JAFE

Volume 2, Issue 1 Journal of Accounting and Free Enterprise
Fall 2016

JAFE
Journal of Accounting and Free Enterprise

importantly, tripling the number of companies required to report using it.

The majority of the literature about IFRS has focused on practice-related issues such as the resulting quality of nancial reporting (Muller 2014; Zeghal et al. 2012), cost of capital (Li 2010; Zhao 2010), challenges implementing particular International Accounting Standards (IAS's) (He et al. 2012) and comparability of nancial data between companies from region to region (Brochet et al. 2013; Yip and Young 2012). The purpose of the current study is to extend the IFRS research to an important obstacle to successfully implementing IFRS (Bukics et al. 2009), i.e., how universities have transitioned the education of accountants who will implement and audit under IFRS. A transition of this magnitude is no small task and raises serious questions about resources, training, curricular t (placement), and teaching methodology (judgment). IFRS are considered to be a primarily principles-based set of standards, which require more judgment in their application than a rules-based set of standards. The rules versus principles debate has raised questions about the teaching methodology required to adequately prepare students for applying them (Hodgson et al. 2011; Miller and Becker 2010; Needles 2010; Wells 2011).

The purpose of this study is to contribute to and expand the limited research surrounding how universities transitioned their curriculum to IFRS. Our ndings extend beyond the bene t to academics who may transition to IFRS in the future or may face going through a similar transition. They may also be informative to those who have already gone through the experience and help identify potential improvements to existing curriculum. The research is comprised of a case study of the experiences of nine university accounting programs, in England, Scotland, and Ireland. The primary methodology is in-person interviews of accounting professors. The interviews were conducted by the faculty researcher and three senior undergraduate accounting students. The data collected was supplemented with an extensive review of each of the universities' accounting program degree o erings.

We begin by discussing IFRS transition-related literature, followed by a discussion of study methodology. We then discuss our ndings and conclude with limitations and suggestions for future research in this area.

Literature Review

There is limited IFRS transition-speci c literature. Much of what is published is not research based, but more speculative or opinion-based in nature. For example, this literature includes articles published in the May 2013 special edition of Issues in Accounting Education dedicated to IFRS transition issues in eight countries including the U.K.(England, Scotland, Wales and Northern Ireland), France, Russia, China, South Africa, Australia, Brazil, and Canada. While this edition provides a solid overview of broad issues that academics might encounter in making a transition from local GAAP to IFRS, they are opinion pieces written about the authors direct experiences teaching at their respective universities (Jackling 2013). In the one article covering the U.K. and Ireland, Stoner and Sangster (2013) speci cally address this limitation by stating that their

Sangster 2013), the availability of IFRS-based textbooks did not appear to be an impediment in Canada, which transitioned in 2011. The professional accounting bodies in Canada produced many transition resources. In addition, textbooks became available in 2010, just in time for the transition (Hilton and Johnstone 2013).

Training

Teaching any new topic requires more than having textbooks or other teaching materials available. Teaching requires preparation on the part of the educator starting with gaining an understanding of the topic to be covered. While new course preparations are typical in the life of an academic, the replacement of the foundation upon which their curriculum is based is not. This leads to the natural question as to the required depth and breadth of training necessary to enable the successful transition of university accounting programs to IFRS.

The experiences of South Africa, Australia, and the U.K. suggest that faculty did not appear to require much training pre-transition. The required training was found to be similar in nature to preparing to teach a new course (Coetzee and Schmulian 2013; Jackling et al. 2012; Jackling et al. 2013; Stoner and Sangster 2013). Faculty training in the U.K. on IFRS has also been minimal (Stoner and Sangster 2013). The professors took it upon themselves to gain the knowledge they needed to incorporate IFRS into their courses utilizing various approaches like CPE courses, reading publications and research conducted by accounting rms and professional bodies, and acquiring new textbooks incorporating IFRS (Bandyopadhyay and McGee 2012; McGee and Bandyopadhyay 2009; Miller and Becker 2010).

The level of required training was impacted by two things: the similarity in the legacy standards and previous conceptual framework to IFRS at the time of transition (Coetzee and Schmulian 2013; Jackling et al. 2012; Jackling et al. 2013) and the extent to which actual standards are covered at the universities (Stoner and Sangster 2013).

Curricular Fit (Placement)

Fitting new content into an already crowded curriculum is one of the most signi cant hurdles facing educators (James 2011; Munter and Reckers 2010). Some believe IFRS should be taught as a standalone course or series of courses, while others suggest IFRS should be incorporated into existing classes and used to compare and contrast with current GAAP (McGee and Bandyopadhyay 2009; Weiss 2011). It appears that building IFRS into existing courses is the preferred method (Zhu et al. 2011).

Most coverage is in the intermediate nancial accounting courses with some more detailed focus in advanced nancial accounting. The term intermediate is not commonly used in the U.K. and Ireland. Per a review of the course documentation at each of the accounting programs studied, there is a general lack of naming consistency of accounting courses other than the terms nancial, managerial, audit, and tax. The course or courses where IFRS is typically found is in the second and third nancial accounting courses. The names of these courses at the universities studied included Financial Accounting 2 and 3, Accounting Standards and Theory, Financial Accounting & Reporting, and Financial Reporting, with some of these having courses titled “advanced” in front of them as well. For purposes of this study we are using the terms intermediate nancial and advanced nancial accounting to include the above naming conventions.

Some ambitious programs are introducing the foundations of IFRS in the introductory courses (Bandyopadhyay and McGee 2012; Cherubini et al. 2011; Jones et al. 2009; McGee and Bandyopadhyay 2009; Riordan and Riordan 2009; Weiss 2011). In a survey of the PWC grant recipients, 79% of the respondents integrated IFRS into their current curriculum with 14 of the 15 schools integrating it into one or more parts of the intermediate accounting series (Weiss 2011). Universities in those countries that have transitioned to IFRS all appear to have integrated IFRS into their curriculum, for the most part, by simply replacing the coverage of their previous GAAP (Legacy GAAP) which has been taught in their nancial accounting courses in France, South Africa, Australia, Australia and the United Kingdom, respectively (Bonnier et al. 2013; Coetzee and Schmulian 2013; Hor and Juchau 2005; Jackling et al. 2013; Stoner and Sangster 2013).

The one exception noted in the literature regarding the above surrounds the continued teaching of legacy GAAP in the U.K. Legacy GAAP is the set of standards replaced by IFRS which many companies still use in the countries which have elected to move to IFRS. Some professors in the U.K. have continued to teach legacy GAAP in addition to IFRS (Stoner and Sangster 2013). The coverage is inconsistent and can vary by professor and university. The coverage of legacy GAAP was, and still is, an issue in the U.K. due to the continued use of their local GAAP o en for statutory reporting and / or by privately held companies not mandated to make the switch (Stoner and Sangster 2013).

can be taught in the same way as one that is more rules-based (Hodgson et al. 2011; Miller and Becker 2010; Needles 2010; Wells 2011). Michael Wells of the IFRS Educational Foundation calls for an adoption of a framework-based teaching approach to promote the students' ability to use judgment (Needles 2010; Wells 2011). The responsibility of accounting faculty is to teach students how the use of judgment is required for consistent application and interpretation of IFRS standards (Hodgson et al. 2011). Jackling et al. (2013) state "the conceptual framework is designed to provide a blueprint for accounting, and aims to specify the concepts that should be applied in preparing nancial statements. The framework provides the foundation for the principled-based standards" (p. 269). They further suggest that the rules in the standards complement and operationalize the principles by specifying what an entity must do to satisfy those principles.

Implementing principles-based standards requires judgment and the development of a certain level of comfort with ambiguity. This implies that to teach a principles-based set of standards requires more than rote learning of rules. In relation to the teaching of principles versus rules, since the two standards were similar (Australian GAAP and IFRS) at the time of transition, the opportunity to change the way they were teaching accounting was overlooked by many Australian academics (Jackling et al. 2012). However, as demonstrated by the Australian experience, the failure to address this issue did not prevent the transition from being completed (Jackling et al. 2012; Jackling et al. 2013).

The experiences in Canada and South Africa were similar to that of Australia. Both had gone through a pre-transition convergence process similar to that of Australia. Neither of these countries appear to have required major curricular changes as a result of the transition (Coetzee and Schmulian 2013-South Africa; Hilton and Johnstone 2013- Canada). While in the U.K. there were signi cant di erences between U.K. GAAP and IFRS at the time of transition, major curricular changes did not occur because U.K. GAAP was considered to be similarly, if not more, principled-based than IFRS (Stoner and Sangster 2013). However, in France, which is self-described as prescriptive and rules based, they did fundamentally change their teaching methodology as a result of the transition at the university studied (Bonnier et al. 2013).

While Australia, South Africa, Canada, and the U.K. did not materially change their curriculum or teaching methodology to include or expand the coverage of the conceptual framework, the authors all suggest that it should be covered in more detail. The failure to incorporate the framework into the curriculum may have been a lost opportunity for South Africa (Coetzee and Schmulian 2013), Canada (Hilton and Johnstone, 2013), Australia (Jackling et al. 2012; Jackling et al. 2013) and the United Kingdom (Stoner and Sangster 2013).

