"ORDER EFFECTS" REVISITED: THE IMPORTANCE OF CHRONOLOGY

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SUMMARY

This study examined whether auditors, when they are processing mixed evidence, take into consideration the chronological order of the evidence (giving rise to what this study refers to as a trend effect), or if their evaluation are influenced primarily by the order of presentation (giving rise to what the audit literature refers to as a recency effect). The study's primary objective was to determine whether awareness of the temporal order of evidence would prevent auditors from placing more subjective weight on evidence that they most recently processed (i.e., whether the trend effect replaces the recency effect).

Auditors were given an experimental task of going-concern assessment. Four additional pieces of evidence were presented and after receiving each new piece of information, subjects were asked to revise their initial judgments. Auditors evaluating undated mixed evidence exhibited recency effects similar in magnitude to those shown by auditors who were asked to evaluate dated mixed evidence, in which the presentation order was consistent with temporal order. However, auditors evaluating evidence in which temporal order and presentation order were not consistent took into consideration the chronological order of the evidence. This, in turn, allowed a significant reduction in the effect of recency. Additional analysis indicates that auditors who evaluated dated mixed evidence chose audit opinions consistent with the trend reflected by the chronology of the evidence.

Key Words: Going-concern, chronology, temporal order, presentation order, order effects, trend effect.
Data Availability: Data available on request.

INTRODUCTION

This study examined whether auditors, when they are processing mixed evidence, take into consideration the chronological order of the evidence (giving rise to what this study refers to as a trend effect), or if their evaluation are influenced primarily by the order of presentation (giving rise to the recency effect previously reported in audit research).[1] The study's primary objective was to determine whether awareness of the temporal order of evidence would prevent auditors from placing more subjective weight on evidence that they have most recently processed (in other words, whether a trend effect replaces the recency effect). De-biasing mechanisms such as accountability, documentation, and self-review, may remove recency effects in going-concern judgments that involve the sequential processing of mixed audit evidence (see for example Kennedy 1993; Cushing and Ahlawat 1996; Ashton and Kennedy 2002). However, previous studies have not addressed the chronology of evidence as separate from presentation order. This study argues that it is important to look at the timing of information (temporal order) as a separate variable because awareness of chronology allows auditors to perceive trends that are highly relevant to going-concern decisions.

The experimental design partitioned temporal and presentation order. Based on background information and the audited financial statements of a hypothetical client, auditors made an initial going-concern assessment. Subjects then received two pieces of positive evidence and two pieces of negative evidence, and revised their judgments after assessing each new piece of information. For some subjects, the mixed evidence was

[1] Evidence is mixed when the information set evaluated by auditors contains both evidence that confirms (positive evidence) and evidence that refutes (negative evidence) some financial statement assertion (Tubbs et al. 1990).

undated to establish a baseline model, in which order effects would occur without the confounding issue of chronology. For other subjects, the mixed evidence was dated so that it was possible to infer a trend (i.e., patterns of change and stability over time) from the temporal order of the evidence.

As hypothesized, when making going-concern assessments, auditors take into account (as they should) the chronology of evidence. This reduces recency effects caused by the sequence in which evidence is presented. In other words, auditors correctly infer a trend from the temporal order of the audit evidence and are not unduly influenced by the presentation order of the evidence. Given that evidence used by auditors in their going-concern assessments is always dated, recency effects may not come as strongly into play as they do in other audit tasks. Furthermore, the reason that recency effects were observed in past research dealing with going-concern assessments might be due in part to subjects inferring a temporal order from the sequence of presentation.

The next section presents the literature review and research hypotheses. The subsequent two sections describe the research methodology and present the results of the study. The final section is devoted to the discussion of findings and their implications.

BACKGROUND AND HYPOTHESES

Several research studies have examined order effects in audit judgments.[2] The belief-adjustment model, developed by Hogarth and Einhorn (1992), provided the theoretical framework for these studies. According to the model, individuals process information sequentially when they are involved in evaluative tasks, and use an anchoring and adjustment strategy to incorporate new evidence. When processing mixed

[2] See Trotman and Wright (2000) for a detailed review of those studies.

evidence, the model predicts a recency effect that results in a lower final belief in the working hypothesis when evidence is viewed in a positive/negative order rather than in the reverse order. While earlier studies (e.g., Ashton and Ashton 1988; Asare 1992) investigated the existence of recency effects in audit judgments, later studies focused on the determinants and the ways to mitigate this bias (e.g., Kennedy 1993; Messier and Tubbs 1994; Arnold et al. 2000; Ashton and Kennedy 2002).

