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Awareness of Independence of Real Estate Appraisers: An Empirical Analysis

Hsueh-Fei Liao

Ph.D. student, Department of Real Estate & Built Environment, National Taipei University. Email: kellyliao818@gmail.com

Nan-Yu Chu*

Assistant Professor of Department of Land Management, Feng Chia University. Email: nychu@fcu.edu.tw

Chien-Wen Peng

Professor of Department of Real Estate & Built Environment, National Taipei University. Email: cwpeng@mail.ntpu.edu.tw

Previous studies on the impact of clients on real estate appraisals have been limited in terms of their research method and selection of variables. They have been unable to effectively measure the impact of clients on the behavior of appraisers, and also neglected the influence of appraisers on their own behavior. The objective of this study is to therefore focus on real estate appraisers in Taiwan by investigating their awareness of appraiser independence and the factors that influence such independence through a questionnaire survey. The results show that appraisers generally agree that they are highly independent of the decision regarding the final appraisal, but the actual appraisal may be affected by the behavior of the client. The most critical factors that affect the awareness of appraiser independence of appraisers are the size of the appraising company, impact of the behavior of other appraisers, and extent to which appraisers are affected by industry regulations. Accordingly, we recommend building an external environment to make independent appraisals and a third party who plays an intermediary role during the process of appointment to reduce the pressure by clients on appraisers.

* Corresponding author

Keywords

Real Estate Appraisal, Client Influence, Awareness of Appraiser Independence, Herding Behavior

1. Introduction

In theory, real estate appraisers (hereinafter referred to as appraisers) should hold fast to the principles of independence, objectivity and impartiality. However, in practice, real estate items under appraisal are typically very expensive and many relevant stakeholders will be influenced by the results of the appraisal. As a result, relevant stakeholders (especially the clients) often attempt to affect the professional judgment of appraisers with a variety of methods to obtain a more favorable appraisal result (Kinnard *et al.* 1997; Smolen and Hambleton 1997; Chen and Yu 2009; Crosby *et al.* 2010, 2018; Achu *et al.* 2015).

As the professional judgment of appraisers could be affected by certain stakeholders, the accuracy of the appraisal result might be biased and its impact will be considerable. Although clients often attempt to influence appraisers for their self-interest, the key point concerns whether appraisers are willing to accommodate the relevant stakeholders and modify the final appraisal value. What, for instance, are the factors that affect the independence of appraisers? In addition, most appraisers may not be willing to admit that the appraisal result is modified in accordance with the expectations of clients. It is therefore very challenging to empirically verify the effect.

In the past, many studies have focused on the impact of clients on the appraisers and examine whether appraisers might modify their appraisal results based on the request of the clients, i.e., the appraisal result was not only based on the valuation of the characteristics of the real estate, but also included the impact of many factors that were unrelated to the appraisal target, such as appraisal characteristics, characteristics of the appraiser and the appraisal company, client characteristics and characteristics of the external environment (Levy and Schuck 1999, 2005; Achu 2013; Achu *et al.* 2015). The methods by which clients can affect appraisers include providing expert opinions, controlling appraisal information or restricting the appraisal process, such as by directly exerting pressure, threatening appraisers who do not pay the appraisal fee, excluding appraisers from the list of approved appraisers (Smolen and Hambleton 1997; Kinnard *et al.* 1997; Worzala *et al.* 1998), or indirectly providing feedback such as environmental cognitive, mandatory, and positive reinforcement feedback (Wolverton and Gallimore 1999; Gallimore and Wolverton 2000; Crosby *et al.* 2010). Regardless of the method applied, the purpose is to affect the value proposition and appraisal result of the appraiser. In addition, appraisers are more vulnerable to being influenced by clients with whom they have frequent business contact or conduct regular appraisals

(McAllister *et al.* 2003; Chen *et al.* 2013). However, more experienced appraisers and those who rely more on personal experience as critical information sources are less vulnerable to modifying the appraisal value under client pressure (Chen *et al.* 2013).

In this study, we suggest that whether appraisers are affected by clients and subsequently modify their appraisals might be closely correlated with the awareness of appraiser independence. Studies have found that some appraisers consider that they confirm rather than provide prices, and thus their appraisal tends to be a response to the requests and expectations of clients (Wolverton 2000; Hung and Chang 2006). Alternatively, the appraisal may confirm the price expectations of the appraiser him/herself. The appraisal thus provides supporting evidence for a foregone conclusion (Gallimore and Wolverton 1997; Hung and Chang 2006). Therefore, the perception of the appraiser of his/her job will affect how s/he responds to the expectations of his/her clients. However, some empirical studies suggest that the anticipated prices of clients have an insignificant impact on the valuation of the appraiser (Worzala *et al.* 1998; Gallimore and Wolverton 2000; Yu 2002; Amidu and Aluko 2007b; Achu *et al.* 2015). This shows that past empirical results on the issue are not consistent and there are significant regional variations. Further clarification is thus needed.

