

**Discovery Investing:
A Crowd Sourcing Approach
to Optimal Investment Decisions**

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Cambridgehouse Natural Resource Symposium

Vancouver BC June 5/6, 2011

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Characteristics of The Discovery Cycle

- All Value begins with discovery.
- Cyclical Wealth Creation: A Discovery **Supercycle**.
- 3 Distinct Classes of Discovery Investments.
- Legacy Creation through the Discovery Cycle
- The **Favorable** Risk / Reward Tradeoff of Discovery.

The 10 Criteria Discovery Factor Model

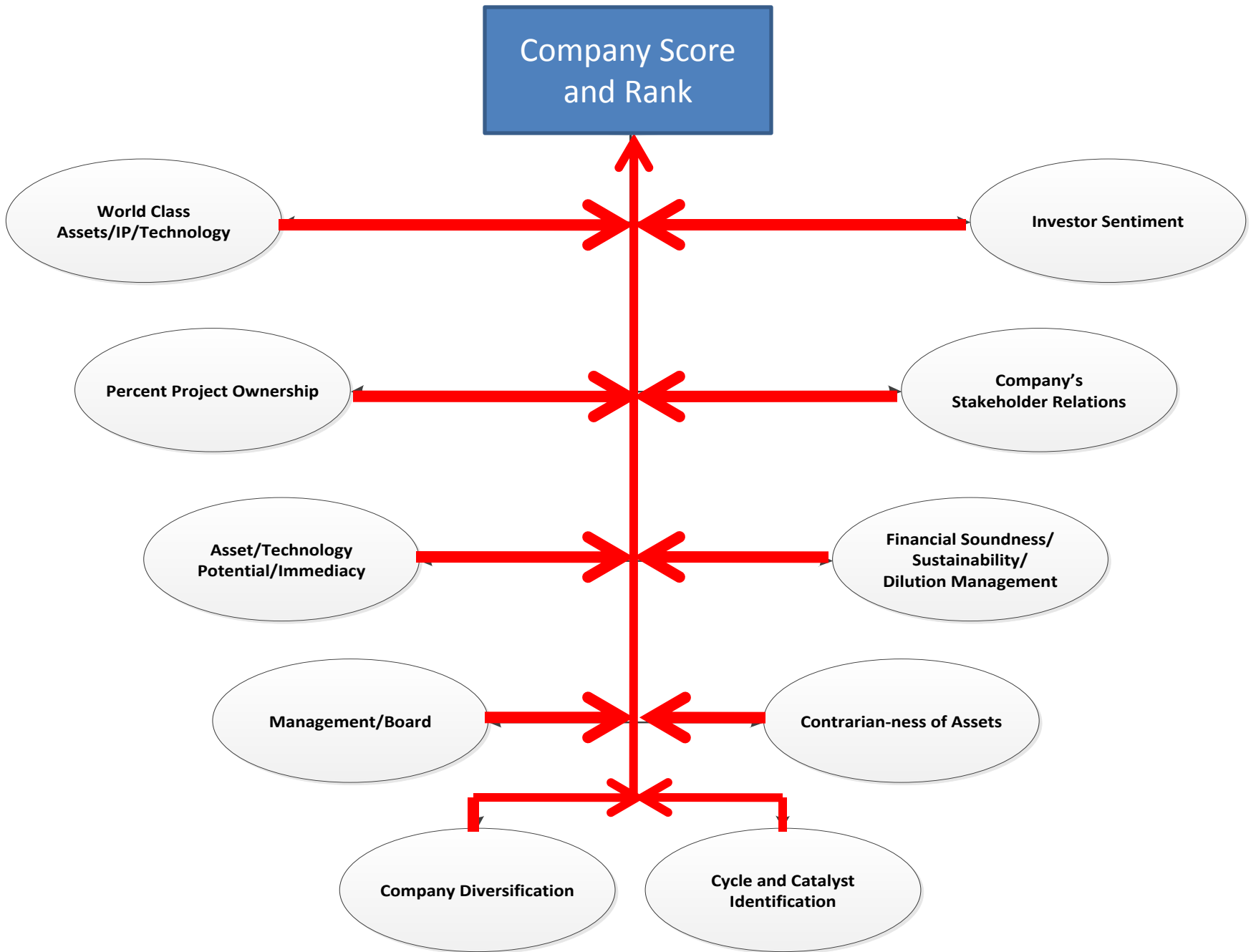
1. **Management and Board track record, ownership, insider buying?**
2. **Do the Assets / IP / Technology have world class potential?**
3. **Does management control the project? Percentage Project Ownership?**
4. **Does the Asset or IP have significant and immediate value potential?**

Additional Factors

5. **Is the Company Diversified:** A portfolio of several assets / technologies?
6. **Is there a supporting Cycle and Value Catalyst?**
7. **Is the company a contrarian proposition, out of favor and beaten down in price?**
8. **Is the company Financially Sound, Sustainable and good at Dilution Management?**
9. **Does the Company's maintain excellent Stakeholder relations?**
10. **Investor Behavior:** Patience and Courage to persist in longer Discovery gestation times

How Do We Evaluate Each Company's 10 Discovery Factors And Rank Companies (Best To Worst) Along With Our Uncertainty About The Rankings????

We use new and powerful mathematics, the Ten Point Factor Model and everyday vocabulary regarding our views of the factors and their importance.



Let's Take An Example Of How To Describe
A World Class Lithium Deposit:

In Other Words, Evaluation of Factor 2
Above For A Lithium Battery Development
Company

A Few First Level Questions

On What Constitutes World Class IP

- What is the Size of the battery Market?
- What Regulatory Barriers are there to Entry?
- What is the Degree of IP Protection?
- What supply Chains are Required / Available?
- Manufacturing, Fabrication, Development – Ease?
- Uniqueness of Technology – Game Changing?
- Strength of Competition?
- Government, Regulatory, Environmental Compliance?
- Project Complexity?

World Class Lithium Battery IP

Questions We Might Ask

- Please note – there **may** be multiple levels to factors (sub factors) as increasing focus and analytical levels obtain.
- The DIS can efficiently role up all these levels of analysis.
- The DIS is open-ended and can be extended or configured for simplicity as required.

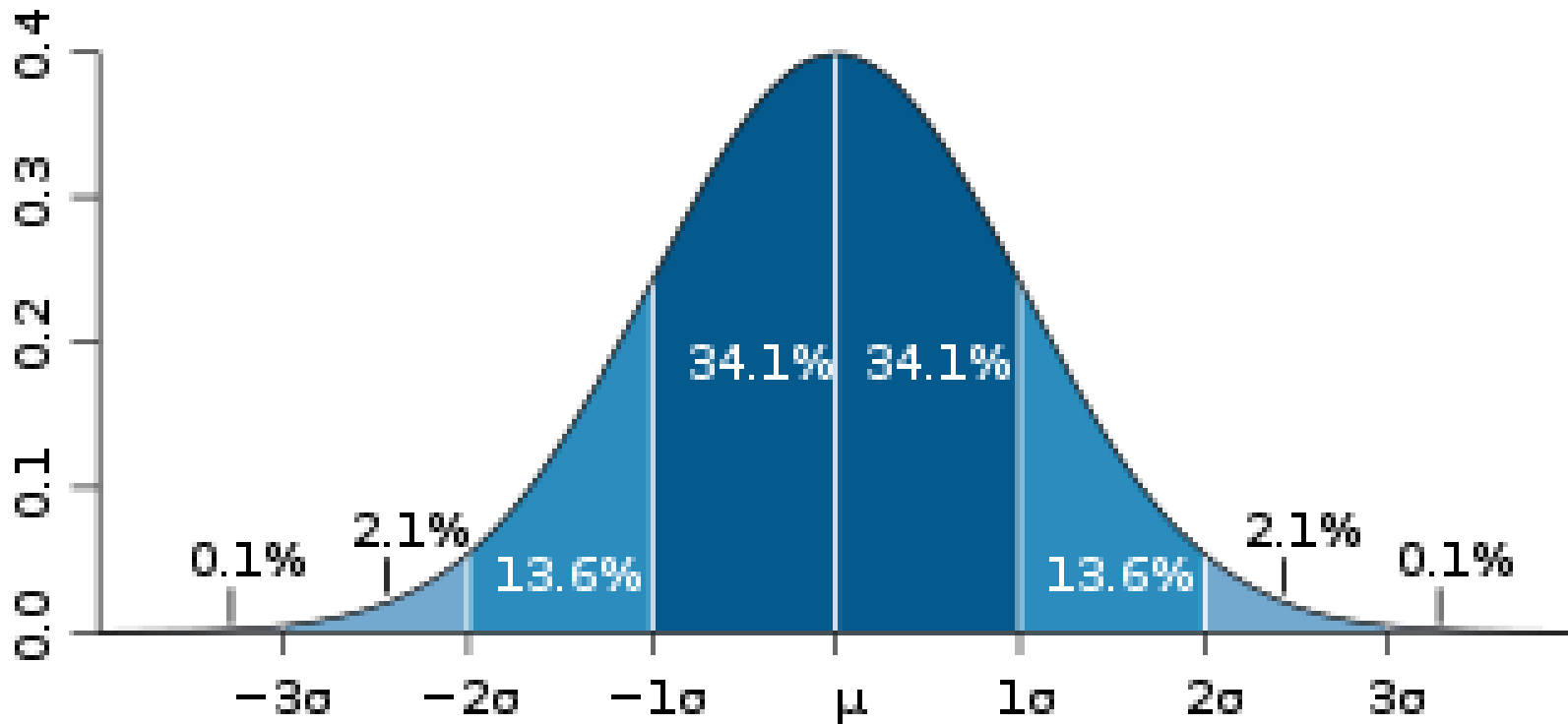
Our Goal: Identify the Top Decile (10%) Future Performers in the Discovery Space

- Example strategy: Buy top / Sell bottom decile of ranked companies.
- Rank companies in 3 separate Discovery groups: **Incubator, Mature, Legacy.**
- Ranking in the Discovery Investing Scoreboard will be daily (real time) through Internet access by multiple users – you included.