Traditionally, audit evidence is gathered and evaluated according to an audit methodology that places emphasis on the achievement of audit objectives within financial statement cycles (Arens et al. 2005). Hence, evidence is often uncovered and documented in an order that does not necessarily reflect the temporal order of events relevant to going-concern judgments (Ricchiute 1998). However, the temporal order of evidence affects predictive judgments, including going-concern assessments (Hogarth 1987; Ricchiute 1998). Thus, evidence chronology is of utmost importance because it helps auditors formulate trends that they can use in making going-concern judgments. The observation of trends is useful for the prediction of patterns, but requires the subjective interpretation and evaluation of data. For example, it is not a given when events reflected in the audit evidence should be considered the results of more or less random variations, or when they are indicative of a more long-term, underlying process.

Psychological research shows that people tend to "undo" mentally the most recent event in a temporal sequence of *independent* events (Miller and Gunasegaram 1990; Sherman and McConnell 1996; Byrne et al. 2000). For example, suppose that two players could win $1,000 if together they picked two cards of the same color from a deck of cards. The first player picks black, the second red, and they lose. The tendency to think

that they would have won if the second player had picked black, rather than if the first player had picked red, is called a "temporality effect." Apparently, it is easier to "undo" mentally the second player's pick. Segura et al. (2002) found that manifestations of the temporality effect are related to the chronology of events, not to the order of presentation of these events within an experiment. This feature sets the temporality effect apart from most discussions of order effects, which are usually concerned about the effects of presentation order.

Previous audit research examined order effects in a going-concern assessment task (Asare 1992; Cushing and Ahlawat 1996). Follow-up studies provided further support for the belief-adjustment model predictions (Trotman and Wright 1996; Arnold et al. 2000; Ashton and Kennedy 2002). However, none of the previous experiments has specifically manipulated temporal order separately from presentation order. Temporal order of evidence is especially relevant to the establishment of trends that can be used in going-concern assessments and should therefore be examined as a distinct variable.

The weight that a decision maker assigns to a piece of evidence in information integration is a function of (among other things) presentation order and temporal order. For example, recency results from an irrational tendency to attach greater weight to evidence presented later in a sequence (Asare 1992; Kennedy 1993; Cushing and Ahlawat 1996; Ashton and Kennedy 2002). In addition, in many situations it is rational to attach greater weight to evidence that occurs more recently in time. This is typically true of audit evidence that is gathered later in the year (and especially after year-end). For example, Statement on Auditing Standards No. 98 enjoins auditors to apply procedures

specifically directed to keeping informed about events occurring after year-end that could have a material effect on the financial statements (AICPA 2002).

When temporal order is consistent with presentation order, it is expected that auditors who receive mixed evidence in which chronology is consistent with presentation order will exhibit recency effects of a similar magnitude to auditors who receive undated mixed evidence. These subjects assign greater weight to the third and fourth pieces of evidence because of both presentation order and temporal order. Hence, the following first hypothesis:

> **H1:** Auditors who receive dated mixed evidence in which the trend and presentation order are consistent will exhibit either greater or equal recency to auditors who receive undated mixed evidence.

Teigen (2004) found that the temporal order of events tends to suggest causal links between events (i.e., if an event takes place prior to another, a relationship of cause and effect is assumed). In fact, cognitive research found that temporal order is a determinant of spontaneous causal explanations with relevant information encoded relatively automatically (Block and Zakay 2001). Hence, temporal order is an important variable to study since it helps to formulate a trend that can be used by auditors as a causal explanation for their going concern assessments.

According to Pennington and Hastie (1988), decisions are based on whether evidence is arranged in an order that constructs a plausible story. Evidence arranged in an order that distorts the chronology of events interferes with story construction, and impairs a decision maker's ability to match explanation structures with decision alternatives. However, decisions makers are able to modify adaptively their use of recent information in response to the temporal requirement of a task (Jones and Sieck 2003; Matute et al.

2002). Finally, Ricchiute (1998) observes that partners are more likely to decide there is substantial doubt about going-concern when they are exposed to the strongest evidence (supporting a substantial-doubt decision) in a temporal order, rather than a financial statement order. The relationship between chronology of events and presentation order is such that, when a trend can be inferred from the chronology of events reflected in audit evidence, auditors should be able to reconstruct the temporal sequence of events without being unduly influenced by the presentation order of the evidence.

Because of their experience as decision makers, auditors should assign a greater weight to evidence because of temporal order (which is rational) than presentation order (which is irrational). Hence, the following second hypothesis:

> **H2:** Auditors who receive dated mixed evidence in which the trend and presentation order are orthogonally varied will exhibit a trend effect rather than a recency effect.

RESEARCH METHOD

Participants

Subjects were 109 partners and 71 senior managers from the 6 largest public accounting firms in the US. Partners and managers averaged 19 and 8.5 years of audit experience, respectively. Self-reported data indicated that experimental groups were homogeneous across relevant demographic data. Task-specific experience, measured by the percentage of clients facing going-concern problems, averaged six percent over a 5-year period and was uniform among the experimental groups.

