
An Industry Perspective on Technology Transfer & Dow Study of IP Terms

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Modes of Technology Transfer from Universities to Companies

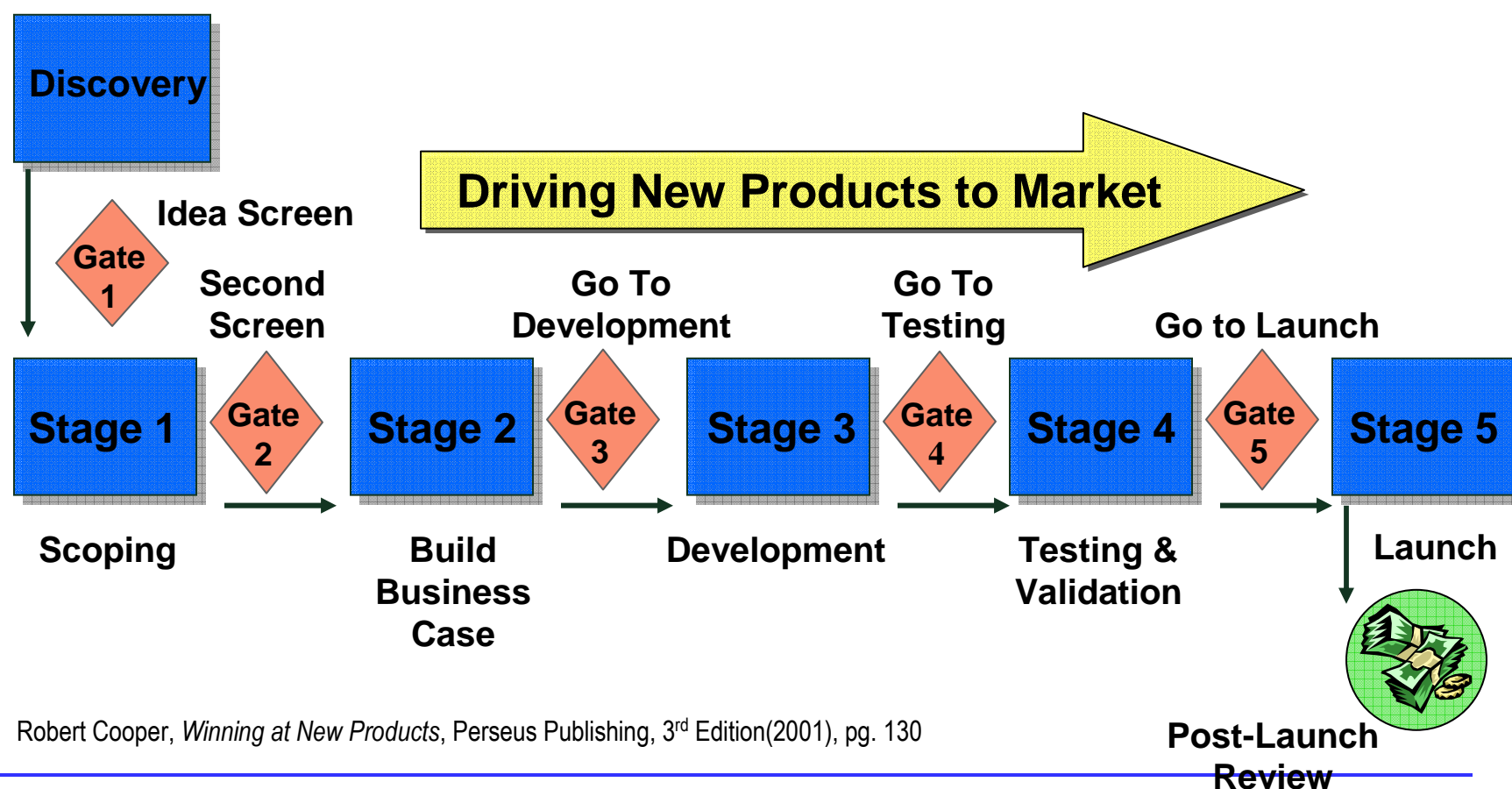
Primary

- Publication/presentation of research in journals and at conferences
- Hiring graduates

Secondary

- Research collaborations/sponsored research
- IP licensing

Typical Stage Gate Process for New Product Development



Robert Cooper, *Winning at New Products*, Perseus Publishing, 3rd Edition(2001), pg. 130

Why Companies Engage in External Research Partnerships

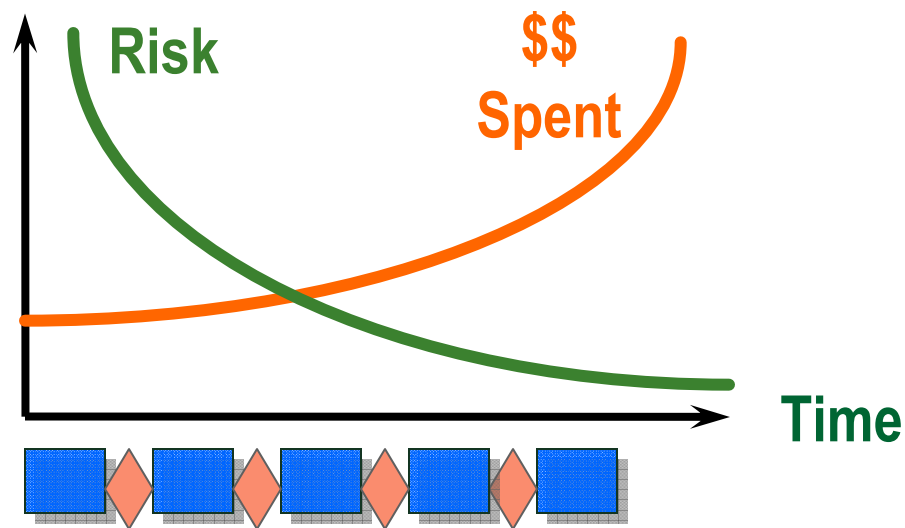
■ External partnerships should:

□ enhance the success in internal R&D

- improve profitability through the application of science & engineering to improve current processes/products or develop new processes/products
 - increase understanding of relevant technologies
 - provide access to capabilities or tools
 - increase speed of research progress
 - validate approach or suggest alternatives
 - support workforce development
 - improve competitive advantage (IP may be important)