Methodology

The research was comprised of a qualitative case study of the IFRS transition experiences at nine university accounting programs in England, Scotland, and Ireland. These countries were chosen primarily because of their similarities: all are economically advanced; geographically close to each other; had plenty of time to prepare for the transition to IFRS, with each going through a standards convergence process leading up to the transition; had similar (close to identical) GAAP pre-transition; and have similar educational models. In addition, su cient time had passed post-transition to allow for the participants to intelligently re ect on their experiences (allowing them needed time to evaluate what worked and what did not). The speci c universities studied were the direct result of contacts the faculty researcher had developed within these institutions through a previous study.

Initial contact with potential participants was made via email. Thirty-six professors from 32 di erent universities who participated in a prior study (a survey) indicated their willingness to participate in another study. Of the thirty-six who were emailed about participating in this study, 12 professors from 12 di erent universities originally agreed to participate. Interviews were then scheduled with those agreeing to participate. Due to scheduling con icts and one no show, that number dropped from 12 to 9. Each of those agreeing to participate were asked to nd other faculty at their university willing to be interviewed. This request resulted in 6 additional accounting faculty members agreeing to participate, resulting in 14 faculty members from the nine universities shown in Table I being interviewed: one participant from six universities, two participants from two universities and four participants from one university.

As shown in Table I (top of p. 6), the universities studied vary in relative size, ranking, accreditation, and degrees o ered, resulting in a variety of perspectives being recorded through the interview process. Each of the programs studied o ers a minimum of a three-year accounting degree with the option of both a fourth-year honors and Master of Accountancy option, with the exception of Worcester which o ers both an honors and MBA option. Two universities also o er a Ph.D. in accounting and one a DBA. Three of the universities' business programs are separately accredited. The demographics of these universities appear to be consistent with the total population of universities within the U.K. and Ireland.

	Country	No. of Participants	Total No. of Students	Total No. of COB Students	Ranking[1]	Accreditation EQUIS and/or AACSB[2]	

The primary methodology was that of a case study through semi-structured in-person interviews of 14 accounting professors in addition to the review of accounting program documentation at the nine universities selected. The interviews were conducted by the faculty researcher and three senior undergraduate accounting students, taking place at the participants' university, and averaged 75 minutes in length. The interviews were semi-structured, in that we had a list of the topics we wanted to cover (See Table II for the list of topics), but allowed the participant to drive the direction of the interview and the details of what they wanted to discuss. Every participant agreed to have their identity disclosed and comments directly quoted; however, we decided not to directly quote any of the participants. The participants were given the option to withdraw from the study at any time and the study was approved by the faculty researcher's university institutional review board. In every instance we were able to cover the topics we wanted to address, while at the same time gather additional information. Each interview was transcribed and subsequently evaluated and coded using a grounded theory approach (Glaser and Strauss 1967), allowing the data to speak for itself. Grounded theory is a systematic analytical methodology commonly applied to interview and observation data in qualitative research studies (Bogdan and Biklen 2003; Marshall & Rossman 1999). The data collected was also compared against a detailed review of the accounting-related degree programs each of these universities offer. The purpose of this review was to gain insight into how the individual programs at each of

the nine universities compared to one another. We also used this information to look for inconsistencies between what the participants stated and the published description of the degree programs. No inconsistencies were found, which helps to support the reliability of the ndings reported.

Results

Of the nine universities studied, all but one had existing accounting programs pre-transition to IFRS. The one that did not (Worcester) developed an accounting program with the intent of teaching IFRS from the start. Worcester did teach some limited amount of accounting pre-transition, but not as part of a separate degree program. It was included as part of what they referenced as a general business degree with an accounting emphasis.

We found many similarities at each of the universities studied regarding the transition to, and/or development/deployment of their IFRS curriculum. They all cover IFRS material in similar areas of the curriculum. They all went about preparing for the transition and integrating the changes in their curriculum in similar fashion. However, no two programs were found to be identical. The similarities and di erences we found between the universities will be discussed further (See Table III on p. 8 for a summary of the results by university). The data we collected during the interviews fell into the following topical areas: resource constraints, training requirements, curricular t (placement) and, teaching methodology (judgment). The rest of the paper addresses those areas followed by concluding comments, limitations, and suggestions for future research.

Resource Constraints

At the time of the transition, there were few teaching materials available to teach IFRS. However, there were some materials available, and the accounting profession itself made resources available to the academic community for use. We found the source of materials di ered by institution, with some professors preparing their own materials and others using textbooks and other published literature. The timing of their transition also di ered by institution with Nottingham-Trent completely replacing local GAAP coverage with IFRS in 2003, the earliest transition of the programs studied. However, the lack of teaching materials did not appear to impact any of the programs in a meaningful way or delay their transition to IFRS.

All indicated that the amount of material required to integrate IFRS into their curriculum was minimal due to the level of standards coverage in their programs. Each indicated that the depth of coverage on individual standards did not change post-transition (with the exception of Worcester, which designed their program with IFRS in mind). While we found di erences between the universities as to the exact standards covered and the depth of that coverage, the actual coverage of speci c standards in each of the programs was considered to be minimal by the participants.

The participants appeared to view the transition as being similar to the work they encounter in preparing to teach any new course. They indicated that faculty took it on themselves to create the needed material when other sources were not available. They also noted that materials are now readily available and should not be an impediment for those who have to make this transition in the future.

1. P : D c IFRS c . D c	4. Ob ac c : D c . T c ac , bac ac .
2. ac acc ac : D c ac b , .	5. T ac : D c IFRS GAAP.
3. ac c c : D c IFRS (. .)	6. B ac c : D c . T c IFRS GAAP.

Training

Required training for the professors at the universities we studied was relatively minor. Our participants indicated that most professors self-trained to learn what they needed in order to make any required adjustments to the courses they taught. While the examples given on how individuals prepared to teach IFRS varied by participant, the message conveyed about the work involved was consistent.

There were no formalized IFRS faculty training programs at any of the institutions studied. Institutional support for the transition was not given (nor deemed necessary); it was le to each professor to seek out what they needed for their individual courses. Faculty training does not appear to have been an impediment to the transition to IFRS at these institutions.

While the actual training requirements were minimal, two participants gave examples of professors who did not want to take on the perceived work involved in making the change, who either decided to retire or to change their teaching concentration to avoid having to learn the new standards. Given that the actual impact of the transition on the curriculum was minimal, that probably explains why so few experienced real exodus or avoidance.

Curricular Fit (Placement)

All of our participants indicated that the actual transition from U.K. and Irish GAAP was relatively easy and uneventful. Not much di erence was seen in coverage of material before and a er the transition. Some of this was due to the fact that U.K. and Irish GAAP went through a convergence process to bring their local GAAP closer to IFRS prior to the transition. However, for the U.K. and Ireland, IFRS included completely new standards such as the fair value standard that did not exist under the old standards. The participants noted that these did not have meaningful curricular impact because the depth of coverage at a standard level is limited in nature and, for the most part, did not make it into the curriculum at all.

Overall, the typical way in which IFRS impacted the curriculum was in the second year of their programs, and beyond, in the intermediate nancial accounting and advanced nancial accounting level of coursework, where they replaced local GAAP with the new standards. While we found that the exact course o erings and content within them varied by university, all participants noted that the only faculty impacted were those who taught the intermediate and advanced nancial level courses where local GAAP had previously been covered. Not one university added a separate course on IFRS. They all integrated IFRS into their existing curriculum (Worcester developed coursework which included it).

However, each of the participants noted a problem with simply replacing legacy GAAP with IFRS: most employers still use legacy GAAP, not IFRS. While in 2005 the U.K. and Ireland as a part of the EU started requiring publicly traded companies to report under IFRS for auditing purposes and disclosure to the investment community, no such mandate was made for privately held companies. In addition, U.K. and Irish GAAP were kept for statutory reporting purposes as well. All of the participants appeared to believe that universities in the U.K. and Ireland should still cover legacy GAAP to some degree.

Four of universities were found to still cover U.K. GAAP in some of their programs' accounting courses at the discretion of the professor. The remaining ve were found to no longer cover it at all in their programs. All participants indicated that continued coverage of U.K. GAAP is no longer done in a consistent or meaningful way at their respective universities.

All of our participants indicated they thought their programs should still cover legacy GAAP with one participant speci cally stating they were doing a disservice to their students and their future employers by not including it. While U.K. and Irish GAAP have continued to get closer to IFRS since the transition, there are still di erences. The participants talked about adding some local GAAP back into the curriculum since the vast majority of businesses in the U.K. and Ireland still report under U.K. and Irish GAAP respectively. While our respondents saw this as a problem, none of the programs studied had yet made the decision to add it back into the curriculum. It is presumed that the U.K. and Ireland will be moving to IFRS for Small and Medium Enterprises (SME's) (IFRS with fewer disclosures) in a few years. That may be the reason that action to correct the problem has not been taken.

Teaching Methodology (Judgment)

The typical description of IFRS is that it is principles-based (Thomas 2009). This has led to questions as to whether principles-based standards can be taught in the same way as rules-based standards. As previously mentioned, the suggested method of teaching IFRS has been termed framework-based teaching (Wells 2011).

