600.67)
- shown as separate item on balance sheet outside shareholders' equity (Ref: 1600.68-.69)

**Difference between cost of shares to investor and investor's interest in the identifiable net assets of consolidated investee**

- treatment and disclosure (Ref: 1580.58-.62)

**Adequate additional information re subsidiaries (consolidated and non-consolidated)**

- major subsidiaries identified by name
- nature of operations
- percentage of parent company's ownership in each (Ref: 3050.36)

**(g) Additional Information (referred to in financial statements or by way of note thereto)****Clear and concise description of significant accounting policies (Ref: 1505)****Accounting changes**

- change in an accounting policy (Ref: 1506.14-.20)
- change in an accounting estimate (Ref: 1506.24)

**Description of company's activities (Ref: 1700.34)****Economic dependence - disclosure of major customer, supplier, etc. (Ref: 3840.18)****Assets pledged as security (Ref: 1500.12)****Business combination disclosure (Ref: 1580.77-.81)****Contingencies (Ref: 3290)****Contractual obligations (Ref: 3280)****Defaults, if any (Ref: 3210.07)****Foreign currency translation (Ref: 1650)****Franchise fee revenue (Ref: July 1984 Accounting Guideline)****Government assistance (Ref: 3800)****Investment tax credits (Ref: 3805)****Leases (Ref: 3063)****Pension plans (Ref: 3460)****Related party transactions (Ref: 3840)****Scientific Research Tax Credits and Share Purchase Tax Credits (Ref: Oct. 1984 Accounting Guideline)****Segmented information**

- revenues, profitability and assets in different industries (Ref: 1700.31-.35)
- revenues, profitability and assets in different geographic areas (Ref: 1700.44)
- dominant industry segment (Ref: 1700.30; 1700.34)
- amount of export sales (Ref: 1700.45-.46)

**Subsequent events (Ref: 3820)**

(h) Notes to Financial Statements (Ref: 1500.03-.05)

**Effectively used**

- notes where useful, but not for items better presented in statements themselves
- adds to understanding of financial statements as a whole or to understanding of specific financial data presented in body of the financial statements

**Clarity**

- clearly worded
- accounting and technical jargon avoided wherever possible
- avoidance of "obscure" notes (i.e., too long, too brief or just not communicating)
- apparent meaning of information in notes consistent with accounting treatment in statements
- clear cross-referencing between notes and related financial statement items (Ref: 1500.04)

(i) Supplementary Financial Information

Financial forecasts (Ref: June 1983 Accounting Guideline)  
Reporting the effects of changing prices (Ref: 4510\*\*\*)

INTERIM REPORT (Ref: 1750; 8200)

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\*\* Section 4510 applies to enterprises whose debt or equity securities are traded in a public market and have either:

- (a) inventories and gross fixed assets totalling \$50 million or more; or
- (b) total assets (after deducting accumulated depreciation, depletion and amortization) of \$350 million or more;

at the beginning of the fiscal year for which financial statements are being prepared.  
Section 4510 does not apply to income producing real estate assets, banks, trust companies and insurance companies.

**Canadian Council of Financial Analysts**

**"SUGGESTED JUDGING FORMAT"**

**Undated**



**THE FINANCIAL POST ANNUAL REPORT AWARDS**

**SUGGESTED JUDGING FORMAT**

	<u>VALUE</u>	<u>ACTUAL</u>
<b>A. <u>FINANCIAL HIGHLIGHTS</u> for year with 5-year summary</b>		
1. Earnings		
2. E.P.S.		
3. Cash Flow		
4. C.F.P.S.		
5. W/C		
6. R.O.E.		
7. Return on Assets		
8. Total Revenues		
9. Production, shipment, average prices (W.A.)*		
	_____	_____
	5%	
 <b>B. <u>PRESIDENT'S LETTER</u></b>		
Does it deal with highlights of year in an objective manner? . . . . .		
Relevant to company results? . . . . .		
Candid in appraising problems? . . . . .		
Should include:		
1. Review of year . . . . .		
2. Insights into operating rates, unit production levels, indices of sales prices . . . . .		
3. Acquisitions, divestments . . . . .		
4. Capital expenditures: programme, start-up expenses, environmental costs . . . . .		
5. Research and development efforts . . . . .		
6. Labour relations, status of union contracts . . . . .		
7. Pertinent legislative and regulatory developments . . . . .		
8. Outlook . . . . .		
	_____	_____
	15%	

