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Public Accounting vs. Private Accounting, Career Choice of Accounting Students in China

ABSTRACT

A public accountant works for a public accounting firm that performs auditing, tax, consulting and accounting services for other businesses, organizations or individuals, while a private accountant has an accounting function within a firm or more general organization. Based on the theory of planned behavior (TPB), we analyze the factors influencing accounting students' intention to pursue public accounting instead of private accounting as their career choice in China. We find that the variety and marketability of public accounting experiences, high turnover plus low firm cohesion in the workplace, and perceived difficulties in travelling extensively affected students' intentions to pursue the public accounting profession significantly. By highlighting these factors that affect students' intention to pursue public accounting, this paper has important implications for the accounting educators and other stakeholders in China and other emerging economies.

Keywords: Theory of Planned Behavior, Public Accounting, Private Accounting, CPA Certification, Logistic Regression Analysis

1. INTRODUCTION

A public accountant works for a public accounting firm that performs auditing, tax, consulting and accounting services for other businesses, organizations or individuals, while a private accountant has an accounting function within a firm or more general organization. This study examines the factors that influence accounting students' intention to become public accountant in China. Scholars have recognized the essential role played by accounting professionals in facilitating China's economic transformation and development (Chen, 2012; Jui & Wong, 2015). According to the Chinese Institute of Certified Public Accountant (CICPA, 2016), there are 101,376 certified public accountants (CPAs) and 8,374 accounting firms in China, serving more than 1.3 billion people by the end of 2015 while there is a demand of at least 350,000 CPAs. In contrast, in the United States, there are 664,532 actively licensed CPAs, and 95,792 accounting firms, serving over 300 million people in 2016 (NASBA, 2016; IBISWorld, 2016). China still faces a serious shortage of CPAs, compared to the United States.

In addition, it seems that accounting majors in China are not enthusiastic about choosing public accounting career. Jiang (2012) surveys 150 undergraduate accounting students at a Chinese university and finds that 59% of respondents have internship experiences in three types of CPA firms (Big Four, Non-Big Four, and Chinese domestic CPA firms). In Jiang's study, 51.5% of 136 respondents prefer to choose a private accounting career. Accounting students in Jiang's study are not interested in choosing public accounting even though almost two thirds of respondents have some kind of public accounting internship experiences. In our study, only 31 out of 163 respondents (19% of respondents) prefer to choose a public accounting career. However, Bagley *et al.* (2012) survey 155 upper-level undergraduate accounting students at a large public university in U.S. and find that almost 78.1% of respondents are interested in public accounting.

This paper contributes to the existing accounting literature by investigating key factors affecting accounting students to pursue public accounting in China. Extensive research has been conducted to investigate important factors influencing the career decisions of accounting students in U.S. (e.g., Bagley *et al.*, 2012; Buchheit *et al.*, 2016; Dalton *et al.*, 2013; Levy *et al.*, 2011). But very limited research in this area has been undertaken in China. We make a new contribution to accounting literature by examining Chinese accounting students' intentions to pursue public accounting. In addition, this study makes a further contribution to use the Theory of Planned Behavior (TPB) model to explain the career decisions of accounting students in China. According to Felton, Dimnik and Northey (1995), the TPB is an important theory which "helps to specify the key variables in the choice of an accounting career and provides an integrative framework for future research."

In the following section, we will first review the current research literature that applied the TPB to accounting research to arrive at our hypotheses. Section 3 presents our methodology and data analyses. Section 4 reports the empirical results. Section 5 shows the summary and conclusions, focusing on the policy implications.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Our paper studies the factors that influenced accounting students' intention to pursue public accounting instead of private accounting as their career choice in China. There are two streams of research directly related to our paper.

The first stream of relevant literature are studies related to the TPB. Indeed, the TPB is a well-studied topic in psychologist literature developed by Ajzen's (1991, 2002). Ajzen argues that consumers' intentions to perform different kinds of behaviors can be predicted with high accuracy from attitudes

toward the behavior, subjective norms, and perceived behavioral control. The TPB Model is composed of three main factors. Attitude is a function of a person's beliefs about the consequences of the behavior and the corresponding evaluation of the desirability of these consequences. In the case of accounting students' career choices, attitude is defined as a student's overall evaluation of the desirability of choosing public accounting as a career. Subjective norm is an individual's perception of the expectations of important people, such as family members and good friends, about a particular behavior. Perceived behavior control is the extent to which a person feels about the difficulty level to perform or take actions on the behavior. Perceived behavior control is determined by a person's sense of being in control over the behavior and a person's confidence to perform the behavior (Ajzen, 1991; Ajzen, 2002; Wen *et al.*, 2015). However, few studies are done in this specific setting to examine accounting student' intention to choose public accounting in an emerging economy. We contribute to this line of literature by considering the intention of students in the area of accounting and particularly in China, the largest emerging market. Research from the emerging market's point of view in the accounting area to investigate students' intention to choose public accounting has been relatively neglected. Our paper are the few papers that study the topic.