The Mathematical Model is Unique and Powerful

- The “fuzzy” mathematical model is unique and powerful. It has not been implemented in a preference choice framework heretofore.
- Humans do poorly in making ultra-precise judgments (i.e. involving multiple decimal places in earnings or a DIS factor).
- Humans are more adept at providing word (adjective) judgments and/or interval ranges for scoring
- Words and intervals, in our approach, introduce the power of imprecision in the analysis.

How Have We Measured Stock Performance?



Are Real World Investing Outcomes
Really Normally Distributed?

Regarding Financial Asset Risk and Return MBA's, CFA's and Money Managers Learn :

- The world is normal with the investment future based on average historical returns and variance
- Historical variance essentially defines risk.
- Discounted cash flows are important
- Discount rates come from quant models such as the CAPM, APT. Beta, systematic risk, and Alpha, excess returns, are meaningless.
- **It is clear this system doesn't capture reality and does not work very well.**

So how do you value a Junior Mining,
Biotech or other micro-cap company that
may not have cash flows, earnings or
assets and may not have a price history

??????

The Discovery Investing Scoreboard: A Stock Evaluation Approach for Everyone

- A new implementation of the Discovery Investing discipline in a math / computer model.
- Translates ordinary vocabulary ratings or interval estimates of grid factors and their importance into stock rankings from highest to lowest.
- Decimal place accuracy of the future such as Company earnings is proven a loser's game

How Do We Implement the DIS?

- **Quantitative Analysis Aided by Crowd Sourcing**
- **Input assessment and output rankings internet-based**
- **Solicited from audiences and Morning Notes readers**
- **Groups /clubs form Discovery “societies”**
- **Analysis / ranking by Independent Money Managers**

Analytics are implemented in a language you understand to represent your degree of uncertainty – for example “moderately high grade” for an ore deposit

We use appropriate vocabularies of adjectives that cover a full range of possible verbal scores.

For example size is described verbally as: very small, small, moderately small, average, moderately large, large or very large.

Features of Discovery Investing Factor Model

- Tangible factors for evaluating discovery companies (10 of the most important factors)
- Importance weighting of each factor
- Verbal evaluations of both factors and weights

Features of the DIS System

Accommodates imprecision in factor scores and importance weights

Use of word evaluations or numerical intervals rather than point estimates of 10-point Discovery grid factors

Internet access for factor evaluations and overall company scores

Access to “crowd sourcing” when evaluating particular factors

Overall company scores are “computed with words”

Fuzzy Math is used to evaluate company rankings and describe the uncertainty (FOUs.)

Real Time ranking of entire universes such as the TSXV.

Footprint of Uncertainty

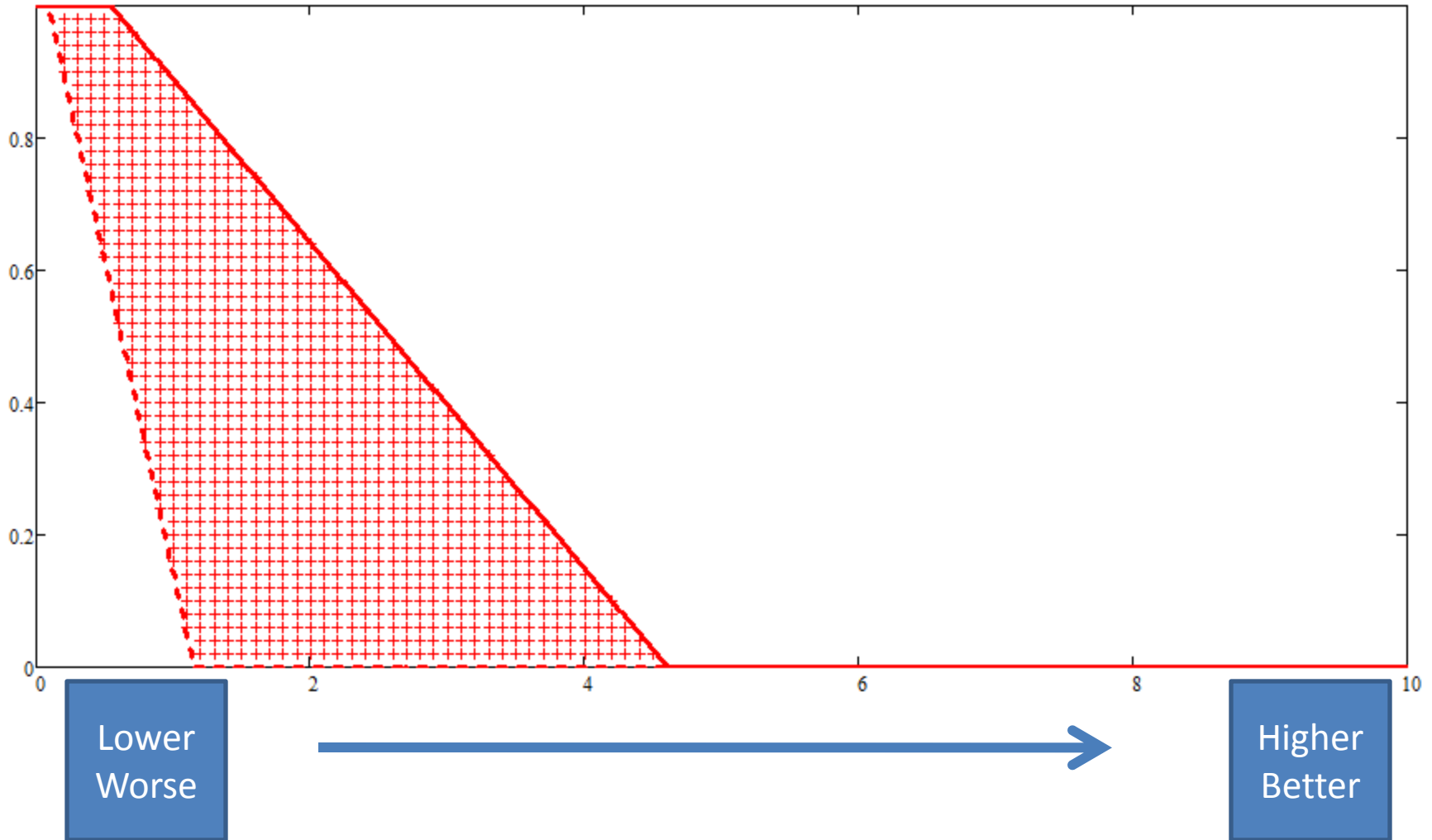
- On a scale from 0 to 10, we use a **“Footprint of Uncertainty”** to represent your imprecise **word** judgments of factors for a company as well as the factor’s importance.
- **We use 7-word vocabularies to evaluate the 10 factors and 4-word vocabularies to evaluate their importance.**
- **These FOU’s were compiled using a large group of subjects. This is a proprietary feature of the Discovery Investing Scoreboard.**

Footprint of Uncertainty

- We can designate certain criteria as **mandatory**
 - Good scores are necessary to produce an overall good score
- Other criteria are **desirable**
 - Good/bad scores produce reward/penalty wrt mandatory score

