

# TECHNIQUES AND ADJUSTMENTS IN VALUING PRIVATELY-HELD ENTERPRISES IN THAILAND

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## Abstract

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This article investigates the tools appraisal firms use to value privately-held businesses in Thailand. It also tests for covariation between selected descriptive variables and the techniques valuers employ to assist owners in deciding on their companies' worth. A review of literature relating both to valuation and to strategic planning served as the basis for hypothesis development and questionnaire construction. All 81 approved Thai appraisal firms received the questionnaire. The main findings are that the number and kind of tools Thai appraisal firms employ vary widely. Furthermore, manager and practitioner characteristics such as education, professional association membership, years of work experience, and cases previously handled as well as an appraisal firm's age and size sometimes are associated with the valuation techniques applied, account adjustments made, and interest rate alternatives chosen. The study furthermore suggests that reporting justifications for the specific valuation techniques employed and the weights assigned their results would increase transparency, afford clients additional useful information, and provide linkage between theory and actual practice. Reliance on senior practitioners and top managers as questionnaire respondents raises the possibility of key informant bias. Future research might examine the extent to which appraised values resulting from application of the tools respondents say they use to agree with prices subsequently paid in arm's length, market transactions.

**Keywords:** Valuation, Privately-Held Enterprises, Small Businesses, Discounted Cash Flow, Market Approach, Income Approach, Asset Approach

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## 1. INTRODUCTION

Both in theory and practice, enterprise valuation is a topic that interests economists. In addition, it is of concern to investment bankers and public accountants, who regularly must decide how best to value a firm (Kruschwitz & Löffler, 2020). Knowledge of that value, of course, also is important to a company's owners and any potential buyers, heirs, insurers, taxing authorities, suppliers, and other interested parties.

Business valuation is the process of estimating what a company is worth. On one hand, the International Valuations Standards Council (2013) define the term '*enterprise value*' quite precisely as the total value of a firm's own capital, plus its loans or interest-bearing liabilities, minus any cash or cash equivalents available to pay those liabilities. On the other hand, the term may connote a grounded and justified opinion rather than a definite fact (Turcas, Dumiter, Brezeanu, & Jimon, 2016). Practitioners base such opinions on three main valuation methods: 1) the market approach; 2) the income approach; and 3) the asset approach.

In any specific situation, all three approaches might be considered, along with other information, before deciding which one is most appropriate. Alternatively, multiple methods may be employed. Professionals then display their estimation results on a "football field chart" summarizing the range of values calculated using each approach. Next, they analyze these values and finally select the most "reasonable" one (PwC, 2013).

The income and market approaches are the primary valuation methods applied to large companies in developed economies (Hasso & Duncan, 2013; Anderson, 2009; Petersen, Plenborg, & Schøler, 2006). A report says the approaches and techniques employed by respondents encompass: 1) income and market approaches (used either 'always' or 'sometimes' by 100% of respondents); 2) cross-checking to a regulatory asset base (RAB) that contains multiple or similar assets; 3) valuation benchmarks (e.g., the value per unit of resource/reserves); 4) rules-of-thumb for smaller valuations; 5) probability-weighted net present value (NPV); and 6) real options (KPMG, 2015).

Here, a few comments about the NPV-technique are in order for readers unfamiliar with it. One applies the NPV-technique most commonly in connection with large, long-lived capital investment projects, where the time value of money is a major consideration. Because such undertakings may be slow to generate positive cash flows, though, NPV effectively downplays the significance of unexpected future liabilities, which can lead to risk misallocation among investors and other stakeholders. The decoupled net present value (DNPV) method mitigates this shortcoming through the introduction of a risk-as-cost factor. That factor prices in the risk of lower-than-expected cash flow receipts, thus compensating investors for the additional risk they bear. Accordingly, DNPV is an NPV-variant that allows for more realistic risk allocation (Espinoza, Rojo, Cifuentes, & Morris, 2020). Its downside is the incorporation of additional complexity into NPV-models that often already are rather complicated.

Even so, the application of sophisticated valuation models for large, exchange-traded companies in developed economies often is not feasible in an emerging market context. Countries like Thailand generally have higher levels of political risk, macroeconomic and financial market volatility, and more limited transparency. These variables also must be integrated into conventional business valuation models, thereby making them even more convoluted (Sabal, 2007).