\* Where Applicable

	<u>VALUE</u>	<u>ACTUAL</u>
<b><u>C. OFFICERS AND DIRECTORS</u></b>		
1. Age, background, responsibilities of officers, current photos . . . . .		
2. Description of company organization . . . . .		
3. Outside affiliations of directors . . . . .		
4. Principal personnel changes . . . . .		
	_____	_____
	5%	
<b><u>D. STATEMENT OF CORPORATE GOALS</u></b>		
Reference should be included in several areas of the report but separate treatment is preferred.		
1. Short, long term goals both corporate and divisional . . . . .		
2. Methods to achieve goals . . . . .		
3. Time horizon . . . . .		
	_____	_____
	10%	
<b><u>E. REVIEW OF DIVISIONAL AND/OR FOREIGN OPERATIONS</u></b>		
1. Completeness of breakdown of sales, material costs, overhead, earnings . . . . .		
2. Are segments logical for analytical purposes? . . . . .		
3. Note comparisons with relevant industry developments to include:		
- market size and growth		
- market penetration		
- geographical divergences . . . . .		
4. Impact of regulatory or tax changes . . . . .		
5. Foreign operations (W.A.)		
- revenues		
- earnings, equity interests		
- market, regional trends		
- impact of currency fluctuations . . . . .		
	_____	_____
	20%	

VALUE      ACTUAL

**F. FINANCIAL SUMMARY AND FOOTNOTES**

1. Statement of accounting principles, including explanation of changes and their effects . . . . .
2. Adjustments to E.P.S. for dilution . . . . .
3. Unconsolidated subsidiaries and affiliates - operating information . . . . .
4. Sources and applications of funds . . . . .
5. Tax accounting - investment tax credits: breakdown of current and deferred for domestic and foreign jurisdictions; reconciliation of effective and statutory tax rates . . . . .
6. Currency changes:
  - impact on earnings or reserves
  - translation and conversion gains or losses . . . . .
7. Property accounts and depreciation policies:
  - methods, asset lives per type of reporting
  - quantification of effect on reported earnings of use of different method and/or asset lives for tax purposes . . . . .
8. Investments: valuation . . . . .
9. Inventories: physical quantities, valuation method for different products or geographical segments . . . . .
10. Leases, rentals: terms and liability . . . . .
11. Debt repayment schedules . . . . .
12. Pension funds: costs charged to income; interest rate assumption; amount of any unfunded past service liability; amortization period for unfunded liability . . . . .
13. Capital expenditures: programmes, results and forecasts including costs for environmental purposes . . . . .
14. Acquisitions and divestitures (if material)
  - description of activity and operating results . . . . .
  - type of financial transaction . . . . .
  - quantification of purchased acquisitions or small poolings that do not require restatement of prior years' results. (When restating for pooling both old and new data are useful for comparison.) . . . . .
15. Year-end adjustments . . . . .

	<u>VALUE</u>	<u>ACTUAL</u>
<b>F. FINANCIAL SUMMARY AND FOOTNOTES (cont/d)</b>		
16. Restatement of quarterly reports to year-end accounting basis . . . . .		
17. Research and development and new products: amount and types of outlays and forecasts . . . . .		
18. Contingent liabilities . . . . .		
19. Warrants, options, shares reserved for conversion . . . . .		
20. Treatment of other relevant matters (extraordinary charges, loss provisions, bad debt reserves, etc.) . . . . .		
21. Goodwill - amount being amortized and number of years . . . . .		
22. Ten-year statistical summary:		
- adequacy of income account and balance sheet detail . . . . .		
- inclusion of other "non-statement" data (e.g. number of shares, price of stock, capital expenditures, etc.) . . . . .		
	_____	_____
	45%	
	_____	_____
TOTAL:	100%	_____
	=====	=====

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