Stage Gate Approach

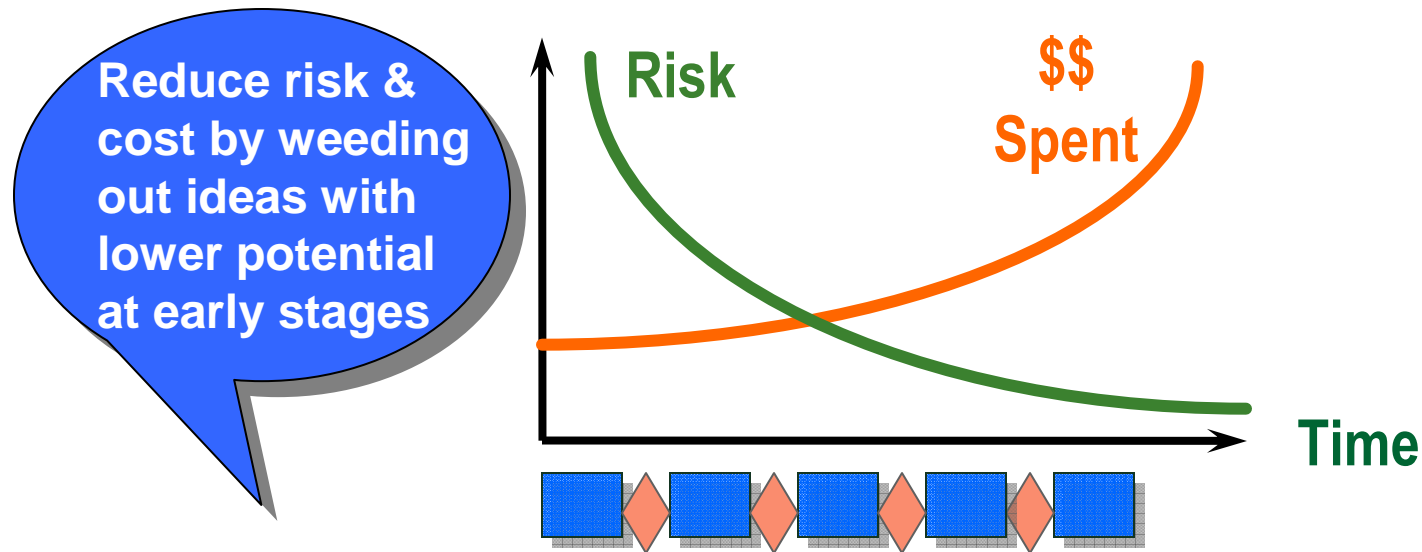
■ Improved Risk Management



“Assessment before Investment”

Stage Gate Approach

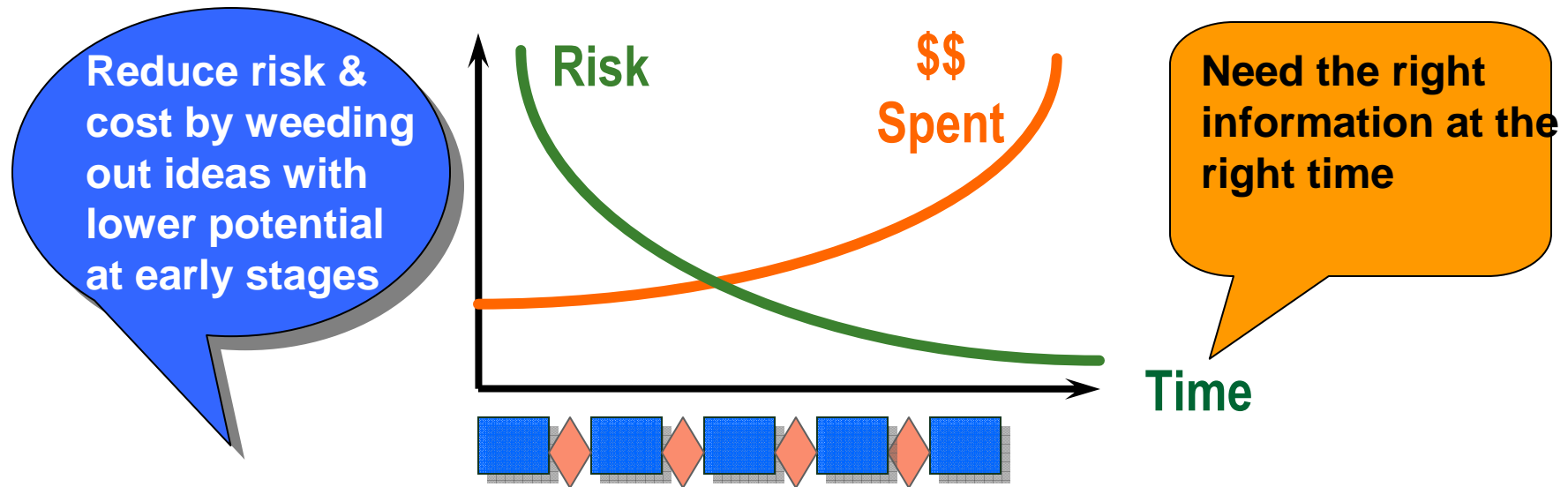
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“Assessment before Investment”

Stage Gate Approach

■ Improved Risk Management



“Assessment before Investment”

Industry Concerns With Sponsored Research Agreements

- Uncertainty of access to foreground IP
 - desire an assured right to practice
 - Time to reach agreement
 - balance protection of interests against window of opportunity
 - Protection of confidential information
 - preserve competitive advantage
 - Access to university-owned blocking background IP (BIP)
 - obtain right to use results of sponsored project
-

Industry Research Sponsorship Involves More Than Just Dollars

- What corporate sponsor may be providing
 - Context for the research project
 - Framing the problem on the basis of:
 - Product knowledge
 - Market knowledge
 - Process/manufacturing knowledge
 - Non-commercial materials or prototypes
 - Results from company-performed research
 - Background knowledge & BIP
 - Validation/testing of university results
 - Funding
-

Why Companies Worry About IP from Sponsored Research Projects

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 - Be unable to use technology developed with its R&D funding (bad research investment – no value created)
 - Have to pay licensing costs that make commercialization unattractive (bad business decision – value not maximized)
 - Find that the university decides to license the technology to a competitor (**worst nightmare – shareholder value destroyed**)
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Dow Study of IP Terms in Sponsored Research Agreements

Purpose of the Study

- Get beyond anecdotal comparisons
- Generate meaningful data for discussion

Background Information

Data Set Used for Statistics

- Sponsored research agreements from Dow's central External Technology database
 - includes only bilateral agreements with universities initiated during the period 1993-2003
 - excludes atypical agreements (e.g., where a separate license agreement was in effect) and agreements for testing services
 - includes only agreements administered from the US for US-based clients from both corporate and business R&D groups