Although it is relatively easy to assess the degree of transparency of accounting standards in developed markets, it is far more challenging to do so in emerging economies (Bruner, Conroy, Estrada, Kritzman, & Li, 2002). Business valuation becomes more difficult when high-quality market information is unavailable because the ability to estimate model parameters accurately decreases. Over and above this problem, when a given market is segmented, information obtained from other markets with higher information efficiency is scarcely useful as a reference. Besides, many traditional valuation models assume efficient market conditions, which means both buyers and sellers have transparent, accurate, and timely information (Pereiro, 2001). Of course, this assumption bears scant resemblance to the actual situation in countries like Thailand. Furthermore, privately-held businesses are not required to publish their financial data, making it even harder to compare competing companies in a given industry.

In any event, estimating an enterprise's value likely will be necessary at some point during its life cycle. From a micro-economic perspective, several influences affect the demand for valuations. Determining value arguably is useful in improving internal management and external reporting. It also provides the basis for legal and transactional issues, such as the sale or purchase of all or part of a business (Terdpaopong, Yesseleva-Pionka, Gibson, & Weaver, 2017; Sanginario, 2013; Smith, 2012).

Other statutory and transactional scenarios that might require an appraisal include purchasing insurance, restructuring a firm, family law proceedings, settling shareholder disputes, liquidating businesses, and valuing estates. In addition, the number of privately-held companies involved in mergers, acquisitions, and generational transfers is increasing (Petersen et al., 2006). These activities require valuations too. The Asian economic crisis, which began in 1997, caused significant instability in financial markets and weakened business conditions. As a result, a large number of mergers and acquisitions occurred at that time because many investors seized this opportunity to purchase vulnerable firms and their assets. That increased the demand for business and asset valuations as well (Asian Development Bank, 2000).

On top of that, changes in accounting standards now require some enterprises to conduct annual impairment tests on both tangible and intangible assets, such as goodwill (Petersen et al., 2006). Consequently, companies need to adjust the carrying amount of their assets and liabilities to present accurate, fair values on their balance sheets. Moreover, whether a business is large or small, if it is modern, it typically has digital intangibles embedded in it. These intangible assets include such items as domain names and Websites, mobile

applications, Big Data bases, digital brands, social networks, blockchains, smart transaction capabilities, and so forth. Thus, still more techniques are required in order to make the additional adjustments necessary to complete a comprehensive appraisal of a company's worth (Visconti, 2020).

Recently in Thailand, owners' demand for business valuations also increased dramatically due to the enactment of the Business Collateral Act B.E. (BCA) in 2015. This legislation expanded the pool of collateral, allowing a firm to use its appraised value as security for bank loans.

From a macroeconomic perspective, the number of small- and medium-sized enterprises (SMEs) globally continues to grow (IFC, 2010; Audretsch & Link, 2012). If it were known, their value could be an important aggregate indicator for governmental economic, investment, and policy decisions (Anderson, 2009). That definitely is the situation in Thailand. In 2015, the country had approximately 2.77 million SMEs, which constituted 99.7% of all enterprises. These SMEs accounted for 80.4% of overall private sector employment in the same year. Moreover, their contribution to the country's GDP was 41.1% (OECD, 2018).

Companies in Thailand are classified either as micro, small, medium or large enterprises based on both the number of employees and the amount of fixed assets, excluding land (Institute for Small and Medium Enterprises Development, 2006). Businesses in the production and service sectors are classified as small enterprises if their fixed assets are not more than THB 50 million and employ no more than fifty people; while medium enterprises are those with fixed assets between THB 50 to 200 million and employ between fifty and two hundred people. On the other hand, businesses in the wholesale trading sector are classified as small enterprises if their fixed assets are less than THB 50 million and employ no more than twenty-five people, and as medium enterprises, if their assets are between THB 50 to 100 million and employ between twenty-six and fifty people. In a situation where the number of employees and the value of fixed assets place the firm in both categories, the lower of the two determines how the enterprise is classified.

Unfortunately, the value of most companies that are privately held and identified as small enterprises is difficult to determine for two reasons. First, there is a dearth of approaches reflecting the different perceptions of value held by many small business owners (Adams & Thornton, 2009; Ang, 1992; Astrachan & Jaskiewicz, 2008). Second, as explained above, objectively determined information from high-volume market trading may be unavailable for use in models that otherwise might be fruitful (Hasso & Duncan, 2013; Petersen et al., 2006). Thus, the methods for determining value vary and often involve subjective adjustments based on intuition and only limited empirical evidence (McKinsey & Company Inc., Copeland, Koller, & Murrin, 2000).