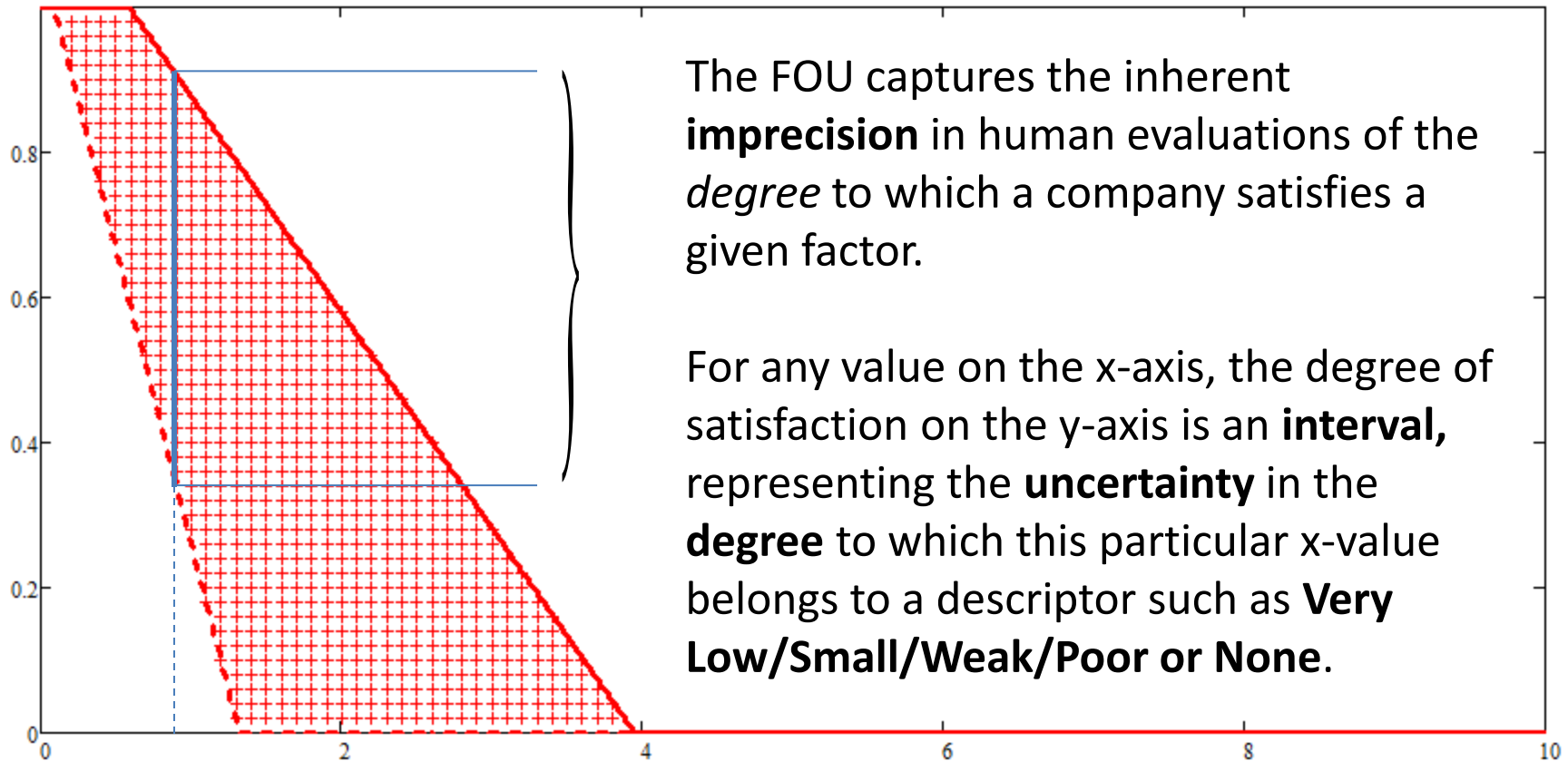
Let's look at some example FOUs,
derived from real, human evaluations
of these words

Footprint of Uncertainty for Importance Weighting “Unimportant”