In this study, we focus on practicing real estate appraisers, and conduct a detailed questionnaire survey. We find that 89% of the appraisers indicate that clients would explicitly or implicitly suggest an expected price, and 56% of the appraisers indicated that their evaluation of the final price is affected by the implied expected price of the clients. However, 65% of the appraisers also think that they have made a highly independent decision on the final appraisal. This shows that clients closely interact with the appraisers, but as to whether the judgment of the appraisers is really independent and the final appraisal is affected have been inconsistent based on the responses of the appraisers. That is to say, appraisers have been often vague on the controversial topic of whether their clients can affect their appraisals, and this might be a critical factor that has resulted in the insignificant empirical results of previous studies. Therefore, we have conducted a survey with questions that assess the different levels of awareness of appraiser independence, and the empirical analysis shows that whether appraisers will take the expectations of clients into consideration is mainly affected by the behavior of other appraisers, as well as significant herding behavior. In addition, factors such as appraisers who recognize the development of the industry and the size of appraisal firms also have significant impacts on their awareness of appraiser independence. The results of the survey are therefore very valuable for the future development of the appraisal industry.

The second section of this study is the literature review, which is followed by the research hypothesis and research design in the third section, and then the data description and empirical analysis in the fourth section. The final section presents the conclusion and recommendations.

2. Literature Review

Appraisers play a very important role in the smooth implementation of the real estate and financial markets due to the high prices and high heterogeneity of real estate, as well as the opacity and asymmetry of real estate market information. Theoretically, appraisers should carry out their work with independence, objectivity and impartiality when they evaluate the economic value of an item in terms of its most efficient use and provide its current value. However, the evaluation results of appraisers are often biased and may deviate from real market prices.

According to previous studies, the impact of clients might be the most critical factor that explains for the bias in appraisal results. For example, Kinnard *et al.* (1997) conduct a questionnaire survey with commercial real estate appraisers in the U.S. After collecting 666 valid samples, they find that while 90% of the commercial real estate appraisers have experience with client pressure, only 41% of the appraisers actually changed the appraisal results when their client requested them to do so, and their empirical results show that only the size of the client has a significant impact on the modification behavior of the appraisers. Their study also argues that client requests to modify the evaluation do not significantly affect the behavior of appraisers. Smolen and Hambleton (1997) conduct a questionnaire survey with residential mortgage appraisers in the U.S., and collect 292 valid samples. They find that 65% of the clients put pressure on the appraisers, and the prevalent method is to reduce appraisal appointments or exclude an appraiser from the list of approved appraisers to remedy the problem. About 80% of the appraisers are found to modify their evaluation when pressured by clients, and 82% of the appraisers feel that other appraisers would also modify their evaluation at the request of their clients. The discussed literature shows that there are significant differences between commercial real estate and residential real estate appraisers in terms of the pressure received from clients, and the proportion of appraisers who would modify their evaluations also varies significantly.

Levy and Schuck (1999) conduct in-depth interviews with appraisers in New Zealand, and find that most of the appraisers admit that their client might have affected the evaluation result, and that the final valuation might have been affected regardless whether this is done through direct price intervention or by leading the appraisal process. The prevalent methods that have such an influence include reward and punishment, the influence of experts, management of provided information, or requesting an interim estimate report. The main factors that have impacts include the appraisal characteristics, the characteristics of the appraiser and the appraisal company, client characteristics and characteristics of the external environment.

Wolverton (2000) examines the impact of client feedback by using a regression analysis and finds that both environmental cognitive feedback and mandatory

feedback have an impact on the behavior of the appraiser. The most critical factors that affect the perceived role of the appraisers are the client type (including loan agencies and moving companies) and the ownership of the appraisal company. Levy and Schuck (2005) also conduct in-depth interviews with New Zealand appraisers to determine the influence of clients, and find that the main reason why clients affect appraisers is to obtain market trust, and the methods used include intervention over the process to indirectly affect the results provided by the appraisers.

Chen and Yu (2009) conduct a survey on appraisers in Taiwan (32 valid samples) and Singapore (31 valid samples) by using a questionnaire and find that clients have an impact on appraisers in both areas, but Taiwanese appraisers are mostly affected by personal factors rather than the company environment. Moreover, appraisers who work for larger institutions or enterprises are more capable of refusing client requests. The Singaporean appraisers might have been limited by a smaller market size and stronger accreditation institutions, and thus only long-term clients who are more familiar with the appraisal company have a stronger influence, and companies that are capable of providing comprehensive services as well as companies that offer consultation services are more capable of refusing client requests. The discussed literature shows that the method that the clients use to affect the appraiser and the extent of the impact of the clients on appraisers are dependent on the appraisal environment and differences in system in the different regions. However, the research findings are limited due to the rather small sample size of the survey.

Chen *et al.* (2013) carry out a questionnaire to collect information such as that related to the personal attributes of appraisers, market information resources, modifications to the evaluation situation and the dependence between the appraisal firms and banks, and adopt an ordered logit model to conduct an empirical analysis. They find that tenure experience and income pressure are critical factors that impact the collateral evaluation behavior of appraisers. In addition, the literature has examined the real estate appraisal of funds and investment trusts. For instance, Crosby *et al.* (2010) find that undisclosed funds fell more significantly than other funds during the fourth quarter of 2007, mainly because undisclosed funds were up for redemption and the appraisers underestimated asset prices under pressure from large clients. Crosby *et al.* (2018) find that institutional investors are more influential on the independent valuation of appraisers, and appraisers would adjust the valuation of real estate investment trusts based on the client needs, especially during the financial crisis period.