Research Design

The study used a 2x3 between-subjects design. The first examined variable was temporal order of the evidence, manipulated at three levels: (1) evidence with a temporal order indicative of a favorable trend, consisting of two pieces of negative evidence dated *before* year-end, and two pieces of positive evidence dated *after* year-end; (2) evidence with a temporal order indicative of an unfavorable trend, consisting of two pieces of positive evidence dated *before* year-end, and two pieces of negative evidence dated *after* year-end; and (3) evidence with no temporal order, consisting of two pieces of undated positive evidence and two pieces of undated negative evidence.[3] The second manipulated variable was evidence presentation order. The evidence was presented to subjects either in a negative/positive order (--++) or in a positive/negative order (++--).

This design allowed for six instrument versions. Temporal order and presentation order were consistent in version 1 (favorable trend presented in --++ order) and version 3 (unfavorable trend presented in ++-- order), and inconsistent in version 2 (favorable trend presented in ++-- order) and version 4 (unfavorable trend presented in --++ order). Evidence in versions 5 and 6 was undated and presented in ++-- order and --++ order, respectively.

Experimental Task and Procedures

Subjects performed a going-concern assessment task of a hypothetical audit client.[4] The researcher personally administered the experiment to ensure a random assignment of subjects to the various experimental conditions. Subjects were assured of

[3] Evidence is negative if it raises doubts about the entity's ability to continue in existence and positive if it reduces the auditor's doubts.

[4] The researcher is indebted to Stephen Asare who provided the original case materials. The case contents were slightly modified to update the materials.

the confidentiality of their responses, had to assume they were reviewing a current year's audit engagement, and needed to consider the going-concern issue in conjunction with their review. The experimental materials had three sections.

The first section included background information on the client, described as a manufacturer and marketer of teleconferencing hardware and software products. Although the client had not emphasized a strong network of detailed control procedures, top management monitored operations closely and overall management controls served as adequate substitutes for detailed controls. The client had received a standard unqualified audit opinion in the past two years. Subjects were told that the company had experienced some difficulties in the past year that contributed to employee morale problems and turnover. Production problems continuously plagued the quality of a product line, which resulted in slow sales. Further, one of the company's patents was due to expire eleven months past the year-end, resulting in a potential adverse impact on the company's operations. Finally, as of the balance sheet date, 90% of the inventory was either not paid for or had been pledged as debt collateral. As well, the company had been consistently late in making loan payments throughout the last quarter of the audited year.

Subjects were then presented with the client's financial statements (audited values) for the past three years, including the current year. The client had incurred a net loss in the current and preceding year, and retained earnings had a debit balance at year-end. Following the financial statements, subjects were asked to make a general threshold judgment (i.e., the level of confidence below which they would have substantial doubt about any given client's ability to continue in existence), which would cause them to modify the standard unqualified opinion. They were then asked to make an initial

assessment (S0) of the client's likelihood of continuing in existence, using a response scale from 0 (labeled "certain not to continue") to 100 (labeled "certain to continue").

In the second section, subjects made a series of judgments (S1, S2, S3, and S4) based on four pieces of additional evidence in the working papers: (1) bank not renewing line of credit and unsuccessful negotiations for alternatives; (2) loss of principal customer; (3) forecast of increasing profits; and (4) deferment of accounts payable over a 3-year period.[5] The first two pieces of evidence were negative: the following two pieces were positive. Each piece of evidence was presented on a separate page and subjects provided a revised assessment on the 0-100 scale after reading each piece of evidence.[6] Subjects then recommended one of three audit opinions: standard unqualified, unqualified with explanatory paragraph, or disclaimer.

In the third section, subjects completed a debriefing questionnaire that probed their background and experience. Specifically, they were asked about the length of their audit experience and the percentage of clients with going-concern problems over a 5-year time period. Subjects were reminded of Statement on Auditing Standards No. 59 guidance (AICPA 1990), which stipulates that auditors should consider evidence contrary to the assumption of continued existence (negative evidence) as well as any factors tending to mitigate those conditions (positive evidence). Subjects then classified each piece of evidence as being either negative or positive, and rated the strength of each piece on a scale from 0 to 100, where 0 indicated "no impact on the going concern evaluation" and 100 indicated "very strong impact on the going concern evaluation."

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[5] The four pieces of evidence were thoroughly tested and validated by Asare (1992).

[6] To ensure evidence was reviewed in the intended order, the instrument required participants to tear a seal in order to access each piece of evidence. Subjects were instructed not to tear the next seal until they had reviewed the current evidence and made a judgment. Additionally, once a judgment was made and new evidence accessed, they were asked not to change previous responses.

RESULTS

Manipulation Checks

All the subjects correctly classified the evidence as positive or negative. Thus, the subjects' evaluations of the evidence were consistent with the intended manipulation. The overall mean strength ratings of the four pieces of evidence were not significantly different from each other (F=1.007, p=.389).