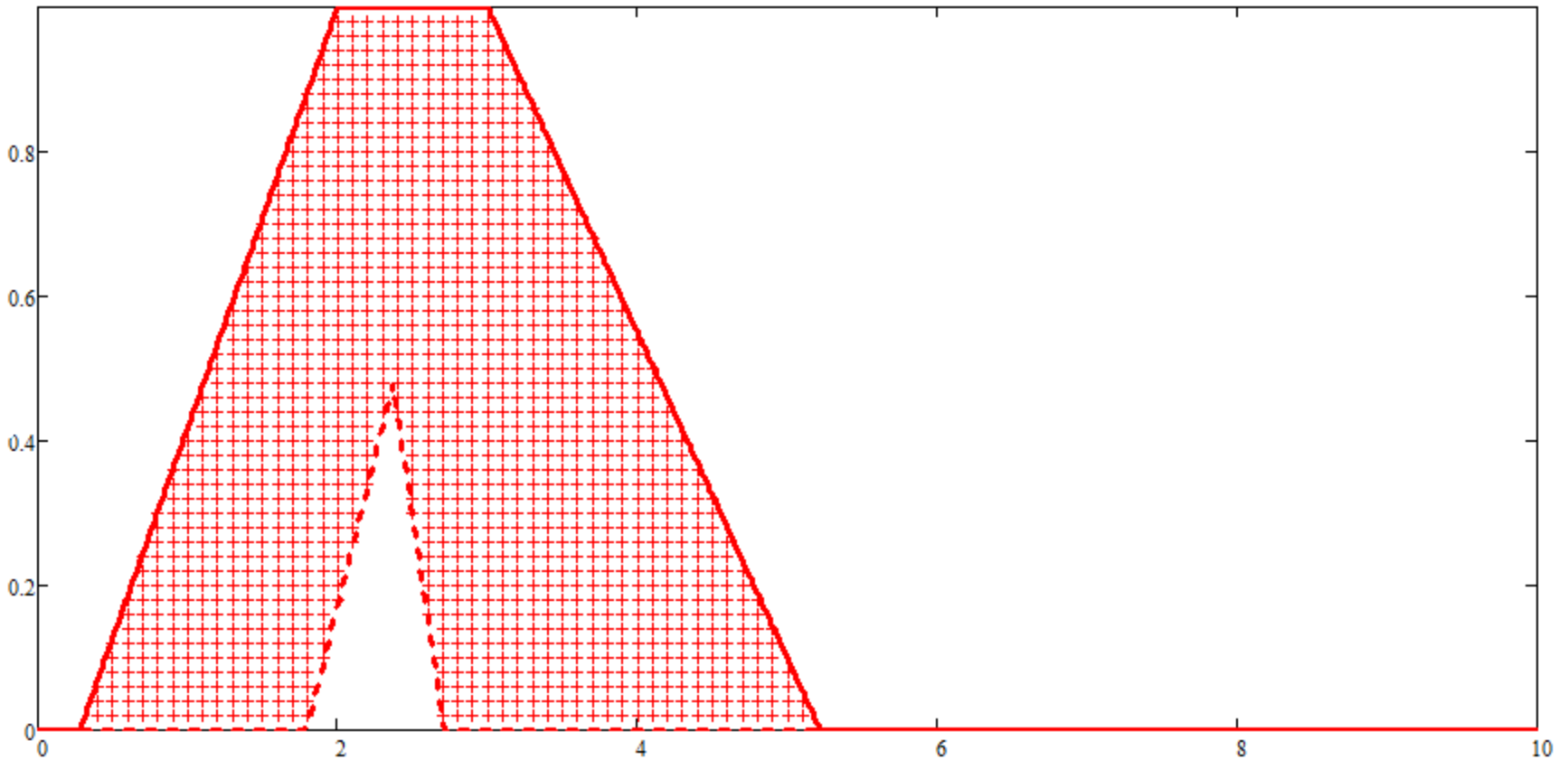


Footprint of Uncertainty for Criteria Scoring

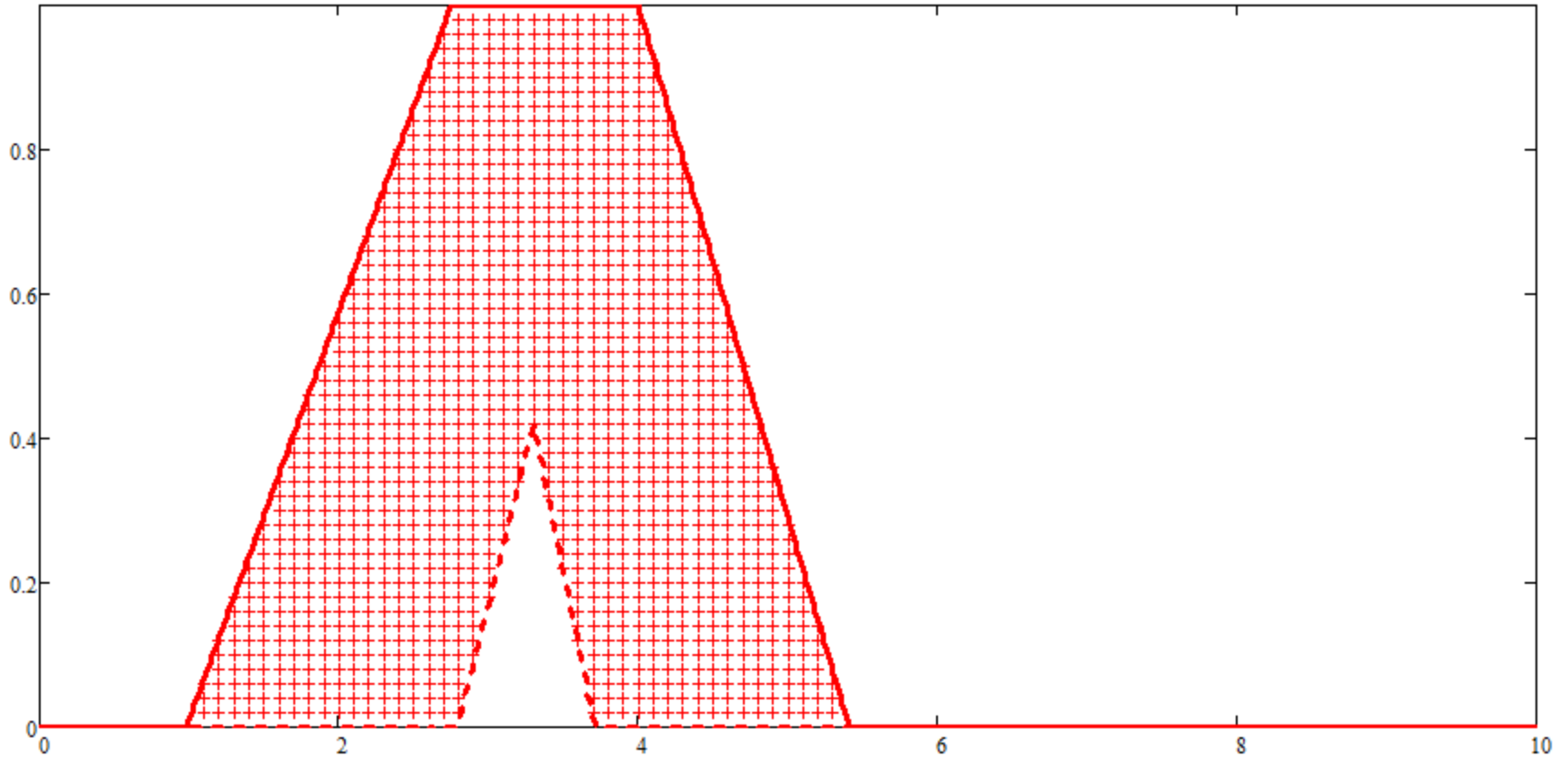
“Very Low/Small/Weak/Poor or “None”



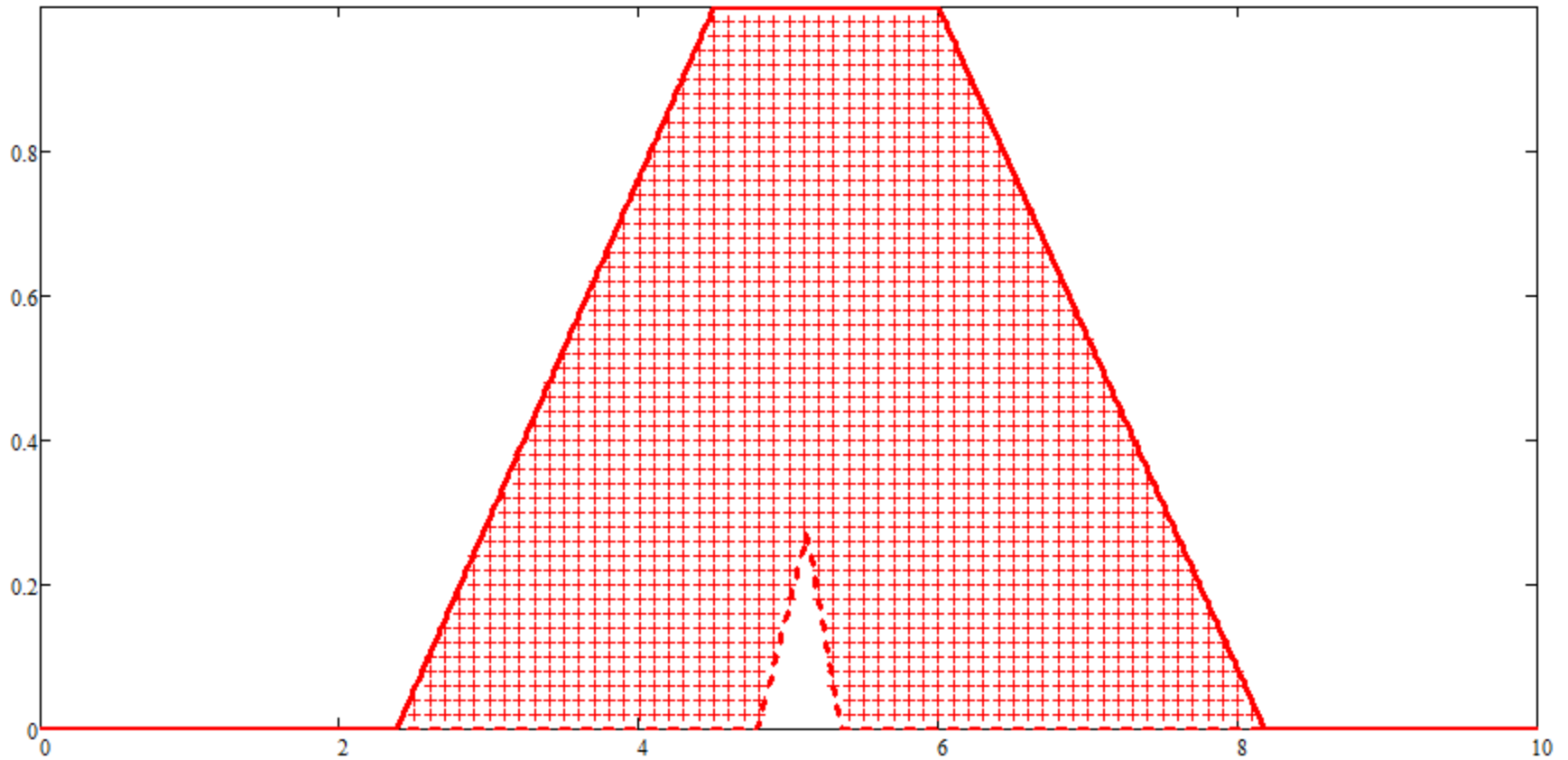
Footprint of Uncertainty for Criteria Scoring “Low/Small/Weak/Poor/Little”



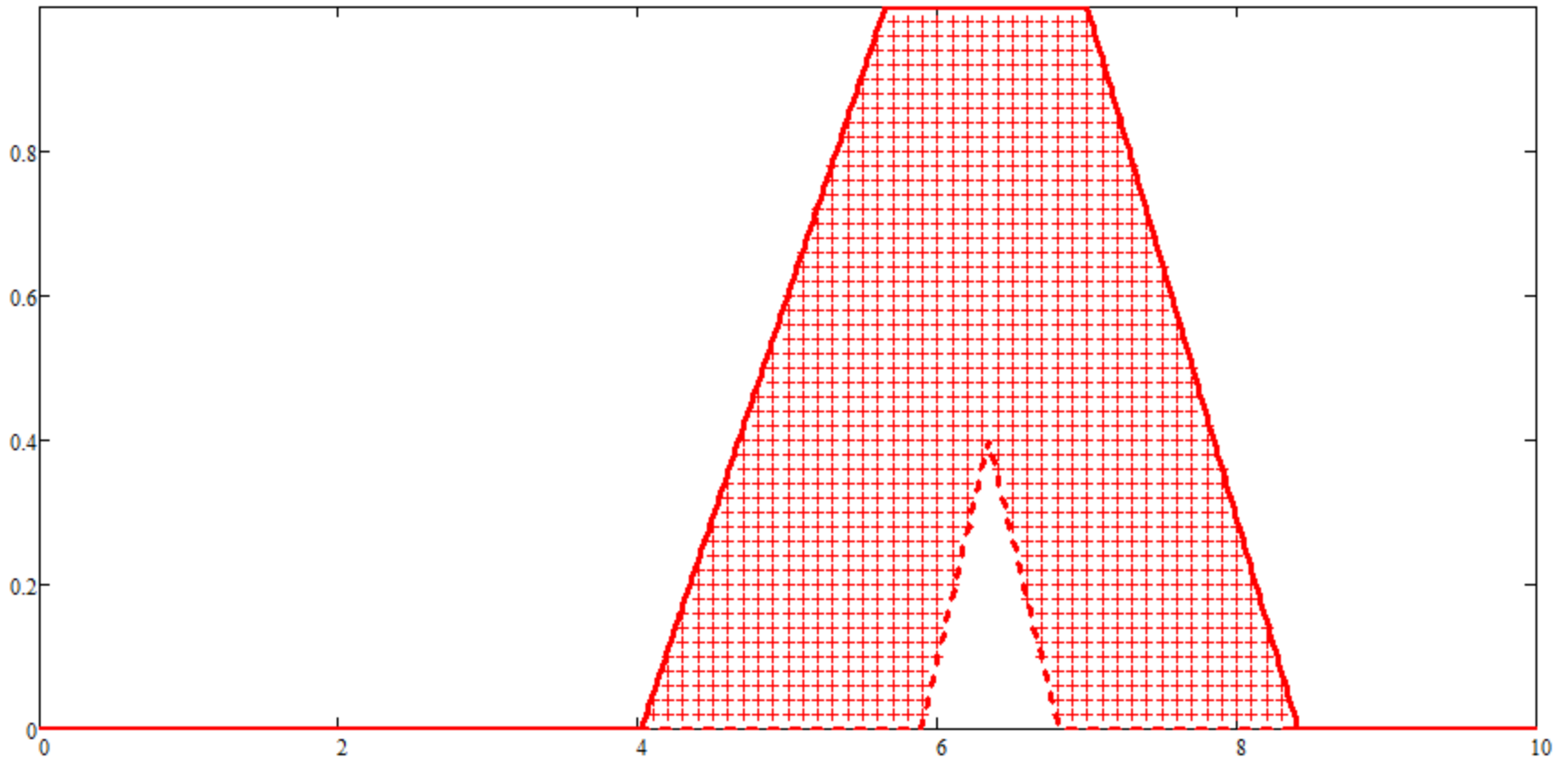
Footprint of Uncertainty for Criteria Scoring “**Moderately** Low/Small/Weak/Poor/Little”