When dealing with privately-held firms, valuation professionals (often referred to as valuers or appraisers) rely on alternative techniques such as the "comparable-companies method" (Adams & Thornton, 2009; Koeplin, Sarin, & Shapiro, 2000) and modified valuation techniques based on the income

or asset approaches (Conn, 2013; Hasso & Duncan, 2013; Petersen et al., 2006). Analysts in the UK favor the use of discounted cash flow (DCF) models over price-earnings models to value small businesses (Demirakos, Strong, & Walker, 2010). The DCF approach, which at a minimum involves discounting future payment surpluses, an appropriate cost of capital, and tax considerations (Kruschwitz & Löffler, 2020), also finds favour with the majority of German and Swiss renewable energy companies (Hürlimann, Al-Ali, & Bengoa, 2019).

Yet, when used for privately-held enterprises, all of these methods require a larger number of subjective estimates relative to the techniques employed for exchange-traded businesses. That can have a major impact on the final valuation (Hasso & Duncan, 2013). These subjective estimates include gauging cash flow and income, the period for which projections are required, normalizing adjustments for historical data (Kirkland, 2013) and any growth assumptions. In the absence of a market-based, risk-return relationship (that exists for exchange-traded firms), one also must identify the risk premium for the given industry and any important circumstances specific to a particular enterprise (Comment, 2012; Koeplin et al., 2000; Petersen et al., 2006; Zanni, 2014). These factors may result in discount rates for privately-held companies up to four times greater than the ones for their exchange-traded peers (Adams & Thornton, 2009). Furthermore, although the unsystematic risk is challenging to quantify, business-specific characteristics nonetheless have a profound effect on the choice of the valuation method and subsequent professional judgment applicable to estimating a firm's worth (Pereiro, 2001).

A number of organizations provide specialized services and, in some cases, accreditation for professional valuers. For example, in the USA, there are the National Association of Certified Valuers and Analysts (NACVA), the American Institute of Certified Public Accountants (AICPA), the Institute of Business Appraisers (IBA), and the American Society of Appraisers (Smith, 2012). In Australia, similar organizations include the Australian Institute of Business Brokers (AIBB) and the Australian Valuers Institute (AVI). In Thailand, international accounting and auditing firms such as Deloitte Touche Tohmatsu, EY (formerly Ernst & Young), KPMG, and PwC, as well as other financial advisory and valuation companies provide such services. Members of accounting and legal professional associations also often are involved in business valuation activities.

It is plausible that different geographic regions and/or national cultures may diverge in their utilization of various techniques and adjustments or that they may approach value estimation in a different manner. A key first step in justifying the study of these possibilities is to examine the methods employed by professionals in this field. Hence, publications have tended to be practice-oriented. For example, one investigation's results pertain to practices among European investors (Petersen et al., 2006), while another one examines them in Latin America (Pereiro, 2001).

Focusing on Thailand, the present study constitutes the first effort made to examine possible differences in approaches to valuation in Southeast

Asia. Although the country itself is a relatively small geographic target, the investigation's research questions are broad and practical. These questions are particularly significant for the stakeholders in the many privately-held, small- and medium-sized Thai businesses. What techniques do professional valuation experts use there? What adjustments do they make? What discount rates do they use? How many of each do they regularly employ? Which ones are utilized most widely? Which ones are preferred? What characteristics of appraisal firms or practitioners are associated with the application of particular techniques and adjustments? Answers to these questions will help both researchers and stakeholders better understand how valuers currently estimate an enterprise's worth in actual practice. This knowledge also will be useful to researchers in future investigations and to stakeholders in making decisions involving their companies.

Section 2 of this article reviews relevant literature and develops testable hypotheses. In addition to explaining the methodology and data collection procedures employed, Section 3 describes key characteristics of the Thai appraisal companies and valuers surveyed. Sections 4 and 5, respectively, present the study's analytic results and discusses them. Lastly, Section 6 offers some final insights and policy recommendations, acknowledges the investigation's main limitations, and makes several suggestions for future research in this area.