However, there is still controversy as to whether clients really impact the decisions of appraisers. For example, Worzala *et al.* (1998) conduct a questionnaire survey with U.S. residential appraisers and collect 482 valid samples. The empirical findings show that both the size of the clients and the required adjustment level have no significant impact on appraisers, and more than 80% of the appraisers indicate that concerns over losing clients have no

significant impact on their valuation decisions. Yu (2002) conducts a survey on Singaporean appraisers by using a questionnaire and collect 34 valid samples, and find that 85% of the appraisers have received client requests to modify their valuation, and almost all appraisers believe that other appraisers have modified their valuations at the request of the client. However, an empirical analysis that uses logistic regression shows that both the size of clients and the requested adjustment amount have no significant impact on the decisions of the appraisers.

Amidu and Aluko (2007a) conduct a questionnaire survey with Nigerian appraisers and collect 88 valid samples, of which 80% of the appraisers indicate that their clients have attempted to affect the valuation results and 60% have modified the valuation results accordingly. However, the empirical results show that the size of the clients and the valuation amount have no significant impact on adjusting the valuation. Achu *et al.* (2015) carry out a questionnaire with Malaysian appraisers and collect 135 valid samples. They find that 55% of the appraisers disclose that they occasionally modify the valuation in accordance with client requests. Although it is generally acknowledged that the characteristics of clients and appraisers are the most critical factors with regard to the impact of clients on the decisions of appraisers, a logit regression analysis shows that the impact of the size of the clients, the requested adjustment amount and the integration of both variables are not significant.

In addition, there is still much controversy over whether appraisers confirm prices or provide a reasonable price in terms of their awareness of appraiser independence. For example, Wolverton and Gallimore (1999) conduct a questionnaire survey with U.S. appraisers and collect 377 valid samples, and their empirical results show that appraisers generally do not regard that they confirm prices, but are clearly aware that clients very much look forward to confirmation of the trading price by the appraisers rather than seeking a reasonable price. As for cases that involve mortgages, more environmental cognitive feedback and mandatory feedback from clients have affected the self-awareness of appraisers quite significantly, especially commercial real estate appraisers. Hung and Chang (2006) conduct a field survey and participate in a valuation process to understand the actual valuation behavior of appraisers, and find that seeking price confirmation is prevalent among appraisers. Moreover, with a “foregone conclusion”, the valuation process only confirms the expected price of the clients or appraisers. However, Gallimore and Wolverton (2000) conduct a questionnaire survey on appraisers in the United Kingdom and collect 511 valid samples, in which they find that appraisers considerably recognize the differences in terms of their role on the valuation of mortgages. Moreover, the impact of clients on these appraisers is mostly in the form of environmental and positive feedback rather than mandatory feedback, and the empirical results show that the feedback from the clients do not significantly affect the decisions of the appraisers.

To sum up, the previous literature has mostly focused on conducting questionnaire surveys and only a small number of studies have conducted in-

depth interviews. Most studies only use narrative statistics to express their findings and do not provide further empirical analysis. Although previous studies have adequately summarized the factors that impact appraisers, especially the literature review in Achu (2013) on the impact of clients on appraisers, they have mostly focused on topics such as pressure from clients, client characteristics that affect appraisers, and certain valuation purposes that affect appraisers. The quality of the empirical data and applied research method can be the most challenging issues, and thus we suggest that quantitative and qualitative research methods be adopted simultaneously for a better understanding of whether clients may affect the valuation results and the extent that they do so. However, previous empirical studies have only included a few variables in their empirical analysis and focused on the analysis of the impact of client characteristics. Their empirical results are mostly insignificant and have left much room for improvement in this area.

As for research on the behavior around independence awareness in other professions, Tepalagul and Lin (2015) present a comprehensive review of academic research that pertains to auditor independence and audit quality. They organize four main themes around auditor independence, namely, (a) client importance, (b) non-audit services, (c) auditor tenure, and (d) client affiliation with audit firms. They conclude that the mixed evidence, together with recent regulatory changes, provide opportunities for future research on auditor independence and audit quality.

Junaidi *et al.* (2016) examine the effects of auditor rotation and auditor tenure on auditor independence in companies listed on the Indonesia Stock Exchange during 2002-2010. Their results show that auditor tenure has significantly negative effects on auditor independence. Auditor rotation has significantly positive effects on auditor independence. Yip and Pang (2017) examine perceptions of investors on auditor independence in Hong Kong. Their survey cover six aspects of the auditor-client relationship: audit firm size, competition for audit clients, regulations, auditor tenure, provision of non-audit services, and audit fees. They find that audit firm size, a high level of competition, and auditor tenure of 5 years or more significantly and negatively influence auditor independence. Strict regulations and severe discipline enhance auditor independence. These findings support both a code of ethics and ongoing professional development for auditors to maintain high standards in regards to auditor independence. Our study benefits from the large volume of behavior research on auditor independence, for constructing hypotheses, explaining the empirical results explanation and also facilitating future regulations.