The second stream of literature in our paper is the one which studies the rational intention of accounting students and accounting professionals in both developed countries and emerging markets. There are some relevant research done in developed countries. For example, Dalton *et al.* (2013) find that three components of the standard TPB affect the accounting students' career decision in choosing between audit and tax. In their study, "students who plan to pursue careers in audit believe that they will have more client interaction, better future job opportunities (i.e., industry positions), and greater knowledge of business processes if they work in audit (as opposed to tax). In contrast, students who plan to pursue careers in tax perceive that they will have a more stable daily routine, develop more specialized skills,

and build more collaborative client relationships if they work in tax (as opposed to audit)” (Dalton *et al.*, 2013). Bagley *et al.* (2012) use the TPB theory to examine the reasons why some accounting professionals pursue career paths at Big Four firms, while other accounting professionals pursue career paths at non-Big Four accounting firms. They survey 155 upper-level undergraduate accounting students at a large public university in U.S. and find that three components of the TPB influence firm-choice decisions between Big Four firms and non-Big Four accounting firms. They also find that almost 78.1% of respondents are interested in public accounting. Demagalhaes *et al.* (2011) conduct a survey of 129 upper-level juniors and seniors accounting students at the University of North Dakota (UND), a large public university in U.S., in 2009 and 2010. In their study, accounting students rank benefits as one of the top factors affecting accounting students’ employment choices, which is consistent with the findings of the survey conducted by Robert Half International (2007). Willcoxson and Wynder (2010) find that accounting-major students are career-driven, compared with other students who undertake a general business major. By using a small sample at a regional Australian university, they find accounting students committed themselves to relatively stronger professional orientation since accounting is very career-related major. Students are required to have certain capacities and skills to pursue professional accreditation upon degree completion. Levy *et al.* (2011) use a sample of 684 accounting professionals to show four narrow traits (assertiveness, customer-service orientation, optimism, and work drive) are significantly related to career satisfaction. Optimism is defined as “having an upbeat, hopeful outlook concerning situations, people, prospects, and the future, even in the face of difficulty and adversity; a tendency to minimize problems and persist in the face of setbacks” (Lounsbury *et al.*, 2003). Accounting students who believe public accounting profession provides more varieties of professional experiences are more positive about the public accounting profession than others. As a result, they would have more career satisfaction.

There are also some relevant research done in emerging markets. Omar *et al.* (2015) conduct a survey of 200 undergraduate-level accounting students at three selected Malaysian private universities. They find that starting salary is one of three very important factors affecting accounting students' career selection preferences. Wen *et al.* (2015) conduct a survey of 288 college accounting students to examine the factors influencing the decisions of accounting students in China to pursue CPA designation. Their research has confirmed that some attitude-related factors, such as genuine interest and perceived professional independence in the workplace, affect students' intentions to pursue CPA credential. Ahmad *et al.* (2015) find that intrinsic interest is a very significant predictor of accounting students' career intentions in Malaysian, an emerging economy in Southeast Asia. Yuan and Zhu (2016) survey 406 undergraduate accounting students at a large public university in China and find that wage is the most important factor for students.

Based on the review of previous accounting studies that applied the TPB, the following hypotheses were formulated:

H1: Accounting students who believe public accounting profession provides more compensation are more likely to consider a public accounting career in China.

H2: Accounting students who believe public accounting profession provides more varieties of professional experiences are more likely to consider a public accounting career in China.

Omar *et al.* (2015) find that employer reputation is one of three very important factors affecting accounting students' career selection preferences. The study of Bagley *et al.* (2012) provides the evidence that both students and professionals view networking opportunities for future job development

or career advancement as one of the most commonly reported advantages of working for Big Four firms. These results suggest that some students, as well as professionals, view a Big Four career as a stepping stone to increase their marketability and long-term career advancement. Wen *et al.* (2015) do not find a significantly positive relationship between perceived better financial compensation and the choice to pursue CPA credential. Some studies suggest that intrinsic factors, such as personal interests and perceived professional independence in the workplace, significantly influence the career decision (e.g., Ahmed *et al.*, 1997; Tan and Laswad, 2006; Sugahara *et al.*, 2008; Swain and Olsen, 2012). Country-specific and different culture influences also play an important role for student decision-making process. Dalcı *et al.* (2013) find that accounting students in Iran prioritize financial and job-market factors as main reasons of majoring in accounting. Uyar *et al.* (2011) conduct a survey of business students in the two-year Istanbul Vocational School of Fatih University in Turkey. 69 out of 179 respondents answer YES to plan to work in the accounting field after the graduation. The reported reasons with high percentages include good job opportunities (50.72 percent), interest in accounting field (46.38 percent), good fit with respondent abilities (33.33 percent), suitability for independent working (24.64 percent), and family influence (23.19 percent) (Uyar *et al.*, 2011).

In a recent comprehensive global generational study conducted by PwC, the University of Southern California and the London Business School, the findings show that Millennial employees at PwC (those born between 1980 and 1995) “say that creating a strong cohesive, team-oriented culture at work and providing opportunities for interesting work—including assignments around the world—are important to their workplace happiness, even more so than their non-Millennial counterparts” (PwC, 2013).

H3: Accounting students who believe public accounting can increase their marketability or career advancement are more likely to consider a public accounting career in China.

H4: Accounting students who believe public accounting firms have high turnover and low firm cohesion are less likely to consider a public accounting career in China.

Generally speaking, work environment seems to be a positive factor influencing students' perceptions of public accounting as a career. Mbawuni (2015) survey 516 undergraduate and 78 graduate accounting students at a public university in Ghana, an emerging market in Africa. Both undergraduate and graduate accounting students in Ghana have very positive perceptions about accounting profession (Mbawuni, 2015). Yuan and Zhu (2016) find that wage is the most important factor for students, dynamic is the second, and then the industry and the position. A dynamic career represents a challenging and rewarding working environment and promising career development. Accounting students who believe public accounting profession provides more dynamic career are more positive about the public accounting profession than others. Intrinsic factors, such as "genuine interest in the accounting, perception of the accounting course, and perception of the accounting profession are not significantly related to students' decision to choose accounting as major" (Dalcı *et al.*, 2013). Omar *et al.* (2015) find that working environment is one of three very important factors affecting accounting students' career selection preferences. Based on the review of previous accounting studies that applied the TPB, the following hypothesis was formulated:

H5: Accounting students who consider public accounting a dynamic/challenging career are more likely to consider a public accounting career in China.