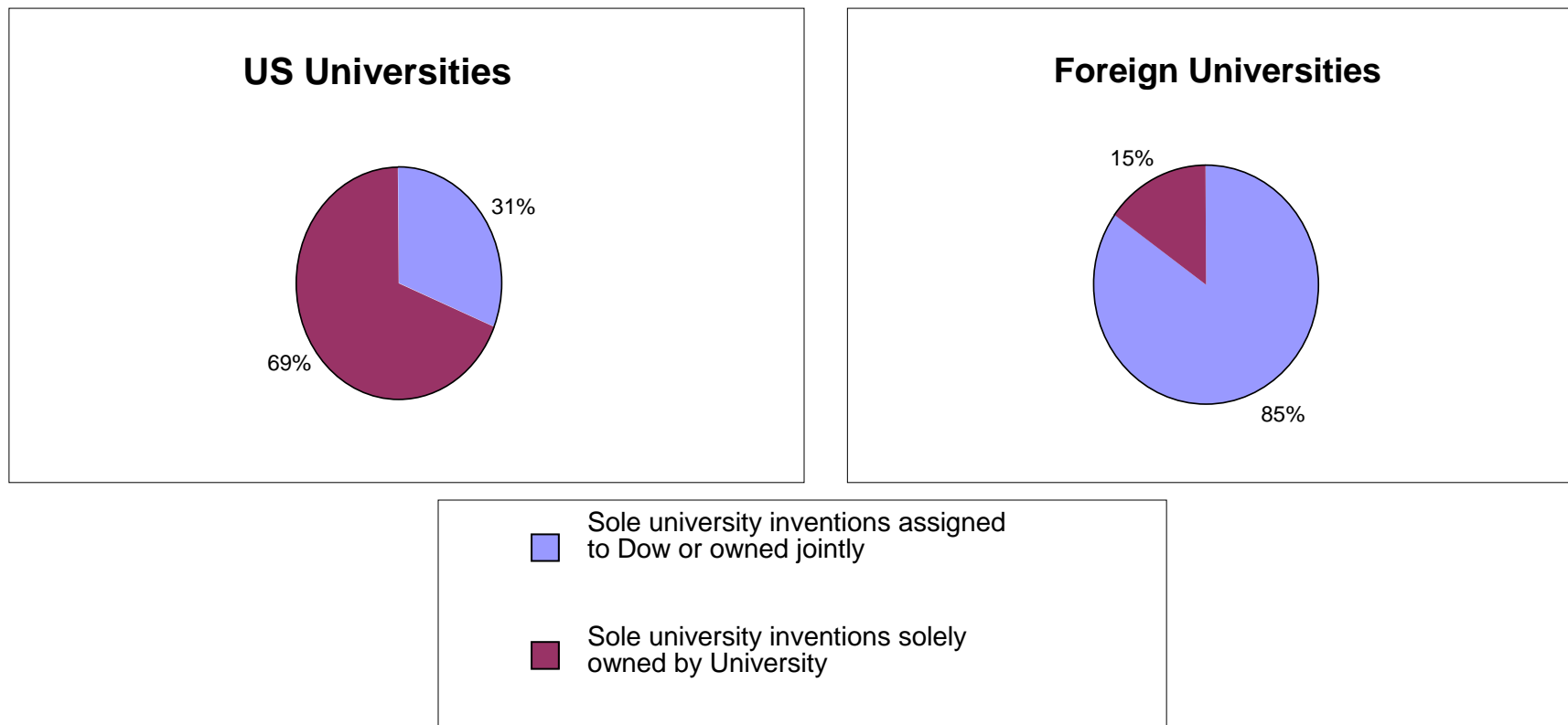
Background Information

Data Set Used for Statistics

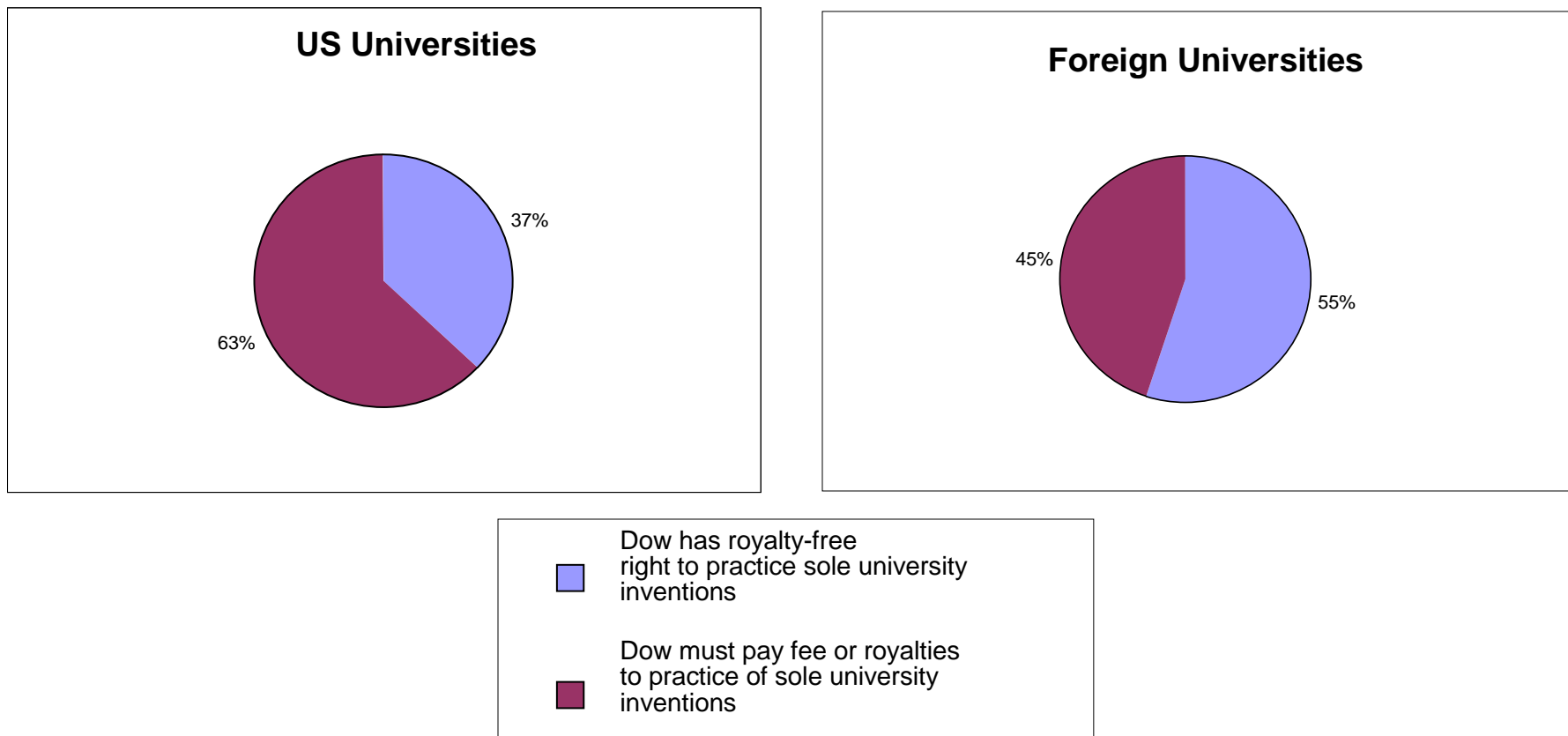
- ❑ includes more than 100 agreements
- ❑ includes agreements from more than 65 universities, more than one quarter are foreign
- ❑ countries represented by foreign universities include Canada, UK, Belgium, Germany, Netherlands, Russia, Poland, China, Japan, Australia