3. Research Design

In this study, we apply the binary logistic model in our analysis of Taiwan and apply three different levels of awareness in terms of appraiser independence:

- (1) the implied expected price of clients will not affect the decision of the appraisers on the final valuation (y_1),
- (2) the appraisers make a highly independent decision on the final price (y_2), and
- (3) the appraisers consider that it is inappropriate to report the interim price to clients in advance (y_3).

As for the impact factor of the awareness of appraiser independence, we refer to Levy and Schuck (1999) and Achu (2013) and adopt three categories of explanatory variables, including the characteristics of the appraiser and appraisal company, and the perceived external environment by the appraiser, which includes current development of the appraisal industry, opinion of the general public on appraisers, and the behavior of other appraisers.

3.1 Variables for Characteristics of Appraisers

The following are the variables that describe the characteristics of the appraisers, including work experience, education, and personal annual income.

- (1) **Work experience:** In Taiwan, the system of real estate appraisals has been implemented for less than two decades as the official launch was in 2001. Many currently practicing appraisers were already practicing before the implementation of the current system, and thus we assume that the awareness of appraiser independence of those who have more work experience is lower, and thus work experience is deemed to have a negative impact on the awareness of appraiser independence. In this study, we reflect this impact by using the age or tenure of the appraisers.
- (2) **Education:** In this study, we expect that appraisers with a higher education are more likely to insist on their own valuation expertise, and thus education is deemed to have a positive impact on the awareness of appraiser independence. We reflect the impact based on education and professional background.
- (3) **Personal annual income:** This variable may both positively and negatively affect the awareness of appraiser independence. Appraisers with less awareness of appraiser independence may accrue a higher income by accommodating clients, but appraisers with a greater awareness of appraiser independence may also be less willing to accommodate clients due to their higher personal income.

3.2 Variables for Characteristics of Appraisal Company

The size of the appraisal firm, which includes appraiser accounts and annual revenue, may both positively and negatively affect the awareness of appraiser

independence. Individual appraisers in a larger appraisal firm may be less vulnerable to influence by clients and thus the size of the firm will have a positive impact on awareness of appraiser independence. However, larger appraisal firms may have more strict performance targets, and thus have a negative impact on awareness of appraiser independence. We reflect the impact based on the number of employees or the revenue of the appraisal firm.

3.3 Variables for Perceived External Environment

3.3.1 Current Development of Appraisal Industry

(1) Demand for Appraisers

The awareness of appraiser independence may be affected by the public demand for appraisers. We expect the awareness of appraiser independence to be relatively low if the appraisers think that there is a severe shortage of currently practicing appraisers.

(2) Overall Income of Appraisers

The awareness of appraiser independence may be affected by the overall income level of appraisers. We expect the awareness of appraiser independence to be lower if the appraiser believes that his/her current income is relatively low compared to that of other practitioners.

(3) Correlation between Size of the Appraisal Firm and its Expertise

Currently, there are two types of appraisal firms, namely, individual and associate firms. The public may believe that larger appraisal firms are more professional. We expect that appraisers who think otherwise have a greater awareness of appraiser independence.

(4) Qualifications of Appraisers

The rate of acceptance of appraisers is relatively low compared to that of other practitioners in the past, namely, it is considered to be relatively easy to become an appraiser. We expect the awareness of appraiser independence to be higher if an individual believes that the qualifications are relatively stricter. In this study, we reflect on the impact of this variable based on the opinions of appraisers with the two following questions: "The current real estate appraiser examination is too strict" and "I agree that the qualifications of real estate appraisers should be less restricting".

(5) Establishment of Appraiser Accreditation System

In Taiwan, the system of appraisals was officially launched in 2001, and has been implemented for less than two decades. The quality of appraisers also varies greatly. We expect appraisers who oppose the establishment of an accreditation system to have less awareness of appraiser independence.

3.3.2 Opinion of General Public of Appraisers

(1) Public Recognition of Appraisal Expertise

The awareness of appraiser independence may be affected by the public recognition of the expertise of appraisers, and if an appraiser believes that the expertise of appraisers is well recognized by the public, s/he will have a greater awareness of appraiser independence.

(2) Public Recognition of Fairness of Appraiser

Appraisers may be affected by public recognition of the fairness of appraisers, and if the appraiser believes that the fairness of appraisers is well recognized by the public, s/he will have a greater awareness of appraiser independence.

3.3.3 Behavior of Other Appraisers

(1) Awareness of Other Appraisers

The awareness of appraiser independence may be affected by the behavior of other appraisers. If an appraiser notices that other appraisers feel that there is little independence, s/he may be more willing to accommodate clients and compromise by considering client requests due to herding behavior. In this study, we reflect the impact of the behavior of other appraisers on the awareness of appraiser independence based on the prevalence of appraisers who inform clients of the interim price in advance.

