Australian Government
Australian Accounting Standards Board

Korea Accounting Standards Board **KASB**

Preliminary Results

Accounting Judgments on Terms of Likelihood in IFRS: Korea and Australia

This paper has been prepared by staff of the AASB and KASB. The views expressed in this paper reflect the individual views of authors and not those of the AASB or KASB.

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Executive Summary

Key findings and recommendations

Based on analyses of the survey feedback to date, the key findings are:

(a) there are differences in interpretation of terms of likelihood between Australian and Korean accounting professionals when used in context and not in context;

(b) some terms could be interpreted differently in different contexts; For example, respondents tend to be more conservative when interpreting the term "probably" in the context of liabilities in comparison to interpreting the term in the context of assets;

(c) some terms of likelihood are not interpreted differently from each other, for example "unlikely" and "highly unlikely";

(d) some terms of likelihood are interpreted differently in different languages by Korean accounting professionals indicating that there may be a translation issue that should be addressed; and

(e) some terms of likelihood cannot be translated into Korean. For example, "probable" and "likely" are translated into a single Korean expression "가능성이 높다", and the terms "virtually certain" and "reasonably certain" are both translated into a single Korean term "가능성이 거의 확실한".

The key tentative recommendations are:

(a) standard setters should give considerable attention to how terms of likelihood might be interpreted and translated in different jurisdictions when developing a standard, particularly since there may be situations in which this could be expected to give rise to material differences between financial statements;

(b) standard setters should narrow the number of different terms of likelihood used in standards and consideration should be given to establishing a set of terms that can only be departed from in exceptional cases;

(c) if a set of 'accepted' terms of likelihood were to be developed, the process should include consulting with specialist linguists who have familiarity with IFRS;

(d) consideration should be given to developing principles and guidance on terms of likelihood that could be applied consistently across the standards;

(e) the IASB's re-deliberations on revisions to the Conceptual Framework relating to neutrality (and prudence) and the asset and liability recognition criteria might be informed by the knowledge that many preparers and auditors factor in their own level of 'conservatism' when applying IFRS; and

(f) standard-setting outreach and consultative processes should explicitly seek to obtain input on translation and interpretation issues in different jurisdictions.

1   The outcomes of this research project are:

(a) to inform standard setters and other IFRS stakeholders on interpretation and translation issues of terms of likelihood; and

(b) to make recommendations to the International Accounting Standards Board (IASB) on ways in which terms of likelihood used in IFRS might be improved.

2   The objective of International Financial Reporting Standards (IFRS) is to enhance international comparability of financial statements. Lack of uniformity on interpreting and applying the standards can impair quality of financial statements between countries[1].

3   Terms of likelihood, such as 'remote', 'likely', 'virtually certain' and 'probable, are expressions often used in IFRS to denote levels of probability in prescribing recognition, measurement or disclosure of events and transactions in financial reports. Prior research in the accounting literature provides evidence that people using the IFRS can find interpreting terms of likelihood difficult. There is lack of consensus among stakeholders of standards on interpreting terms of likelihood. Further, cultural differences across countries and translation of IFRS to a different language also add another layer of challenges in coming to an agreement on interpretation of terms of likelihood.

4   The Australian Accounting Standards Board (AASB) and the Korea Accounting Standards Board (KASB) are conducting a joint research project on accounting judgments on terms of likelihood used in IFRS. The intent of this working paper is to report the preliminary findings of the research to receive feedback with the objective of issuing a final report in 2016.

5   Australia and Korea adopted IFRS in 2005 and 2011 respectively. Given that IFRS were adopted in Australia in 2005 and Korea in 2011, it is reasonable to expect that preparers and auditors in both countries are familiar with IFRS. To date, there is little research on interpretation of terms of likelihood used in IFRS in the post-implementation IFRS era. Therefore, it is timely:

        (a)   to investigate whether there are differences in interpreting terms of likelihood by preparers and auditors; and

        (b)   to investigate whether translation of terms of likelihood are consistent with the intended expressions.

Data collection

6   A questionnaire was developed by AASB and KASB staff and sent out to auditors and preparers in Australia and Korea. 179 Australians (77 auditors and 120 preparers) responded to the survey instrument in English and 464 Koreans (185 auditors and 59 preparers for Korean version; 139 auditors and 81 preparers for English version) responded to the survey in Korean to date[2].

7   The survey addressed 14 terms of likelihood used in IFRS which relate to a level of probability of a transaction or event occurring[3]. Respondents were required to give

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[1] http://www.ifrs.org/About-us/Pages/IFRS-Foundation-and-IASB.aspx

[2] In Australia, the survey instrument was only available in English, whereas in Korea, one survey instrument was made available in English and another in Korean. Both survey instruments in English and Korea contain the same content.

[3] http://tillion.co.kr/survey/?pid=S99284256&grpid=TO&resid=0&vcidx=1

their professional opinions on how the terms of likelihood should be interpreted by indicating the range of probability that each term of likelihood represents in percentage (%) terms on a scale of 0% to 100%.

8   The survey consists of a section that requires respondents to give their opinions on terms of likelihood "in isolation" and another section requires respondents to give their opinion on terms of likelihood by reference to a specific accounting context from IFRS. The survey also collects data about the background of respondents.

1. Introduction

9   Due to globalization, there is a growing consensus that international accounting convergence is imperative to enhance comparability of financial statement across countries. To date, 116 jurisdictions adopt or otherwise use International Financial Reporting Standards (IFRS) for all or most publicly accountable entities[4].

10   The primary goal of IFRS is to provide a single set of accounting standards that enables the comparability and quality of the financial reporting between companies globally will be enhanced. Application of IFRS is expected to be consistent across jurisdictions and financial reports should be comparable across countries. However, interpreting and applying accounting standards are key challenges in having IFRS implemented consistently across countries.

11   Prior research shows that the interpretation and application of professional judgment in accounting is a function of various factors including cultural values, legal systems, professional training and education (e.g. Oliver, 1974; Chesley, 1986; Houghton, 1987, 1988; Harrison and Tomassini, 1989; Amer, Hackbenbrack and Nelson, 1995; Gray and Vint, 1995; Zarzeski, 1996; Wingate, 1997; Schultz and Lopez, 2001; Doupnik and Richter, 2003; Doupnik and Riccio, 2006; Tsakumis, 2007).

12   One of the difficulties in interpreting accounting standards is the lack of consensus on the meaning of terms of likelihood used in IFRS. There are at least 32 terms of likelihood used in IFRS. Terms of likelihood, such as 'remote', 'likely', 'virtually certain' and 'probable', are important to be included in IFRS because they allow preparers and auditors to denote levels of probability in prescribing recognition, measurement or disclosure of events and transactions in financial reports (Laswad and Mak, 1997, p.16).

13   This working paper provides preliminary findings from a joint research project conducted by the AASB and KASB on whether terms of likelihood used in IFRS are interpreted by auditors and preparers of financial reports differently between Korea and Australia. Given that Australia and Korea adopted IFRS and both have distinct cultural and legal systems, Australia and Korea should be an ideal setting for the purpose of this research.

14   The objectives of this research are:

   (a)   to investigate whether there are differences in interpreting terms of likelihood by preparers and auditors between Korea and Australia;

   (b)   to investigate whether translation of terms of likelihood from English to Korean are consistent with the intended expressions; and

   (c)   to identify findings that highlight possible improvements that could be made to the standard-setting process to help achieve the objective of global standards.

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[4] http://www.ifrs.org/Use-around-the-world/Pages/Jurisdiction-profiles.aspx

2. Background

2.1 Prior Studies

15 Psychology literature shows that in a general population there is a lack of symmetry in assigning probabilities on terms of likelihood (Budescu and Wallsten, 1985). For example, research concludes that probabilities assigned to mirror-image pairs such as "probable" and "improbable" do not sum to 100% (Lichstenstein and Newman, 1967).

16 A considerable number of studies provide evidence that there are disagreements regarding the interpretation of probability expressions, i.e. terms of likelihood. For example, Laswad and Mak (1997) find that there is a lack of consensus among standard setters in New Zealand about the interpretation of terms of likelihood. Similar results also concluded in studies using groups from different countries such as accountants, auditors and students (Davidson 1991; Amer et al, 1994, 1995).