The framework-based model suggests integration of the IFRS conceptual framework throughout the accounting curriculum, starting with the rst introductory courses. We did not nd that to be the case at the universities studied. We found that more time may need to be spent on the accounting framework. While some of the respondents indicated that more framework coverage was done earlier in their programs than other

gathered is not complete. In addition, the study consisted of a

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So ware Piracy Revisited using the Extended Theory of Planned Behavior

rather than sell it. Indeed, under licensing contracts, although so ware buyers are granted the right to use the so ware, they

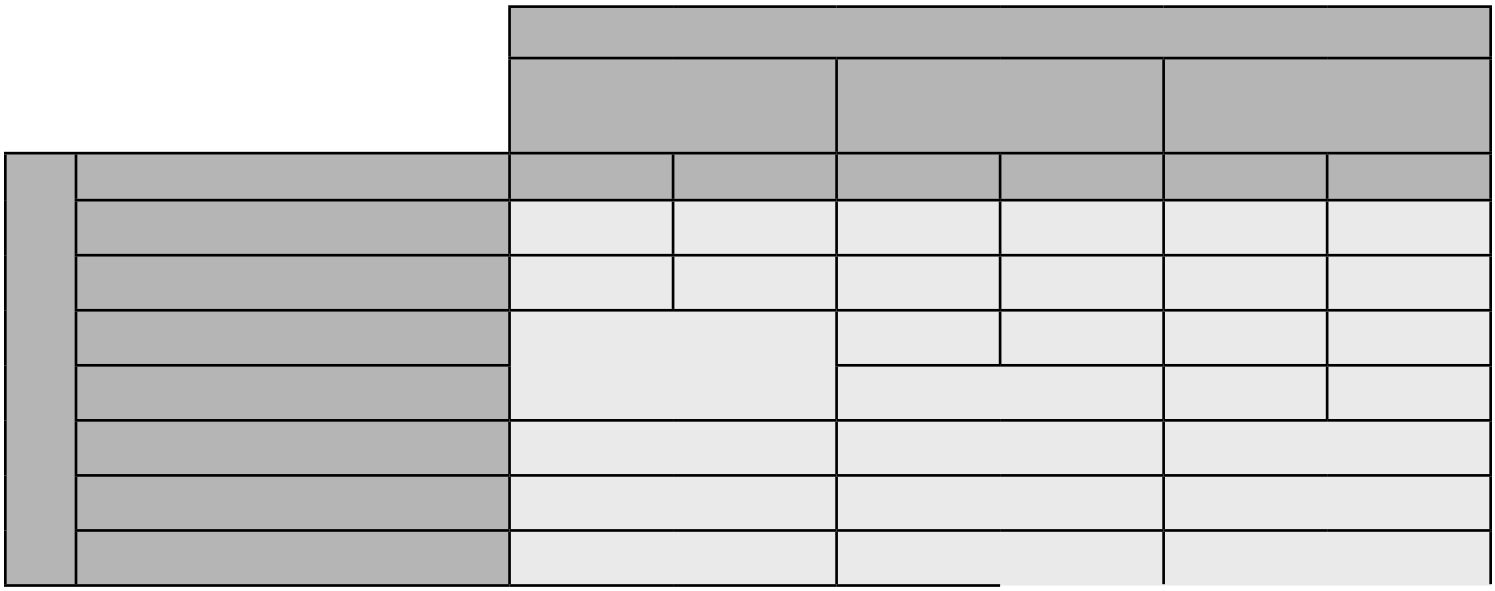
2. Behavioral Readiness: Smits and Ezzat (2003, 9) indicated that the notion of "readiness" is a commonly understood concept. Indeed, we talk commonly of "sports teams' readiness for competitive matches", "students' readiness for examinations", "an army's readiness for a battle", or of "an organization's readiness for competition." Speci cally, "readiness" has been de ned as "…the mental or physical preparation for some experience or action." Thus, the construct "behavioral readiness" relates to the level of "preparedness" of an actor to "respond or react" to a given situation, phenomenon or behavior. In this study, we use "behavioral readiness" to refer to a pre-behavior state of an actor's preparedness, in terms of not only perceived strengths and opportunities that can motivate the actor's behavioral intention toward action but also in terms of perceived weak nesses and impediments that may deter the same behavioral intention for action (Dodor 2007).

3. Attitude towards Behavior: Attitude towards behavior of an actor refers to the degree to which the actor has a "favorable or unfavorable evaluation or appraisal of the behavior in question" (Ajzen 1991). It represents the actor's a ective orientation toward the behavior. The construct "attitude toward behavior" is strongly grounded in both the TRA (Fishbein and Ajzen 1975; Ajzen and Fisbein 1980) and the TPB (Ajzen 1985 and 1991). It is designed to capture an actor's overall evaluations (favorable versus unfavorable or positive versus negative) of performing a behavior. The ETPB assumes that an actor's attitude toward a behavior will determine the actor's behavioral readiness for the behavior and potentially predict the actor's behavioral intention about the behavior.

190) reported correlation coe cients between the two variables ranging from 0.26 to 0.92 with a mean of 0.54. Jennings, Pany and Reckers (2006, 256) indicated that beliefs and attitudes

favorable perceived behavioral control (PBC) over so ware piracy, and a low score for dishonest Machiavelli (DMAC). In contrast, we were expecting a high score for subjective norms (SUN), a high score for copyright laws awareness (CLA), a high score for morality of so ware piracy (MSP), and a high score for honest Machiavelli (HMAC). The results show to what extent the sampled students disagreed, agreed, or were neutral on all key variables in the study and also gives some preliminary signals of who might be potential pirates and who might be potential non-pirates in the sample. Using the So ware Piracy Index (SPI), we came up with 47.50% as potential pirates, 47.80% as non-pirates, and 4.70% as neutrals. The proportion of likely pirates is similar to the one found by Woolley and Eining (2006).

The results for our regression analyses are reported in Table III, which shows results for ve alternative models. As expected, the Extended Theory of Planned Behavior (ETPB), with the greatest adjusted R^2, explained a greater variance in behavioral



Discussing the Results for the Hypotheses

First, the RMSEA of the hypothesized Extended Theory of Planned Behavior (ETPB) is 0.000, less than 0.05, p-value = 0.496 (Table IV), which constitutes a very "close fit" (Browne and Cudeck 1992) or very "good fit" (Hair et al. 2006). Further, the 90% confidence interval of the RMSEA ranges from 0.000 to 0.0392, suggesting that over all possible randomly sampled RMSEA values, 90% of them will fall within the bound of 0.000 and 0.0392, which represents a remarkably good degree of precision. All the alternative fit indexes corroborate the conclusion of the model's very close or good fit. Thus, it is reasonable to rely on the computed Lisrel path diagram (Figure II) to discuss the results of the study's hypotheses.

Second, for a path coefficient to be significant at a level of 0.05, the related computed t-value should be equal or greater than 1.96, or equal or less than -1.96. As Figure II shows it, the computed t-values for five hypothesized paths meet this decision rule. Only two paths are not significant: the hypothesized direct path from "subjective norms" to "behavioral intentions" (t-value = -0.78) and the path postulated between "perceived behavioral control" and "behavioral readiness" (t-value = -0.37). Thus, hypotheses H2 and H7 are not supported, while the remaining five other hypotheses are supported. In addition, the mediation effect of "behavioral readiness" is partially supported.

The insignificant path from "subjective norms" to "behavioral intentions" is however consistent with prior studies. For instance, results from 19 prior studies compiled by Ajzen (1991, 190) show that the slopes (betas) of the path from "subjective norms" (SUN) to "behavioral intention" range from 0.01 to just 0.36, with an average of 0.15. Further, in Christensen and Eining (1991) and Woolley and Eining (2006), the beta for "subjective norms" is much smaller than that of "attitude." Ajzen (1991, 189) explained the lower beta for "subjective norms" by arguing, "For the behaviors considered, personal considerations tended to overshadow the influence of perceived social pressures" captured by subjective norms. Thus, the "-0.04" slope found in this study for SUN is not abnormal.

In contrast, the insignificant path from "perceived behavioral control" (PBC) to "behavioral readiness" (BRE) is more difficult to interpret, at least for two reasons. First, both constructs deal in some way with control over performing the targeted behavior (here, pirating software). "Behavioral readiness" deals with

the respondent's capability and knowledge to pirate so ware, while "perceived behavioral control" deals with the respondent's perception of how easy/di cult or quick/complicated pirating so ware is. Second, because "perceived behavioral control" produced a signi cant path with "behavioral intention", we would expect a signi cant relationship with "behavioral readiness" as well. However, because for "behavioral intention", the range for the betas is 0.07 to 0.84 (Ajzen 1991, 190), the insigni cant path between PBC and BRE might not be that abnormal a er all.