Hypotheses Tests

Table 1 shows a summary of the sequential judgments for each version. In order to control for individual differences in initial judgments, the dependent variable chosen was the belief revision (S4-S0) between initial judgment (S0) and final judgment (S4). This variable is typically used in belief revision studies (e.g., Messier and Tubbs 1994).[7]

Insert Table 1 here

A recency effect is said to occur if belief revision is more negative (or less positive) in the (++--) than in the (--++) condition i.e., when S4-S0 (++--) < S4-S0 (--++). The summary results seem to indicate that recency effects exist when the evidence is undated (-17.6 < -8.8); when the trend is unfavorable (-22.9 < -16.9); and to a lesser extent, when the trend is favorable (-10.5 < -10.0). A trend effect is said to occur if belief revision is more negative (or less positive) in the unfavorable than in the favorable condition. The summary results also seem to indicate a trend effect since the mean belief revision is lower for the unfavorable trend than for the favorable trend, regardless of whether the evidence is viewed in either the (--++) order (-16.9 < -10.0) or the (++--) order (-22.9 < -10.5).

[7] T-tests were conducted to examine any significant differences in the mean sequential judgments and mean belief revisions between partners and senior managers. No significant differences were observed (p>.10).

The first hypothesis suggested that auditors who evaluate undated evidence and auditors who evaluate dated mixed evidence (in which temporal order and presentation order are consistent) would exhibit recency effects of similar magnitude. Figure 1 displays the belief revisions for undated mixed evidence and for dated mixed evidence, when the temporal order and presentation order are consistent. The observed pattern appears to agree with the expectations of the first hypothesis.

Insert Figure 1 here

Table 2 shows the results of an ANOVA, with belief revisions as the dependent variable.[8] A review of this table shows that there is an average recency effect size of 10.9. A recency effect did occur (F=12.23, p=.00). As predicted, the recency effect was not significantly different between auditors evaluating undated evidence and those evaluating dated mixed evidence when temporal order and presentation order are consistent (F = .42, p = .52). This provides support for H1.[9]

Insert Table 2 here

The second hypothesis predicted that auditors, who evaluate dated mixed evidence in which the temporal order is not consistent with the presentation order, would exhibit a trend effect, rather than a recency effect. In other words, auditors who view evidence indicative of an unfavorable trend (versions 3 and 4) would have more negative (or less positive) mean belief revisions in the unfavorable condition than auditors who evaluate evidence showing a favorable trend (versions 1 and 2), regardless of the

[8] Further, consistent with Messier and Tubbs (1994), an ANOVA run with S4 as the dependent variable and S0 as a covariate produced similar results.

[9] T-tests confirmed the presence of recency effects for undated evidence (t = 2.43, p = .01), and for dated mixed evidence, in which temporal order and presentation order are consistent (t = 2.56, p = .01).

presentation order of evidence. The pattern displayed in Figure 2 appears to agree with the expectations of the second hypothesis.

Insert Figure 2 here

Table 3 summarizes the mean belief revisions (S4-S0) for the four versions of dated mixed evidence. A review of this table shows that, while there is an average trend effect size of 9.5, there is also an average recency effect size of 3.3. An ANOVA was performed with the mean belief revisions as the dependent variable, the results of which are shown in Table 3.

Insert Table 3 here

As predicted, the mean belief revision of auditors who evaluated evidence as indicative of an unfavorable trend (-19.8) was significantly more negative than the mean belief revision of auditors who evaluated evidence showing a favorable trend (-10.3). Thus, the trend effect was statistically significant ($F = 8.57$, $p = .00$)[10]. The mean belief revision of auditors who evaluated evidence in the (++--) order was -16.7, while that of auditors who evaluated evidence in the (--++) order was -13.4. Hence, presentation order effects were not statistically significant ($F = 0.99$, $p = .16$).[11] These results support H2.

These results suggest that auditors rightly consider the temporal order of the evidence in assessing a trend, and that they are not unduly influenced by the presentation

[10] T-tests confirmed the presence of trend effects for evidence in --++ ($t = 2.24$, $p = .02$) and for evidence in the ++-- order ($t = 2.78$, $p = .00$).

[11] Additional analysis was conducted post hoc to assess the power of the statistical test performed. The power of a statistical test is the probability, assuming that the null hypothesis is false (i.e., an effect is significant), of obtaining a result that will allow the rejection of the null hypothesis. Power increases with increasing sample size, effect size, higher α-level, and decreases with increasing sampling variance (Keppel and Wickens 2004). Assuming that cell means and mean squared error remain the same, increasing cell sample size from 30 to 83 would have resulted in the recency effect being significant at $\alpha = .05$.

order. This finding is significant since evidence is often uncovered and documented in an order that does not necessarily reflect the temporal order of events relevant to going-concern judgments (Ricchiute 1998).

