



# Results based evaluation on the appraisal process of a technology transfer program;

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based on JST's Contract Development program

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# Brief description of the program

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- ◆ JST supports technology transfer with Contract Development Program for 50 years.
- ◆ This program does not come under grant funds; rather, it is a loan. We call it a “risk-free fund.”
- ◆ Technology target is set at the start of a project. If the target is achieved, the contracted company has to repay the fund; if not, repayment is exempted.

# Promoting technology transfer

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## ◆ Gallium nitride (GaN) blue LED



## ◆ Human interferon-beta (IFN- $\beta$ )



# Outline of the analysis

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- ◆ Target of the evaluation: peer review process
- ◆ Results-based evaluation (since reviewers are authorities in their area)
- ◆ Time frame considered
- ◆ Retrospective analysis (3y or more)

# Outline of the data source

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- ◆ Program: JST's Contract Development Program
- ◆ Year (projects applied in): 2003
- ◆ No. of applications: 99
- ◆ No. of adoption: 20
- ◆ Primary survey: 03 / 2010
- ◆ Final survey: 09 / 2011

# Correction of the abstract

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- ◆ Number of the analyzed projects are 99. Instead of selecting projects, we decided to analyze all that were applied in 2003.
- ◆ According to the final survey, the influence of "A plus" is NOT significant.

# Methodology

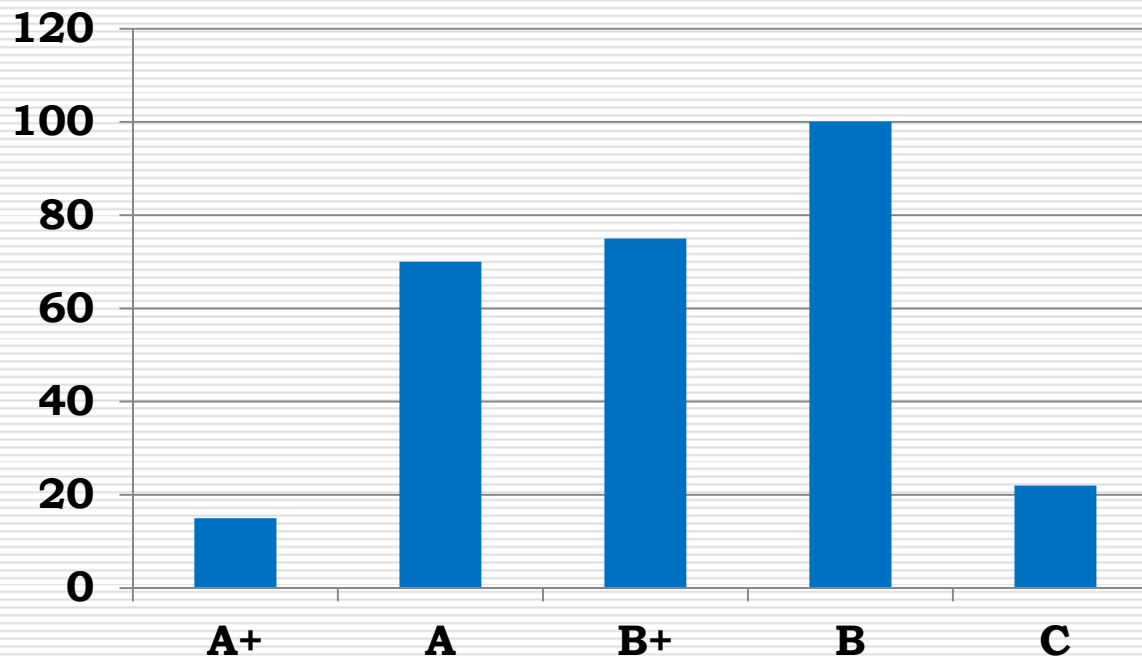
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- ◆ Data collection: Multiple way, (tracking patents, following application, interview, etc.)
- ◆ End point: Commercialization (prospect of commercialization)
- ◆ Scoring in appraisal: A, B, C including voluntary A+ and B+
- ◆ Scoring for the output: S, A, B, C, D

# Scoring in appraisal

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- ◆ A for "Excellent", B for "Good enough", C for "Poor".