According to TPB, decision makers have social pressures when making choices, especially if this pressure is from the people that they care about. They are more likely to comply with the wishes or

desires of people they care about (Wen *et al.*, 2015). It is very common for college student to get career information from their professors (Janvrin, Gary, and Clem, 2009). Some research shows that instructors, parents, friends and professionals have a profound influence on students' choice of major (Paolillo and Ralph, 1982; Cohen and Hanno, 1993; Jackling and Keneley, 2009). In particular, Yang *et al.* (2002) note that Korean college students believe that choosing a career that satisfies their family is more important than satisfying themselves. Similarly, Salazar-Clemena (2002) find that parental influence is important and parents often make the career choices for their children in the Philippines. Wen *et al.* (2015) find that the influence of important professional mentors also positively influence students' decisions to earn CPA qualification. Dalci *et al.* (2013) find that the accounting students in Iran are also strongly influenced by the opinions of external referents when they decide to major in accounting. Based on the theory of reasoned action (TRA) model, Law and Yuen (2012) examine the determinants of influencing students in Hong Kong, a special administrative region in China, to choose accounting as their major. "Two factors, "intrinsic interest" (attitude towards the behavior) and "parental influence" (subjective norm) in the multinomial logistic regressions and Hierarchical Generalized Linear Modeling (HGLM) make significant contributions to predicting a student's decision to major in accounting for the level one model (undergraduate) and level two model (master's students)" (Law and Yuen, 2012). As few studies arrived at a different conclusion about the influence of social pressures on career choice (e.g., Aycan and Fikret-Pasa, 2003), we propose the following hypothesis:

H6: Accounting students whose important people think that they should work for public accounting are more likely to consider a public accounting career in China.

Perceived behavioral control represents the degree of difficulty level a person feels about achieving an objective. Students with an ability to work with numbers and perform well academically tend to choose to major in accounting (Tan and Laswad, 2006). Comparing Big Four job seekers and non-Big-Four job seekers, Bagley *et al.* (2012) find that non-Big-Four job seekers were less confident that they would have the academic credentials, such as a graduate degree. It is also suggested that the increase in the education required of the new CPA exam candidates in most U.S. states (usually referred to as a 150-hour requirement) drives some students away from the accounting profession (Albrecht and Sack, 2000).

The dual-level structure of CPA Examination in China is very challenging and comprehensive. The first level is the Professional Stage, which is made up of six components, including accounting, auditing, cost management, economic law, tax law, and risk management (Nie *et al.*, 2013). Exam-takers must use a five years' time window to pass all six sections. Only after passing all six exams on Level One, the Professional Stage, exam-takers can move forward to Level Two, the Comprehensive Stage. Comprehensive Stage integrates subjects from all the above six sub-disciplines into one exam. Examinees must pass this exam within five years after they pass all Level One exams. In addition to the passing of the Comprehensive stage of Chinese CPA exam, examinees are also required to have two years of auditing experience to put their knowledge into practice and then receive their CPA certificate (Nie *et al.*, 2013; Wen *et al.*, 2015). The average pass rate of China's CPA Level One exams was extremely low, only 16% from 1993 to 2007 (CICPA, 2012). Liu and Zhang (2016) survey 420 undergraduate accounting students at a large public technical and vocational schools in China and find that CPA certification is important in job market.

By surveying 1,063 practicing CPAs in U.S. to assess the comparative work-life balance perceptions across public accounting versus industry work contexts, Buchheit *et al.* (2016) find that accounting

professionals in three major segments of the public accounting profession (Big Four, mid-sized, and local firms) reported a significantly higher work-family conflict compared to CPAs in industry, or private accounting sector. So, we propose that the demanding working schedules, heavy workload and extensive traveling would drives some students away from the public accounting profession:

H7: Accounting students who consider it is difficult to obtain a CPA certificate are less likely to consider a public accounting career in China.

H8: Accounting students who intend to pursue a CPA certification are more likely to consider a public accounting career in China.

H9: Accounting students who consider public accounting demanding (extensive traveling) are less likely to consider a public accounting career in China.

3. METHOD

3.1 Data Collection

Chinese Generally Accepted Accounting Principles (GAAP), or Chinese Accounting Standards (CAS), have become International Financial Reporting Standards (IFRS) convergent accounting standards since 2007 (Liu *et al.*, 2011). In past decades, the Ministry of Education and higher educational institutions in China implemented many reforms in order to adapt to the changing environment, especially in accounting and business education (Guo, 2008). Accounting curriculum from Western world has significant influences because most accounting and business concepts and ideas taught at Chinese university classrooms are from American or European publications (Guo, 2008). A paper survey was conducted to test all proposed hypotheses. The third author administered the survey and collected data at

a university in China in Spring, 2014. It is one of large public universities in China, well known for its high-quality accounting program. The program enrolled about 2,700 undergraduate students and almost 1,000 graduate students pursuing a master degree in accounting.

For this study, the third author randomly selected some accounting classes at both undergraduate and graduate level, distributed 163 questionnaires to all the students in these classes and collected them in class. The survey questionnaire was written in both English and Chinese (bilingually). It included 30 questions. In Part A, there are 7 questions about respondents' career plans, reasons of choosing an accounting major, and intent to pursue CPA certification, in addition to the demographic questions about gender, age, and academic status. Part B consists of 23 questions about their perceptions of public accounting profession, which were developed based on previous studies.