17 Academic research also reports that the application of professional judgment in accounting is a function of cultural values (Doupnik and Richter, 2003; Doupnik and Ritcher, 2004; Doupnik and Riccio, 2006; Tsakumis, 2007). Cultural values are subject to the shared experience of the individuals in a community or nation. Research suggests that cultural values can influence the cognitive processes involved in probability assessment (Phillips and Wright, 1977), thus terms of likelihood could not be consistently interpreted and applied across nations as there are cultural differences between them.

18 Gray (1988) suggests that there are relationships between cultural characteristics and the development of accounting systems, the regulation of the accounting profession and attitudes towards financial management and disclosure. Based on the cross-cultural work of Hofstede (1980), the framework proposed by Gray implies that cultural differences could cause accountants from different countries to interpret and apply a same set of accounting standards differently, and thus impair the comparability of financial statements across jurisdictions.

19 Following Gray's theoretical framework, extensive research has examined the relation between cultural values and disclosures provided in corporate financial reports (Gray & Vint, 1995; Zarzeski, 1996; Wingate, 1997; Jaggi & Low, 2000; Hope, 2003) Several studies examine the association between culture and measurement of assets and profits at the country level (Eddie, 1990; Salter & Niswander, 1995; Sudarwan & Fogarty, 1996). Prior research also finds that a country's legal system, major source of financing, level of uncertainty avoidance and a nation's culture play a significant part in influencing the interpretation and application of accounting standards (Schultz & Lopez 2001; Doupnik and Richter 2004).

2.2 Research Objective

20 There is little research on interpretation and application of IFRS across jurisdictions since the widespread use of IFRS. The research outlined in this working paper

attempts to investigate whether there are differences in interpreting terms of likelihood in IFRS, by preparers and auditors between Korea and Australia. Given that Australia and Korea adopted IFRS in 2005 and 2011 respectively, it is timely to examine such issues.

21   In 2011, The Institute of Chartered Accountants of Scotland issued a research report "The darkening glass: Issues for translation of IFRS", authored by Rachel Baskerville and Lisa Evans, which presents a thorough discussion on the issues of translation of IFRS from English into other EU languages.

22   One other objective of the research is to investigate whether there are any translation issues from English to Korean, in particular, in respect of translations of terms of likelihood. Translation plays a critical part in enabling people in jurisdictions across the world to understand IFRS in their own language so that IFRS can be interpreted and applied accordingly and consistently. If IFRS are not being translated appropriately, this adds another potential source of difficulty in achieving comparability of financial statements across countries and consistency in their interpretation. An understanding of this concern led to the IASB's predecessor (the International Accounting Standards Committee [IASC]) to implement its own official translation process in 1997.

2.3 Australia and Korea

2.3.1 Australia

23   At the Tenth International Congress of Accountants in Sydney in 1972, reducing the degree of variation in international accounting practices was considered to be an issue in urgent need of attention. It was decided in the Congress that the development of a set of International Accounting Standards (IAS) were critical. In the following year, on 29 June 1973, the IASC was formed. The IASC was a private organization and its members included accounting bodies from 14 counties, and association of analysts and an association of financial executives. Australia[5] was among the founders of this Committee and has been involved in efforts to harmonize accounting standards globally since that time.

24   In 1984, the Ministerial Council of the National Companies and Securities Commission (NCSC) established the Australian Accounting Review Board (ASRB). The ASRB was granted delegated the power over the setting and approval of accounting standards by virtue of the *Companies and Securities Legislation (Miscellaneous Amendments) Act 1983*. In 1991, the ARSB was replaced by the Australian Accounting Standards Board (AASB).

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[5] At the time the IASC was formed, the member accounting bodies representing Australia were the Institute of Chartered Accountants in Australia and the Australian Society of Accountants.

25   In 1994, the AASB issued a Policy Discussion Paper "Towards International Comparability of Financial Reporting" which discussed the intent and objectives of harmonizing accounting standards internationally.

26   The push for using international standards gained momentum with the Australian Government initiating a comprehensive program of corporate law reform known as the *Corporate Law Economic Reform Program* (*CLERP 1*) in 1997. As part of *CLERP*, significant reforms were proposed for the accounting standard-setting process in Australia including the recommendation to adopt high quality, internationally accepted accounting standards[6]. It was mentioned in the paper that Australian Accounting Standards were 'out of step' with the rest of the world, thereby costing Australian business more in terms of attracting foreign investment funds into Australian debt and equity markets.

27   The AASB commenced a program to harmonize Australian standards with international accounting standards issued by the IASC.

28   In 2002, the importance of lowering the cost of capital argument was reiterated in the reform proposals of *CLERP 9* as the basis for recommending an adoption of high quality internationally accepted accounting standards.

29   In 2002, the Financial Reporting Council (FRC) which was established to assume the role of overseeing the AASB, issued a directive to the AASB about adopting IFRS as issued by the IASB with effect from 1 January 2005, in line with the European Union's (EU) program to mandate IFRS for listed companies within the EU from the same date.

30   An unusual feature of Australia's adoption of IFRS was that the AASB continued to apply its transaction-neutral policy to standard-setting post adoption whereby the same transaction would be accounted in the same manner irrespective of the entity's sector orientation, unless there is a compelling reason to have a different requirement for not-for-profit entities. Although IFRSs are prepared by the IASB with only for-profit entities in mind, there are only a few modifications from IFRS relating to not-for-profit entities in Australian standards. The requirements for Australian for-profit entities are IFRS word-for-word and the few modifications for not-for-profit entities are in separate standards or are clearly identified with the prefix 'Aus'.

31   As Australian standards incorporate IFRS requirements word for word, Australian accountants using the standards will be familiar with terms of likelihood used in IFRS.

2.3.2 Korea

32   Following the East Asian financial crisis in 1997, in October 1998, Korea agreed with the International Bank for Reconstruction and Development (IBRD) to establish an independent private-sector accounting standard setting organization. As a result, the Korea Accounting Institute (KAI), within which the KASB is nested, was established

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[6] CLERP No. 1 'Accounting Standards: Building International Opportunities for Australian Business' (1997)

in September 1999, and the Financial Supervisory Commission (currently Financial Services Commission, FSC) delegated the duty of setting and amending accounting standards to the KASB in July 2000[7].

33   In February 2006, the Korean government organized a Task Force to consider IFRS adoption. A report titled "*Roadmap toward IFRS adoption in Korea*" (hereafter called *Roadmap*) was finalized and issued in March 2007. A significant announcement of IFRS adoption was made. According to the *Roadmap*, all listed companies and financial institutions, where the accounting transparency is in high demand in Korea, are required to adopt IFRS as the basis for financial reporting starting from 2011. With the exception of financial institutions, voluntary early adoption was allowed from 2009. Non-listed companies can elect to apply IFRS or Korean GAAP 'Accounting Standards for Non-Public Entities'.

34   Korea chose to adopt and implement IFRS fully without going through a phase-in or convergence process ('Big-Bang' approach).

35   Prior to the adoption of IFRS, all Korean entities applied a single set of accounting standards (one-tier, Korean GAAP). Unlike Australia which has been using principle based approach for standards, the Korean GAAP before IFRS adoption set out specific and detailed requirements on various transactions and events.

36   As English is not used widely in Korea, to ensure a smooth transition in IFRS adoption and to minimize compliance costs, translation is required. The KASB translated the entire set of IFRS into Korean word-by-word from English in accordance with the translation processes defined in the copyright agreement with the IFRS Foundation and exposed the translation to the public to receive feedback.

37   In November 2007, the translation of IFRS was finalised and named K-IFRS. After being submitted to the FSC for endorsement, K-IFRS was officially published in December 2007.

38   As the IASB continuously improves and develops IFRS, the translation of IFRS is an on-going process. The KASB develops or amends the corresponding K-IFRS to be in line with the IFRS developments or amendments.

2.3.4 Cultural differences

39   The purpose of this section is to outline that there are cultural differences between Australia and Korea. This is important for the purpose of this project because, according to existing literature, the interpretation of terms of likelihood from our findings could be influenced by cultural differences.