The results of four remaining hypothesized paths (ATDBRE, SUN BRE, ATD BI, and PBC BI) all came up as expected. We should however highlight three points. First, consistent with Ajzen (1991, 190), the variable "attitudes toward so ware piracy" is an important factor that can help predict so ware piracy intention. This strength of ATD is corroborated by its total e ect of 0.45, the highest in the postulated ETPB. Second, "behavioral readiness" proves not only to have a signi cant path to "behavioral intention" but also to be a signi cant mediator, with the second highest total e ects in the model. This evidence also supports the relevance of the postulated Extended Theory of Planned Behavior (ETPB). Third, because the original concern of Christensen and Eining (1991) was identifying factors in uencing so ware piracy, we should go beyond the results of the postulated ETPB to discuss a few other factors tested as well in this study.

Indeed, we also tested for the e ects of Copyright Laws Aware ness (CLA), Morality of So ware Piracy (MSP), as well as of two subscales of the Machiavellian scale: an Honest Machiavelli (HMAC) and a Dishonest Machiavelli (DMAC) subscales. The CLA, MSP and the DMAC are all signi cant predictors of so ware piracy intention in this study. Future studies may test the e ects of these factors together with those of the main constructs of the E with th of the main constructs of cos5s t2 piF1ed 10 is.143 Tw (cts in t) T* [(iden

cient of 0.07 of the path from subjective norms to behavioral intention is not very different from the 0.13 and 0.18 found respectively by Christensen and Eining (1991, 77) and Woolley and Eining (2006, 57). Further, the 0.07 is coincidentally the same beta coefficient found by Cronan and Al-Rafee (2008, 535). Beyond Christensen and Eining (1991) and Woolley and Eining (2006), we found that the constructs "behavioral readiness to software piracy", "perceived morality of software piracy" and "dishonest Machiavelli", are also important significant factors that are likely to influence significantly software piracy behaviors as well.

This study also has distinctive differences compared to the studies of Christensen and Eining (1991) and Woolley and Eining (2006). First, our theoretical framework, the Extended Theory of Planned Behavior (ETPB), is broader than the Theory of Reasoned Action used by Christensen and Eining (1991) and Woolley and Eining (2006). Second, our main dependent variable is "behavioral intention about software piracy" rather than actual software piracy (past) behavior, as was the case in Christensen and Eining (1991) and Woolley and Eining (2006). We preferred "behavioral intention about software piracy" to past software piracy behavior for two reasons. On one hand, actual behavior generally comes only as an enactment of a preconceived behavioral intention. As an empirical evidence, the correlation between behavioral intention and actual behavior ranges from 0.18 to 0.84 (Ajzen 1991, 187), with an average of 0.45. On the other hand, the measurement of actual behavior for an unethical behavior like software piracy is problematic due at least to potential demand effects and social desirability bias. The questions related to actual piracy behavior in Christensen and Eining (1991) and Woolley and Eining (2006) are in the direct form: for instance, "I make copies of software programs that my friends have purchased." The respondent would easily guess the objective of such a question and respond accordingly in the most-socially desirable way as possible; thus biasing eventually the study's results. In contrast, with mere intention, questions can be asked in an indirect form, so that the respondent does not feel being self-incriminated. To recapitulate, because the dependent variables are not the same, the reported R squares by Christensen and Eining (1991) and Woolley and Eining (2006) should not be compared directly to the R square found in the current study.

In this study, we also used a sample of African American students taking accounting courses with the objective of contributing eventually to the generalizability of findings in this research stream. As indicated in the introduction of the study, Christensen and Eining (1991) and Woolley and Eining (2006) used samples of students from the same university (Woolley and Eining 2006, 54), which could limit the generalizability of their findings. The students we used in our sample are not only from different universities, they are also likely to be more susceptible to software price pressure.

Finally, in computing the proportions of "pirates" and "non-pirates", Christensen and Eining (1991) and Woolley and Eining (2006) did not isolate the "neither group", although they have included in their 7-point Likert type scales a "neither" choice. Answers to "neither" cannot be classified as relating to "pirates" or to "non-pirates." We believe that the best approach would be to isolate this group, so that it would not bias the proportions for the likely pirates and non-pirates. However, in finding whether a respondent is a likely pirater, a non-pirater, or a neutral, we used items used by Christensen and Eining (1991) and Woolley and Eining (2006) as well as a Software Piracy Index. Overall, we did not find any significant evidence to conclude that the proportions of likely software pirates in our sample might be significantly higher than the proportions reported by Woolley and Eining (2006).

Conclusions and Areas For Future Research

This study has investigated the following key questions. (1) Does the Extended Theory of Planned Behavior (ETPB) predict better behavioral intention to pirate software than the Theory of Reasoned Action (TRA)? (2) Are there other significant factors influencing software piracy than the two predictors tested by Christensen and Eining (1991), and Woolley and Eining (2006)? The answers to these questions are in a rmative based on our empirical results.

Results demonstrate that the Extended Theory of Planned Behavior (ETPB) has explained a greater variance in behavioral intention to pirate software than the alternative models (TRA and TPB). Finally, we found at least four additional factors that seem to influence significantly software piracy: 1) behavioral readiness for software piracy, 2) morality of software piracy, 3) perceived behavioral control over software piracy, and 4) one subscale of a broader Machiavellian dimension referred to as "Dishonest Machiavelli" (DMAC). Further, consistent with Woolley and Eining (2006), we found that our sampled students have a good knowledge of copyright laws, although that knowledge might not have translated directly into decreased intentions for software piracy, partly because software piracy, like other unethical actions, is essentially behavioral rather than rational.

Our tests of "attitudes toward software piracy" (ATD) and "subjective norms" (SUN) show beta coefficients slightly lower than

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The Impact of Value Preferences on Students' Ethical Sensitivity, Moral Judgment, and Intention to Whistleblow

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ABS RAC

Almost all economists agree that a well-functioning market includes cooperative exchange free from predation, the , or fraud (Stringham, 2011). Unfortunately, annual worldwide losses from occupational fraud and abuse exceeds $3.7 trillion dollars (ACFE, 2016) and these losses generally increase each year. Signi cant losses and unfair business practices have a negative impact on competition and free enterprise. One way to mitigate fraud losses and uncover unfair business practices is to encourage employees to report unethical behaviors to company hotlines. Therefore, this study explores 17 behaviors on the Perceptions of Ethical Severity Survey (PESS) to determine whether moral, personal, social, and competence value preferences impact ethical sensitivity, moral judgment and whistleblowing intentions. We found that individuals with high moral values are more likely to identify and be more sensitive to unethical actions. However, moral, personal, social, and competence values did not signi cantly impact whistleblowing judgment nor whistleblowing intention. The implications of these results may be utilized to improve training programs at colleges, universities and corporate organizations. Keywords: ethical decision making, fraud, values, whistleblowing

Introduction

Almost all economists agree that a well-functioning market includes cooperative exchange free from predation, the , or fraud (Stringham, 2011). Unfortunately, the nancial impact of unethical decisions is increasing. The Association of Certi ed Fraud Examiners (ACFE) reports that annual worldwide fraud losses total more than $3.7 trillion (ACFE, 2016). Fraud is a serious crime that adversely a ects many di erent types of business stakeholders including not-for-pro t and for-pro t organizations that are privately owned and publicly traded. Illegal and unethical activities have a negative impact on competition and free markets. Whistleblowing can be a vital tool for authorities to detect anti-competitive practices that damage free markets and consumers (Allen, 2013).

Employees may be willing to whistleblow because occupational fraud has a negative impact on organizations and those who work for them (ACFE, 2014). However, there is o en a risk of backlash for whistleblowers, which might explain why a substantial amount of tips (14%) came from anonymous parties (ACFE, 2016). Organizations bene t from having hotlines as a reporting mechanism; schemes were detected by tips in 47.3% of cases at organizations that had hotlines, but in only 28.2% of cases at organizations without them (ACFE, 2016).

The ability to recognize and report ethical violations is critical to uncovering fraud. Ethical decision-making has received considerable attention in the literature; however, there is little research that explores the impact of an individual's values preferences on ethical decision-making for business decisions. We explore whether value domains impact ethical sensitivity (i.e., is it ethical?), whistleblowing judgment (i.e., should the whistle be blown?), and whistleblowing intentions (i.e., would the whistle be blown?).

The remainder of this paper is organized as follows. Our literature review explores Rest's (1986) four component model of ethical decision-making, values suggested by Rokeach (1973), and whistleblowing studies. Next, our methodology is presented followed by the results. Finally, we o er conclusions and suggestions for future research.