An ANCOVA, using the mean final beliefs (S4) as the dependent variable, with S0 as a covariate, was also run. The results are shown in Table 4.

Insert Table 4 here

Consistent with previous results, the mean final belief of auditors who evaluated evidence indicative of an unfavorable trend (46.6) was significantly lower than that of auditors who evaluated evidence indicating a favorable trend (54.7). Thus, the trend effect was statistically significant ($F = 8.68$, $p = .00$). In addition to the strong trend effect, the data provided marginal support for a recency effect. The mean final belief of auditors who evaluated evidence in the (--++) order is 54.1, while that of auditors who evaluated evidence in the (++--) order is 47.2. Hence, order effects were marginally significant ($F = 1.94$, $p = .08$).

Additional Analysis

Statement on Auditing Standards No. 59 characterizes the decision to modify a standard unqualified opinion related to going-concern as a two-stage process (AICPA 1990). In the first stage, auditors evaluate evidence to reach a subjective belief that the firm will continue in existence. In the second stage, auditors compare their belief to a threshold, below which they will have substantial doubt about the firm's ability to continue in existence. Asare (1992) reported that order effects in judgments influence the auditor's opinion choice, and that auditors who evaluated evidence in the (--++) order

issue more standard unqualified opinions than auditors who evaluated the same evidence in a (++--) order. However, Cushing and Ahlawat (1996) and Ahlawat (1999) observed recency effects in a going-concern task, which did not translate into different choices of audit reports.

A check was performed to determine whether subjects' opinion choices were consistent in relation to their final belief (S4) as well as their threshold judgment[12]. Of the 120 subjects who were given dated mixed evidence, three chose audit opinions that were not consistent.[13] Further, to ensure that observed differences in opinion decisions were not due to differences in threshold judgments, the mean threshold judgment of the 58 subjects viewing evidence of a favorable trend was compared to that of the 59 subjects viewing evidence of an unfavorable trend. The mean threshold judgments for subjects with favorable and unfavorable trend were 52.1 and 52.9, respectively. These are not significantly different (t=.24, p=.81). Table 5 presents descriptive statistics related to the type of audit opinions chosen by the 117 subjects, classified by the trend implied in the temporal order (panel A) and by the presentation order of the evidence (panel B).

Insert Table 5 here

A Chi-Square test on the data in panel A indicated that auditors who viewed evidence indicative of a favorable trend chose standard unqualified opinions significantly more often than those who evaluated evidence indicative of an unfavorable trend. The observed value of the Pearson Chi-Square was 4.52 with p = .03. Conversely, a Chi-Square test on the data in panel B indicated that auditors who viewed evidence in the (--

[12] A correlation test shows a strong expected negative relationship (-.632) between the final judgment (S4) and the opinion choice (p = .00).
[13] These subjects were excluded from the sample for the ensuing analysis.

++) order did not have a significantly greater propensity to issue standard unqualified opinions than those who evaluated the same evidence in the (++--) order. The observed value of the Pearson Chi-Square was 0.42 with p = .52.[14]

DISCUSSION AND CONCLUSION

When temporal order is consistent with presentation order in going-concern assessments, auditors are prone to the same recency effects as auditors who evaluate undated evidence. Tests of H1 suggest that auditors who exhibit recency effects may be inferring a temporal order from the presentation order. However, when temporal order is different from presentation order, then strong trend effects, substantially reducing recency effects, are observed. Testing H2 reveals that temporal order and presentation order have independent effects. That is, some recency effects are clearly not due to auditors inferring chronology from presentation order. The finding that auditors take into account the temporal order of evidence when inferring a trend about a client's financial viability and are not unduly influenced by the presentation order of the evidence is reassuring.

This study is limited by the usual constraints of experimental research. For example, while this study demonstrated that recency effects are moderated by the temporal order of evidence reflected in the chronology of events dated *before* year-end and *after* year-end, it is conceivable that auditors in real-audit settings would seek more information after year-end to establish a more precise trend for going concern assessments. Thus, it is unclear whether temporal order would reduce recency effects to

[14] Further, a test of proportions was conducted on the 59 consistent responses of undated evidence. Consistent with Asare (1992) and in the absence of a temporal order, auditors who viewed evidence in the (--++) had a greater propensity to issue standard unqualified opinions than those who evaluated the evidence in the (++--) order. The observed value of the Pearson Chi-Square is 4.88 with p = .03.

the same extent, if all of the evidence were dated subsequent to year-end. Further study might seek to determine whether temporal order has any impact on order effects when events are in closer proximity of each other.