40   Unlike Korea, the population demographic in Australia is diverse in nature. The last national Census of population showed that Australia had a population of 21.5 million, 26% of whom were born overseas and a further 20% of whom had at least one
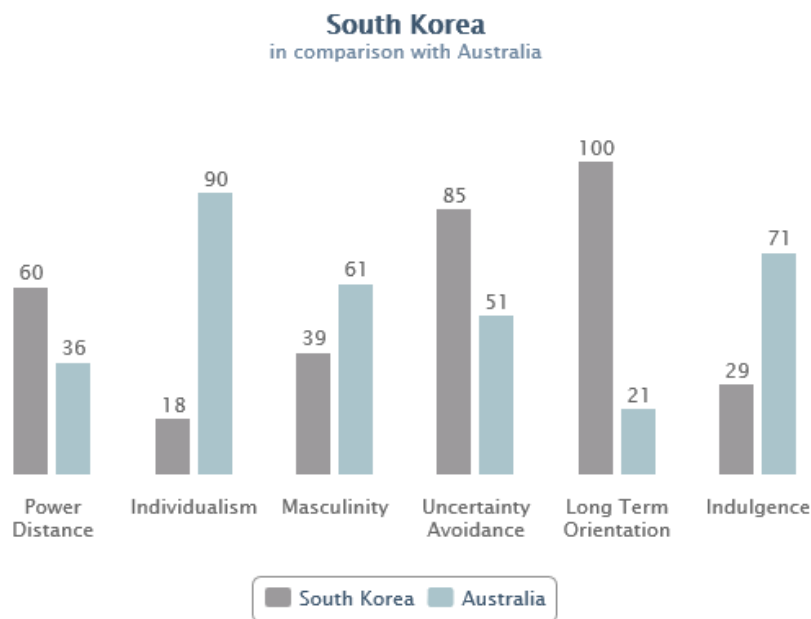
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[7] See "IFRS adoption and Implementation in Korea, and the Lessons Learned" prepared by Korea Accounting Standards Board, Financial Supervisory Service, 31 December 2012.

overseas-born parent[8]. The latest data available reveals that the Australian population has since grown to 23.7 million[9] and the proportion of overseas-born residents has increased to 28.1%[10]. It is expected that the level of cultural and linguistic diversity in Australia would be significantly higher than those of countries with low levels of immigration.

41   However, according to the census figures Anglo-Saxon and Anglo-Celtic Australians account for about 70 per cent of the population. Hence, it is fair to say that there is a predominant Anglo-Saxon and Anglo-Celtic culture in Australia, particularly since the original influence on Australia's legal environment culture came from Britain.

42   According to the Hofstede Centre (as show in Figure 1), comparatively to Korea, Australia scores lower on 'power distance' (Australia 36; Korea 60), higher on 'individualism' (Australia 90; Korea 18), higher on 'masculinity' (Australia 61; Korea 39), lower on 'uncertainty avoidance' (Australia 51; Korea 85), lower on 'long term orientation' (Australia 21; Korea 100) and higher on 'indulgence' (Australia 71; Korea 29)[11].

Figure 1 South Korea and Australia

South Korea
in comparison with Australia

	Power Distance	Individualism	Masculinity	Uncertainty Avoidance	Long Term Orientation	Indulgence
South Korea	60	18	39	85	100	29
Australia	36	90	61	51	21	71

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[8] The Australian Bureau of Statistics (ABS) conducted the Consensus of Population and Housing in 2011.
[9] ABS cat no. 3101.0 - Australian Demographic Statistics, March 2015
[10] ABS cat no. 3412.0 - Migration, Australia, 2013-14 available at
[11] For further details see http://geert-hofstede.com/.

3. Research Design

3.1 Survey instrument

43   A survey instrument was developed that consists of four sections:

(a)   Section 1 explores respondents' interpretation of terms of likelihood in 'isolation'. Fourteen terms of likelihood used in IFRS are addressed. Consistent with prior literature, respondents are required, in their professional opinion, to indicate the range of probability that best corresponds to each term of likelihood in percentage (%) terms on a scale of 0% to 100%;

(b)   Section 2 seeks to capture information about the respondents such as age group, position in firms, years of experience, risk perception and familiarity with IFRS;

(c)   Section 3 explores respondents' interpretation of terms of likelihood within particular contexts. Consistent with prior literature, paragraphs of IFRS that contain terms of likelihood are presented. Respondents are required to indicate the range of probability that best corresponds to each term of likelihood used in paragraphs presented in percentage (%) terms on a scale of 0% to 100%; and,

(d)   Section 4 seeks to capture information on: (i) whether respondents are confident with the judgments they made on the terms of likelihood in the survey; and (ii) qualitative comments from respondents.

44   In Australia, the survey instrument was only available in English, whereas in Korea, one survey instrument was made available in English and another in Korean. Both survey instruments in English and Korea contain the same content. The survey instrument was made available online[12].

45   The research project aims to obtain at least 100 Australian auditors, 100 Australian preparers, 200 Korean auditors (including 100 Korean auditors who are proficient in English) and 200 preparers (including 100 Korean preparers who are proficient in English).

3.2 Terms of likelihood

46   AASB and KASB staff identified approximately 32 different terms of likelihood used in IFRS; 14 of which were selected and examined in this research. The selected terms

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[12] http://tillion.co.kr/survey/?pid=S99284256&grpid=TO&resid=0&vcidx=1

of likelihood cover the full range of probability levels from the highest ("virtually certain") to the lowest ("remote"). The 14 chosen terms are presented in Table 1.

47 Table 1 also indicates that there exist difficulties in translating certain English expressions into Korean. For example, both "Probable" and "Likely" are translated into a single Korean term "가능성이 높은". This absence of direct equivalence of expressions between the two languages suggests that there may be a lack of equivalence between the underlying concepts of the two languages. There is also a case of a level of probability that is represented by one term in the original English that can be represented by multiple Korean expressions. For instance, the term "remote" is translated as both "가능성이 아주 낮다" and "희박하다" in Korean.

Table 1

In English	In Korean
Virtually certain	가능성이 거의 확실한
Substantially all	대부분
Highly probable	가능성이 매우 높은
Reasonably certain	가능성이 거의 확실한
Reasonably assured	합리적인 확신
Probable	가능성이 높은
More likely	가능성이 더 높은
Likely	가능성이 높은
Reasonably possible	합리적으로 발생 가능한
Possible	가능성이 잠재적인
Unlikely	가능성이 낮은
Highly unlikely	가능성이 매우 낮은
Extremely unlikely	가능성이 매우 낮은
Remote	가능성이 아주 낮은, 희박한

Notes: The terms of likelihood are presented in the survey in random order to remove any order effects.

48 The translation issues noted above suggest that the process of translating English into another language may distort the underlying meanings that the IASB intended to convey in the original IFRS in English.

3.3 Demographics of sample

49 Auditors and preparers of financial statements in Australia and Korea were invited to respond to the survey instrument[13]. Korean auditors and preparers could choose to respond to either the English version or the Korean translation of the survey instrument. Korean auditors and preparers who chose to respond to the English version were expected to be proficient in English.

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[13] In Korea, preparers of financial statements of listed companies and financial institutions (mandatory IFRS adopters) were invited to respond to the survey instrument.

50　　　The total number of responses used in this preliminary tests was 661, comprising 77 Australian auditors, 120 Australian preparers, 324 Korean auditors (including 139 Korean auditors who responded to the English version) and 140 Korean preparers (including 81 Korean preparers who responded to English version).