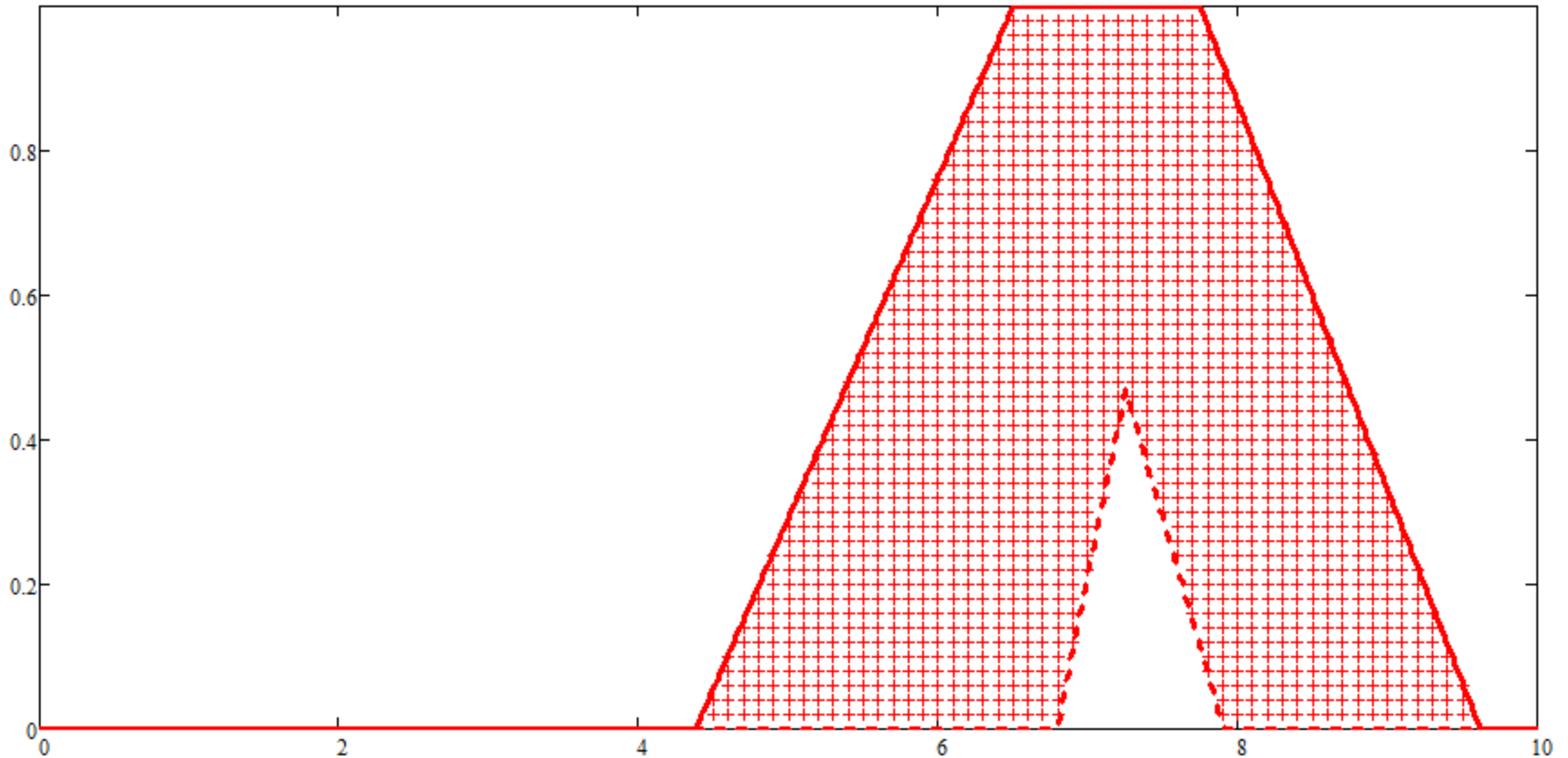
Footprint of Uncertainty for Criteria Scoring “Average”



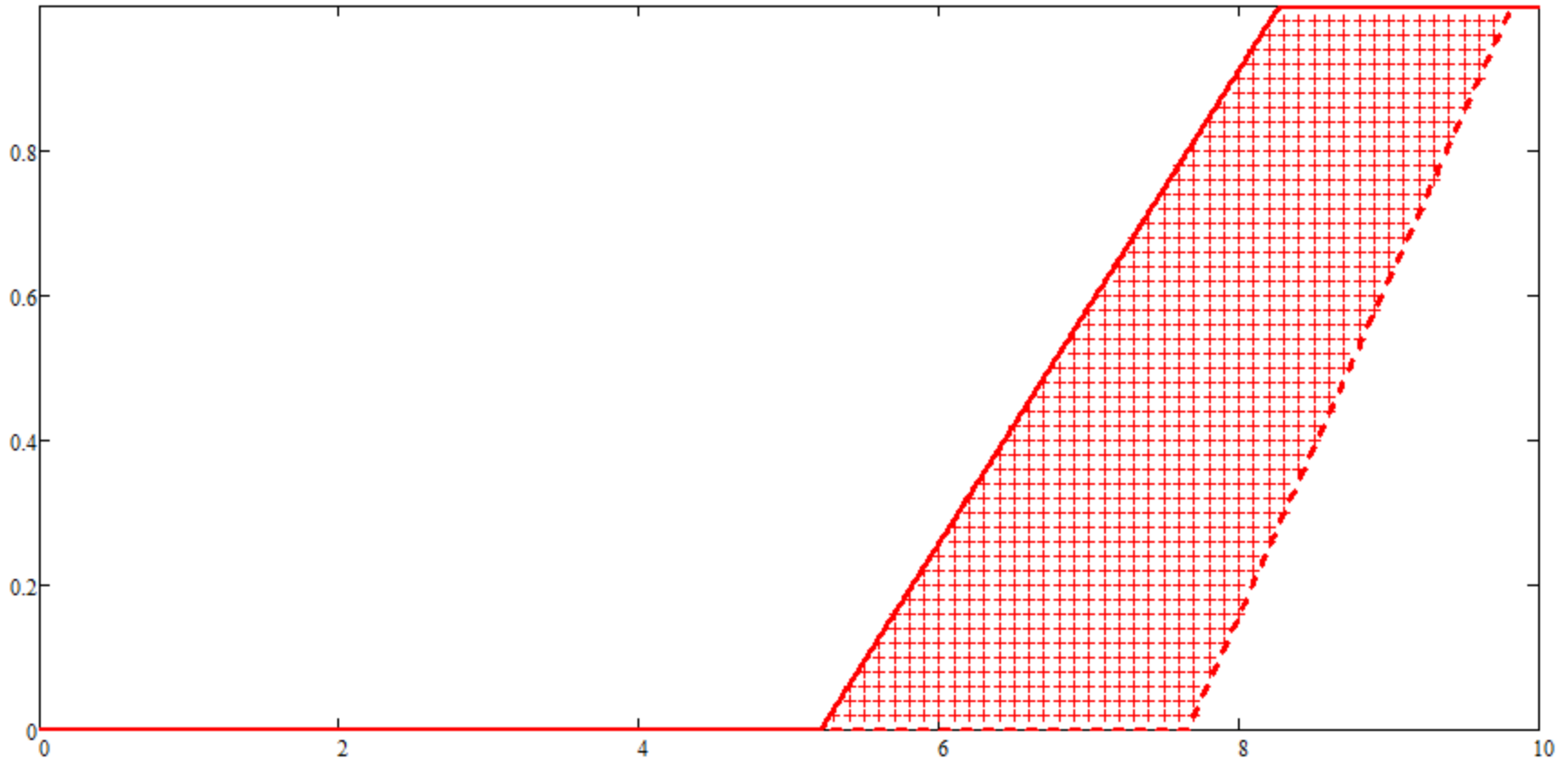
Footprint of Uncertainty for Criteria Scoring “**Moderately High/Large/Strong/Good/Much**”



