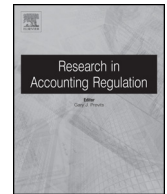




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The impact of different types and amounts of guidance on the implementation of an accounting principle

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ABSTRACT

Transfer of asset control is a central principle in the revenue recognition standard jointly developed and issued by the FASB and IASB (Boards) in 2014. Guidance with respect to this principle will be very important in applying the new standard. This study examines the effect of type and amount of guidance on the judgment of whether control has been transferred. Study participants receive different hypothetical standards and provide judgments with respect to the transfer of control in a construction-type contract case setting. Results indicate that adding guidance to the basic principle in the form of either key indicators or an illustrative example results in participants being more likely to judge the customer as having control during the construction period. Participants perceive indicators as being more useful than examples in forming their judgments. The nature of the example (affirmative or counter) does not have a differential impact on judgments when added to a principle-only standard. On the other hand, when an example is added to a standard that contains a principle and key indicators, judgments are significantly different when a counter example is present than when an affirmative example is part of the standard. This study provides the Boards with research results that may be useful in determining the type and amount of guidance to be provided in a principle-based standard.

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1 Introduction

International Financial Reporting Standards (IFRS) developed by the International Accounting Standards Board (IASB) often are described as being principles-based, whereas standards developed by the U.S. Financial Accounting Standards Board (FASB) are viewed as being more rules-based. In fact, no standard is based solely on a principle; every standard contains some amount of implementation guidance.¹

Guidance for the implementation of an underlying principle can be provided in a variety of forms, including key indicators to be considered in applying the underlying principle, illustrative examples to be compared against, and, in the extreme case, bright-line criteria.

The recent experience of the FASB and IASB (hereafter the "Boards") in developing a new standard on revenue recognition suggests that deciding on the type and amount of guidance to provide for implementation of a basic principle is not a cut-and-dry process.²

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¹ A white paper issued by the CEOs of the six largest accounting firms states: "...we may be well served by acknowledging that neither a purely rules-based nor a purely principles-based system has ever existed or will ever exist. Every accounting standard will exist somewhere along a spectrum between rules and principles" (DiPiazza et al., 2008, 2). Similarly, Nelson (2003) describes accounting standards as being more or less rules-

based (or "precise"), with less precise standards relying more on principles to guide behavior than on detailed guidance.

² This conclusion is supported by the fact that the Boards' Discussion Paper (IASB, 2008 and FASB, 2008), subsequent discussion (IASB, 2009), Exposure Draft (IASB, 2010 and FASB, 2010), and revised Exposure Draft (IASB, 2011 and FASB, 2011) related to revenue recognition contain differing amounts and types of implementation guidance in the form of key

In the only extant study to directly examine the impact of additional guidance in an accounting standard, [Clor-Proell and Nelson \(2007\)](#) investigate whether the manner in which an illustrative example is framed (affirmative vs. counter) affects the way in which a standard containing an illustrative example is applied. They find that individuals are more likely to recognize both revenue and expense when provided an affirmative example than when provided a counter example. Further, providing subjects with both types of examples does not reduce the overweighting of the affirmative example. Their results are consistent with the cognitive constructs of “priming” ([Kahneman & Tversky, 1984](#); [Tversky & Kahneman, 1973](#)) and “similarity comparison reasoning” ([Holyoak & Thagard, 1997](#)). Rather than, or in addition to, providing guidance in an accounting standard in the form of an illustrative example, the Boards can provide key indicators to guide application of the underlying principle.³ This study attempts to extend prior research by examining not only the influence of illustrative examples but also the impact that providing key indicators to a principle-based standard has on financial reporting judgments. This study further contributes to prior research by examining the relative importance of providing key indicators versus illustrative examples as additional guidance, as well as the possible interaction between these two types of guidance. The impact of including key indicators and/or illustrative examples in an accounting standard is examined by conducting a study with student participants that uses revenue recognition in a construction-type project as the context for a judgment-making exercise.⁴

A general principle in the Boards’ new revenue recognition model is that an entity should recognize revenue when the performance obligation in a contract is satisfied by transferring control of an asset to a customer. Judging whether control of an asset has been transferred is critical in applying the underlying principle. This study manipulates the presence of key indicators and the presence and nature of an illustrative example to determine the impact these elements have on the judgment of whether control has been transferred from an entity to a customer, and whether these two elements interact.⁵ It also examines

indicators and illustrative examples. For example, the Discussion Paper and original 2010 Exposure Draft contain different illustrative examples related to construction-type projects; however, such an example is absent from the revised Exposure Draft and from the final standard ([FASB, 2014](#); [IASB, 2014](#)).

³ Key indicators are additional elements of guidance (somewhat like criteria) that are intended to assist preparers in applying the concept. More detailed discussion of key indicators is presented in [Section 2.1](#).

⁴ The motivation for choosing the revenue recognition standard to investigate was twofold. First, this standard is timely and highly relevant. It is the most recent successful joint project completed by the FASB and IASB, and because of the pervasive nature of revenue recognition, it arguably is one of the most important joint standards issued by the Boards. Second, the history of its development (described in [Section 2.2](#), below) exemplifies the difficulty the Boards experienced in deciding on the amount and type of guidance to provide in the final standard. As such, it provides a natural setting for examining the impact of different additional guidance on the implementation of an accounting principle.