**Fig.1 Distribution of the scoring (ABC)**



# Scoring for the output

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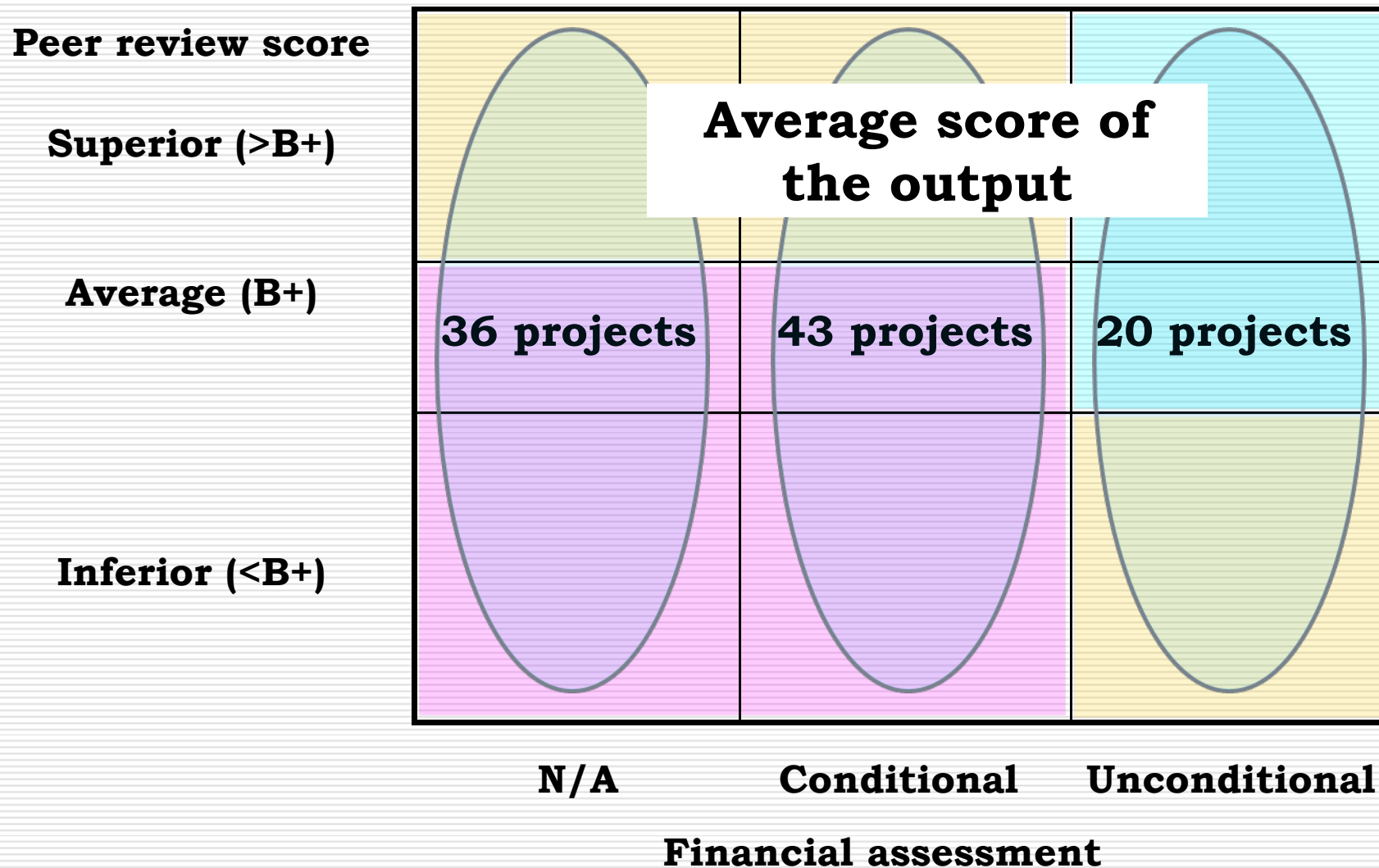
- ◆ Skewed (10 point for "S", 5 for "A", 2 for "B", 1 for "D", zero for "D")
- ◆ Empirical (top 10% of projects earns 90% of economical output)
- ◆ Outcome is not counted (to avoid complexity)

# Financial assessment

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- ◆ Essential part of the appraisal (since it is a loan)
- ◆ Independent from and superior to the peer review committee
- ◆ Outsourced
- ◆ Criteria: Unconditional, Conditional, Not Applicable (venture company)