Figure 2 Age and gender of the respondents in Australia

Australia	20-29	30-39	40-49	50-59	60 or over
Male	5%	41%	26%	23%	5%
Female	10%	48%	30%	9%	3%
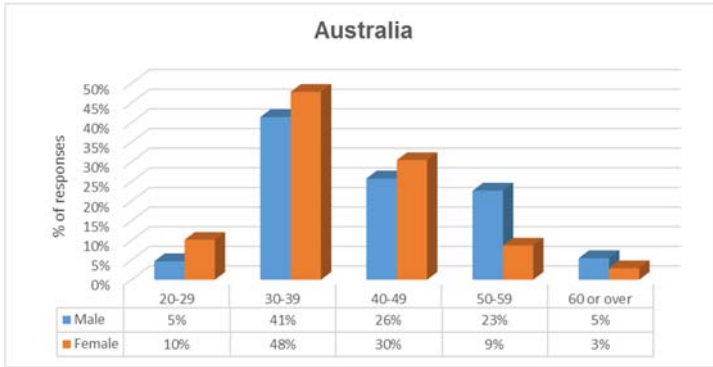
Figure 3 Age and gender of the respondents in Korea

Korea	20-29	30-39	40-49	50-59	60 or over
Male	3%	49%	37%	8%	2%
Female	12%	58%	29%	0%	0%
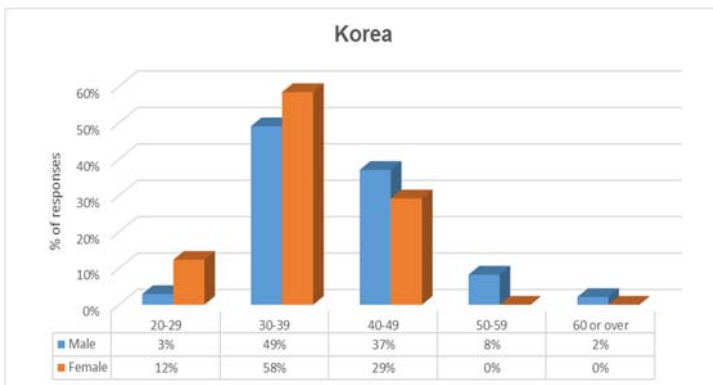
51　　　Figure 2 and 3 show that most of the respondents in Australia and Korea are at the age of 30 to 60. Overall responses are not dominated by any gender.

Figure 4 Professional experience of the respondents in Australia

Australia	Less than 3 years	3-5 years	6-10 years	11-15 years	16-20 years	More than 20 years
Auditor	6%	10%	30%	18%	9%	26%
Preparer	4%	3%	14%	31%	15%	33%

14
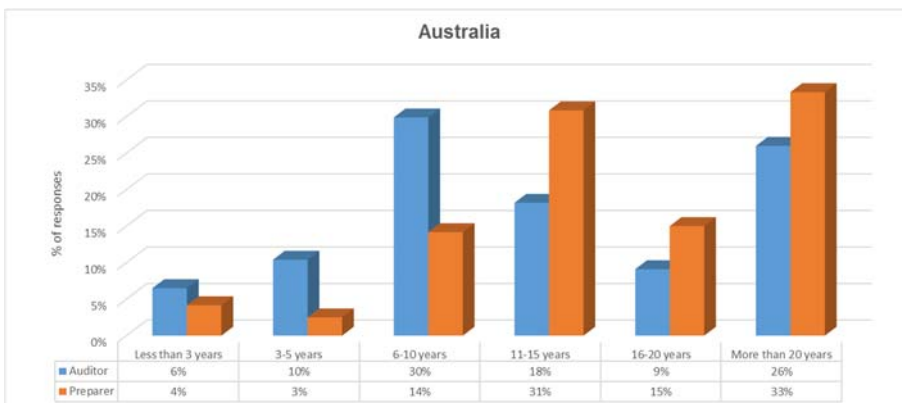
Figure 5 Professional experience of the respondents in Korea
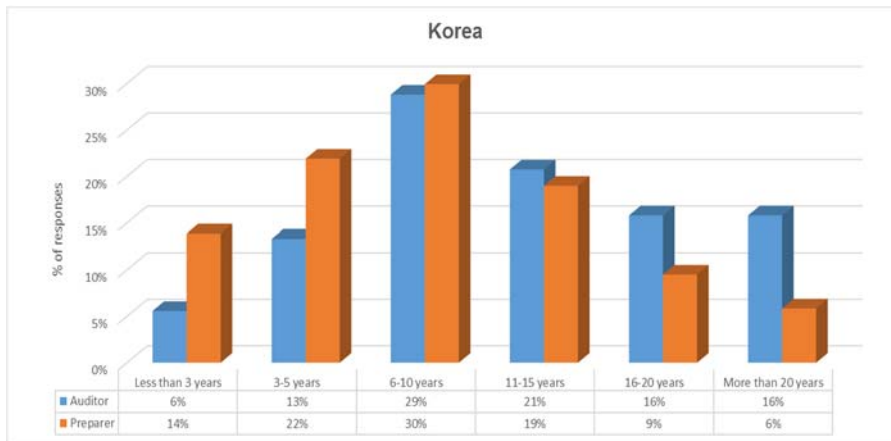
52   Figure 4 and 5 provides information about years of experience in accounting profession of the respondents in Australia and Korea respectively

Figure 6 Professional position of the respondents
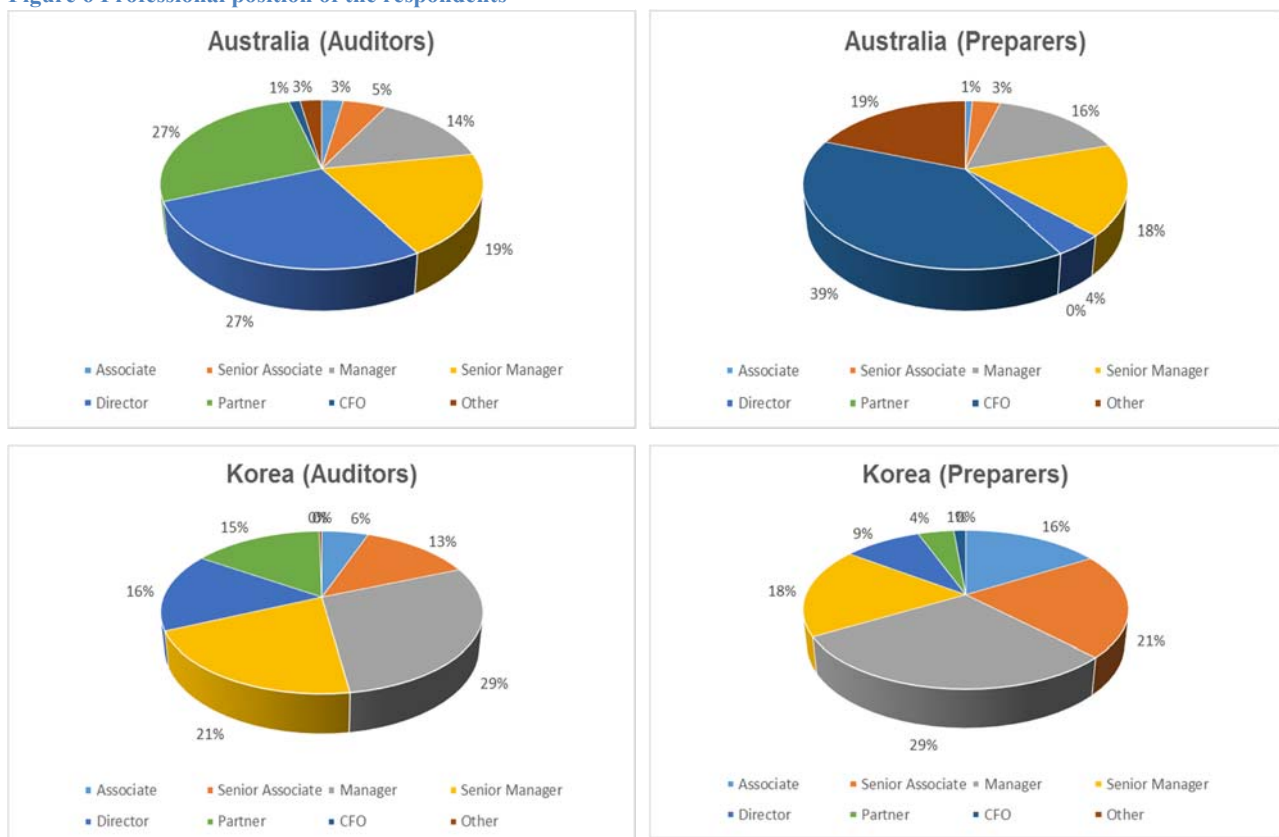
53   Figure 6 shows the professional position currently held by the respondents in Australia and Korea.