⁵ [Clor-Proell and Nelson \(2007\)](#) suggest that the amounts of guidance and type of example might interact, with examples playing a more im-

portant role in application of the standard when the standard otherwise is less precise. They do not test this hypothesis.

portant role in application of the standard when the standard otherwise is less precise. They do not test this hypothesis. Results indicate that adding guidance in the form of key indicators or an illustrative example has a significant effect on participants’ judgments as to whether the customer has control during the construction period. In response to a post-judgment task question, participants generally indicate that the indicators were used more than the examples. Contrary to the results obtained by [Clor-Proell and Nelson \(2007\)](#), the nature of the example (affirmative or counter) does not matter when added to a principle-only standard. However, the nature of the example does matter when added to a standard that also contains key indicators (i.e., there is a significant interaction between the two types of guidance). Results also show that providing additional guidance, through the introduction of either indicators or an example, does not significantly affect participants’ confidence in their judgment. However, adding both indicators and an example does result in a significant increase in participants’ confidence in their judgment.

In addition to extending prior literature examining the effect of providing additional guidance in a principle-based standard, this study provides information that might be useful to the Boards in developing such standards. Although this study examines the effect of additional guidance in the context of revenue recognition in construction-type contracts, the results of this study could be generalizable to other contexts.

The next section presents background and develops hypotheses. The research method is described in the following section, and then results are presented. The final section provides a summary and offers conclusions.

2 Background and hypotheses

2.1 Indicators and examples

Both the FASB and IASB provide additional guidance in numerous standards to assist financial statement preparers in applying the standard.⁶ Guidance provided in the form of key indicators tends to be general and avoids establishing specific criteria or thresholds. As an example, FASB Accounting Standards Codification (ASC) Topic 830-10 (Foreign Currency Matters) establishes the principle that the “assets, liabilities, and operations of a foreign entity shall be measured using the functional currency of that entity” (par. 45-2). ASC 830-10-55-5 provides a list of indicators that “should be considered both individually and collectively when determining the functional currency,” but it does not provide guidance with regard to how the indicators should

provide guidance with regard to how the indicators should

provide guidance with regard to how the indicators should

be weighted or how many indicators must be met to determine a specific functional currency.⁷

Kohlbeck and Warfield (2010) identify that a majority of general-purpose FASB standards issued from 1980 to 2002 contain implementation guidance, sometimes in the form of examples. Guidance provided in the form of an illustrative example tends to be more specific than guidance provided through indicators, indicating through the use of a hypothetical scenario whether the underlying principle is met or not. For example, FASB ASC Topic 605 (Revenue Recognition) requires that, in a revenue-generating transaction with multiple deliverables, the delivered items must be considered separate units of accounting if two criteria are met. ASC 605-25-55-8 through 36 provides five examples (all affirmative) that illustrate evaluation of the criteria in various scenarios. Each example presents facts that indicate the criteria have been met and concludes with a statement to this effect.

2.2 Development of a principles-based standard

In 2014, the FASB and IASB issued a new revenue recognition standard "Revenue from Contracts with Customers" (FASB, 2014; IASB, 2014). The issuance of this standard was the culmination of a due process that began with a joint Discussion Paper issued by the Boards in December 2008 proposing the general principle that revenue be recognized when an entity transfers control of an asset to a customer (FASB, 2008; IASB, 2008). The Discussion Paper includes two examples (one affirmative example and one counter example) illustrating the principle of transfer of control in a construction-type contract.

Subsequently, in September 2009, the IASB staff considered adding several key indicators that the customer has obtained control of the asset, including the customer specifies the design or function of the asset, and the customer has an unconditional obligation to pay for the asset (IASB, 2009). These indicators were intended to provide additional guidance to assist financial statement preparers in determining whether control has passed to the customer.

In the Exposure Draft on revenue recognition issued in 2010, the Boards proposed a more general principle, which states "a customer obtains control of a good or service when the customer has the ability to direct the use of, and receive the benefit from, the good or service" (FASB, 2010, par. 26; IASB, 2010, par. 26). This general principle of control is less strict than the one considered in the Discussion Paper and would be relatively straightforward to apply in transactions such as retail sales where transfer of control occurs at the point of sale.⁸ However, it is not as easy to use the principle to determine when transfer of control occurs in a situation such as during the construction phase of a construction-type contract. As a consequence, the Boards

included additional guidance in the form of several indicators that the customer has obtained control of the asset in the Exposure Draft. The Boards also included an affirmative illustrative example related to construction-type contracts in Appendix B of the 2010 Exposure Draft. The illustrative example was omitted (but indicators were retained) from a revised Exposure Draft issued in 2011 (FASB, 2011; IASB, 2011) and from the final standard issued in 2014 (FASB, 2014; IASB, 2014).

The Boards' experience in deciding on the type and amount of additional guidance to provide in the context of revenue recognition in construction-type contracts leads to the following motivating question: Does it matter whether additional guidance in an accounting standard is provided in the form of key indicators, illustrative examples, or both?

2.3 Hypothesis development

In a construction-type contract situation, a standard based on the principle of control defined as the customer's "ability to direct the use of, and receive the benefit from, the good or service" (Exposure Draft 2010, para. 26) is likely to result in preparers determining that control has not been transferred to the customer because the standard does not provide enough guidance to reason that the customer has obtained control of the good as it is being constructed. The Boards appear to have believed that adding key indicators and/or an illustrative example to the standard could help clarify situations when it might be appropriate to conclude that the condition of control being transferred to the customer during construction has been met.