(2) Expertise of Other Appraisers

The awareness of appraiser independence may also be affected by the expertise of other appraisers. If an appraiser notices that the other appraisers have little expertise, s/he may be more willing to accommodate clients. In this study, we reflect the impact of the expertise of other appraisers based on the opinions of appraisers to two statements: "Currently, practicing appraisers are very professional" and "In general, the quality of real estate appraisal reporting needs to be improved".

(3) Severe Fee Competition among Appraisers

The awareness of appraiser independence may also be affected by the fee of the other appraisers. If an appraiser observes severe fee competition among appraisers, s/he might be more willing to accommodate client requests and compromise with clients.

4. Empirical Results

4.1 Description of Baseline Data

In this study, we analyze the awareness of appraiser independence of real estate appraisers and the impacting factors by carrying out a questionnaire survey. The

questions basically fall into three categories: the characteristics of the appraiser, characteristics of the appraisal company, and perceived external environment by appraiser, which includes current development of appraisal industry, opinion of general public on appraisers, and behavior of other appraisers. The subjects are practicing real estate appraisers in Taiwan, and the survey was conducted from June to July 2014. A total of 315 questionnaires were delivered via e-mail and 116 of them were returned, of which 110 are valid questionnaires. The recovery ratio and the valid recovery ratio are 36.8% and 34.9%, respectively. To ensure data reliability and stability, a reliability analysis was conducted with regard to the three categories- the characteristics of the appraiser, characteristics of the appraisal company, and perceived external environment by appraiser before conducting the empirical analysis, and the Cronbach's alpha value is considered to be reliable.

The demographics of the appraisers and appraisal company respondents are shown in Table 1, and the age and work experience of the respondents are evenly distributed. Respondents between 41 and 45 years old account for the largest group (29.1%), as well as work experience between 6 and 15 years (50%). As for the education and background of the appraisers, 60% of the respondents have a Bachelor's or college degree, and 40% of them have a Master's degree. Those who work in land administration and real estate-related departments account for about 41.8% of the total number of respondents. The respondents have a high educational background and high level of expertise. A personal annual income of less than NT\$ 1.5 million (USD 48,954; 1 USD = NT\$ 30.64) accounts for about 70% of the total participants, which indicates that the appraisal business in Taiwan consists mostly of small firms. As for the size of the appraisal firms, which includes appraiser accounts and annual revenue, appraisal firms with 1 appraiser account for the largest share (42.7%), and firms with an annual revenue of less than NT\$ 5 million (163,180 USD) account for the largest share too (56.3%).

The basic statistics for awareness of appraiser independence and the impact variables, which include perceived external environment, are shown in Table 2. We can see from the table that most (64.5%) of the respondents believe that real estate appraisers are highly independent in decisions on the final price, but with regard to the actual valuation behavior, 56.4% of the appraisers believe that the expected price of clients does affect their assessment of the final valuation, and 52.7% believe that it is not inappropriate to report the interim price to clients in advance. The initial results show that most appraisers agree that the appraisal practice should be independent (at least theoretically), but the actual valuation behavior may be affected by the clients. As for the current development of the appraisal industry, respondents have no negative opinions on the current qualifications of appraisers and the way in which they implement their real estate appraisals. While there is no shortage of the number of currently practicing appraisers, their income level is indeed rather low (the average number who feel that the income level is not low is only 1.92), and most respondents tend to establish accreditation systems. As for whether larger

appraiser firms are more professional, most respondents disagree (the average is 3.44). With regard to the opinion of the general public on appraisers, some of respondents believe that their expertise or fairness has been publicly well recognized, as the average is less than 3. Finally, with regard to the behavior of other appraisers, the score which denotes the belief that current practicing real estate appraisers are very professional is 2.68, and the respondents are very concerned about the quality of the evaluation reports and the fee competition within the industry (the average score that referred to disbelief of fee competition is only 1.65), and the respondents believe that awareness of appraiser independence is low, as the average score that referred to belief in that statement when appraisers would not inform clients of the interim price is only 2.58.

Table 1 **Characteristics of Appraisers and Appraisal Company**
(N = 110)

Variable	Characteristic	Frequency	Percentage
Work Experience			
Age	Less than 30 years old	4	3.6
	31-35 years old	11	10.0
	36-40 years old	24	21.8
	41-45 years old	32	29.1
	46-50 years old	16	14.5
	Over 51 years old	23	20.9
Work Experience	Less than 1 year	4	3.6
	2-5 years	18	16.4
	6-8 years	29	26.4
	11-15 years	26	23.6
	16-20 years	17	15.5
	Over 21 years	16	14.5
Education			
Education	Bachelor's or college degree	66	60.0
	Master's degree	44	40.0
	Land administration or real estate	46	41.8
	Civil Engineering or Architecture	14	12.7
	Economics or Business Administration	34	30.9
	Science or Engineering or Agriculture or Medicine	12	10.9
	Law or Political Science	2	1.8
	Humanities and Philosophy	1	0.9
	Other	1	0.9

(Continue...)