Comparison of Terms: US Universities Versus Foreign Universities

Ownership of Inventions Resulting from Sponsored Research



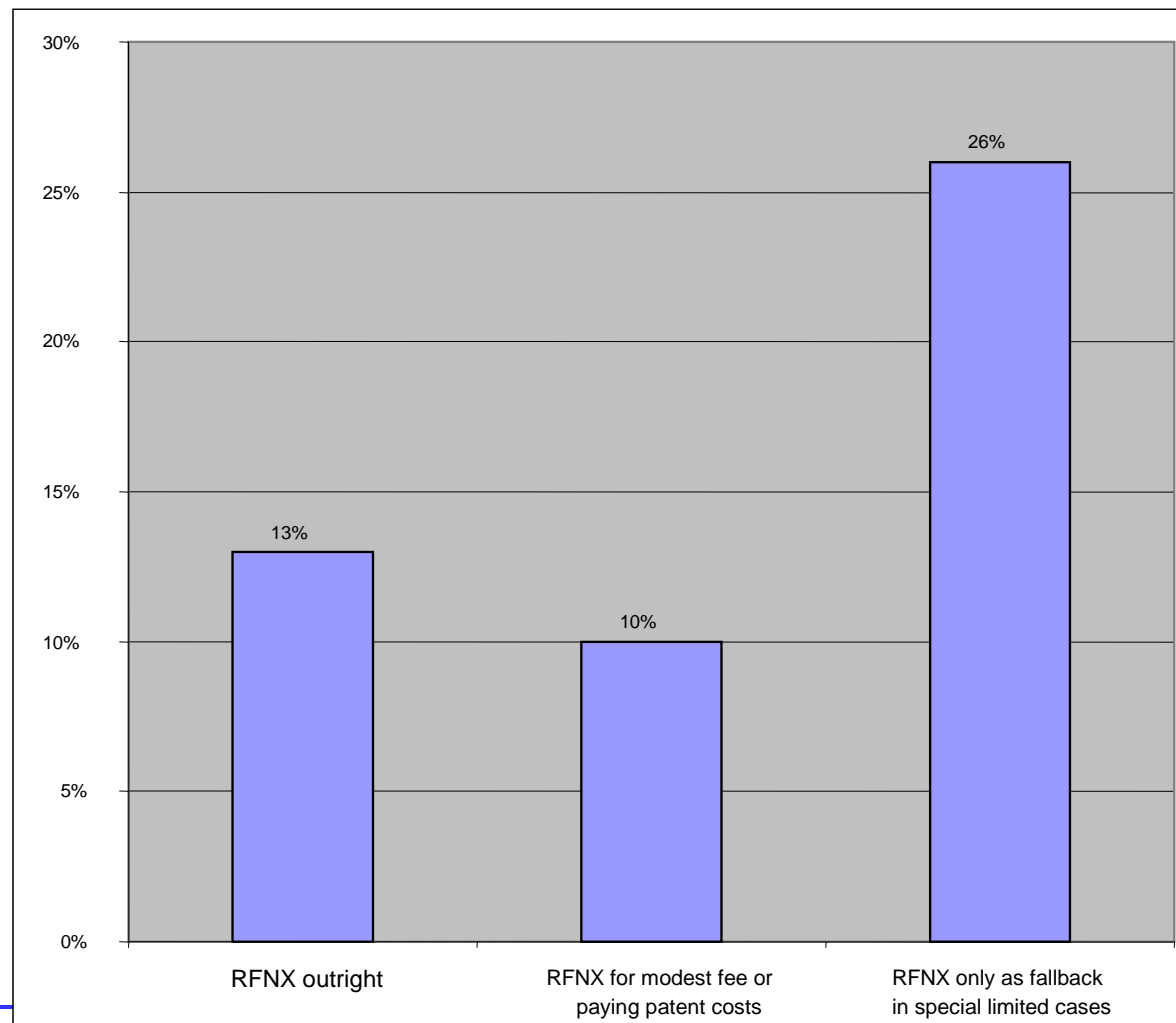
Cost of Practicing University Inventions Resulting from Sponsored Research