# Result



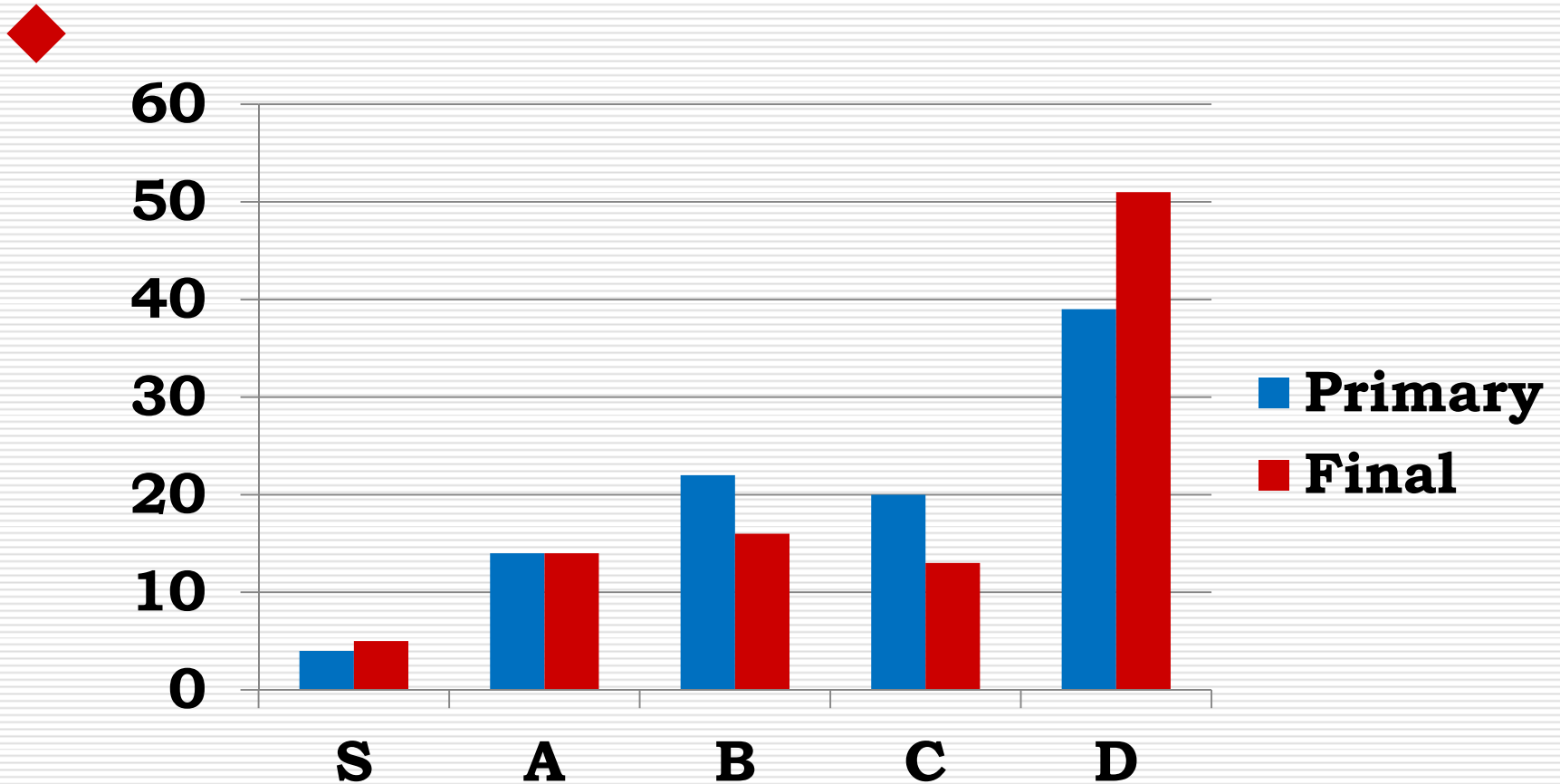
# Result (primary survey)

|   |                          |                                  |                                    |
|---|--------------------------|----------------------------------|------------------------------------|
| <b>Superior (&gt;B+)</b><br><b>28%</b>              | <b>2.7</b>               | <b>2.1</b>                       | <b>3.3</b>                         |
| <b>Average (B+)</b><br><b>25%</b>                   | <b>0.4</b>               | <b>1.7</b>                       | <b>4.3</b>                         |
| <b>Inferior (&lt;B+)</b><br><b>7%</b>               | <b>0.8</b>               | <b>0.5</b>                       | <b>2.6</b>                         |
| <b>Probability of commercialization (S+A/total)</b> | <b>N/A</b><br><b>19%</b> | <b>Conditional</b><br><b>12%</b> | <b>Unconditional</b><br><b>30%</b> |