## 2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Besides the research mentioned in the introduction, there is much more current literature concerning valuation. Some of it covers problems concerning practices such as changes in accounting standards and tax laws, dealings with fiscal authorities and the courts, Big Data's impact, where the valuation profession has been and where it may be going. Much of the rest pertains to such scholarly topics as differences between calculation and valuation engagements, variations in methodologies and the cost of capital, the role of buyer-seller negotiations, sources of comparative valuation information, and individual valuation case studies. This literature reflects questions now of interest to many researchers in the field and certain of their study results provide useful bases for comparison for the present inquiry. However, the literature on strategic planning also offers some welcome direction for an exploratory investigation of the variables associated with the application of appraisal techniques and adjustments, their number, and their prevalence. For that reason, the approach taken here relies on both strategic planning and valuation theories.

Like valuation, the various approaches to strategic planning depend heavily on techniques borrowed from finance and management accounting. Several investigations have examined the influence on strategic planning methods of a company's age, characteristics of its managers, the resources available to it, its size, and the developmental level of the economy in which it operates. As an enterprise ages, its strategic planning becomes more mature and complex. It uses more and newer

tools. That, in turn, signifies a more advanced, formalized planning process (Elbanna, 2008). Valuation similarly is a formalized process often involving newer, more advanced instruments (Lohrey & McCarthy, 2018).

Entrepreneurial and management characteristics also exert an influence on the planning process (Babafemi, 2015). While general education has no systematic effect, specialized education and training are particularly important (Baldrige, Floyd, & Markóczy, 2004; Bower, 2008; Grant, 2008; Ghoshal & Moran, 1996; Jarzabkowski & Whittington, 2008; Qehaja, Kutllovci, & Pula, 2017a, 2017b; Whittington et al., 2003). With respect to valuation, the characteristics of experience and intuition additionally are critical in the treatment of less readily quantifiable factors (Rak-Młynarska & Skobelska, 2018; Zipp, 2018).

The developmental level of a country's economy affects strategic planning and valuation in two ways. First, skilled human and substantial financial resources are essential for the application of the requisite tools and techniques to yield sustainable competitive advantage. Yet, second, in developed economies, where such resources are plentiful and strategic planning as well as valuation widespread, the effect is minimal due to their ubiquity and the resultant diminishing returns to their employment. In developing economies, on the other hand, these resources are scarcer and the competitive benefits of strategic planning correspondingly greater (Barney & Clark, 2007; Johnson, Langley, Melin, & Whittington, 2007; Kotler, Berger, & Bickhoff, 2015; Kyläheiko, Puumalainen, Sjögrén, Syrjä, & Felnhöfer, 2016; Qehaja et al., 2017a, 2017b; St-Hilaire, 2011).

Although mastery of valuation tools and techniques is crucial for estimators (Rady, Meshreki, Ismail, & Núñez, 2019), selecting the appropriate instruments for a given engagement often is controversial. For example, one U.S. court has chosen discounted cash flow (DCF) as the appropriate methodology for "straightforward" appraisal cases (Hoyd & Silver v. Trussay Holdings, 2019). In contrast, a criticism leveled at the U.S. Supreme Court is that it treats company valuation as a mechanical, arithmetical calculation and downplays the essential role of human judgment (Korsmo & Myers, 2018). Meanwhile, a middle position argues that because no single "best" methodology exists (Jegelavičiūtė & Navickas, 2019), the application of DCF methods and "relative valuation" are well-suited to most situations because they are both highly adaptable and credible (Follert, Herbener, Olbrich, & Rapp, 2018). Proponents of yet another variant advocate first considering quantitative analysis and then applying judgment and reasoning as appropriate and necessary (Kumar, 2018; VanVleet, 2019). Disagreements about what interest rate(s) is (are) appropriate for quantitative models and how best to adjust various financial statement accounts constitute additional aspects of this controversy (O'Dell, 2018).

In any case, firm size is the variable seemingly most frequently investigated in connection with strategic planning techniques. Formalization of the process and the intensity with which managers engage in strategic planning depends, among other things, on an organization's size and structural

complexity (Debarliev & Trpkova, 2011; Babafemi, 2015; St-Hilaire, 2011). Some studies show that the use of strategic tools and techniques is more common in larger companies (Elbanna, 2007; Aldehayyat & Anchor, 2008; Pasanen, 2011; Kalkan & Bozkurt, 2013). Moreover, the larger the company, the more likely it is to utilize the vast majority of tools (Rigby & Bilodeau, 2015). Other investigators believe strategic planning is especially valuable for new ventures as well as for small- and medium-sized companies (Kraus, Harms, & Schwarz, 2006; Kraus, 2008, Kraus, Harms, & Schwarz, 2008).

