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Aims and objectives

With an increasing emphasis on individual capability in personal financial management as well as an increased focus on consumer protection and professionalism in financial services, growing the research base for financial planning has never been more important.

The financial planning profession needs an academic platform for discourse on the issues of individual personal financial planning and wealth management, where issues of practice and policy can be debated with rigour, independence and evidence. Prior to the *Financial Planning Research Journal* (FPRJ), no journals fitted into this niche to provide a forum for dissemination of research in the specific area of personal finance and investments in the Australian context.

The context of personal finance and investments for Australia is different from the rest of the developed economies because of the presence of mandatory superannuation, a large managed funds pool, unique characteristics of Australia's investment environment as well as our demographic profile, and a strong, but increasingly pressured, social security system. Because of these factors international journals in the area of personal finance and/or investments may not suit an Australian audience. In addition, the rapid developments in regulatory and professional standards within the context of personal finance suggest there should be some interest in, and need for, independent, peer-reviewed research in this area.

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From the editors

The financial advice industry finds itself, again, at the crossroads. The report from the 2018-19 *Royal Commission into Misconduct in the Banking, Superannuation and Financial Services Industry* provides sobering reading and makes a number of potentially impactful recommendations, many of which both sides of politics are committing to implement. The Government, for example, has announced plans to alter remuneration models in the industry. This follows hot on the heels of the Financial Adviser Standards and Ethics Authority finalising the Legislative Instruments for new professional and education standards. While debate rages on all these (and more), one thing is clear – financial advice will continue to change and all participants will need to adapt to the changing environment and requirements. The *Financial Planning Research Journal*, we believe, can play a role in providing input into, and stimulating conversations on, the various issues impacting on the sector.

In this context, we are pleased to present Volume 5, Issue 1 of the *Financial Planning Research Journal*, the journal of the Financial Planning Association of Australia. This issue contains four articles from domestic and international contributors ranging in scope from students' perceptions of the learning of the craft of financial planning; career outcomes of financial planning graduates; attitudes of clients receiving financial planning advice, to the regulatory risk in water investments.

The headline article in this edition of the *Financial Planning Research Journal* from Baek *et al.* covers the issue of the impact of financial planning advice and financial attitudes of individuals receiving financial advice. Authors find that recipients of comprehensive financial advice change their behaviour to reduce discretionary spending and increase savings, after they have received advice. In addition, the authors' results indicate that attitudes towards financial planning, financial knowledge, and satisfaction improved after financial planning services were completed. In an environment where one in five Australians seek financial advice these findings are important and have implications for the profession and policymakers.

The second article in this issue by Michelle Cull highlights weaknesses in the financial planning curricula and argues for better targeting for different student demographics, cultural education and work placements to overcome these weaknesses.

The third paper by Jin *et al*. deals with the issue of water investment and regulatory risk in the context of China and finds that regulatory responses that reduce competition have a positive impact on investment in water companies, with investors interpreting regulatory announcements within a larger political environment.

The final paper in this edition by West *et al*. looks at the career outcomes of the financial planning graduates and identifies the skills that may enhance career outcomes for financial planning graduates in the workforce. Findings of the study provide insight into the financial planning education and job market.

As announced in 2018, the *Financial Planning Research Journal* will continue publishing special editions. Following the successful first themed edition on diversity and inclusion in financial planning published last year, we now invite submissions for special themed issues on financial capability and behavioural science.

We would once again like to thank the *Financial Planning Research Journal* editorial board, our reviewers and the production team for their contribution to this edition. The time and effort required to deliver a journal edition is significant and without all your efforts the journal simply would not happen. Particular thanks to Joy Lin, Sian Jones and Alayne Campbell.

As editors for this edition, we hope you enjoy the eighth issue of the *Financial Planning Research Journal.*

Dr Di Johnson, Dr Rakesh Gupta and Professor Mark Brimble

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FINANCIAL ATTITUDE, KNOWLEDGE, INVESTMENT BEHAVIOUR AND SATISFACTION AMONG THE CLIENTS OF COMPREHENSIVE FINANCIAL PLANNING SERVICES

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ABSTRACT

We investigate whether and how financial planning (FP) services affect the clients' financial behaviour and satisfaction through the changes in financial attitude and knowledge. Our sample includes 216 clients for whom an independent FP firm performed all six steps of comprehensive FP from April 2012 to February 2015 in Korea. Our results indicate that attitude towards FP, financial knowledge, and satisfaction improved after FP services were completed. Additionally, clients reduced discretionary expenses and increased savings and investments by almost 20 per cent of median income. Positive behavioural changes are attributed to the changes in financial attitudes, but not to the changes in financial knowledge, which are instead related to client satisfaction. Our results support the role of independent financial planners in improving the clients' financial behaviour and satisfaction, which can lead to a sustainable relationship between FP professionals and their clients.

Introduction

Financial satisfaction contributes most to overall happiness compared to satisfaction in family, health, and work domains (Easterlin, 2006). Although saving for retirement is a critical component of consumer financial wellbeing, retirement savings by US consumers are inadequate according to the studies that examined the Survey of Consumer Finance (SCF) (Yuh, Hanna and Montalto, 1998; Kim, Hanna and Chen, 2014; Munnell, Webb and Golub-Sass, 2012). Naturally, many have argued for the potential benefits of financial education and professional financial planning (FPA, 2008).

Independent financial planning (FP) services may improve both financial behaviour and financial satisfaction of the clients. Increased retirement savings is a very important change in behaviour of the FP service clients. Maintaining the modified financial behaviours through a sustainable relationship between a planner and a client is a necessary condition for the ultimate goal of financial wellbeing. Clients' satisfaction will reinforce such stable long-term relationships.

In this study, we examine the financial behaviours and satisfaction of FP service clients with two aspects of FP services distinguished: *counselling* and *education*. We argue that the financial planners' counselling role influences their clients' financial attitude while the education component of the FP improves their financial knowledge. According to the theories of reasoned action and planned behaviour, attitudes and norms of individuals determine their intention, which determines behaviour (Fishbein and Ajzen, 1975; Ajzen, 1991). In the FP framework, change in clients' attitude towards FP would change their financial intention and, consequently, savings and investment behaviours. In addition, enhanced self-efficacy would promote active work toward a desirable behavioural change (Prochaska, DiClemente and Norcross, 1992). Improved financial knowledge of FP clients would enhance their self-efficacy, which would promote desirable FP behaviours (i.e. continuation of FP activities) and increase their psychological satisfaction with FP activities.

Although a few studies have examined who would benefit more from FP services, there is little attempt to evaluate the actual benefits from such services (Warschauer, 2008). In addition, the attempts to examine the relationships among financial attitudes, knowledge, behaviour and satisfaction reported mixed results. That is, previous studies of cross-section analyses failed to show unambiguous results on how any change in attitude and knowledge affects financial practice and satisfaction. Moreover, they did not attempt to examine the impact of FP services on the changes in attitude, knowledge, behaviour and satisfaction.

The current study attempts to examine whether and how FP services improve clients' positive financial behaviours and financial satisfaction through their changes in financial attitude and knowledge, as these two factors impact behaviours in general (Eagly and Chaiken, 1993). A sample of 216 randomly selected clients was obtained from independent financial planners at one of the largest FP firms in South Korea. Their fee- and commission-based FP services were performed during the April 2012 to February 2015 period. On average, all self-reported measures of FP attitude, planning knowledge, and financial satisfaction improved after FP was completed. Discretionary and untraceable expenses decreased while total savings and investments increased by a significant amount and as a percentage of income. Further analyses show that clients'

financial behaviour changes are related to their changes in attitude (especially, future time preference), but not to the changes in financial knowledge which, instead, are related to their financial satisfaction.

The next section reviews the research literature and presents hypotheses. Then the data and research methods are explained, and the empirical results are presented. Finally, the study concludes with a summary and discussion section.

Literature Review

Some studies in the past examined the relationship between *financial advice* and the client's financial behaviour and outcome. Among those studies, some have found that financial advice is related to positive financial behaviours and outcomes. Dolvin and Templeton (2006) discovered in a study of 72 employees in a Midwestern law firm that restructured its 401k plan in 2004, that attendance at a retirement investing seminar was related to an increase in the number of funds invested, a decrease in percentage invested in equity, and a decrease in standard deviation of returns. Kramer and Lensink (2012) found among 5,661 Dutch equity investors during 2003–2007 that financial advice from salaried advisors improved risk-adjusted equity returns and reduced trading frequencies. Hudson and Palmer (2014) uncovered from the 2010 Survey of Consumer Finances that use of an advisor (widely defined as financial planner, broker, banker, accountant, insurance agent, lawyer, or material from work) was positively related to desirable savings and cash-flow management behaviours among low-income employees, although not among middle- or high-income employees. Winchester and Huston (2015) found for 3,022 respondents to a 2008 survey by a large independent financial services firm that middle-class households who purchased financial advice were more likely to be well prepared for retirement, use employee benefits appropriately, and have an adequate emergency fund. However, their retirement preparedness was measured through survey questions rather than the size and types of retirement investment and/or assets.

Some other studies, however, have reported confounding results in terms of possible impact of financial advice on financial behaviour. Marsden, Zick and Mayer (2011) examined the employees of a large Mountain West university in its defined contribution plan. They found that working with a financial advisor within the last two years was positively related to FP activities like goal setting, calculation of retirement needs, diversification, use of supplemental retirement accounts, and accumulation of emergency funds, but was not related to retirement savings or account value growth. Bhattacharya *et al.* (2012) found for a large number of German retail brokerage customers that only about 5 per cent of the customers obtained advice, and those who did hardly followed the advice and did not improve their portfolio efficiency by much. Hackethal, Haliassos and Jappelli (2012) found among investors from a large brokerage firm and a major bank that involvement of a financial advisor increased account turnover and investment in mutual funds, and lowered portfolio returns net of direct cost and the Sharpe ratio. Such negative effects are stronger for bank-employed financial advisors than for independent ones, consistent with the range of products bank advisors offer and incentives built into the commission structure. Their results suggest that a study of independent service is important in examining the effects of financial advice. Thus, this study

examined the relationship between financial attitudes, knowledge, behaviour and satisfaction, using data collected from independent financial advisors in Korea.

In addition, a group of studies that investigated the relationships between financial attitudes, knowledge, behaviour and satisfaction reported mixed results. Godwin (1994) found among 256 randomly selected newlywed couples, that a positive attitude toward FP was the greatest predictor of cash flow management after ability and need to manage were controlled, and record-keeping predicted greater satisfaction with the financial situation. Mugenda, Hira and Fanslow (1990) reported a negative relationship between financial knowledge and satisfaction with financial status, while Godwin (1994), Hira, Fanslow and Vogelsang (1992) and Titus, Fanslow and Hira (1989) did not find a significant relationship. Parrotta and Johnson (1998) examined the impact of financial attitudes and knowledge on financial management practices and satisfaction. They used a dataset of 194 recently married individuals, and found that positive financial attitudes, but not financial knowledge, predicted use of recommended financial management practices. Their cross-sectional study, however, was not able to determine whether an individual's change in attitude and knowledge led to improvements in behaviour and satisfaction. In this study, we would like to provide new insights on the relationship among financial attitudes, knowledge, behaviour and satisfaction by examining how *changes* in financial attitudes and knowledge through FP affect clients' financial behaviour and satisfaction.

Test Hypotheses

On the effects of personal attitude on retirement saving, Jacobs-Lawson and Hershey (2005) observed from a sample of 270 young working adults that future time preference, risk tolerance, and retirement planning knowledge positively affect self-assessed retirement saving behaviour. Hershey *et al*. (2007) found in a study of 256 middle-aged working adults that self-reported retirement savings as a percentage of income are positively related to goal clarity, future-time preference, self-assessed knowledge of FP, and planning activity. Mayer, Zick and Marsden (2011) also concluded that the respondents who have ever calculated their retirement needs and those with higher time preference reported higher retirement savings. Martin, Guillemette and Browning (2016) examined the National Longitudinal Survey of Youth (NLSY79) between 2004 and 2008. Employing age, race, education, gender, family size, marital status, health, income, net worth, homeownership, business owner, and regions as control variables, Martin, Guillemette and Browning (2016) found that respondents with a lower future time preference (i.e. higher personal discount rate) accumulated 37 per cent less retirement wealth than those with a higher preference. The effect, however, disappears when retirement planning activities (i.e. calculating a retirement income need or hiring a financial planner) are introduced. It should be noted that their study did not examine the effects of attitude *changes* on savings behaviour.

According to the theory of reasoned action (Fishbein and Ajzen, 1975), a person's behaviour is determined by behavioural intention, which is determined by one's attitude toward the behaviour, the subjective norm, and the relative importance between the attitude and the subjective norm (Xiao, 2016). The theory of planned behaviour contends that three factors influence behaviour intention: the positive or negative valence of attitudes about the behaviour (+), subjective norms

(+), and perceived behavioural controls (-) (Ajzen, 1991). Intention then influences one's actual behaviour. An attitude is a person's positive or negative evaluation of a relevant behaviour and is composed of one's beliefs regarding the perceived outcomes of performing a behaviour. A subjective norm refers to one's perception of whether significant referents approve or disapprove of a behaviour. Perceived behavioural controls describe the perceived difficulty level of performing the behaviour.

Armitage and Conner (2001) note that subjective norms are a weaker predictor of intention than attitude and perceived control. After evaluating 185 studies on the theory of planned behaviour, they further note that self-reports are a less reliable source of information than objective and observed measures. The current study contends that a change in financial attitude among the clients of FP services is related to the change in their objective financial behaviour as reflected in measures like expenditure reduction and retirement investment/saving, and proposes the following hypothesis:

H1: A positive financial attitude change is related to the desirable financial behaviours of the clients who received professional financial planning services, cet. par.

Studies have found that *financial knowledge* is related to financial outcomes like mortgage delinquency ratio, possession of emergency funds, and retirement savings. Gerardi, Goette and Meier (2010) observed among those borrowers in Connecticut, Massachusetts and Rhode Island who obtained sub-prime mortgages in 2006 and 2007, that 20 per cent of the borrowers in the bottom quartile of their financial literacy index experienced foreclosure, while only 5 per cent of those in the top quartile did so. They also found the financial literacy index was negatively related to the mortgage delinquency ratio after controlling for socio-demographic and mortgage characteristics. Babiarz and Robb (2014), using the 2009 National Financial Capability Study, concluded that households showing better financial knowledge or higher assessment of their knowledge are more likely to have emergency funds after controlling for socio-demographic variables. Jacobs-Lawson and Hershey (2005) also found that financial knowledge positively affects self-assessed retirement saving behaviour, and is positively related to time preference and risk tolerance.

Financial satisfaction, as a measure of self-perceived overall financial status, is the most commonly used subjective measure of financial wellbeing (Xiao, 2016). Studies of financial satisfaction are important because they contribute most to overall happiness compared to satisfaction in family, health, and work domains (Easterlin, 2006). Financial satisfaction is also a strong predictor of life evaluation (Ng and Diener, 2014) and financial anxiety (Archuleta, Dale and Spann, 2013).

From a sample of 220 mail surveys of white-collar clerical workers in a west Texas community, Joo and Grable (2004) concluded that self-assessed financial knowledge level had a direct impact on financial satisfaction. Robb and Woodyard (2011) found for the Finance Industry Regulatory Authority (FINRA)'s 2009 National Financial Capability Study that self-assessed financial confidence is highly correlated with overall satisfaction on current personal financial condition regarding assets, debts and savings. Perceived financial capability was also found to contribute positively to financial satisfaction (Xiao, Chen and Chen, 2014).

According to Bandura (1982, p. 122), "perceived self-efficacy is concerned with judgments of how well one can execute courses of action required to deal with prospective situations." Treatments to enhance self-efficacy would promote active work toward a desirable behavioural change (Prochaska, DiClemente and Norcross, 1992). Financial knowledge measure as a proxy for financial self-efficacy would promote desirable financial planning activities, which would then increase financial satisfaction regardless of a change in investments or wealth. Thus, we contend that a change in financial knowledge among the clients of professional FP services is related to the change in their financial satisfaction, and propose the following hypothesis:

H2: A positive financial knowledge change is related to the financial satisfaction of the clients who received professional financial planning services, cet. par.

Data and Research Methods

The research sample was collected through the fee- and commission-based professional FP services performed from April 2012 to February 2015 at one of the top three independent financial planning firms in Korea. Studies on the effects of financial planning using South Korean data are scant. For example, Sohn *et al.* (2012) found that the South Korean youths who saw money as good or as a reward for efforts tended to show higher levels of financial literacy, but their sample is limited to teenagers and they did not examine either behaviour or satisfaction. South Korea is a good country to study the effects of professional FP services because this G20 country is more developed than most other countries in the world, but its social welfare systems are much weaker than others, especially among the OECD countries. South Korea's *per capita* GDP in year 2015 was not far from the OECD average ($34,549 vs $40,095). However, Korea's public spending on pension, unemployment and disability benefits as a percentage of GDP were less than one third of the OECD averages (OECD 2011, 2013, 2016). Korea spent 2.2 per cent of GDP on pensions while OECD average spending was 7.9 per cent in 2011. Spending on unemployment (0.3% vs. 0.9%; 2013), incapacity (0.6% vs 2.1%; 2013), and social spending (10.4% vs. 21%; 2016) is also much lower than the OECD averages. Given the weak national welfare system, it is not surprising that the poverty rate among 66 years and older in Korea was the highest (49.6%) in 2013 among OECD countries (OECD, 2017). Hence, the need for professional FP services is strong in Korea. In addition, the high social importance of education and near-perfect literacy levels minimize the potential selection bias in sampling.

For 216 randomly selected clients, financial planning and counselling were performed. All clients in our sample received *comprehensive financial planning* according to the FPA (2008) definition, which includes planning for three or more of the following areas: retirement, savings, debt management, college savings, protection plans, tax management, investment planning or estate planning. Clients were consulted by a CERTIFIED FINANCIAL PLANNER™ or an ASSOCIATE FINANCIAL PLANNER KOREA™ (AFPK, a certification awarded by Financial Planning Standards Board of Korea) over at least three meetings. Each meeting lasts about two hours, and both husband and wife are consulted for married couples.

Meeting 1: The financial planner establishes a client-planner relationship, explains the concepts of FP and its six steps defined by the CFP Board, and gathers information about balance sheets and statement of cash flows from the clients. The planner gathers information for a pre-planning period and establishing financial goals.

Meeting 2: The planner analyses and evaluates the current financial status, cash flows, income and expenses, savings and investment, and stability and growth potential, and develops a financial plan. The planner presents and discusses a financial plan with clients. After the second meeting, the planner implements the financial plan.

Meeting 3: This meeting happens about 14 months after the first meeting. The planner monitors the plan and obtains the information for the post-planning period.

Clients are surveyed at their first and third planning sessions in three areas with 1-5 Likert-type scales. First, attitudes towards financial planning are measured by *AttGoal* (Financial goal setting is most important), *AttFTP* (I feel better when accumulating money than spending for current satisfaction) and *AttEarly* (Planning and preparing early for retirement is important). Next, knowledge of FP is measured by *KnowPlan* (I can analyse family financial goals and prepare for them), *KnowBudget* (I can analyse my income and financial needs to budget properly) and *KnowRetNeeds* (I can calculate the necessary income during retirement and choose proper financial assets). Financial satisfaction is measured by *SatAsset* (I am satisfied with the size and types of my current assets), *SatInv* (I am satisfied with the amount and types of investments) and *SatRet* (I am satisfied with amount and types of savings for stable retirement life).

In addition to the clients' demographic information such as age (*Age*), marital status (*Married*) and number of members in household (*#Household*), asset size (*Asset*), monthly income (*Income*), investment/saving amount (*Inv&Sav*) and discretionary and untraceable expenditures (*ExpDisc*) are also surveyed.

In order to test our hypotheses, we employ paired t-tests and multiple regression analysis. We first compared measures for financial attitude, knowledge, satisfaction and behaviour before and after FP services are provided. Paired t-tests were performed for changes in those measures to identify any significant change in measures of financial attitude, knowledge, satisfaction, and behaviour after clients received FP services. Next, we ran a multiple regression to test if financial satisfaction and behaviour are affected by changes in financial attitudes and/or financial knowledge. Dependent variables are changes in financial satisfaction and financial behaviour, and explanatory variables are changes in financial attitude and financial knowledge. In the regression analysis, we control for the clients' age, marital status, household size, asset size and monthly income.

Results

Table 1 reports the demographics of the 216 clients in the sample. Client age (*Age*) ranges from 23 to 59 with the average age of about 37 and the median age of 35. Two-thirds of the clients are married (*Married*), and the average household size (*#Household*) is three family members.

Average total asset value (*Asset*) is KRW396,460,000 (US$360,414) while the median value is only KRW140,620,000 (US$127,836). Clients' average total monthly income (*Income*) is KRW 4,962,000 (US$4,511), while their median income is only KRW3,600,000 (US$3,273). The sample is left-skewed in terms of asset and income, and logged values of *Asset* and *Income* are used (*Ln Asset and Ln Income*). In comparison to our sample median annual income of US$39,276 (12 times the monthly median income), the median income of a US family in 2012 was US$51,017 according to the U.S. Census Bureau (DeNavas-Walt, Procter and Smith, 2013).

Table 1: Descriptive statistics

	Mean	S.D.	Min	Med	Max
Age	37.21	9.38	23	35	59
Married: Single=0, Married=1	0.66	0.48	0	1	1
#Household: Number of household members	2.94	1.44	1	3	7
Assets Total (10,000 KRW)	39,646	67,675	0	14,062	489,285
Ln Asset: ln (1+Assets Total)	8.89	2.52	0	9.55	13.10
Income Total (10,000 KRW)	496.2	437.1	0	360	3500
Ln Income: ln (1+Income Total)	5.88	0.99	0	5.89	8.16
Δ***AttGoal:*** Δ Financial goal-setting is most important.	0.31	0.66	-1	0	3
Δ***AttFTP:*** Δ I feel better when accumulating money than spending for current satisfaction.	0.39	1.25	-3	0	4
Δ***AttEarly:*** Δ Planning and preparing early for retirement is important.	0.37	0.87	-2	0	4
Δ***KnowPlan:*** Δ I can analyse family financial goals and prepare for them.	0.71	1.12	-3	1	4
Δ***KnowBudget:*** Δ I can analyse my income and financial needs to budget properly.	0.67	0.95	-2	1	4
Δ***KnowRetNeeds:*** Δ I can calculate the necessary income during retirement and choose proper financial assets.	0.89	1.06	-2	1	4
Δ***SatAsset:*** Δ I am satisfied with the size and types of my current assets.	0.43	0.91	-2	0	3
Δ***SatInv:*** Δ I am satisfied with the amount and types of investments.	0.88	1.04	-2	1	4
Δ***SatRet:*** Δ I am satisfied with amount and types of savings for stable retirement life.	0.88	1.21	-2	1	4
Δ***Inv&Sav:*** Δ All investment and savings (10,000KRW)	70.64	101.76	-410	40.5	500
Δ***ExpDisc:*** Δ Discretionary and untraceable expenses (10,000KRW)	-67.71	122.36	-614	-49	483

KRW10,000 is about US$9 when converted at the average exchange rate during 2012-2015.

Table 1 also presents the descriptive statistics of the variables that capture the changes in self-assessed value of financial attitude, knowledge, and satisfaction. All measures of attitudes toward, knowledge of, and satisfaction with FP have improved after completion of professional FP services. The last two lines report the average improvement in investment/savings by KRW706,400 (US$640) per month, and the average monthly reduction in discretionary untraceable expenditure by KRW677,100 (US$601).

The correlation coefficients among the variables are reported in Table 2. Demographic characteristics are highly correlated with changes in financial knowledge and satisfaction. An interesting observation is that *Age* is negatively correlated with all changes in knowledge and satisfaction measures, reinforcing the importance of starting FP early. *Married* and *#Household* variables have negative correlations with financial satisfaction measures. Also notable are the strong correlations among the knowledge and satisfaction variables. Univariate and multivariate statistical tests are necessary to examine the effects of FP services on financial attitudes, knowledge, satisfaction, and expenditure/investment behaviours.

