IVS Agenda Consultation - Invitation to Comment 2017: Basis for Conclusions
General Overview

The IVSC published the Agenda Consultation Invitation to Comment 2017 (ITC) as part of an open consultative standard setting process. The IVSC believes that this document outlining the responses from the agenda consultation and the IVSC Standards Review Board subsequently revised agenda is a critical part of a transparent standard-setting process, consistent with the practices of other standard-setters around the world. The IVSC is planning to continue to publish an agenda consultation normally every two years although future editions will be limited to the proposed revisions and additional chapters to be included in IVS.

The purpose of the ITC consultation was to solicit feedback about:

1. The valuation topics that the IVSC should address as part of its current agenda, and
2. Additional valuation topics that stakeholders feel should be prioritised or added to IVSC’s agenda.

Stakeholders were also invited to comment on all matters contained within the ITC and the ITC also contained questions related to each of the six-major valuation topic identified by the IVSC Boards and included in the ITC as the following six separate chapters;

Chapter 1 Non-Financial Liabilities
Chapter 2 Discount Rates
Chapter 3 Early Stage Company Valuations
Chapter 4 Biological Assets
Chapter 5 Extractive Industries
Chapter 6 Inventory

Each chapter included:

1) A summary of the valuation topic including relevant context and history, discussion of stakeholders’ concerns related to the topic, and the Boards’ rationale on why standard setting related to the topic may be necessary;
2) Potential standard setting alternatives including possible approaches the IVSC could take to develop standards related to the topic, and discussion of methodologies, where relevant; and
3) Specific questions for the respondents to address to aid the IVSC in its next steps related to each topic.

In addition to the questions included within each chapter, the IVSC also welcomed general feedback from respondents on the following questions:

1. Are the valuation topics described in this ITC areas for which there is potential for significant improvement as compared to IVS 2017?
2. What is the priority of addressing each topic?
3. What should be IVSC’s next step to address each topic? For example, should IVSC issue a discussion paper, an exposure draft, or take some other action?
4. Are there other major valuation topics not described in this ITC that the IVSC should consider adding to its agenda?
The ITC was issued on the 15th May 2017 and subject to a 90-day consultation period which closed on the 15th August 2017. There were a total of 39 responses to the ITC and 21 of these responses were categorised as detailed as they addressed many or all of the specific questions, whereas the other 18 responses were categorised as limited as they provided high level comments or suggestions and did not attempt to address all the specific questions in the ITC.

Furthermore, many of the responses received were prepared by Boards and working groups comprising many members, working across all the valuation specialisms, so though 39 responses were received, in many instances individual responses were prepared by many individuals. In fact, 21 responses were received from professional organisations, 12 responses were received from professional services firms, 4 responses were received from academic institutions, research projects and individuals and 2 responses were received from standard setters.

The ITC response rate compared favourably with the IVS 2017 consultation, where 47 responses were received from the IVS 2017 Part 1 consultation and 33 responses were received in relation to the IVS 2017 Part 2 consultation.

Image: Map showing IVSC ITC responses by country of origin

In terms of Global coverage responses were received from every world region and most countries contributed to 3-5% (1-2 responses) of the total responses with global organisations contributing to 21% (8 responses) of the total response rate. A list of the respondents, who contributed to the ITC consultation process is shown below:

1 Note that a number of responses were received by global or multi-market organisations or institutions.
• AICPA – US*
• Appraisal Institute of Canada (AIC)
• Appraisal Institute ("AI") – US
• ANEVAR (The national association of authorized evaluators in Romania)
• Appraisal Corporation (South Africa)
• ASOVIB (an association of real estate valuations companies based in Italy)
• Australian Property Institute (API)
• Ayala Consulting – South America
• Canadian Institute of Chartered Business Valuators
• Chamber of Independent Appraisers in Bulgaria (CIASB)
• Chartered Accountants Australia and New Zealand (CANZ)
• DEFORM Project – EU
• Deloitte
• Duff & Phelps
• FFEE (Valuation Firm France)*
• German Property Federation (ZIA)
• Hong Kong Institute of Surveyors (HKIS)
• Individual member of IMVAL based in South Africa
• Indonesian Society of Appraisers (MAPPI)
• International Association of Consultants, Valuators and Analysts (IACVA)
• International Institute of Business Valuers (IIBV)
• International Institute of Mineral Appraiser (IIMA)
• Japanese Institute of Certified Public Accountants (JICPA)
• KPMG
• Liquid Property Consultants – Australia
• Malaysian Institute of Accountants (MIA)
• New Zealand Accounting Standards Board (NZASB)
• Organismo Italiano di Valuatazione (OIV)
• Plutus Consulting – Japan
• PWC
• Property Institute of New Zealand Standards Board (PINZ)
• RICS
• Society for Mining Metallurgy and Exploration Inc. (SME)
• SRK Consulting – Australia
• Taqeeem
• University of Science and Technology Poland
• Value Management and Options Corporation (VMO CORP) – Philippines
• Wolfgang Ballwieser, Munich School of Management
IVS Gap Analysis

Prior to the publication of IVS 2017 the previous IVS Standards Board in conjunction with other stakeholders agreed the following alphabetised gap analysis for further prioritisation for inclusion within future editions of the IVS;

- Adjustments
- Analysis of Commercial Lease Transactions
- Art and Antiques
- Commercial Forests
- Contracts
- Credit/Debit Valuation
- Deferred Revenue
- Depreciated Replacement Cost Method of Valuation for Financial Reporting
- Derivative Valuations
- Discount Rates
- Discounts and Premium
- Early Stage/Development Stage Valuations
- Expected Cash Flow
- Extractive Industries
- Funding Valuation Adjustments
- Inspections and Material Considerations
- International/Multinational Valuations
- Inventory
- Liabilities
- Preferred Stock
- Recovery and Resolution
- Specialised Public Service Assets
- Stock Options
- Trade Related Property
- Valuation of Individual Trade-Related Properties
- Valuation of Residential Properties
- Valuation in Markets Susceptible to Change: Certainty and Uncertainty
- Valuation of Personal Property including Art and Antiques.
- Valuation of Portfolios, Collections, and Groups of Properties/Assemblage Value
- Valuations for Taxation purposes including taxes and tax flow-through Entities

The newly constituted IVSC Standards Review Board, IVSC Business Valuation Board and IVSC Tangible Assets Board (IVSC Boards) determined that they should review the scope and prioritisation of the IVS Gap Analysis as part of the ITC consultation process. The IVSC Boards revised the previous gap analysis and divided the topics into Discussion papers, International Valuation Standards to be issued by the relevant IVSC Board (Standards Review Board, Business Valuation Board, Tangible Assets Board) and Guidance Notes to be issued by the member organisations of the IVSC Advisory Forum Working Group. The Boards also agreed the following categorizations and prioritisations for these topics;

- Critical 0 to 2 years
- Medium Term 2 to 5 years
- Long Term 5 years plus

As part of the consultation process the Boards asked stakeholders the following question on the gap analysis; “Do you agree with the current categorisation and timings of the topics contained in the gap
Most respondents commented that they largely agreed with the prioritization of each topic and the suggested categorization of critical, medium term, or long term, though some respondents expressed priority for different topics.

Some of the comments the IVSC Board received from stakeholders were as follows:

- Respondents largely agreed with the prioritization of each topic and categorization of Critical, Medium Term, or Long Term.
- Certain respondents expressed priority for different topics.
- One believed it was unrealistic to address all the Critical items in the prescribed 0-2 years.
- One believed the IVSC should also supply implementation Guidance.

The IVSC Boards discussed these comments in relation to the time schedule and partly agreed that it was quite a challenging schedule to address all the critical items in 0-2 years and have revised the schedule shown further below accordingly. The IVSC Boards also reviewed the issue of guidance and would point to the following paragraph within the IVSC Standard Setting Process section of the ITC, which states as follows:

“Guidance Notes are not issued by IVSC, but rather are issued by Valuation Professional Organisations (VPO’s) and National Standard Setters, many of whom are members of the IVSC Advisory Form Working Group. Guidance Notes provide further information on the practical implementation of IVS and are set at a more detailed level and often incorporate local legislation and mandatory practices. Guidance Notes incorporate material and information on good practice appropriate for particular circumstances.”