However, managers in SMEs often find themselves overloaded with day-to-day operational tasks arising from everyday business practices. They, therefore, lack the time and perspective to engage in planning (Skokan, Pawliczek, & Piszczur, 2013). The same holds true for valuation, where time pressure can produce artificial, biased calculations that have no semblance at all to properties' true worth (Paschall, 2018; Gregory, 2019). Because of the precedential nature of defending valuations, it often takes a long time for a newcomer in the research marketplace, no matter how superior, to gain market share. Further handicapping new entries is the favor large, expensive databases of guideline public companies are finding in the business valuation profession (Ren, Wamba, Akter, Dubey, & Childe, 2017). Be that as it may, results pertaining to small firms and planning remain mixed and the average effect of company size, if any, appears to be small (Elbanna, 2008; Kylaheiko et al., 2016; Suklev & Debarliev, 2012).

The present investigation does not control the level of national economic development because Thailand is the only country it covers. Nonetheless, Thailand's development level is taken into consideration in interpreting the study's results. Hence, the focus here is on any influence a company's age, characteristics of its managers, the resources available to it, and its size may have on the choice of the techniques employed and adjustments made. Accordingly, the four null hypotheses associated with this research are:

*H01: Various valuation techniques are equally widespread among Thai appraisers.*

*H02: Various account adjustments are equally widespread among Thai appraisers.*

*H03: Various discount rate bases are equally widespread among Thai appraisers.*

*H04: Thai appraisal firms' characteristics are not associated with professionals' choice of valuation techniques, account adjustments, or discount rate bases.*

### 3. METHODOLOGY

#### 3.1. Data collection

Appraisal firms are a logical starting point for acquiring data on how to value an enterprise. After all, most SME-owners turn to them when they want to have their enterprises or their assets valued. In contrast, large or exchange-listed companies generally seek these services from well-known accounting/auditing firms. In Thailand, there currently are 81 approved appraisal companies with a total of 202 valuation specialists qualified to provide estimates in capital market transactions.

A survey instrument was used to collect data from these firms. It contained three sections: 1) respondent's demographic information; 2) valuation techniques employed and adjustments made; and 3) details from recent cases. A pre-test assured that the questions were relevant and understandable to the respondents. During a three-month period (June-August 2018), the instrument was mailed to all 81 appraisal companies. 69 completed questionnaires were received, yielding a response rate of 85.2%.

The survey's respondents were senior practitioners with more than five years of valuation experience (54) and top managers (15) all of which were executive directors or branch managers of appraisal firms. Data gathered from such key informants may be biased and thus of low reliability (Mezias & Starbuck, 2003). To mitigate this problem, the investigation only collected data from individuals with adequate competency. In addition, the survey questions pertained solely to observable behavior or clearly defined objectives, not theoretical constructs. Nevertheless, a residual possibility of bias remains.

#### 3.2. Descriptive characteristics of Thai appraisal companies and valuers

The Securities and Exchange Commission has endorsed a list of approved companies for asset valuation and capital market transactions. It is document number 24/2555, dated November 6, 2012, effective date December 16, 2012 (Stock Exchange of Thailand, 2012). The Commission's endorsement is in keeping with the standards and professional ethics of asset appraisal issued by the Stock Exchange of Thailand and the Kenan Institute Asia.

These listed appraisal firms are the units of analysis under investigation here. The scope of their operations is broad. Generally, that scope encompasses the valuation of corporations and securities portfolios, landlord and tenant rental properties, development properties, plants and machine parks, exchange-listed property funds, non-performing loan collateral and non-performing assets, as well as capital market services for initial public offerings, mergers and acquisitions, and insurance purposes.

It is evident from the questionnaire results that, as of December 31, 2017, most appraisal companies were classified as small in terms of their total assets (63 or 91.3%), while only a few firms were classified as medium-sized (3 or 4.3%) or large (3 or 4.3%). The most common age among them was 11-20 years (41 or 59.4%) followed by 21-30 years (22 or 31.9%). Consequently, the majority of Thai appraisal companies have reached maturity with just four of the participating 69 firms being less than ten years old.