Table 2: Correlations

	Age	*Married*	*#House hold*	*Income*	*ΔAtt Goal*	*ΔAtt FTP*	*ΔAtt Early*	*ΔKnow Plan*	*ΔKnow Budget*	*ΔKnow RetNds*	*ΔSat Asset*	*ΔSat Inv*	*ΔSat Ret*	*ΔInv& Sav*
Age	1	.633**	.639**	.541**	0.012	-0.049	-.173*	-.191**	-.169*	-.255**	-.156*	-.285**	-.277**	0.018
Married	.633**	1	.687**	.419**	0.036	0.028	-.142*	-0.115	-0.112	-.285**	-.162*	-.199**	-.267**	0.053
#Household	.639**	.687**	1	.341**	-0.123	0.012	-0.119	-0.118	-.163*	-.317**	-.192**	-.245**	-.346**	-0.056
Income	.541**	.419**	.341**	1	-0.044	-0.004	-.186**	-0.089	-0.118	-0.061	-0.083	-0.112	-0.123	.282**
ΔAttGoal	0.012	0.036	-0.123	-0.044	1	-0.011	.372**	0.012	0.047	0.071	-0.067	-0.073	0.057	-0.069
ΔAttFTP	-0.049	0.028	0.012	-0.004	-0.011	1	0.065	0.063	0.102	0.101	0.096	0.099	0.040	0.087
ΔAttEarly	-.173*	-.142*	-0.119	-.186**	.372**	0.065	1	0.109	.183**	.155*	0.005	0.073	0.030	-0.062
ΔKnowPlan	-.191**	-0.115	-0.118	-0.089	0.012	0.063	0.109	1	.335**	.367**	.322**	.331**	.238**	-0.035
ΔKnowBudget	-.169*	-0.112	-.163*	-0.118	0.047	0.102	.183**	.335**	1	.537**	.290**	.402**	.366**	-0.008
ΔKnowRetNeeds	-.255**	-.285**	-.317**	-0.061	0.071	0.101	.155*	.367**	.537**	1	.279**	.452**	.479**	-0.016
ΔSatAsset	-.156*	-.162*	-.192**	-0.083	-0.067	0.096	0.005	.322**	.290**	.279**	1	.483**	.432**	0.017
ΔSatInv	-.285**	-.199**	-.245**	-0.112	-0.073	0.099	0.073	.331**	.402**	.452**	.483**	1	.597**	-0.023
ΔSatRet	-.277**	-.267**	-.346**	-0.123	0.057	0.040	0.030	.238**	.366**	.479**	.432**	.597**	1	0.030
ΔInv&Sav	0.018	0.053	-0.056	.282**	-0.069	0.087	-0.062	-0.035	-0.008	-0.016	0.017	-0.023	0.030	1
ΔExpDisc	0.013	-0.027	0.033	-.254**	0.053	-0.101	-0.012	0.036	-0.054	0.005	-0.007	0.004	0.007	-.826**

See Table 1 for variable description. * and ** denote correlation significant at the 5% and 1% levels (2-tailed), respectively.

Table 3 reports the results of paired t-tests, examining the differences before and after comprehensive FP services. All attitude, knowledge, and satisfaction measures improved after FP, and all the changes show strong statistical significance. Clients' average reduction in discretionary and untraceable expenditure (Δ*ExpDisc*) is US$601 per month, which is more than 13 per cent of average monthly income or 18 per cent of median income. Total investment and savings have increased by US$640 per month (Δ*Inv&Sav*) on average, which amounts to 14 per cent of the average monthly income or 20 per cent of the median. The changes in expenditure and investment amounts are both economically and statistically significant.

Table 3: Paired t-tests: After – Before for Same Client

	Mean Before	Mean After	Diff	*t stat*
Attitude				
AttGoal: Financial goal-setting is most important (1-5).	4.465	4.772	.308	*8.523***
AttFTP: I feel better when accumulating money than spending for current satisfaction (1-5).	3.179	3.566	.388	*5.871***
AttEarly: Planning and preparing early for retirement is important (1-5).	4.249	4.622	.372	*7.967***
Knowledge				
KnowPlan: I can analyse family financial goals and prepare for them (1-5).	3.212	3.923	.711	*12.568***
KnowBudget: I can analyse my income and needs to budget properly (1-5).	3.123	3.791	.668	*13.135***
KnowRetNeeds: I can calculate the necessary income during retirement and choose proper financial assets (1-5).	2.671	3.560	.889	*15.836***
Satisfaction				
SatAsset: I am satisfied with the size and types of my current assets (1-5).	2.899	3.332	.434	*8.943***
SatInv: I am satisfied with the amount and types of investments (1-5).	2.597	3.480	.883	*15.980***
SatRet: I am satisfied with amount and types of savings for stable retirement life (1-5).	2.563	3.446	.883	*13.794***
Financial Behaviours				
Inv&Sav: Investment and savings Total (10,000KRW)	91.402	162.046	70.64	*10.708***
ExpDisc: Expense Discretionary Total (10,000KRW)	321.621	253.913	-67.71	*-6.985****

KRW10,000 is about US$9 when converted at the average exchange rate during 2012-2015. *** denotes 2-tailed statistical significance at 1% level.

To examine the effects of financial attitude and knowledge changes on the clients' retirement planning behaviours, regression analyses were performed with control variables like age (*Age*), marital status (*Married*), number in household (*#Household*), assets (*Ln Asset*), and income (*Ln Income*) as suggested by previous studies about the variables that affect financial satisfaction. Columns A and B of Table 4 report that change in future time preference (Δ*AttFTP*) is negatively related to change in discretionary and untraceable expenditure (Δ*ExpDisc*), and positively related to change in savings and investment (Δ*Inv&Sav*). The average change of *AttFTP* (.387) is related to reduction of discretionary expense by $49 (Δ*ExpDisc*) and increase of investment by $50 per month (Δ*Inv&Sav*). Thus, hypothesis H1 is supported. Change in investment/saving is negatively related to the number of household members (*#Household*), and positively related to income (*Ln Income*). It is noteworthy that neither expenditure change nor retirement investment change is related to any financial knowledge variable. Change in attitude towards FP contributes to positive financial behaviour changes, but improved knowledge in financial preparation, budgeting, or retirement needs analysis does not.

Table 4: Regressions

	[A]	[B]	[C]	[D]	[E]
	Δ*ExpDisc*	**Δ*Inv&Sav***	**Δ*SatAsset***	**Δ*SatInv***	**Δ*SatRet***
c	156.542***	-87.222*	0.097	0.942**	1.020*
	2.612	-1.753	0.236	2.094	1.918
Δ*AttGoal*	10.692	-14.310	-0.155	-0.079	0.148
	0.806	-1.299	-1.598	-0.745	1.180
Δ*AttFTP*	-14.128**	14.490**	0.055	0.010	0.006
	-2.000	2.471	1.073	0.178	0.089
Δ*AttEarly*	-16.163	3.015	-0.038	-0.021	-0.142
	-1.512	0.340	-0.486	-0.245	-1.410
Δ*KnowPlan*	7.591	-4.790	0.206***	0.112*	0.098
	0.900	-0.684	3.527	1.749	1.285
Δ*KnowBudget*	-10.704	-0.866	0.138*	0.208***	0.176*
	-1.038	-0.101	1.910	2.600	1.864
Δ*KnowRetNeeds*	8.669	-4.279	0.020	0.262***	0.344***
	0.934	-0.555	0.304	3.553	3.934
Age	1.796	-0.835	0.002	-0.022**	-0.004
	1.400	-0.784	0.200	-2.140	-0.351
Married	1.411	16.500	-0.039	0.040	0.120
	0.055	0.778	-0.210	0.194	0.496

Table 4 continued

	[A]	[B]	[C]	[D]	[E]
	ΔExpDisc	**ΔInv&Sav**	**ΔSatAsset**	**ΔSatInv**	**ΔSatRet**
#Household	7.168	-12.003 *	-0.085	-0.015	-0.113
	0.854	-1.723	-1.396	-0.226	-1.428
Ln Asset	-3.320	1.548	-0.014	0.044	-0.051
	-0.655	0.368	-0.390	1.093	-1.054
Ln Income	-48.394 ***	34.998 ***	0.079	-0.008	0.034
	-4.238	3.691	1.074	-0.096	0.353
N	216	216	216	216	216
R2	.139	.126	.173	.275	.274
Adj. R2	.084	.070	.121	.229	.228
F	2.529 ***	2.243 ***	3.885 ***	5.949 ***	6.775 ***
Sig.	.003	.009	.000	.000	.000

See Table 1 for variable description. t-stats below coefficients. *, **, and *** denote statistical significance at 10%, 5%, and 1% levels, respectively. Statistical and economic significances of the coefficients for major variables do not materially change in models C, D and E when Δ*Inv&Sav* and Δ*ExpDisc* are controlled for in the regressions.

Columns C, D and E in Table 4 report the results of the regressions of the financial satisfaction variables against attitude and knowledge variables along with control variables. Improvement in satisfaction in asset size and types (Δ*SatAsset*) is positively related to financial planning and budgeting knowledge (Δ*KnowPlan* and Δ*KnowBudget*). Satisfaction in general investment (Δ*SatInv*) is positively related to the knowledge of financial planning, budgeting and retirement needs analysis (Δ*KnowPlan*, Δ*KnowBudget* and Δ*KnowRetNeeds*), while satisfaction in retirement savings (Δ*SatRet*) is positively related to budgeting and retirement needs analysis knowledge (Δ*KnowBudget* and Δ*KnowRetNeeds*). Thus, H2 hypothesis is also supported.

Since Dowling, Corney and Hoiles (2009) found that financial management behaviours such as savings, budget and credit card payment are positively related to financial satisfaction, we also included behaviour variables, Δ*Inv&Sav* and Δ*ExpDisc*, in the financial satisfaction regressions in columns C, D and E. Statistical and economic significances of the coefficients for major variables do not materially change in models C, D and E, when Δ*Inv&Sav* and Δ*ExpDisc* are controlled for. None of the attitude variables, however, are related to client satisfaction.

Our results are consistent with the US-based studies by Hudson and Palmer (2014), and Winchester and Huston (2015), which found positive relationships between financial advice and desirable savings and retirement preparation behaviours. Hudson and Palmer (2014) used the 2010 Survey of Consumer Finances sponsored by the Board of Governors of the Federal Reserve System, while Winchester and Huston (2015) used a survey sample of 662 middle class and

1751 affluent households with income levels in the $35,000-$99,999 range. On the other hand, Rickwood *et al*. (2017) surveyed Australians aged between 30 and 65 who self-reported that they had spare money to save for retirement in addition to the compulsory superannuation guarantee levy (SGL) received from their employer. Using a sample of 289 affluent respondents, they found that respondents' attitude towards regular savings and meeting with a qualified financial planner and/or accountant positively influence their behavioural intentions to save and meet professionals.

Conclusion and Discussion

On average, 216 clients of professional FP services provided between April 2012 and February 2015 by a large independent planning company in South Korea experienced improvements in their attitudes toward goal-setting importance, future time preference and early planning, and in their knowledge of financial planning, budgeting and retirement needs analysis. In addition, their financial satisfaction levels improved in the areas of asset, investment, and retirement savings. On average, our sample clients reduced discretionary and untraceable expenditures by $601 per month (13% of monthly income) and increased total investments by $640 per month (14% of income) compared to the pre-planning levels. These remarkable changes in financial behaviours among the clients of an independent FP firm are significant and promising in practical implications. The results point to further motivation of financial planning and counselling among the middle class in South Korea.

This study finds significantly different impacts of two aspects in FP service: attitude and knowledge. Financial attitudinal changes affect financial behaviours such as expenditure reduction and investment/savings for our sample clients, while financial knowledge changes do not. Financial satisfaction measures of the clients, however, are not influenced by financial attitudes but by financial knowledge. Although the results suggest that individual perception of being more capable of personal financial tasks does not necessarily induce actual financial behavioural changes, the increased level of financial satisfaction through gains in financial knowledge is still very important in client retention and thus sustainable positive financial behaviours. The practical implication of our study is that simultaneous improvements in retirement savings behaviour and financial satisfaction can be achieved through professional FP services as opposed to financial education or counselling alone. Financial planning practitioners need to consider these two complementary factors in designing and examining the effectiveness of FP services in order to achieve sustainable improvements in clients' financial behaviours.

While the studies of the US and Australian consumers relied on *self-reported* measures of financial behaviour or intentions to use a professional to save, our study directly measures expenditure and savings/investment behaviours as well as asset and income levels. In addition, Jacobs-Lawson and Hershey (2005) found financial knowledge related to *self-assessed* retirement saving behaviour, but we contribute to the literature by providing empirical evidence that improvements in financial knowledge are not related to *actual* behavioural changes in retirement savings and expenditure reduction among our sample consumers in South Korea.

Unlike the US and Australia where FP is very popular, the FP market in South Korea is still developing. In 2016, the Korean government introduced a classification of Independent Financial Advisors (IFA) who can receive fees for FP services but cannot receive commission as they can only recommend financial products to clients. Although this is a well-intended initiative to promote more advice-based business in FP industry, there would not be a sufficient number of clients willing to pay fees for FP services while such fees are standard in the US and Australian FP industries.

When we consider the recent significant increase in household debt (about USD1.3 trillion in 2017, an 8.1% increase from 2016), the excessive portion of residential property in retirement assets, rapid ageing of the population, and over-reliance on insufficient national welfare, promotion of FP services is crucial for the whole Korean society. As our results imply a positive impact of FP services on the clients' financial behaviour and satisfaction, policymakers need to consider promoting independent FP services in Korea. One way is to improve awareness of the benefits of independent financial advice by professionals with industry certification like CFP® and AFPK®. Another is to allow financial planners to use a range of models to charge their clients for providing advice, like a hybrid model that allows both commission and fee-for-service. Policymakers may also consider subsidising independent FP services for those who need but cannot afford the services, including young, minority and single-parent consumers.

For future research, difference in differences (DID) analysis may be used with a control group of people who did not utilise FP services. In addition, complex relationships between financial attitude, knowledge, behaviour and satisfaction need to be further analysed because financial education may improve both financial knowledge and attitudes (Batty, Collins and Odders-White, 2015).

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LEARNING TO PRODUCE A FINANCIAL PLAN: STUDENT PERCEPTIONS OF INTEGRATING KNOWLEDGE AND SKILLS

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ABSTRACT

Tertiary education can play an essential role in ensuring that financial planners are professionally equipped to develop strategies and solutions that holistically address a client's circumstances and needs. Survey findings of undergraduate university students in this study reveal differing perceptions of learning the high-level skill of developing strategies and solutions within the process of Personal Financial Planning (PFP). Such differences are found to be associated with demographic groupings of age, gender, first language, home country and work experience. The findings suggest that financial planning programs offered by higher education institutions need to be designed to promote and assess deep learning through cohesive curriculum, practical modelling and work experience opportunities. The study also suggests that there is a need for additional research into the relationship between student perceptions and student performance in assessment tasks requiring students to produce a financial plan.

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Introduction

Overton (2008) describes Personal Financial Planning (PFP) as a process of strategic planning applied to the financial and economic resources of the person or family. This study, conducted at an Australian university, investigates the perceptions of demographically diverse undergraduate students of the difficulty of integrating PFP knowledge and skills in learning to produce a full financial plan as part of a financial planning capstone unit in an accounting degree program. The research question (RQ) addressed is:

RQ: What demographic variables are associated with student perceptions of the difficulty of integrating PFP knowledge and skills in learning to produce an SoA (Statement of Advice)?

Given market complexity and a general lack of financial literacy in society, quality advice provides broader economic and national welfare benefits (Cull and Whitton, 2011) as well as personal benefits to its consumers. As an industry, PFP has grown in social significance in recent decades as a result of increasing affluence and awareness within sections of society of the potential of proper planning to achieve goals in building wealth, protecting assets and funding long retirements (Warschauer, 2002; Cull, 2009; Hunt, Brimble and Freudenberg, 2011). However, professionalism in the industry and the quality of advice provided by financial planners has been questionable, especially in light of potential conflicts of interest posed by adviser commissions on recommended investment products (Rickard, 2006; Ripoll Report, Commonwealth of Australia, 2009; Lampe, 2010; Brimble and Murphy, 2012; Cull, 2015; Cull and Bowyer, 2017) and recent findings of the *Royal Commission into Misconduct in the Banking, Superannuation and Financial Services Industry* (Commonwealth of Australia, 2018). Political agendas addressing the issue of protection of vulnerable consumers from poor advice include introduction of statutory fiduciary duty, as legislated in Australia from 1 July 2013, and banning of receipt of commissions, as legislated in the United Kingdom from 31 December 2012 and in Australia from 1 July 2013 (Boynton, Newitt and Flinn, 2012; Corporations Act 2001).

What is understood by professionalism in PFP may be an open question (Bruce, Ahmed and Huntly, 2011) and the finer aspects of the fiduciary nature of the financial adviser-client relationship may be arguable. In legal terms, however, professionals must exercise due care and skill (Corones and Galloway, 2013) and act in the best interests of the client (Corporations Act 2001). The benchmark standard of professionalism in terms of competencies in the financial planning process, ethical conduct, relevant experience and continuing professional development is further provided by the Financial Planning Standards Board (FPSB) (FPSB, 2013a; FPSB, 2013b) and the Financial Planning Association of Australia Ltd (FPA, 2013).

This study surveys university students on the difficulty they perceive in developing strategic advice for their major assessment task – a comprehensive financial plan known as a Statement of Advice (SOA). A duty of care and skill is inherent in the task, which requires the application of knowledge of a broad range of financial planning topic areas to develop, recommend and justify strategies to meet the short, medium and long-term goals of a fictional client whilst also considering risk tolerance, personal preferences and family circumstances. Despite receiving scaffolded instruction designed generally in accordance with the six-step financial planning process[1], some students

find it more difficult than others to holistically integrate all relevant matters in order to develop an appropriate SOA.

This paper contributes to the literature on education in PFP that has been of increasing interest to researchers, practitioners and regulators. It explores the importance of tertiary education in providing quality advice to consumers and applies research in strategic thinking and deep learning to financial planning. This research has practical implications for academics by highlighting the need for resourcing PFP programs effectively and provides suggestions as to how learning could be best facilitated in order to meet the differing needs of students. The paper may also make a contribution to discourse about enhanced protection of consumers of financial advice by confirming that appropriate education and training of advisers are essential.

Educational Expectations of Personal Financial Planning

Tertiary education is seen as playing an essential supporting role in the development of PFP as a traditional-style, self-regulating profession such as law and accounting, especially through universities establishing a research agenda and developing a coherent body of knowledge and national curriculum (Black, Ciccotello and Skipper, 2002; Warschauer, 2002; Cowen, Blair and Taylor, 2006; Cull, 2009; Brimble and Murphy, 2012). Overton (2008), in defining PFP as values and goals-driven strategic management of a client's financial resources, strongly argues that PFP requires the use of knowledge and strategic thinking. Kautt (2002, p. 96) maintains that "deciding what recommendations to give clients based on analyses of their situations is arguably the most important professional function of financial planners."

The skills required by the financial planner are outlined in the six-step financial planning process (ISO, 2005; FPSB, 2006) and stipulated in ASIC's Regulatory Guide (RG) 146 (ASIC, 2012a)[1]. Goetz, Tombs and Hampton (2005) identify the wide array of skills required by professional financial planners, asserting that financial knowledge alone is insufficient and that the ability to apply and synthesise knowledge is required. Furthermore, the Australian Qualifications Framework (AQF) (AQF Council, 2013, p. 48) specifies that graduates of a bachelor degree will have "cognitive skills to review critically, analyse, consolidate and *synthesise* knowledge" and "cognitive and creative skills to exercise critical thinking and judgement in identifying and solving problems with intellectual independence."

Good strategic advice considers the client circumstances in terms of how strategies affect other areas and that several strategic options would usually be expected to be explored. Evidence from ASIC (2003) indicates that financial planners sometimes overlooked more cost-effective options for their clients, and that the cognitive aspect of skills, usually acquired through formal educational qualifications, was challenged (Jackling and Sullivan, 2007).

As shown in Table 1, integration of knowledge and skills and the application of high-level thinking skills, including analysis, synthesis and evaluation, to formulate potential strategies and assess all impacts of possible recommendations, are central to the PFP process of providing good quality advice and effective planning (ASIC, 2012b; Financial Planning Education Council (FPEC) and Financial Planning Association (FPA) of Australia, 2012).

Table 1: Features and functions of the financial planning process

Regulatory Guide 175 on features of process of providing good quality advice (ASIC 2012b, RG 175.222)	**Australian Higher Education Curriculum on main functions of effective financial planning** (FPEC and FPA of Australia 2012, p.9)
a. Define scope of advice and relevant circumstances b. Investigate client's relevant circumstances c. Set prioritised, specific measurable goals d. Consider potential strategies and options to meet objectives and needs e. Consider all aspects of impact of advice such as tax and social security consequences f. Ensure good communication so that advice and recommendations are understood g. Make strategic and product recommendations appropriate to client circumstances	Collect required information and identify related facts by making required calculations and arranging client information for analysis. Analyse: identify and consider issues, perform financial analyses, assess resulting information to develop strategies. Synthesise information to develop and evaluate strategies to create a financial plan.

The paper proceeds with a literature review of educational issues that may be encountered within cohorts undertaking the high-level learning required in financial planning. An explanation of the research design follows, including details of the research instrument, its administration, response rate and description of the sample. The results of the study are presented and findings reflected upon and discussed. This leads to conclusions about how educators may address varying student needs to learn the knowledge and skills required to develop client-appropriate strategies and solutions.

Literature Review

Deep versus Surface Learning

There is general acceptance by educators that the manner in which an individual approaches a learning situation has an impact on his or her learning outcome (Booth, Luckett and Mladenovic, 1999; Davidson, 2002; Cassidy, 2004; Hall, *et al.* 2004). Despite inconsistent terminology and confusion associated with measurement of the manner or style of learning associated with particular models, instruments and learning inventories (Curry, 1990; Cassidy, 2004), the deep versus surface approach to study (Marton and Säljö 1976a, 1976b), and the idea that students' learning approaches reflect the interaction of individual characteristics, learning context, content

and demands of the learning task, are well established in the literature (Entwistle, Hanley and Hounsell, 1979; Entwistle, 1981; Biggs, 1987; Ramsden, 1992; Biggs, 1993; Sharma, 1997).

Students taking a deep approach relate ideas to a wider context and look for reasoning, justification and logic behind ideas, while students taking a surface approach focus on factual information in isolation to the wider picture and are possibly anxious about the organisation and volume of material (Sadler-Smith, 1996, p. 370). Although there is some evidence that accounting students (mainly the subjects of this study) favour surface learning approaches over deep learning approaches (Hall, *et al.* 2004), especially in the later years of studies (Gow, Kember and Cooper, 1994; Booth, Luckett and Mladenovic, 1999), the acquisition of knowledge and skills are ideally approached by students as matters of inquiry and extrapolation, of self-regulation and of appreciating what they do not know (Glaser, 1984).

The literature indicates that the teaching context, including the amount of syllabus content and assessment methods, can strongly influence the quality of a student's learning (Ramsden, 1985; Trigwell, Prosser and Lyons, 1999; Chin and Brown, 2000). In essence, students may adopt a deep approach when they are motivated to understand and also encounter well-structured knowledge (Gibbs, 1995) but may adopt a surface approach, failing to recognise fundamental guiding principles and relying more on a reproductive strategy of rote learning when they perceive that assessment tasks can be undertaken superficially or the syllabus to be overloaded with content (Hassall and Joyce, 2001).

Students are likely to perceive the teaching context of PFP as content-rich, technically complex and loosely structured as it brings together concepts from several disparate areas of expertise including investment portfolio management, risk management, insurance and retirement planning (Warschauer, 2002; Overton, 2008; Brimble and Murphy, 2012; Cull and Davis, 2013). Textbooks are typically built from contributions from specialist practitioners and academics in areas such as taxation, superannuation, social security, investments and so on (for instance, see Taylor, 2017) and hence tend to cover concepts compartmentally. Although provision of a full financial plan derived from case data (for instance, see Hartnett, 2008; McKeown, *et al.* 2012; Taylor, 2017) exemplifies high-level thinking, textbook formats commonly do not explicitly present an integrative approach to financial planning, one that explores interrelationships of diverse knowledge areas and demonstrates how strategies are formulated for clients. This led to the formation of the first statement (S1) to be addressed by students in this study: "The most difficult part of completing the SOA was in understanding the interrelationship of topic areas."