Figure 7 Familiarity with terms of respondents in Australia

Australia

	Extremely familiar	Moderately familiar	Somewhat familiar	Slightly familiar	Not at all familiar
Auditor	55%	36%	8%	1%	0%
Preparer	41%	42%	16%	2%	0%
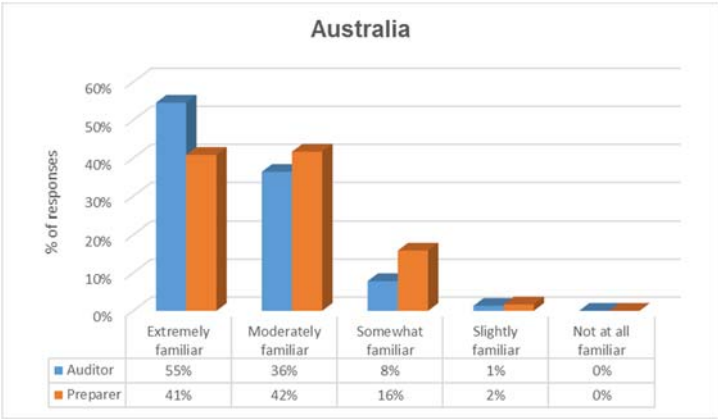
Figure 8 Familiarity with terms of respondents in Korea

Korea

	Extremely familiar	Moderately familiar	Somewhat familiar	Slightly familiar	Not at all familiar
Auditor	18%	42%	28%	10%	2%
Preparer	16%	32%	34%	16%	3%
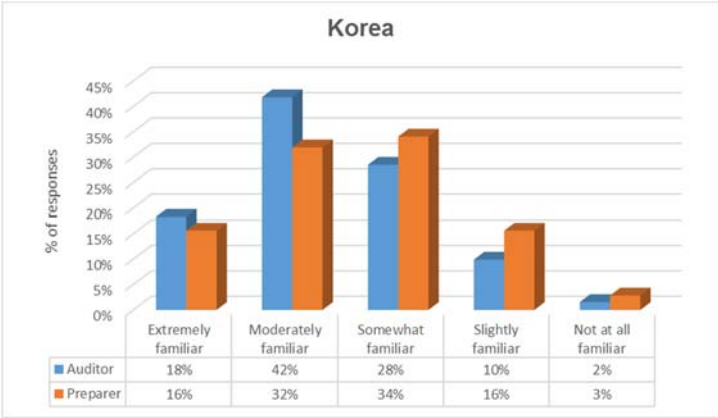
54   Figure 7 and 8 shows how familiar the respondents are with the terms of likelihood used in IFRS. Figures show that there are more Australian respondents indicated that they are familiar with IFRS than Korean respondents.

55   Figure 9 Views on importance of terms of likelihood of respondents in Australia

Australia

	Extremely important	Very important	Somewhat important	Slightly important	Not at all important
Auditor	49%	45%	3%	3%	0%
Preparer	37%	44%	17%	3%	0%
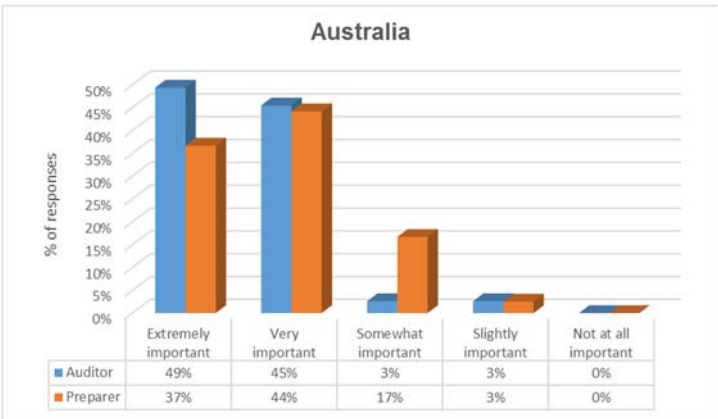
Figure 10 Views on importance of terms of likelihood of respondents in Korea

Figure showing bar chart titled "Korea" with y-axis "% of responses" ranging from 0% to 140%, and x-axis categories: Extremely important, Very important, Somewhat important, Slightly important, Not at all important.

	Extremely important	Very important	Somewhat important	Slightly important	Not at all important
■ Auditor	130%	40%	15%	11%	1%
■ Preparer	36%	49%	16%	6%	0%
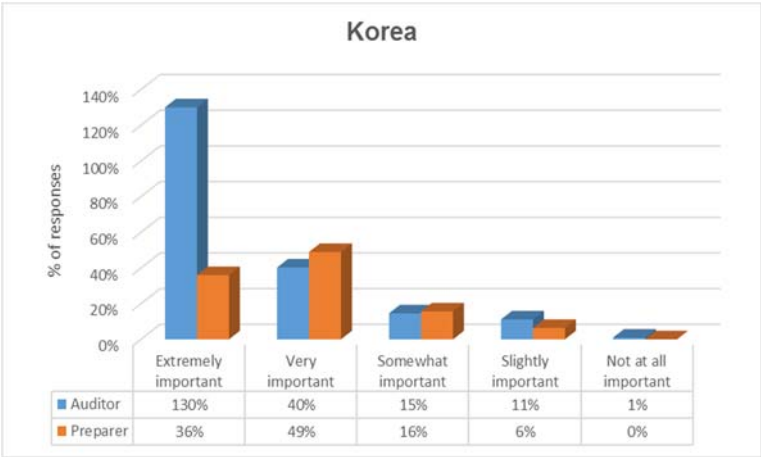
56   Figure 9 and 10 show that most of the respondents indicate that terms of likelihood are important for the application of IFRS.

4. Preliminary findings

4.1 Interpretation of terms of likelihood

4.1.1 Results from interpretation of terms of likelihood "in-isolation"

Table 2

Terms of likelihood	Australia				Korea			
	Auditor		Preparer		Auditor		Preparer	
	Rank	Mean	Rank	Mean	Rank	Mean	Rank	Mean
Virtually certain	1	94.0	1	95.1	1	94.4	1	94.3
Substantially all	2	92.5	2	91.7	4	83.4	5	82.7
Highly probable	3	86.7	3	86.5	3	90.6	3	90.0
Reasonably certain	5	83.5	4	83.7	1	94.4	1	94.3
Reasonably assured	4	83.6	5	82.4	5	82.1	4	84.6
Probable	7	73.3	7	71.9	6	78.0	7	78.1
More likely	6	74.3	8	71.5	8	78.2	6	78.6
Likely	8	70.8	6	72.6	6	78.0	7	78.1
Reasonably possible	9	59.3	9	62.9	9	67.5	9	72.3
Possible	10	48.6	10	50.9	10	35.8	10	37.5
Unlikely	11	21.6	11	21.6	11	22.5	11	20.1
Highly unlikely	12	14.9	12	14.8	12	10.2	12	11.5
Extremely unlikely	13	9.9	13	7.6	13	10.2	12	11.5
Remote	14	7.8	13	7.6	14	9.1	14	10.3

Notes:

(a) Auditor – the non-tabulated results indicate significant mean differences in eight of the fourteen terms of likelihood at the 0.01 level; one ("highly unlikely") at the 0.10 level. The differences found in the term "virtually certain", "reasonably assured", "unlikely", "extremely unlikely" and "remote" were statistically insignificant.

(b) Preparer – the non-tabulated results indicate significant mean differences in seven of the fourteen terms of likelihood at the 0.01 level, one ("highly probable") at the 0.10 level. The differences found in the term "virtually certain", "reasonably assured", "unlikely", "highly unlikely", "extremely unlikely" and "remote" were statistically insignificant.

57 The shaded area in Table 2 shows that Australian and Korean accounting professionals seem to assign different rankings on some terms of likelihood when they are not in a context, i.e. "in-isolation". For example, "substantially all" is ranked 2nd among 14 terms of likelihood by Australian accounting professionals; while Korean auditors and preparers assign 4th and 5th on the term respectively.