3.2 Data Analysis, Measurement, and Coding

The survey data were subject to statistical analyses via SPSS-22. A binary logistic regression analysis was applied to test the above hypotheses because of its suitability (Denham, 2010; Anderson *et al.*, 2012). The dependent variable, intention to work for public accounting, is created for binary logistic regression analysis based on its dichotomous nature. It is recorded as 1 when a respondent checked the answer choice A. Public accounting (i.e. accounting firms) to the survey question "What kind of sector do you want to work for in the future?" and 0 if the answer was B. Private accounting (including industry, government, education institutions).

Three control variables were included in the empirical model: *graduate*, *age*, and *gender*. *Graduate* is a dummy variable used to measure the different academic status of our sample. It is equal to 1 when a respondent is a graduate student, and 0 for all undergraduate students. As the sample is made up of students at different stages of their study, it is necessary to control for this variation. *Age* is a continuous

variable based on their self-reported data in the range of 18-28. Gender is a dichotomous variable with 1 representing female and 0 representing male.

Nine independent variables were entered into the logistic model to predict the probability of accounting students' intent to choose public accounting as a career. *Compensation* measures the perceived income of public accounting professionals in China. Participants have to rank the compensation for public accounting profession on a 5 point scale from very low (1) to very high (5). *Experiences* refers to a bigger variety of experiences provided by public accounting profession than private accounting, one of the perceived benefits. Respondents agree or disagree with the statement that "Public accounting profession provides more varieties of professional experiences" on a 5-point Likert scale. Similarly, *marketability* measures the perception that public accounting professional experience will benefit one's future career choice. Participants express their feelings about the statement that "Public accounting experience could help me find a better position in either public or private accounting area in the future" on a 5-point Likert scale with the answers ranging from Strong Disagree (1) to Strongly Agree (5). *Turnover* concerns about the perception of the instability of public accounting firms in terms of frequent change of personnel. The participant has to indicate the degree of agreement with the statement that "Public accounting firms have high turnover and low firm cohesion" by choosing Strong Disagree (1), Disagree (2), Neutral (3), Agree (4) and Strongly Agree (5). *Dynamic* measures the preferred energy level in the work environment of a public accounting firm. Respondents choose to agree or disagree with the statement that "I like a job in a dynamic environment." *Norm* taps the normative influence on respondents' intent to choose public accounting as a career. Participants confirm or disconfirm the statement that "The important people in my life (families, friends, or professors, etc.) would recommend that I work for the public accounting." *Difficulty* is conceptualized as the perceived difficulty of obtaining a CPA certificate. Respondents express their positive or negative opinions about the statement

that “It is difficult for me to obtain CPA certificate” by choosing one of 5 answers from Strong Disagree (1) to Strongly Agree (5). *Certification* is considered a facilitator of choosing public accounting as a career and measured by college students’ intent to pursue a CPA certification before or after graduation. The response is coded as 1 if one respondent would seek a CPA certification and 0 stands for the negative answer. Finally, *travel* measures the perceived difficulty of frequent travel as required by a public accountant, another perceived barrier of choosing public accounting as a career. Survey participants express their feelings about the statement that “The extensive traveling makes it difficult for me to work as a public accountant.”

The proposed logistic model can be presented mathematically as follows:

$$\ln [p/(1-p)] = \beta_0 + \beta_1 * \text{Compensation} + \beta_2 * \text{Experiences} + \beta_3 * \text{Marketability} + \beta_4 * \text{Turnover} + \beta_5 * \text{Dynamic} + \beta_6 * \text{Norm} + \beta_7 * \text{Difficulty} + \beta_8 * \text{Certification} + \beta_9 * \text{Travel} + \beta_{10} * \text{graduate} + \beta_{11} * \text{age} + \beta_{12} * \text{gender} + \mu$$

- Where p is the probability of a respondent with an intention to pursue a public accounting career
- β_0 = constant (y-intercept)
- β_{1-12} = slope coefficient
- μ = error term
- The last 3 variables (*graduate, age, and gender*) are control variables

Table 1 presents nine independent variables, three control variables and the corresponding 12 hypotheses in this study. All nine independent variables are measured on a 5-point Likert scale. Each independent variable corresponds with a hypothesis. Two control variables are dummy variables to proxy the academic status and gender, whereas age is a continuous variable.

[Insert Table 1 about Here]

4. STATISTICAL RESULTS

4.1 Descriptive Statistics

Among 163 participants, there are 74 undergraduate students (45.4%) and 89 graduate students (54.6%) of accounting major. The mean age of our respondents is 21.97 with a standard deviation of 2.05 and in the range of 18-28. In other words, most of them are very young. It is not surprising that more female students (79.8%) are willing to help us than male students (20.2%) as most surveys of college students showed. It can also be explained by the fact that more female students choose accounting majors in China than males. An overwhelming majority of them (84%) expressed the intent to pursue the CPA certification. Interestingly, only a small percentage of them (19%) would consider a public accounting career. Please refer to Table 2 for more details.

[Insert Table 2 about here]

Table 3 presents the descriptive statistics of eight independent variables among those who would consider a public accounting career and those who would not consider it. Seven variables are measured on a 5-point Likert scale with “strongly disagree” coded as 1 to “strongly agree” coded as 5. Compensation was measured by a scale with answer choices anchored in (1) very low to (5) very high, similar to these 5-point Likert scales. The descriptive statistics in Table 3 have provided us a visual comparison between the two groups of those who would consider choosing public accounting as a career (19%) and those who would not consider it (81%).

Panel A shows all descriptive statistics of eight independent variables among 31 students who would consider a future career in public accounting. The average value of *Compensation* is 3.2258. Panel B shows all descriptive statistics of eight independent variables among 132 students who do not consider

choosing public accounting as a career. The average value of *Compensation* is 3.1667. The independent samples t test with equal variances not assumed found the mean difference is not statistically significant ($t = .468, df = 49.9, p = .642$). A majority of our respondents were not sure about the Compensation of public accounting professionals in these two groups.