Comparison of Terms for US University Agreements

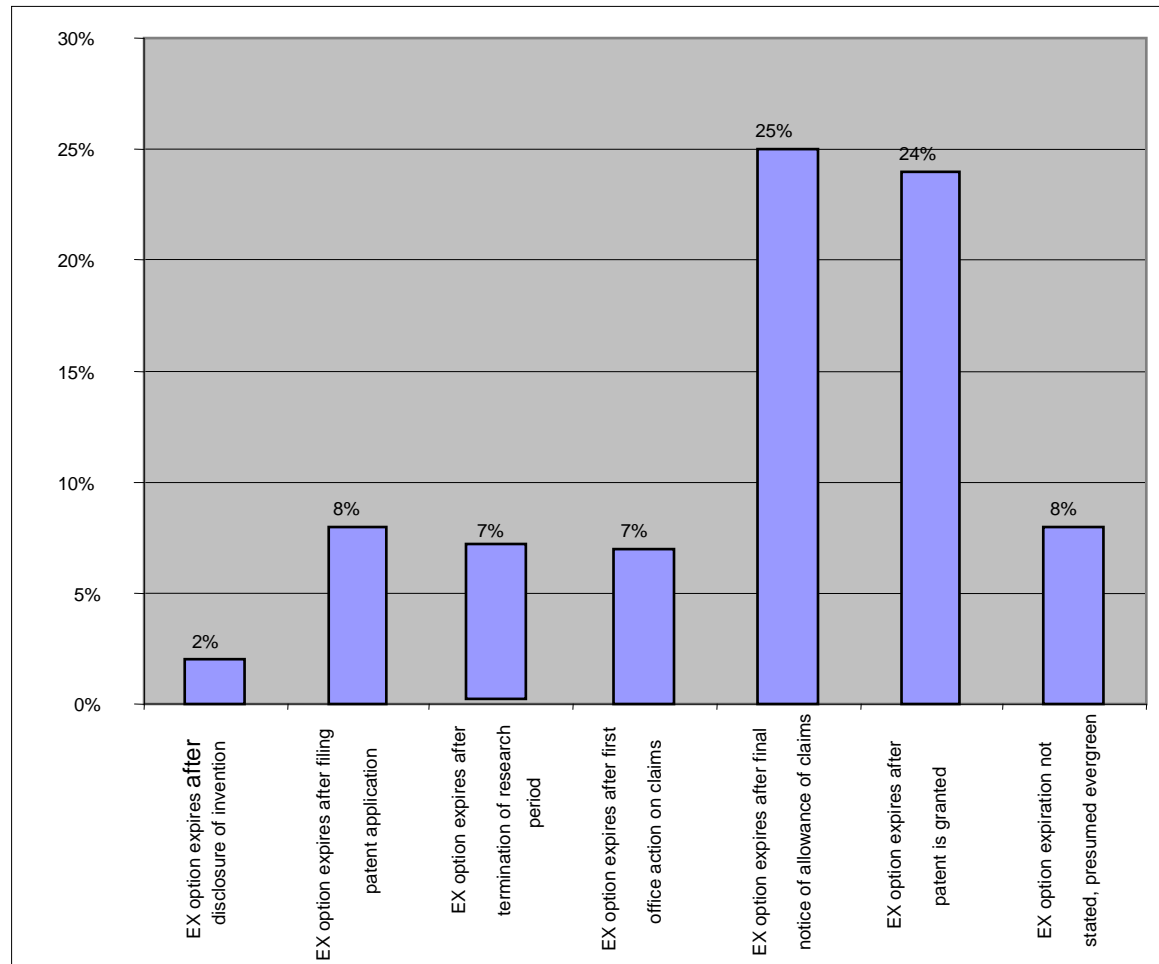
Royalty Free Nonexclusive License (RFNX)

% of US Agreement with Provisions Shown



Exclusive (EX) Option Periods

(% of US Agreements with Provisions Shown)



Least Favorable

Most Favorable

Agreement Terms Catalogued and Scored

Terms

Rights to University Inventions

- Assignment of Inventions (ownership)
- Right to Practice (Licenses, Options)