In terms of overall prioritisation of the topics contained within the gap analysis there were a number of conflicting views and at least one respondent commented that one of the following topics should be prioritised:

- Agriculture and Aquaculture Valuations
- Automated valuation models
- Commodity valuation and resource reserves
- Discounts and Premiums
- Heritage, public sector measurement and public-sector infrastructure
- Personal property
- Portfolio valuation
- Price vs. Value
- Privatisation and Nationalisation
- Specialised Public Service Assets
- Sustainability and renewable energy
- Trade Related Property
- Uncertainty; Valuation in Markets Susceptible to change
- Valuation of share deals (SPVs)
- Water rights

In addition, stakeholders were also asked; “Are there any other topics which you believe should be included or deleted from the IVS gap analysis and if so why?” The following additional topics were suggested within the responses received:

- Allocation of Value
- Aquaculture Valuations and Water
Further to discussions the IVSC Boards reviewed the suggestions and considered that many of these could be incorporated into existing topics.

The IVSC Boards also discussed the need for a periodic technical review of existing IVS, similar to the process adopted by other Standard Setters. Further to discussion have agreed that they will publish, as and when necessary, a technical review to provide clarification on technical matters contained within the standard. The IVSC Boards agreed that the first technical review would be published in 2018 and would incorporate suggested technical revisions to IVS 2017 and would be subject to a 6-month consultation period. The IVSC Boards also agreed, as part of a transparent standard setting process, to prepare an IVS work schedule to be contained on the IVSC website and updated as projects progress. Further to the comments received from the consultation process and discussions held by the IVSC Boards the Gap Analysis has been revised as follows:

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<td>Discount Rates</td>
<td>BV</td>
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<td>Early Stage/Development Stage Valuations</td>
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<td>X</td>
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<td>Extractive Industries</td>
<td>TA</td>
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<tr>
<td>Inventory</td>
<td>BV</td>
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<td>Medium Term (2-5 years)</td>
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<td>Trade Related Property</td>
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<tr>
<td>Long Term (5 years plus)</td>
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<tr>
<td>Sustainability (other than renewable energy)</td>
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<tr>
<td>Valuation of Personal Property including Art, Antiques, and Trophy Assets</td>
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Chapter 1 – Non-Financial Liabilities

The IVSC Boards through market engagement and discussion with major stakeholders noted that due to the unique and varying nature of liabilities, as well as the propensity to reflect risk through the adjustment of cash flows, the Income Approach methods used in practice to value non-financial liabilities are widely divergent and in many cases unique to that particular liability. This stands in contrast to intangible assets for instance, for which IVS 2017 Section 210 outlines various common approaches that can in many instances be used interchangeably with only slight modification to value different intangible assets. As such, the IVSC Boards saw the following three discrete alternatives for future standards related to the valuation of Non-Financial Liabilities;

Alternative A – Broad Methodology Approach
Consistent with IVS 210 Intangible Assets, future standards could outline broad methodologies under the Income Approach that could be applied to many non-financial liabilities. In particular, despite the aforementioned uniqueness to the valuation of certain non-financial liabilities, the Boards have observed that the majority of such methodologies reside within a continuum that bifurcates risk in varying degrees between the discount rate versus in the cash flows. More specifically, the Boards see three forms of the Discounted Cash Flow method that differ with respect to whether risk is defined in both the numerator and/or the denominator of the calculation.

1) The Bond Yield Method
2) The Required (expected) Rate of Return Method (a.k.a. Scenario Based Method)
3) The Risk Neutral Method

Alternative B – Liability Centric Methodology Approach
Given the various differences noted above between non-financial liabilities and intangible assets, the Boards recognise a possible need to identify commonly valued non-financial liabilities and detail specific considerations and methodologies that apply for each. However, the Boards acknowledge that such an approach would be divergent from current standards and move away from a more traditional principle based approach.

Alternative C – Hybrid Approach
The Boards also acknowledge the possibility of a hybrid approach in which broad methodologies are outlined similar to Alternative A, but recognise that the valuation of certain non-financial liabilities may not be appropriately valued through these methodologies. For instance, the valuation of deferred revenue within a business combination is often valued through consideration of fulfilment costs plus the addition of an appropriate fulfilment margin. This methodology is unique to the valuation of deferred revenue and is not easily addressed through the discussion of broad methodologies.

In order to explore the issues within the valuation of non-financial liabilities the IVSC Boards asked the following questions within the ITC in relation to the valuation of non-financial liabilities and received the following responses shown below;

Question 1.1: Is the valuation of non-financial liabilities a critical area that should be addressed by the IVSC? Please explain why.

There were 16 respondents to this question and all the respondees felt that this was an important area
and a number of the respondents highlighted the following areas to be considered within an IVS on non-financial liabilities:

- Asset Retirement Obligation (ARO).
- Further clarification of definition of assets and liabilities required (i.e. easements, leasehold etc).
- Harmonisation of variant practices (i.e. liability restoration, deferred revenue, warranty obligations, litigations etc).
- Inclusion of profit and risk premiums.
- Need to coordinate with IFRS 15.
- Settlements vs transfer of liability.
- Transactions, business combinations, impairments and tax valuation.

Question 1.2: Should IVS provide a separate definition of liabilities? If yes, do you agree with the definitions provided by the FASB and IASB, please explain why?

There were 14 respondents to this question and the majority of comments were positive, however one respondent felt there was no need for further IVS guidance and pointed out that IVS does not define Asset.

Question 1.3: What non-financial liabilities do you observe in practice? For each liability, what valuation methods do you most commonly see used? Which of the non-financial liabilities you listed have the greatest diversity of valuation in practice?

There were 13 respondents to this question and the majority of comments were positive. Additional comments received include;

- Definitions need to be refined to include costs, rights and obligations.
- IVS Definitions should align with FASB and IASB.
- Need to harmonise FASB and IASB definitions (IASB considers the consequent present obligation raised from past events which leads to the logical conclusion that it is a transaction what we are talking about whereas FASB considers as probable the future sacrifices of economic benefits arisen from present obligations of a particular entity to transfer assets or provide services to other entities in the future as a result of past transactions or events.)
- Non-financial liabilities should be defined as liabilities without corresponding assets.

Question 1.4: Do you agree with the decision to exclude financial liabilities from this ITC? If yes, do you think IVSC should add financial liabilities as a possible project(s) in the future?

There were 14 respondents to this question and all the comments were positive, bar one who felt that financial liabilities should also be included. Additional comments received include;

- Liabilities should be removed from the MV definition.
- Financial Liabilities could be a future project.
- Financial Liabilities could be included in financial instruments and no separate chapter is needed.
Question 1.5: Do you think IVSC should add financial instruments, pension liabilities, and insurance liabilities as a possible project(s) in the future?

There were 15 respondents to this question and all the comments were positive and additional comments received include:

- More a matter for actuaries.
- Yes but pension liabilities and insurance liabilities should be excluded.
- IVSC should consider IFRS 17 Insurance Contracts.
- IVSC should consider adding financial instruments, pension liabilities and insurance liabilities as possible future projects.

Question 1.6: Of the potential Standard Alternatives outlined above (A, B, C), which do you prefer and why?

There were 14 respondents to this question and as shown by the chart below the majority of the respondents preferred Option C in the chart below, which is the Hybrid Approach.

![Question 1.6 Chart]

Question 1.7: Are there methodologies and best practices utilised by the insurance industry that the Boards should consider for inclusion in future standards? If so, please discuss.

There were 12 respondents to this question and all the comments were positive, bar one who felt that there was no need to draft a chapter on non-financial liabilities. Additional comments received include:

- Reluctant to couch insurance considerations and valuations together. These have very different inputs and expected outcomes and should not be married.
- There are a range of actuarial standards that have useful insight. However, we do not suggest replicating these standards. A more pragmatic approach would be to incorporate relevant material by reference rather than duplication.
• IVSC should have a round table with the insurance industry to discuss this matter further.

Further to the ITC the BV Board is conducting research on the following topics:

• Non-practicing entities that invest in patent rights
• Litigation focused PE funds
• Publicly traded companies with primary function to service liabilities (e.g., mining companies in Canada set up to service environmental liabilities)
• Contingent value rights
• Airline miles balance sheet recognition as required by IFRS (also consider other loyalty programs and companies whose primary business is to service such programs)
• Power purchase agreements
• Streaming exchanges

Further to the ITC responses the BV Board have decided to spend the rest of 2017 and the first quarter of 2018 engaging in further market outreach with actuaries and other experts and stakeholders identified within respective firms and organisations such as Bloomberg. The IVSC Boards are also considering meeting FASB and IASB during Q1 2018 to review recent standard regulator and standard setter activity. The BV Board aim to complete drafting the Financial Liabilities chapter during 2018 and plan to publish the IVS non-financial liabilities Exposure Draft during Q4 2018 and going into consultation during the first half of 2019 prior to publication in Q3 2019.