The average total assets of small Thai appraisal companies were USD 337 million, while the medium-sized ones had average total assets of USD 1,402 million. The comparable figure for the three large appraisal companies was USD 17,238 million. On average, medium-sized companies, therefore, are more than four times as large as their small counterparts, and large firms are

more than twelve times bigger than their medium-sized competitors.

However, due to the nature of their business, fixed assets are relatively unimportant for appraisal companies. Thus, most of their assets are current. Appraisal companies fund their business operations with equity capital and/or short-term loans. The main portion of their revenue derives from valuation services while their expenses are relatively high. Accordingly, their average profit is in the range from three to seven percent of total revenue.

The number of cases the companies handled during the past year ranged from one to 5,000 with a median of 30. While 3% of their appraisers held only a technical college degree, 55% were university graduates, and 42% had postgraduate educations. Almost all (94%) were professional association members, with 83% of valuers belonging to the Thai Asset Appraisers' Association. They had between two and 28 years of professional experience, with a median of 14 years. The average Thai appraisal firm thus is a long-established company, with a small amount of assets and modest profitability, but a well-educated, experienced, professional staff.

**4. RESULTS**

The survey asked respondents about their use of various valuation techniques, account adjustments, and discount bases. Table 1 reports their answers, which indicate wide variation across appraisal firms in all three areas. With 66 mentions, discounted cash flow is the most widespread valuation technique employed, followed by capitalized future earnings (48), and earnings multiples (42). Half the firms find it necessary to adjust a company's reported depreciation, while about one-third also adjust the owner's salary, other expenses, or other accounts. For discounting purposes, two-thirds of the firms rely on industry standards, while half of them find it useful to calculate a weighted average cost of capital (WACC) for themselves.

**Table 1.** Number of appraisal firms employing various valuation techniques, accounts adjusted, and discount bases

Items	No	Yes	Total
<b>1.1. Technique</b>			
Asset valuation	38	31	69
Book value	33	36	69
Capitalized future earnings	21	48	69
Discounted cash flow	3	66	69
Comparable value (small firms)	48	21	69
Comparable value (large firms)	46	23	69
Earnings multiples	27	42	69
Other	66	3	69
<b>1.2. Account adjusted</b>			
Owner's salary	46	23	69
Other expenses	43	26	69
Depreciation	34	35	69
Other account(s)	43	26	69
<b>1.3. Discount basis</b>			
Industry standards	28	41	69
Bank interest rate	43	26	69
Bank interest rate plus risk premium	43	26	69
Own experience	52	17	69
Calculated WACC	34	35	69
Other	45	24	69

Table 2 shows there also is wide variation among Thai appraisal firms according to the number of valuation techniques they regularly employ, accounts they adjust, and the discount bases they use. On the assumption that the employment of more tools indicates a higher level of formalization and sophistication in the valuation process, a new variable was computed by summing the number of instruments in regular use in each appraisal firm. The resultant total techniques score ranged from 0 to 8 with a mean of 3.9. Thus, *H01* is rejected. The various valuation techniques are not equally widespread in Thailand, nor do appraisal firms employ them with equal frequency or in equal numbers. Instead, discounted cash flow is by far the most widespread and most frequently used tool. Furthermore, two-thirds of valuation companies use just four or fewer of the available estimation methods.

**Table 2.** Number of valuation techniques employed, accounts adjustments, and discount bases used by appraisal firms

Number/ Number of companies	Number of techniques/Accounts adjusted/Discount bases								Total	
	0	1	2	3	4	5	6	7		8
Number of companies using techniques	1	5	9	19	12	8	4	10	1	69
Number of companies using accounts adjustments	5	35	14	13	2	0	0	0	0	69
Number of companies using discount bases	6	18	14	13	9	6	3	0	0	69

Table 2 additionally displays the number of accounts which appraisal firms usually adjust. Half adjust only one account, while five make no adjustments and two modify all four account types. Again, assuming that the employment of more tools indicates a higher level of formalization and sophistication in the valuation process, a new variable was computed by summing the number of adjustments in regular use in each appraisal firm. The resultant total account adjustments score ranged from 0 to 4 with a mean of 1.6. Consequently, *H02* is rejected. The various account adjustments are not equally widespread in Thailand, nor do appraisal firms make them with equal frequency or in equal numbers. Instead, they are most likely to adjust the depreciation account. Furthermore, almost three-fifths of valuation companies adjust only one or fewer accounts.