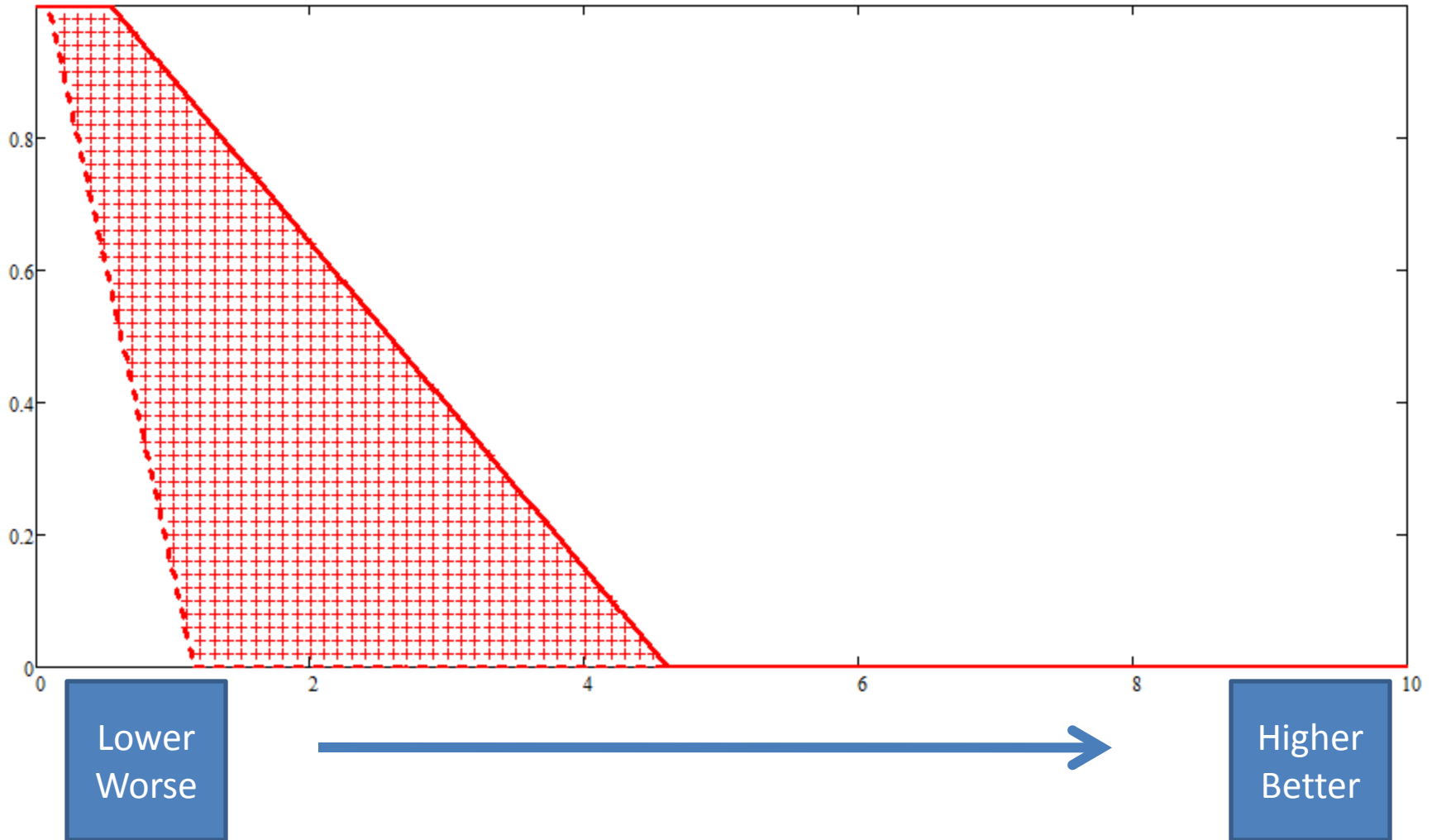
Footprint of Uncertainty for Criteria Scoring “Somewhat High/Large/Strong/Good/Much”



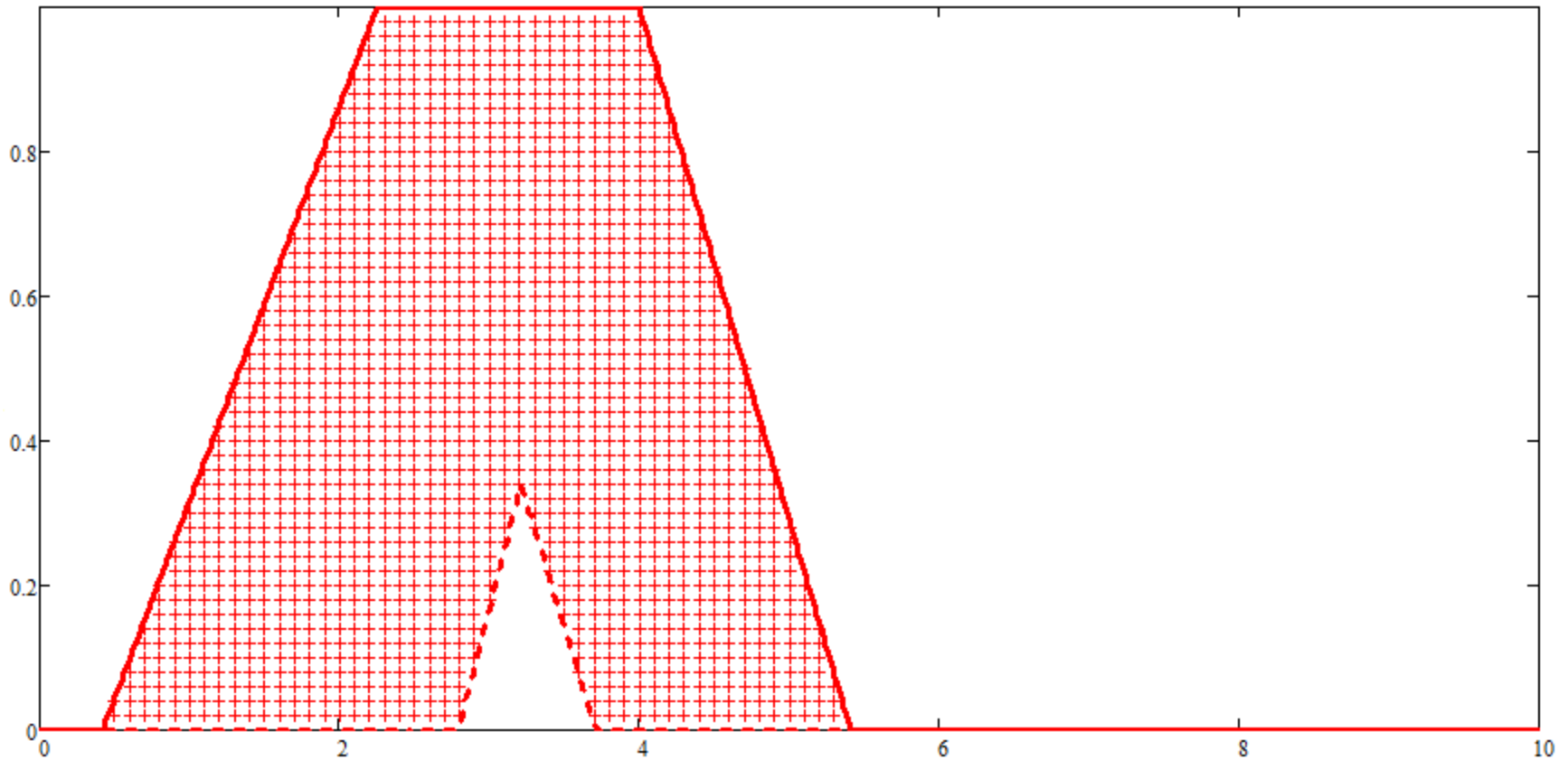
Footprint of Uncertainty for Criteria Scoring “**Very High/Large/Strong/Good/Much**”



Footprint of Uncertainty for Importance Weighting “Unimportant”