Literature Review

Rest's (1986) Four-Component Model of Ethical Decision-Making

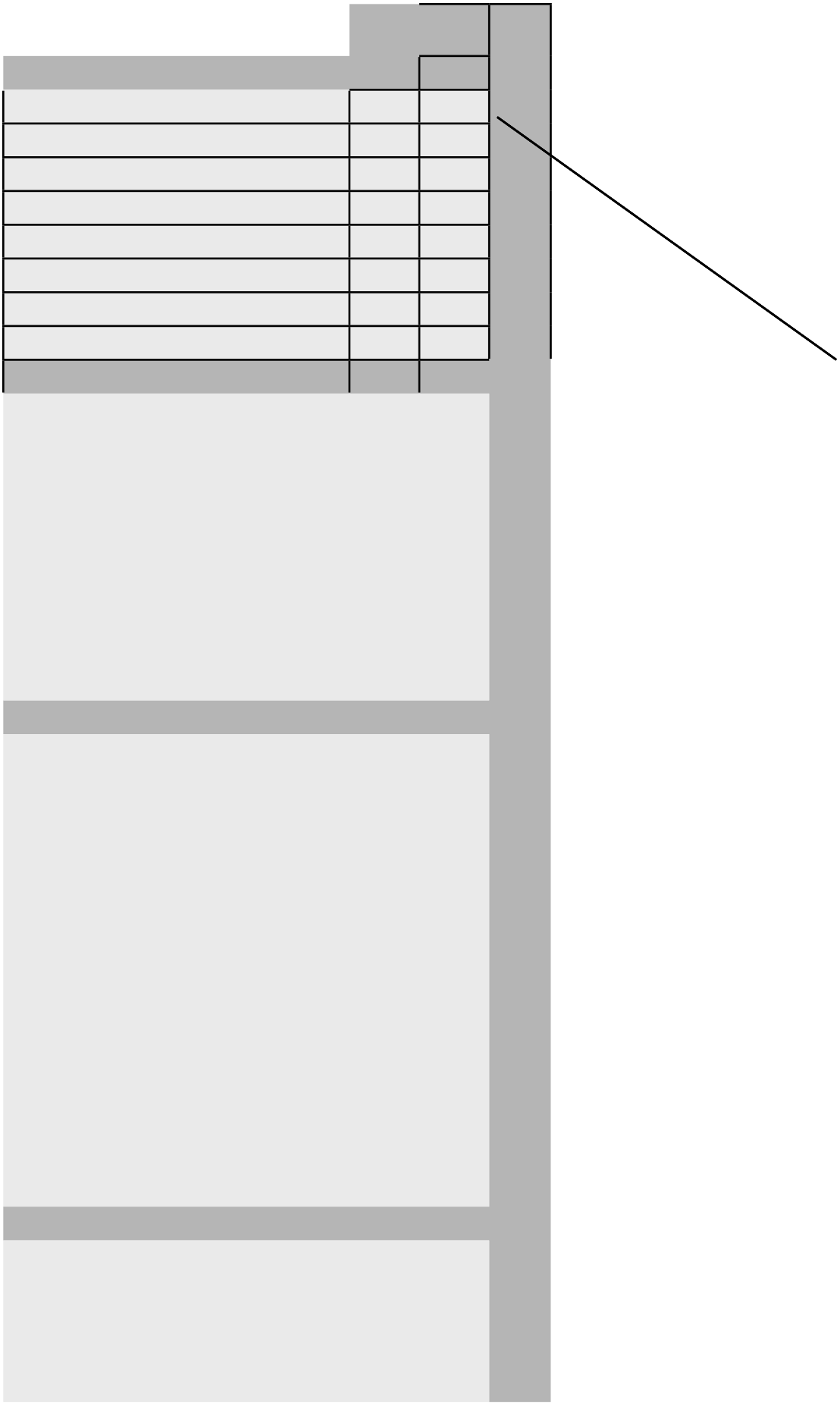
Rest (1986) describes a four-component model of ethical decision-making that consists of moral sensitivity, moral judgment, moral character and moral motivation. According to Rest, in the rst step of moral sensitivity, the individual must interpret a situation as to what outcomes are possible, who would be a ected by the situation, and how the situation would impact the welfare of those involved. In the second step, an individual makes his or her personal moral judgment of what should happen in each situation. In the third step,

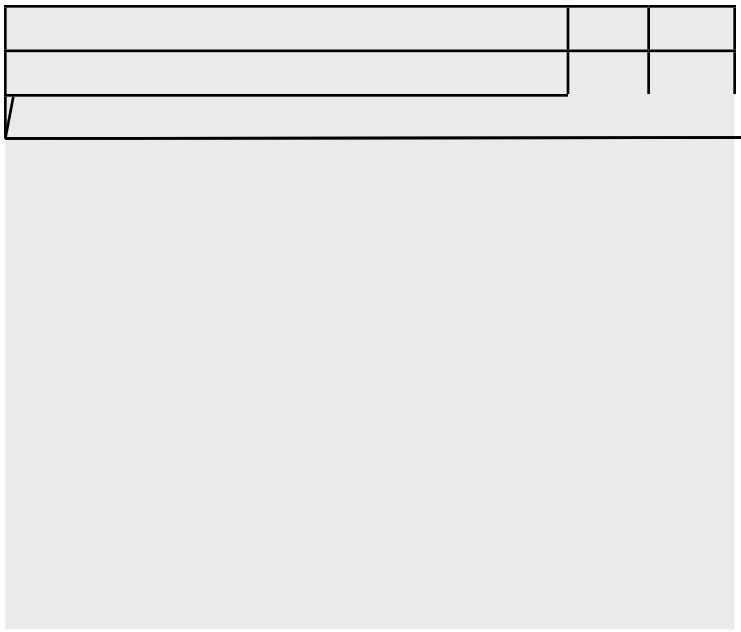
an individual uses his or her moral character to decide how to react to the situation. In step four, an individual follows through with the decision to engage in a morally correct or incorrect behavior (Rest, 1986).

Rokeach Value Survey

Rokeach (1973) suggests that values are determinants of virtually all kinds of behavior. Rokeach (1973) o ers ve assumptions of the nature of human values: (1) the total number of values a person possesses is relatively small; (2) everyone possesses the same values to di erent degrees; (3) values are organized into value systems, (4) the antecedents of human values can be traced to culture, society and its institutions, and personality; and (5) the consequences of human values will be manifested in virtually all phenomena that social scientists might consider worth investigating and understanding. An individual's value system is "an enduring organization of beliefs concerning preferable modes of conduct or end-states of existence along a continuum of relative importance" (Rokeach, 1973, 5). Rokeach

Karacaer et al. (2009) found that the terminal value of salvation





to a con dential company hotline" on a scale ranging from 1= highly unlikely to 7 = highly likely.

Table III reports the means and standard deviations for each of the dependent variables used in the study. For the 17 discrete behaviors measured on the PESS, participants indicated that these actions vary in moral intensity with a range of 1.500 to 3.720. The ethical sensitivity mean for all 17 behaviors is 2.182. Participants indicated a whistleblowing judgment for each action ranging from 3.370 to 4.390 with a mean of 3.061 for all behaviors. Intentions to whistleblow range from 3.100 to 4.500 and the mean for whistleblowing intention is 3.872.

Results

Table IV presents the correlation matrix of the independent and dependent variables. Ethical sensitivity is statistically correlated to moral, personal, and social values suggesting that individuals who identi ed these values as important to them are likely to be more sensitive to ethical dilemmas. No signi cant correlations were found between the four value domains and whistleblowing judgment or whistleblowing intentions.

Table V presents the regression analyses and tests of hypotheses to explore relationships between each value domain and ethical sensitivity, whistleblowing judgment and whistleblowing intentions for the situations on the PESS. Tests of hypotheses were conducted using separate univariate regression models with the mean for ethical sensitivity, whistleblowing judgment and whistleblowing intention as the dependent variables in each model, and the four value domains (personal, social, moral, and competence) as the independent variables.

The results show that moral values are signi cant for ethical sensitivity; however, personal, social and competence values were not signi cant. This partially supports H1. We nd no support that the value domains in this study are signi cant for whistleblowing judgment (H2), or for whistleblowing intentions (H3). Individuals indicated that many of the values explored in this study are important to them; however, only their moral values e ect their sensitivity to unethical actions. Further, we are unable to conclude that these values in uence their decision making for unethical situations where they make a whistleblowing judgment or formulate an intention to whistleblow.

In Table VI, we present a hierarchical regression consistent with Rest's four component model of ethical decision-making. The dependent variable of whistleblowing intention is speci ed in the model with ethical sensitivity in the rst step, followed by whistleblowing judgment in the second step, followed by the four value domains in the third step. The results of the hierarchical regression analysis con rm prior results that value orientations suggested by prior research have little impact on intentions to whistleblow.

The results found in this study were similar to those found by Wright et al. (1997) and Shawver and Clements (2015). Wright et al. (1997) found that personal, social and moral

values impact the ethical evaluations or ethical intentions of practicing accountants.

To explore the impact of the demographic variables, we calculated correlations between all variables in this study and age, gender, and years in college, political view, and major of the participants (business or non-business). We nd that ethical

values impacted perception of moral intensity in their study of students. Shawver and Clements (2015) found competence values impact moral judgment but found no support that these

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Acknowledgments

The authors wish to thank the editor, Lynn Clements, and two anonymous reviewers for their feedback and thoughtful co that improved this manuscript.

The authors wish to thank the McGowan Center for Ethics and Social Responsibility for research funding.