Because the choice of one basis does not preclude the use of other bases in creating a football field chart, Table 2 displays the number of bases which appraisal firms usually utilize too. Assuming one more time that the employment of more tools indicates a higher level of formalization and sophistication in the valuation process, a new variable was computed by summing the number of discount bases in regular use in each appraisal firm. The resultant total score ranged from 0 to 6 with a mean of 2.5, indicating that the average firm employs more than one basis for discounting

forecasted amounts to their present values. For these reasons,  $H03$  is rejected. The various discount bases are not in equally widespread use in Thailand, nor do appraisal firms rely on them with equal frequency or in equal numbers. Instead, by a considerable margin, they are most likely to depend on industry standards. Additionally, more than one-third of valuation companies either do not discount forecasted revenues or profits to their present values or rely on just one discount rate to estimate them.

Prior to investigating possible associations between the study's dependent and explanatory variables, correlation testing revealed some statistically significant relationships (\*\* $\alpha < .01$  and \* $\alpha < .05$ ) among the seven potentially useful explanatory variables themselves. Survey

respondents who were senior practitioners tended to have higher levels of education ( $r = .363^{**}$ ) and to be members of the Asset Appraisers' Association (AAA) ( $r = .342^{**}$ ) as opposed to other professional organizations. Individuals with more education were inclined to have more years of work experience ( $r = .351^{**}$ ) and to have handled more valuation cases during the previous twelve months ( $r = .371^{**}$ ). Membership in the Asset Appraisers' Association was linked to employment by older firms ( $r = .275^*$ ). Valuers with more years of work experience tended to be more educated ( $r = .351^{**}$ ) and to have dealt with more cases during the previous year ( $r = .370^{**}$ ). Moreover, their firms were likely to be both older ( $r = .246^*$ ) and larger ( $r = .244^*$ ). Lastly, older valuation firms were prone to be larger ( $r = .276^*$ ).

**Table 3.** Correlations of dependent with potential explanatory variables

Explanatory variables	Valuation techniques			Account adjustments			Discount rate bases			Total scores			
	Capitalized future earnings	Comparable sales of small firms	Comparable sales of large firms	Book value	Owner's salary	Other expenses	Depreciation	Industry standards	Bank interest rate	Bank int. rate and risk premium	Valuation techniques	Account adjustments	Discount bases
1) Practitioner	-.277*			-.485**		.392**		-.417**					-.240*
2) Education			.282*				-.303*						
3) Work experience		.297*	.348**				.237*		.274*	.322**			
4) Cases last 12 months			.283*										
5) AAA member						-.253*							
6) Age of firm					.260*			.252*				.318**	
7) Discount rate											.252*		.339**

Note: \*\* $\alpha < .01$ ; \* $\alpha < .05$

Table 3 displays the statistically significant correlations between the dependent and explanatory variables. With regard to valuation techniques, practitioners are disinclined to rely on capitalized future earnings and book value for appraisal purposes. Higher levels of education are associated with the use of comparable sales data for larger firms, while greater work experience covaries with comparable sales to estimate the worth of both small and large firms. Additionally, professionals handling more cases during the past twelve months are apt to rely on comparable sales information to value large firms.

With respect to account adjustments, practitioners and members of the Asset Appraisers' Association are likely to modify accounts involving expenses related to company owners' activities. On the other hand, valuers with higher levels of education are reluctant to change reported depreciation amounts. Appraisers in older firms or having more work experience, though, do tend to adjust the depreciation account.

As for discount bases, practitioners are hesitant to rely on industry standards in selecting appropriate interest rates. Instead, individuals with more years of work experience display a preference for use of the bank interest rate or the bank interest rate plus a risk premium. Yet, professionals at older appraisal firms are more disposed to fall back on industry standards when choosing among interest rate alternatives.

Finally, associations with the total scores reported earlier indicate that practitioners are likely to use fewer alternative discount rate bases. At the

same time, valuers at older firms are apt to adjust more accounts, and professionals discounting to present value lean toward employing both more valuation techniques and alternative interest rate bases. Hence,  $H04$  is rejected. The results in Table 3 make clear that various characteristics of professionals and Thai appraisal firms covary with the choice of valuation techniques, account adjustments, and interest rate bases.