Non-Financial Liabilities Work Schedule

<table>
<thead>
<tr>
<th>Period</th>
<th>Task</th>
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<tbody>
<tr>
<td>Q4 2017 to Q1 2018</td>
<td>Research and Market Engagement</td>
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<tr>
<td>Q2 2018 to Q3 2018</td>
<td>Preliminary Drafting</td>
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<td>Q4 2018</td>
<td>Exposure Draft Completion</td>
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<tr>
<td>Q1 2019 to Q2 2019</td>
<td>Public Consultation and Consultation Review</td>
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<td>Q3 2019</td>
<td>Publication</td>
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Chapter 2 – Discount Rates

The IVSC Boards have observed a number of issues related to the derivation of discount rates using the Capital Asset Pricing Model (CAPM). In particular, the Boards noted that the CAPM is the most widely used methodology to derive the cost of equity and related weighted average cost of capital (WACC). However, the IVSC Boards noted that there is significant diversity in practice for the calculation of each input to the cost of equity using the CAPM. As such, the IVSC Boards saw the following three discrete alternatives for future standards related to the valuation of Discount Rates;

Alternative A – Performance Framework for CAPM
Rather than provide prescriptive guidance on the application of the CAPM, Alternative A would set out minimum thresholds for the extent of investigation, analysis, and documentation related to each input into the CAPM.

Alternative B – Performance Framework for Multiple Methods
Although the Boards observe the CAPM utilised in nearly all business enterprise free cash flow valuations, Alternative B would set forth a performance framework for multiple methods of deriving the discount rate, such as those listed in IVS 105 Valuation Approaches and Methods, paragraph 50.29.

Alternative C – Performance Framework and Reference to Prescriptive Guidance
As noted above, IVSC has historically been of the opinion that this level of detail is too in-depth for IVS and would be difficult to write in a way that applies to all valuation purposes and markets globally. However, certain stakeholders have recommended that IVS identify and refer to best practice technical guidance. In the Boards opinion, any such guidance would be combined with a performance framework outlined in Alternative A or Alternative B above.

In order to explore the issue of Discount Rates the IVSC Boards asked the following questions within the ITC in relation to the valuation of discount rates and received the following responses shown below;

Question 2.1: Are additional standards related to the derivation of discount rates a critical area that should be addressed by the IVSC? Please explain why.

There were 20 respondents to this question and all the respondees bar three felt that this was a critical area and additional comments include;

- With respect to discount rates, we agree that the first step is to explore the diversity of practice to understand how, if at all, the IVS may need revision.
- Different practices around estimation of beta, gearing, risk free rate tenor, and bond premium.
- More guidance for CAPM Methods for valuation of investment properties.
- Yes, because we have encountered a big diversity in the market valuation practice, even different perception between regulator and valuers.
- Additional standards related to the derivation of discount rates are considered to be a critical area that should be addressed by the IVSC.
- There is a wide variation in industry practice.

Question 2.2: Given the extensive use of the CAPM for derivation of discount rates used in business
enterprise and asset valuations, do you agree with the Boards proposal to issue new standards to target diversity in practice related to discount rate derivation? Please explain why.

There were 18 respondents to this question and all the respondees bar two felt that this was a critical area and additional comments include;

- The statements says it all, namely the diversity requires the need for new standards.
- Not agree. It will be a departure from principle-based approach.
- Yes. Further assistance is required as there is wide divergence of practice in terms of the following. This could be either standards or guidance.
- Yes, and while CAPM is mostly relevant in the valuation of equity, but in asset valuation it will be using other method such as band of investment or IRR method.
- Yes, to reduce variation and improve industry best practice.
- Yes. The CAPM is not always applicable for every circumstance such as for valuations of early stage companies and assets.
- It may also be worth working on more than one derivation for a valuer to have a better grasp of a suitable approach.

Question 2.3: Which inputs have you observed to have diversity in practice that would benefit from additional guidance in IVS and why?

There were 18 respondents to this question and additional comments received include;

- Market segment, asset/business type, equity/debt ratio of asset and market cycle of asset/business.
- Size premium, Company Specific Premium.
- There’s a diversity criteria upon the selection of Betas and no consensus on what’s the most commonly used and why.
- The major diversity in practice is that the Ibbotson build up method is sometimes combined with the use of a CAPM Beta suggesting double counting.
- Guidance on application related to equity risk premium, not only historical risk premium, and also implied risk premium.
- The Alpha or company specific risk premium and a country-risk specific premium.
- Cost of Debt, Capital Structure and Beta inputs can be more easily the subjects of additional guidance in IVS.

Question 2.4: What other methods of deriving discount rates for business enterprise valuation do you commonly observe in practice? For each method, do you commonly observe diversity in practice in its application?

There were 18 respondents to this question and additional comments received include;

- CAPM and WACC applications.
- The NI51-101 reporting for Oil and Gas has a “standardised approach that the SEC also uses.
- Built up method which is not very much applicable in emerging market.
- IRR also is a very common practice observed when deriving discounts rates. It offers possibility
to assess management estimates and measure the implied risk of a project.

- Deriving discount rate from a cash-flow multiple of a comparable sample can also be a helpful method.
- Yes, there is variation and difference in the way data is managed and a high degree of assumption. This includes integrity of the model and reliance on the Valuers intuition when factoring assumptions for completing the Top down approach. Examples include Owner occupied verses third party leased properties, rights of renewal in leases, use of CAPEX and Growth rates.
- A ‘Build Up’ approach and use of venture capital rates of return.

**Question 2.5: Of the potential Standard Alternatives outlined above (A, B, C), which do you prefer and why?**

There were 18 respondents to this question and as shown by the chart below the majority of the respondents preferred Alternative C, which is Performance Framework and Reference to Prescriptive Guidance;

Further to the ITC responses the BV Board reviewed the March IFRS staff research paper on discount rates and noted that the paper revealed very similar observations to the ITC and note the following excerpts:

“Three main principles apply when using present value measurement techniques:

- do not double-count; for example, if the price for bearing risk and uncertainty (ie a risk premium or risk discount) is reflected by adjusting the estimates of the cash flows, the discount rate used should be a risk-free rate;
- use internally consistent assumptions; for example, if cash flows are determined on a nominal basis, the discount rate used should also be nominal; and
- be sure to include everything required in the measurement; for example, be sure to reflect risk if this is what the measurement objective requires or what the IFRS Standard stipulates.
Level of detail in present value measurement techniques

- how are risk adjustments (if any) reflected, i.e. in the rate, in the cash flows, or in a separate measurement component, or is there a free choice over where to reflect them?
- how is tax accounted for, i.e. are inputs on a post-tax or a pre-tax basis?
- how is inflation accounted for, i.e. are inputs real or nominal?”

Further to a review of the ITC responses the IVSC Boards felt that it was unnecessary to produce a separate chapter on discount rates within IVS 2017 and instead agreed to revise Sections 50.29 – 50.31 on Discount Rate sections within IVS 105 Valuation Approaches and Methods as part of a technical review of IVS 2017.

Discount Rate Work Schedule

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<thead>
<tr>
<th>Quarter</th>
<th>Description</th>
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<tbody>
<tr>
<td>Q4 2017 to Q1 2018</td>
<td>Draft Technical Revisions to IVS 2017</td>
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<tr>
<td>Q2 2018 – Q3 2018</td>
<td>Publish IVS 2017 Technical Revisions Exposure Draft</td>
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<tr>
<td>Q4 2018</td>
<td>Publish revised IVS 2017 post technical review</td>
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Chapter 3 – Early Stage Company Valuation

The IVSC Boards have observed a number of issues related to the valuation of early-stage companies. These unique issues and concerns related to the valuation of early-stage companies include the following:

1) Limitation of Typical Valuation Methods
2) Accounting for Risk
3) Complex Capital Structures
4) Calibration
5) Market Participant Framework

As such, the IVSC Boards saw the following three discrete alternatives for a future Early Stage Company Valuation IVS chapter:

**Alternative A – No Additional Standards Needed**

The Boards acknowledge that although the valuation of early-stage companies often require consideration of unique issues, many of the principles under which such valuations are prepared are no different than mature operating businesses. As such, there is a perspective that the valuation of early-stage companies is already addressed by current IVS.