# Result (final survey)

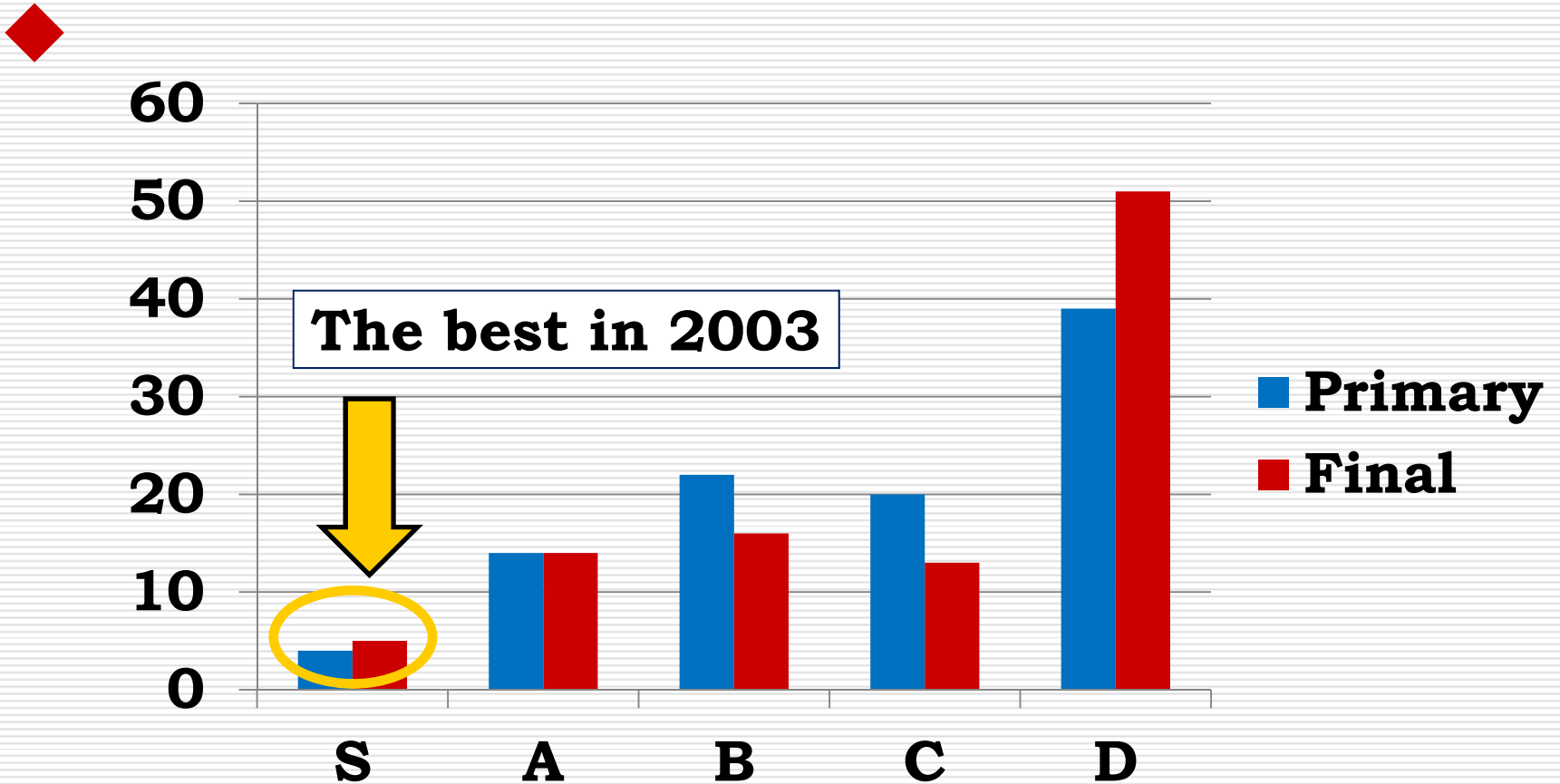
|   |                          |                                 |                                    |
|---|--------------------------|---------------------------------|------------------------------------|
| <b>Superior (&gt;B+)</b><br><b>33%</b>              | <b>2.3</b>               | <b>1.8</b>                      | <b>4.0</b>                         |
| <b>Average (B+)</b><br><b>25%</b>                   | <b>0.0</b>               | <b>0.0</b>                      | <b>5.0</b>                         |
| <b>Inferior (&lt;B+)</b><br><b>7%</b>               | <b>0.8</b>               | <b>0.4</b>                      | <b>2.5</b>                         |
| <b>Probability of commercialization (S+A/total)</b> | <b>N/A</b><br><b>17%</b> | <b>Conditional</b><br><b>9%</b> | <b>Unconditional</b><br><b>45%</b> |