(Table 1 Continued)

Variable	Characteristic	Frequency	Percentage
Income			
Personal Annual Income (NT\$)	Less than 1 million	32	29.1
	1.01~1.5 million	45	40.9
	1.51~2 million	15	13.6
	2.01~3 million	10	9.1
	3.01~4 million	4	3.6
	4.01~5 million	2	1.8
	Above 5.01 million	2	1.8
Size of appraisal firm			
Appraiser Accounts	1	47	42.7
	2	22	20.0
	3	16	14.5
	4	5	4.5
	5	9	8.2
	6	4	3.6
	7	4	3.6
	Above 10	3	2.7
Annual Revenue(NT\$)	Less than 1 million	24	21.8
	1.01~5 million	38	34.5
	5.01~10 million	11	10.0
	Above 10 million	37	33.6

Table 2 Basic Statistics of Awareness of Appraiser Independence of Real Estate Appraisal and the Impact Variables (N = 110)

Awareness of appraiser independence variables (Dependent Variables)	Agree (Independent)	Disagree (Not Independent)
Implied expected price from clients will not affect appraiser decisions on final valuation	48 (43.6%)	<u>62 (56.4%)</u>
Appraisers are highly independent with regard to the decision on the final price	<u>71 (64.5%)</u>	39 (35.5%)
Appraisers consider that it is inappropriate to report the interim price to clients in advance	52 (47.3%)	<u>58 (52.7%)</u>

(Continue...)

(Table 2 Continued)

Factors that affect awareness of appraiser independence (Independent Variables) ^a	Average	Standard deviation
<u>Perceived external environment</u>		
<u>Current development of appraisal industry</u>		
There is no severe shortage in the number of current practicing appraisers in Taiwan	3.32	1.057
The income of appraisers is not relatively low	<u>1.92</u>	0.858
Disagree that larger firms are more professional	3.44	1.018
The real estate appraiser examination is not strict enough	3.39	0.92
Disagree that the restrictions with regard to the qualification of real estate appraisers should be reduced	3.87	0.9
Disagree that an appraiser accreditation system be established	<u>2.7</u>	1.146
<u>Opinion of general public of appraisers</u>		
The expertise of appraisers has been recognized by the public	<u>2.57</u>	0.883
The fairness of appraisers has been recognized by the public	<u>2.69</u>	0.896
<u>Other behaviors of appraisers</u>		
Appraisers do not inform the interim price to clients in advance	<u>2.58</u>	1.035
Current practicing appraisers are very professional	<u>2.68</u>	0.918
Disagree that the quality of real estate appraisal reporting needs to be improved in general	<u>2.25</u>	0.861
Disagree that there is a severe fee competition among appraisers	<u>1.65</u>	0.735

Note: a: The question items of factors that affect the awareness of appraiser independence are scored by the degree of consent, in which disagree very much = 1 point, disagree = 2 points.... etc., to agree very much = 5 points.

4.2 Empirical Results

In this study, we use three models as dependent variables to measure the awareness of appraiser independence of real estate appraisers including: “the implied expected price from clients will not affect the decision of the appraisers on the final valuation (Model 1)”, “appraisers are highly independent of the

decision regarding the final price (Model 2)” and “appraisers consider that it is inappropriate to report the interim price to clients in advance (Model 3)” . In addition, three categories of variables are included as independent variables in conducting the regression analysis for the binary logit model. Model 1 is found to fail the omnibus test and does not reach significance, which means that the independent variables are not explanatory. Although the omnibus test value of Model 2 is 30.993 and also passes the Hosmer-Lemeshow goodness-of-fit test, the explanatory power is limited, and only one item reaches the significance level. The reason for this is that the dependent variables are related to the moral hazard of the respondents, and appraisers may not wish to truthfully answer controversial questions. By contrast, the question items on the dependent variables in Model 3 are not related to morals but more analytical results are needed, so we further discuss the model as follows.

With all predictive variables included, as shown in Table 3, the chi square value derived from the omnibus test of Model 3 is 34.757 and the null hypothesis that the coefficient value is equal to 0 is rejected, and reaches a 1% significance level. That means that the independent variables can effectively explain for the forecast sample and the goodness-of-fit of Model 3 is very good.

As for individual influential factors, first in terms of the opinion of the appraisers on the current development of the appraisal industry; that is, whether a larger appraisal firm indicates higher expertise, the empirical results (please refer to the variable of disagree that larger size indicates higher expertise in Table 3, and the coefficient of the variable is positive) show that respondents who disagree have a greater awareness of appraiser independence, which is consistent with our assumption. Furthermore, the variable of disagree with the establishment of an appraiser accreditation system has a significantly negative impact on the awareness of appraiser independence. As for the desire of the appraiser for the system to improve which indicates that the existing system has deficiencies, the empirical evidence suggests that appraisers with awareness of appraiser independence are more interested in seeing an improvement with the establishment of an accreditation system, a result that is consistent with our assumption. Other variables related to the perspective of the current development of the appraisal industry do not reach the significance level, because most respondent appraisers tend to consider the current examination system positively, i.e., the qualification system of appraisers, to have no significant relationship with the awareness of appraiser independence. It is worth noting that, despite our assumption that low income affects the awareness of appraiser independence, the results of the survey show that it is generally regarded that the income of appraisers is lower compared to that of other professionals, like engineers, and regardless of whether the appraisers have awareness of appraiser independence or not, they all believe that the income level for practicing in Taiwan is low, and therefore the impact of the variable is beyond what we expected.