58 An unpaired t-test was used to determine whether a significant difference existed in the interpretation of terms of likelihood between Australian and Korean accounting professionals and we found that the midpoint of the range estimate "in isolation" is interpreted inconsistently between Australian and Korean accounting professionals. This suggests that there exist differences in the interpretation of terms of likelihood regardless of the context in which they are used. For example, even though "highly probable" is ranked 3rd in Australia and Korea, auditors and preparers in each country interpret this term with significantly different numerical probabilities.

4.1.2 Results from interpretation of terms of likelihood in context

Table 3

Terms of likelihood	Australia				Korea			
	Auditor		Preparer		Auditor		Preparer	
	Rank	Mean	Rank	Mean	Rank	Mean	Rank	Mean
Virtually certain	1	92.9	1	91.8	2	89.8	1	89.6
Substantially all	2	90.7	2	90.1	4	85.5	4	83.5
Highly probable	3	83.4	3	82.5	3	86.6	3	86.9
Reasonably certain	4	81.2	4	80.1	1	90.1	2	88.7
Reasonably assured	5	75.9	5	75.6	5	78.7	5	81.1
Probable	7	62.9	7	64.0	6	75.3	6	72.5
More likely	8	61.5	8	62.3	7	69.9	7	68.6
Likely	6	64.1	6	64.2	9	57.9	9	57.1
Reasonably possible	9	54.6	9	59.0	8	65.2	8	64.7
Possible	10	41.8	10	45.0	10	39.6	10	39.8
Unlikely	11	28.6	11	28.2	12	11.7	11	17.6
Highly unlikely	12	24.0	12	25.3	11	14.9	13	14.4
Extremely unlikely	13	14.6	13	10.8	13	10.7	12	15.1
Remote	14	8.8	14	9.3	14	9.6	14	10.7

Notes:
(a) Auditor – the non-tabulated results indicate significant mean differences in ten of the fourteen terms of likelihood at the 0.01 level; one ("reasonably assured") at the 0.05 level. The differences found in the term "possible", "extremely unlikely" and "remote" were statistically insignificant.
(b) Preparer – the non-tabulated results indicate significant mean differences in five of the fourteen terms of likelihood at the 0.01 level, five ("highly probable", "substantially all", "more likely", "likely", "reasonably possible") at the 0.10 level. The differences found in the term "virtually certain", "possible", "extremely unlikely" and "remote" were statistically insignificant.
(c) The results from "probable" and "remote" in the context of IAS 38 and IAS 16 respectively are presented in this table.

59   To examine whether there exist differences in the interpretation of terms of likelihood by accounting professionals in Australia and Korea, 17 excerpts containing terms of likelihood were selected from 12 different IFRS. The respondents were provided with the relevant passages in extant IFRS to assist them in making their judgments. The excerpts covered a wide variety of accounting contexts in which terms of likelihood are used to recognize assets and liabilities as well as to disclose accounting information.

60   The perceived ranking of the terms of likelihood by respondents in both countries varies even more when they are interpreted in the context of standards compared with their interpretation in isolation. Among 14 terms of likelihood, 10 terms are ranked at different levels across respondent groups.

61   The research also found that significant differences generally exist in the interpretation of terms of likelihood "in-context" by Australian and Korean accounting professionals. For example, "unlikely" is interpreted quite differently by Australian auditors (28.6%) and Korean auditors (11.7%).

4.1.3 Interpretation of terms of likelihood in different context

Table 4

Terms of likelihood		Context		Australia	Korea
English	**Korean**				
Probable	가능성이 높다	IAS37	Recognition of a liability	62.0	70.9
		IAS38	Recognition of an asset	63.6	74.7
Remote	희박하다	IAS16	Recognition of an asset	9.1	9.9
	아주 낮다	IAS37	Disclosure of a liability	11.3	26.8

Notes: The non-tabulated results indicate significant mean differences in the interpretation of a single term in different contexts at the 0.01 level;

62   The same terms of likelihood could be interpreted differently in different contexts. To investigate whether the single terms of likelihood were assigned a similar level of probabilities by the respondents, paired samples t-tests were conducted on the responses provided by Australian and Korean accounting professionals. The numerical probabilities assigned to the terms "probable" and "remote" vary across different contexts in which they are used.

63   "Probable" is used in IAS 37 in the context of recognizing a liability and in IAS 38 in the context of recognizing an asset. In the case of asset recognition, respondents tend to be stricter when interpreting the same term "probable" when compared with the liability recognition case.

64   In the case of "remote", the different context as well as two different Korean terms used to translate the English term "remote" could lead to different interpretations. This also provides additional insight into the effect translation has on the interpretation of IFRS.

4.1.4 Minimum and maximum of terms of likelihood "in isolation" by Australian and

Korean accounting professionals

Table 5

Terms of likelihood	Australia				Korea			
	Auditor		Preparer		Auditor		Preparer	
	Min	Max	Min	Max	Min	Max	Min	Max
Virtually certain	90.3	97.7	91.6	98.6	90.7	98.1	90.5	98.1
Substantially all	87.5	97.5	86.3	97.2	85.3	95.9	84.7	95.2
Highly probable	79.9	93.6	79.5	93.6	90.7	98.1	90.5	98.1
Reasonably certain	76.1	90.9	76.1	91.3	76.3	90.5	73.2	92.2
Reasonably assured	75.8	91.3	74.9	89.9	74.6	89.5	78.0	91.3
Probable	60.2	86.5	60.5	83.2	68.3	87.8	68.5	87.8

More likely	60.6	88.0	60.3	82.7	69.9	86.4	70.4	86.9
Likely	58.1	83.5	61.3	83.8	68.3	87.8	68.5	87.8
Reasonably possible	47.3	71.3	51.9	73.9	57.0	78.1	61.4	83.2
Possible	33.2	63.9	36.6	65.2	25.4	46.3	28.6	46.5
Unlikely	9.3	33.9	10.3	33.0	12.9	32.2	11.9	28.4
Highly unlikely	8.8	21.1	8.8	20.7	5.3	15.0	6.5	16.6
Extremely unlikely	6.1	13.7	3.9	11.3	5.3	15.0	6.5	16.6
Remote	2.8	12.9	3.6	11.7	4.5	13.8	5.6	15.0

65   Some terms seem to have considerable overlap between their numerical ranges of terms in English and Korean.

4.2 Grouping of terms of likelihood

Table 6

Terms of likelihood	Australian auditor		Australian preparer	
	Group	Mean	Group	Mean
Virtually certain	A	92.9	A	91.8
Substantially all	A	90.7	A	90.1
Highly probable	B	83.4	B	82.5
Reasonably certain	B	81.2	B	80.1
Reasonably assured		75.9		75.6
Probable	C	62.9	C	64.0
More likely	C	61.5	C	62.3
Likely	C	64.1	C	64.2
Reasonably possible	C	54.6	C	59.0
Possible		41.8		45.0
Unlikely	D	28.6	D	28.2
Highly unlikely	D	24.0	D	25.3
Extremely unlikely	E	14.6	E	10.8
Remote	E	8.8	E	9.3

Notes: Fisher's least significant differences tests were carried out on the means of terms of likelihood.

66   In order to identify the probability expressions with seemingly similar meanings, the terms of likelihood are grouped to indicate those expressions that have no statistically significant differences to adjacent expressions at the 1% level of significance. This method produced 5 categories of probability expressions with similar meanings. "Reasonably assured" and "possible" were seen as having their own individual meanings among 14 terms examined in this research. That is, different probability expressions have been grouped into categories in Table 6 when there are no significant differences among them in terms of their rank order within the band.

67   (Non-tabulated results) "Probable", "more likely" and "likely" were grouped together; and "highly unlikely", "extremely unlikely" and "remote" were grouped together. Moreover, "probable" and "likely" are translated into a single Korean expression "가능성이 높다". This means that these two terms are already being interpreted by translators in Korea as having the same probability level.