Linking Earnings, Dividends, and Operating Cash Flow to Stock Price in the Hospitality Industry

A Comparison of the E ectiveness of Earnings, Dividends, and Operating Cash Flow on Hospitality Stock Valuation

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ABS RAC

This study examines valuation in the hospitality industry. As reported in the general literature, di erent variables have been used to explain stock valuation among cross-industry rms. Earnings and cash ow are the two most studied variables in the literature; however, experts are con icted regarding which variable is the most e ective in determining stock valuation. One consideration that may explain these contradictory results is that variables of interest may be ranked di erently among di erent industries. Additionally, there are very few studies that focus on the valuation issue in the hospitality industry. This study aims to ll that scholarly gap by comparing the e ectiveness of earnings, dividends, and operating cash ow on the stock valuation of restaurants and hotel rms. Using a sample of 527 unique rms over a 30-year period and using both multiple valuation and multiple regression analysis, our ndings con rm that operating cash ow is the most e ective valuation indicator of hospitality stocks, followed by earnings and then dividends. Keywords: stock valuation; multiple valuation; earnings; dividends; operating cash ow

Introduction

Valuation is the process of determining the intrinsic worth of a rm. As such, it is of signi cant importance to each of the three essential players in the investment environment: investors, analysts and rms. First, an investor would need a reference value before making an informed investment de cision about a rm. Second, a nancial analyst would need to formulate the intrinsic value of a business before feeling con dent about making any investment recommendations to the public. Finally, for a rm to maintain its attractiveness to investors, its true value must be calculated and communicated accurately to potential investors and analysts.

For a publicly traded rm, valuation refers to assessing the intrinsic stock price of the rm, which typically involves two decisions. First, a valuation model needs to be chosen. Second, valuation variables need to be selected for incorporation into the appropriate model. Two categories of value models that have been wsh Tw T* [tl.5 (a)0.5 (l)0.5 (sRrniiscount5 (a)0.5(dels that n di)14.083 Tw 06 [(de)-2.4e valuatiaking)d

a hospitality rm's valuation. Due to the relative importance of cash assets in the hospitality industry, cash management becomes an essential task in its daily operation (Olsen et al. 2007). In addition, di erences exist within the hospitality industry; for example, between hotel rms and restaurant rms. A restaurant, for instance, will typically have greater nancial leverage, requiring a higher cash ow level from immediate operations to service the debt (Huo and Kwansa 1994). In short, identifying the most relevant variable for stock price valuation in the hospitality industry can assist managers in monitoring their own stock price changes more reliably. Such information would allow managers to take action to increase stock prices and reduce unexpected shocks in the stock price, thus enhancing their ability to attract more investors. It also provides guidance on how to properly value hospitality stocks. To date, however, few studies have investigated how to identify the most relevant indicator of stock price change in the hospitality industry.

To address this de cit, this study will rank the e ectiveness of operating cash ow, earnings, and dividends in explaining stock price variations in the hospitality industry using a traditional multiple valuation model. Results from this investigation are expected to provide both managers and investors with speci c guidelines that may help explain price variations in hospitality rms, thereby enabling them to monitor this essential variable more con dently.

Literature Review

Economists and theorists (and others) have looked into ways to determine stock prices, as well as account for their price shi s, for a very long time, almost as long as the market has existed (Keynes 1936; Fama 1970). What factors determine changes in a company's stock price? This question has elicited various responses, from the "animal spirits" of Keynes (1936) to the Market E ciency Hypothesis of Fama (1970). More recently, researchers have proposed a variety of stock valuation models to determine the value of a stock (Keynes 1936; Fama 1970; Shiller 1981; Ackert and Smith 1993; Sloan 1996; Scott 1985; Kothari and Zimmerman 1995). Theoretically, one can calculate a stock's value by discounting all future dividends at an appropriate discount rate, and this approach represents the fundamental logic behind many stoywy an a* [(mo)-20o and Zimmerman 199.nd this ama (ehisto)-20 (istocd Zimgic b)

Variables in Stock Price Valuation

While a multiple valuation model can incorporate a number of variables, such as types of cash ow, earnings, dividends, sales, and book value (Fernandez 2001, 2007), this study's multiple valuation model will feature the three most commonly used variables: cash ow, earnings and dividends. Generally, cash ow is de ned as the amount of cash being received and spent by a business during a de ned period of time; it is sometimes tied to a speci c project or area to di erentiate a rm's principal business divisions. Cash ow of interest can be further narrowed into two types: operating cash ow and free cash ow. As its name implies, operating cash ow is the income a company generates from the revenue it brings in via operating activities. Operating cash ow has been used as an indicator of nancial distress (Casey and Bartczak 1985). Furthermore, free cash ow is a measure of how much cash is available to a rm a er taking into account capital expenditures such as equipment or buildings. Free cash ow can also be viewed as money available to service a debt or pay dividends to equity holders. Both operating cash ow (Sloan 1996; DeFond and Hung 2003; Liu et al. 2002) and free cash ow (Liu et al. 2002) have been used in previous research. Since it is less in uenced by a rm's nancing decisions, operating cash ow will be used as a valuation variable for this study.

The term "earnings" simply represents the di erence between revenue and expenses and is an indicator of the change in the overall net worth during a given period. Since an income statement is presented on an accrual basis, while a cash ow statement is presented on a cash basis, there will be di erences between earnings and cash ow. For example, not all recorded earnings on the income statement are necessarily received in the form of cash; thus, they would not show up on a cash ow statement (Vernimmen et al. 2005; Dechow et al. 1998).

The third variable of interest for this study is dividends, which are de ned as payments made by a corporation to its shareholders. As a percentage of corporate pro ts paid out to stockholders (O'sullivan et al. 2003), dividends can be distributed in di erent forms—usually as cash or share repurchases. However, Fernandez (2007) criticized the practice of using dividends as a valuation variable, since paying dividends does not actually contribute to a rm's future growth. The logic is that rms pay out dividends because they do not have value-adding projects in which to invest; therefore, dividend payments actually lower a rm's growth potential (Fernandez 2007).

As noted above, although analysts can and do use multiple variables in valuation models (i.e., cash ow, earnings, dividends, sales, and book value), earnings and cash ow are by far the most commonly utilized measures (Block 1999; Carter and Van Auken 1990; Fernandez 2004; Liu et al. 2002; Penman and Sougiannis 1998; Yong Keun 2006). The views expressed in the existing research are split regarding which measure is better. Wilson and Obrien (1986) and Fernandez (2004) assert that operating cash ow is better in valuations than reported earnings, since it is less likely to be subjected to management manipulations. However, in most of the studies listed above, the earnings variable has proven to have greater explanatory power (Gallizo and Salvador 2006; Penman and Sougiannis 1998) for stock price variations (Liu et al. 2002, 2007).

is calculated by dividing share price at scal year-end with the corresponding operating cash ow per share. Using the traditional multiple valuation model, industry average multiples for P/E, P/D, and P/C are calculated with the harmonic mean method for each industry by year. In this study, industry harmonic mean multiples were calculated.

Multiple Regression

Share price served as the dependent variable in the multiple regression analysis. The three independent variables were earnings per share, operating cash ow per share and dividends per share. The ve control variables utilized in the multiple regression analysis were as follows: Size, ROA, DTE, Industry and CFE. Accordingly, the model was constructed as

$$P=\gamma_1 EPS+\gamma_2 DPS+\gamma_3 CPS+\gamma_4 Size+\gamma_5 ROA+\gamma_6 DTE+\gamma_7 Industry+\gamma_8 CFE+\varepsilon$$

Analytical Procedure

To perform the multiple valuation analysis, the earnings, dividends,and operating cash ow were de ated by common shares still outstanding to arrive at earnings per share, dividends per share and operating cash ows per share. We also calculated a price-to-earnings ratio (P/E), a price-to-dividend ratio (P/D) and a price-to-operating cash ow ratio (P/C) for each rm for each year. We determined the industry multiples for earnings, dividends and operating cash ow according to the methods detailed above, a er which we calculated any pricing errors based on equation (2). The variables used in this study are summarized in Table II.

According to the multiple valuation method, we utilized the T-test to test the four proposed hypotheses (H1a, H1b, H2, and H3). This procedure (a) compares the means of two variables for a single group, (b) computes the di erences between the values of those variables for each case, and (c) tests whether the average di ers from zero. We employed the T-test to test Hypothesis 1a and Hypothesis 1b to compare whether the pricing error means computed by P/E, P/D and P/C di ered from each other. To investigate Hypothesis 2, we divided the sample set into three equal-sized categories according to their market value: (a) Small-Cap: Market value is equal to or smaller than $25 million, (b) Mid-Cap: Market value is between $25 and $220 million, and (c) Large-Cap: Market value is greater than $220 million. We then applied T-tests to group (a) and group (c). This strategy was designed to yield approximately equal numbers of operating cash ow pricing error data points for the three groups. We divided the sample into three categories in order to identify more easily the di erences between the upper and lower groups without losing too much of the sample, given the small sample size. To test Hypothesis 3, we divided the sample set into two categories based on SIC codes: 5,812 for restaurant rms and 7,011 for hotel rms.

Next, we conducted multiple regression analyses using actual earnings per share, dividends per share, and operating

cash ow per share as the independent variables. See Model 1 (Equation 4).

$$P=\gamma_1 EPS_a+\gamma_2 DPS_a+\gamma_3 CPS_a+\gamma_4 Size+\gamma_5 ROA+\gamma_6 DTE+\gamma_7 Industry+\gamma_8 CFE+\varepsilon$$

As illustrated in Table III, operating cash ow does impact stock prices for restaurant and hotel rms in several ways. The t score for the mean di erence between operating cash ow pricing errors for restaurants and hotels is -3.461 which is signi cant at the 0.05 level. It should be noted that this pricing error mean is smaller for restaurants than for hotels. Therefore, H3 is supported, indicating that operating cash ow is a more informative variable for explaining stock price variations for restaurant rms than for hotel rms. Additionally, since restaurants on average carry more debt than hotels, operating cash ow might be more critical for restaurants than for hotels.