Indicators can serve as attributes or elements specifying the relevant concept (i.e., transfer of control). Research on the psychological concept of priming suggests that judgments can be influenced by the information or the attribute used in the context to elicit those judgments (Kahneman & Tversky, 1984; Tversky & Kahneman, 1973). Previous studies show that individuals tend to gather information in terms of the attribute primed or activated by the context and such an attribute will subsequently be used to interpret the concept or make the judgment (e.g., Higgins, Bargh, & Lombardi, 1985; Salancik, 1974; Yi, 1990).⁹ Research indicates that primed information in an audit context has an impact on auditors' going concern judgments (O'Clock & Devine, 1995; Trotman & Sng, 1989), and on auditors' judgments about an organization's internal control systems and auditors' substantive testing decisions (Emby, 1994). In a more recent study, researchers use the construct of priming (with the AICPA Code of Conduct) to examine students' decisions regarding reporting ambiguous situations (Fatemi, Hasseldine, & Hite, 2014).

Indicators provided in an accounting standard can be viewed as additional criteria for preparers to make judgments or serve as thresholds for decisions. When a standard

⁷ Functional currency indicators in FASB ASC 830-10-55-5 include: "a. Cash flow indicators," "b. Sales price indicators," "c. Sales market indicators," "d. Expense indicators," "e. Financing indicators," and "f. Intra-entity transactions and arrangements indicators."

⁸ Some criticized the general principle of revenue recognition in the Exposure Draft as being too vague and argue that it does not "tell us much about what acceptable accounting should be" (AAA FASC, 2011, 579).

⁹ Some researchers call this phenomenon attribute framing, in which "a single attribute within any given context is the subject of the framing manipulation" (Levin, Schneider, & Gaeth, 1998, 158) or facilitative effects of "an encounter with a stimulus on subsequent processing of the same stimulus" (Tulving, Schacter, & Stark, 1982, 336).

includes several indicators, but does not specify how many indicators must be met to use a specific accounting treatment, the standard might be perceived by preparers as setting a low threshold. For example, preparers might infer that only one indicator needs to be satisfied to trigger use of a specific accounting treatment. In the context of determining whether the transfer of control has occurred in a construction project (and therefore revenue recognition is appropriate), when the standard provides a general principle and a number of key indicators as additional guidance for a judgment, preparers might be more likely to reason that control has passed to the customer (and thus recognize revenue) if facts and circumstances suggest that one or more indicators in the standard is satisfied. This leads to the following hypothesis:

H1. Individuals who are provided a principle with key indicators are more likely to conclude that control has been transferred to the customer in long-term construction contracts than individuals who are provided a principle without key indicators.

Related to this hypothesis, this study specifically examines the incremental effect of adding key indicators to a standard that otherwise contains a principle only.

Instead of key indicators, accounting standard setters can provide illustrative examples as additional guidance to implement the core principle of an accounting standard. The notion that employing examples is an effective way to communicate information is based on the theory that people use similarity comparison to reason and make judgments if similarity of key relations exists between the elements of the source and the target (Holyoak & Thagard, 1997).

In an otherwise ambiguous situation, adding an illustrative example to the principle could lead at least some preparers to conclude that the condition of control has been met resulting in a greater number of preparers who believe that control has passed to the customer. This is true regardless of the nature of the example (affirmative or counter). In either case, an illustrative example provides preparers with additional cues that can be compared with facts and circumstances to judge whether the principle has been met. This results in the following hypothesis:

H2. Individuals who provided a principle with an illustrative example are more likely to conclude that control has been transferred to the customer in long-term construction contracts than individuals who are provided a principle without an illustrative example.

Related to this hypothesis, this study specifically examines the incremental effect of adding either an affirmative example or a counter example to a standard that otherwise contains a principle only.

This study also investigates the question whether an affirmative example or a counter example has a larger effect on the control judgment (absent key indicators). Based on the results obtained by Clor-Proell and Nelson (2007) that individuals are more likely to recommend recognition of revenues when provided an affirmative example than when

provided a counter example, the following hypothesis is tested:

H3. Individuals who are provided a principle with an affirmative example are more likely to conclude that control has been transferred to the customer in long-term construction contracts than individuals who are provided a principle with a counter example.

Related to this hypothesis, this study specifically examines the differential effect of adding an affirmative example versus a counter example to a standard that otherwise contains a principle only.

In developing a principle-based standard, the Boards may choose to provide additional guidance in the form of key indicators, illustrative examples, or both. Clor-Proell and Nelson (2007) investigate the interactive effect of including both an affirmative example and a counter example in an accounting standard, and find that inclusion of a counter example does not dampen the overweighting of the affirmative example. Prior research has not investigated the interactive effect of including both key indicators and an illustrative example in a standard, nor has the potential interaction of priming and similarity-comparison reasoning been discussed in prior literature. Therefore, no basis exists for predicting whether there will be, or the direction of, an effect from combining an illustrative example and key indicators in a principle-based standard. This study examines the following research question:

RQ: Does the nature of the illustrative example (affirmative or counter) included in a standard have a differential effect on the judgment about customer control of the asset when the standard does or does not also include key indicators?

3 Method

3.1 Participants and research design

A study using accounting students as subjects was conducted to test the hypotheses and examine the research question. Based on previous research, student subjects are appropriate surrogates for practitioners in a task involving human information processing and decision making (e.g., Ashton & Kramer, 1980; Liyanarachchi, 2007), as opposed to a “more precise task of the measurement of meaning in accounting” (Houghton & Hronsky, 1993, 143). Houghton and Hronsky (1993) further argue that “accounting students demonstrate a level of structural cognitive complexity in relation to the meanings of accounting concepts similar to experienced accounting practitioners” (139).¹⁰

Participants are asked to provide their judgments with respect to the transfer of control in a construction-type contract employing a 2 × 3 design. The independent variables are key indicators (two levels) and the nature of the example (three levels). The dependent variables are participants’ (1

¹⁰ Some scholars argue that “student subjects are also entirely appropriate in studies that focus on general cognitive abilities...” (Libby, Bloomfield, & Nelson, 2002, 803).

judgment as to whether control of an asset has been transferred to a customer and (2) judgment confidence.