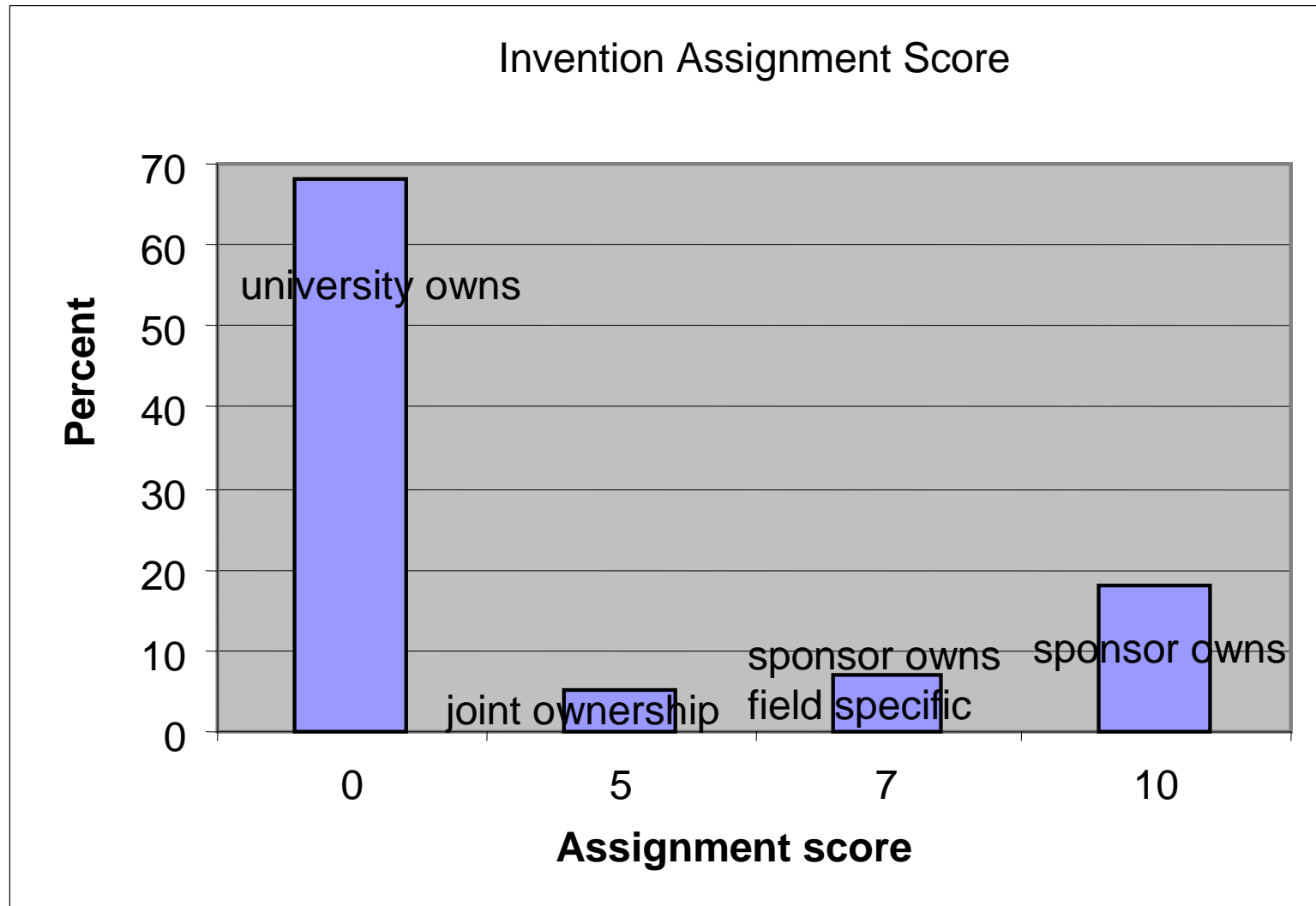
Process for Negotiating Licenses

- Length of Option Periods
- Right of First Refusal

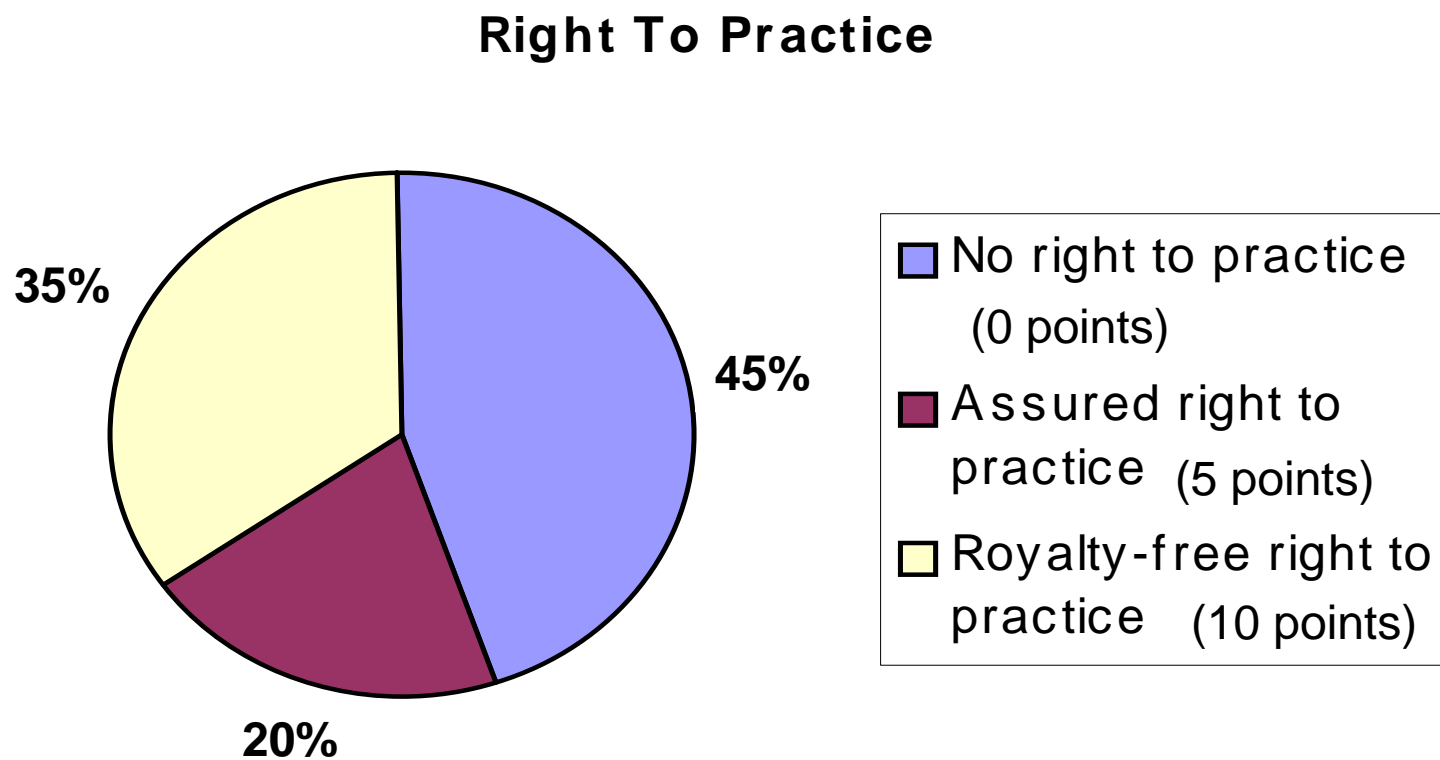
Scoring - Discrete values in the range 0 to 10