**Alternative B – Discussion Paper**

Given the relative lack of existing guidance, diversity of methodologies and special considerations, and lack of clear consensus related to best practice, the Boards note that a more in-depth project may be needed to research best practices and potential standards alternatives. Based on feedback from this ITC, the Boards may commission a more in-depth discussion paper to further explore this topic.

**Alternative C – Performance Framework Addressing Problem Areas**

The Boards note certain aspects of the valuation of early-stage companies are specifically addressed in current IVS. As such, the Boards note that additional standards could address certain problems areas related to the valuation of early-stage companies including: discount rate considerations, complex capital structure considerations, and calibration. Consistent with current IVS, any such standards should focus more broadly on a performance framework consistent with the must, should, and may criteria targeted at these specific areas.

In order to explore the valuation issues within Early Stage Company Valuations the IVSC Boards asked the following questions within the ITC in relation to the valuation of early stage company valuations and received the following responses shown below;

**Question 3.1: Are additional standards for the valuation of early-stage companies a critical area that should be addressed by the IVSC? Please explain why.**

There were 17 respondents to this question and the majority of respondents felt that this was a critical area though seven respondees didn’t. Additional comments include;
• Additional guidance would be helpful given the large failure rate for early stage companies, which mean that with hindsight most valuations will look inflated.
• Yes. We need to improve consistency and reliability in the valuation of early stage companies/development.
• The lack of existing guidance, the diversity of the methodologies used, the absence of shared calibration methodologies suggest that the different possible alternative standards should be analysed in a discussion paper.
• We have observed quite a multiple of divestments and acquisitions of even early-stage ...... the benchmarks that are being used for said acquisition transactions are devoid of recognizable objective and quantitative bases. This constant exchange of hands can establish a valuation standard that may not be realistic.
• No, we do not believe so. The IVSC has historically looked to the IPEV Board as the principal provider of valuation guidance for the alternative asset industry. To the extent that additional guidance is deemed necessary, the IVSC should request the IPEV Board to update their guidelines for specific concerns.

Question 3.2: In which areas of the valuation of early-stage companies do you see the greatest diversity in practice? Are there additional areas of concern not noted above in this ITC? If so, please discuss.

There were 19 respondents to this question and additional comments include;

• Lack of research and inputs.
• One thing could be added regarding the use of third party expertise to help qualify the level of maturity of a project (in bio and med tech for instance).
• The AICPA publication “Valuation of Privately-Held-Company Equity Securities Issued as Compensation - Accounting and Valuation Guide” is helpful in this respect. We recommend that an IVS on this subject be produced jointly with the AICPA.
• Application of a wide range of valuation methods (discounted cash flow methods with high discount rates to reflect greater risk, option pricing methods, probability-weighted methods, “calibration” to rounds of financing).
• Whether factors such as lack of marketability and/or lack of control are reflected in discount rates/expected rates of return or separately accounted for as a “discount”.
• Differing views on the “time horizon” for the investment.

Question 3.3: Of the potential Standard Alternatives outlined above (A, B, C), which do you prefer and why?

There were 16 respondents to this question and as shown by the chart below the majority of the respondents preferred Alternative C, which is Performance Framework Addressing Problem Areas.
Further to a review of the ITC responses by the IVSC Boards felt that it was unnecessary to produce a separate chapter on discount rates within IVS 2017 and instead agreed to revise Section 130 on Capital Structure Consideration within IVS 200 Businesses and Business Interests as part of a technical review of IVS 2017.

Discount Rate Work Schedule

- Q4 2017 to Q1 2018: Draft Technical Revisions to IVS 2017
- Q4 2018: Publish revised IVS 2017 post technical review

Question 3.3

- Alternative A – No Additional Standards Needed: 31%
- Alternative B – Discussion Paper: 19%
- Alternative C – Performance Framework Addressing Problem Areas: 50%
Chapter 4 – Biological Assets

The IVSC Boards have observed a number of issues related to the valuation of biological assets. These unique issues and concerns related to the valuation of early-stage companies include the following:

1) Limitation of Typical Valuation Methods
   a) Fair Value
   b) Variance in valuation (IAS 41)
   c) Alternative Uses
   d) Sampling and Measurement Techniques

As such, the IVSC Boards saw the following three discrete alternatives for a future Biological Assets IVS chapter:

Alternative A – No Additional Standards Needed
The Boards acknowledge that although the valuation of biological assets often require consideration of unique issues, many of the principles under which such valuations are prepared are no different than other assets. As such, there is a perspective that the valuation of extractive industries is already addressed by current IVS.

Alternative B – Discussion Paper
Given the relative lack of existing guidance, diversity of methodologies and special considerations, and lack of clear consensus related to best practice, the Boards note that a more in depth project may be needed to research best practices and potential standards alternatives. The Board further notes that the Foresight Land Use Futures Report (2010) commented on the need or a better appreciation of value in land use governance: “How we value land, and the services it provides, is at the heart of decisions on land use change. However, as priorities for land use and land management shift, these need to be reflected in how we govern land use today.” The report calls for “A more sophisticated approach to valuing land … to be embedded into policy cycles and into the governance mechanisms, including future incentives and regulation” and sees the appropriate concept of value as “a broad one, encompassing the full range of ecosystem services, whether they are marketed.” Based on feedback from this invitation to comment, the Boards may commission a more in depth discussion paper to further explore this topic.

Alternative C – Performance Framework Addressing Problem Areas
The Boards note certain aspects of the valuation of biological assets are specifically addressed in current IVS. As such, the Boards note that additional standards could address certain problem areas related to biological asset valuations including: limitations of typical valuation methods and sampling and measurement techniques. Consistent with current IVS, any such standards should focus more broadly on a performance framework consistent with the must, should, and may criteria targeted at these specific areas.

In order to explore the issues within Biological Asset Valuations the IVSC Boards asked the following questions within the ITC in relation to the valuation of biological assets and received the following responses shown below:

Question 4.1: Should IVS provide a standard of Biological Assets? If yes, do you agree with the title of
this standard and the distinction provided by the FASB and IASB between Biological Assets and Agricultural Produce, please explain why?

There were 15 respondents to this question and the majority of respondents felt that this was a critical area though two respondents didn’t. Additional comments include;

- Yes. We would like to be more consistent with IASB.
- We suggest that a better and consistent definition upon a Biological Asset is necessary especially whether IASB, FASB and perhaps IVSC think about developing environmental standards.
- With respect to the biological assets, we believe that the key valuation issues are those arising from the requirement in IFRS to separate the “fruits” from the bearer plants.
- Yes, but we prefer to have this titled as Valuation of Agricultural Properties. The current title of Biological Asset has only limited context for accounting purpose. Yes, but only for accounting/financial reporting purpose.
- We would like to see a working group established to first fully understand the issues associated with the reporting of value for a variety of purposes in relation to Biological Assets. It is not entirely clear what approaches are currently being adopted worldwide.

Question 4.2: Do you observe a significant variation in valuation practice for Biological Assets? For each type of Biological Asset, what methods do you most commonly see used? Which type of the Biological Asset you listed have the greatest diversity in practice?

There were 14 respondents to this question and all bar one respondent felt that there was significant variance in valuation practice for Biological Assets. Additional comments include;

- Most commonly a market approach (transactions) Cash flow/income capitalisation.
- For Biological assets, there is significant variation in valuation practice concerning: Estimation of harvest volumes, Adjustment for climatic variation and water availability, Allowance for contributory assets (particularly land and water), Allowance for tax net or gross of applicable rural allowances, Sporadic use or availability of transaction evidence, Estimation of crop pricing and exchange rates, Valuation of growing agricultural produce, Consideration of phenology of biological assets.
- It becomes problematic when we need to separate the value of bearer biological assets with the agriculture produce and we believe that IAS 41 has created many difficulties and potential dispute in valuation.

Question 4.3: Do you observe a significant variation in valuation practice for Agricultural produce? For each type of Agricultural Produce, what methods do you most commonly see used? Which type of the Agricultural Produce you listed have the greatest diversity in practice?