3.2 Materials

The research instrument is comprised of four parts. The introduction explains the purpose of the study, requests participation, and provides an assurance of anonymity. The second part provides participants a hypothetical standard that includes the general principle that “revenue should be recognized when control of a good or service has passed from an entity to its customer” and the explanation that “a Customer has control of an asset when the customer has the ability to direct the use of and receive the benefit from the asset.” Six different versions of the hypothetical standard manipulated the variables of interest:

- (1) Principle only (P)
- (2) Principle plus indicators (PI)
- (3) Principle plus affirmative example (PA)
- (4) Principle plus counter example (PC)
- (5) Principle plus indicators and affirmative example (PIA)
- (6) Principle plus indicators and counter example (PIC)

Participants receive one of the hypothetical standards and a short case involving a hypothetical construction company that enters into a contract with a customer to build machinery. They are asked to indicate the extent to which they believe the customer has control of the machinery as it is being constructed. Finally, participants are asked to answer several case-related questions and provide demographic information.

3.3 Manipulation

Key indicators are varied at two levels (yes, no) by either (1) including or (2) not including them in the standard. Three indicators proposed by the Boards in the 2010 Exposure Draft are selected: (1) the customer has an unconditional obligation to pay for the asset, (2) the customer has physical possession of the asset, and (3) the customer specifies the design or function of the asset. The fourth indicator in the Exposure Draft, i.e., that the customer has legal title, was not selected because a customer in a construction-type contract generally does not obtain legal title to the asset until completion of the project. Thus, this indicator does not generally apply to construction projects. Four indicators are needed to be able to construct an ambiguous hypothetical case in which two indicators are met and two indicators are not met. “The customer has continuing management involvement in the asset” is included as a fourth indicator. This indicator was discussed by the Boards in September 2009 and appears to be relevant for construction-type projects.

The nature of the illustrative example in the standard is manipulated at three levels (no, affirmative, counter) by including (1) no example, (2) an affirmative example, or (3) a counter example in the hypothetical standard. The illustrative example is adapted from Example 15 in the 2010 Exposure Draft (Appendix B) in which, in the view of the Boards, the terms of the contract and all the related facts indicate the customer controls the good as it is manufac-

tured. To be consistent with the indicators mentioned in the above paragraph, the phrase “legal title to the equipment passes to the customer upon delivery of the equipment” was deleted, and Example 15 was rewritten to focus on the four indicators discussed above. An affirmative example was created that describes a situation in which a customer obtains control of an asset (a boat) as it is being constructed and the example was rewritten to also create a counter example. For instance, the affirmative example includes the cues that “because the boat is customized for the particular customer, the Customer is highly involved in specifying the design of the boat and makes regular visits to the Builder’s facility to oversee the project during construction.” This is rewritten as “because the boat is of standard design, the Customer is not involved in the original design of the boat and does not make visits to the Builder’s facility to oversee the project during construction” to create the counter example. As a result, the counter example describes a situation in which a customer does not obtain control of an asset as it is being constructed. [Appendix 1](#) presents both the affirmative example and the counter example.

3.4 Procedures

The short case describes a six-month construction contract with a contract price of \$1,500,000. The case contains four facts that relate to the four indicators of control and the four cues in the illustrative example that are provided as additional guidance in the standard. Two of the case facts point in the direction that the customer obtains control of the asset as it is being constructed and two suggest the customer does not obtain control. To make the scenario more realistic, the fact of the customer’s taking physical possession of the asset goes hand-in-hand with the fact of payments being required and nonrefundable, and the fact of the customer’s design specification goes hand-in-hand with the fact of the customer’s involvement during the construction. Presenting each fact in the case as either positive or negative an equal number of times balances for both order effects and weighting effects. Participants’ judgments should be based on the level of detail in the standard and the facts of the case, without thinking about the impact of their judgments on financial statements. Therefore, the research instrument controls for incentives by indicating that the company is not publicly traded and management’s compensation is not based on accounting profit, and by specifying that the goal is to report accounting information accurately.

Participants are asked to indicate, on a ten-point scale, the extent to which they believe the customer has control of the asset as it is being constructed (1 = “Definitely believe customer does not have control of the asset as it is being constructed” and 10 = “Definitely believe customer has control of the asset as it is being constructed”).¹¹ Participants then are asked to state the reason for their judgment, which allows for a better understanding of their decision

¹¹ A 10-point scale is used to avoid the chance that respondents will use the neutral response available in an odd-numbered, e.g., 7-point, scale.

Table 1

Judgment about whether the customer controls asset and confidence in judgment: means (standard deviations).

Treatment	Judgment ^a mean (std)	Confidence ^b mean (std)	n
Principle only (P)	3.99 (2.55)	7.47 (2.01)	70
Principle and indicators (PI)	5.42 (2.44)	7.80 (1.71)	74
Principle and affirmative example (PA)	4.69 (2.92)	7.90 (1.72)	72
Principle and counter example (PC)	4.96 (3.11)	7.73 (2.02)	71
Principle, indicators and affirmative example (PIA)	4.41 (2.81)	8.19 (1.72)	73
Principle, indicators and counter example (PIC)	5.81 (2.88)	8.11 (1.78)	74

^a Participants indicated the extent to which they believe the customer has control of the machinery as it is being constructed using a ten-point scale numbered from 1 ("Definitely believe customer does not have control of the machinery as it is being constructed") to 10 ("Definitely believe customer has control of the machinery as it is being constructed").