- 0 = weakest position for sponsor
- 10 = strongest position for sponsor

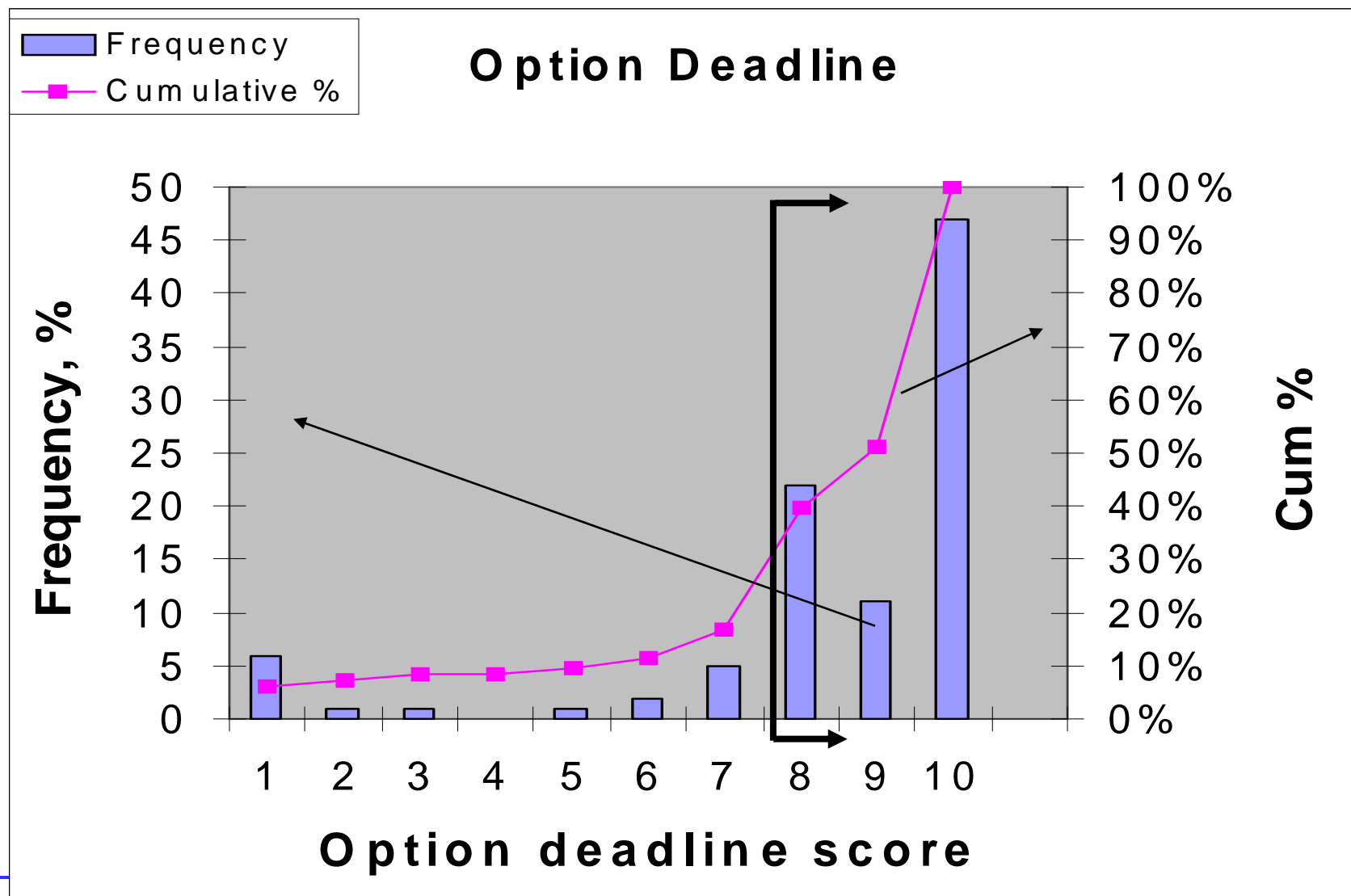
Ownership of Sole University Inventions



Right to Practice Scores



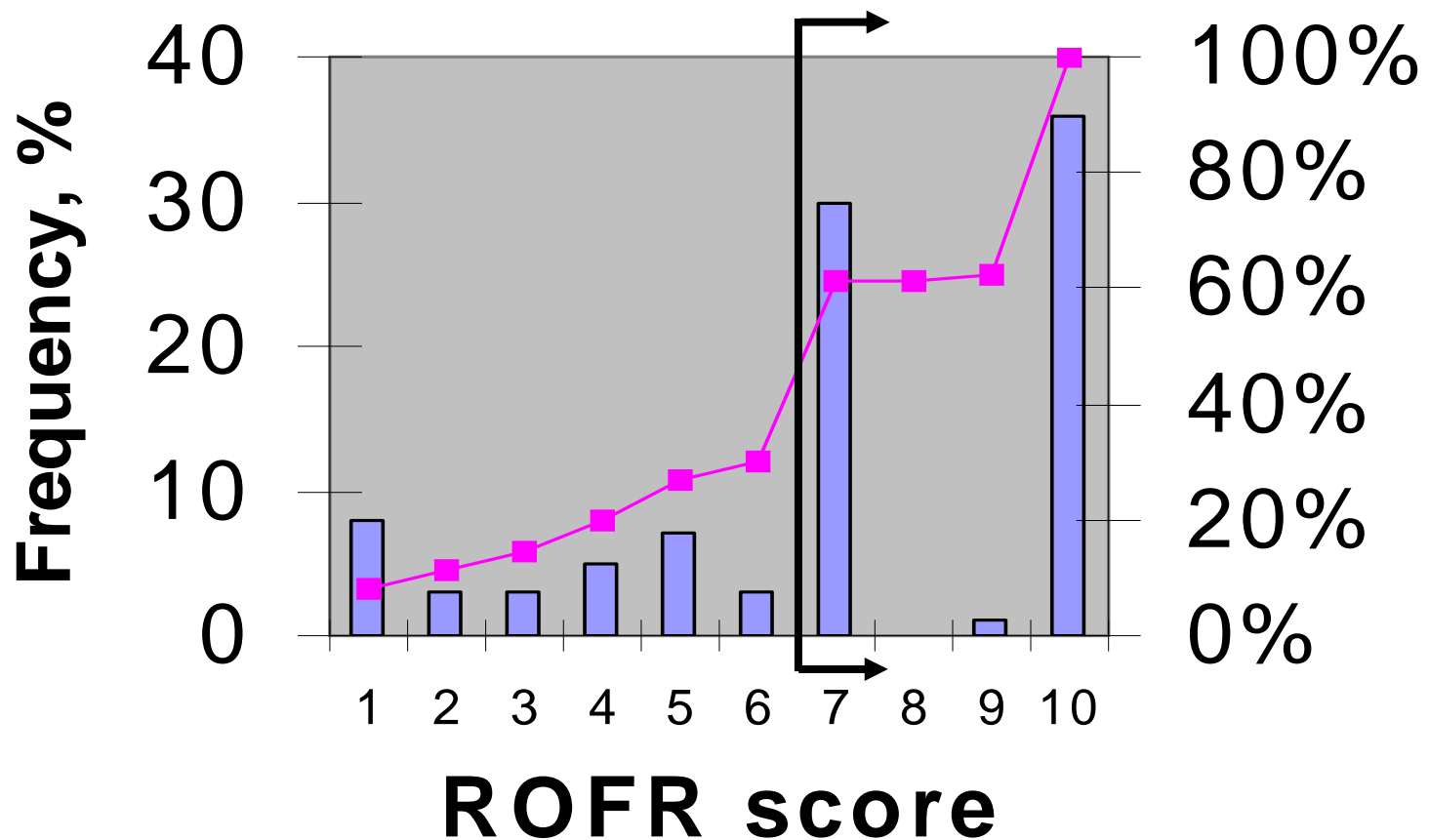
Option Deadline Scores



Right of First Refusal Scores

Frequency
Cumulative %

Right of First Refusal



Figures of Merit – Numerical Scoring for Scatter Plot of Agreements (Quality of Terms)