Secondly, the opinion of the general public of appraisers and the behavior of other appraisers with “the expertise of appraisers is well recognized by the public” and “appraisers do not inform clients of the interim price in advance” respectively have a significant impact on the awareness of appraiser independence, and are related to herding behavior. Appraisers with no herding behavior have a greater awareness of appraiser independence. This study finds that the awareness of appraiser independence of appraisers is reduced when they tend to agree that other appraisers will inform clients of the interim price before submitting the official report to the clients. On the contrary, those who disagree that this type of behavior is prevalent have a greater awareness of appraiser independence. Furthermore, the coefficient of the variable “the expertise of appraisers is well regarded by the public” is negative and contrasts with our assumption. The reason for this is that appraisers with awareness of appraiser independence are more intent on reforms to the system and believe that the recognition of the expertise of appraisers is still lacking in Taiwan. Therefore, those who disagree with the statement “the expertise of appraisers is well-recognized by the public” have a greater awareness of appraiser independence. On the other hand, as the respondent appraisers generally believe that the professionalism of appraisers in Taiwan can be increased and fee competition within the industry is severe, the two variables do not reach the significance level. This result is consistent with the “the perspective on the current development of the appraisal industry” as discussed above.

Finally, in terms of the characteristics of appraisers and appraisal companies, the coefficient of the variable “annual revenue of the company” is negative. We initially assume that the size of the appraisal firm may have both positive and negative impacts on the awareness of appraiser independence, and the empirical results indicate that larger real estate appraisal firms negatively affect this awareness due to the need for business growth, and real estate appraisers who are practicing in large appraisal firms might be confronted with this dilemma. Furthermore, the impacts of the income and educational background of individual appraisers are both insignificant, because the annual income of most respondents is less than 1.5 million NTD and their educational background is mostly related to land administration, and thus the two variables are less related to the awareness of appraiser independence.

4.3 Analysis and Discussion

In general, the awareness of appraiser independence is related to the current development of the appraisal industry, opinion of the general public of appraisers and the behavior of other appraisers and the characteristics of the appraisers. Previously, relevant empirical studies were limited by the failure of the research method to effectively measure the impact of clients on appraisers, especially due to the vulnerability of the questionnaire survey method to the moral hazard of respondents which could result in insignificant empirical results on the impact of clients in terms of the behavior of the appraisers

(Worzala *et al.*, 1998; Gallimore and Wolverton, 2000; Amidu and Aluko, 2007b; Achu *et al.*, 2015), or that the analytical results are beyond expectations with overly small samples (Yu, 2002; Chen and Yu, 2009). In this study, we aim to improve this situation as we have collected more valid observations and adopted more comprehensive indicators to measure the awareness of appraiser independence, and prevent respondents from being untruthful to evaluate the impact of factors on the awareness of appraiser independence more effectively.

The empirical results show that the size of the companies (in terms of annual revenue) have a significant impact on the independence of the valuation, a finding that is consistent with the results of Levy and Schuck (1999) and Wolverton (2000). Wolverton (2000) also argues that the type of appraisal company is a critical factor in the role recognition of appraisers. The analysis provided in the study also shows that the appraisal industry in Taiwan still needs improvement, and appraisers with a greater awareness of appraiser independence tend to support improvements in the system and have a strong desire for the establishment of an appraiser accreditation system and increased public recognition of appraiser expertise. The results are consistent with the discussions in Diaz (1990a; 1990b) and Levy and Schuck (1999; 2005) in terms of the impact of the external environment on appraisal behavior. Moreover, disagreement that larger appraisal firms are more professional also has a significant impact on the independence of appraisals, and again supports the view that the impact of company size is negative. The reason for this is that large Taiwanese appraisal firms have been under pressure to perform in recent years and this may weaken the independence of appraisals in practice.

On the other hand, we focus on examining the impact of the behavior of other appraisers on the awareness of appraiser independence, and find that the independence of appraisers is affected by the agreement with the behavior of other appraisers. As some appraisers inform their clients of the interim price in advance, the behavior can reflect the impact of clients on evaluation behavior (Levy and Schuck, 1999), and appraisers who disagree with the behavior have higher awareness of appraiser independence. Apparently, herding behavior is a critical factor that impacts the awareness of appraiser independence, but few empirical studies in the western context have mentioned the topic which warrants further discussion.

Compared to behavioral studies on auditors, the same factors related to independence are firm size, a high level of competition, client affiliation with firms and institutional establishment. It is worth noting that rotation, strict regulation and severe punishment enhance auditor independence (Tepalagul and Lin, 2015; Junaidi *et al.*, 2016; Yip and Pang, 2017). Therefore, this kind of system design can be used as a reference for the real estate appraisal industry.