^b Participants indicated how confident they were in their judgment as to whether the customer controls the machinery as it is being constructed using a ten-point scale numbered from 1 ("Not at Confident") to 10 ("Very Confident").

process. Participants also are asked to indicate the level of confidence in their choice when they make the judgment on a ten-point scale (1 = "Not at all Confident" and 10 = "Very Confident").¹² Finally, participants respond to a manipulation check and several case-related and background questions.

4 Results

Study participants were 434 upper-level undergraduate and master's-level accounting students at five U.S. universities. 44 percent of participants were male and 56 percent were female, and 65 percent had taken five or more accounting classes. Neither gender nor number of classes taken had any effect on the participants' judgments or level of confidence in their judgments. The mean response to the question whether the customer has control of the asset during construction was 4.89 (on a 10-point scale); 40.5 (59.5) percent indicated the customer does (does not) have control.¹³

As a manipulation check for the treatments, participants were asked to respond to a question about the elements included in the proposed revenue recognition model. About 14 percent of participants responded incorrectly.¹⁴ Excluding these participants' responses from

the analysis, however, does not affect the overall results, so all participants' responses are included in the analyses.

Table 1 displays descriptive data for the six treatment conditions. As expected, a principle-only standard (i.e., a standard without indicators or an illustrative example) does not provide sufficient guidance for participants on average to be able to justify that the customer has the ability to direct the use of and receive the benefit from the asset. The judgment mean for this treatment (P) is 3.99, indicating that participants on average reason that control has not passed to the customer.¹⁵

A 2 × 3 ANOVA is used to test H1 and H2 and to examine the research question (indicators at two levels and examples at three levels), and a one-way ANOVA comparing cell mean differences between an affirmative example (PA) and a counter example (PC) is used to test H3. Participants' judgments about whether control has been transferred serves as the dependent variable. The judgment means and ANOVA results are reported in Table 2.

4.1 Tests of hypotheses

H1 predicts that participants who are provided a standard that contains key indicators are more likely to conclude that control has been transferred to the customer than participants who are provided a principle without such indicators. As shown in Table 2, Panel A, the judgment mean is greater under the condition in which key indicators are included in the standard (combined mean = 5.22) than under the condition in which no indicators are included (combined mean = 4.55). The ANOVA results presented in Table 2, Panel B, show a significant main effect for "Indicators" ($F = 6.19, p = 0.013$), thus providing support for H1.

¹² Judgments contain elements of certainty or uncertainty, and confidence provides a measure of decision makers' certainty in their judgment. Braun, et al., 2015, 47, point out that "researchers argue that confidence in a judgment may be as important as the judgment itself because it affects whether and how a judgment will be used." The level of confidence may be affected by several factors such as task difficulty, individuals' knowledge, and sufficient information provided to make a decision.

¹³ Given the scale used, responses of 1–5 indicate a judgment that control is not transferred to the customer and responses of 6–10 indicate a judgment that control is transferred to the customer.

¹⁴ Incorrect responses from the first few administrations of the research instrument were examined (almost 30 percent of subjects did not answer the questions properly, i.e., selected more than one answer). The incorrect answers were distributed across all conditions except the conditions in which the standard contains a principle, indicators, and an affirmative or a counter example. It appeared that the question did not make clear that it pertained to the revenue recognition model and not to the case. Minor changes were made in the question for subsequent administrations of the research instrument specifying that "the revenue recognition model (not the OCI case) provided in the study provided which of the following elements (check one)." The incorrect response rate to the reworded manipulation check question was 8.5 percent.

¹⁵ On a 10-point scale, the mean would be at the midpoint of 5.5 in a completely ambiguous case. T-tests reveal that mean responses are significantly lower than 5.5 when the standard contains (1) the principle-only (P mean = 3.99, $p < 0.001$), (2) the principle and an affirmative example (PA mean = 4.69, $p = 0.023$), and (3) the principle, key indicators, and an affirmative example (PIA mean = 4.41, $p = 0.002$). This suggests that participants did not perceive the case as being completely ambiguous or perhaps that participants have an inherent conservatism bias in making financial reporting judgments.

Table 2
Judgment as to whether customer controls asset by indicators and examples.

Panel A: Mean (standard deviation) ^a			
Examples	Indicators		
	No	Yes	Combined
No example	P 3.99 (2.55) n = 70	PI 5.42 (2.44) n = 74	4.72 (2.58) n = 144
Affirmative example	PA 4.69 (2.92) n = 72	PIA 4.41 (2.81) n = 73	4.55 (2.86) n = 145
Counter example	PC 4.96 (3.11) n = 71	PIC 5.81 (2.88) n = 74	5.39 (3.02) n = 145
Combined	4.55 (2.88) n = 213	5.22 (2.77) n = 221	4.89 (2.85) n = 434

Panel B: ANOVA results		
	F	p-value
Model	4.11	0.002
Variables		
Indicators	6.19	0.013
Examples	3.64	0.027
Interaction		
Indicators X examples	3.53	0.030

Panel C: Planned contrasts (simple effects)			
Contrast	Mean difference	F	p-value
PI (5.42) vs. P (3.99)	1.43	9.46	0.001
PA (4.69) vs. P (3.99)	0.70	2.28	0.126
PC (4.96) vs. P (3.99)	0.97	4.26	0.045
PC (4.96) vs. PA (4.69)	0.27	0.32	0.603
PIA (4.41) vs. PA (4.69)	-0.28	0.37	0.553
PIC (5.81) vs. PC (4.96)	0.85	3.37	0.089
PIC (5.81) vs. PIA (4.41)	1.40	9.21	0.003

^a Participants indicated the extent to which they believe the customer has control of the machinery as it is being constructed using a ten-point scale numbered from 1 ("Definitely believe customer does not have control of the machinery as it is being constructed") to 10 ("Definitely believe customer has control of the machinery as it is being constructed").