Arguably, an articulation of a conceptually sound basis from which to build a cohesive body of knowledge (Black, Ciccotello and Skipper, 2002; Schuchardt, *et al.* 2007), one that captures and explains the complications and constraints of clients and their households (Campbell, 2006), would facilitate deep learning in PFP. Perceptions of difficulty in mastering the skill of developing client-appropriate strategies and solutions stem from the interaction of the current PFP teaching context with personal variables of the student context (also discussed in the next section). Richardson (1995), for instance, found that age is significant in contributing to a deep approach to learning and interrelating of ideas. Sadler-Smith (1996) also found that students who were

mature (defined as 23 years or older) reported taking a deeper approach than younger students.

In addition, Sadler-Smith (1996) found females to have higher levels of anxiety and found males perceive themselves as taking a deeper approach to their learning ($\rho = 0.0004$) and having higher levels of academic self-confidence than females ($\rho = 0.0130$) (p. 376).

Student Perception of Difficulty

According to Experiential Learning Theory (ELT), resolution of abstract and concrete experience is inherent to integrative learning and each learner is seen as creating, through interplays of the objective and subjective, concepts that integrate observations into personal logical theories (Kolb, 1984, pp. 30–31). ELT provides a framework by which to examine the difficulties associated with integrating PFP knowledge and skills in learning to produce an SOA.

The competent application of knowledge and skills to make sound judgments and solve problems, such as those required in PFP, are conceived as involving the holistic integration of experience, perception, cognition and behaviour within the context of one's total life situation (Kolb, *et al.* 1986, pp. 20–21). Thus, life situations of students limit, to varying extents, their frames of reference and understanding of Australian institutions and financial matters. It follows then that personal contexts and demographic differences may affect students' perceptions of difficulty in making the complex trade-offs required in formulating strategies to meet client goals. Thus, the second statement (S2) posed to students in this study is: "I struggled to formulate investment strategies and a retirement plan suitable to the goals and personal situation of the client."

The literature suggests that the personal context of age (Richardson, 1995; Sadler-Smith, 1996; Ackerman and Beier, 2006) affects perception of learning and, consistent with ELT, younger students with less life experience, all else being equal, were expected to perceive more difficulty. The context of gender, despite the similar capability of males and females, was also expected to pervasively affect perceptions of difficulty in learning to provide quality advice (Meyers-Levy, 1989; Lundeberg, Fox and Punćcohaŕ, 1994; Payne, Bettman and Luce, 1996; Sadler-Smith, 1996; Powell and Ansic, 1997; Barber and Odean, 2001; Estes and Hosseini, 2001; Graham, *et al.* 2002; Ackerman and Beier, 2006).

Lundeberg, Fox and Punćcohaŕ, (1994) concluded that males tend to be more confident that they are right when they are wrong (p. 120). Furthermore, Powell and Ansic (1997) found that females, being more risk averse, tend to focus on financial strategies that avoid the worst situation for the sake of security but that males, being less risk averse, tend to focus on strategies that they believe will make the most gains. Barber and Odean (2001) provided support for models of behavioural finance predicting that males, because they are more overconfident than females, will trade more in the securities market and reduce returns more than females.

Graham *et al*. (2002) posit the selectivity hypothesis (Meyers-Levy, 1989)—that males tend to use heuristics and selectively process available information relevant to decisions, whereas females tend to process all relevant information comprehensively—as an explanation of research findings that females are less confident in investment strategies and decisions. Whilst the hypothesis does not predict that one gender will process information better, it does suggest that failure to properly

match processing strategy with the requirements of a task or decision may impair performance (Payne, Bettman and Luce, 1996). Estes and Hosseini (2001) also found that gender was the most statistically significant variable in terms of confidence in investment decisions. Likewise Ackerman and Beier (2006) found that females were on average less confident in their abilities to solve financial problems even though males and females performed equally in financial issues knowledge tests, both before and after independent study in the knowledge domain.

Just as practitioners may take heuristic shortcuts (Roszkowski and Grable, 2005) and over-confidently base recommendations on insufficient knowledge of the investment environment and client's circumstances (Charupat, Deaves and Lüders, 2005; Cordell, Smith and Terry, 2011), it is likewise acknowledged that students' perceptions of difficulty may be affected by misplaced confidence, inaccurate estimations of their competence and not knowing what is not known about the complexity of the task (Kruger and Dunning, 1999; Dunning, *et al.* 2003; Erhlinger, *et al.* 2008). As found by Hershey and Wilson (1997), all participant groups of their study (younger and older, trained and untrained) completing a series of complex financial decisions appreciably misjudged their solution quality.

The literature also supports that home country (Halliday, 1993; Halliday, 1999; English, Luckett and Mladenovic, 2004; Manikutty, Anuradha and Hansen, 2007) and work experience (Kolb, *et al.* 1986; Zhang, 2000; Hershey and Walsh, 2000/2001; Hershey, Jacobs-Lawson and Walsh, 2003; Goetz, Tombs and Hampton, 2005; Osburn and Mumford, 2006; Brimble, *et al.* 2012; Baxter and Kavanagh, 2012) may influence students' learning in financial planning. Demographic variables such as first language, home country (local vs. international) and work experience have been found to have an impact on personal finance knowledge amongst university students (Cull and Whitton, 2011) and may also affect their learning in a PFP course.

Strategic Thinking

The thinking skills needed in an increasingly complex investment environment (Black and Ellis, 2010) and the process of financial planning are built through "remembering", "understanding", "applying", "analysing", "evaluating" and importantly "creating"—all of the cognitive domains of Bloom's Taxonomy (Bloom, 1956) as revised and presented in Anderson and Krathwohl (2001).

There has been little research on how to develop strategic thinking. Overton (2008, p.25) suggests that in financial planning, strategic thinking requires information from environmental and resource analyses commonly associated with strategic planning. Strategic thinking may be thought of as a synthesising process involving creativity and intuition (Liedtka, 1998) and diagnosis of strategic issues from ambiguous data and stimuli (Dutton, Fahey and Narayanan, 1983, p. 307). Strategic thinking and other various concepts of thinking such as critical thinking, problem-solving and creating are difficult to theoretically distinguish from each other and define precisely (Garrison, 1991; Tavakoli and Lawton, 2005; French, 2009). Halpern (1998), in noting the definition of "critical thinking" used in many studies as "the deliberate use of skills and strategies that increase the probability of a desirable outcome" (p. 449), describes the attitudes of the critical thinker as including a willingness to persist at a complex task, habitual use of plans, flexibility or open-mindedness, a willingness to abandon non-productive strategies and self-correct, and an

awareness of the social realities that need to be overcome to enable actions (p. 452). This definition and associated attitudes broadly describe the strategic thinking required in PFP practice and required to produce a financial plan.

Osburn and Mumford (2006) studied a sample of 174 undergraduate students to investigate whether training in planning skills and forecasting of downstream consequences could enhance thinking and ability to solve a complex problem scenario. The results suggested that training led to more original planning but mostly benefited students who were already identified as having divergent thinking skills.

Research into thinking skills indicates the important role of domain-specific knowledge as represented in long-term memory acquired over time and developed as a result of training and expertise (Sawyer, 2011). Further, the literature in strategic thinking emphasises the transferability of thinking skills taught in one knowledge domain to other domains (Halpern, 1998). Similarly, the transfer of knowledge across different domains is required when producing a financial plan. As a result, this study asked students to respond to the statement (S3): "It was difficult to address the many topic areas covered by an SOA to come up with a plan to meet the client's short-term and long-term goals." The study then further examines if student experiences associated with demographic variables are associated with student perceptions of the difficulty of integrating PFP knowledge and skills in learning to produce an SOA. For example, Ackerman and Beier (2006) found that extant general and broad cultural knowledge was more highly predictive of financial issues domain knowledge after independent study in financial issues (including financial planning, retirement planning, and debt management) than abstract reasoning-type abilities.

A review of the literature on student learning approaches, strategic thinking and ELT has provided a conceptual framework by which to examine differences in learning and applying the knowledge and skills of PFP to produce a financial plan (SOA). This paper reports on and discusses results from a survey of associations between demographic variables and perception of difficulty in learning to develop a financial plan. The findings show that some students have different perceptions of the difficulty in learning to produce a financial plan depending on how their personal contexts equip them for the challenges of the teaching context. Accordingly, the research findings have pedagogical implications for financial planning programs.

Research Design

Research Instrument

The survey instrument, available on request from the author, captured demographic information and posed statements to students, as presented below, on perceptions of learning difficulty in integrating knowledge and skills to develop solutions and strategies appropriate to the goals and circumstances of a client. The instrument also encouraged students to make free responses about teaching and learning in the subject.

Students were asked to indicate, on a Likert scale of 1–5, how strongly they agreed (with 1 indicating 'strongly disagree'; 3 indicating 'neither agree nor disagree'; and 5 indicating 'strongly agree') with each of the following statements:

> ***Statement 1 (S1):*** *The most difficult part of completing the SOA was in understanding the interrelationship of topic areas.*
>
> ***Statement 2 (S2):*** *I struggled to formulate investment strategies and a retirement plan suitable to the goals and personal situation of the client.*
>
> ***Statement 3 (S3):*** *It was difficult to address the many topic areas covered by an SOA to come up with a plan to meet the client's short-term and long-term goals.*

The topic areas referred to in Statements 1 and 3 are superannuation, estate planning, social security, taxation, insurance, investment, credit and debt, home ownership and regulatory compliance. The retirement plan referred to in Statement 2 involves holistic investment and superannuation strategies over time towards retirement age and during retirement.

Administration, Response Rate and Limitations

The paper-based survey was administered to undergraduate students enrolled in a core financial planning unit at an Australian university, in tutorials after completion of the SOA task at the end of each of four semesters over a three-year period. Enrolments over the four semesters totalled 1,031 and a total of 649 surveys were returned, giving a response rate of 63 per cent of the population of enrolled students. Attendance at classes was not mandatory and participation in the survey was voluntary. Anonymity of response was guaranteed. Furthermore, the same teaching team taught across multiple time periods, reducing the likelihood of teaching quality across time periods interfering with results.

Whilst the demographic profile of the sample was generally representative of the average profile of the student population in the business faculty over the survey period, higher sample proportions of students less than 25 years of age (75% vs. 65%) and full-time students (75% vs. 64%) indicate that non-responders were more likely to be older and working. It is acknowledged that this limitation of the study may affect the generalisability of the findings due to the lack of data from those students who did not participate. Another limitation of this study is that final grades/results were not considered due to the anonymous nature of the survey. In addition, the sample was drawn from students at one Australian university so it is possible that the results may not generalise to all institutions in all countries.

Sample demographics

A summary of the demographics profile of the sample is provided in Table 2. Analysis of the sample of students found that approximately 50 per cent are male and 50 per cent female, 75 per cent are 25 or younger, 45 per cent record English as their first language, 20 per cent are international students, 75 per cent study full-time (FT) and 25 per cent study part-time (PT) and 56 per cent have full-time work experience and 38 per cent have subject-relevant work experience.

Table 2: Demographics of sample

Student demographic		Percentage of Sample
Gender	Male	51%
	Female	49%
Age	<25 yrs	75%
	>25 yrs	25%
First Language	English	45%
International student		20%
Study mode	Full-time	75%
	Part-time	25%
Full-time work experience		56%
PFP-relevant work experience		38%

Results and Discussion

Although perception of difficulty, being a product of subjective and environmental factors personal to each student, is a blunt measure for high-level learning in PFP, analysis and comparison of responses across various demographic groupings of age, gender, first language, home country and work experience provided educational insights as discussed below. Further insight was gained from students' comments about difficulties experienced in learning to provide advice. Where data was found to be normally distributed, parametric tests such as independent samples t-test (referred to as t-test) and one-way analysis of variance (referred to as ANOVA) have been used to explore demographic differences. Where data was not normally distributed, non-parametric tests (Mann-Whitney Test, Kruskal-Wallis, Chi-Square) have been used (Pallant, 2007, p. 110). Furthermore, in some cases the dependent variable is treated as categorical (such as age, gender, first language, work experience) and others as continuous (such as difficulty level provided on a five-point Likert scale for statements (S1), (S2) and (S3)).

Age

Table 3 sets out the descriptive statistics for S1, S2 and S3 in age groupings. As the age data was negatively skewed and did not follow a normal distribution, the non-parametric Kruskal-Wallis test was used to analyse the data. Kruskal-Wallis tests revealed a statistically significant difference in perceptions of formulating strategies (S2) across the five different age groups ($\chi^2 = 15.75$, 4 DF, $\rho = 0.00$). The older age groups of 31 to 45 years and 46 years plus perceived less difficulty (Median (Md.) both = 3.5) than the younger age groups (Md. all = 4.0). In addition, the Kruskal-Wallis tests revealed a difference at the 0.06 level in perception of difficulty of meeting client goals

(S3) across the five different age groups (χ^2 = 8.89, 4 DF, ρ = 0.06). The age group 31 to 45 years perceived the least difficulty (Md. = 3.0) and the age group 26 to 30 years perceived comparatively less difficulty (Md.= 3.5) than the remaining age groups (Md. = 4.0).

Table 3: Comparison of perceptions of difficulty: by age group

Age		N	Mean	Std. Dev.	Median
S1: Interrelationship of topic areas	18-21	206	3.38	.984	3.00
	22-25	247	3.59	.962	4.00
	26-30	69	3.46	.901	4.00
	31-45	73	3.41	1.070	4.00
	46 +	14	3.79	.693	4.00
S2: Formulation of investment and retirement strategies	18-21	205	3.43	1.006	4.00
	22-25	246	3.76	1.041	4.00
	26-30	70	3.54	.958	4.00
	31-45	74	3.35	.957	3.50
	46 +	14	3.43	.938	3.50
S3: Meeting a client's short and Long-term goals	18-21	205	3.43	.961	4.00
	22-25	247	3.61	.977	4.00
	26-30	70	3.40	.907	3.50
	31-45	73	3.22	1.070	3.00
	46 +	14	3.43	.938	4.00

The findings of less perception of difficulty for the two oldest age groups for S2 and the 31 to 45 years age group for S3 are consistent with ELT—all else being equal, older students, with richer backgrounds of life experience, more developed personal theories and frames of reference than younger students, may be able to accommodate high-level learning more easily and be more ready for the deep learning required in PFP. This also supports the literature on deep learning approaches (Richardson, 1995; Sadler-Smith, 1996) and domain knowledge and strategic thinking (Ackerman and Beier, 2006).

Interestingly, according to the means for each statement, the younger 18 to 21 years age group perceived less difficulty than the 22 to 25 years age group. This could be due to the Dunning-Kruger effect (Kruger and Dunning, 1999). This suggests that PFP educators may need to address any evidence of the Dunning-Kruger effect and be aware of potential generational shifts (see Twenge and Campbell, 2008; Petroulas, Brown and Sundin, 2010).

Gender

As shown in Table 4, results of t-tests indicate statistically significant gender differences in perception of difficulty in formulating strategies (S2) and meeting clients' goals (S3), with males perceiving less difficulty. Evidence of difference related to gender was expected in accordance with the literature, which suggests that nuances of gender in learning to develop strategies and solutions may potentially affect the approach taken to the PFP process of formulating advice and producing a financial plan.

Table 4: Independent samples t-tests of perceptions of difficulty: by gender

Gender	Sex	Number	Mean	Std. Dev.	*t*	*ρ*
S1: Interrelationship of topic areas	Male	311	3.47	.929	-0.44 (605)	.66
	Female	296	3.50	.978		
S2: Formulation of investment and retirement strategies	Male	310	3.39	1.045	-4.45 (605)	.00
	Female	297	3.75	.952		
S3: Meeting a client's short and long-term goals	Male	311	3.37	.968	-2.57 (605)	.01
	Female	296	3.57	.964		

The results support the Dunning-Kruger effect (Kruger and Dunning, 1999) as well as behavioural finance literature which suggests that males are more confident in financial decisions than females (Ackerman and Beier, 2006; Barber and Odean, 2001; Estes and Hosseini, 2001; Graham, *et al*. 2002; Powell and Ansic, 1997) and that females perceive greater ambiguity leading them to feel less knowledgeable and to underestimate their ability to evaluate and process information accurately (Heath and Tversky, 1991). As a result, educators may need to explicitly address misconceptions and manage perceptions of difficulty associated with gender in integrating knowledge and skills to produce a financial plan.

First Language; Local vs. International students

Table 5 presents the descriptive statistics of the 44 different first languages reported by respondents, grouped as English, Asian (including Cantonese, Mandarin and Vietnamese), Indian (including Hindi and Punjabi), Middle Eastern (including Persian and Arabic) and Other (including 39 different languages, all with N< 11, except Bengali with N=31).

Kruskal-Wallis tests for the whole sample revealed significant differences based on first language for S1, difficulty of interrelationship of topics S1 (χ^2 = 21.93, 4 DF, ρ = 0.00), S2, difficulty of formulating strategies (χ^2 = 46.11, 4 DF, ρ = 0.00) and S3, meeting a client's goals (χ^2 = 20.00, 4 DF, ρ = 0.00). The medians of S1, S2 and S3 for English as a first language were 3 compared to medians of 4 for all other first languages (except for Middle Eastern languages with a median of 3 for S1).

Table 5: Comparison of perceptions of difficulty: by first language

First Language		S1	S2	S3
English	N	273	272	272
	Mean	3.31	3.24	3.28
	Std. Dev.	0.98	1.07	1.02
	Median	3.00	3.00	3.00
Asian	N	130	129	129
	Mean	3.72	3.82	3.68
	Std. Dev.	0.8	0.84	0.84
	Median	4.00	4.00	4.00
Indian	N	38	38	38
	Mean	3.76	4.05	3.74
	Std. Dev.	0.94	0.7	0.72
	Median	4.00	4.00	4.00
Middle Eastern	N	30	30	30
	Mean	3.27	3.67	3.63
	Std. Dev.	1.11	1.06	1.07
	Median	3.00	4.00	4.00
Other	N	141	143	143
	Mean	3.55	3.79	3.55
	Std. Dev.	0.93	0.92	1.07
	Median	4.00	4.00	4.00

Domestic students reported 39 different first languages. The most common were English (53.5%), Chinese (12%), Vietnamese (5%) and Indian (5%). Overseas students reported 31 different first languages. The most common were Chinese (28.5%), Bengali (18%) and Indian (12%). Within the domestic demographic, due to the high proportion of students with English as a first language, Kruskal-Wallis tests revealed significant differences in perceptions for S1 (χ^2 = 18.480, 10 DF, ρ = 0.05), S2 (χ^2 = 39.975, 10 DF, ρ = 0.00) and S3 (χ^2 = 27.645, 10 DF, ρ = 0.00). Comparative results of responses from domestic students with first languages other than English are likely to be confounded due to their varying lengths of time in Australia. For international (overseas) students, Kruskal-Wallis tests revealed no significant differences in perceptions for S1, S2 and S3 based on first language.

The number of different home countries of overseas students totalled 16 and countries most represented were China (31), Bangladesh (25), India (12), Sri Lanka (10) and Kenya (8). As shown in Table 6, overseas students perceived more difficulty than domestic students, with t-tests revealing statistical differences in perceptions for each statement up to the 0.06 level.

Table 6: Independent samples t-tests of perceptions of difficulty: international and local

International and Local students		N	Mean	Std. Dev.	*t*	*ρ*
S1: Interrelationship of topic areas	Intl	126	3.62	.828	1.82 (610)	.05
	Local	486	3.45	.976		
S2: Formulation of investment and retirement strategies	Intl	126	3.87	.867	4.36 (610)	.00
	Local	486	3.48	1.033		
S3: Meeting a client's short and long-term goals	Intl	126	3.61	.867	1.91 (610)	.06
	Local	486	3.45	.990		

The results presented in Tables 5 and 6 show that the domestic students with English as their mother tongue perceived least difficulty with learning Australian financial planning. As discussed by Manikutty, Anuradha and Hansen (2007), cultural background is an important student context especially as overseas students may be confronted by a different education system and learning expectations. Moreover, the linguistic framework of financial planning requires students to become familiar with the language of both the discipline (Halliday, 1993; English, Luckett and Mladenovic, 2004) and the underlying cultural context and elements (Halliday, 1999) of PFP advice. Cultural impacts evident from the differences in perceptions of difficulty between local and international students, shown in Table 6, raise questions about the educational benefits and place of PFP as a subject for international students returning to their home countries.

Work Experience

ANOVAs were conducted on responses to explore differences in perceptions between groups based on employment experience relevant to PFP (84% in accounting and 16% in banking and finance and financial planning), other full-time work experience and no full-time work experience. Statistically significant differences were revealed for each statement, as shown in Table 7. *Post-hoc* comparisons, using Tukey HSD tests, indicated that the means for each statement, S1, S2 and S3, for PFP-relevant employment and no employment were significantly different. For S2, formulation of strategies, the means for PFP-relevant employment and other employment were also significantly different.

Table 7: Analysis of variance: perceptions of difficulty by PFP-relevant employment, no employment and other employment

Employment		N	Mean	Std. Dev.	F	ρ
S1: Interrelationship of topic areas	PFP employment	227	3.35	.982	4.922 (2, 607)	.01
	No employment	267	3.61	.883		
	Other employment	116	3.43	1.006		
S2: Formulation of investment and retirement strategies	PFP employment	229	3.33	1.061	11.181 (2, 607)	.00
	No employment	265	3.75	.899		
	Other employment	116	3.59	1.071		
S3: Meeting a client's short and long-term goals	PFP employment	228	3.32	.996	5.647 (2, 607)	.00
	No employment	266	3.61	.885		
	Other employment	116	3.51	1.051		

These results indicate that students with full-time work experience, particularly PFP-relevant experience, perceive less difficulty than students without work experience. Further, work (and travel) experiences have been significantly and positively related to deep learning approaches and negatively associated with a surface approach to learning (Zhang, 2000).

Brimble *et al*. (2012) argue that learning financial planning requires contextualisation within the practising profession and advocate the teaching and learning benefits of inclusion of work-integrated learning into university programs through engagement with industry. Goetz, Tombs and Hampton (2005) and Brimble *et al*. (2012) suggest that colleges and universities facilitate work experience in financial planning courses to provide students with valuable perspectives and further develop their critical thinking and professional skills.

Student Comments

Of the free comments, 323 related to perceptions of learning difficulty. Of these, 147 reflected the need for high-level learning in PFP by referring to its demanding nature as outlined in the student comments below:

A lot of preparation involved, and time and effort. Too demanding.

This unit should be an advanced financial planning course.

The most difficult part was choosing between endless options and limiting length of SOA.

Even with tutor advice I found this difficult.

Too much to learn and understand and remember.

SOA complex and challenging.

These comments reflect the difficulty that students perceived in preparing a compliant SOA and indicate that the task involved much preparation, was time-consuming, complex and challenging. Although the unit design included five progress checks throughout the semester to scaffold student learning, students still found the task difficult, even with tutor advice.

Additional student comments suggesting how learning could best be facilitated provide useful guidance to educators for designing PFP curriculum to address the difficulty of integrating knowledge and skills to produce an SOA. As summarised in Table 8, the remaining 176 free responses from students provide suggestions on how learning could be facilitated. These comments indicate that students believe that they need more progressive help towards completion of the SOA, more detailed explanations and more representative and practical examples.