In panel A, the average value of *Experiences* is 3.5484. In panel B, the average value of *Experiences* is 3.7955. Similarly, the independent samples t test with equal variances not assumed found the mean difference is not statistically significant ($t = -1.225, df = 37.75, p = .228$). Interestingly, a big majority of students who would not consider a public accounting career (77.3%) believed that public accounting profession could provide them more varieties of professional experiences.

In panel A, the average value of *Marketability* is 3.9032. In panel B, the average value of *Marketability* is 3.8258. The mean difference is not statistically significant according the independent samples t test ($t = .506, df = 40.39, p = .615$). It is also fascinating that a big majority of participants who would consider a future public accounting career (78.8%) agreed that public accounting professional experience could help them find a better job in the future.

As for *Turnover*, in Panel A, the average value is 2.9677 whereas its average value is 3.5985 in Panel B. The mean difference is statistically significance after running the independent samples t test ($t = -3.147, df = 38.38, p = .003$). Those potential future public accounting professionals were less likely to agree that public accounting firms have high turnover and low firm cohesion than those uninterested students. The variable of *Dynamic* has the mean value of 3.4839 in panel A and the mean value of 3.0833 in panel B. There is a statistically significant difference according to the independent samples t test ($t = 2.391, df = 51.19, p = .021$). It seems that our participants who prefer a job in a dynamic environment are more likely to consider public accounting as a career.

The mean score of subjective norm (NORM) is 2.7419, the lowest value in Panel A and it is 2.5455, also the lowest value in Panel B. There is no statistically significant difference between the means ($t = 1.146$, $df = 46.005$, $p = .258$). In the two groups, only a small percentage of participants was influenced by the important people in their lives (families, friends, or professors, etc.) with regards to choosing a public accounting career.

The highest mean value in both Panel A (4.1613) and Panel B (3.9015) is for the variable of *Difficulty*. The mean difference is not statistically significant ($t = 1.650$, $df = 58.44$, $p = .104$). A large majority of accounting students in Group A (80.7%) and Group B (76.5%) considered it difficult to obtain a CPA certificate.

Finally, the variable of *Travel* has the mean value (2.8710) in panel A and the mean value (3.3485) in panel B. The mean difference is statistically significant according to the independent samples t test ($t = -2.356$, $df = 49.359$, $p = .022$). It suggests that accounting students will be more likely to consider working for a public accounting firm if they do not perceive extensive travel to be difficult. 47.7% of uninterested students believed extensive travel was a difficulty while only 28% of potential public accountants admitted it was a difficulty.

[Insert Table 3 about Here]

The Welsh's t test was employed to compare 8 variables across two groups as it is considered robust even though the assumptions of normality and equal variances between groups are violated (Rasch *et al.*, 2011). The results are summarized in Table 4. The values of skewness and kurtosis of 8 variables are also shown in Table 4. Seven pairs of absolute values of skewness and kurtosis are smaller than 1, suggesting slight non-normality, except Experiences with moderate non-normality (Lei and Lomax, 2005).

[Insert Table 4 about Here]

Table 5 presents the correlation matrix of 8 key independent variables. Only one correlation (Experiences, Marketability) is higher than .50.

[Insert Table 4 about Here]

4.2 Logistic Regression Results

The proposed logistic regression model was tested to determine what independent variables predicted the probability of Chinese accounting students to pursue a public accounting career (YES = 1; No = 0).

The results are reported in Table 6.

[Insert Table 4 about Here]

First of all, we have to determine the overall model fit. The chi square value of the Hosmer-Lemeshow goodness-of-fit statistic for the proposed logistic model is 8.87, $df = 2$, $p = .353$, not significant at $p < .05$ level, indicating that the tested model fits the data very well, as the Hosmer-Lemeshow test is actually a test of lack of model fit (Hosmer & Lemeshow, 2000). The Omnibus test shows that the Chi-square of the model is 34.409, $df = 12$, and $p = 0.001$. The overall model fit is satisfactory.

In addition, the Nagelkerke R Square can also be used to assess the model's overall fit (Yeung and Yee, 2011; Ayers, 2013). The Nagelkerke R Square is equal to 0.306. Similar to the Nagelkerke R Square, the Cox & Snell R Square can also help us estimate the total variance explained by the combination of all interdependent variables in a logistic model (Leech, Barrett, and Morgan, 2011). The Cox & Snell R Square is 0.190. All these statistics indicate that there is an adequate fit of the data to the logistic regression model. In other words, one or more of the independent variables can significantly explain or predict the dependent variable (Yeung and Yee, 2011).

Moreover, two sets of multicollinearity statistics were calculated and shown in Table 6.

Finally, we adopted Firth's (1993) penalized maximum likelihood method to run another logistic regression to make sure that the parameter estimates would not be overestimated. The unbiased results are shown in Table 7.

H1 about Compensation was rejected. H2 about the variety of public accounting experiences was supported. H3 about marketability of public accounting experiences was also supported ($p < .05$). H4 about high turnover of public accounting firms was also substantiated ($p < .05$). H5 about the dynamic work environment was not supported. H6 about subjective norm was rejected. H7 about the difficulty to obtain a CPA certificate was marginally supported ($p < .10$). H8 about CPA certification was marginally supported ($p < .10$). H9 about the difficulty to travel extensively was confirmed ($p < .05$).