Planned contrasts are used to test the simple effect of adding key indicators to a standard. Results shown in Table 2, Panel C, indicate there is a significant difference between the principle plus indicators standard (PI mean = 5.42) and the principle-only standard (P mean = 3.99, $p = 0.001$). This result suggests that key indicators included in the

standard do have an impact on participants' judgments as to whether the customer has control of the asset as it is being constructed.

H2 predicts that individuals who are provided a standard that includes an illustrative example are more likely to conclude that control has been transferred to the customer than participants who are provided a standard that does not include an example. Table 2, Panel A, displays the judgment means for the three levels of "Examples." The ANOVA results presented in Table 2, Panel B, show a significant main effect for "Examples" ($F = 3.64$; $p = 0.027$). As presented in Table 2, Panel A, the judgment mean is greater under the condition in which a counter example is included in the standard (combined mean = 5.39) than under the condition in which no example is included (combined mean = 4.72) and the difference is significant ($p = 0.039$; non-tabulated). However, the difference between the standards containing an affirmative example (combined mean = 4.55) and the standards containing no example (combined mean = 4.72) is not significant. The results suggest that participants who have been given a standard that contains a counter example are more likely to judge that the customer has control of the asset than participants who have been given a standard containing no example. Therefore, H2 is partially supported.

As presented in Table 2, Panel C, planned contrasts reveal that there is a significant difference between the standard that contains a principal plus a counter example (PC mean = 4.96) and the principle-only standard (P mean = 3.99, $p = 0.045$). However, there is no significant difference ($p = 0.126$) between the standard containing a principal and an affirmative example (PA mean = 4.69) and the principle-only standard (P mean = 3.99).

To further examine the relative importance of indicators and examples, a post-judgment task question asked participants to indicate which source of information they most relied on to make their judgment. Table 3 summarizes the responses to this question by standard. When the standard includes the principle and indicators, 65 percent of participants indicate that they based their judgment more on the indicators and only 19 percent indicate that they relied more on the explanation of control in the hypothetical standard. In contrast, when the standard includes the principle and an affirmative example, only 27 percent of participants said that they based their judgment more on the similarity between the example and the facts in the case,

Table 3
Information used in making judgments by standard.

Information used ^a	Standard				
	Principle and indicators	Principle and affirmative example	Principle and counter example	Principle, indicators, affirmative example	Principle, indicators, counter example
Explanation of control	18.84%	57.14%	58.00%	19.18%	13.52%
Indicators	65.22%	N/A	N/A	47.94%	51.35%
Similarity – example and case	N/A	26.79%	18.00%	24.66%	22.97%
Facts in the case	15.94%	16.07%	24.00%	8.22%	12.16%
Total	100.00%	100.00%	100.00%	100.00%	100.00%

^a Participants indicated the source of information (control principle, indicators, example, facts in case) most used to make their judgment about whether the customer has control of the machinery during construction.

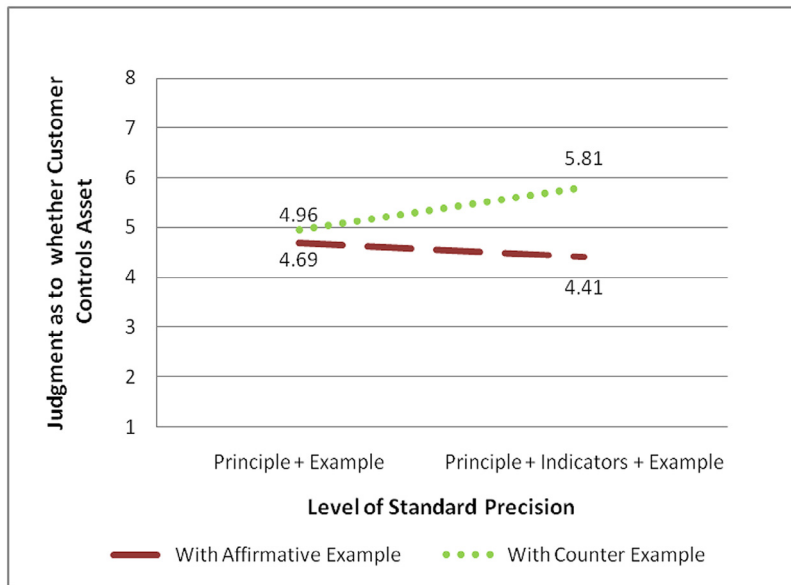


Fig. 1. Interactive effect of indicators and nature of example^a.

while 57 percent said they relied more on the explanation of control in the standard. Similarly, when the standard includes a counter example, only 18 percent indicate basing their judgment more on the example, while 58 percent based their judgment on the control explanation. For those participants who are presented a standard that contained the principle, indicators, and an affirmative or counter example, Table 3 reports that 48 percent and 51 percent, respectively, based their judgment more on the indicators in the hypothetical standard, and only 25 percent and 23 percent, respectively, based their judgment more on the amount of similarity between the example in the standard and the facts in the case. Taken together, these results suggest that participants find indicators to be more relevant than examples in applying the hypothetical standard.