Table 8: Student suggestions on learning

Comments	Frequency
More assistance/time required with developing strategies	29
More discussion of each section and coverage of all topics required before SOA due	29
More examples of SOA required	20
More feedback required	16
More examples and calculations required in class	15
More examples required	14
SOA template should be provided	12
More detailed explanations and examples required for SOA	11
Need more progress checks or more information on topics, such as Estate Planning and Insurance, after final progress check on investment strategies	7
More details needed to be covered in lectures	6
Would have liked to explore and discuss SOA in entirety in class	6
Need to be shown how to compile SOA	4
More practical questions need to be done	2
Need qualified financial or para-planner to explain SOA	2
Further explanation needed of concepts not covered in text	1
More consultation hours required	1
Site visit or movie of real practice required	1
	176

With only 38 per cent of students having PFP-relevant work experience (refer to Table 2 in previous section of paper), it is understandable that the 62 per cent of students lacking PFP-relevant work experience felt that their learning would be enhanced with more exposure to the practical side of completing an SOA such as site visits, 'real life' practical examples, more calculation questions in class and guest lectures from financial planners. This supports the literature on ELT with Kolb *et al.* (1986) advocating that experiential exercises and simulations, as well as on-the-job training, provide a framework for integrative education that is internalised and specific to each individual (pp. 21–22). In addition, these student comments support Goetz, Tombs and Hampton (2005) who maintain that learning PFP requires both work experience as well as appropriate pedagogic approaches such as problem-based case studies and simulations that bring the profession into the classroom. Further, the student comments support the findings of Baxter and Kavanagh (2012) who suggest embedding real case studies in the university curriculum to develop critical thinking skills.

The abovementioned suggestions around ELT may also assist international students and students with English as their second language by providing the situational, cultural and linguistic context that is needed to appropriately approach the SOA task. Furthermore, ELT enables students to become more acutely aware of the social realities that impact on the preparation and execution of a financial plan and provides useful opportunities for academics to develop the critical thinking skills (Halpern, 1998) of their students and encourage deep learning of students at the highest level of Bloom's Taxonomy ('create').

Conclusion

The findings indicated a range of perceived learning difficulty across demographic groups in learning to produce a financial plan. Statistical analysis of the study data assists in answering the research question, '*What demographic variables are associated with student perceptions of the difficulty of integrating PFP knowledge and skills in learning to produce an SOA?*' by showing significant differences across demographic groups of age, gender, home country, first language and work experience.

The results of this study contribute to the literature on behavioural finance, strategic thinking and ELT by empirically demonstrating that older students, males, students from English speaking Australian families and those with work experience relevant to PFP perceive less difficulty. Thus, the student demographic perceiving the least difficulty was found to consist of males, aged between 31 and 45, from English speaking Australian families with work experience relevant to financial planning. Conversely, younger females from non-English speaking countries and no work experience relevant to financial planning found the most difficulty in integrating knowledge and skills when learning to produce a financial plan.

Furthermore, the results support the Dunning-Krueger effect and suggest that educators need to be aware of the potential for younger students and male students to be overconfident, and for female students to be less confident, resulting in students misjudging their own capabilities. The challenge is to develop, design and deliver PFP programs that promote deep learning and a greater

awareness of the social realities relevant to producing a financial plan. As suggested by students, this may include *'more examples of SOA', 'more examples and calculations required in class',* a *'qualified financial or para-planner to explain SOA'* or a *'site visit or movie of real practice*'. Such suggestions support ELT and the idea of bringing the profession to the classroom. This may be particularly beneficial for students with no relevant work experience as well as students from non-English speaking and non-Australian backgrounds who perceive more difficulty in preparing a financial plan due to the lack of context and 'real-life' experience. To this end, facilitation of relevant work experience in financial planning programs would further develop students' critical thinking and professional skills as advocated by Goetz, Tombs and Hampton (2005) and Brimble *et al.* (2012).

This study concludes that programs ideally need to involve deliberate connections between topic areas, practical modelling, real case studies and work experience in personal financial planning. Financial planning programs may benefit from the adoption of appropriate mental models or concept maps that expose students to more holistic, well-designed representations of tasks and problems to be solved (Hershey and Walsh, 2000/2001). The educational advantages of both practical experience and mental modelling to analyse and exemplify realistic financial planning scenarios require priority in program design.

Further, as suggested by students (*'More discussion of each section and coverage of all topics required before SOA due', 'Need more information on topics such as Estate Planning and Insurance after final progress check on investment strategies'*) and supported by Hershey, Jacobs-Lawson and Walsh (2003), additional training in domain-specific knowledge may assist students in developing their SOA. In some financial planning programs this may mean creating a prerequisite structure and/or additional units that better scaffold student learning of financial planning. Moreover, a purposeful fostering of a deep learning approach including generous explanations of how strategies can be accomplished through trade-offs and judgements based on the different circumstances and goals of clients, is suggested.

Recommendations have been made based upon the literature, as well as survey feedback from students about their learning and how it may be best facilitated. It is hoped that this research will assist PFP academics to design educational programs that consider the difficulties faced by students with differing personal contexts as they learn to holistically integrate PFP knowledge and skills to create a financial plan.

The results not only contribute to ELT but expand knowledge in the area of teaching financial planning which is particularly pertinent in the current social, cultural, economic and political climate. The study has implications for ongoing knowledge development by highlighting the need for additional research into the use of concept maps as a learning tool in financial planning and the incorporation of relevant work experience opportunities into the curriculum. Future research is also required to examine the relationship between student perceptions of learning to produce a financial plan and student performance. Further, with government legislation now requiring financial advisers to have a bachelor degree or higher, financial planning education plays a crucial role in advancing the financial planning profession by developing future financial planners who

have the "cognitive and creative skills to exercise critical thinking and judgement in identifying and solving problems with intellectual independence" (AQF Council, 2013, p. 48).

Notes

[1] *The professional Personal Financial Planning process*

Professional six-step financial planning process (ISO 2005; FPSB 2006)	Australian Regulatory Guide 146 on Skill Requirements (ASIC 2012a, App. B, Table B, p. 54)
1. Establish and define the client-planner relationship.	1. Establish relationship with client
2. Gather client data, including goals.	2. Identify client objectives, needs and financial situation
3. Analyse and evaluate client's financial status.	3. Analyse client objectives, needs, financial situation and risk profile
4. Develop and present financial planning recommendations and/or alternatives.	4. Develop appropriate strategies and solutions
	5. Present appropriate strategies and solutions to client
	6. Negotiate financial plan with client
5. Implement the financial planning recommendations.	7. Coordinate implementation of agreed plan
	8. Complete and maintain necessary documentation
6. Monitor the financial planning recommendations.	9. Provide ongoing service (at discretion of client)

[2] *This study has been approved by the University's Human Research Ethics Committee (approval number H6150).*

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WATER AS AN INVESTMENT AND THE IMPACT OF REGULATORY RISK

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ABSTRACT

Water is a fundamental commodity. However, China is ranked as one of the top countries in terms of water scarcity. Hence, the country urgently needs large investment in its water sector. In this paper, we investigate the impact of regulatory risk on water investments guided by the 'buffering effect theory' and with the application of the Kalman filter and panel regression within the context of the Capital Asset Pricing Model. The question of utmost importance here is whether regulatory decisions affect systematic risk of water companies traded on the Chinese stock market. In other words, the effect of regulatory intervention measures may be moderated by investors' perception of the overall political environment. We find a significantly negative effect of competition which suggests that when a regulator takes steps to reduce market competition, water companies are likely to gain greater power on the market resulting, in turn, in higher price levels and profit margins. The findings of this study contribute to the understanding of how investors can be attracted to participate in the water industry, not just in China, but also worldwide.

Introduction

China is the second biggest economy in the world. Whatever happens to the Chinese economy in a practical sense now has a global impact. One of the major issues that can potentially have a major effect on the Chinese economy is water (Leadership Group on Water Security in Asia Report, 2009). China is ranked as one of the top countries in terms of water scarcity (Sullivan, *et al*. 2008). Hence, the country is urgently striving to increase water supply. In order to achieve this, further large investments are required since the water industry is one of the most highly capital and infrastructure intensive (Olstein, *et al.* 2009). The government alone cannot provide sufficient financing and thus the participation of private sector investors is necessary (OECD, 2009).

Although the Chinese government takes the initiative to increase private sector investment in its water industry, one of the major concerns of investors is the issue of regulatory risk — that is, changes in regulations. Due to the political cycle and/or change in governments as well as many other considerations, regulations can change. Hence, this can create regulatory risk on the part of investments since investments in the water industry (being an infrastructure-based industry) are long-term (Schouten and Schwartz, 2006; United Nations Environment Programme Finance Initiative, 2006). Hence, political and regulatory risk is one of the major influences on the foreign investment decision (Kobrin 1979). The water industry, due to its nature, is one that is highly regulated (Pescetto, 2008). This industry has the characteristic of being a natural monopoly as it faces a highly inelastic demand. Water is often considered as a public good because the societal dependency on water is high and government has a responsibility to make sure that there is safe access to water for an affordable price (Savenije, 2002). However, from an economic perspective, it may be incorrect to view water as a 'public good' as everyone should have access to safe and affordable water services; thus water should rather be called a 'merit good' (Schouten and Schwartz, 2006).

In the existing literature, very little is known about regulatory risk in the global water industry. The very few existing studies like Gaggero (2012) and Buckland, Williams and Beecher (2015) have focused on the UK or US markets. In this paper, we attempt to document the effect of regulatory risk on investors and investment returns in the water industry. We do this by investigating the impact of regulatory risk on the systematic risk of the water industry at both industry and individual company level. We undertake our investigation in the context of the water industry in China. The Chinese water industry is a very important one. It is the largest market in terms of the number of people served by the private water sector (Pinsent Masons, 2009). China has placed a great emphasis on addressing its huge domestic water needs, with the government announcing a series of regulatory decisions regarding the water industry in the past decade.

The Chinese water industry is also unique. Unlike other countries such as the UK and the US where uniform regulations are lacking, China has a central regulation agency whose policies can affect the whole nation. Yet, at the same time, compared with the UK where there is a central water authority, China's fragmented yet centralized water management system carries more similarities with the rest of the world, making the study's results more generalisable (Nickum, 2010). Thus, the Chinese water industry provides an excellent laboratory for the examination of the issue we are focusing on — that is, the impact of regulatory risk on the returns of the water industry.

We apply the 'buffering effect' theory (Peltzman, 1976) and conduct panel regression analyses. We find that regulatory risk does affect systematic risk in the case of the water industry in China, with much depending on the type of regulatory change. Regulatory announcements intended to reduce market competition, increase water prices, and improve the quality of water services have significant impact on the systematic risk of China's water industry. However, those aimed at enhancing market competition and reducing water prices do not have significant associations with systematic risk. We also examine the effect of regulatory changes on individual water companies' systematic risks and find that most water companies are not significantly affected by these changes. The results further reveal that regulatory changes that have a significant impact at the industry level may not have the same effect at the individual company level.

The findings of this study contribute to an understanding of how investors can be attracted to participate in the water industry, not just in China but also worldwide, in the hope of providing a solution to water shortages. Further, it makes a scholarly contribution to the literature on empirical asset pricing. At this stage and in this area, there is a need to identify factors that may influence market systematic risk. It is not clear yet whether regulatory risk is one of those factors.

The remainder of the paper is organized as follows: Section 2 reviews the characteristics of the Chinese water industry and recent developments in regulatory policy making; Section 3 discusses the relationship between regulation and systematic risk of regulated industries and firms; Section 4 details our research method and data; and Section 5 presents the results and empirical findings. Finally, Section 6 concludes with the implications of our study and possible directions for future research.

The Regulation of China's Water Industry

Traditionally, the central role of the water industry to protect and preserve public health has encouraged the Chinese government to manage its water industry within the public sector (MacGillivray, *et al.* 2006). In the late 1990s, using borrowed experience from the UK and other European countries, the government started to pursue a massive program of privatisation of water utilities in the hope of improving systematic efficiency and attracting private funds. Although private participation in water and wastewater services in China was legislated by various laws as early as the 1980s, the government did not formally open its national urban utility market to domestic private players until 2002–03. However, private sector participation in the China water sector is a hot topic and has been discussed inside and outside of China because China's water crisis offers attractive business opportunities for foreign companies (Lee, 2007; Hutterer, 2008). According to Hutterer (2008), following a worldwide trend, the Chinese government officially opened the water distribution sector to privately owned companies in May 2004. Thereafter, domestic and foreign investors were actively engaged in a dozen urban water utilities, mainly through Build-Own-Transfer (BOT). Thus, global market leaders including two French companies, Suez and Veolia, and a UK company, Thames Water, have been active in the Asian market and have in many ways defined the terms by which private companies can operate in the Chinese market.

It is noted that being aware of the high potential of the water market in Shanghai and other parts of China, Thames Water became the sole owner and operator of the water treatment plant by buying the full shares of its joint venture partner in early 2002 (Lee, 2007; Hutterer, 2008). To date, China's private investors have managed to explore the water market using three approaches: 1) working in joint ventures with international companies, 2) working through a dedicated infrastructure fund, and 3) setting up Chinese owned private companies (Pinsent Masons, 2004). Among those, the third approach has been used most widely. It is typically carried out by converting public water companies into joint stock companies and selling their equities to the private sector through public offerings on the Shanghai and Shenzhen Stock Exchanges. Returns on these private investments are thus reflected in the behaviour of the prices and yields of their shares as quoted on the exchanges.

The landscape of China's water market has undergone an enormous change since the beginning of privatisation. Till the end of 1999, nearly 30 million people were served by the private sector in various forms. This number has been growing dramatically, and it is believed that contracts covering around 300 million people will have been awarded to private water and wastewater companies in China by 2012 (European Small and Medium-sized Enterprises Center (EU SME), 2013). These private water companies serve consumers by providing various products and services such as collecting, treating, conveyancing, and monitoring/analysing water and wastewater. Currently, China is not only the world's largest water market in terms of the number of people served by the private sector, but also the most dynamic market in terms of the rapidity of its development (Pinsent Masons, 2007). The absolute size of China's water market and the diversity of opportunities available have made it a global and regional driver, as well as a good subject for regulatory risk research.

However, it is worth pointing out that the transfer of ownership in privatisation does not alter the public goods nature of the water industry because the societal dependency on water is high (Savenije, 2002). Moreover, due to the peculiar characteristics of water privatisation, it is exposed to all of the traditional instances of market failure—for instance, natural monopoly conditions, negative externalities, and capital intensity (Pescetto, 2008). Therefore, regulatory arrangements have to be set up to improve the quality of services, to protect consumers against monopolistic exploitation as well as to reduce environmental cost. According to EU SME (2013), the Chinese government has been encouraging funds necessary for water infrastructure investments and incentivising consumers towards more efficient uses of water by introducing aggressive water pricing mechanisms. This process is consistent with the government's needs for both economic transformation and water service improvement in a country that is suffering from severe water shortages (Pinsent Masons, 2004).

China's water regulatory landscape ranges from controlling and preventing water pollution to mandating pricing and funding policies of water services. Similar to their overseas counterparts, the Chinese water companies are subject to a variety of regulatory jurisdictions (Beecher, 2009). However, differing from developed countries, China has a number of authorities involved in water governance at the central government level. In general, the State Council, the Ministry of Development and Reform Commission, and the Ministry of Finance take charge of regulatory

schemes of water pricing and water funding, while the Ministry of Water Resources, the Ministry of Environmental Protection, and the Ministry of Housing, Urban and Rural Construction share the responsibility for managing water quality, water quantity, and environmental regulations (EU SME, 2013). For the purpose of our research, we examine only the impact of changes in central regulations, for all local regulators are required to follow the same overarching core principles and general practices set by Beijing.

The study uses the Chinese water market as a proxy to understand the effect of regulations on the riskiness of water businesses. China's water market is chosen for three reasons. Firstly, emerging countries have great needs for funds to build/update necessary water infrastructure and to preserve the environment. As a developing country, China has almost 20 per cent of the world's population and only about 6 per cent of global freshwater resources. Urbanisation and rising environmental awareness are driving rapid growth in urban water supply and the wastewater market, causing further water distress. However, investors are, in effect, more willing to invest in developed water markets due to their low political risks compared to emerging markets. Preqin (2011) reports that 47 per cent of investors target European assets, while 36 per cent focus on North American infrastructure. Therefore, it is crucial for both water investors and policymakers to fully understand the impact of regulatory changes. Despite the need for knowledge, little empirical research has been conducted in this area. For the few existing studies, researchers predominantly focused on the British water market. To date, investment characteristics of the water industries in the emerging world remain largely unknown.

Secondly, China's water market is not only one of the three largest water markets in the world, but it is also the largest market in terms of the number of people served by the private water sector (Pinsent Masons, 2009). It is estimated to be worth EUR 60–100 billion a year over the next ten years (European Small and Medium-sized Enterprises Centre (EU SME), 2013). The majority of the companies competing in the market are local companies. Foreign companies provide about 8 per cent of the total national water supply. Nevertheless, despite the prosperity of the water industry, China faces many challenges in its water efficiency, water technologies and funding (Dore, *et al.* 2010). The absolute size of China's water market and the diversity of opportunities available have made it a global and regional driver, as well as a good subject for regulatory risk research.

The Relationship between Regulatory Changes and Systematic Risk

As China's water industry was historically under the control of the public sector, the regulations were mostly self-imposed and limited in scope. Traditional state-owned water companies were barely affected by regulatory risk. However, the recent (since 2002) water privatisation movement has externalised and broadened the role of regulatory scrutiny and intervention, thus making regulatory risk one of the greatest strategic challenges/threats to the businesses on the Chinese water market (Dore, *et al.* 2010). The significant impact of regulatory risk on the water industry is, of course, not unique to the Chinese water businesses (MacGillivray, *et al.* 2006; Pescetto, 2008; Buckland, Williams and Beecher, 2015). Therefore, the results of our study may also be informative to stakeholders in the global water market.

Regulatory risk to China's water market can be caused by expected and unexpected announcements from the central regulators. It is the result of the uncertainty behind new and changing regulations over time (Ernst and Young, 2008). These regulations usually aim to influence strategic decisions of individual water companies. For example, Sawkins (1996) studies whether the revised regulatory arrangements consistently favoured water company shareholders over other water industry stakeholders. He finds that regulatory interventions do not affect investor expectations. Further, Antoniou and Pescotto (1997) conclude that regulatory announcements impact the measured beta risk of a specific utility's equity whereas Buckland and Fraser (2000, 2001) suggest that regulatory events are linked with changing systematic risk estimates in UK water companies.

Regulation is also clearly outlined in Grout and Zalewska (2006). Regulations on environmental protection, price control, investor protection, and market entry restrictions are all intended to facilitate the transfer of wealth and social responsibilities between stakeholders either as an end to itself or as a means to achieve specific objectives. In contrast, very few regulatory changes that apply to water companies aim primarily to transfer risks between parties, and hence few regulatory changes enable the risk effect to be isolated for empirical investigation (Grout and Zalewska, 2006). US water regulation is well documented by Beecher (2009). The US sector is fragmented and diverse in structure. So are the US regulatory authorities, while ownership of water utilities is securitised and exchange-listed (Beecher 2009; Buckland, Williams and Beecher, 2015). Such water regulation related literature has been made to address the risk and returns of regulations. In other words, the strand of literature that explicitly shows how investment risk of the regulated firms responds to water regulatory changes is small. Ergas *et al.* (2001) point out that regulatory decisions bring about risk cost to investors who have the ability to diversify some types of risk across a market portfolio. However, they also argue that investors only require compensation for those components of risk that cannot be diversified. Therefore, the question of the utmost importance here is whether regulatory decisions affect systematic risk of water companies traded on the Chinese stock market. An answer to this question would not only appeal to researchers but also interest policymakers. As systematic risk cannot be diversified away, regulators should compensate shareholders for bearing such risk (Paleari and Redondi, 2005).

Theoretical Framework and Empirical Literature

There has been a multitude of debates, in both theoretical and empirical literature, on how regulation affects risk in a public utility industry. Peltzman (1976) provides an important contribution to the understanding of the relationship between regulation and risk by proposing the 'buffering effect'. He argues that companies operating in competitive markets face more volatile profits that occur due to such factors as stranded costs, classic externalities, and increased demand volatilities. Comparatively, regulated companies often get maximum political support from regulators, which buffers the abnormal profits between shareholders and customers. A similar argument often made for the water industry is that because continuity of service is so important, regulators do not want regulated water companies to become bankrupt (Grayburn, Hern and Lay, 2002). In fact, in spite of privatisation, water provision is still subsidised by governments in order

to ensure its universal availability in urban areas. Therefore, according to Peltzman's theory, water regulations tend to buffer downside returns and alleviate the investment risk on water companies.

The buffering effect theory is widely tested since its proposition. Most studies on infrastructure industries are supportive of its predication that price regulation buffers cash flows and reduces market risk. Employing the same sample of US electric utility companies, both Norton (1985) and Binder and Norton (1999) find supporting evidence for the buffering effect theory. Fraser and Kannan (1990) adopt a larger and more diverse sample of US infrastructure and financial firms and conclude that systematic risk of firms under regulation is uniformly lower than of their unregulated peers. Alexander, Mayer and Weeds (1996) extend the regulatory risk analysis to the global utility industry sectors. They find that asset betas are positively related to the degree of efficiency incentives, lending support to Peltzman's buffering theory. In follow-up studies, both Alexander, Estache and Oliveri (2000) and Grout and Zalewska (2006) corroborate the finding that non-US companies with high-powered regulation have higher betas than those with other regulatory regimes.

However, whilst the traditional view is that the buffering effect of regulation reduces the systematic risk to which a regulated utility is exposed, recent literature finds factors such as information asymmetry, regulation inconsistency, and regulatory lag of imperfect regulation mechanisms can actually increase the cost of capital for regulated utilities and therefore enhance their systematic risk (Grayburn, Hern and Lay, 2002). The universal validity of the buffering hypothesis is questioned empirically, too. Davidson, Rangan and Rosenstein (1997) partially reject Peltzman's buffering hypothesis in their examination of the US electric utility industry. They fail to detect lower systematic risk for intensely regulated firms during periods of falling or relatively stable factor prices. Gaggero (2012) challenges the conclusion of Alexander *et al.* (1996, 2000) by analysing the impact of regulatory regime on market risk for regulated companies in 200 countries. In contrast to the previous research, he finds no significant difference between low and high incentive schemes for various model specifications. Moreover, in the only study investigating an emerging market, Barcelos (2010) samples 67 Brazilian companies (electricity, telecommunication, commodities, domestic sectors) and finds that equity betas of regulated firms are not different from (or even higher than) those of their unregulated peers when controlling for the time-varying nature of betas as well as equity and time-specific factors. When further analysing the reaction of firms' market risk to specific regulatory changes, he finds evidence suggesting that the additional regulations do not reduce, but rather increase the regulated firms' betas, directly contradicting the buffering hypothesis.

Instead of comparing the systematic risks between regulated and unregulated firms, some researchers have analysed the time-series policy changes and their impact on firm risk. This approach has two advantages: a) the same firms can be observed over time; and b) potential biases from other risk factors are minimised (Rothballer, 2012). Thus far, the few studies that adopt this approach have yielded mixed results. There has been evidence from industries such as water, natural gas, and telecommunication suggesting the existence of the buffering effect across different countries (Buckland and Fraser, 2001; Chen and Sanger, 1985; Sidak and Ingraham, 2003). However, the disputing evidence has been equally strong. Nwaeze (2000) analyses three

major policy changes in the US electric utility industry and finds a significant increase in earnings variability, systematic risk as well as negative abnormal returns around the events. The results indicate a reversal of the buffering effect. Paleari and Redondi (2005) explore the UK electricity distribution industry and find that as regulation gets stricter, companies' systematic risk will increase, and vice versa. Moreover, Antoniou and Pescetto (1997) and Pescetto (2008) conclude that while some regulations tend to affect their industry as a whole, others have a diverse impact on individual companies. This implies that regulation itself may be only a source of uncertainty, rather than an impacting factor on the systematic beta risk in a specific direction. Still, the literature remains unclear as to the existence of a regulation effect on systematic risk.

As an infrastructure industry, the water supply businesses tend to exhibit low volatility compared to other assets, which gives investors a low systematic risk (beta); meanwhile, the riskier stocks of technology developers in the water industry are more likely to offer investors an abnormal return (alpha) (Dickinson, 2010).

Recently, infrastructure investors are a key pillar in supporting water investment for the delivery of water infrastructure projects. In the 21st century, infrastructure could be represented as a new financial asset class due to its unique investment characteristics such as low correlation with other assets, long-term assets, low risk investments, inflation hedging properties, low competitive market structure, regulatory regimes and high barriers to entry (Bianchi and Drew, 2014; Panayiotou, 2017; PWC, 2018; Regan, Smith and Love, 2011; Rothballer and Kaserer, 2012). Thus, infrastructure investments are a more popular asset class for institutional investors as low risk investments due to their regular income and long-life return profile of infrastructure assets acting as a hedge to the long-term obligations of these institutions. It is noted that Bianchi and Drew (2014) find that listed infrastructure assets exhibit commonalities with global listed stocks and exposure to the global utilities industry like energy, oil and gas, and water. It is noted that as an infrastructure industry, the water supply businesses tend to exhibit low volatility compared to other assets, giving investors a low systematic risk (Dickinson, 2010; Jin, *et al.* 2014).