There were 12 respondents to this question and all bar one respondent felt that there was significant variance in valuation practice for Agricultural Produce. Additional comments include;

- Selling prices at the date of valuation less costs of getting to the point of sale is the predominant technique we observe. There are instances of costs of getting to market not being
allowed for.

- Valuation methodologies used to determine the value of Agricultural Produce appear to depend on the type of Agricultural Produce. From our experience, valuation methods for these assets have been largely driven by market pricing.
- Yes, Comparative sales approach is the method most commonly used, with Forestry being the agriculture product that has the greatest diversity in practice.
- We have received a significant number of comments relating to the variance in practice associated with the valuation of Agricultural Produce. The valuation method adopted for particular asset types depends on the country/jurisdiction and is driven by associated farming legislation.

**Question 4.4 Is the valuation of Biological Assets a critical area that should be addressed by the IVSC? Please explain why.**

There were 12 respondents to this question and all bar one respondent felt that this was a critical area that should be addressed by the IVSC. Additional comments include;

- Yes, it is. There’s a need for valuation standards for these kinds of assets especially for these purposes: 1. Agricultural. 2. Environmental.
- Yes. It is related with IAS 41 – fair value measurement and the current divergence in the valuation practice.
- As set out in the answer to question 4.1, agriculture represents 6.3% of world GDP and in many countries, significantly more. Therefore, we suggest a joint BV/TA standard in the medium term (2020/21).
- Yes, for Forestry (timber) with greatest diversity in practice.
- The divergence in the reporting of Biological Assets needs to be addressed to ensure that the market has accurate and consistent information on which to base decisions in this area of critical importance going far beyond purely financial and economic considerations.
- Valuation of Biological Assets should be addressed by IVSC as a critical area. Many of these Biological Assets also belong to critically essential industries.

**Question 4.5: Does the separation of value between the agricultural produce and its bearer plants cause issues within your market? Please explain why.**

There were 12 respondents to this question and the majority of respondents felt that there was an issue within their market between the separation of value between the agricultural produce and its bearer plants. Additional comments include;

- No, most often the fruits are excluded (other than timber), as it is seldom the market will trade an asset on the basis of standing fruit.
- Yes, causes issues with values in the market, however the approach is acceptable.
- The separation of value between bearer plants and still growing agricultural produce poses challenges. There is diversity in practice particularly related to when the growing agricultural produce begins to gain value and the pattern of value growth (e.g., straight line, exponential).
- The concept of ‘splitting’ elements of production is common in many industries but it is only of value in the valuation process where the elements are self-supporting. When considering
Agricultural Produce, it is challenging to attribute value to elements which cannot be self-supporting.

- No, the value of the agricultural produce is and should be distinct and separate. This is a generally understood case at least in the Philippines. Hence, the value of the coconut fruit is recognized different from the value of the tree itself.

**Question 4.6: Do you feel that there is conceptual Issue in allocating components of Fair Value? Please explain why together with your recommendations for resolving these issues.**

There were 13 respondents to this question and all bar two respondent felt that there was a conceptual issue in allocating components of Fair Value. Additional comments include:

- No, the difficulties stated are not real and perceived, as the one is an accounting exercise and the other not.
- There is a conceptual issue about the inclusion or exclusion of contributory assets like land and water rights, and the inclusion of efficiencies with integrated operations. In our view, the contributory assets should be separately valued from the biological asset and efficiencies of integrated operations should be treated in a fashion similar to buyer specific synergies.
- There may be some difficulty separating the fair value of the Biological Assets from the fair value of land and the improvements necessary to develop the Biological Assets. Additionally, there may be differing levels of improvements and assets required for certain Biological Assets.
- The issue is complex and we would like to see additional work undertaken in the area before recommending a solution from a standards perspective.

**Question 4.7: Do you think that potential alternative uses should be considered when valuing land as part of a Biological Asset valuation? Please explain why.**

There were 13 respondents to this question and all bar one respondent felt that potential alternative uses should be considered when valuing land as part of a Biological Asset valuation. Additional comments include:

- Potential alternative uses should be considered only in calculation of terminal value.
- Yes. In our view, the land should be valued at highest and best use and a contributory asset charge levied on the value of the biological asset reflecting the opportunity cost of the land use in generating the biological asset.
- The value of land is based on its highest and best use which, as in Chekhov’s Cherry Orchard, may be for housing. In that case, although producing revenue, the biological asset (the orchard) could have a minimal value but never a negative one.
- It would depend entirely on the purpose of the valuation as to whether potential alternative use should be included when valuing land as part of a Biological Asset valuation. For example, if the purpose was relating to the sale of the asset in the general market, then yes. However, if it were for accounting purposes it should not be necessary on the basis that the business is a going concern and will continue.

**Question 4.8: Do you think that there are four basic sampling and measurement techniques for the valuation of Biological Assets? If not, please explain what sampling techniques have seen used in**
practice.

There were 11 respondents to this question and all but one respondent thought that there are four basic sampling and measurement techniques for the valuation of Biological Assets. Additional comments include:

- These reflect the basic types of sampling approaches. However, given the emergence of technology solutions like drones, satellite/aerial photography, and image analysis it is possible to generate population analysis as quickly and cheaply as samples in some cases.
- The sampling techniques presented in the ITC are consistent with what we have seen in practice applied by companies who hold biological assets. That said, there may be other methods in use that we have not encountered that may be equally viable.
- We agree that all sampling and measurement techniques for the valuation of Biological Assets fall into one of the four listed classes. The most common appears to be (ii) random sampling stratified.
- It depends on what Biological Assets are involved. Not least for purely practical reasons, sampling techniques are appropriate for commercial forestry. But when it comes to animals and livestock, there may be greater diversity - for example, in the UK an inventory approach is adopted.

**Question 4.9: Do you think that there are four basic sampling and measurement techniques for the valuation of Biological Assets? Do you think that the inclusion of information on generally accepted sampling and measurement techniques would substantially reduce diversity of valuation practice and if so, how?**

There were 11 respondents to this question and all but one respondent felt that the inclusion of information on generally accepted sampling and measurement techniques would substantially reduce diversity of valuation practice. Additional comments include:

- No, only through Systematic sample stratified can this be achieved.
- The inclusion of sampling and or measurement techniques should be considered in generating the valuation range for the subject asset. For some valuation applications, lower accuracy suffices, and should be able to be dealt with by disclosure.
- We would recommend the inclusion of information on generally accepted sampling and measurement techniques. The choice of an appropriate technique depends on the relevant facts and circumstances.
- Sampling and measurement techniques are a key component of many valuations of biological assets. As such, we support principles-based standards related to sampling best practices. However, the extent and nature of sampling is highly dependent on the purpose of a valuation engagement. Since some valuations may require less accuracy/exactness than others, the IVSC should avoid requiring a particular level of sampling/measurement for all valuations.

The IVSC Boards also reviewed comments from Bruce Manley of the New Zealand Institute of Forestry Valuation Standards in relation to the following valuation issues:
• How to reconcile subsequent rotations in forest valuation, and the potential for a negative value (i.e. liability) implied from the subsequent rotations?
• Notion of a land rental charge (i.e. contributory asset charge) assessed to the trees.
• Incorporation of infrastructure improvements to the land as avoided costs.
• Application of cost-based approaches - in particular which cost components to include.

The IVSC Boards led by the Tangible Assets Board discussed the valuation of Biological Assets in depth and were not clear as to exactly what required in addition to the General Standards IVS101 to IVS105 for the valuation of Biological Assets. Moreover, from discussions it was felt that a number of the issues in relation to the valuation of Biological Assets stemmed more from the interpretation of IFRS guidelines, in particular IAS 41, than issues in relation to the valuation process or methodology. Furthermore, it was felt that the particular issue in relation to the separation of fruit from the bearer plants for accounting purposes related more to allocation of value than the valuation of any particular asset class. The Standards Review Board (SRB has arranged a meeting with the key members of the International Accounting Standards Board (IASB) in order to discuss the issues in relation to the valuation of Biological assets further. In addition, the IVSC Boards are currently undertaking further research and holding discussions with key stakeholders to fully explore the issues in relation to the valuation of Biological Assets.