Based on results obtained by Clor-Proell and Nelson (2007), H3 predicts that individuals who are provided a principle with an affirmative example are more likely to conclude that control has been transferred to the customer in a long-term construction contract than individuals who are provided a principle with a counter example. Contrary to expectations, Table 2, Panel A and Panel C, show that the judgment mean is slightly lower when an affirmative example is added to the principle-only standard than when a counter example is added to the standard (PA mean = 4.69 vs. PC mean = 4.96), but the difference is not statistically significant ($p = 0.603$). Thus, H3 is not supported.

4.2 Research question

The research question asks whether there is an interaction effect between an illustrative example and key indicators. Table 2, Panel B, reports a significant interaction between “Indicators” and “Examples” ($F = 3.53$, $p = 0.030$). As noted above, planned contrasts show that there is no difference in judgment means between the affirma-

tive example standard (PA mean = 4.69) and the counter example standard (PC mean = 4.96). However, when an illustrative example is added to the standard containing indicators, the difference is significant (PIA mean = 4.41 vs. PIC mean = 5.81, $p = 0.003$; shown in Table 2, Panel C). The absence of a nature of example effect when an example is added to a principle-only standard changes to a significant effect when an example is added to a standard that contains indicators.

Surprisingly, as shown in Table 2, Panel C, the standard containing both key indicators and an affirmative example results in participants being less likely to conclude that the customer has control than under a standard with an affirmative example but no indicators (PA mean = 4.69 vs. PIA mean = 4.41), but the difference is not significant ($p = 0.553$). On the other hand, participants are more likely to conclude the customer has control when a counter example and indicators are included in the standard than when the standard does not contain indicators (PC mean = 4.96 vs. PIC mean = 5.81, $p = 0.089$). As reported above, the difference in mean responses between PIA and PIC is significant ($p = 0.003$). Thus, as shown in Fig. 1, the nature of the example (affirmative or counter) has a differential effect on control judgments when included in a standard that also contains indicators, but not when included in a standard that does not contain indicators.

4.3 Level of confidence in judgments

The impact that additional guidance has on participants' level of confidence in their judgments is reflected in Table 1, which shows that the mean confidence level increases with an increase in additional guidance. However, the difference in mean confidence level is not significant between the principle-only standard and standards that contain indicators or an example but not both. The only sig-

nificant differences are between the principle-only standard (P mean = 7.47) and the standards containing both indicators and an example (PIA mean = 8.19, $p = 0.019$; and PIC mean = 8.11, $p = 0.038$). The data further indicate that the standards containing both indicators and an example increase participants' confidence in their judgment decisions regardless of the judgment decisions they made.¹⁶

4.4 Post-judgment task questions

Additional analysis of responses to post-judgment task questions suggests that the relative importance assigned to individual indicators or facts included in the standard or in the case may influence the judgment as to whether the customer has control of the asset during construction. Each fact in the case was presented as either positive or negative an equal number of times to minimize weighting effects on participants' judgments. Participants perceive all four factors (i.e., customer payment, involvement, physical possession, and design specification) as relevant for making the judgment (i.e., the mean influence for all four factors is between 6.47 and 7.38 on a 10-point scale in which 1 indicates little influence relative to other factors and 10 indicates a very strong influence relative to other factors); the association between each factor and participants' judgments is statistically significant. Whether the customer has continuing management involvement in the asset appears to be most influential as it is positively or negatively associated with the participants' judgments in all 12 conditions (six treatments and two different versions). The directions are all consistent with the positive or negative facts presented in the case. The factors as to whether the customer has an unconditional obligation to pay for the asset and whether the customer specifies the design of the asset are both significantly associated with the participants' judgments and the directions are consistent with the facts in eight of 12 conditions. Whether the customer has physical possession of the asset appears to be least influential (five of 12 conditions), which is not surprising as physical possession of an asset generally does not occur during construction. Thus, participants do not perceive it as important a factor as the others.

To examine whether participants' *a priori* preferences influence their judgments, they were asked to indicate the method they preferred for recognizing revenue in a long-term construction contract. About 39 percent of participants indicate that they preferred recognizing revenue on a long-term contract during construction, 33 percent preferred recognizing revenue only when construction is complete, and the remaining 27 percent said that they did not prefer one method over the other. The sample was split into three subsamples on the basis of *a priori* preference for accounting treatment and there are no significant differences in

judgment means across the three groups (means = 5.04, 4.97, and 4.59, respectively). The lack of significant differences in judgment means across the three groups suggests that participants' *a priori* preference in accounting for construction-type contracts did not influence their transfer of control judgments.

5 Conclusions

The results of this study provide evidence on how the inclusion of key indicators, an illustrative example, or both affect implementation of the basic principle in an accounting standard. Adding guidance to a standard, whether in the form of key indicators or an example, results in participants being more likely to judge the customer as having control during the construction period. The main effect of indicators is stronger than the main effect of examples, and participants indicate that they used indicators more than examples in making their judgments.

Contrary to prior research (Clor-Proell & Nelson, 2007), the nature of the example (affirmative or counter) added to a standard without indicators does not result in significantly different judgments in the current study. This inconsistency in results could be caused by differences in the accounting standard studied. Participants in the current study were asked to evaluate a new concept of revenue recognition based on the concept of transfer of control, whereas Clor-Proell and Nelson's (2007) participants dealt with the familiar concept that revenues are recognized when they are realized or realizable and earned. Participants in the current study might have paid more attention to the underlying principle because of its novelty. This appears consistent with results reported earlier (Table 3) indicating that when a standard includes the principle and an affirmative example or a counter example, 57% and 58% of participants, respectively, indicate that they based their judgment more on the explanation of control in the proposed model, whereas only 27% and 18%, respectively, indicate that they based their judgment more on the similarity between the example in the model and the facts in the case.