There are some inconsistency of t test results and logistic regression results. However, we relied heavily on the logistic regression results to test our hypotheses. The Welsh's test was used to conduct initial analyses to find out in what ways students who were interested in public accounting differed from students who were not interested regarding each individual variable. When those independent variables were placed in the formula of our logistic regression, it is not surprising they would act differently than they were in those t tests. Some independent variables would emerge as significant predictors and the effects of some independent variables would be neutralized or even cancelled out. Similarly, t test results of independent variable are often not consistent with those of ordinary multiple regression analyses.

To address the concerns of multicollinearity of independent variables, we first presented the correlation table of key independent variables. As we can see in Table 5, only the Pearson correlation of Experiences and Marketability is higher than .50. We also calculated the collinearity statistics of control variables and independent variables shown in Tables 6 and 7. Multicollinearity was not a problem with nine independent variables in the logistic regression model, as no tolerance was below .35 and no

variance inflation factor (VIF) was higher than 3 (Cohen *et al.*, 2003). We realized that the unequal sample size of two groups might be an issue. So, we decided to conduct the Welsh's t test without assuming the equal variances of two groups. The Welsh's t test is more robust than the regular Student's t test for unequal variances and unequal sample sizes (Derrick *et al.*, 2016; Delacre *et al.*, 2017). To address the concerns of the small sample size and unequal sample sizes in logistic regression, we compared the results of ordinary logistic regression and Firth's (1993) penalized logistic regression. The results are generally consistent. Firth's (1993) method has been recommended by many social scientists and statisticians, such as Heinz and Schemper (2002) and Kosmidis (2014).

5. Discussions and Conclusion

This paper analyzes some key factors influencing accounting students' intention to pursue public accounting instead of private accounting as their career choice in China. We find that the variety and marketability of professional public accounting experiences, high turnover and low firm cohesion in the workplace, and perceived difficulties in maintaining traveling extensively all affected students' intentions to pursue the public accounting profession. Our research has provided some evidence to support the application of the TPB to predict Chinese accounting students' career choices. Future research is needed to validate our findings due to the small sample size of our survey.

This paper has important implications for the accounting educators and other stakeholders. We suggest that public accounting firms, the government and educators should promote the variety and marketability of public accounting experiences if they would like to encourage more young Chinese accounting students to consider working as public accountants.

One surprising finding in this paper is that many respondents intend to obtain a CPA certificate, but only a small number of them are opting for a public accounting function. This means that a CPA has become

a general standard for accountants in China, irrespective of their preference for a public or private accounting function. The main reason is the passing rate at CPA exams in China is extremely low. Job applicants with a CPA certificate show strong capabilities and skills to earn professional accreditation and become very marketable in a very competitive job market.

However, there is a disconnection between CPA and a career in public accounting. One main reason is internship experience. Public accounting firms in China provide a lot of internship opportunities for college students. But intensive workload, pressures and lack of guidance for interns at public accounting firms during the internship time period give a negative impression to public accounting career. A stressful work environment during the internship may push students away to choose private accounting career instead. Public accounting firms should improve their internship experience to reduce stress and to cultivate a challenging and rewarding work environment, which is highly valued by accounting students. One policy implication of this study for public accounting firms in China is to redesign the internship structure and process. Public accounting firms in China may need to manage other negative aspects of public accounting careers, such as high turnover, low firm cohesion, and extensive travel, to attract young accounting students.

We find that there was no significant relationship between financial or compensation factor and the intentions of accounting students in China to choose the public accounting profession. We do not find any significant relationship between the opinions of external referents and the intentions of accounting students in China to choose the public accounting profession. Future research should be done to see if country-specific and different culture influences also play an important role for student decision-making process when applying the TPB theory to predict the behaviors of accounting students in different countries.

By understanding the factors that can increase the accounting students' interests in pursuing public accounting, accounting educators and accounting firms may be able to establish new rules, redesign the accounting curriculum and the recruiting process to increase more interests in public accounting. Professional organizations and policy makers might learn some lessons to take proactive measures to encourage young accounting professionals to work for public accounting firms. Moreover, our study has provided valuable insights and a fresh perspective to accounting educators, practitioners and policy makers in other emerging economies with the same shortage of qualified public accountants.

TABLE 1**Variable Description and Hypothesis (N = 163)**

Hypothesis	Key Indicator	Corresponding Variable	Measurement
H1	Compensation	Compensation	Measured by 5-point Likert scales with 5 as “Very high” and 1 as “Very low”.
H2	Experiences	Experiences	Measured by 5-point Likert scales with 5 as “strongly agree” and 1 as “strongly disagree”.
H3	Marketability	Marketability	Measured by 5-point Likert scales with 5 as “strongly agree” and 1 as “strongly disagree”.
H4	High Turnover	Turnover	Measured by 5-point Likert scales with 5 as “strongly agree” and 1 as “strongly disagree”.
H5	Dynamic Work Environment	Dynamic	Measured by 5-point Likert scales with 5 as “strongly agree” and 1 as “strongly disagree”.
H6	Subjective Norm	Norm	Measured by 5-point Likert scales. Level 5 means a respondent is strongly influenced by an external party to pursue public accounting as a career, such as family, classmates and friends, professors, and accounting professionals. 1 shows the level of least influenced.
H7	Difficult to obtain a CPA certificate	Difficulty	Measured by 5-point Likert scales with 5 as “strongly agree” it is difficult to obtain a CPA certificate and 1 as “strongly disagree”.
H8	CPA Certification	Certification	Coded 1 if the respondent intends to pursue a CPA certification before or after graduation, 0 if one said no.
H9	Difficult to travel extensively	Travel	Measured by 5-point Likert scales with 5 as “strongly agree” it is difficult to travel extensively as a public accountant and 1 as “strongly disagree”.
Control Variable	Graduate	Graduate, dummy variable	Equals 1 when a respondent is a graduate student. For all other undergraduates, it is 0.
Control Variable	Age	Age, continuous	Ranging from 18-28
Control Variable	Female	Gender, dummy variable	Equals 1 when a respondent is a female student. For all males, it is 2.