Table 3 Logistic Model Results of Impact Factors of Awareness of Appraiser Independence

Model: Appraisers consider that it is inappropriate to report the interim price to clients in advance	Estimate	Wals	Odds
Intercept	2.749	1.911	15.621
Characteristics of appraisers			
Work experience	-0.031	0.593	0.97
Education	-0.355	0.419	0.701
Personal Annual Income	-0.002	0.464	0.998
Characteristics of appraisal company			
Size of appraisal firm: Appraiser Accounts	0.157	0.884	1.17
Size of appraisal firm: Annual Revenue	** -0.002	5.614	0.998
Perceived external environment by appraiser			
1. Current development of appraisal industry			
Disagree severe shortage in practicing appraisers in Taiwan	-0.169	0.458	0.844
Disagree that income of appraisers is relatively low	-0.351	1.045	0.704
Disagree that larger firms are more professional	**0.547	3.957	1.729
Disagree that restrictions with regard to the qualifications of real estate appraisers should be reduced	-0.202	0.519	0.817
Disagree that appraiser accreditation system should be established	*-0.408	2.635	0.665
2. Opinion of general public of appraisers			
Agree that expertise of appraisers has been recognized by public	*-0.620	3.171	0.538
Agree that fairness of appraisers has been recognized by the public	0.437	1.678	1.547
3. Behavior of other appraisers			
Agree that appraisers do not inform clients of interim price in advance	*0.523	3.596	1.687
Agree that current practicing appraisers are very professional	-0.239	0.61	0.788
Disagree that there is severe fee competition among appraisers	-0.283	0.496	0.753
Chi-square value of omnibus test	***34.757		
-2 log likelihood	117.408		
Cox & Snell R ²	0.271		
Nagelkerke R ²	0.362		
Hosmer & Lemeshow goodness-of-fit test (chi-square)	11.018		
Summary percentage	72.70%		
Sample	110		

Note: *** P-value<0.01, ** P-value<0.05, * P-value<0.1

5. Conclusion and Recommendations

The results of real estate appraisals greatly affect the interests of stakeholders, and clients may attempt to use various means to influence the professional judgment of appraisers based on economic rationality and self-interest. However, the empirical results of earlier studies are inconsistent and cannot measure the impact of clients on the behavior of real estate appraisers. Previous studies have tended to focus on the analysis of client characteristics and neglected the awareness of appraisers of their own behavior. Therefore, we use data from practicing real estate appraisers in Taiwan as our research subjects and examine and analyze the awareness of appraiser independence and its influential factors in relation to real estate appraisers through a questionnaire survey.

The empirical results show that real estate appraisers have different levels of awareness of appraiser independence, and generally agree that they maintain a high degree of independence when it comes to the decision on the final price. However, the actual evaluation judgment may still be affected by the price that the client expects or the behavior of the client. We find that an indirect behavior indicator (i.e., “Is it appropriate to inform clients of the interim price in advance?”) can serve as the measurement factor for the variables of the awareness of appraiser independence, and can both evaluate efficiently and avoid moral hazards. The influential factors related to the awareness of appraiser independence of real estate appraisers include firm size (revenue), the impact of the behavior of other appraisers and recognizing the regulations of the industry (agree or disagree that larger companies are more professional, agree or disagree that an appraiser accreditation system should be established, and whether the expertise of appraisers is well recognized by the public, etc.). In other words, the independence of large real estate appraisal firms can be influenced by the pressure to perform, and it is common in the industry for them to inform clients of the interim price. If the appraisers agree with such behavior, their independence will be affected as well. Furthermore, the modification of external regulations and the environment are helpful for enhancing the awareness of appraiser independence, such as by establishing an appraiser accreditation system and enhancing public recognition of the expertise of appraisers.

Based on the research results, we recommend that the real estate appraisal industry can create an advantageous external environment for independent appraisal by improving external conditions such as the establishment of an accreditation system. The transparency of the system can also enhance public recognition of the expertise of appraisers. Furthermore, to avoid the negative impact of possible herding behavior in relation to appraisals, such as reporting the interim price in advance, we recommend that the Real Estate Appraisers Association in Taiwan should play an intermediary role (such as by appointing appraisal cases to the association or implementing a rotating-basis appointment

system, a system similar to auditor rotation) during the process of appointment to reduce the pressure faced by appraisers when handling clients and resolving the business performance pressure of large real estate appraisal firms as well.

As mentioned above, the real estate appraisal industry in Taiwan has long faced the problem of fee competition and low income, and a system reform does not take place overnight. We recommend that a reform can start by enhancing the awareness of appraiser independence of appraisers to change the behavior and awareness of appraiser independence of appraisers, and in this way, the impact of clients on real estate appraisal can be alleviated. As for recommendations for further research, we have examined the overall appraisal behavior and the appraisal system. Future studies could take the impacts of different objectives of appraisal purpose, methods and evaluation into account and conduct comparative analyses with regard to these factors. In addition, we have found that herding behavior has a substantial impact on the awareness of appraiser independence, and future studies could further examine the herding behavior of real estate appraisers from the perspective of the behavioral sciences.

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