This study responds to a call by Trotman and Wright (2000) for the development of experiments that specifically examine a task where the timing of events directly affects their relevance (e.g., going-concern evaluation). Further research could examine whether temporal order may mitigate recency effects observed in other tasks. For example, order effects are reported in the assessment of the collectibility of accounts receivable (Anderson and Maletta 1999). The temporal order reflected in collection patterns could also have a direct impact on those evaluations. Smith and Kida (1991) suggest that auditors are conservative in information processing because of the potential liability to which they may be exposed when they issue a standard unqualified opinion to a client who subsequently declares bankruptcy. In this study, this is shown by the fact that mean belief revisions under all conditions are negative. However, such a conservative processing strategy may lead to costly inefficiencies. Future research might address the trade-off processes used by auditors when making going-concern judgments.

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FIGURE 1
Sequential Beliefs: Undated Evidence (versions 5 & 6) and Dated Mixed Evidence – Presentation Order and Temporal Order Consistent (versions 1 & 3)

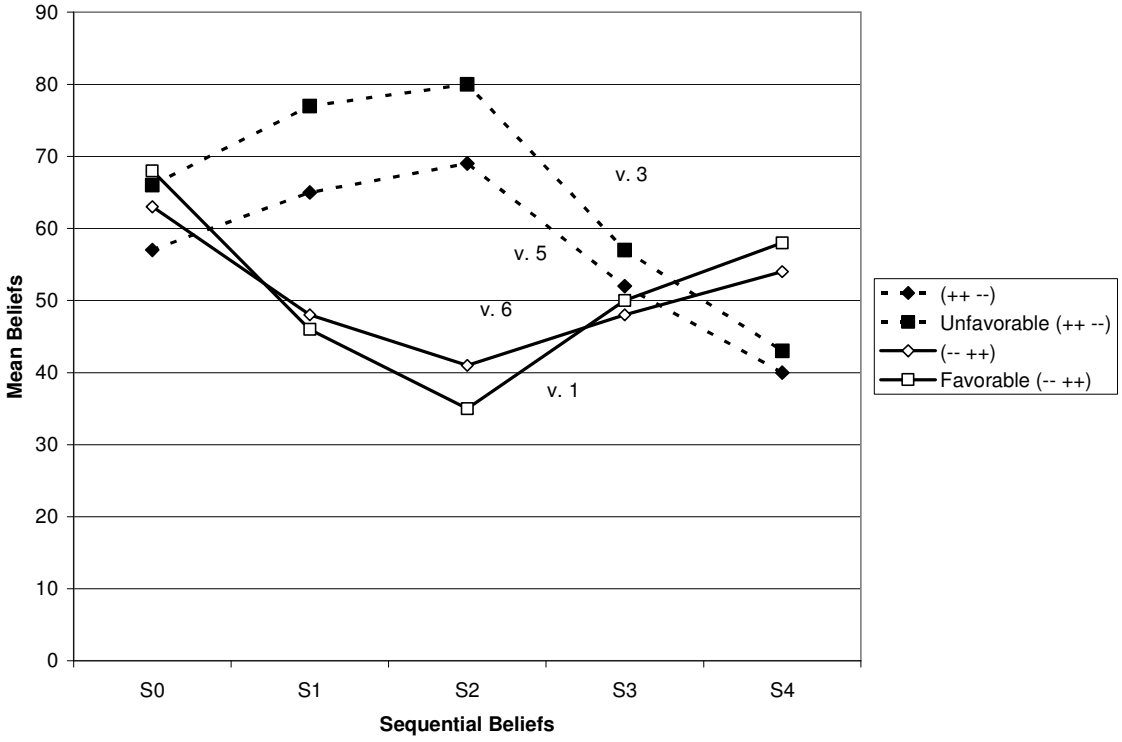

FIGURE 2
Mean Belief Revisions: Temporal Order Effects on Dated Mixed Evidence

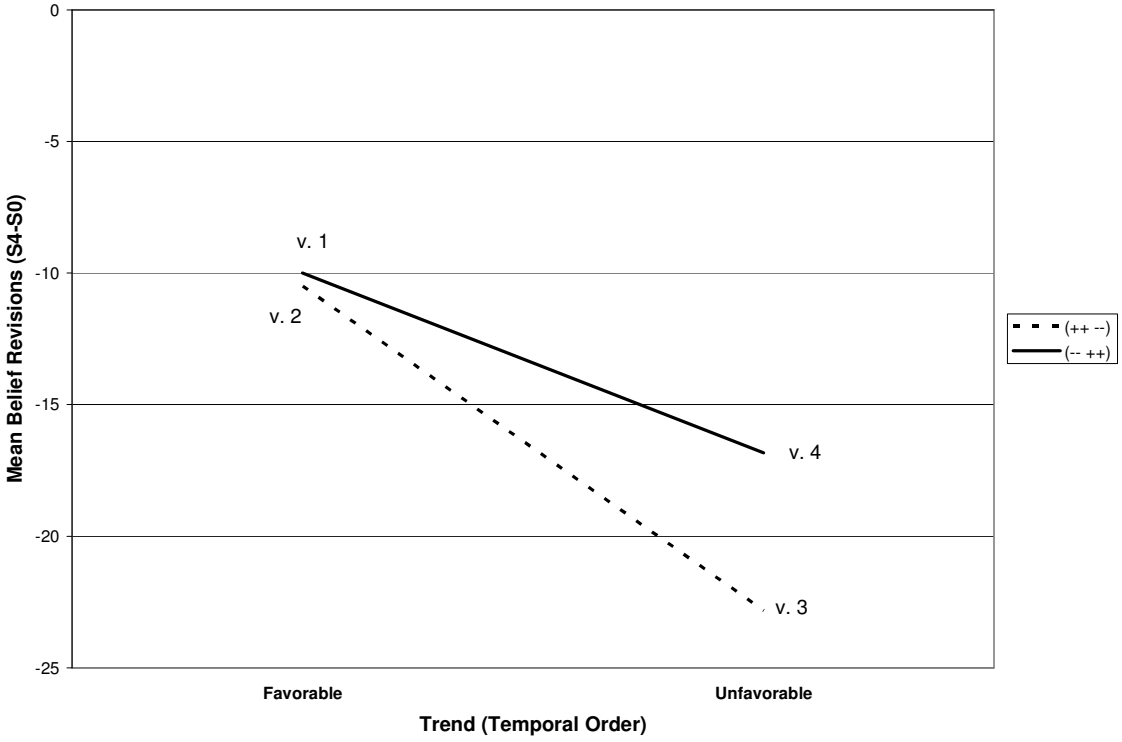

TABLE 1
Summary Results
Means of Sequential Judgments (All Versions)

Experimental Conditions[a]	V.	Trend[b]	Order	S0	S1	S2	S3	S4	S4-S0[c]
Consistent temporal order and presentation order	1	Favorable	--++	67.8	46.0	35.2	50.2	57.8	-10.0
	3	Unfavorable	++--	65.7	77.0	80.0	57.3	42.8	-22.9
Inconsistent temporal order and presentation order	2	Favorable	++--	62.0	76.8	82.8	61.7	51.5	-10.5
	4	Unfavorable	--++	67.2	43.3	31.7	43.3	50.3	-16.9
Undated	5		++--	57.3	64.8	69.2	51.8	39.7	-17.6
	6		--++	62.8	47.5	40.7	48.3	54.0	-8.8

[a] Temporal order and presentation order are consistent when evidence of a favorable trend is presented in the --++ order (version 1) or evidence of an unfavorable trend is presented in the ++-- order (version 3). Temporal order and presentation order are inconsistent when evidence of a favorable trend is presented in the ++-- order (version 2) or evidence of an unfavorable trend is presented in the --++ order (version 4).