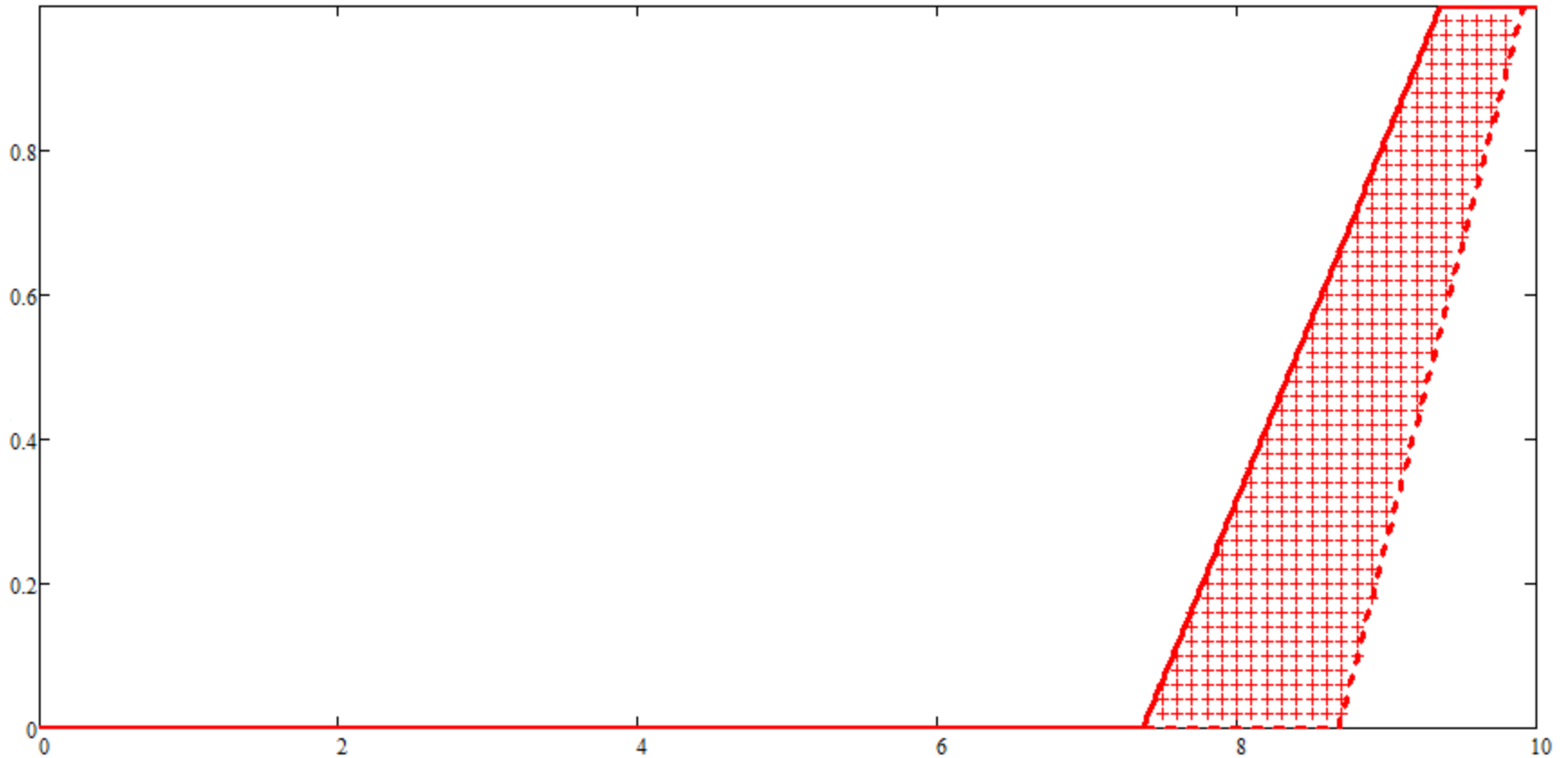
Footprint of Uncertainty for Importance Weighting “More or Less Unimportant”



Footprint of Uncertainty for Importance Weighting “More or Less Important”



Footprint of Uncertainty for Importance Weighting “Very Important”



Example Evaluations

- Two analysts, 3 companies each
- Word evaluations of 10 factors and each factors' importance
- Particular factors are identified as “mandatory” for each company
- “Moderately Strong” conjunction of all mandatory factors required for good overall score of mandatory factors
- “Weak” conjunction of all desired factors required for good overall score of desired factors

Revett Minerals:

Actual Real Word Evaluations of the Discovery Grid

10-Point Grid Criterion	Mandatory? (Y/N)	Criterion Importance	Criterion Score
World Class Asset/IP/Technology	Y	High Importance	High
Percent Project Ownership	Y	Moderately Important	55-70%
Asset/Technology Potential/Immediacy	Y	High Importance	Moderately High
Management/Board	Y	High Importance	Strong
Company Diversification	N	Low Importance	Modestly Diversified
Cycle and Catalyst Identification	N	Moderately Important	Strong
Contrarianness of Assets	N	Low Importance	Low
Financial Soundness/Sustainability/Dilution Mgmt	Y	Moderately Important	Good
Stakeholder Relations	Y	Moderately Important	Good
Investor Sentiment	Y	Moderately Unimportant	Average

Talison Lithium

	Mandatory?	Criterion	Criterion
10-Point Grid Criterion	(Y/N)	Importance	Score
World Class Asset/IP/Technology	Y	High Importance	High
Percent Project Ownership	Y	Moderately Important	85-100%
Asset/Technology Potential/Immediacy	N	Moderately Unimportant	Very High
Management/Board	Y	High Importance	Average
Company Diversification	N	Moderately Important	Modestly Diversified
Cycle and Catalyst Identification	N	Low Importance	Strong
Contrarianness of Assets	N	Low Importance	High
Financial Soundness/Sustainability/Dilution Mgmt	Y	Moderately Important	Very Good
Stakeholder Relations	Y	Moderately Important	Moderately Poor
Investor Sentiment	Y	Moderately Important	Low

Northern Graphite

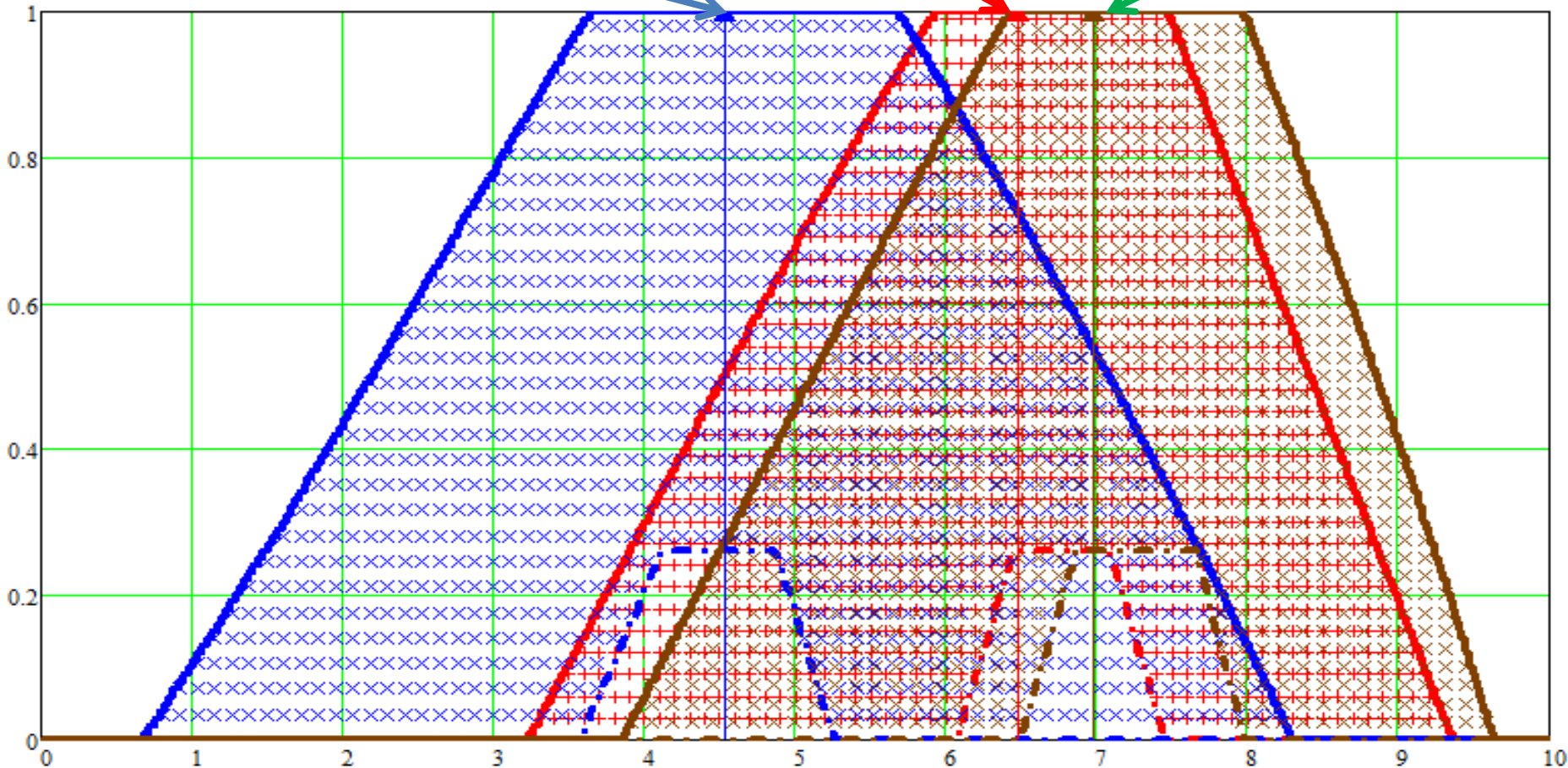
	Mandatory?	Criterion	Criterion
10-Point Grid Criterion	(Y/N)	Importance	Score
World Class Asset/IP/Technology	Y	High Importance	Very High
Percent Project Ownership	Y	High Importance	85-100%
Asset/Technology Potential/Immediacy	N	Moderately Important	High
Management/Board	Y	High Importance	Strong
Company Diversification	N	Moderately Unimportant	Little Diversified
Cycle and Catalyst Identification	N	Moderately Important	Average
Contrarianness of Assets	N	Low Importance	Low
Financial Soundness/Sustainability/Dilution Mgmt	Y	High Importance	Good
Stakeholder Relations	Y	Moderately Important	Good
Investor Sentiment	Y	Moderately Important	High