4.3 Communication efficiency of terms of likelihood "in-isolation" by Australian and Korean accounting professionals

Table 7

Terms of likelihood	Australia				Korea			
	Auditor		Preparer		Auditor		Preparer	
	Std	Range	Std	Range	Std	Range	Std	Range
Virtually certain	12.4	7.4	4.0	7.0	4.3	7.4	6.6	7.6
Substantially all	11.9	13.7	7.4	14.1	5.8	10.6	12.6	10.5
Highly probable	12.2	14.8	10.3	15.2	4.3	7.4	6.6	7.6
Reasonably certain	5.8	10.0	6.6	10.9	12.5	14.1	13.7	19.0
Reasonably assured	9.6	15.5	9.8	15.0	10.2	14.9	13.7	13.3
Probable	13.6	26.3	11.5	22.7	11.3	19.5	13.0	19.4
More likely	8.9	27.5	13.3	22.4	13.8	16.5	13.7	16.5
Likely	14.5	25.3	13.9	22.5	11.3	19.5	13.0	19.4
Reasonably possible	19.6	24.0	14.5	22.0	17.4	21.1	15.1	21.8
Possible	16.5	30.7	15.4	28.7	21.6	21.0	22.6	17.9
Unlikely	13.4	24.6	12.7	22.7	10.4	19.3	12.9	16.5
Highly unlikely	21.5	12.4	18.3	11.8	9.1	9.7	15.8	10.1
Extremely unlikely	21.0	7.6	14.1	7.4	9.1	9.7	15.8	10.1
Remote	12.6	10.1	10.0	8.2	7.7	9.2	11.7	9.4

68   Table 7 shows the point estimate standard deviations of each term of likelihood. It is clear that the expressions at the high extremes have the smallest standard deviations. Relatively small standard deviations are an indication that accounting professionals interpret these expressions with a greater consensus of meaning. In Australia, "highly unlikely" and "extremely unlikely" show the two largest standard deviations for auditors; "highly unlikely" and "possible" for preparers. In Korea, "possible" and "reasonably possible" show the two largest standard deviations for auditors; "possible", "highly unlikely" and "extremely likely" for preparers.

69   Table 7 also presents the range mean, calculated as the difference between the two means derived from asking the respondents to provide a lower and an upper numerical probability which might reasonably include a particular probability expression in between. The smaller the range mean, the greater the consensus regarding the interpretation of the probability expressions. Probability expressions at the lower end of the range and those at the upper end have smaller range means than the probability expressions in the middle categories. The magnitude of the mean range suggests that the expressions such as "possible" convey less precise concepts of probability than do expressions such as "virtually certain". The same is true for the Korean translations of these expressions.

70   For each term of likelihood, the range of probabilities assigned by Australian accounting professionals to English expressions is broader than the range assigned to Korean expressions by Korean accounting professionals. This suggests that Australian accounting professionals may have a lower level of certainty when assigning probabilities to English expressions.

4.4 The effect of modifier in terms of likelihood

Table 8

Terms of likelihood	Australia			Korea		
	Mean	**Med.**	**Std.**	**Mean**	**Med.**	**Std.**
No longer probable	43.3	45.0	21.7	47.3	49.0	27.9
Probable	63.6	60.0	11.6	74.7	80.0	12.4

71   The addition of modifiers and prefixes was generally seen to influence respondents' interpretation of root probability expressions[14]. The negative modifier shifted the interpretation of the root probability expression into a significantly different category. Table 8 shows the interpretation of "probable" and "no longer probable" respectively in both countries. Adding the word "no longer" to "probable" decreases the point estimate mean from 63.6% to 43.3% in Australia as well as from 74.7% to 47.3% in Korea.

4.5 A glimpse of translation issues

Table 9

Terms of likelihood		Context		Australia	Korea
English	**Korean**				
Virtually certain	가능성이 거의 확실한	IAS 37	Recognition of an asset	92.2	89.8
Reasonably certain		IAS 17	Recognition of an asset/ liability	80.5	90.8
Probable	가능성이 높은	IAS 38	Recognition of an asset	63.6	74.7
Likely		IAS 36	Recognition of an asset	64.2	57.7
Highly unlikely	가능성이 매우 낮은	IAS 40	Recognition of an asset	24.8	14.8
Extremely unlikely		IFRS 4	Recognition of an asset/ liability	12.3	11.7

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[14] For example, Simon (2002)

72   Table 9 shows the interpretation of three different pairs of English expressions. For each pair of the English expressions, only one expression in Korean exists.

73   These are just some examples of many translation issues that require attention. For example, the English term "virtually certain" and "reasonably certain" are both translated into a single Korean term "가능성이 거의 확실한". However, as shown in Table 9, while the probability levels of "virtually certain" perceived by Australian and Korean accounting professionals are similar at 92.2% and 89.8%, respectively, the term "reasonably certain" shows significantly differing probability levels between Australian and Korean respondents. Furthermore, the probability levels of both of the terms "probable" and "likely" vary greatly when viewed by Australian and Korean accounting professionals. This may indicate that there may be a translation issue that should be addressed.

Table 10

Terms of likelihood (in English)	Korea		Terms of likelihood (in Korean)	Korea	
	Rank	Mean		Rank	Mean
Virtually certain	1	89.8	가능성이 거의 확실한	1	94.4
Substantially all	5	80.4	대부분	4	83.3
Highly probable	4	81.8	가능성이 매우 높은	3	90.5
Reasonably certain	2	88.3	가능성이 거의 확실한	1	94.4
Reasonably assured	3	83.1	합리적인 확신	5	82.6
Probable	9	61.4	가능성이 높은	7	78.1
More likely	6	68.8	가능성이 더 높은	6	78.2
Likely	8	61.6	가능성이 높은	7	78.1
Reasonably possible	7	68.7	합리적으로 발생 가능한	9	68.6
Possible	10	58.4	가능성이 잠재적인	10	36.2
Unlikely	11	27.3	가능성이 낮은	11	21.9
Highly unlikely	12	20.6	가능성이 매우 낮은	12	10.5
Extremely unlikely	14	8.7	가능성이 매우 낮은	12	10.5
Remote	13	13.9	가능성이 아주 낮은	14	9.4

Notes: The non-tabulated results indicate significant mean differences in eleven of the fourteen terms of likelihood at the 0.01 level. The differences found in the term "reasonably assured", "reasonably possible" and "extremely unlikely" were statistically insignificant.

74   The shaded area in Table 10 shows that Korean accounting professionals seem to assign different rankings on terms of likelihood in English and Korean respectively when they are not in a context, i.e. "in-isolation". For example, "substantially all" in English and Korean are ranked 5th and 3rd among 14 terms of likelihood respectively by Korean accounting professionals.

75   There exist significant differences in 11 of 14 terms of likelihood when Korean accounting professionals interpret them in English and Korean language respectively.

Table 11

Terms of likelihood (in English)	Korea		Terms of likelihood (in Korean)	Korea	
	Rank	Mean		Rank	Mean
Virtually certain	2	87.6	가능성이 거의 확실한	2	89.8
Substantially all	4	80.7	대부분	3	86.7
Highly probable	3	82.4	가능성이 매우 높은	1	90.8
Reasonably certain	1	88.9	가능성이 거의 확실한	4	85.0
Reasonably assured	5	79.6	합리적인 확신	5	79.3
Probable	8	62.6	가능성이 높은	6	74.7
More likely	7	66.1	가능성이 더 높은	7	69.7
Likely	9	58.1	가능성이 높은	9	57.7
Reasonably possible	6	66.8	합리적으로 발생 가능한	8	65.1
Possible	10	54.8	가능성이 잠재적인	10	39.7
Unlikely	11	25.7	가능성이 낮은	12	13.1
Highly unlikely	12	23.7	가능성이 매우 낮은	11	14.8
Extremely unlikely	14	8.3	가능성이 매우 낮은	13	11.7
Remote	13	16.9	가능성이 아주 낮은	14	9.9

Notes:
(a) The non-tabulated results indicate significant mean differences in nine of the fourteen terms of likelihood at the 0.01 level; two ("virtually certain", "more likely") at the 0.05 level. The differences found in the term "reasonably assured", "likely" and "reasonably possible" were statistically insignificant.
(b) The results from "probable" and "remote" in the context of IAS 38 and IAS 16 respectively are presented in this table.