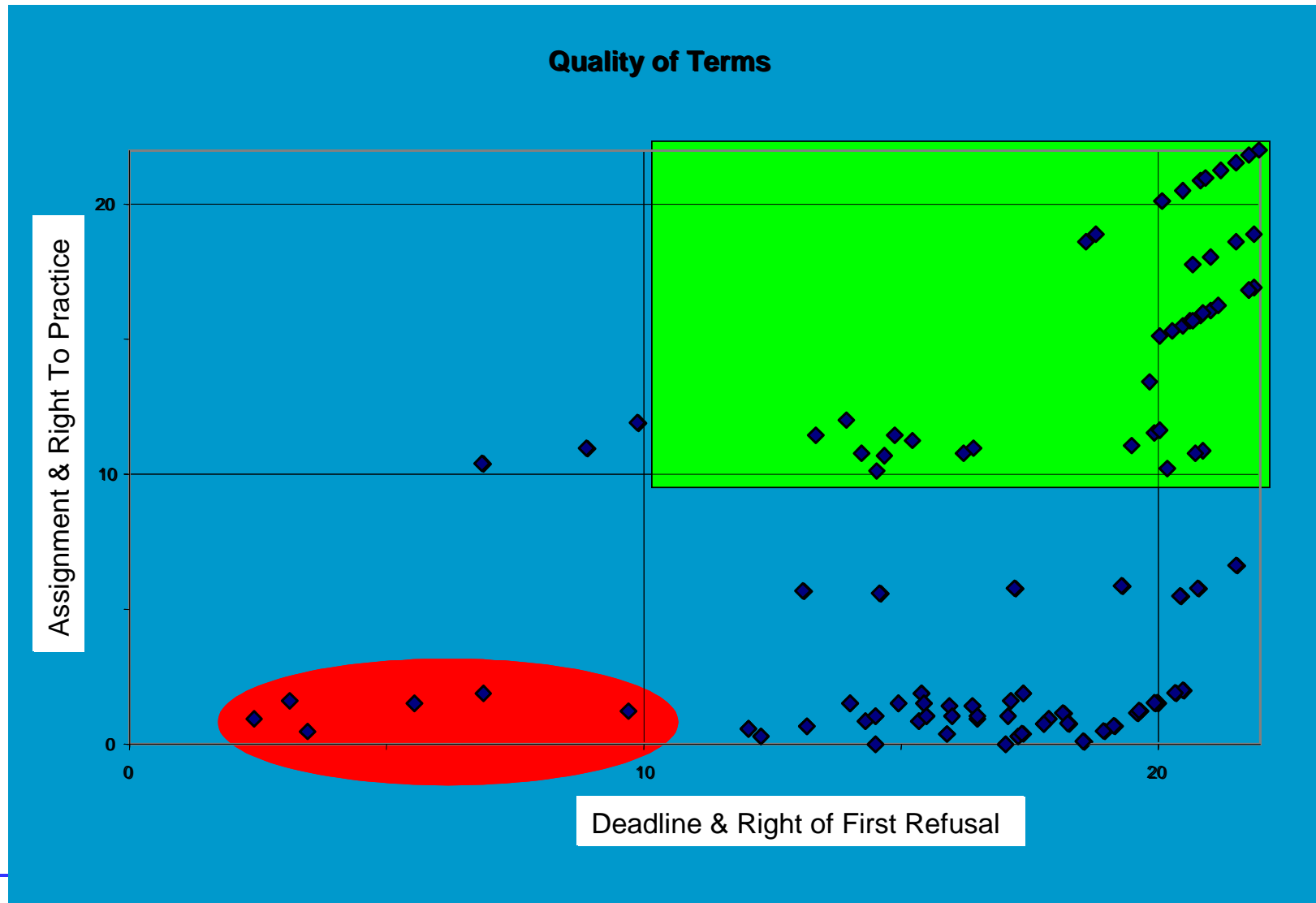
Rights to University Inventions (y-axis)

- Assignment of Inventions 0 – 10
- Right to Practice 0 – 10

Fair Process for Negotiations (x-axis)

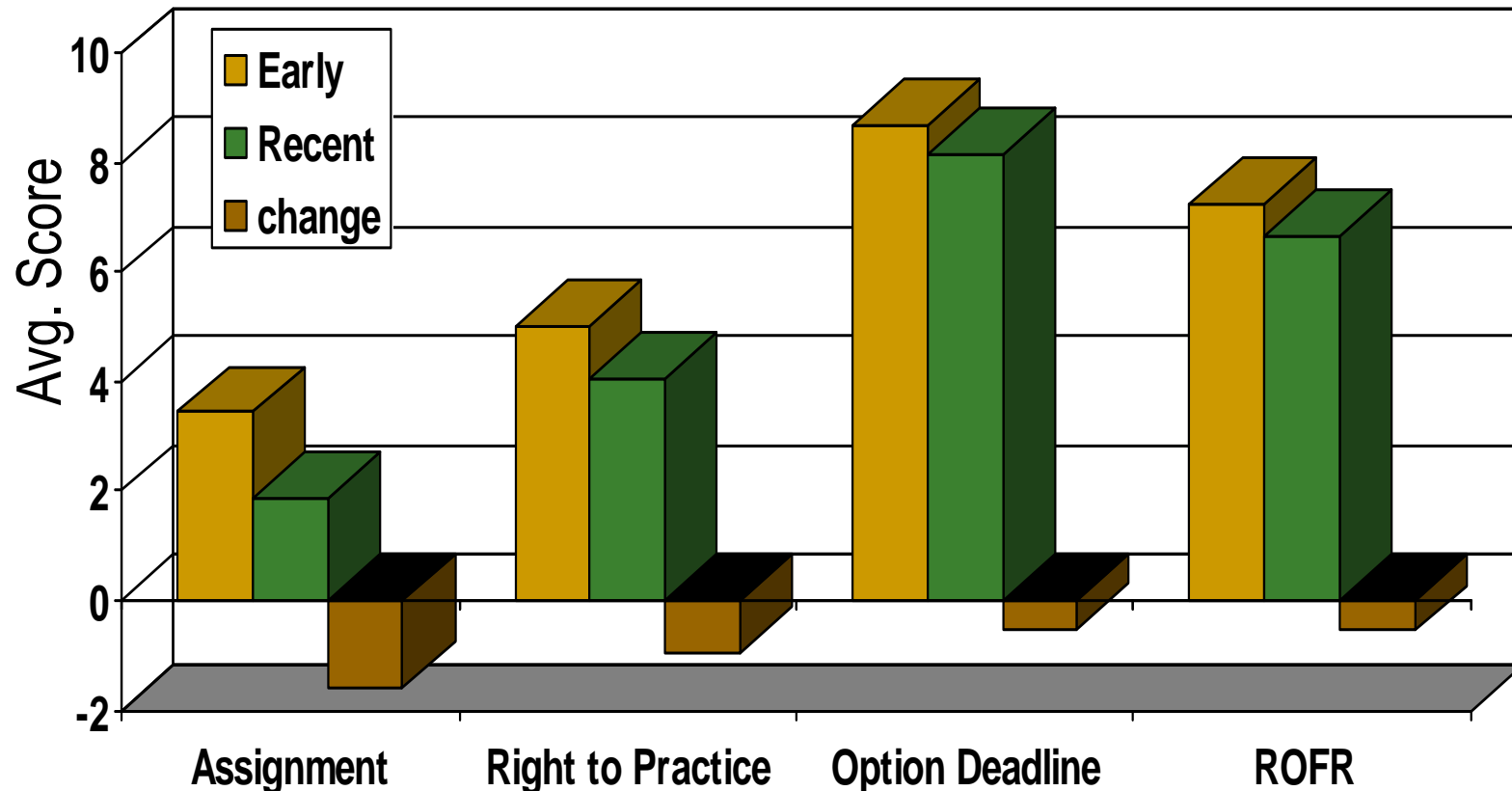
- Option Deadline 0 – 15
- Right of First Refusal 0 - 5

Scatter Plot of all Scored Agreements



Historical Trends

- Median effective date = January 1, 1997
- Compared early half vs recent half



Questions?