However, compared with other infrastructure industries, water businesses are largely overlooked by researchers. The few studies that examine the impact of regulatory changes on water firms focus on the British water market possibly because of its long history of water privatisation and the existence of a central government body — the Office of Water Services (see for example, Klein, 1996; Sawkins, 1996; Antoniou and Pescotto, 1997; Cooper and Currie, 1999; Morana and Sawkins, 2000; Buckland and Fraser, 2001; Grout and Zalewska, 2006; Pescetto, 2008). Much literature has been done in the US (see for example, Beecher, *et al.* 1995; Aubert and Reynaud, 2005; Beecher, 2009; Crew and Kahlon, 2014). To the best of our knowledge, there has been no empirical investigation of this issue in Asian countries' water industries. Thus, it is noted that this study is the first to examine regulatory risk in China's water industry. Moreover, the lack of uniform verification of regulation effect in the current literature has made it especially difficult for stakeholders to capture the risk associated with changing water regulations. Hence, the objective of this paper is to examine this unexplored area and improve the understanding of the links between regulation and the risks faced by regulated water firms.

Methodology and Data

Methodology

There are generally two approaches in the research of regulatory risk. The first approach tests 'regulatory system risk' — the risk related to the form of regulation. Such studies focus on betas across sectors and compare the effects of different regulation regimes. The second approach assesses 'regulatory intervention risk' — the risk associated with a particular event or action taken by a regulator. These studies examine the impact of regulation announcements on firms' time-varying betas (Grayburn, Hern and Lay, 2002). Our paper follows the methods of Buckland and Fraser (2001) and Pescetto (2008) to combine the above two approaches by classifying and measuring the impact of regulatory interventions on the systematic risks of the same group of companies over a period of time.

We use a two-step procedure to verify whether regulatory risk exists in China's water industry. In the first step, we estimate the systematic risk of water companies based on the Capital Asset Pricing Model (CAPM). The CAPM is used here not only for its academic attractions (it has been widely used to estimate the impact of regulatory risk of regulated utilities), but also due to its consistency with the modelling approach of regulators and water companies in most countries (Alexander, Mayer and Weeds, 1996; Buckland and Fraser, 2001). Assuming a fixed risk-return relationship, we have the following expression:

$$R_{it} = R_{ft} + \beta_i (R_{mt} - R_{ft}) + \varepsilon_{it} \quad (1)$$

Where R_{it} is the continuously compounded return on a risky asset *i*; R_{ft} is the continuously compounded return on a risk-free asset; R_{mt} is the excess return (in excess of the risk-free rate) on the market portfolio; β_i is the measure of the systematic risk of asset *i*; ε_{it} is a random error term.

It is, however, a stylised fact of empirical finance that betas are not stable over time (Antoniou and Pescetto, 1997; Buckland and Fraser, 2001; Grout and Zalewska, 2006; Paleari and Redondi, 2005). Considering the uncertainty surrounding the privatisation of the water industry, the changes in the political and economic environments in China and, particularly, the development of quality, health, and environmental issues relating to the supply of water and sewage services during the sample period, a model that assumes constant systematic risk and does not capture the dynamic behavior of asset returns would be inappropriate. Instead, for the purpose of analysing the sensitivity of betas to regulatory factors, we transfer Equation (1) to Equation (2):

$$r_{it} = a + \beta_{it} r_{mt} + \psi_{it} \quad (2)$$

where *r* denotes respective excess returns (returns in excess of the risk-free rate) and, assuming markets are efficient, β_{it} denotes a time-varying beta, and ψ_{it} is a random error term. Our aim is to extract from Equation (2) a time series of betas for each of the water companies in our sample.

Following the method of Buckland and Fraser (2001) and Paleari and Redondi (2005), we employ the Kalman Filter procedure for the maximum likelihood estimation of beta. The Kalman Filter procedure utilises a state-space model to extract and incorporate information from the conditional

variance of prior returns in modelling the evolution of model parameters. It is a dynamic and recursive algorithm. It allows time-varying parameters to be stochastic and uses all available information in estimation. We allow the time-variation of the betas to follow the process that is described as follows:

$$r_{it} = \beta_{i,t}\, r_{mt} + \mu_{it} \quad (3)$$

$$\beta_{i,t} = \beta_{i,t-1} + \nu_{i,t} \quad (4)$$

where β is an AR(1) process with a first-order auto-correlation coefficient equal to 1, and μ_{it} and ν_t are independent white noise error terms. Equation (3) is now termed as the measurement equation. Equation (4) is the state equation describing the time-varying behavior of the parameter β_t.

In the second step, further tests for the impact of regulatory intervention risk on China's water companies are conducted by regressing betas on different types of regulation announcement events. As mentioned above, the water industry in China is mainly influenced by regulations coming from the six regulatory bodies at the central government level. In line with Pescetto (2008), we group all the water-related regulation announcements made by these regulators based on their expected impact on competition, prices, and quality of services. Specifically, there are five types of regulatory announcements that are expected to cause increased competition ($COMP^+$) within the industry, decreased competition ($COMP^-$) within the industry, increased water prices ($PRICE^+$), decreased water prices ($PRICE^-$), and increased quality of services ($QUAL^+$). The equation estimated is as follows:

$$\beta_{it} = \gamma_0 + \gamma_1 COMP^+_t + \gamma_2 COMP^-_t + \gamma_3 PRICE^+_t + \gamma_4 PRICE^-_t + \gamma_5 QUAL^+_t + e_{it} \quad (5)$$

where β_{it} is the time-variant systematic risk of water company i; $COMP^+_t$, $COMP^-_t$, $PRICE^+_t$, $PRICE^-_t$, and $QUAL^+_t$ are dummy variables equal to one during the week of each regulatory announcement and zero otherwise; e_{it} is a random error term. The parameters $\gamma_1,\ldots,\gamma_5$ detect changes in the water industry's systematic risk as a result of particular types of regulatory announcements. We use panel data analysis, to be specific, a (firm) fixed effects model. This model assumes that each firm has its own individual characteristics which may influence the independent variables. The fixed effects regression controls the effects of those time-invariant characteristics, and thus the estimated coefficients are not biased.

Using Equation (5), the following hypotheses about the effects of each group of announcements on the water industry's systematic risk are tested:

i. announcements that are expected to increase (decrease) competition are also expected to increase (decrease) β ($\gamma_1 > 0$, $\gamma_2 < 0$);

ii. announcements that are expected to increase (decrease) the price of services are also expected to decrease (increase) β ($\gamma_3 < 0$, $\gamma_4 > 0$);

iii. announcements that are expected to increase quality threshold of services are expected to increase β ($\gamma_5 > 0$).

Pescetto's (2008) approach attributes any resulting differences in the systematic risk to regulatory announcements. However, Alexander, Mayer and Weeds, (1996) argue that the observed variation on water companies' betas can be a result of other factors that may or may not be relevant to regulatory announcements. Hence, it is necessary to control the effects of these alternative factors so that we can identify the real impact of regulation on systematic risk (Chalmeau, 2013). The existing literature has established strong links between CAPM beta and accounting variables (Beaver, Kettler and Scholes, 1970; Logue and Merville, 1972). Therefore, we develop Equation (6) based on Equation (5) and evaluate the effect of regulation announcement events on the systematic risk of the water industry while controlling for the main financial determinants including financial leverage (ratio of total debts to current assets), operating efficiency (ratio of revenue to total assets), profitability (ratio of net incomes to assets), liquidity (quick ratio), and firm size (natural logarithm of total assets) (Chalmeau, 2013). The system of equations estimated is as follows:

$$\beta_{it} = \gamma_0 + \gamma_1 COMP^{+}_{t} + \gamma_2 COMP^{-}_{t} + \gamma_3 PRICE^{+}_{t} + \gamma_4 PRICE^{-}_{t} + \gamma_5 QUAL^{+}_{t} + \gamma_6 c_{it} + e_{it} \quad (6)$$

Equation (6) shares the same variables as Equation (5) except for variable c_{it} which is a vector of firm-level controls. The parameter γ_6 detects changes in water companies' systematic risk due to their financial positions.

The Chinese water administrative systems are complex and suffer from fragmentation across ministries. According to the Organisation for Economic Co-operation and Development (OECD) (2009), the central and local governments can have different and sometimes conflicting goals. The sampled water firms are based in different provinces in China and are therefore governed by varying local water authorities. Given that the firms operate in diverging regulatory environments, it is important to examine whether the five types of announcement events have the same impact on the industry.

Therefore, in addition to the fixed effect panel regression analysis, the following regression is also estimated (Pescetto, 2008):

$$\beta_{it} = \eta_0 + \eta_1 COMP^{+}_{t} + \eta_2 COMP^{-}_{t} + \eta_3 PRICE^{+}_{t} + \eta_4 PRICE^{-}_{t} + \eta_5 QUAL^{+}_{t} + \eta_6 c_{it} + \kappa_{it} \quad (7)$$

where β_{it} is the systematic risk of company i in year t; the parameters $\eta_1, \ldots, \eta_5$ detect changes in each company's systematic risk due to particular types of regulatory announcements; η_6 is a vector of the coefficients of controlled variables; κ_{it} is a random error term. The regulatory announcement variables and controlled accounting variables are defined as above.

In the final step, we investigate the overall effect of regulatory changes on the industry's systematic risk and examine whether the buffering effect of regulation applies to the Chinese water industry. Instead of sorting the regulatory announcements into five groups of regulatory intervention events, we create a new dummy variable. When at least one regulatory event is made in a particular week, the dummy variable is considered to be one, and zero otherwise. Equation (8) below measures the overall impact of regulation on the systematic risk of the whole industry:

$$\beta_{it} = \chi_0 + \chi_1 ANNO_t + \chi_2 c_{it} + \theta_{it} \quad (8)$$

where β_{it} is the systematic risk of water company i in year t; $ANNO_t$ indicates the occurrence of a regulatory announcement; c_{it} represents the controlled accounting variables; θ_{it} is a random error term. This regression investigates the joint explanatory power of all kinds of regulatory announcements on the systematic risk of China's water industry. If regulatory change is a risk factor, the coefficient of the regulatory announcement variable should be significant after controlling for the accounting variables.

Data

Our study sample consists of 19 Chinese water companies (see Appendix A) that trade publicly on the Shanghai and Shenzhen Stock Exchanges. These companies provide direct water and sewage services to customers, and these services constitute their main source of revenue. As most of the water companies are conglomerates covering multiple segments of the water industry such as utilities, infrastructure, sewage, and water treatment, our sample serves as a good benchmark of China's water market.

We obtain panel data for all the 19 firms from DataStream covering the period from January 1, 2002 to December 31, 2013 (12-year period). We choose to use this sample period as China's water market was, in fact, not open to the private sector until 2002. Our sample contains weekly stock prices and various financial data on balance sheets. We use the MSCI China Index and the one-month China Interbank Offered Rate as estimates of market return and risk-free return, respectively. Any official news directly relating to regulatory changes in China's water industry is considered as regulatory announcements (see Appendix B for a distribution of announcements and Appendix C for representative samples). The six publishing regulatory bodies in China include State Council, the Ministry of Development and Reform Commission, the Ministry of Finance, Ministry of Water Resources, the Ministry of Environmental Protection, and the Ministry of Housing, Urban and Rural Construction. We collect publicly available information from each regulator's website.

Results

Exhibit 1 shows some descriptive statistics for the controlled accounting variables used in this study. The controlled accounting variables are financial leverage ratio, operating efficiency ratio, profitability ratio, liquidity ratio, and firm size. Table 2 shows that the mean of financial leverage ratio is 0.754, the maximum is 2.474 and the minimum is 0.000. The mean of operating efficiency ratio is -1.212, the maximum is 0.480 and the minimum is -7.264. The mean of profitability ratio is 2.438, the maximum is 11.068 and the minimum is 0.000. The mean of liquidity ratio is -0.425, the maximum is 2.366 and the minimum is -3.467. The mean of firm size is 5.437, the maximum is 9.559 and the minimum is 0.000. It is noted that the largest positive mean (5.437) is for firm size whereas the operating efficiency ratio has the lowest positive mean (-1.212).

Exhibit 1: Descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Financial leverage ratio	228	0.754	0.542	0.000	2.474
Operating efficiency ratio	228	-1.212	0.887	-7.264	0.480
Profitability ratio	228	2.438	1.398	0.000	11.068
Liquidity ratio	228	-0.425	0.854	-3.467	2.366
Firm size	228	5.437	2.145	0.000	9.559

Notes: This table reports the descriptive statistics of the five controlled accounting variables. These controlled variables are financial leverage ratio, operating efficiency ratio, profitability ratio, liquidity ratio, and firm size.

We estimate the effect of the five types of regulatory announcements on the systematic risk of China's water industry using Equation (5) and report the results in Exhibit 2. The results support our predictions that regulatory announcements that are expected to lead to decreased competition (COMP-), price change (PRICE+ and PRICE-), and increased quality of services (QUAL+) have significant impact on the industry's systematic risk. The significantly negative effect of COMP- suggests that when a regulator takes steps to reduce market competition, water companies are likely to gain greater power on the market which, in turn, results in higher price levels and profit margins. Subsequently, investors perceive reduced riskiness in the industry. As expected, the PRICE+ group of announcements has a significantly negative impact on perceived systematic risk. It makes intuitive sense that when policymakers encourage water companies to set higher prices, the companies would have more success in covering their costs and making profits, leading to a perception of low risk level within the industry. On the other hand, the significantly positive effect of PRICE- indicates that when water companies' ability to adjust their own pricing policy is restricted by the authorities, investors become skeptical of the companies' profitability and require high returns to compensate for the high risk level. The positive sign of the quality coefficient (QUAL+) means that the requirement to improve the quality threshold of services increases the industry's systematic risk. The water industry is extremely capital intensive. Improving the quality of services often involves large expenses in upgrading existing and/or investing in new tangible assets. This negatively affects returns and increases the riskiness of the companies.

Exhibit 2: The effects of competition, pricing, and quality of service announcements on China's water industry's systematic risk without the controlling variables

Regressor		Coefficient	*t*-value	Adj. R^2
Constant	γ_0	0.804	(67.22)**	0.52
COMP+	γ_1	0.011	(0.88)	
COMP-	γ_2	-0.051	(-3.97)**	
PRICE+	γ_3	-0.057	(-4.72)**	

Exhibit 2: continued

Regressor		Coefficient	*t*-value	Adj. R^2
$PRICE^-$	γ_4	0.032	(2.72)**	
$QUAL^+$	γ_5	0.035	(4.43)**	

Notes: ** indicates statistical significance at the 5% level. Robust standard errors are used in the calculation of *t*-values.

Though in the expected direction, the coefficient of increased competition ($COMP^+$) does not reach statistical significance at conventional levels. This may be due to three reasons. First, as the most capital-intensive infrastructure industry, the entry threshold to the water market is remarkably high. New entrants are faced with many challenges at both financial and political levels, while existing water firms are in a strong position to compete. New private investors have limited options in the ways that they participate in the water industry and are most likely to enter the market when public water companies are converted into joint stock companies (Pinsent Masons, 2004). The capital-intensive and monopolistic nature of the water industry means that the existing investors would not be too concerned about new players being invited into the water market due to governments' regulatory measures to enhance market competition. Hence, regulatory announcements that aim to increase competition may not be perceived by investors as damaging for the whole industry. Second, it is assumed that investors are typically more experienced with a competitive market than with a heavily regulated industry. Thus, they associate less uncertainty with regulatory announcements that promote market competition (Antoniou and Pescetto, 1997). Lastly, creating an open market and enhancing competition has been a theme underlying China's water privatisation. Regulatory announcements that emphasize market competition may be predictable or even expected by investors. Therefore, investors may be less sensitive to these announcements than to the other types of regulatory changes.

Following the method of Pescetto (2008), the results presented in Exhibit 2 only consider the effects of various types of regulatory announcements on the systematic risk of the water industry. However, in a real financial world, systematic risk is affected by other factors such as accounting variables; in fact, the accounting variables are commonly believed to be determinants of systematic risk (Chalmeau, 2013).

To better observe the effect of regulatory announcements, we control financial leverage, operating efficiency, profitability, liquidity, and firm size. As reported in Exhibit 3, three types of regulatory announcements — decreased competition ($COMP^-$), increased price ($PRICE^+$), and increased quality of services ($QUAL^+$) continue to show significant influence on the water industry's systematic risk, while the relationship between the increased competition ($COMP^+$) group of announcements and systematic risk remains insignificant. However, it is interesting that regulatory announcements demanding lower water prices ($PRICE^-$) no longer bear a significant association with systematic risk. This may be because water prices in China have been very low and are markedly below the operational costs (World Bank, 2007).

The water industry still heavily relies on government subsidies. It has been the regulators' priority to introduce more aggressive pricing mechanisms in order to encourage preservation of water and to generate revenue to invest in water infrastructure and environmental protection. It is noteworthy that the water prices have been rising in recent years and several government documents have been released to emphasise the necessity of this process (EU SME, 2013; OECD, 2009). Water investors interpret regulatory announcements that restrict higher profitability within this large political context and may not be particularly reactive to such news. Another possible explanation is that a low water price increases the barrier to entry, and this stabilises water companies' returns and reduces the associated uncertainty. Hence, investors would not be particularly threatened by regulations that require companies to keep water prices/revenue low.

Exhibit 3: The effects of competition, pricing, and quality of service announcements on China's water industry's systematic risk after controlling for accounting variables

Regressor		Coefficient	*t*-value	Adj. R^2
Constant	γ_0	-0.557	(-14.61)**	0.61
COMP+	γ_1	0.011	(0.95)	
COMP-	γ_2	-0.025	(-2.03)**	
PRICE+	γ_3	-0.043	(-4.12)**	
PRICE-	γ_4	0.012	(1.15)	
QUAL+	γ_5	0.020	(2.88)**	

Notes: **, * indicate statistical significance at the 5% and 10% levels, respectively. Robust standard errors are used in the calculation of *t*-values.

Overall, the results show that regulatory intervention efforts that aim to increase water prices (PRICE+) and improve quality of water services (QUAL+) significantly affect the industry's systematic risk at the 5 per cent level, whether or not we control for the accounting variables. It is theorised that these two types of regulatory announcements are mostly in accordance with the stated main priorities of the government — raising water prices for financially and environmentally sustainable water infrastructure and providing better water and wastewater services to consumers (OECD, 2009). Given the repeated and reinforced messages from the regulators, investors tend to believe that regulatory announcements that allow higher water prices would subsidise their high costs for operation, increase profit margins, and reduce systematic risk. Similarly, announcements that require improved quality of services may lead to the belief that operational costs would surge due to greater environmental and quality obligations, making the water industry more risky. Investors have been more inclined to react to regulatory announcements that are consistent with the momentum of water reforms. In other words, the effect of regulatory intervention measures may be moderated by investors' perception of the overall political environment.

Exhibit 4: The effects of competition, pricing, and quality of service announcements on the systematic risks of individual Chinese water companies

Regressor		β_1		β_2		β_3		β_4		β_5	
COMP+	η_1	0.081	(0.97)	-0.008	(-0.39)	-0.015	(-0.63)	-0.023	(-1.53)	0.070	(2.16)**
COMP-	η_2	0.019	(0.97)	-0.005	(-0.14)	0.037	(1.04)	0.041	(1.43)	-	-
PRICE+	η_3	-0.058	(-2.43)**	-0.043	(-1.54)	-0.036	(-1.65)*	-0.014	(-0.86)	-0.269	(-12.86)**
PRICE-	η_4	0.024	(0.56)	-0.003	(-0.27)	-0.003	(-0.12)	-0.007	(-0.47)	-0.007	(-0.24)
QUAL+	η_5	0.013	(0.45)	0.010	(0.80)	-0.009	(-0.40)	0.021	(2.60)**	0.006	(0.40)
		β_6		β_7		β_8		β_9		β_{10}	
COMP+	η_1	0.001	(0.09)	-0.013	(-0.81)	0.026	(1.73)*	0.071	(1.13)	0.001	(0.03)
COMP-	η_2	-0.040	(-1.67)*	0.018	(1.51)	-0.025	(-0.61)	-0.074	(-1.35)	-	-
PRICE+	η_3	-0.025	(-1.93)*	-0.015	(-0.93)	-0.079	(-2.61)**	-0.130	(-1.64)	-	-
PRICE-	η_4	-0.001	(-0.12)	-0.003	(-0.63)	0.033	(1.27)	0.070	(1.18)	0.062	(3.41)**
QUAL+	η_5	0.013	(2.07)**	0.002	(0.52)	0.023	(1.59)	0.067	(1.78) *	-0.026	(-1.44)
		β_{11}		β_{12}		β_{13}		β_{14}		β_{15}	
COMP+	η_1	0.016	(1.24)	0.003	(0.14)	0.005	(0.41)	0.034	(1.04)	-0.012	(-0.84)
COMP-	η_2	-0.036	(-0.99)	-0.006	(-0.32)	0.049	(1.46)	-0.039	(-1.45)	0.016	(0.90)
PRICE+	η_3	-0.029	(-2.34)**	-0.039	(-1.74)*	-0.038	(-2.18)**	-0.036	(-2.70)**	0.006	(0.47)
PRICE-	η_4	-0.005	(-0.49)	0.031	(2.00)**	0.029	(3.89)**	-0.026	(-2.18)**	-0.021	(-1.68)*
QUAL+	η_5	0.021	(1.84)*	0.005	(0.51)	-0.005	(-0.39)	0.015	(0.63)	0.037	(2.70)**
		β_{16}		β_{17}		β_{18}		β_{19}			
COMP+	η_1	-0.026	(-1.21)	-0.010	(-0.90)	-0.022	(-0.85)	-0.018	(-0.65)		
COMP-	η_2	-0.007	(-0.27)	0.013	(0.54)	-0.028	(-0.73)	-0.001	(-0.03)		
PRICE+	η_3	0.003	(0.09)	-0.026	(-1.85)*	-0.031	(-1.93)*	-0.038	(-1.49)		
PRICE-	η_4	0.018	(0.63)	0.014	(2.06)**	0.013	(0.74)	-0.014	(-0.59)		
QUAL+	η_5	0.003	(0.15)	0.013	(1.75)*	0.018	(1.28)	0.048	(2.23)**		

Notes: **, * indicate statistical significance at the 5% and 10% levels, respectively. Robust standard errors are used in the calculation of *t*-values. $\beta_1,\ldots, \beta_{19}$ denotes the systematic risk of Company Number 1 to 19. See Appendix A for a complete list of companies.

Exhibit 4 presents the results from testing the effects of competition, pricing, and quality of service announcements on the systematic risk of each water company. It can be seen that when we do not control the unique characteristics (fixed effects) of individual water companies as in the panel regression analyses, the regulatory announcements demonstrate mixed influences on the 19 sampled water companies. While announcements that are expected to decrease competition, increase water prices, and improve quality of services have a significant impact on the industry as a whole, this influence does not necessarily transfer to individual water companies. It is possible that due to the inconsistent and sometimes conflicting policies between central and local authorities (OECD, 2009), water companies are somewhat shielded from direct impact resulting from central policy changes. Moreover, Exhibit 4 shows that most companies are significantly affected by two or fewer types of regulatory announcements, suggesting that investors consider the water industry as a very stable market with little uncertainty. In conclusion, regulatory risk should be perceived more as an industry-wide issue, and individual water companies are not easily threatened or benefited by regulation changes. It is noted that our analysis of the systematic risk of each water company in China can be comparable with that of water utilities of Australia. Our results, therefore, can serve as a benchmark of regulators' methodology and equity beta values used by Australian jurisdictional regulators in regulating water utilities such as Sydney Water and Melbourne Water (Lewis and Zheng, 2018; NERA, 2011; Quach, Corcoran and Morrison, 2017).