TABLE 2
Descriptive Statistics of 3 Control Variables, 1 Independent Variable, and Dependent Variable (N = 163)

Academic Status	Undergraduate	Graduate	Total								
Number	74	89	163								
Percentage (%)	45.4%	54.6%	100.0								
AGE	18	19	20	21	22	23	24	25	26	27	28
Number	1	17	37	18	14	33	28	11	1	2	1
Percentage (%)	0.6%	10.4%	22.7%	11%	8.6%	20.2%	17.2%	6.7%	0.6%	1.2%	0.6%
GENDER	Female	Male									
Number	130	33	163								
Percentage (%)	79.8%	20.2%	100.0								
PURSUE CPA	Yes	No									
Number	137	26	163								
Percentage (%)	84%	16%	100.0								
Choose a Public Accounting Career	Yes	No									
Number	31	132	163								
Percentage (%)	19%	81%	100.0								

**Table 3: Descriptive Statistics of Eight Predictor Variable in the Questionnaire (N = 163)
Panel A Frequency Distribution of Eight Variables for Students Who Would Consider PA (N = 31)**

COMPENSATION	Strongly Disagree-1	Disagree-2	Neutral-3	Agree-4	Strongly Agree-5	Total	Mean	Std. Deviation
Number	0	3	18	10	0	31	3.2258	.61696
Percentage (%)	0.0%	9.7%	58.1%	32.3%	0.0%			
EXPERIENCES	Strongly Disagree-1	Disagree-2	Neutral-3	Agree-4	Strongly Agree-5	Total	Mean	Std. Deviation
Number	2	3	6	16	4	31	3.5484	1.05952
Percentage (%)	6.5%	9.7%	19.4%	51.6%	12.9%			
MARKETABILITY	Strongly Disagree-1	Disagree-2	Neutral-3	Agree-4	Strongly Agree-5	Total	Mean	Std. Deviation
Number	0	1	8	15	7	31	3.9032	.78972
Percentage (%)	0.0%	3.2%	25.8%	48.4%	22.6%			
TURNOVER	Strongly Disagree-1	Disagree-2	Neutral-3	Agree-4	Strongly Agree-5	Total	Mean	Std. Deviation
Number	2	9	10	8	2	31	2.9677	1.04830
Percentage (%)	6.5%	29.0%	32.3%	25.8%	6.5%			
DYNAMIC	Strongly Disagree-1	Disagree-2	Neutral-3	Agree-4	Strongly Agree-5	Total	Mean	Std. Deviation
Number	0	4	10	15	2	31	3.4839	.81121
Percentage (%)	0.0%	12.9%	32.3%	48.4%	6.5%			
NORM	Strongly Disagree-1	Disagree-2	Neutral-3	Agree-4	Strongly Agree-5	Total	Mean	Std. Deviation
Number	2	9	16	3	1	31	2.7419	.85509
Percentage (%)	6.5%	29.0%	51.6%	9.7%	3.2%			
DIFFICULTY	Strongly Disagree-1	Disagree-2	Neutral-3	Agree-4	Strongly Agree-5	Total	Mean	Std. Deviation
Number	0	0	6	14	11	31	4.1613	.73470
Percentage (%)	0.0%	0.0%	19.4%	45.2%	35.5%			
TRAVEL	Strongly Disagree-1	Disagree-2	Neutral-3	Agree-4	Strongly Agree-5	Total	Mean	Std. Deviation
Number	2	10	10	8	1	31	2.8710	.99136
Percentage (%)	6.5%	32.3%	32.3%	25.8%	3.2%			

**Table 3: Descriptive Statistics of Eight Predictor Variable in the Questionnaire (N = 163)
Panel B Frequency Distribution of Eight Variables for Students Who Wouldn't consider PA (N = 132)**

COMPENSATION	Strongly Disagree-1	Disagree-2	Neutral-3	Agree-4	Strongly Agree-5	Total	Mean	Std. Deviation
Number	1	17	76	35	3	132	3.1667	.70078
Percentage (%)	0.8%	12.9%	57.6%	26.5%	2.3%			
EXPERIENCES	Strongly Disagree-1	Disagree-2	Neutral-3	Agree-4	Strongly Agree-5	Total	Mean	Std. Deviation
Number	1	10	19	87	15	132	3.7955	.76904
Percentage (%)	0.8%	7.6%	14.4%	65.9%	11.4%			
MARKETABILITY	Strongly Disagree-1	Disagree-2	Neutral-3	Agree-4	Strongly Agree-5	Total	Mean	Std. Deviation
Number	0	7	21	92	12	132	3.8258	.65959
Percentage (%)	0.0%	5.3%	15.9%	69.7%	9.1%			
TURNOVER	Strongly Disagree-1	Disagree-2	Neutral-3	Agree-4	Strongly Agree-5	Total	Mean	Std. Deviation
Number	0	12	42	65	13	132	3.5985	.78982
Percentage (%)	0.0%	9.1%	31.8%	49.2%	9.8%			
DYNAMIC	Strongly Disagree-1	Disagree-2	Neutral-3	Agree-4	Strongly Agree-5	Total	Mean	Std. Deviation
Number	4	40	31	55	2	132	3.0833	.94942
Percentage (%)	3.0%	30.3%	23.5%	41.7%	1.5%			
NORM	Strongly Disagree-1	Disagree-2	Neutral-3	Agree-4	Strongly Agree-5	Total	Mean	Std. Deviation
Number	9	64	40	16	3	132	2.5455	.87688
Percentage (%)	6.8%	48.5%	30.3%	12.1%	2.3%			
DIFFICULTY	Strongly Disagree-1	Disagree-2	Neutral-3	Agree-4	Strongly Agree-5	Total	Mean	Std. Deviation
Number	2	15	14	64	37	132	3.9015	.98740
Percentage (%)	1.5%	11.4%	10.6%	48.5%	28.0%			
TRAVEL	Strongly Disagree-1	Disagree-2	Neutral-3	Agree-4	Strongly Agree-5	Total	Mean	Std. Deviation
Number	3	34	32	40	23	132	3.3485	1.11194
Percentage (%)	2.3%	25.8%	24.2%	30.3%	17.4%			