**Biological Assets Work Schedule**

Q4 2017 to TBD       Research and Market Engagement
Chapter 5 – Extractive Industries

The IVSC Boards have observed a number of issues related to the valuation of extractive industries and felt that appropriateness of each approach or method depends on a several factors including:

- Stage of project (exploration, development and production),
- Ability to identify and classify extent of reserves or resources,
- Ability to project production rate,
- Ability to project capital expenditure,
- Ability to project operating costs,
- Ability to forecast future prices for minerals/petroleum products,
- Existence of public information regarding comparable projects,
- Stage of regulatory approval, and ability to forecast risk in progressing to extraction (existence of environmental impact statements, etc),
- Certainty regarding title, and other legal considerations (non-regulatory),
- Availability of financing,
- Availability and financing of infrastructure,
- Marketing of resource considerations.

The IVSC Boards also noted the following issues in relation to the valuation of extractive industries;

1) Limitation of Typical Valuation Methods
2) Accounting for Risk
3) Inconsistency in definitions and principles

As such, the IVSC Boards saw the following three discrete alternatives for a future Extractive Industries IVS chapter;

**Alternative A – No Additional Standards Needed**

The Boards acknowledge that although the valuation of extractive industries often require consideration of unique issues, many of the principles under which such valuations are prepared are no different than other assets. As such, there is a perspective that the valuation of extractive industries is already addressed by current IVS.

**Alternative B – Discussion Paper**

Given the relative lack of existing guidance, diversity of methodologies and special considerations, and lack of clear consensus related to best practice, the Boards note that a more in-depth project may be needed to research best practices and potential standards alternatives. The Board further notes that there already a number of organisations providing standards in this area such as the International Mineral Valuation Committee (IMVAL), the Committee for Mineral Reserves International Reporting Standards (CRIRSCO) and VALMIN and furthermore there is the United Nations Framework Classification (UNFC), which is a numerical classification system, independent of language, that is designed for use in both the minerals and petroleum sectors. Based on feedback from this invitation to comment, the Boards may commission a more in-depth discussion paper to further explore this topic.
Alternative C – Performance Framework Addressing Problem Areas

The Boards note certain aspects of the valuation of extractive industries are specifically addressed in current IVS. As such, the Boards note that additional standards could address certain problems areas related to extractive industry valuations including: limitation of typical valuation methods, accounting for risk and inconsistency in definitions and principles. Consistent with current IVS, any such standards should focus more broadly on a performance framework consistent with the ‘must’, ‘should’, and ‘may’ criteria targeted at these specific areas.

In order to explore the issues within Extractive Industries Valuations the IVSC Boards asked the following questions within the ITC in relation to the valuation extractive industries and received the following responses shown below;

**Question 5.1: Should IVSC produce combined standards and guidance for Extractive Industries or produce separate pronouncements for mining and for oil and gas? If you believe the latter, please indicate the reasons why you consider separate guidance is appropriate.**

There were 18 respondents to this question and additional comments include;

- We consider that for most issues, combined standards will work adequately. There is however, substantial differences in terminology for broadly equivalent concepts across the two sub-sectors, so appendices or sections dealing with the two types of mineral asset will be useful.
- We recommend separate standards for oil & gas and minerals as the nature of the ownership is totally different. Oil companies often have partial ownership in many wells, which are rarely owned outright, while mines tend to have only one or two owners.
- We believe that a single standard covering all extractive industries would be appropriate. Consistent with other IVSC standards, any issues that are specific to mining, oil, or gas could be addressed in a “special topics” section of the standard.
- It will be best for IVSC to come up with separate pronouncements for mining and for oil & gas. These two have quite distinct valuation requirements, and the resources and assets involved also have very different alternative uses, or none at all.

**Question 5.2: Should the standards focus just on the valuation of reserves and resources or should it extend to other assets employed in the industry and to entire businesses in the sector? Please provide reasons for your answer.**

There were 18 respondents to this question and additional comments include;

- If standards are provided, these will have to extend to entire business.
- Focus on mineral resources and reserves but the framework should recognise the “value in use” concept for cashflows and the apportionment of value to resources and reserves and fixed property, plant and equipment as this is a big accounting for value issue.
- Standards to be focused on the valuation of reserves and resources. Valuation of the other assets employed and the entire business is covered by others IVS.
- The relevance of this question differs across the maturity of the development. In our view, the standards should deal with all three to reflect the issues that exist at each stage of mine or field development.
• It should be focused only on reserves and sources. The valuation of other assets can be valued under other standards eg: property, plant and equipment but in that case the title should change from Extractive Industries into Reserves and Source for Extractive Industries.
• Yes, so that double counting doesn’t happen. Expertise in a number of areas and a holistic approach is recommended.
• Both mines and oil & gas properties require a great deal of infrastructure in addition to reserves and resources to generate cash flows. Substantial other capital expenditures, both above and below ground, are always needed. Therefore all the assets needed should be covered.

Question 5.3: Which classification code or codes are most commonly used in your industry / sector? Which code do you normally use or rely on? Are you aware of differences across your / industry sector on the classification codes used? If so please indicate whether these differences cause problems in undertaking or understanding valuations.

There were 18 respondents to this question and additional comments include:

• For the minerals industry the IMVAL Code is supposed to be a “parent code” for CIMVAL, SAMVAL and VALMIN. However, it includes Oil and Gas which relies on technical and value reporting under one umbrella which is the PRMS or COGEH. This is unfortunate because an overarching principle of the mineral industry valuation code (See section 3.9 Valuation Process in IMVAL) requires “two” value methods to be used ALWAYS. Sounds good in theory but for Oil and Gas sometimes finding a “market comparison” is impossible. So this difficulty prevents IMVAL being an over arch code in our view. Two industries to be treated separately.
• For mining assets in Australia, generally VALMIN and JORC are the guides to current practice. There is also guidance issued by the local Property Institute. These are largely consistent with international practice.
• The three main reserve/resource classifications for mining properties are NI 43-101, JORC, and SAMREC. These three classifications are generally considered reasonably comparable in reserve and resource classification that we place equal reliance on any of the three. Other resource estimates that are not compliant with one of these standards are considered by us to be highly uncertain. There are differences between these three standards, however, we have not seen that to lead to a difference in valuation. Other standards, such as Valmin or ImVal relate more specifically to valuation reporting and are not focused on geologic/economic classification of reserves or resources. We do not rely on these standards when preparing valuations generally, however, we may consider requirements within these standards if requested that a report be compliant with one of them.
• We usually use or more familiar with SPE (for oil and gas) and the JORC code or KCMI code (for mineral) by Perhapi and IAGI (local mining and geologist experts association).
• In Canada National Instrument 43-101 is the basis for disclosure of mineral projects; it is very similar to JORC in Australia. Similarly, National Instrument 51-101 relates to oil & gas projects. While other jurisdictions have their own codes there is a great deal of conformity.
• In Australia, the key mineral codes currently used are: The 2012 edition of the JORC Code, being the Australasian Code for the public reporting of Exploration Results, Mineral Resources and Ore Reserves
The 2007 edition of the PRMS VALMIN is the code used by Australian companies, CIMVAL is used by Canadian companies and SAMVAL is used by South African companies. Outside these jurisdictions, practitioners use what they are most familiar with which will generally be one of these codes. Over the past 5 years there has been significant harmonisation and alignment between the VALMIN, SAMVAL and CIMVAL codes. As such, it is relatively easy to translate between each of these codes. THE SPE-PRMS system is widely used for oil and gas and is presents a more significant step for an evaluator moving between the oil and gas and minerals space.

Question 5.4: When valuing with a discounted cashflow do you use internal production forecasts developed by the entity’s own geological and engineering specialists, external forecasts, or a combination of both and you adjust the production forecasts for risk by reserve category?