[b] The trend is favorable (versions 1 and 2) when two pieces of negative evidence dated *before* year-end (September and November) are followed by two pieces of positive evidence dated *after* year-end (January and March). Conversely, the trend is unfavorable (versions 3 and 4) when two pieces of positive evidence dated *before* year-end (September and November) are followed by two pieces of negative evidence dated *after* year-end (January and March). Evidence is negative if it raises doubt about the entity's ability to continue in existence and positive if it reduces the auditor's doubt.

[c] S4-S0 represents the belief revision between initial judgments (S0) and final judgments (S4), while sequential judgments between the two are labeled S1, S2, and S3.

TABLE 2
Mean Belief Revision
Dated Mixed Evidence – Consistent Temporal Order and Presentation Order (versions 1&3), and Undated Mixed Evidence (versions 5&6)

Panel A: ANOVA (n = 120)

Source	df	Mean Sq.	F-value	p-value
Presentation order	1	3520.83	12.23	.00
Temporal order	1	300.83	1.05	.31
Presentation order x Temporal order	1	120.00	0.42	.52
Error	116	287.97		

Panel B: Treatment Cell Means (S4-S0)[a]

Experimental Group[b]	(--++)	(++--)	Total
Consistent temporal order and presentation order[c]	-10.0 (n = 30)	-22.9 (n = 30)	-16.4 (n = 60)
No temporal order[c]	-8.8 (n = 30)	-17.6 (n = 30)	-13.3 (n = 60)
Total	-9.4 (n = 60)	-20.3 (n = 60)	-14.8 (n = 120)

[a] S4-S0 represents the belief revision between initial judgments (S0) and final judgments (S4), while sequential judgments between the two are labeled S1, S2, and S3.

[b] Temporal order and presentation order are consistent when evidence of a favorable trend is presented in the --++ order (version 1) or evidence of an unfavorable trend is presented in the ++-- order (version 3).

[c] T-tests confirmed the presence of recency effects for evidence in which temporal order and presentation order are consistent ($t = 2.56$, $p = .01$) and for undated evidence ($t = 2.43$, $p = .01$).

