

## experimental research in accounting

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Experimental accounting research is a broad field that examines financial communication among managers, auditors, information intermediaries, and investors. Experimental research in accounting takes the advantage of disentangling variables that are confounded in natural settings and measuring intervening processes to draw casual inferences. Theories from psychology and economics allow this field to specify clearly the mechanisms that affect individual and market behaviors (Libby, Bloomfield, and Nelson, 2002).

The early experimental papers published in major accounting journals in the 1960s and 1970s faced serious criticisms because of the irrelevance of individual behavior in market settings, in which competitive forces eliminate individual errors. Such papers were also criticized because they failed to capture relevant aspects of the decisions of interest, in particular, decision-maker attributes and institutional features. In the late 1980s and 1990s, numerous papers reported inefficiencies in the financial markets, rendering the previous criticism on experimental accounting on the basis of market inefficiency less relevant. Accounting papers published in the 1990s and thereafter also took into account a broad range of institutional features, which helped to mitigate the criticisms about failing to capture institutional features (Libby, Bloomfield, and Nelson, 2002).

Two key individual characteristics of preparers and users of accounting information are their knowledge and motivation. These individuals at least should have sufficient knowledge of accounting regulations and are motivated to pay attention to the task they are performing in their fields. Key environmental characteristics of an accounting setting are the complex regulations, the existence of financial markets, and strategic interactions of the reporters and users of financial information. Regulations determine financial reporting choices available for managers and auditors as well as sanctions about the misuse of these rules. Existence of

financial markets affects how individual decisions result in aggregate market outcomes, such as price, volume, and liquidity. Individual goals influence the interaction of incentives and actions of various parties such as managers, auditors, investors, and analysts, related to reporting, forecasting, and investment decision making. Focusing on these institutional features allows experimental researchers to strengthen the external validity of the experiments and shed light on how changes in the institutional features modify participants' behavior (Libby, Bloomfield, and Nelson, 2002).

Most research in experimental accounting uses a judgment and decision-making task, where one or more pieces of information are manipulated across or within participants, who answer some questions about their judgments and decisions. The manipulations include, but are not limited to, content, format, placement, and existence of some information. Some experiments also include eye-tracking or verbal protocol analysis techniques. For example, Hunton and McEwen (1997) use computerized eye-movement retinal system to capture the relationship between analysts' search strategy and their forecast accuracy. They conclude that more accurate analysts employ a directive information search strategy, whereas less accurate analysts employ a sequential search strategy. On another instance, Bouwman, Frishkoff, and Frishkoff (1995) ask analysts to think aloud while evaluating generally accepted accounting principle (GAAP) based and nonGAAP-based information. Using a verbal protocol analysis, they find that GAAP-based information plays a significant role in each phase of the evaluation process, mainly in the familiarizing activity, but its usage declines during exploration and scanning stage. They also find that nonGAAP-based information is particularly important during reasoning stage.

Trotman, Tan, and Ang (2011) give a recent review of the experimental accounting research (except for tax accounting). The following sections give some examples of experimental accounting research in financial accounting, managerial accounting, taxation and auditing areas.

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### EXPERIMENTAL RESEARCH IN FINANCIAL ACCOUNTING

Experimental financial accounting research can broadly be classified in three categories. The first category involves the determinants of how information providers report events. For example, Nelson and Kinney (1997) provide evidence that auditors are more (less) conservative when the relevant evidence is precise (ambiguous). In another context, Libby *et al.* (2008) investigate whether analyst incentives to maintain relationship with management explain the optimistic and pessimistic patterns in analyst forecasts. They find that analysts deliberately issue lower forecasts before earnings announcements because they believe that the action will lead greater access to management. Their finding is particularly interesting as the experiment was conducted after the Regulation Fair Disclosure (2000), which requires management to simultaneously disclose information to all investors (Trotman, Tan, and Ang, 2011). The second category involves the determinants of the way accounting information users interpret accounting information. Frederickson and Miller (2004) find significant differences in the use of pro forma earnings by nonprofessional investors and analysts. In their experiment, the stock price estimation for nonprofessional investors who received both pro forma and GAAP earnings was higher than that of nonprofessional investors who received only GAAP earnings. In contrast, the stock price judgments of financial analysts were not affected by the pro forma disclosures. In another context, Koonce, McAnally, and Mercer (2005) examine whether financial instrument disclosures increase investor ability to better assess the riskiness of a firm. They find that investors are affected by the labels used in the disclosures but additional information about the risk exposure does not change their initial judgments. The third category involves the strategic interaction between providers and users of accounting information and examines how such interaction affects reporting and market outcomes. Jackson (2008) finds that the adoption of straight line depreciation rather than accelerated depreciation causes nonexecutive managers to invest in projects that do not maximize value. Similarly,