FOUs and Defuzzified Ranks for 3 Companies: Output of Discovery Investment Scoreboard Evaluations

Talison Lithium Scalar Score 4.5
with Uncertainty Range [2.8, 6.2]

Revett Minerals Scalar Score 6.5
with Uncertainty Range [5.1, 7.8]

Northern Graphite Scalar Score 7.0
with Uncertainty Range [5.7, 8.2]



Rare Earth Company

	Mandatory?	Criterion	Criterion
10-Point Grid Criterion	(Y/N)	Importance	Score
World Class Asset/IP/Technology	Y	High Importance	Average
Percent Project Ownership	Y	Moderately Important	High
Asset/Technology Potential/Immediacy	Y	High Importance	Low
Management/Board	Y	High Importance	High
Company Diversification	N	Low Importance	High
Cycle and Catalyst Identification	N	Moderately Important	Very High
Contrarianness of Assets	N	Low Importance	Low
Financial Soundness/Sustainability/Dilution Mgmt	Y	Moderately Important	Very Low
Stakeholder Relations	Y	Moderately Important	Moderately Low
Investor Sentiment	Y	Moderately Unimportant	Moderately Low

Yukon Junior

10-Point Grid Criterion	Mandatory? (Y/N)	Criterion Importance	Criterion Score
World Class Asset/IP/Technology	Y	High Importance	High
Percent Project Ownership	Y	Moderately Important	Very High
Asset/Technology Potential/Immediacy	N	Moderately Unimportant	Average
Management/Board	Y	High Importance	High
Company Diversification	N	Moderately Important	Very Low
Cycle and Catalyst Identification	N	Low Importance	Average
Contrarianness of Assets	N	Low Importance	Low
Financial Soundness/Sustainability/Dilution Mgmt	Y	Moderately Important	High
Stakeholder Relations	Y	Moderately Important	High
Investor Sentiment	Y	Moderately Important	High

Silver Producer

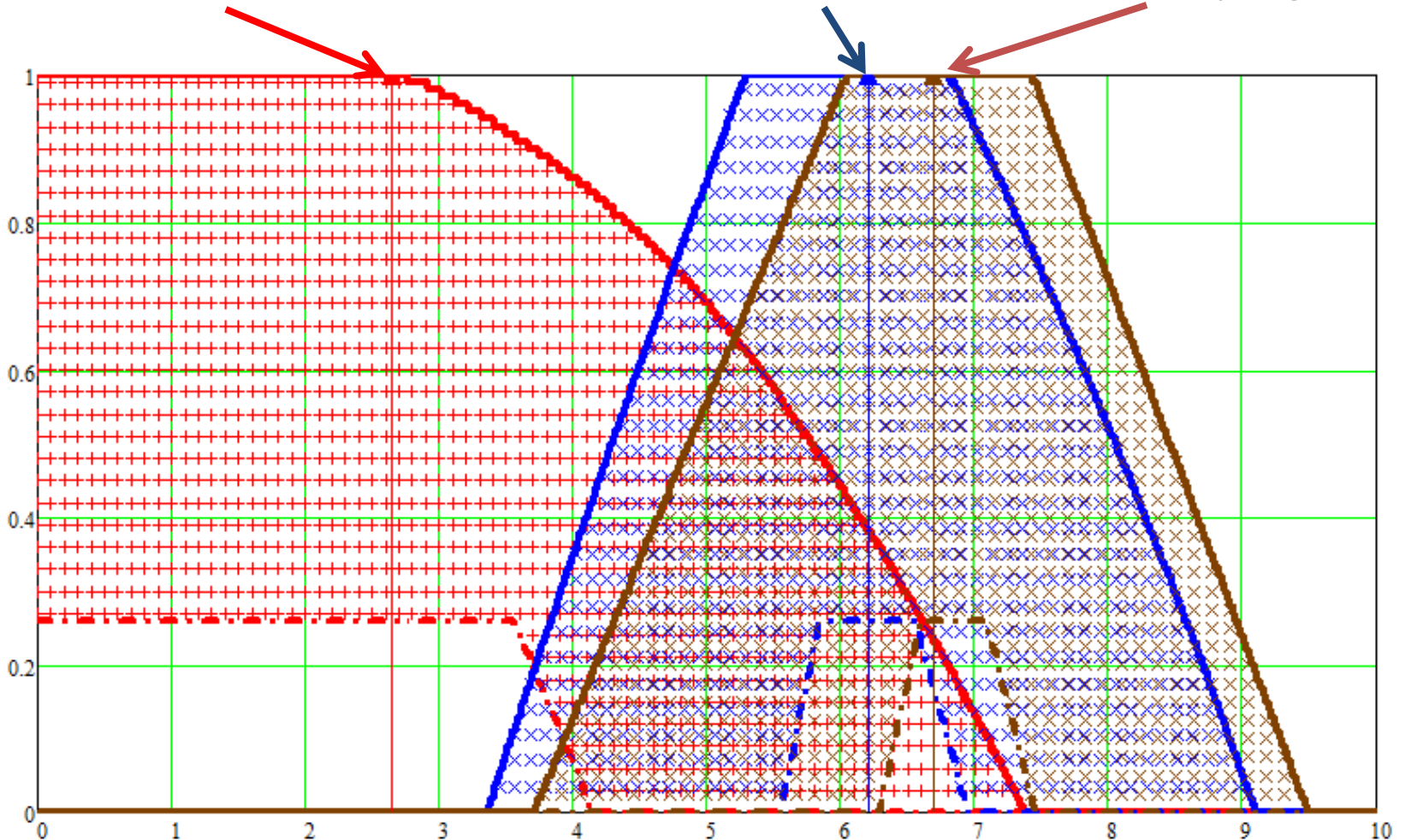
	Mandatory? (Y/N)	Criterion Importance	Criterion Score
10-Point Grid Criterion			
World Class Asset/IP/Technology	Y	High Importance	High
Percent Project Ownership	Y	High Importance	High
Asset/Technology Potential/Immediacy	N	Moderately Important	High
Management/Board	Y	High Importance	High
Company Diversification	N	Moderately Unimportant	Low
Cycle and Catalyst Identification	N	Moderately Important	Average
Contrarianness of Assets	N	Low Importance	Low
Financial Soundness/Sustainability/Dilution Mgmt	Y	High Importance	High
Stakeholder Relations	Y	Moderately Important	High
Investor Sentiment	Y	Moderately Important	High

Footprints of Uncertainty and Defuzzified Scores for 3 Companies

Rare Earth Co. Scalar Score 2.6
with Uncertainty Range [1.3, 4.0]

Yukon Co. Scalar Score 6.2
with Uncertainty Range [5.0, 7.5]

Silver Producer Scalar Score 6.7
with Uncertainty Range [5.4, 8.0]



Summary of Benefits of the New “10-Point Grid on Steroids”

- Users input **word evaluations** of factors and their importance
- Users can appeal to the “crowd” for factor evaluations and overall company scores
- Users can designate any set of factors as **mandatory**, the rest **desired**
- Users can designate the **strength of conjunction** of mandatory / desired factors
- Outputs can be viewed as **full FOU**s, or as **defuzzified scalar scores** with **uncertainty ranges**
- **January 2012: Ride the Revolution in Discovery Investing!**