Table 4

Means, standard deviations, and t test results of key independent variables

Concept	Mean	SD	Skewness	Kurtosis	t	df	p
COMPENSATION	3.178	.684	-.008	.297	0.468	50	.642
EXPERIENCES	3.749	.834	-1.114	1.545	-1.225	38	.228
MARKETABILITY	3.841	.684	-.723	1.054	0.506	40	.615
TURNOVER	3.479	.877	-.378	-.197	-3.147**	38	.003
DYNAMIC	3.160	.936	-.324	-.990	2.391*	51	.021
NORM	2.583	.874	.530	.159	1.146	46	.258
DIFFICULTY	3.951	.948	-.913	.460	1.650	58	.104
TRAVEL	3.258	1.103	.004	-.999	-2.356*	49	.022

Note. 5 point Likert scale. SD = Standard Deviation. Total N = 163. Public accounting n = 31, private accounting n = 132. Independent samples t test across two groups (equal variances not assumed, i.e., the Welch's t test). * $p < .05$, ** $p < .01$, 2-tailed.

Table 5

Correlation matrix of key independent variables

	COMPENSATION	EXPERIENCES	MARKETABILITY	TURNOVER	DYNAMIC	NORM	DIFFICULTY	TRAVEL
COMPENSATION	—							
EXPERIENCES	.111	—						
MARKETABILITY	.259**	.557**	—					
TURNOVER	-.009	.166*	.077	—				
DYNAMIC	.013	.131	.098	-.251**	—			
NORM	.011	-.060	-.019	-.253**	.157*	—		
DIFFICULTY	-.015	.086	.064	.014	-.033	.176*	—	
TRAVEL	.012	.064	.145	.165*	-.243**	-.170*	.166*	—

Note. N = 163. * $p < 0.05$. ** $p < 0.01$.

Table 6: Predicting Intention to Pursue a Public Accounting Career (N = 163)

	B	S.E.	Wald	Df	Sig.	Exp(B)	Collinearity Statistics	
							Tolerance	VIF
Control Variables								
Graduate	2.233	1.053	4.495	1	.034**	9.329	.208	4.799
Age	.430	.259	2.771	1	.096*	1.538	.224	4.472
Gender	-.420	.583	.518	1	.471	.657	.952	1.051
Independent Variables								
Compensation	.099	.405	.059	1	.808	1.104	.857	1.167
Experiences	-.794	.344	5.320	1	.021**	.452	.612	1.633
Marketability	.939	.475	3.918	1	.048*	2.558	.629	1.589
Turnover	-.722	.287	6.339	1	.012**	.486	.808	1.238
Dynamic	.340	.305	1.244	1	.265	1.405	.826	1.211
Norm	-.170	.290	.341	1	.559	.844	.829	1.206
Difficulty	.555	.286	3.778	1	.052*	1.743	.890	1.123
CPA Intent	1.296	.715	3.290	1	.070*	3.655	.852	1.173
Travel	-.515	.246	4.372	1	.037**	.598	.761	1.314
Constant	-12.761	6.817	3.504	1	.061*	.000	N/A	N/A
-2 Log likelihood		124.187						
Cox & Snell R Square		.190						
Nagelkerke R Square		.306						
Hosmer and Lemeshow test		$\chi^2 = 8.87, df = 8, p = .353$						
Correct classification rate (%)		83.4%						

Notes: Ordinary Binary Logistic Regression Results. ***Indicates statistical significance at the 0.01 level.

** Indicates statistical significance at the 0.05 level. *Indicates statistical significance at the 0.10 level.

Table 7: Predicting Intention to Pursue a Public Accounting Career (N = 163)

	B	S.E.	Chi-Square	Sig.	Collinearity Statistics	
Control Variables					Tolerance	VIF
Graduate	-1.972	.983	4.103	.043**	.208	4.799
Age	.383	.241	2.489	.115	.224	4.472
Gender	.395	.547	.516	.472	.952	1.051
Independent Variables						
Compensation	.100	.375	.070	.792	.857	1.167
Experiences	-.695	.323	4.962	.026**	.612	1.633
Marketability	.801	.439	3.694	.055*	.629	1.589
Turnover	-.626	.269	5.940	.015**	.808	1.238
Dynamic	.302	.283	1.144	.285	.826	1.211
Norm	-.153	.273	.322	.571	.829	1.206
Difficulty	.477	.265	3.569	.059*	.890	1.123
CPA Intent	1.085	.664	3.013	.083*	.852	1.173
Travel	-.443	.230	3.940	.047**	.761	1.314
Intercept	-10.043	5.405	3.455	.063*	N/A	N/A
Likelihood Ratio Test	30.428		DF = 12		$p = 0.0024***$	

Notes: Firth Penalized Logistic Regression Results. ***Indicates statistical significance at the 0.01 level.

** Indicates statistical significance at the 0.05 level. *Indicates statistical significance at the 0.10 level.

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