## 5. DISCUSSION

This initial research into Thai valuation processes has found considerable variation in the techniques appraisal firms employ to help owners establish their companies' worth. Indeed, one-third of them use five or more different techniques in making their football field analyses. Discounting forecasted future cash flows to their current values is by far the most popular technique, but in applying it about one-third of the firms utilize just one interest rate, instead of multiple rates. Likewise, three-fifths of them make one or fewer account adjustments as part of the estimation process. These findings suggest that, in dealing with a less certain and more unstable political-economic environment, Thai valuers rely on fewer and simpler procedures than do their counterparts in more developed countries.

However, in some cases, valuers do apply several methodologies. In these instances, the results usually are materially different from one another. In such situations, a written explanation of how the various results were reconciled to arrive at the enterprise's appraised worth would be helpful to

its stakeholders. The explanation should include discussion of the methodologies involved as well as the reason for preferring one methodology to the exclusion of others or assigning a greater weight to its result in the final estimate when competing outcomes are combined. Solutions involving weightings also should contain written justifications for them, so that the entire appraisal process is transparent for all interested parties.

The findings here are similar to the ones produced by investigations into business strategic planning. Selected managerial and professional characteristics as well as an appraisal firm's age and size sometimes are associated with valuation techniques, account adjustments, and interest rate alternatives. However, as also is the case with strategic planning, none of the correlations are strong. The relatively weak to moderate effects of age and size evident in this study may be due to the fact that 91% of the Thai units of analysis have been established for at least ten years and are classified as small by the Ministry of Commerce. These variables' lack of greater diversity may weaken the correlation values calculated for them with the dependent variables. Whether weak or moderate, though, all the reported results are statistically significant.

Professionals' characteristics (such as being a practitioner, having a better education and more years of work experience as well as handling more cases during the past year) can influence both the kinds and numbers of decisions on valuation techniques, account adjustments, and interest rate decisions. These attributes hint at the possibility that, as with strategic planning, firms employing such valuers also have more formalized and sophisticated appraisal processes.

## 6. CONCLUSION

This study's findings elucidate the methods used by Thai appraisal firms. The firms employ the various techniques available unevenly. Discounted cash flow procedures enjoy the most widespread and most frequent usage, yet valuers do not avail themselves of it neither universally. Most of the participating appraisal firms (38) utilize just one or two tools to arrive at their estimates, while a large minority of them apply three or four different approaches (19 and 12, respectively). In addition, the majority of respondents also said they adjusted their calculated values to reflect other key factors such as the owner's salary, depreciation, and other expenses. The choice of valuation techniques, the interest rate

bases used, and the adjustments made are associated with certain characteristics of the practitioners, with levels of education, work experience, and their firm's age playing significant roles.

Finally, it is noteworthy that a few large enterprises dominate the valuation business in Thailand. Of the roughly 30,000 cases the 69 surveyed firms reported handling the previous year, 64 appraisal companies valued about 8,500 of them. Meanwhile, the five largest firms dealt with the other 21,500 cases or about 4,300 cases apiece!

This research has three shortcomings, all of which stem from the methodology involved. First, 14.8% of the enterprises to which questionnaires were mailed did not respond. Differences between respondent and non-respondent characteristics may lead to bias in prevalence estimates and bias in associations (Van Loon, Tjihuis, Picavet, Surtees, & Ormel, 2003). Due to the high response rate of 85.2%, though, these biases here are likely to be relatively small. Second, focussing on different appraisal methods, interest rate bases, adjustments, and appraiser characteristics than the ones investigated, conceivably could produce different results, especially in a different national context. Third, the survey and interviews relied heavily on the responses of senior practitioners and top managers, so that a residual key informant bias is a distinct possibility.

Promotion of acquisitions and mergers within the Thai valuation industry no doubt would result in larger firms with more resources. Whether these appraisal companies likely would use more valuation tools, further formalize estimation processes, and apply more sophisticated methodologies are appropriate topics for future research. More in-depth, qualitative interviews with practitioners and top managers of the largest valuation firms might discover additional advantages they may have over smaller ones. Finally, the empirical question of accuracy is worthy of investigation. How closely do appraised values agree with prices subsequently paid in arm's length, market transactions?

Although there thus is much need for future research, the present study nevertheless provides some interesting insights into selected variables' influence on management decisions to employ various valuation techniques. It thereby extends the exploratory research underway in this area and contributes further to understanding current appraisal practices in Thailand and other developing countries.

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