There were 17 respondents to this question and additional comments include:

- The combination approach to ensure objectivity.
- We always use a “Spot” input as a base because we are guided by IAS 13 which clearly defines the confidence levels in “observable inputs”. We clearly show all the Base Case input parameters for the DCF and then sensitivities real and nominal around the base case. After that we show ranges based upon the company views for forward information, prices, exchange rates and production models. The company discount rate and input views are then disclosed with a “difference” table from spot. This enables the market to take its own views on future prospects. It MUST be noted that the minerals industry is supposed to calculate a “cut-off” and a “pay limit”. The former is for resource limits and the latter for “payable” reserves. Traditionally the industry uses a higher (25% higher) metal price than spot to meet the requirement of “reasonable prospects of eventual economic extraction” for a cut-off the industry should use spot or (10% lower or more) than spot to calculate commercially payable ore reserves! Now that is a topic related to our comments throughout this report back and quite complex.
- We use the combination of both.
- Generally, the base is internal production forecasts, adjusted for risk by resource category. In some cases, further diligence is provided by consulting geologists and engineers, and analysis against around key cost and capital drivers, but seldom is an entirely separate forecast developed.
- We are likely to use a combination of both externally developed forecasts and management’s own estimates. Specifically, if a mine has been in production for any material length of time, there may have been new issues or positives that have come up that would not have been included or considered at the time when the last external report had been done. management may incorporate this information in their update mine forecasts, even though it may no longer tie to previous third party estimates. We would consider this updated guidance from management to determine the appropriateness of any deviation from third party forecasts.
- It’s a combination of both. Yes, there will be production forecast adjustment for risk.
- When valuing a mineral property by using a Discounted Cash Flows method, it is preferable to use external forecasts but those are not always available. Therefore, in valuing many resource projects the only available inputs are internal data which has to be adopted usually in the form of scenarios to avoid management bias.
- This information should already be addressed by existing developed standards in the area that
are created by CRIRSCO members. In Canada National Instrument 43-101 provides significant guidance on this information.

- The entity's internal production forecasts are used as a base, but due diligence is conducted by the independent Valuer. Differences, if any, are disclosed in the Valuation Report. The production forecasts are risked by reserve/resource category and also by commodity price risk and by development cost and operating cost risks. Sensitivities are estimated and shown in spider diagrams.

**Question 5.5:** Please indicate what methods you use or are familiar with that fall under the Cost Approach and that are used in valuing assets in the Extractive Industries. Please indicate in your experience how the cost of an equivalent asset is determined and please indicate the three most common adjustments that are made in your experience to reflect physical, functional or economic obsolescence, and what metrics are used to determine these adjustments?

There were 14 respondents to this question and additional comments include;

- Normal cost approach techniques. Cost based on market inference, but with allowance for risk for future exploration and sunk costs, etc. Market approaches, (Value per unit method, Lilford TEM method, NPV DCF, Kilburn method, US$ per ounce, Market capitalization per ounce) Comparable asset valuation methods.
- There are two types of cost for mineral interest: Acquisition Cost and Exploration Cost.
- The assets that are most commonly valued using variants of the cost approach include mining information, plant and equipment (particularly when fixed or difficult to move), and the void for open pits. Physical obsolescence is typically measured with regard to the evolution of the mine plan, functional obsolescence is measured with respect to either modern equivalent capacity measures or differential costs. Economic obsolescence is measured with respect to the value of the mine itself, or scrap/surplus sale values.

**Question 5.6:** Please identify any intangible assets that are normally separately identified and valued; i. In transactions between entities in the Extractive Industries and ii. When accounting for the acquisition of a business in the Extractive Industries.

There were 15 respondents to this question and additional comments include;

- Goodwill and cashflow.
- As per our previous point we prefer to allocate all DCF value to FPPE and Mineral Resources and Reserves. Only when a transaction is above the “Fair Value” or “Market Value” will Goodwill be raised.
- Most common intangibles are the rights (license) to operate and sometime the know-how.
- Generally mining information and occasionally IP, if particular, proprietary, technology is used to develop a resource.
- Intangible assets/liabilities are rarely part of extractive industries unless significant supply contracts/offtakes are in place. Those contracts may be above or below market rates and thus constitute contract assets and liabilities. There may also be agreements in place to acquire services at discounted pricing, such as a marketing arrangement. However, these instances are uncommon and would generally not be subject to different valuation methods than would be seen
in any other industry. Trade names, technology, and customer relationships are not typically valuable within extractive industries due to the commodity nature of the products.

- (i) Geophysical, geochemical & geological data; 2D & 3D seismic information; well logs; and digital models of an ore body. (ii) All of the above.
- Business Valuation Resources publication Benchmarking Identifiable Intangibles and Their Useful Lives in Business Combinations 2nd Edition, identifies for the Mining, Quarrying and Oil and Gas Extraction industry (79 observations) various metrics in respect of customer relationships, noncompete agreements, trade names and trade marks, etc. the following identifiable intangible assets: (i) customer relationships (19.4% of median intangible value as a percentage of sold business value), (ii) noncompete agreements (1.9%) (iii) trade names (3.4%), (iv) Trade Marks and Trade Names (1.5%), (v) favourable contracts (67.8%), (vi) IPR&D (1.6%), and (vii) software (0.4%).
- The identification of "intangible assets" (from accounting terminology) relates to the business of the extractive industries and is usually beyond the competence of a Valuer of mineral assets. In general, there are no intangible assets related to a mineral asset. As an example, a license to extract minerals is valued as part of the value of the mineral asset. Therefore, this question should be referred to a Valuer of business as is already addressed by current IVS.
- The Intangible assets often considered in the Australian mining industry includes permits and approvals, authorisations, favourable or unfavourable contracts, off-take agreements, access to funding, water rights, air rights, access rights, port or rail entitlements, workforce and goodwill. However, very few of these intangibles are separately identified and valued, but moreover are typically bundled together and handled in terms of the project maturity rather than line item dollar estimates.

**Question 5.7:** In your experience what, if any, value is attributed to components of goodwill, eg an assembled skilled workforce, in corporate transactions in the Extractive Industries. Please briefly indicate any valuation techniques used to establish the value of goodwill in such circumstances.

There were 16 respondents to this question and additional comments include;

- Significant, depending on market cycle.
- The assembled workforce is part of goodwill according to our financial reporting standards.
- Occasionally workforce is recognized as goodwill, but in most cases, the value of goodwill is solely related to tax balances generated due to the difference between book and tax base. However, the practice of many miners is to include all residual value in the value of reserves and resources, to recognize the wasting nature of the resource itself, and require amortization accordingly.
- An assembled workforce is not usually considered to have significant value due to the nature of the workforce (i.e. readily available hourly employees). Goodwill (if any) in mining transactions generally relates to the ability to identify additional resources in the future and/or some willingness of the acquiring company to pay for upside on commodity prices. This would-be value that is not captured within the forecast cash flows of the company. In some legal jurisdictions (Western Australia), there have been court decisions suggesting that no goodwill is appropriate and that any upside value is related to the mineral interests. Whether the "additional value" beyond the cash flows of the company is called goodwill or mineral interests, a net asset value (NAV) multiple is a common valuation approach to establish such value. Specifically, it is
common for publicly traded mining companies to be analyzed relative to their NAV. For example, an investment banking firm covering a major gold producer may do research and develop a cash flow estimate for the company. They may then add any other non-operating asset values and deduct liabilities to get an estimate of the NAV of the company. They may then compare the NAV developed to the market cap of the company and determine that there is a gap. If the market cap is 50% greater than the NAV, a 1.5x NAV multiple is implied. Observing implied NAV multiples for similar companies may corroborate additional value or goodwill associated with a transaction. This should also be qualitatively considered. For example, a project that is closed in all directions with no hope of finding additional resources and a short mine life would be unlikely to warrant a large NAV multiple, even if other companies extracting the same material have high multiples. Generally, NAV multiples of greater than 1 are more likely to be associated with precious metals only. This is also where we tend to see the most likelihood for goodwill. Base metal and industrial mineral transactions rarely have any goodwill or unexplained purchase price.

- According to the above BVR reference goodwill in the Mining, Quarrying and Oil and Gas Extraction industry the median business value for goodwill is 29.7% as a percentage of sold business value.
- The identification of "goodwill" (from accounting terminology) and its associated "benefit of bargain" relates to the business of the extractive industries and is usually beyond the competence of a Valuer of mineral assets. In general, there is no goodwill related to a mineral asset. Therefore, this question should be referred to a Valuer of business as is already addressed by current IVS.
- Occasionally, workforce is recognized as goodwill, but in most cases, the value of goodwill is solely related to tax balances generated due to differences between the book and tax bases of acquired assets. However, the practice of many miners is to include all residual value in the value of reserves and resources to recognize the wasting nature of the resource itself and require amortization accordingly.
- The VALMIN Code is restricted to the valuation of mineral assets, not necessarily to business valuation. Goodwill is typically considered in regards to business valuation and as such may not form part of a VALMIN Code compliant valuation. Goodwill is typically identified as the residual of the purchase price from the acquired assets and liabilities assumed. Depending on the commodity, the asset and the owner, goodwill may or may not be present. Certainly, within Australia there has been considerable legal debate recently regarding the presence of goodwill in relation to gold transactions. Rather than adding value via goodwill, examples such as this reduce the discount (e.g. there is a cost in replacing staff) that would otherwise be applied.