These results contradict the ndings of Liu et al. (2007), who examined rms across many di erent industries, most of which were large capitalization rms in the S&P 500 Index. In contrast, our study included only hospitality rms that tend to be relatively small in terms of market capitalization. It must also be stressed that the income system for hospitality rms is more immediate; in other words, payments typically coincide with sales. This is an important distinction between manufacturing and hospitality. Therefore, the valuation ndings associated with large capitalization rms may not be generalizable to hospitality rms.

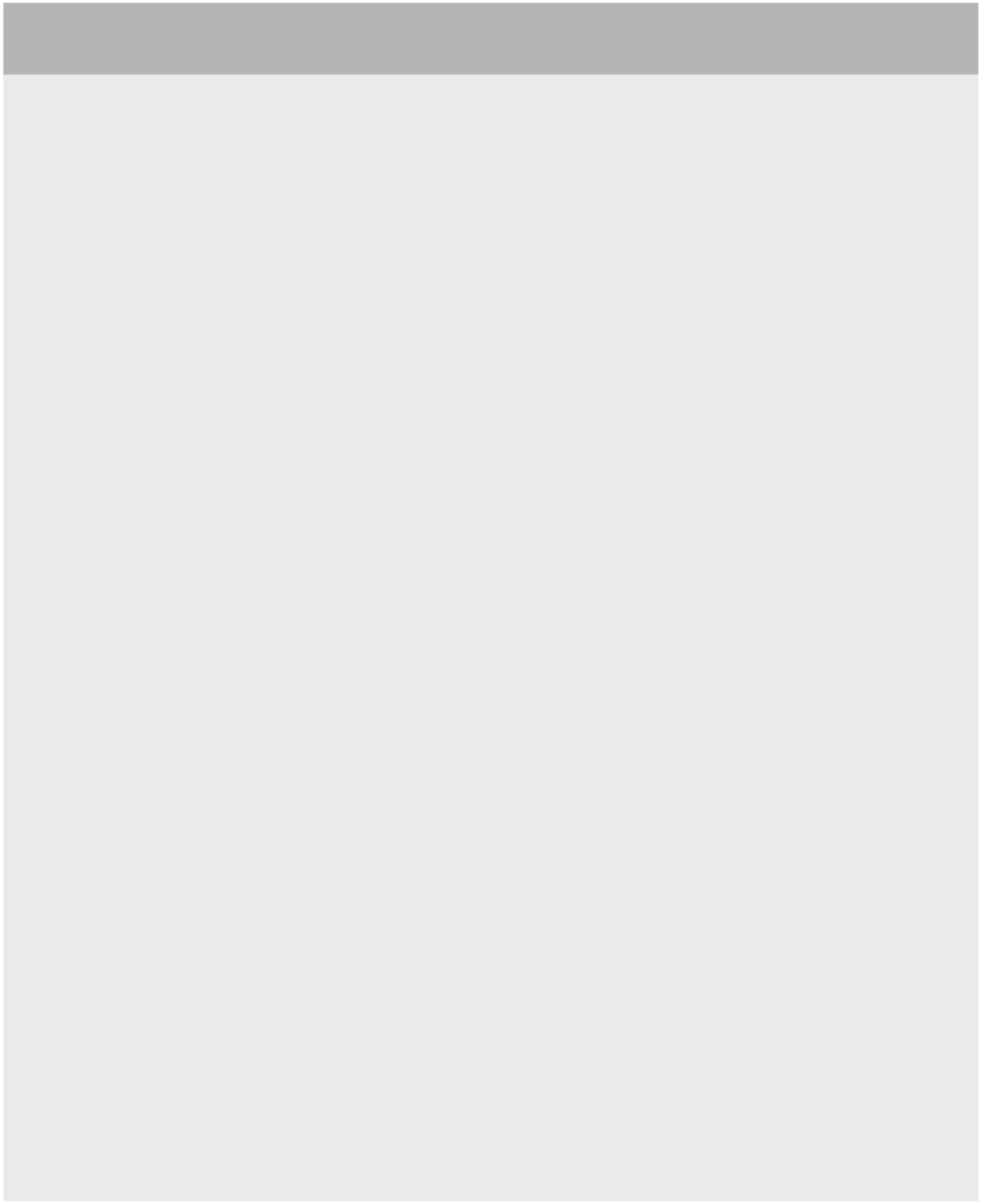
Multiple Regression Analysis

Several multiple regression analyses were performed to examine the explanation power of earnings, dividends, and operating cash ow on share price variations in the hospitality industry. Tables IV, V, and VI present the descriptive statistics, model summary and regression results, respectively. As shown, the model that included constant, earnings, dividends, and operating cash ow was able to account for 46.3% of the share price variations in the hospitality industry. Earnings per share and cash ow per share were statistically signi cant at the 0.00 level, while dividends per share were statistically signi cant at the 0.05 level. The coe cient for operating cash ow per share is 3.057, which is larger than both earnings per share (0.651) and dividend per share (0.684).

Four regression models were run in order to obtain the incremental values of EPS, DPS and CPS in explaining stock price variations for both the restaurant industry and the hotel industry.

$$P=\gamma_1 Size+\gamma_2 ROA+\gamma_3 DTE+\gamma_4 CFE+\epsilon$$

		Mean	Std Dev	N
Model 1 All Firms	Price	13.566	20.073	2736
	EPS	0.367	3.962	
	CPS	1.557	3.169	
	DPS	0.152	0.869	
	DTE	3.210	76.823	
	ROA	-0.138	3.409	
	Size	1.086	2.245	
Model 10 Small Size	Price	2.817	5.067	928
	EPS	-0.324	2.810	
	CPS	0.521	3.534	
	DPS	0.059	0.937	
	DTE	2.836	89.785	
	ROA	-0.464	2.81	1.067
		0.0	6.9	1.4 0.2 (3.0 5.8 (1.1 2.0 (0.1 -2.3 3.1 (2.4 5



$$P = \gamma_1 EPS_a + \gamma_2 Size + \gamma_3 ROA + \gamma_4 DTE + \gamma_5 CFE + \epsilon$$

$$P = \gamma_1 DPS_a + \gamma_2 Size + \gamma_3 ROA + \gamma_4 DTE + \gamma_5 CFE + \epsilon$$

$$P = \gamma_1 CPS_a + \gamma_2 Size + \gamma_3 ROA + \gamma_4 DTE + \gamma_5 CFE + \epsilon$$

$$P = \gamma_1 Size + \gamma_2 ROA + \gamma_3 DTE + \gamma_4 CFE + \epsilon$$

$$P = \gamma_1 EPS_a + \gamma_2 Size + \gamma_3 ROA + \gamma_4 DTE + \gamma_5 CFE + \epsilon$$

gate our proposed hypotheses. The results of the multiple valuation show that Hypothesis 1a is only partially supported. Specifically, our findings indicate that although operating cash flow is more effective than either earnings or dividends in explaining variations in the restaurant industry, it did not yield analogous results for the hotel industry. Similarly, our multiple valuation results support our second hypothesis in that operating cash flow is more effective in explaining share price variations for small-sized hospitality firms than for large-sized hospitality firms. Our multiple valuation findings also uphold our third hypothesis, that compared to earnings and dividends, operating cash flow is a more informative variable for explaining stock price variations for restaurant firms than for hotel firms.

However, our second hypothesis was not supported by our multiple valuation results. Specifically, we were unable to confirm that operating cash flow is an important variable for explaining stock price variations for small hospitality firms in comparison to large hospitality firms. Our multiple regression analyses yielded the same results as the multiple valuation analyses for H3 (thus supporting the hypothesis) and also failed to support H1a and H1b for the hotel industry. Unlike our results from the multiple valuation analysis, the multiple regression analysis did not support H1a or H1b for the restaurant industry or H2.

Business managers are usually tasked to accomplish a long list of goals. Depending on the size and type of firm, at or near the top of that list, one is likely to find the goals of increasing share price and minimizing stock volatility. Various studies have been conducted to provide managers with feasible and effective indicators for the movement of share prices. According to prior studies, earnings have proven to be somewhat reliable in explaining the variability of share price. However, most investigations that have focused on the relationship between stock price and cash flow have used cross-industry data (i.e., mixing service industries with manufacturing) from the S&P 500 Index. To reiterate, these studies do not distinguish the service industry from the manufacturing industry by taking into account the inherently significant differences between them. Thus, results from prior studies may not apply to hospitality firms.

To address this scholarly deficit, the present study was designed to ascertain the optimal strategy for determining stock valuation in the hospitality industry. Based on our analysis, we confirmed that operating cash flow is the best indicator for valuing share prices among hospitality firms, followdata (01 Tw T Hending on tmultiJ 0 -1.27 (i.e., mixingple

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Because the estimation of the earnings management metric, discretionary accruals, is dependent on both the estimation approaches and accrual models applied, this study uses two models to provide a basis for comparing estimation approaches. The models used are a modi cation of the popular modi ed Jones model (MMJ) and the YK model (Yoon and Kim 2013) which was proven to be better performing than the MMJ model.