# Frequency distribution



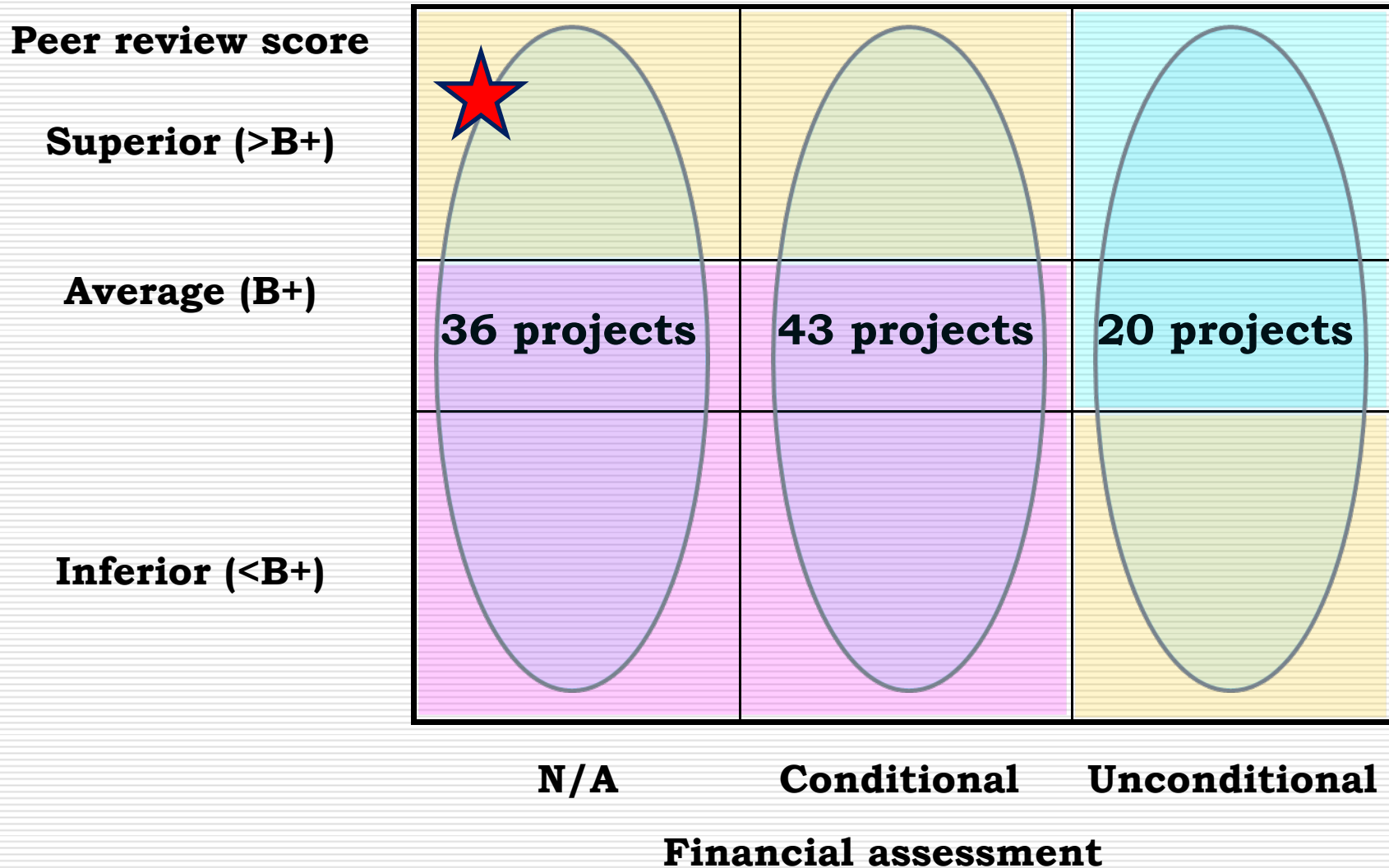
**Fig.2 Distribution of the scoring (SABCD)**

# Frequency distribution



**Fig.2 Distribution of the scoring (SABCD)**

# The best in 2003 (without A+)





# Conclusion

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- ◆ Peer review worked properly in general
- ◆ No significant influence by A+
- ◆ Symmetrical distribution obtained with A+ (regionality)