Although nature of example does not have a significant simple effect on control judgments, the interaction between nature of example and key indicators is significant, with a counter example having a positive impact on participants' control judgments and an affirmative example having a negative impact when the standard includes key indicators. A possible explanation for this result is as follows. When a standard does not specify how many indicators need to be satisfied, as in the current study, indicators set (1) a high threshold if participants believe that all indicators must be met or (2) a low decision threshold if participants assume that the presence of at least one indicator is sufficient to judge that the customer has control. The affirmative example describes a situation in which all cues corresponding to all indicators are positive. Thus, the affirmative example provides additional information that sets a high threshold for judging that control has been transferred. On the other hand, the counter example describes a situation in which all cues corresponding to all indicators are negative. Hence, the counter example

¹⁶ As reported earlier, participants are more likely to conclude that the customer does not have control of the asset when a standard includes the principle, indicators, and an affirmative example than when the standard includes the principle, indicators, and a counter example (mean = 4.41 vs. mean = 5.81, $p = 0.003$). Despite the significant difference in the judgment mean, the confidence mean is almost identical in these two conditions (mean = 8.19 and mean = 8.11, respectively; Table 1).

sets a low threshold for control to be transferred, suggesting that if more than none, i.e., at least one, of the cues is positive, one may conclude that the customer has obtained control.

Results also show that increasing amounts of guidance, through the introduction of either indicators or an example, does not significantly affect participants' confidence in their judgment. However, adding both indicators and an example does result in a significant increase in participants' judgment confidence.

This study has several important implications. First, the study provides the Boards with research results that may be useful in understanding how preparers might utilize the guidance provided in the new revenue standard. Second, the questions of how much and what type of guidance to provide in an accounting standard are not unique to the topic of revenue recognition but are general questions that must be considered by the Boards in developing future principles-based standards. Although this study addresses these questions in the context of revenue recognition in construction-type contracts, the results of this study could be generalizable to other contexts. The Boards should be aware that the type of additional guidance provided in a standard and the combination of types of guidance can have differential effects on judgments in applying the underlying principle to which the guidance relates. Third, the study extends research in how preparers interpret and apply accounting standards with additional guidance. While some of the results are consistent with previous research, the study suggests that alternative information reasoning may explain decision judgments, at least in the context of construction-type contracts.

The direction of the interaction between key indicators and nature of example is the most interesting finding in this study. While there was no basis for predicting a direction for this interaction, the result that adding a counter example, but not an affirmative example, to a standard with key indicators results in greater likelihood of judging that control has been transferred is surprising. The generalizability of this specific result to other contexts is open to further study. Moreover, the validity of the possible explanation for this finding provided above is an empirical question that could be examined in future research.

The limitations of this study also provide opportunities for future research. First, this study focuses on a setting of revenue recognition in a construction-type contract and is limited in the number of real-world features that it encompasses. A second limitation is that student subjects are used in this study and the rate of manipulation check failure is relatively high. Therefore, caution should be exercised in attempting to generalize the findings to other settings. Future research could explore and determine whether the pattern of the results found in this study can be generalized to other financial reporting contexts and to other financial statement preparers. As the IASB continues to issue standards that affect financial reporting in many countries, extension of this line of research to other nationalities might also be in order. Research to date has not examined the effect that nationality or other differences across countries might have on the impact that the type or amount of guidance has on the implementation of an accounting standard. Finally,

the intentionally ambiguous nature of the hypothetical case does not permit an investigation of whether judgments are better when made in the presence of key indicators, an example, or both. How additional guidance affects the quality of judgments could be an interesting focus for future research.

Appendix 1

Affirmative example

- The following example describes a situation in which the customer has control of an asset during construction. Therefore, it would be appropriate to recognize revenue as the asset is being constructed.

Example:

On September 30, 20X0, the Builder signs a contract with the Customer to construct a boat to be delivered on April 1, 20X1. Because the boat is customized for the particular customer, the Customer is highly involved in specifying the design of the boat and makes regular visits to the Builder's facility to oversee the project during construction. The Customer makes nonrefundable progress payments to the Builder on a monthly basis for work completed during the month. If the contract is terminated before completion, the Customer takes physical possession of the partially completed boat and must pay the Builder for any work completed to date.

Counter example

- The following example describes a situation in which the customer does not have control of an asset during construction. Therefore, it would not be appropriate to recognize revenue as the asset is being constructed.

Example:

On September 30, 20X0, the Builder signs a contract with the Customer to construct a boat to be delivered on April 1, 20X1. Because the boat is of standard design, the Customer is not involved in the original design of the boat and does not make visits to the Builders' facility to oversee the project during construction. The Customer makes payment to the Builder only when construction is completed. If the contract is terminated before completion, the Customer does not take physical possession of the partially completed boat but instead compensates OCI for any loss of profit on sale of the boat to another customer.

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Further reading

- Financial Accounting Standards Board (FASB), Accounting Standards Codification, Topic 605, Revenue Recognition. <<https://asc.fasb.org>> Accessed 15.06.16.
- Financial Accounting Standards Board (FASB), Accounting Standards Codification, Topic 830, Foreign Currency Matters. <<https://asc.fasb.org>> Accessed 15.06.16.