Bhojraj and Libby (2005) examine whether an increase in capital market pressure and reporting frequency causes managers to display “myopic” investment behavior, that is, the tendency to choose projects with higher short-term earnings but poorer overall cash flows, and finds this to be the case. With respect to individual biases affecting market prices, Calegari and Fargher (1997) show that post-earnings drift persists in a double auction market and Tuttle, Collier, and Burton (1997) show that recency effects (the most recent information received affecting the market prices more than previous information received) extend to the market level (Libby, Bloomfield, and Nelson, 2002).

### EXPERIMENTAL RESEARCH IN MANAGERIAL ACCOUNTING

Experimental managerial accounting, which focuses on information necessary for planning and decision making of managers, and that improves employee abilities to make organizationally desirable decisions, can be classified in two broad categories. The first category involves the facilitating role of accounting information on decisions of managers to reduce pre-decision uncertainty (Sprinkle, 2003). For example, Lipe and Salterio (2002) find that a balanced scorecard’s organization affects performance evaluations in certain conditions. Frederickson, Peffer, and Pratt (1999) find that more frequent feedback can sometimes bias judgments. Similarly, Krishnan, Luft, and Shields (2005) find that decision-makers are significantly influenced by performance measure error variance and covariance, and overall, underreact to an accounting change that alters performance measurement error. The second category involves the examination of managerial accounting information in motivating employees (Sprinkle, 2003). In this area, Fisher, Frederickson, and Peffer (2000) find that budgets set through a negotiation process ending in agreement contain significant less slack than unilaterally agreed budgets; however, a failed negotiation followed by superiors imposing a budget has a significant detrimental effect on subordinate performance. Balakrishnan, Sprinkle, and Williamson (2011) find that even when employees cannot be remunerated for their

actions, employee contributions to employers significantly increase as the level of corporate giving increases. For a comprehensive review of experimental papers in managerial accounting, please see Sprinkle (2003).

#### EXPERIMENTAL RESEARCH IN TAXATION

Experimental research in taxation examines individuals' decisions regarding taxation under different regulations or conditions. For example, Falsetta and White (2005) examine the effect that stock position (gain or loss) and income tax withholding position (tax payment or tax refund) have on the sale of stock at the end of the year. They find that when tax considerations are the primary factor in their decision process, individuals sell loss stocks and hold gain stock, and this propensity is the same whether they are faced with a tax payment or a tax refund. Slemrod, Blumenthal, and Christian (2001) examine the results of a natural experiment involving a change in the probability of an audit: In 1995, a group of 1724 randomly selected Minnesota taxpayers were informed by a letter that the returns they were about to file would be "closely examined." Compared to a control group that did not receive this letter, low and middle-income taxpayers in the treatment group on average increased tax payments compared to the previous year. The effect was much stronger for those with more opportunity to evade; surprisingly, however, the reported tax liability of the high income treatment group fell sharply relative to the control group. For a comprehensive review of experimental papers in taxation, please see Torgler (2002).

#### EXPERIMENTAL RESEARCH IN AUDITING

Experimental research in auditing examines auditor decision-making processes including review, negotiation, brainstorming, and sampling processes. Koonce, Anderson, and Marchant (1995), for example, examine how the anticipation of the review process and the degree to which evidence supporting or refuting management explanations influence the justifications of audit planning decisions. They find that auditors anticipating an audit review document a greater number of justifications than those who do not. Wilks (2002) examines whether earlier

knowledge of supervisors' views increases the preparers' tendencies to agree with the views of the reviewers. He finds that auditors who learn the partner's view before evaluating evidence evaluate individual evidence items as more consistent with the partner's view, and make going-concern judgments that are more consistent with the partner's view, than do auditors who learn the same partner's view after evaluating evidence. Reffett (2010) examines juror reactions to auditors' brainstorming process. He finds that jurors are more likely to hold auditors liable for failing to detect fraud when the auditors investigate for the perpetrated fraud, relative to when the auditors do not investigate for the fraud.

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