Question 5.8: Please provide any examples of which you are aware of significant differences between the value of otherwise similar resources arising solely from different Governmental policies. Please indicate how "country risk" factors are reflected in the way in which you price or value extractive assets.

There were 16 respondents to this question and additional comments include:

- Current mineral and new royalty legislation in South Africa, caused significant changes in value as well as black economic empowerment requirements as part of this legislation.
- You have a Topic “Price and Value” and this should form part of that discussion. In our view, the price is that set by the market being fully informed and freely tradeable whereas the “value” is the business value based upon the operating parameters at a point in time. If Spot inputs are
used the analysts models should align value with price and any arbitrage should be traded out. Without that difference there would be no market. Hence our insistence of “SPOT” as a base case.

- The main issues relate to tax, resource reversion, rehabilitation standards and royalty policy, but also allowance for country risk is common. Taxes, reversion, rehabilitation and royalties usually feature in cash flow estimates but country risk is usually incorporated in discount rate estimates.
- There is a Law in Indonesia that require a foreign mining company to divest part of their shares to the local after several years. If this divested share is bought by SOE or regional government, the value will exclude the reserve and resource elements.
- Many examples could be listed, but the simplest and yet a drastic example is to compare the different values of practically identical petroleum resources on either side of the Pennsylvania/New York State line. These similar oil & gas resources could geologically, technically and marketwise be developed by horizontal drilling followed by hydraulic stimulation (fracking). The market should hypothetically demonstrate similar values for the mineral resource on both sides of the State boundary. However, the State of New York has implemented a policy against this resource development by imposing a policy against fracking. As a result, the market value of the mineral asset on the New York side is only a small fraction of the market value of the identical resource on the Pennsylvania side. The solution recommended by the IIMA to its members is to apply the market approach and adjust from actual transactions to the Subject under valuation. “Country risk” factors are included, in particular when adjusting from comparable mineral asset sales in a different country to the Subject Property under valuation. The approach used may include factors derived from consensus surveys (Fraser Institute Annual Survey, Society of Petroleum Evaluation Engineers Annual Survey of Parameters Used in Property Evaluation) and differences in project insurance premium (MIGA, US Exim Bank, a.o.).
- The main issues relate to tax, resource reversion, rehabilitation standards, and royalty policy, but an allowance for country risk is common. Taxes, resource reversion, rehabilitation and royalties are usually incorporated in cash flow estimates but country risk is usually incorporated in the estimate of the discount rate.
- There are a number of local country issues that need to be assessed by any mining company prior to a new investment in certain countries. Certainty, royalties, taxes and duties are a large impost which vary between countries. The requirement to process materials to certain levels of finished product (work-in-progress) within the country before export may have a significant impact on the profitability of the mining operation in any given country. Others may include transfer pricing policies, tax breaks and holidays, and industrial relations / employment conditions. One measure of the differential is the cost of capital applicable in each of the various jurisdictions.

Extractive Industries Work Schedule

Q4 2017 to TBD  Research and Market Engagement
Chapter 6 – Inventory

The IVSC Boards have observed a number of issues related to the application of the Comparative Sales Method for the valuation of inventories. The Comparative Sales Method is a “Top-down Approach” that begins by estimating the selling price and then subtracts costs of disposal, holding costs, and a profit allowance. When determining the value of work in process (WIP), it is also necessary to include costs to complete the WIP. The IVSC Boards observed a number of different practices in relation to the valuation of each input shown below;

1) Determining the selling price
2) Cost of disposal
3) Cost to complete WIP
4) Reasonable profit allowance
5) Holding/Opportunity Costs
6) Other Issues
   (eg pre-sold inventory, benefits from intellectual property and reconciliation with bottoms up approach)

As such, the IVSC Boards saw the following three discrete alternatives for an Inventory IVS chapter;

**Alternative A – Performance Framework for Comparative Sales Method**
Rather than provide prescriptive guidance on the application of the Comparative Sales Method, Alternative A would set out minimum thresholds for the extent of investigation, analysis, and documentation related to the inputs into Comparative Sales Method. Consistent with IVS 210 Intangible Assets, future standards could outline the Comparative Sales Method, identify the keep considerations and inputs, and develop a performance framework around such.

**Alternative B – Unknown**
At this point the Boards have not identified additional alternatives, pending comments and suggestions from this ITC.

In order to explore the issues with Inventory Valuations the IVSC Boards asked the following questions within the ITC in relation to the valuation of inventories and received the following responses shown below;

**Question 6.1: Should IVS provide separate standards for valuing inventory? Please explain why.**

There were 17 respondents to this question and the majority of comments bar four believed that the IVS should provide separate standards for valuing Inventory. Additional comments include;

- Yes. It is important in financial reporting and valuation for lending purposes.
- This would be helpful as this is often the subject of contention for both financial reporting and tax valuations.
- Inventory valuation is more focused on an organisation activity than on its global value in time. It’s thus a snapshot at a given time of an ongoing present activity while only providing a short time vision. Being different in nature, it appears to be convenient to provide separate valuing
standards.

- We believe standards on the valuation of inventory would be helpful given our observation of diversity in practice.
- The guidance for inventory valuation has primarily evolved in tax literature - very little guidance has been separately developed with respect to fair value measurement for financial reporting. But valuation is not confined to these areas, and so whilst we might support this in principle it would be important for IVSC to address the topic as a cross-cutting issue.

**Question 6.2: What methods for the valuation of inventory do you most commonly see used in practice?**

There were 17 respondents to this question and additional comments include;

- Market approach/DCF NPV.
- In our practice we use IAS 2 and IFRS 5 for financial reporting and IVS 104 and IVS 105 for lending purposes.
- Replacement cost for finished products with defined expiring date.
- The three basic IRS accepted approaches (Cost, CSM and revenue/Income) are seen depending on the objectives of the concerned organisations: taxation, valuation, financing.
- The Replacement Cost Method and the Comparative Sales Method have been applied depending on the valuation purpose, such as transaction purposes including M&As, and also depending on the nature of the inventory.
- Comparable values, break up value, auction value, forced sale versus orderly sale. Valuer needs to be aware of the context; fixed asset for one business might be stock and trade for another.

**Question 6.3: Do you agree with the decision to focus on the application of the Comparative Sales Method? If not, please discuss the other methods that should be included in the performance framework.**

There were 16 respondents to this question and except for two respondents the majority of respondents agreed with the decision to focus on the application of the Comparative Sales Method. Additional comments include;

- We do agree. However, we believe the inclusion of Replacement Cost method for inventory with mid to short expiring time may be worth including.
- We consider that the performance framework should follow the form of the SFAS 141 formulation with worked examples for clarity.
- No, the focus should not only the comparative sales method, but also should address replacement cost.
- Yes as this approach leads to an indication of the most probable selling price for the assets being appraised.
- As the question is made in the context of accounting standards, then we would restate the
underlying principle of Fair Value as defined in our local AASB 13.

- Yes. The comparative sales method is the most prevalent method of the three methods noted above. But any international valuation standard should not seek to prescribe a single method.

The BVB advised that the American Institute of Certified Public Accountants (AICPA) had formed a business combinations task force to review the issue of inventories and were due to issue an initial Exposure Draft in early 2018. Further to discussion it was felt that the IVSC Boards should await publication of the AICPA Exposure before proceeding with further stakeholder engagement to understand the market needs.

**Inventories Work Schedule**

<table>
<thead>
<tr>
<th>Period</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q4 2017 to Q1 2018</td>
<td>Research and Market Engagement</td>
</tr>
<tr>
<td>Q2 2018</td>
<td>Preliminary Drafting</td>
</tr>
<tr>
<td>Q3 2018</td>
<td>Exposure Draft Completion</td>
</tr>
<tr>
<td>Q4 2018 to Q1 2019</td>
<td>Public Consultation and Consultation Review Publication</td>
</tr>
<tr>
<td>Q2 2019</td>
<td>Publication</td>
</tr>
</tbody>
</table>