Dechow et al. (1995) document that the models tend to incorrectly reject the null hypotheses of no earnings management in the presence of extreme nancial performance. Kothari et al. (2005) argue that the accrual models might be misspeci ed when applied to samples of rms exhibiting extreme performance.

Following Yoon et al. (2016), this study uses a single-step process to control for performance and constructs performance-based portfolios based on ROA or CFO ranks and applies the accrual models to the ROA and CFO portfolios in estimating discretionary accruals. This methodology is in contrast to Kothari et al.'s performance-matched approach that uses a two-step process. The performance-based portfolio approach of estimation is not a ected by the endogeneity issue that Kothari et al. encountered with their ROA augmented model. As documented by Yoon et al. (2016), the bene ts of the performance-based estimation approach include simplicity, time e ciency and more robust statistical results when estimating discretionary accruals. Furthermore, the approach allows for multiple piecewise-linearity for di erent coe cients of the same accrual model, and allows for a proper performance control irrespective of rms' performance levels. The portfolio approach can be considered a ten-piecewise linear approach. We believe this to be a much richer piecewise approach than the two-piecewise approach that was suggested by Ball and Shivakumar (2005).

Section II describes our methodology. Section III describes the sample and discusses the empirical results. Section IV provides conclusions.

Methodology

Research Issues

The main purpose of this study is to identify a more e ective and e cient approach to control for nancial performance in earnings management studies. Therefore, our research issues involve comparing three estimation approaches of discretionary accruals. The rst approach of using the traditional industry approach—no performance control—provides a baseline for comparison. The performance controlling approaches are the ROA portfolio approach and the CFO portfolio approach. This study measures the e ectiveness of controlling for performance in terms of adjusted R2 values, consistency and the statistical signi cances of the individual coe cients, and type 1 errors.

Research Methods

This study compares two accrual models. One is a modi cation of the MJ model (Dechow et al. 1995), the most popular model in the literature, and the other model is the YK model (Yoon and Kim 2013) which was shown to have greater explanatory power than the original MJ model. Yoon et al. (2014) document that the inadvertent suppression of the intercept term in the original Modi ed Jones model unduly magni es coe cients on property, plant and equipment and improves adjusted R2 values. Kothari et al. (2005, 173) also document that "discretionary accrual measures based on models without a constant term are less symmetric, making the power of the test comparisons less clear-cut." Therefore, instead of using the original MJ model, we change the model by replacing the inverse of rm size with the intercept terms. Formally, the MMJ model used in this study is as follows:

$$TA_t/A_{t-1} = \beta_0 + \beta_1 CREV_t/A_{t-1} + \beta_2 PPE_{t-1}/A_{t-1} + \varepsilon_t$$

Here, TA represents total accruals; A_{t-1} represents lagged total assets; PPE represents property, plant and equipment; and CREV represents change in cash revenue. The change in cash revenue is de ned as the change in revenue less the change in accounts receivable.

Yoon and Kim (2013) show that the YK model outperforms the Jones models in terms of explanatory power and coe cient consistency using Korean data. Yoon et al. (2016) con rm that the YK model outperforms the Jones model using multinational data. The YK model proposed by Yoon and Kim (2013) is as follows:

$$TA_t/A_{t-1} = \beta_0 + \beta_1 REV_t/A_{t-1} + \beta_2 NREC_t/A_{t-1} + \beta 3PPE_{t-1}/A_{t-1} + \beta 4INTG_{t-1}/A_{t-1} + \varepsilon_t$$

As compared to the MMJ model, the YK model uses REV that represents change in revenue; and adds t-1

portfolios are not provided in this paper. These results will readily be provided by the authors.)

Table I shows that the YK model outperforms the MMJ model, in terms of adjusted R2, by about 2.4 times (the ROA approach), 2.7 times (the industry approach) and 3.7 times (the CFO approach). Furthermore, the proxies for current accruals, CREV or REV, have insigni cant relationships with total accruals when the model is run using the industry approach (t=1.42, MMJ model; t=0.47, YK model) and the ROA approach (t=0.08, MMJ model; t=-0.12, YK model). This problem is remedied under the CFO approach (t=11.31, MMJ model; t=9.27, YK model).

PPE is expected to have a negative relation with total accruals. This relationship is weakly supported under the industry approach (t=-1.53, MMJ model; t=-2.33, YK model). This casts a serious question regarding the validity of using a combination of the MMJ model and the industry approach. Under the ROA and the CFO approaches, however, PPE consistently exhibits signi cantly negative relationships with totals accruals.

Table I clearly reveals that a combination of the YK model and the CFO approach is the best combination in terms of the adjusted R2 and the individual variables' statistical signi cances with expected signs. That is, the two proxies for current accruals have signi cant positive relationships with total accruals (t=9.27 for REV; t=18.74 for NREC) while the

approach which shows more volatility in both ends of the extreme performance portfolios.

Panel A: The Industry Approach (62 two-digit SIC industries)					
		Models			
		MMJ		YK	
Variables	Sign	Counts	Significant Counts	Counts	Significant Counts
Intercept	+/-	4/58	1/49	7/55	2/31
ΔREV or ΔCREV	+/-	37/25	23/18	31/31	20/20
ΔNREC	+/-			58/4	52/0
PPE	+/-	16/46	4/30	10/52	1/42
INTG	+/-			6/56	0/37

Panel B: The ROA Approach (ten ROA portfolios)					
		Models			
		MMJ		YK	
Variables	Sign	Counts	Significant Counts	Counts	Significant Counts
Intercept	+/-	4/6	4/6	5/6	5/4
ΔREV or ΔCREV	+/-	6/4	6/4	6/4	6/4
ΔNREC	+/-			10/0	10/0
PPE	+/-	0/10	0/10	0/10	0/10
INTG	+/-			0/10	0/10

Panel C: The CFO Approach (ten CFO portfolios)					
		Models			
		MMJ		YK	
Variables	Sign	Counts	Significant Counts	Counts	Significant Counts
Intercept	+/-	0/10	0/10	1/9	0/8
ΔREV or ΔCREV	+/-	9/1	9/1	9/1	9/1
ΔNREC	+/-			10/0	10/0
PPE	+/-	0/10	0/9	0/10	0/10
INTG	+/-			0/10	0/9

Variable:s
REV = C a /La a ;
CREV = (C a C a
acc c ab)/La a ;
NREC = (C a acc C ab
C a acc a ab)/La a ;
PPE = La a 9 /
La a ;
INTG = La a b a /La a

Impact on Correlation Coe cients between Accruals and on Accrual Levels

Table IV reports the correlation coe cients between pairs of various accruals. The accruals include total accruals, non-discretionary accruals and discretionary accruals from the combinations of two accrual models and three estimation approaches. The YK model outperforms the MMJ model by showing higher correlations between total accruals and nondiscretionary accruals (0.33 vs. 0.20 under the industry approach; 0.55 vs. 0.51 under the ROA approach; and 0.35 vs. 0.20 under the CFO approach). A corollary to the NDA results is the higher correlation coe cients between TAs and DAs (discretionary accruals) for the MMJ model than for the YK model.

The correlation coe cients between NDAs and DAs from the same model are all zeroes as expected by construction (See diagonal shaded but unboxed six cells in Panels A, B and C). However, correlation coe cients between the MMJ model's DAs and the YK model's NDAs are still signi cantly positive, ranging between 0.09 and 0.23 (See the boxed three cells in Panels A, B and C). In contrast, the correlation coe cients between the YK model's DAs and the MMJ model's NDAs are zero (See the boxed and shaded three cells in Panels A, B and C). This indicates that the MMJ model underestimates

NDAs as compared to the YK model and that a signi cant amount of DAs from the MMJ model can be further explained by the YK model, but not vice versa.

The ROA approach results in higher correlations between total accruals and nondiscretionary accruals. It is not plausible to argue that the ROA works better than the CFO approach. However, it looks like that the higher correlation between total accruals and nondiscretionary accruals under the ROA approach results from the fact that ROA includes managed accruals, thereby systematically misstating nondiscretionary accruals. This possibility is corroborated in Table V which shows statistical di erences in total accruals between the same level portfolios of ROA and CFO. For portfolios 1 through 3, the ROA portfolios have signi cantly more negative total accruals, while for portfolios of 5 through 10, the ROA port folios have signi cantly more positive accruals than the CFO portfolios do.

Panel A: The Industry Approach				
	TA	MMJNDA	YKNDA	MMJDA
MMJNDA	0.20			
YKNDA	0.33	0.61		
MMJDA	0.98	0.00	0.21	
YKDA	0.94	0.00	0.00	0.96

Panel B: The ROA Approach				
	TA	MMJNDTim Tc 0 T960 0 o 5s l STl Td (TA)Tj1 TOm 03T803 0.134 0.21 Y1aTd iDTi2 2 1sTm 0 0 m 0 16.48 0 0 0iDTim Tc 0		

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