Exhibit 5 provides insight into the regulatory intervention risk by revealing the overall impact of regulation on the industry's systematic risk. The coefficient of ANNO is found to be insignificant, suggesting that the regulatory announcements have no joint explanatory power on the systematic risk of China's water industry. Given our previous findings, this result is hardly surprising. The five types of regulatory announcement have shown diverging impacts on the industry's systematic risk. When we conduct an aggregated analysis, the effects naturally average each other out. Consistent with Antoniou and Pescetto (1997) and Pescetto (2008), we do not detect lower systematic risk being associated with regulation announcement events, failing to provide support to Peltzman's buffering effect theory.

Exhibit 5: The overall effect of regulatory announcements on China's water industry's systematic risk

Regressor	Coefficient	*t*-value	Adj. R^2
Constant	-0.575	(-15.11)**	0.61
ANNO	0.006	(1.17)	

Notes: ** indicates statistical significance at the 5% level. Robust standard errors are used in the calculation of *t*-values.

Conclusion

China has initiated a movement of water industry privatisation since the beginning of the 21st century. This has greatly shaped the landscape of China's water market. Being one of the three largest water markets in the world, China's private water sector serves the greatest number of consumers and is considered a global and regional driver. Within this context, regulatory scrutiny and intervention play increasingly important roles in the operation of water businesses and are recognized as determinants of the performance of the water industry. However, despite the urgent need for knowledge of regulatory risk in relation to China's water industry, no empirical effort has been made in this area. In fact, literature that explicitly examines the riskiness of water regulation in a global context is also scarce. In order to address this research gap, our paper explores the impact of regulatory announcements on the systematic risk of China's water industry.

Our study sample is composed of 19 companies whose primary revenue is generated by providing water and/or wastewater services in China. We analyse the industry's regulatory risk by regressing water companies' time-varying betas on different types of regulation announcement events. The results show that regulatory actions from China's central government do not have a significant impact on the systematic risk of the whole industry, failing to confirm Peltzman's buffering effect theory. However, the observation that regulatory announcements have no overall effect on the industry's systematic risk does not necessarily mean that the systematic risk is unaffected by regulatory efforts. The insignificant finding may be due to the effects of different types of regulatory announcements cancelling each other out. When we classify the regulatory announcements into five groups, we find that regulatory announcements that are expected to reduce market competition, increase water prices, and improve the quality of water services have a significant impact on the systematic risk of China's water industry with or without controlling for accounting variables. However, regulatory efforts to enhance market competition and reduce water prices do not have significant associations with systematic risk. These findings partially support our hypothesis that regulatory announcement events affect the water industry's systematic risk. They suggest that not all regulatory efforts can achieve the same effect on systematic risk. It is theorised that investors are not easily threatened by regulators' efforts to enhance market competition or reduce water prices, possibly due to the unique characteristics of the industry — namely, high capital intensity, significant barriers to entry, and a desperate shortage of operating funding. Investors tend to be more responsive to regulatory efforts that are designed to reduce market competition, increase water prices, and improve quality of water services perhaps because these announcements are more in line with the monopolistic nature of the industry and government's stated priorities of efficient water services and consumption. We therefore conclude that investors interpret regulatory announcements within a larger political environment and are more likely to perceive regulatory changes consistent with regulators' long-term objectives to be effective measures. Our further analyses reveal that most individual water companies are not significantly affected by regulatory changes. This means that although investors view certain types of regulatory changes as being effective on the industry's systematic risk, their effects may not be transferrable at a company level.

Our study has several implications. Though regulatory announcements in general do not affect water industry's systematic risk, policymakers need to be aware of the potential outcomes of their actions. Specifically, their attempts to decrease market competition and increase water prices would reduce the perceived riskiness of the water industry, while regulatory efforts to improve the quality threshold of water services make the industry appear of more risk to investors. Moreover, it is important to remember that regulatory changes that have an impact at the industry level may not have the same effect at an individual company level. As mentioned earlier, our research is the first to examine regulatory risk in a developing country's water industry, more research in this field is urgently needed. Future studies can investigate the underlying mechanisms of how regulatory changes affect individual companies, e.g. examining the role of local water authorities. Development of an overall index of regulation (such as the 'Polynomics Regulation Index 2012' for the telecommunication industry — a highly detailed measurement of regulation intensity) may alleviate some of the challenges in studying this highly defragmented industry.

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Appendix A

List of water companies

	Company	Timespan	Beta
No. 1	Anhui Grotong Hi-Tech Pipes Industry	2004 - 2013	0.649
No. 2	Anhui Water Resources	2003 - 2013	0.904
No. 3	Beijing Capital	2002 - 2013	0.872
No. 4	China Gezhouba Group	2002 - 2013	0.748
No. 5	Chongqing Water Group	2010 -2013	0.903
No. 6	Fujian Zhangzhou Development	2002 -2013	0.820
No. 7	Grandblue Environment	2002 - 2013	0.606
No. 8	Guangdong Golden Dragon Development	2002 - 2013	0.896
No. 9	Heilongjiang Interchina Water Treatment	2002 - 2013	0.233
No. 10	Jiangsu Jiangnan Water	2011 - 2013	0.543
No. 11	Jiangxi Hongcheng Waterworks	2004 - 2013	0.780
No. 12	Qianjiang Water Resources	2002 - 2013	0.859
No. 13	Shanghai Chengtou Holding	2002 - 2013	0.782
No. 14	Sichuan Guangan AAA Public	2004 - 2013	0.792
No. 15	Sound Environmental Resources	2002 - 2013	0.634
No. 16	Tianjin Capital Environmental Protection Group	2002 - 2013	0.820
No. 17	Wuhan Sanzhen Industry Holding	2002 - 2013	0.797
No. 18	Xinjiang Urban Construction Group	2003 - 2013	0.894
No. 19	Zhongshan Public Utilities Group	2002 - 2013	1.029

Notes: Beta is a constant figure calculated from Equation (1) $R_{it} = R_{ft} + \beta_i (R_{mt} - R_{ft}) + \varepsilon_{it}$. Ordinary Least Squares estimation is used.

Appendix B

Frequency distribution table of the five types of regulatory announcements made by China's central water regulators: January 2002 – December 2013

Year	$COMP^+$	$COMP^-$	$PRICE^+$	$PRICE^-$	$QUAL^+$	Total
2002	1	2	3	-	-	6
2003	-	1	1	-	-	2
2004	2	-	-	-	-	2
2005	2	-	-	-	5	7
2006	2	1	1	1	3	8
2007	-	-	2	-	-	2
2008	-	2	2	-	-	4
2009	-	-	3	-	1	4
2010	1	-	1	2	-	4
2011	3	-	-	2	3	8
2012	1	-	-	-	4	5
2013	1	-	-	1	2	4
Total	13	6	13	6	18	56

Notes: $COMP^+$ denotes announcements that are expected to have a positive effect on competition; $COMP^-$ denotes announcements that are expected to have a negative effect on competition; $PRICE^+$ denotes announcements that are expected to have a positive effect on prices; $PRICE^-$ denotes announcements that are expected to have a positive effect on prices; and $QUAL^+$ denotes announcements that are expected to have a negative effect on quality.

Appendix C

Samples of regulatory announcements made by China's central water regulators: January 2002 – December 2013

1.	Announcements that are expected to have a positive effect on competition (COMP+)
	May 19, 2009 (State Council). Fasten the reform of public utility services; expand the scope of business permits for water and wastewater services.
	January 01, 2011 (State Council). Attract private funds by encouraging municipal-owned companies to invest in the water industry directly and indirectly.
2.	Announcements that are expected to have a negative effect on competition (COMP-)
	December 10, 2006 (Ministry of Water Resources). Water projects must be supervised and permitted by the Ministry of Water Resources and local water authorities.
	April 9, 2008 (Ministry of Water Resources). The supply of water for any projects must be approved and implemented by relevant government bodies.
3.	Announcements that are expected to have a positive effect on prices (PRICE+)
	April 19, 2010 (Ministry of Development and Reform Commission). Develop a sustainable pricing mechanism by implementing hierarchical water prices.
	August 31, 2011 (State Council). Promote hierarchical water prices; include additional wastewater costs in water tariff.
4.	Announcements that are expected to have a positive effect on prices (PRICE-)
	May 28, 2011 (State Council). Set reasonable water prices in the development of water grids in rural areas.
	January 7, 2013 (Ministry of Development and Reform Commission and Ministry of Water Resources). Carefully and fully consider local economic development and consumers' ability to pay when setting water prices.
5.	Announcements that are expected to have a negative effect on quality (QUAL+)
	May 28, 2012 (Ministry of Housing, Urban, and Rural Construction). Apply stricter criteria to drinking water quality; drive higher standards; use more advanced technologies in drinking water treatment.
	October 2, 2013 (State Council). Apply stricter standards in wastewater management; increase investments in the processing of wastewater.

CAREER OUTCOMES OF FINANCIAL PLANNING STUDENTS

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ABSTRACT

In a competitive job market, a traditional university qualification that delivers technical knowledge, in itself, does not guarantee graduate employment (Crebert, *et al.* 2004). This study sought to determine which personal characteristics, skills and attributes lead to successful employment after graduating from financial planning degrees across Australian financial institutions. We find that education providers can do more to develop a number of skills, including interpersonal communication, negotiating, marketing and being a team player, and that there may be gender differences in role preferences and pathways into a financial planning career. This study found that both students and employers are seeking more professional awareness throughout financial planning degree programs including learning outcomes regarding interpersonal communication, teamwork and leadership, analytical skills, presentation skills, enterprising skills such as developing business plans and marketing, as well as more mentoring programs and internships to develop more generic skills in graduates to help meet employers' high expectations. This study also suggests that students' work expectations could be better managed regarding entry pathway options, but also presents an optimistic outlook for existing students preparing for a career in financial planning.

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Introduction

Both employers and students feel that university learning experiences are not equipping graduates with the necessary range of skills workplaces require (Gardner and Liu, 1997; Kavanagh and Drennan, 2008). Surveys of employers find students are lacking generic skills to be effective in the workplace, are less able to transfer technical knowledge to a practical setting, and are generally unaware of the realities of business (Hernandez-March, Martin del Peso and Leguey, 2009; Jackling and DeLange, 2009). Graduates of finance degrees are also increasingly expected to exhibit professional judgement, particularly regarding ethical practice (Bearden, 2015), with the employability discourse adjusting to encompass the construction of a pre-professional identity (PPI) during university years (Jackson, 2016) that relates to an understanding of, and connection with, the student's intended profession. This expanded focus on employability puts additional pressure on academics to deliver learning experiences beyond the traditional teaching of technical knowledge (Bates, 2011). In addition, Australian tertiary education providers and employers are seeking to attract high calibre candidates into degrees and careers in financial planning. Internationally, institutions have found an imbalance between supply and demand of financial planning new entrants, with financial planning programs struggling to recruit (and graduate) sufficient financial planning graduates to meet industry demand (Chen and Severns, 2016). Maximising employability of financial planning graduates will not only ensure better career outcomes but will also assist in attracting new entrants into education programs.

There are a number of areas where universities are not adequately preparing students for the workforce. Surveys of students show that they generally do not have confidence in their own personal capabilities. This inhibits their development of skills that depend on good self-efficacy, like communication and presentation skills (Freudenberg, *et al.* 2008). For example, these students may lack authentic assessment or other opportunities to challenge themselves and increase their confidence. Universities also seem not to engage students well in early career planning. Consequently, students are underprepared and unaware of the complexities of job searching and potential employment paths when they graduate (McCorkle, *et al.* 2003).

Of most concern for a successful graduate outcome is the gap between employers' expectations and what students perceive those employers' expectations to be. A study by Kavanagh and Drennan (2008) found that employers rank 'business awareness' and 'real world' experience amongst the top three graduate skills, while students did not rank these attributes as a priority at all. Thus, it seems that both students and universities limit investigations into their chosen discipline largely to technical knowledge and do not seek, or are not given, broader coaching as to how to apply knowledge to practical problems. They do not adequately prepare students for the realities of maintaining a profitable business and working with owners, managers, clients and other stakeholders, and applying generic skills like organisation and time management to complete tasks within the quality, time and cost parameters provided (Kavanagh and Drennan, 2008).

In order to meet the expectations of employers and students, universities and businesses recognise the need to work together to improve the work-readiness of graduates (ACEN,

2014). Universities know that marrying the expectations of employers and students represents a significant challenge. The demands on staff to link with industry and provide authentic assessment to build generic skills are evident in strategic plans but often not supported by staff resourcing. While the financial planning courses offered by Australian universities integrate real-world content and assessments (case studies, role-plays, etc.) as much as possible, good teaching and learning practice necessitates constant revision of curriculum. Accordingly, this study sought to gain insight into how students rank their own abilities and skills critical to the financial planning profession gained through their study, and to identify which factors increased the likelihood of a successful employment outcome. In addition to skills and attributes, we collected information regarding demographic and socioeconomic characteristics, students' attitudes to work and unforeseen challenges, their attitudes to the financial planning profession and the availability of support networks (like mentoring) to assess their progress in terms of employment outcomes.

Feedback obtained through survey results and analysis helps to inform education providers as to the effectiveness of the financial planning curriculums across Australian universities. We also sought to help improve the transition to work by increasing awareness of perceived challenges and barriers to entry, and psychological elements such as self-assessed lack of confidence in abilities. The results may be of interest to potential new entrants to financial planning who are looking for a competitive edge in an emerging profession, and to the education providers seeking to attract students into financial planning courses. Current student planners and employers may also find the identified differences in expectations between new entrants and employers informative in managing expectations of new entrants in terms of career progression in financial planning and support structures that are needed, such as for mentoring.

The study is particularly timely as new financial planning education standards in Australia are undergoing significant reform, with *The Corporations Amendment (Professional Standards of Financial Advisers)* Act 2017 establishing new education and professional standards. Changes include requiring new financial planners from 2019 to obtain a degree (existing planners have until 2024 to obtain a degree-equivalent status), undertake a professional year, undertake Continuing Professional Development (all planners from 2019), be subject to a Code of Ethics (relevant providers from 2020) and pass an exam during their Professional Year (existing planners have until 1 January 2021). According to Olender (2015), approximately 16,911 existing planners would need to gain the necessary qualifications. In addition, the Financial Planning Education Council, part of whose remit is to develop a research agenda in financial planning to inform practice and policy, identified key research priorities for the financial planning industry and curriculum development, including developing an awareness of career pathways in financial planning, the role of mentoring, and the factors that attract women to the profession (FPEC, 2016). This research hopes to provide insight into these specific areas of interest and overall results will improve the understanding of education and career progression in financial planning.

The remainder of this paper is organised as follows: Section 2 provides a review of literature on employability; Section 3 summarises relevant theory; Section 4 introduces the methodology; Section 5 presents and discusses the results; and Section 6 concludes the paper.

Literature Review

The past two decades have seen much attention on the lack of development of generic skills in university students (AC Nielsen Research Services, 2000; Kavanagh and Drennan, 2008; Jackling and DeLange, 2009; Clokie and Fourie, 2016; Matsouka and Mihail, 2016). Otherwise labelled 'graduate', 'professional', 'transferable', 'work ready' and 'employability' skills, they encompass communication, teamwork, problem-solving, initiative and enterprise, planning and organising, self-management, learning, and working with technology (ACCI and BCA, 2002). Essentially, having good generic skills would enable a person to adapt independently to new work environments or challenges, without reliance on having already acquired technical knowledge. Instead, they would be able to use their initiative to seek relevant information, drawing on problem-solving and self-management skills, and communicate to each stakeholder in appropriate ways. In the digital age, being adaptable and possessing a lifelong learner identity are increasingly necessary.

Research shows that employers consistently rate generic skills above technical skills. For example, Weisz (2000) surveyed students and employers participating in an internship program, and found that while employers rated teamwork, initiative and communication skills as most important, the students rated communication and initiative as their two weakest capabilities. Dagget and Liu (1997) surveyed 92 employers of accounting graduates and found employers were disappointed with graduates' written, presentation and interpersonal skills. Similarly, Jackling and DeLange (2009) surveyed 174 accounting graduates in Victoria and 28 employers, and found employers placed more emphasis on teamwork, leadership and communication skills, than technical skills. Not surprisingly, the viewpoint of accounting students is that their degree focused on developing technical skills to the detriment of developing other skills (Kavanagh and Drennan, 2008).

In general, educators are aware of the issue and many university policies place heavy policy emphasis on developing generic skills in their programs. However, many tertiary education providers are also juggling the competing demands of a crowded curriculum and the demands of accreditation bodies for skills and knowledge in technical areas (Lawson, *et al*. 2011).

The Griffith University Strategic Plan (2013–2017), for example, states that preparing 'work-ready graduates' and to 'develop qualities that are valued by employers' as high priorities (Griffith University, 2013). Thus, increases in work-placement programs, guest lectures, and other activities that connect students to industry have occurred. However, university educators generally continue to prioritise teaching technical skills, which may reflect a lack of expertise in teaching generic skill development, difficulties in assessing generic skills or, indeed, a lack of time, support or incentives in workloads to incorporate an additional task to an already overburdened academic workforce (Jones, 2009; Barrie, Hughes and Smith, 2009).

Financial planning, like accounting, is an applied profession (Houterman, 2009). Financial planners need to be able to apply a range of knowledge about laws, rules, guidelines and theories to specific real-world situations that significantly impact on their clients' financial future. To successfully engage with the client, skills in psychology, communication, negotiation, leadership, motivation and marketing are required (Goetz, Tombs and Hampton, 2005). Furthermore, financial

planners need to be able to analyse and synthesise quantitative information (Financial Planning Standards Board, 2007). Surveys of financial planners identified that important skills most in need of development were problem-solving and interpersonal skills (Cameron, *et al*. 2014).

The body of research on financial planning education is growing, borne out of recognition that competency in financial planning is the product of university and work experience (Teale, 2013). Thus, to address skill deficiencies, many education providers engage in ways to integrate more authentic learning experiences for financial planning students in their programs, such as work placements and internships, professional development programs, industry events, mentorships, guest lectures and the like.

Griffith University, for example, developed a professional development program (PDP) for financial planning students, held over three days and offered on three occasions across 2008–2009. These workshops were underpinned by the importance of developing generic skills, including interpersonal, self-management, learning and adaptability, problem-solving, oral and written communication and teamwork. Other sessions included structured activities to interact with fellow classmates, industry networking, career advice (including job applications and interviews), and information literacy skills. Students were surveyed prior to the PDP and after three PDPs had been offered. Twelve months later, students expressed greater confidence in all ten of their skills and abilities that were surveyed (Freudenberg, Brimble and Cameron, 2011). The skills identified in the first survey as their weakest remained the weakest twelve months later, but the self-rating had improved markedly. These were oral and written communication skills, interpersonal skills, and concept and analysis skills. In all, the authors' results found that a PDP program was successful in relation to increasing students' awareness of the value of developing generic skills as well as improving the skills themselves. Some of the elements of this PDP program have since been integrated into undergraduate financial planning programs and courses, including explicitly in Griffith University's 'Professional Awareness' and 'Professional Identity' courses in the Bachelor of Applied Financial Advice.

A mentorship program also provided valuable connections for students. The Griffith Industry Mentoring Program involves more than 200 business and financial planning practitioners. For students, the benefits include exposure to potential employing organisations and career advice (Teale, 2013). For mentors, the potential benefits are listed as personal satisfaction, learning about latest research, coaching and mentoring skill development, meeting potential employees, opportunities to reflect on own practice, workplace recognition and networking opportunities at the mentoring events (Griffith University, 2015). It is particularly advantageous when relationships continue beyond an educational program, as many practitioners have noted the importance of a mentoring relationship for those beginning a career as a financial planner (Katz, 1999; Rattiner, 2000; Teale, 2013).

Notwithstanding the developments in work-integrated learning by tertiary education providers, there is also recognition that employability and career outcomes are not all determined on *entry* into a profession. Stakeholders recognise that a graduate's early employment experiences are the first step on the employability journey. Much of the literature already outlined in this paper

focuses on human capital aspects, such as knowledge and skills, and the processes by which tertiary education providers assist students to acquire and enhance these skills. However, there is also broader employability literature that focuses on individual variables (such as personality, attitudes and career-related behaviours), labour market variables and current employment status (Clarke, 2018). A study of employability in Europe mirrored many of the conclusions in Clarke's 2018 study, including skills across four domains: Cognitive (e.g. analytical skills, creative thinking); Methodological (e.g. learning to learn, problem-solving, decision-making); Social (e.g. communication and interpersonal skills, teamwork, cross-cultural and diversity competence); and Subject-specific competence (Ornellas, Falkner and Stålbrandt, 2019).

While recognising that there are a number of factors influencing employability, the focus of this paper is on identifying the potential areas of collaboration between tertiary education providers, employers, industry groups and new entrants in improving employability attributes on entry to a career in financial planning. Further research, however, could involve more disciplines such as career counselling, psychology and management.

A study by Kinash *et al.* (2016) showed that the strategies that correlated highest with employability included mentoring, extracurricular activities and membership in professional associations. However, there were seven strategies identified as important including work experience/internships/placements; careers advice and employment skills development; engaging in extracurricular activities; attending networking or industry information events; part-time employment; volunteering/community engagement; and professional association memberships/ engagement. Importantly, graduate employability is heightened when students and graduates actively initiate and make the most of these strategies when they are available.

Supporting many of these employability strategies, however, are generic skills which are regarded as particularly important for employers and, hence, also important for universities. Given that future jobs will be vastly different from any that have preceded them, increased focus on generic skill development may be more practical. Griffith University has actively provided its financial planning students with opportunities to improve generic skills, as is the case to varying extents with other providers of financial planning programs. This has seen some improvement in graduate employment outcomes.

Employment outcomes are often measured by national data collection such as the Graduate Outcomes Survey (GOS) (QILT, 2019). The report of the GOS presents data on the number of university graduates employed full-time, four months after graduating. The overall employment rate for undergraduates in 2018 was 87.0 per cent, similar to the 86.5 per cent reported in 2017 and 86.4 per cent in 2016. This overall rate, while high, includes part-time as well as full-time employment. Looking at full-time employment four months after completing their degree in 2018, 72.9 per cent of undergraduates had made the transition compared to 71.8 per cent in 2017 and 70.9 per cent in 2016. Overall, it seems graduate employability is improving since the drop following the Global Financial Crisis (GFC) of 2008 which saw a drop in the full-time employment rate among undergraduates from 85.2 per cent in 2008 to 68.1 per cent in 2014. Of interest to this study is that of those undergraduates employed full-time, the 2019 GOS reported that only

"57.4 per cent felt that their qualification was 'very important' or 'important' for their current employment" (QILT, 2019, p. 26). This further underlines the importance of articulating the employability components of programs provided by tertiary education providers.

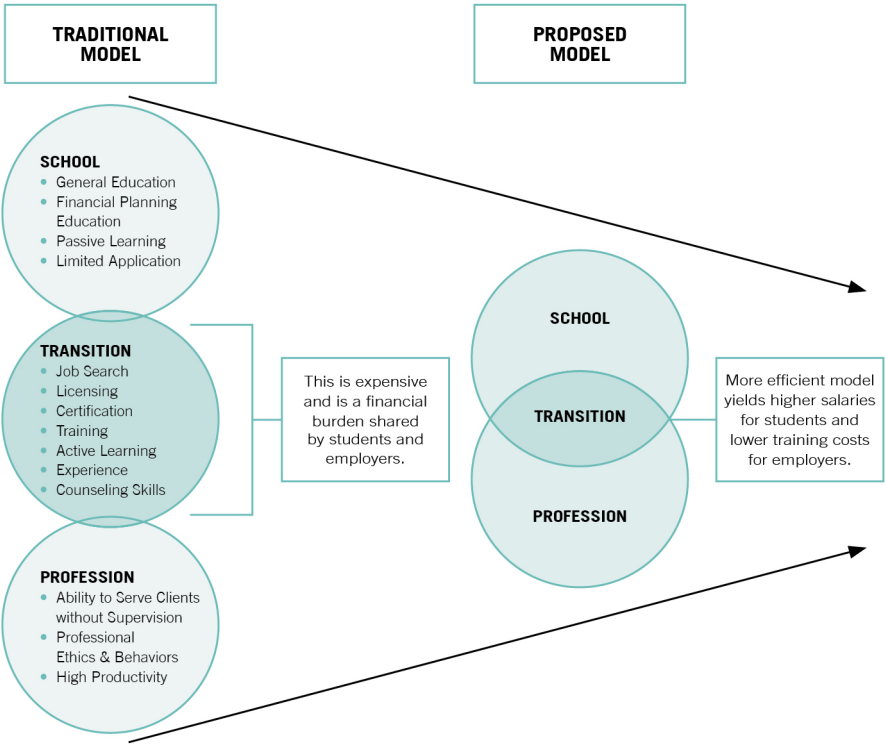
In the post GFC environment and amid a very competitive job market, this study of financial planning students' self-assessed skills and attributes, their access to mentors, and how they perceive their program as improving their generic skills is timely for understanding career progression into the financial planning profession. Further, there is a distinct lack of research on women's experiences and perceptions of working in the financial planning industry, and this study aims to provide insights in this regard.