TABLE 3
Mean Belief Revision
Dated Mixed Evidence – Favorable (versions 1&2) and Unfavorable (versions 3&4) Trend

Panel A: ANOVA (n = 120)

Source	df	Mean Sq.	F-value	p-value
Presentation order	1	316.88	0.99	.32
Temporal order	1	2755.21	8.57	.00
Presentation order x Temporal order	1	226.88	0.71	.40
Error	116	321.34		

Panel B: Treatment Cell Means (S4-S0)[a]

Experimental Group[b]	(--++)[c]	(++--)[c]	Total
Favorable trend	-10.0 (n = 30)	-10.5 (n = 30)	-10.3 (n = 60)
Unfavorable trend	-16.9 (n = 30)	-22.9 (n = 30)	-19.8 (n = 60)
Total	-13.4 (n = 60)	-16.7 (n = 60)	-15.0 (n = 120)

[a] S4-S0 represents the belief revision between initial judgments (S0) and final judgments (S4), while sequential judgments between the two are labeled S1, S2, and S3.

[b] The trend is favorable (versions 1 and 2) when two pieces of negative evidence dated *before* year-end (September and November) are followed by two pieces of positive evidence dated *after* year-end (January and March). Conversely, the trend is unfavorable (versions 3 and 4) when two pieces of positive evidence dated *before* year-end (September and November) are followed by two pieces of negative evidence dated *after* year-end (January and March). Evidence is negative if it raises doubt about the entity's ability to continue in existence and positive if it reduces the auditor's doubt.

[c] T-tests confirmed the presence of trend effects for evidence in --++ ($t = 2.24$, $p = .02$) and for evidence in the ++-- order ($t = 2.78$, $p = .00$).

TABLE 4
Mean Final Belief
Dated Mixed Evidence – Favorable (versions 1&2) and Unfavorable (versions 3&4) Trend

Panel A: ANCOVA (n = 120)

Source	df	Mean Sq.	F-value	p-value
Presentation order	1	559.50	1.94	.17
Temporal order	1	2501.85	8.68	.00
Presentation order x Temporal order	1	132.87	0.46	.50
Initial judgment (S0)[a]	1	23280.61	80.78	.00
Error	115	288.19		

Panel B: Treatment Cell Means (S4)[a]

Experimental Group[b]	--++	++--	Total
Favorable trend	57.8 (n = 30)	51.5 (n = 30)	54.7 (n = 60)
Unfavorable trend	50.3 (n = 30)	42.8 (n = 30)	46.6 (n = 60)
Total	54.1 (n = 60)	47.2 (n = 60)	50.6 (n = 120)

[a] S4 represents the final belief and S0 is the initial judgment.

[b] The trend is favorable (versions 1 and 2) when two pieces of negative evidence dated *before* year-end (September and November) are followed by two pieces of positive evidence dated *after* year-end (January and March). Conversely, the trend is unfavorable (versions 3 and 4) when two pieces of positive evidence dated *before* year-end (September and November) are followed by two pieces of negative evidence dated *after* year-end (January and March). Evidence is negative if it raises doubt about the entity's ability to continue in existence and positive if it reduces the auditor's doubt.

TABLE 5
Audit Opinions[a]
Number (Percentage) of Subjects

Panel A: Subjects Categorized by Trend (Temporal Order)[b]

	Unqualified Opinion		
Trend[c]	**Standard**	**With Explanatory Paragraph**	**Total**
Favorable	34 (60%)	24 (40%)	58 (100%)
Unfavorable	23 (40%)	36 (60%)	59 (100%)
Total	57 (100%)	60 (100%)	117 (100%)

Panel B: Subjects Categorized by Presentation Order[d]

	Unqualified Opinion		
Presentation Order	**Standard**	**With Explanatory Paragraph**	**Total**
--++	30 (53%)	28 (47%)	58 (100%)
++--	27 (47%)	32 (53%)	59 (100%)
Total	57 (100%)	60 (100%)	117 (100%)

[a] All 117 subjects who evaluated dated mixed evidence (versions 1-4) chose either a standard unqualified opinion or an unqualified opinion with explanatory paragraph.

[b] A Chi-square test for proportions indicates that the difference in proportions is significant (Chi-square= 4.52, p=.03).

[c] The trend is favorable (versions 1 and 2) when two pieces of negative evidence dated *before* year-end (September and November) are followed by two pieces of positive evidence dated *after* year-end (January and March). Conversely, the trend is unfavorable (versions 3 and 4) when two pieces of positive evidence dated *before* year-end (September and November) are followed by two pieces of negative evidence dated *after* year-end (January and March). Evidence is negative if it raises doubt about the entity's ability to continue in existence and positive if it reduces the auditor's doubt.

[d] A Chi-square test for proportions indicates that the difference in proportions is not significant (Chi-square = .42, p=.52).