76   Table 11 shows that Korean accounting professionals assign different rankings on some terms of likelihood in English and Korean language respectively when they are in a context. For example, "reasonably certain" is ranked at 1st among 14 English terms; while 4th it is translated in Korean language.

77   There exist significant differences in 11 of 14 terms of likelihood when Korean accounting professionals interpret them in English and Korean language respectively.

4.6 Narrative responses

78   We received comments from 41 respondents (25 preparers and 16 auditors) in Australia and 121 respondents (39 preparers and 82 auditors) in Korea regarding to the terms of likelihood used in the standards.

79   Most of the respondents noted that terms of likelihood are difficult to interpret. Some commented that there is lack of guidance on the concept of terms of likelihood; and that some clear guidance would be helpful. A number of respondents went so far as suggest having percentage ranges or numerical guidance in the standards on the terms of likelihood.

80   There were concerns that terms of likelihood are not used consistently throughout the standards. One common subject of respondents' comments was that there are multiple terms of likelihood which could be interpreted in the same way. Some suggested terms of likelihood should be simplified and their number reduced.

4.7 Limitation and further analyses

81   As this project is still in progress in collecting more data for analyses, there are limitations in providing conclusive results. The preliminary results provided are drawn from data collected to date.

82   Further analyses will be conducted. In particular, further work is needed on the translation issues and further research will be done to examine groups of Korean accounting professionals by comparing their assessment of terms of likelihood in English and Korean.

83   Further analyses on whether differences on interpretation of terms of likelihood are due to individual traits (such as age, professional experience and familiarity with IFRS) will also be conducted.

5. Conclusion and key recommendations

84   In conclusion, the preliminary findings suggest that:

(a)   there are differences in interpretation of terms of likelihood between Australian and Korean accounting professionals. Respondents between Australia and Korea assigned different rankings on some terms of likelihood;

(b)   some terms could be interpreted differently in different contexts. For example, respondents tend to be more conservative when interpreting the term "probably" in the context of liabilities in comparison to interpreting the term in the context of assets;

(c)   some terms of likelihood are not interpreted differently from each other, for example respondents seem to interpret "unlikely" and "highly unlikely" in the same manner;

(d)   some terms of likelihood are interpreted differently in different languages by Korean accounting professionals indicating that there may be a translation issue that should be addressed; and

(e)   some terms of likelihood cannot be translated into Korean. For example, "probable" and "likely" are translated into a single Korean expression "가능성이 높다", and the terms "virtually certain" and "reasonably certain" are both translated into a single Korean term "가능성이 거의 확실한".

85   Key tentative recommendations are:

(a)   standard setters should give considerable attention to how terms of likelihood might be interpreted and translated in different jurisdictions when developing a standard, particularly since there may be situations in which this could be expected to give rise to material differences between financial statements;

(b)   standard setters should narrow the number of different terms of likelihood used in standards and consideration should be given to establishing a set of terms that only be departed from in exceptional cases. Unless the intended levels of likelihood are significantly different from each other, standard setters should use the same terms of likelihood in standards; some of the approaches employed in this research project could be considered for reference;

(c)   if a set of 'accepted' terms of likelihood were to be developed, the process should include consulting with specialist linguists who have familiarity with IFRS;

(d)   consideration should be given to developing principles and guidance on terms of likelihood that could be applied consistently across the standards. The guidance could include examples. If a set of 'accepted' terms of likelihood were developed, consistent with the IASB's policy on the conceptual framework, any departures from that set would need to be justified and explained in the relevant basis for conclusions;

(e)   the IASB's re-deliberations on revisions to the Conceptual Framework relating to neutrality (and prudence) and the asset and liability recognition criteria might be informed by the knowledge that many preparers and auditors factor in their own level of 'conservatism' when applying IFRS; and

(f)   standard-setting outreach and consultative processes should explicitly seek to obtain input on translation and interpretation issues in different jurisdictions.

REFERENCES

Amer, T., et al. (1995). "Context-dependence of auditors' interpretaions of SFAS No. 5 probability expressions." Contemporary Accounting Research 12(Fall): 25-39.

Amer, T., et al. (1995). "Context-dependence of auditrs' interpretations of the SFAS No. 5 probability expressions." Contemporary Accounting Research 12(1): 25-39.

Budescu, D. V. and T. S. Wallsten (1985). "Consistency in interpretation of probabilities phrases." Organizational behaviour and Human Decision Processes 36: 391-405.

Chesley, G. R. (1986). "Interpretation of uncertainty expressions." Contemporary Accounting Research 2((Spring)): 179-199.

Davidson, R. (1991). "Practical difficulties encountered in selecting uncertainty words: the example of accounting standards." Applied Psychology: An International Review 40(4): 353-363.

Doupnik, T. S. and E. L. Riccio (2006). "The influence of conservatism and secrecy on the interpretation of verbal probability expressions in the Anglo and Latin cultural areas." The International Journal of Accounting 41: 237-261.

Doupnik, T. S. and M. Richter (2003). "Interpretation of uncertainty expressions: a cross-national study." Accounting, Organizations and Society 28: 15-35.

Doupnik, T. S. and M. Richter (2004). "The impact of culture on the interpretation of "in context" verbal probability expressions." Journal of International Accounting Research 3: 1-20.

Eddie, I. A. (1990). "Asia Pacific cultural values and accounting systems." Asia Pacific International Management Forum 16: 22-30.

Gray, S. J. (1988). "Towards a theory of cultural influence on the development of accounting systems internationally." Abacus 24(1): 1-15.

Gray, S. J. and H. M. Vint (1995). "The impact of culture on accounting disclosures: Some international evidence." Asia-Pacific Journal of Accounting December: 33-43.

Harrison, K. E. and L. A. Tomassini (1989). "Judging the probability of a contingent loss: an empirical study." Contemporary Accounting Research 5(2): 642-648.

Hofstede, G. (1980). 'Cultures' Consequences: International Differences of Work Related Values, Beverly Hills: Sage.

Hope, O. K. (2003). "Firm-level disclosures and the relative roles of culture and legal origin." Journal of International Financial Management & Accounting 14: 218-248.

Houghton, K. A. (1987). "True and fair view: an empirical study of connotative meaning." Accounting, Organizations and Society 12: 143-152.

Houghton, K. A. (1988). "The measurement of meaning in accounting: a critical analysis of the principal evidence." Accounting, Organizations and Society 13(3): 263-280.

Jaggi, B. and P. Y. Low (2000). "Impact of culture, market forces, and legal system on financial disclosures." The International Journal of Accounting 35: 495-519.

Laswad, F. and Y. T. Mak (1997). "Interpretations of probability expressions by New Zealand standards setters." Accounting Horizons 11(4): 16-23.

Lichtenstein, S. and J. R. Newman (1967). "Empirical scaling of common verbal phrases associated with numerical probabilities." Psychonomic Science 9(10): 563-564.

Oliver, B. L. (1974). "The semantic differential: a device for measuring the interprofessional communication of selected accounting concepts." Journal of Accounting Research 12: 299-316.

Phillips, L. D. and C. N. Wright (1975). Cultural differences in viewing uncertainty and assessing probabilities. Dorderecht, Holland, D. Reidel Publishing Company.

Salter, S. B. and F. Niswander (1995). "Cultural influence on the development of accounting systems internationally: a test of Gray's (1988) theory." Journal of International Business Studies 26(2): 379-397.

Schultz, J. J., Jr. and T. J. Lopez (2001). "The impact of national influence on accounting estimates: implications for international accounting standard-setters." The International Journal of Accounting 36: 271-290.

Sudarwan, M. and T. J. Fogarty (1996). "Culture and accounting in Indonesia: An empirical examination." International Journal of Accounting 31(4): 463-481.

Tsakumis, G. T. (2007). "The influence of culture on accountants' application of financial reporting rules." Abacus 43(1): 27-48.

Wingate, M. L. (1997). "An examination of cultural influence on audit environments." Research in Accounting Regulation Supplement(1).

Zarzeski, M. T. (1996). "Spontanueous harmonization effects of culture and market forces on accounting disclosure practices." Accounting Horizons 10: 18-36.