Theory

The traditional model of transition from higher education to the workplace involves the passive transmission of content by the education provider, with the workplace providing considerable support to the graduate to get them to a level where they can work independently (Goetz, Tombs and Hampton, 2005). Lectures, tutorials and conducting research assignments are typical of traditional tertiary learning focusing on conceptual learning with limited practical application (Teale, 2013; Rossetto and Murphy, 2010). However, alternative methods of learning, like Kolb's (1984) Experiential Learning Theory, place more emphasis on students' integration of content knowledge acquired in the first acquisition phase with real-life activities that require 'knowing' and 'doing' (Teale, 2013).

The financial planning profession has felt the lack of practical application in financial planning education particularly acutely, with the transition into work being difficult and expensive for both students and employers (Goetz, Tombs and Hampton, 2005). Employers incur costs in the form of in-house training, compliance, supervision and turnover, and pay a wage in excess of the new graduates' actual contribution in the hope of recouping expenses when the graduate becomes more productive (Goetz, Tombs and Hampton, 2005). Goetz, Tombs and Hampton (2005) propose a model whereby the education provider plays a more pronounced role in the transition phase, which would produce more efficient outcomes for students and employers. Beyond core competencies, Goetz, Tombs and Hampton (2005) propose that financial planning education should emphasise skill development in the areas of ethics, professionalism, professional software applications, financial planning business practices, marketing, communication/counselling, along with opportunities to obtain compliance recognition. The Goetz, Tombs and Hampton (2005) model is provided in Figure 1.

Figure 1: Goetz, Tombs and Hampton (2005)



Goetz, Tombs and Hampton (2005) list many methods that can help bring the profession into the classroom, including case studies, games and simulations, financial planning software, capstone courses, internships, student managed investment funds, ethics seminars, guest speakers, establishing a financial planning clinic, peer education programs, community presentations, student memberships in professional organisations, and mentoring relationships with professionals. In a search of the literature and websites of financial planning education providers in Australia, Teale (2013) attempts to ascertain the extent to which the aforementioned methods are utilised. At the time of his analysis, Teale (2013) found that many universities use financial planning software (University of the Sunshine Coast, the University of New England, Curtin University, University of Southern Queensland, Griffith University), include a capstone course (University of

the Sunshine Coast, Griffith University, La Trobe University, Curtin University, University of Southern Queensland, University of New England) and have academics that actively participate in the professional body (Victoria University, the University of Western Sydney, Griffith University, La Trobe University, the University of the Sunshine Coast). However, there was limited use of internships, mentoring programs (only the Griffith University Industry Mentoring Program identified), and guest speakers (University of Western Sydney, Griffith University). While obtaining updated information from each education provider is left for future research, it is likely that the growing demand for financial planning degrees—given new educational requirements—will see additional investment of resources in these programs.

Methodology

This study sought to determine which personal characteristics, skills and attributes lead to successful employment after graduating from financial planning degrees across Australian financial institutions. Accordingly, we used two surveys to assess the factors that assist in a successful transition from study to work. Financial planning students were invited to participate in the first survey, with a preference for those students who were in their final year of study. The second survey was sent to those students who agreed to be contacted again six to eight months later, to ascertain employment outcomes post-graduation.

The first questionnaire consisted of three sections. The first section included questions regarding standard demographic and socioeconomic characteristics, including sex, age, household type, identification as Aboriginal or Torres Strait Islander, first language other than English, employment status, and levels of income and net wealth. In addition, we ascertain which education provider the respondent is studying with, what the highest level of educational attainment will be (assuming successful completion of current program), timeframe to completion, current Grade Point Average (GPA), and what their primary motivation was to enrol in a financial planning program.

The second section included questions regarding the respondent's financial planning program, including motivation for program choice and the financial planning profession, perceived work prospects and challenges, work experience, knowledge of career pathways (i.e. paraplanner and practice owner), awareness of incoming qualification requirements, and access to friends and mentors to ascertain levels of support. Inclusion of these items in the survey is important for a number of reasons. First, financial planning in Australia is undergoing significant reform to be recognised as a profession, including more rigorous educational requirements. Second, research has shown that mentoring is important for early career financial planners (Katz, 1999; Rattiner, 2000; Teale, 2013). Third, key concerns for the financial planning industry and curriculum development were identified by the Financial Planning Education Council to be: developing an awareness of career pathways in financial planning, the role of mentoring, and understanding the factors that attract people to the profession, with particular interest in encouraging more women (FPEC, 2016).

The final section in the first questionnaire provides students with a list of 17 skills or attributes and asked students to rate their perceived level of skill or attribute on a five-point Likert scale, from 'very

low' to 'very high', and to then indicate the role that they perceived their education provider had in developing these same skills and attributes. These items were based on items in related survey instruments of employability skills and graduate attributes, and include interpersonal, presentation, organisation and time management, writing, negotiating, marketing, critical thinking, problem-solving, leadership, business awareness, analysing information, taking initiative, enterprising, ability to apply knowledge in a work setting, being a lifelong learner, a team player, and being able to use technology (see for example, Crebert, *et al.* 2004; Jackling and DeLange, 2009; Freudenberg, Brimble and Cameron, 2011).

The second survey was sent to personal email addresses of those students who granted permission to be contacted again in six months. The second survey asked students if they have graduated, what their employment situation is, their perception of the seventeen skills and attributes that factored into a successful employment outcome (if applicable) and to re-rate their level of ability on the five-point Likert scale. It also asked graduates what duties they find challenging, whether their study prepared them for work and asked how it may have prepared them better, or if they wish they had done anything differently to be better prepared for work, and whether they have family, friends or mentors for support. If there has not been a successful employment outcome, it asked graduates whether they have had feedback regarding improving their employability potential.

Results and Discussion

The first survey was sent to 19 providers of financial planning programs across Australia in April/July of 2017, of whom seven confirmed the survey had been shared with students. Table 1 shows that as of August 2017 there was a total of 38 responses to the survey. The low response rate has implications for significance testing, and thus we rely on descriptive analysis. We present data separately for males/females and those working/not working in financial planning so we can gain better insight into the perspectives of these different cohorts.

Table 1 provides the demographic and socioeconomic characteristics for each group. Most of the sample is male (73.7%), not of Aboriginal or Torres Strait Islander decent (97.4%), and has English as a first language (73.7%). Students who are currently working in financial planning tend to be older, live in couple households, are employed full-time, have higher levels of income and net wealth compared to students not currently working in financial planning who tend to be young (under 30), live in single person or multi-family households, and have low incomes and net wealth. Employment status for those not working in financial planning is relatively evenly split between working full-time (35%), part-time/casual (30%) and not currently employed (35%).

Table 1: Descriptive Statistics

Demographic and Socioeconomic Characteristics	All	Female	Male	Working in FP	Not Working in FP
N	38	10	28	18	20
Sex					
Male			73.7%	77.8%	70.0%

Table 1 continued

Demographic and Socioeconomic Characteristics	All	Female	Male	Working in FP	Not Working in FP
Female		26.3%		22.2%	30.0%
Age					
20-29	47.4%	40.0%	53.8%	27.8%	68.4%
30-39	21.1%	40.0%	15.4%	27.8%	10.5%
40-49	7.9%	10.0%	7.7%	11.1%	5.3%
50-59	23.7%	10.0%	23.1%	33.3%	15.8%
Household Type					
Couple No Children	23.7%	30.0%	21.4%	44.4%	5.0%
Couple with Children	31.6%	20.0%	35.7%	33.3%	30.0%
Single Parent Household	5.3%	10.0%	3.6%	5.6%	5.0%
Single Person Household	13.2%	10.0%	14.3%	5.6%	20.0%
Multiple Family/Share Accommodation/Other	26.3%	30.0%	25.0%	11.1%	40.0%
Aboriginal or Torres Strait Islander					
Yes	2.6%	0.0%	3.6%	0.0%	5.0%
No	97.4%	100.0%	96.4%	100.0%	95.0%
First Language a language other than English					
Yes	26.3%	40.0%	21.4%	22.2%	30.0%
No	73.7%	60.0%	78.6%	77.8%	70.0%
Employment status					
Employed full-time	55.3%	40.0%	60.7%	77.8%	35.0%
Employed part-time/ casual	26.3%	40.0%	21.4%	22.2%	30.0%
Not currently employed	18.4%	20.0%	17.9%	0.0%	35.0%
Current level of income (including Centrelink and family payments)					
$0-$25,000	21.1%	20.0%	23.1%	5.6%	35.0%
$25,000-$50,000	21.1%	30.0%	19.2%	11.1%	30.0%
$50,000-$75,000	21.1%	30.0%	11.5%	22.2%	20.0%
$75,000-$100,000	7.9%	0.0%	11.5%	16.7%	0.0%
$100,000 and over	29.0%	20.0%	34.6%	44.4%	15.0%
Current level of net wealth (estimated value of all assets less all liabilities)					
Less than $0	13.2%	10.0%	14.3%	0.0%	25.0%
$0-$100,000	47.4%	60.0%	42.9%	44.4%	50.0%
$100,000-$500,000	10.5%	10.0%	10.7%	5.6%	15.0%
$500,000-$1,000,000	10.5%	0.0%	14.3%	22.2%	0.0%
$1,000,000 and over	18.4%	20.0%	17.9%	27.8%	10.0%

Table 2 provides an overview of the financial planning program data collected from respondents. It shows that most students are enrolled in a program at Griffith University (68.4%), and that most have longer than 12 months to complete their program (42.1%). Only 29 per cent of respondents indicated they would be completed in six months, which means that the potential sample size for the second survey was small. In fact, only 10 students were eligible for the second survey, which was sent in August 2018. Most respondents currently working in financial planning were enrolled in a postgraduate program (Masters 44.4% and Graduate Diploma/Certificate 16.7%) followed by a degree (38.9%), and for those that were not currently working in financial planning the split between postgraduate and undergraduate programs was even (35% Masters, 15% Graduate Diploma Certificate and 50% Bachelor degree). Average self-reported GPAs are higher for postgraduate students (6.0) than for undergraduate students (5.0).

Given the impending implementation of the new education standards in 2019 for new entrants to financial planning and 2024 for existing planners, responses to the question regarding their motivation to enrol in a program are as expected. Those students currently working in financial planning indicated they enrolled in the program to both upskill (47.8%) and meet educational requirements (43.5%). Of respondents, 27 per cent who were working in the industry and indicated that they enrolled in a program to upskill and/or meet education requirements were aged 50 to 52. The only respondent that was older (aged 62) indicated that a career change was a motivation and they were not currently employed. This is an important point, as the demographic profile of financial planners more broadly mirrors that of the baby boomers, many of whom are approaching retirement. The education standards thus impose a significant retention issue for many practices. For those not currently working in financial planning, most were motivated to enrol because they sought a career in financial planning (38.2%), to upskill (29.4%), because they were wanting a career change (20.6%) and to meet education requirements (11.8%). These students will likely be in high demand as practices look to recruit new talent that meets the qualification requirements and as existing older planners leave the industry.

Table 2: Financial Planning Program Statistics

Financial Planning Program	All	Female	Male	Working in FP	Not Working in FP
N	38	10	28	18	20
Education provider					
Central Queensland University	2.6%	10.0%	0.0%	5.6%	0.0%
Charles Sturt University	0.0%	0.0%	0.0%	0.0%	0.0%
Curtin University of Technology	7.9%	0.0%	10.7%	5.6%	10.0%
Deakin University	5.3%	10.0%	3.6%	0.0%	10.0%
Financial Services Institute of Australia (Finsia)	0.0%	0.0%	0.0%	0.0%	0.0%
Griffith University	68.4%	70.0%	67.9%	83.3%	55.0%
Kaplan Higher Education	0.0%	0.0%	0.0%	0.0%	0.0%
La Trobe University	0.0%	0.0%	0.0%	0.0%	0.0%

Table 2 continued

Financial Planning Program	All	Female	Male	Working in FP	Not Working in FP
RMIT University	0.0%	0.0%	0.0%	0.0%	0.0%
TAFE NSW Higher Education	0.0%	0.0%	0.0%	0.0%	0.0%
University of Adelaide	0.0%	0.0%	0.0%	0.0%	0.0%
University of Canberra	0.0%	0.0%	0.0%	0.0%	0.0%
University of New England	0.0%	0.0%	0.0%	0.0%	0.0%
University of NSW	5.3%	10.0%	3.6%	0.0%	10.0%
University of Southern Queensland	0.0%	0.0%	0.0%	0.0%	0.0%
University of the Sunshine Coast	5.3%	0.0%	7.1%	5.6%	5.0%
University of Wollongong	5.3%	0.0%	7.1%	0.0%	10.0%
Victoria University	0.0%	0.0%	0.0%	0.0%	0.0%
Western Sydney University	0.0%	0.0%	0.0%	0.0%	0.0%
Educational Attainment (assuming successful completion of current program)					
Masters	39.5%	30.0%	42.9%	44.4%	35.0%
Graduate Diploma/Certificate	15.8%	20.0%	14.3%	16.7%	15.0%
Bachelor Degree	44.7%	50.0%	42.9%	38.9%	50.0%
GPA (equivalent out of 7)					
Average	5.5	5.5	5.6	5.8	5.3
Median	5.6	5.6	5.7	5.9	5.3
Low	3.5	4.1	3.5	5.0	3.5
High	7.0	6.5	7.0	7.0	6.5
Expected time to complete program					
In the next 6 months	29.0%	20.0%	32.1%	44.4%	10.5%
In the next 12 months	29.0%	10.0%	35.7%	27.8%	31.6%
Longer than 12 months	42.1%	70.0%	32.1%	27.8%	57.9%
Motivation to enrol in a financial planning program					
To seek a career in financial planning	40.5%	26.7%	25.6%	8.7%	38.2%
To upskill	56.8%	33.3%	37.2%	47.8%	29.4%
To meet education requirements	37.8%	26.7%	23.3%	43.5%	11.8%
Career change	21.6%	13.3%	14.0%	0.0%	20.6%

Table 3 provides responses to questions regarding the financial planning profession, starting with the respondent's motivation for seeking a career in financial planning. Respondents could select multiple answers, hence the column in Table 3 labelled 'all' under the motivation section totals more than 100 per cent. However, the percentages in the columns for female and male represent the breakdown of females and males across all of the responses. Consequently, those columns do total 100 per cent. From the multiple responses, most respondents indicated that their

motivation for seeking a career in financial planning was that 'they like managing money' (70.6%), and they 'like educating people about money' (70.6%). Attraction to the remuneration (29.4%) was also a key motivator for joining the profession. For women, 'I like managing money' received more responses (40%) than 'educating people about money' (25%), although one comment from a female respondent regarding the latter indicated that her motivation was 'assisting people to achieve their life goals and objectives and eventually enjoy a comfortable life in their retirement'. Further, 20 per cent of responses from women indicated a motivator being 'I'm attracted to the remuneration', compared to only 11.8 per cent of the total male responses. One in ten of the female respondents noted a motivation for a career in financial planning being that they 'have seen friends and family members benefit from receiving financial planning advice' compared to only 2 per cent of male respondents. Another notable difference across gender was that only 5 per cent of female respondents indicated that they had entered financial planning through another pathway such as banking, compared to 11.8 per cent of men. The pathway into financial planning via existing networks has been noted in previous research from Johnson, Brimble and Zanetti (2016), which found that the most common recruitment pathway into Australian financial planning careers—almost 30 per cent of all hires—was through personal networks, which could lead to affinity bias in recruitment and selection.

For those respondents not currently working in financial planning, most of them think they have a 'good' or 'very good' chance of finding work and they are willing to persist (60% and 25% respectively). Only 15 per cent perceive that it is a hard industry to get into. This perception of difficulty could be due to a lack of related work experience, with 25 per cent indicating that they have irrelevant work experience (25%) or no work experience (15%). Further, 20 per cent of the female respondents indicated they did not have any work experience. When asked to comment on perceived challenges to work as a financial planner, students cited age (being young), lower GPA, little or no work experience, limited unpaid work experience placements, entry-level-salary positions when having large financial commitments (like a mortgage), having a long history as a paraplanner, using different software, keeping up with changes in educational requirements and regulation (with someone referring to 'excessive over-regulation'). International students cited visa issues and language barriers.

Students were asked to comment on their perception of the standing of financial planners in the community. Both cohorts expressed mixed views. On the one hand, they thought clients understood their value and had respect for their practice, while media coverage of poor planner behaviour caused public mistrust. There was frustration expressed over business practices of planners:

> *Nearly all are fixated on high wealth clients with higher disposable income leaving clients arguably most at need of financial planning services (low disposable income) priced out of the market for truly independent financial advice.*

However, most felt the move towards educational requirements and becoming a recognised profession were positive developments, noting that 'the higher the requirement the better'.

Regarding the financial planning role, most respondents indicated that developing complex financial strategies would be the most challenging duty (26.5%) and time management (26.5%),

including those already working in financial planning. Analysing financial products (8.8%) was also expected to be difficult. There are some distinct differences between respondents who were working in financial planning and those who were not. For example, 12.5 per cent of those working in financial planning indicated that customer service and administrative duties were challenging, whereas those not working in financial planning did not select this response at all. Current planners also commented that compliance (red tape) and client psychology challenge their workloads. More respondents not working in financial planning thought it would be challenging to get the clients to adopt your strategy (15%) while this response was less for those working in financial planning (6.3%). Women particularly thought that developing complex financial strategies (40%) and analysing financial products (30%) were challenging, whereas only 20.8 per cent of males thought developing complex financial strategies would be challenging and no males thought analysing financial products would be challenging.

Paraplanning is traditionally seen as a transitional role, with most planners staying in the role for 12–18 months before moving into a client-facing advisor role. For those currently working in financial planning, most respondents are already a financial planner (61.1%) or expect to transition from being a paraplanner to a financial planner after degree completion (11.1%). For those not working in financial planning, 15 per cent indicate that they expect to spend *no* time in the paraplanning role and will *only* be applying for financial planner roles. All of these respondents were male. Otherwise, responses indicate that one to three years is the expected duration of a paraplanning role, with women respondents expecting to spend longer in a paraplanning role than the male respondents. Respondents were split between wanting to be a practice owner (55%) and not having this interest (45%). Sixty per cent of females were interested in being a practice owner although none of them currently are, compared to 53.6 per cent of males.

Perhaps the importance of support and mentorship is underlined by the high rate of responses from those working in financial planning who indicate they have a mentor, whether it be family, friends, or someone in financial planning or another industry (77.8%). Those not yet working in financial planning had less opportunity to be mentored, with 36 per cent indicating that they do not yet have a mentor but would like to. Of those not yet in the financial planning workforce, 20 per cent of respondents indicated they relied on family members (20%), followed by someone in financial planning (16%) and friends (12%). Regarding mentor gender, very few indicated that being the same gender (5.4%) or the opposite gender (2.7%) was important. Note that 30 per cent of females indicated having a mentor of the opposite sex but that gender was not important, and the remainder indicated they did not have a mentor.

Of potential concern was that half (50%) of all female respondents indicated that they did not have a support network for their financial planning career, with 25 per cent indicating that they did not have support but 'would like to have a mentor' and 25 per cent indicating that they did not have support but that 'they will figure it out on their own', compared to 70.2 per cent of male respondents who indicated that they *did* have support for their financial planning career from family, friends or mentors. Further, only 30 per cent of female respondents had a mentor (all mentors were male) leaving 70 per cent without a mentor compared to only 44.4 per cent of male respondents who did not have a mentor.

Table 3: Financial Planning Profession Statistics

Financial Planning Profession	All	Female	Male	Working in FP	Not Working in FP
N	38	10	28	18	20
Motivation to seek a career in the financial planning profession					
I have family members in financial planning	0.0%	0.0%	0.0%	0.0%	0.0%
I have friends in financial planning	5.9%	0.0%	3.9%	0.0%	5.0%
I like managing money	70.6%	40.0%	31.4%	29.4%	35.0%
I like educating people about money	70.6%	25.0%	37.3%	35.3%	30.0%
I have seen friends/family members benefit from receiving financial planning advice	17.7%	10.0%	2.0%	5.9%	10.0%
I'm attracted to the remuneration	29.4%	20.0%	11.8%	8.8%	17.5%
I entered financial planning through another pathway, e.g. banking	20.6%	5.0%	11.8%	17.6%	2.5%
I don't really know why I'm interested in financial planning	2.9%	0.0%	2.0%	2.9%	0.0%
Other (please specify)					
Prospects of working in the financial planning industry					
Excellent, I am already working in the industry	47.4%	40.0%	50.0%	100.0%	0.0%
Very good, I'm confident I'll find work in the industry	23.7%	10.0%	28.6%	0.0%	25.0%
Good, I think I will find work in the industry and I'm willing to persist	21.1%	40.0%	14.3%	0.0%	60.0%
Not very good, it is a hard industry to get in to	7.9%	10.0%	7.1%	0.0%	15.0%
Very difficult, I do not think there is enough work available	0.0%	0.0%	0.0%	0.0%	0.0%
Relevance of your past work experience to the financial planning profession					
Excellent, I have predominantly worked in financial planning	31.6%	30.0%	32.1%	61.1%	5.0%
Very good, I have predominantly worked in a related field, i.e. finance/accounting/banking	18.4%	10.0%	21.4%	22.2%	15.0%
Good, I have a skill set that is readily transferable to financial planning, i.e. client service officer, manager, sales assistant, waitperson etc.	29.0%	30.0%	28.6%	16.7%	40.0%
Not very relevant, the work experience I have is completely different.	13.2%	10.0%	14.3%	0.0%	25.0%
I don't have any work experience.	7.9%	20.0%	3.6%	0.0%	15.0%
Duties expected to be the most challenging as a financial planner					
Analysing financial products	8.8%	30.0%	0.0%	12.5%	10.0%
Meeting with clients	5.9%	0.0%	8.3%	6.3%	5.0%
Understanding what clients want to achieve	2.9%	0.0%	4.2%	0.0%	0.0%
Getting clients to adopt the strategy you constructed	11.8%	0.0%	16.7%	6.3%	15.0%

Table 3 continued

Financial Planning Profession	All	Female	Male	Working in FP	Not Working in FP
Organising time to get everything done	26.5%	20.0%	29.2%	18.8%	20.0%
Keeping up with professional development requirements	8.8%	0.0%	12.5%	6.3%	10.0%
Developing complex financial strategies	26.5%	40.0%	20.8%	37.5%	40.0%
Customer service and administrative duties	8.8%	10.0%	8.3%	12.5%	0.0%
Other (please specify)					
Length of time expected to work as a paraplanner before becoming a financial advisor					
Less than 1 year	7.9%	10.0%	7.1%	5.6%	10.0%
1-2 years	21.1%	20.0%	21.4%	5.6%	35.0%
2-3 years	15.8%	20.0%	14.3%	5.6%	25.0%
Longer than 3 years	7.9%	10.0%	7.1%	5.6%	10.0%
No time, after completion of my degree I will only apply for financial planning roles	10.5%	0.0%	14.3%	5.6%	15.0%
I am not intending on becoming a financial advisor and wish to remain a paraplanner	2.6%	10.0%	0.0%	0.0%	5.0%
I am currently a paraplanner and will transition to being a financial planner after I've finished my degree	5.3%	20.0%	0.0%	11.1%	0.0%
I am currently a financial planner	29.0%	10.0%	35.7%	61.1%	0.0%
Long-term aspirations to become a practice owner					
Yes	55.3%	60.0%	53.6%	55.6%	55.0%
No	29.0%	40.0%	25.0%	11.1%	45.0%
I am currently a financial planning practice owner	15.8%	0.0%	21.4%	33.3%	0.0%
Support network for financial planning career journey					
Yes I have family members I can ask for support and advice	23.7%	18.8%	16.2%	14.8%	20.0%
Yes I have friends I can ask for support and advice	21.1%	12.5%	16.2%	18.5%	12.0%
Yes I have a mentor in the financial planning industry I can ask for support and advice	34.2%	18.8%	27.0%	33.3%	16.0%
Yes I have a mentor in another industry I can ask for support and advice	10.5%	0.0%	10.8%	11.1%	4.0%
No, but I would like to have a mentor	29.0%	25.0%	18.9%	7.4%	36.0%
No, but I'll figure it out on my own	18.4%	25.0%	10.8%	14.8%	12.0%
Importance of mentor gender					
Yes my mentor is the same gender and I find this important	5.4%	0.0%	7.4%	5.6%	5.0%
Yes my mentor is the same gender but I wouldn't mind if my mentor was the opposite sex	29.7%	0.0%	40.7%	38.9%	25.0%

Table 3 continued

Financial Planning Profession	All	Female	Male	Working in FP	Not Working in FP
No, my mentor is the opposite gender and I find this important	2.7%	0.0%	3.7%	0.0%	5.0%
No, my mentor is the opposite gender but I wouldn't mind if my mentor was the same sex	10.8%	30.0%	3.7%	16.7%	5.0%
I don't have a mentor	51.4%	70.0%	44.4%	38.9%	60.0%

Table 4 presents the results from the 5-point Likert scale that asked students to assess their level of skill and attributes. Most students ranked their own skills and attributes at a 'high' level for interpersonal (47.4%), presentation (52.6%), organisation and time management (55.3%), negotiating (39.5%), marketing (37.8%), critical thinking (47.4%), problem-solving (52.6%), leadership (42.1%), business awareness (57.9%), taking initiative (50.0%), ability to apply knowledge in a work setting (65.8%) and being able to use technology (47.4%). Most students also selected 'very high' for analysing information (44.7%), while being a lifelong learner (42.1%) and a team player (39.5%) had an equal number of respondents select 'high' and 'very high'. Skills with a lower score included enterprising, with the majority of respondents choosing 'moderate' (50.0%).

In comparison to males, women participating in this study scored themselves lower on skills such as negotiating, marketing and being a team player, but higher on skills such as interpersonal, time management, taking initiative, problem-solving and critical thinking. Those working in financial planning scored themselves lower on marketing skills compared to those not working in financial planning, but scored themselves 'very high' in skills such as interpersonal, negotiating and being a lifelong learner.

Table 4: Self-Assessed Employability Skills

Employability Skills	All	Female	Male	Working in FP	Not working in FP
Very Low					
Interpersonal	0.0%	0.0%	0.0%	0.0%	0.0%
Presentation	0.0%	0.0%	0.0%	0.0%	0.0%
Organisation and time management	0.0%	0.0%	0.0%	0.0%	0.0%
Writing	0.0%	0.0%	0.0%	0.0%	0.0%
Negotiating	0.0%	0.0%	0.0%	0.0%	0.0%
Marketing	0.0%	0.0%	0.0%	0.0%	0.0%
Critical thinking	0.0%	0.0%	0.0%	0.0%	0.0%
Problem-solving	0.0%	0.0%	0.0%	0.0%	0.0%
Leadership	0.0%	0.0%	0.0%	0.0%	0.0%

Table 4 continued

Employability Skills	All	Female	Male	Working in FP	Not working in FP
Business awareness	0.0%	0.0%	0.0%	0.0%	0.0%
Analysing information	0.0%	0.0%	0.0%	0.0%	0.0%
Takes initiative	0.0%	0.0%	0.0%	0.0%	0.0%
Enterprising	0.0%	0.0%	0.0%	0.0%	0.0%
Ability to apply knowledge in a work setting	0.0%	0.0%	0.0%	0.0%	0.0%
Lifelong learner	0.0%	0.0%	0.0%	0.0%	0.0%
Team player	0.0%	0.0%	0.0%	0.0%	0.0%
Being able to use technology	0.0%	0.0%	0.0%	0.0%	0.0%
Low					
Interpersonal	2.6%	0.0%	3.6%	0.0%	5.0%
Presentation	0.0%	0.0%	0.0%	0.0%	0.0%
Organisation and time management	0.0%	0.0%	0.0%	0.0%	0.0%
Writing	0.0%	0.0%	0.0%	0.0%	0.0%
Negotiating	7.9%	20.0%	3.6%	0.0%	15.0%
Marketing	21.6%	30.0%	18.5%	29.4%	15.0%
Critical thinking	0.0%	0.0%	0.0%	0.0%	0.0%
Problem-solving	0.0%	0.0%	0.0%	0.0%	0.0%
Leadership	2.6%	0.0%	3.6%	0.0%	0.0%
Business awareness	0.0%	0.0%	0.0%	0.0%	0.0%
Analysing information	2.6%	0.0%	3.6%	0.0%	5.0%
Takes initiative	0.0%	0.0%	0.0%	0.0%	0.0%
Enterprising	0.0%	0.0%	0.0%	0.0%	0.0%
Ability to apply knowledge in a work setting	0.0%	0.0%	0.0%	0.0%	0.0%
Lifelong learner	0.0%	0.0%	0.0%	0.0%	0.0%
Team player	5.3%	10.0%	3.6%	0.0%	5.0%
Being able to use technology	5.3%	0.0%	7.1%	5.6%	5.0%
Moderate					
Interpersonal	10.5%	10.0%	10.7%	5.6%	15.0%
Presentation	21.1%	30.0%	17.9%	11.1%	30.0%
Organisation and time management	23.7%	0.0%	32.1%	38.9%	10.0%
Writing	21.1%	30.0%	17.9%	16.7%	25.0%
Negotiating	26.3%	30.0%	25.0%	22.2%	30.0%
Marketing	35.1%	40.0%	33.3%	23.5%	45.0%
Critical thinking	13.2%	10.0%	14.3%	5.6%	20.0%
Problem-solving	10.5%	10.0%	10.7%	5.6%	15.0%

Table 4 continued

Employability Skills	All	Female	Male	Working in FP	Not working in FP
Leadership	31.6%	20.0%	35.7%	27.8%	36.8%
Business awareness	13.2%	10.0%	14.3%	16.7%	10.0%
Analysing information	13.2%	20.0%	10.7%	11.1%	15.0%
Takes initiative	13.2%	10.0%	14.3%	5.6%	20.0%
Enterprising	50.0%	50.0%	50.0%	44.4%	55.0%
Ability to apply knowledge in a work setting	5.3%	0.0%	7.1%	5.6%	5.0%
Lifelong learner	15.8%	10.0%	17.9%	11.1%	20.0%
Team player	15.8%	20.0%	14.3%	29.4%	5.0%
Being able to use technology	15.8%	0.0%	21.4%	27.8%	5.0%
High					
Interpersonal	47.4%	40.0%	50.0%	44.4%	50.0%
Presentation	52.6%	40.0%	57.1%	61.1%	45.0%
Organisation and time management	55.3%	60.0%	53.6%	44.4%	65.0%
Writing	60.5%	40.0%	67.9%	66.7%	55.0%
Negotiating	39.5%	50.0%	35.7%	38.9%	40.0%
Marketing	37.8%	30.0%	40.7%	41.2%	35.0%
Critical thinking	47.4%	40.0%	50.0%	55.6%	40.0%
Problem-solving	52.6%	40.0%	57.1%	55.6%	50.0%
Leadership	42.1%	50.0%	39.3%	50.0%	36.8%
Business awareness	57.9%	60.0%	57.1%	66.7%	50.0%
Analysing information	39.5%	40.0%	39.3%	38.9%	40.0%
Takes initiative	50.0%	30.0%	57.1%	61.1%	40.0%
Enterprising	39.5%	40.0%	39.3%	44.4%	35.0%
Ability to apply knowledge in a work setting	65.8%	70.0%	64.3%	72.2%	60.0%
Lifelong learner	42.1%	50.0%	39.3%	38.9%	45.0%
Team player	39.5%	40.0%	39.3%	29.4%	50.0%
Being able to use technology	47.4%	70.0%	39.3%	38.9%	55.0%
Very High					
Interpersonal	39.5%	50.0%	35.7%	50.0%	30.0%
Presentation	26.3%	30.0%	25.0%	27.8%	25.0%
Organisation and time management	21.1%	40.0%	14.3%	16.7%	25.0%
Writing	18.4%	30.0%	14.3%	16.7%	20.0%
Negotiating	26.3%	0.0%	35.7%	38.9%	15.0%
Marketing	5.4%	0.0%	7.4%	5.9%	5.0%
Critical thinking	39.5%	50.0%	35.7%	38.9%	40.0%

Table 4 continued

Employability Skills	All	Female	Male	Working in FP	Not working in FP
Problem-solving	36.8%	50.0%	32.1%	38.9%	35.0%
Leadership	23.7%	30.0%	21.4%	22.2%	26.3%
Business awareness	29.0%	30.0%	28.6%	16.7%	40.0%
Analysing information	44.7%	40.0%	46.4%	50.0%	40.0%
Takes initiative	36.8%	60.0%	28.6%	33.3%	40.0%
Enterprising	10.5%	10.0%	10.7%	11.1%	10.0%
Ability to apply knowledge in a work setting	29.0%	30.0%	28.6%	22.2%	35.0%
Lifelong learner	42.1%	40.0%	42.9%	50.0%	35.0%
Team player	39.5%	30.0%	42.9%	41.2%	40.0%
Being able to use technology	31.6%	30.0%	32.1%	27.8%	35.0%

The results for students' perceptions of the skills and attributes that their study program has helped them to develop are much more varied as detailed in Table 5. Students felt that study played a 'low' role in developing negotiating, marketing, leadership and enterprising skills; a 'moderate' role in developing interpersonal, business awareness and ability to apply knowledge in a work setting; a 'high' role in developing presentation, time management, writing, problem-solving, leadership, analysing information, taking initiative, being a lifelong learner, a team player and being able to use technology; and a 'very high' role for critical thinking. Females were more critical of the role of the education provider in developing negotiating and marketing skills (33.4% and 44.4% indicated 'very low') and more critical than males in general.

From this assessment, it is apparent that education providers do well at developing certain skills (critical thinking, presentation, time management, writing, problem-solving, analysing information, taking initiative, being a lifelong learner, a team player, being able to use technology) but need to do more to develop others (negotiating, marketing, leadership, enterprising, interpersonal, business awareness, ability to apply knowledge in a business setting). Most of the skills identified as needing improvement were highlighted in the literature as important skills required for financial planning.

Table 5: Extent to which Education Provider Develops Skills

Employability Skills	All	Female	Male	Working in FP	Not working in FP
Very Low					
Interpersonal	5.6%	11.1%	3.7%	5.9%	5.6%
Presentation	2.8%	11.1%	0.0%	5.9%	0.0%
Organisation and time management	2.8%	0.0%	3.7%	0.0%	5.3%
Writing	2.8%	0.0%	3.7%	0.0%	5.3%
Negotiating	19.4%	33.3%	14.8%	11.8%	26.3%

Table 5 continued

Employability Skills	All	Female	Male	Working in FP	Not working in FP
Marketing	20.0%	44.4%	11.5%	18.8%	21.1%
Critical thinking	0.0%	0.0%	0.0%	0.0%	0.0%
Problem-solving	0.0%	0.0%	0.0%	0.0%	0.0%
Leadership	13.9%	11.1%	14.8%	17.6%	10.5%
Business awareness	8.3%	11.1%	7.4%	11.8%	4.8%
Analysing information	0.0%	0.0%	0.0%	0.0%	0.0%
Takes initiative	5.7%	11.1%	3.8%	6.3%	5.3%
Enterprising	5.7%	11.1%	3.8%	5.9%	5.6%
Ability to apply knowledge in a work setting	0.0%	0.0%	0.0%	0.0%	0.0%
Lifelong learner	0.0%	0.0%	0.0%	0.0%	0.0%
Team player	11.1%	11.1%	11.1%	12.5%	10.5%
Being able to use technology	5.6%	11.1%	3.7%	5.9%	5.3%
Low					
Interpersonal	16.7%	22.2%	25.9%	11.8%	22.2%
Presentation	25.0%	22.2%	25.9%	23.5%	27.8%
Organisation and time management	11.1%	22.2%	7.4%	0.0%	21.1%
Writing	2.8%	0.0%	3.7%	0.0%	5.3%
Negotiating	36.1%	44.4%	33.3%	41.2%	31.6%
Marketing	42.9%	44.4%	42.3%	50.0%	36.8%
Critical thinking	0.0%	0.0%	0.0%	0.0%	0.0%
Problem-solving	0.0%	0.0%	0.0%	0.0%	0.0%
Leadership	27.8%	22.2%	29.6%	23.5%	31.6%
Business awareness	25.0%	22.2%	25.9%	29.4%	28.6%
Analysing information	0.0%	0.0%	0.0%	0.0%	0.0%
Takes initiative	25.7%	22.2%	26.9%	25.0%	26.3%
Enterprising	34.3%	55.6%	26.9%	35.3%	33.3%
Ability to apply knowledge in a work setting	19.4%	11.1%	22.2%	18.8%	21.1%
Lifelong learner	13.9%	11.1%	14.8%	0.0%	22.2%
Team player	16.7%	11.1%	18.5%	12.5%	21.1%
Being able to use technology	5.6%	11.1%	7.4%	5.9%	5.3%
Moderate					
Interpersonal	47.2%	44.4%	18.5%	47.1%	50.0%
Presentation	16.7%	11.1%	18.5%	29.4%	22.2%
Organisation and time management	27.8%	22.2%	29.6%	29.4%	26.3%
Writing	19.4%	33.3%	14.8%	17.6%	21.1%

Table 5 continued

Employability Skills	All	Female	Male	Working in FP	Not working in FP
Negotiating	30.6%	22.2%	33.3%	29.4%	31.6%
Marketing	17.1%	11.1%	19.2%	12.5%	21.1%
Critical thinking	30.6%	33.3%	29.6%	29.4%	31.6%
Problem-solving	27.8%	33.3%	25.9%	23.5%	27.8%
Leadership	25.0%	44.4%	18.5%	29.4%	21.1%
Business awareness	33.3%	33.3%	33.3%	35.3%	28.6%
Analysing information	11.1%	11.1%	11.1%	11.8%	10.5%
Takes initiative	22.9%	11.1%	26.9%	18.8%	26.3%
Enterprising	31.4%	11.1%	38.5%	41.2%	22.2%
Ability to apply knowledge in a work setting	33.3%	33.3%	33.3%	25.0%	42.1%
Lifelong learner	25.0%	11.1%	29.6%	23.5%	27.8%
Team player	25.0%	11.1%	29.6%	31.3%	21.1%
Being able to use technology	25.0%	22.2%	25.9%	23.5%	26.3%
High					
Interpersonal	19.4%	22.2%	37.0%	17.6%	16.7%
Presentation	38.9%	44.4%	37.0%	11.8%	50.0%
Organisation and time management	33.3%	44.4%	29.6%	41.2%	26.3%
Writing	44.4%	55.6%	40.7%	41.2%	47.4%
Negotiating	11.1%	0.0%	14.8%	11.8%	10.5%
Marketing	11.4%	0.0%	15.4%	6.3%	15.8%
Critical thinking	33.3%	55.6%	25.9%	23.5%	42.1%
Problem-solving	44.4%	66.7%	37.0%	41.2%	50.0%
Leadership	27.8%	22.2%	29.6%	23.5%	31.6%
Business awareness	25.0%	33.3%	22.2%	17.6%	28.6%
Analysing information	55.6%	55.6%	55.6%	52.9%	57.9%
Takes initiative	28.6%	33.3%	26.9%	43.8%	15.8%
Enterprising	17.1%	11.1%	19.2%	11.8%	22.2%
Ability to apply knowledge in a work setting	30.6%	33.3%	29.6%	37.5%	26.3%
Lifelong learner	36.1%	33.3%	37.0%	47.1%	27.8%
Team player	38.9%	55.6%	33.3%	31.3%	42.1%
Being able to use technology	44.4%	33.3%	48.1%	41.2%	47.4%
Very High					
Interpersonal	11.1%	0.0%	14.8%	17.6%	5.6%
Presentation	16.7%	11.1%	18.5%	29.4%	0.0%
Organisation and time management	25.0%	11.1%	29.6%	29.4%	21.1%

Table 5 continued

Employability Skills	All	Female	Male	Working in FP	Not working in FP
Writing	30.6%	11.1%	37.0%	41.2%	21.1%
Negotiating	2.8%	0.0%	3.7%	5.9%	0.0%
Marketing	8.6%	0.0%	11.5%	12.5%	5.3%
Critical thinking	36.1%	11.1%	44.4%	47.1%	26.3%
Problem-solving	27.8%	0.0%	37.0%	35.3%	22.2%
Leadership	5.6%	0.0%	7.4%	5.9%	5.3%
Business awareness	8.3%	0.0%	11.1%	5.9%	9.5%
Analysing information	33.3%	33.3%	33.3%	35.3%	31.6%
Takes initiative	17.1%	22.2%	15.4%	6.3%	26.3%
Enterprising	11.4%	11.1%	11.5%	5.9%	16.7%
Ability to apply knowledge in a work setting	16.7%	22.2%	14.8%	18.8%	10.5%
Lifelong learner	25.0%	44.4%	18.5%	29.4%	22.2%
Team player	8.3%	11.1%	7.4%	12.5%	5.3%
Being able to use technology	19.4%	22.2%	14.8%	23.5%	15.8%

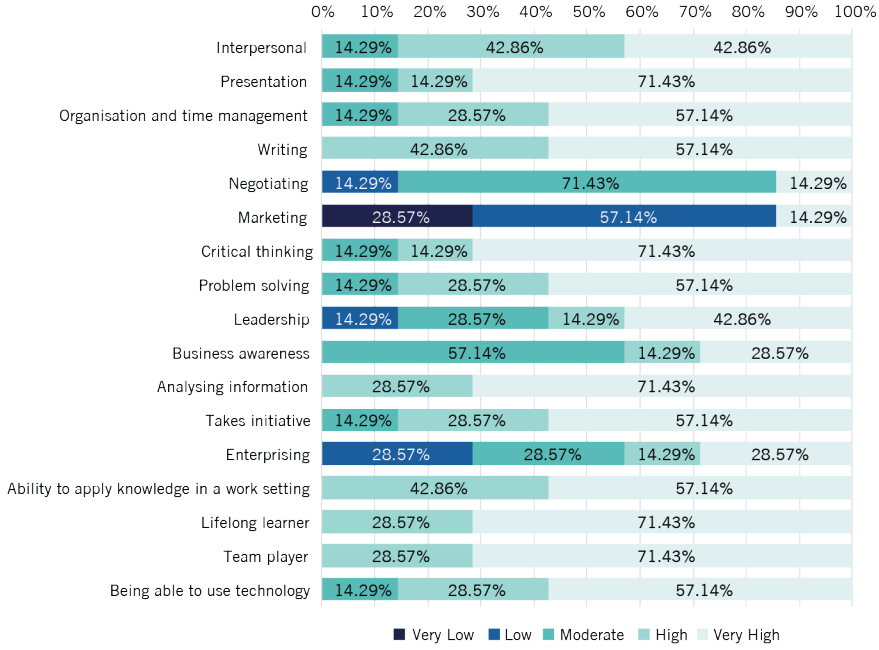
Of the 10 students eligible to respond to the second survey, seven responses were received. Six of these students had graduated, and all were working in the industry. Three of these students were not working during their study and attribute the degree qualification for becoming an associate financial advisor or paraplanners. Other factors they attributed to the successful employment outcome were previous experience, and having high levels of interpersonal, critical thinking and problem-solving skills. One respondent indicated that their 'positivity was instrumental in getting my job'. One career change graduate expressed frustration with an employer for expecting him to spend two years in the paraplanning role or to have advice experience. Three out of six identified the most challenging task was developing complex strategies. Comments on this question highlighted the difficulty in communicating with clients about expectations and trade-offs, and making Statements of Advice more readable.

On the whole, these graduates felt that their program did not adequately prepare them for expectations of the financial planning employment market. While their degree 'ticked the box', employers wanted two years of experience. Another commented that not enough of their learning activities represented 'real-life'. Less critical comments focused on the fine tuning of knowledge and skills and that university 'helped with my development'. All graduates commented that an internship, more actual advisory work, more finance content, more use of relevant software, more marketing, and a course that 'pulled it all together' were needed. One graduate mentioned wanting more instruction on the 'adviser to client' interaction, noting: 'We do it in the review course, but this is the first time we learn what actually happens (e.g. the structure of meetings, etc.).

All graduates identified they had a mentor, except for the one person not yet working. This person expressed desire to find a mentor. One female indicated that she had a female mentor and this was important, but most responses are indifferent to the importance of gender. Mentors were family or friends, in the industry or in another industry.

The graduates were asked to rate their level of skills and abilities with an increased awareness of their application to financial planning work. As shown in Chart 1, presentation, critical thinking, analysing information, being a lifelong learner and a team player were ranked 'very high' for 71 per cent of responses. Negotiating and business awareness skills were 'moderate'. Marketing skills were 'low' or 'very low', indicating that these skills were important for the role but needed development. These responses are similar to that of the first survey, and highlight the need for curriculum to provide financial planning students with opportunities to practice 'marketing' themselves and their services.

Chart 1: Graduate Survey of Self-Assessed Employability Skills



Both surveys confirm prior research on generic skills and employer preferences (Weisz, 2000; Dagget and Liu, 1997; Jackling and DeLange, 2009). Universities can do more to ease the transition from study to work, as employers have high expectations. Experience in a financial planning setting while studying is also seen as key to a successful graduate outcome. This study

also suggests that students' work expectations regarding entry pathway options, like paraplanning or an office role, instead of walking straight into advising, need to be managed. Curriculum can also do more to support the development of key skills (negotiating, marketing, leadership, enterprising, interpersonal, business awareness, ability to apply knowledge in a business setting). Regarding understanding the needs of women in relation to the profession, responses indicated that some may be drawn towards management and away from technical roles, although the sample size is too small to infer statistical significance. The results suggest that women may also need some more support while studying, given their tendency to be more critical than men with regard to the role of university in developing skills and attributes. Finally, mentors are important, but we do not draw conclusions about the importance of gender due to small response rates.

Conclusion

This study delivers valuable insights into the financial planning industry and education providers. For education providers, the responses raised three issues to consider. First, there are a number of skills and attributes that students perceive their study could do more to develop that are important for the financial planning profession, including negotiating, marketing, leadership, enterprise skills, interpersonal, business awareness and ability to apply knowledge in a business setting. Second, some students identified not having enough experience (for those not currently working in financial planning) and not being familiar with financial planning software as some of the challenges to working as a financial planner. Third, most respondents who were currently working in financial planning indicated that they had a mentor, be it family member, friend, or someone in financial planning or another industry, so providing a mentorship program is important. To address these issues, education providers can incorporate more explicit integration of work-integrated-learning (W-i-L) into their financial planning degree and could explicitly teach interpersonal and communication skills, and assessments of these skills through activities such as debates, role-plays, group work, developing business plans, mentoring programs and internships.

For industry, there are a few points that may be of interest. While specific inference cannot be made with any statistical significance based on the small sample size, the results suggest that awareness of different motivations and expectations across genders is worth exploring further. This could have a material impact on attracting high merit talent, with implications for sources of recruitment, career support and pathways into and through financial planning. Further, for tertiary education providers to continue to increase relevant exposure to authentic work-integrated-learning, the relationship between industry and education providers will be critical in terms of the ongoing development of relevant learning activities and mutually beneficial progress into and throughout a financial planning career for new entrants as well as existing planners.

In terms of limitations of this study, the findings need to be interpreted within the bounds of a very small sample size, hence no analysis of statistical significance is carried out. Second, most respondents were from Griffith University, so generalisability is limited. Third, we do not account for the extent or lack of skill development opportunities across education providers. Fourth, we do not survey financial planning employers to ascertain most valued generic skills and this is an opportunity for future research.

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