

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

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# Modes of Technology Transfer from Universities to Companies

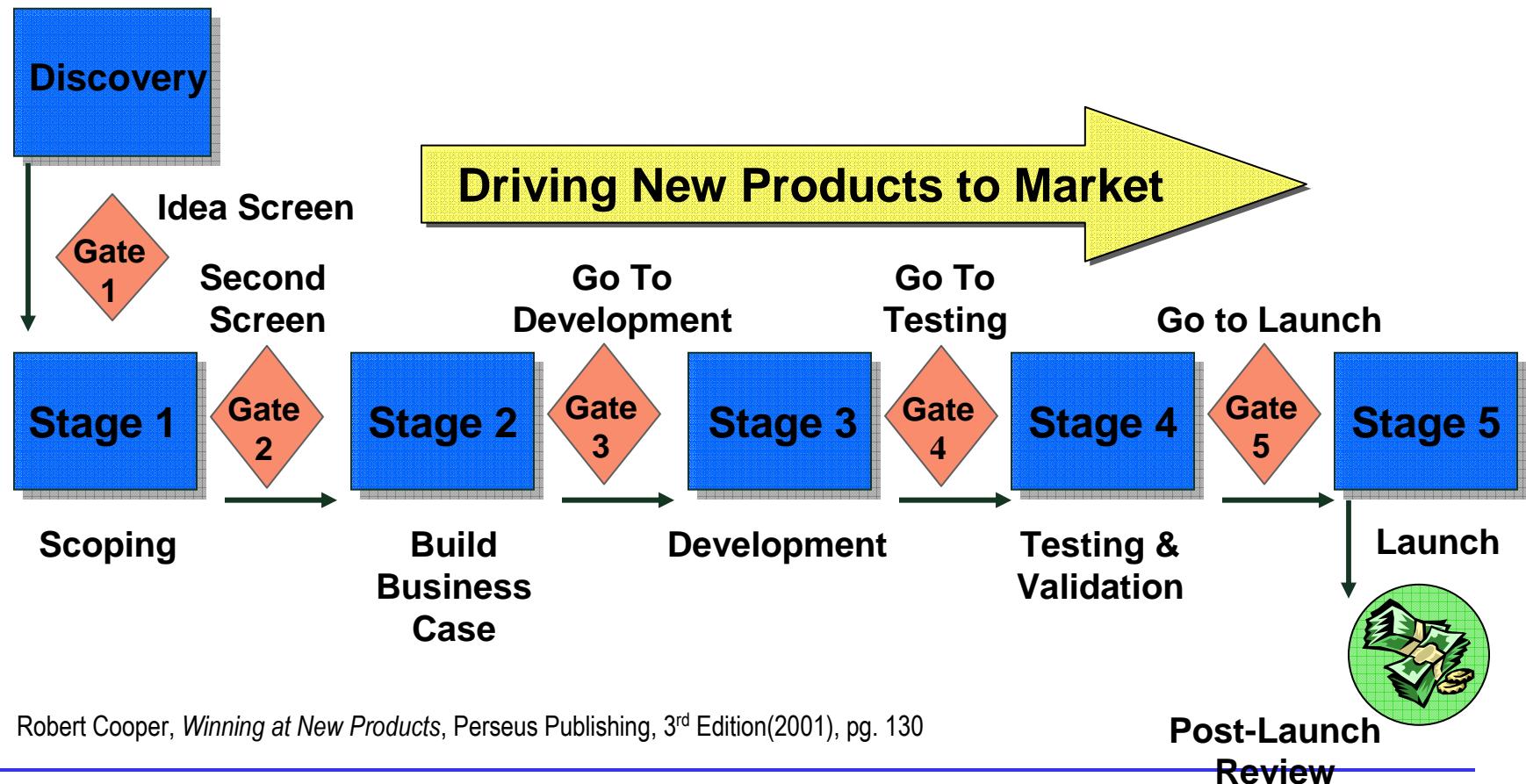
## Primary

- 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

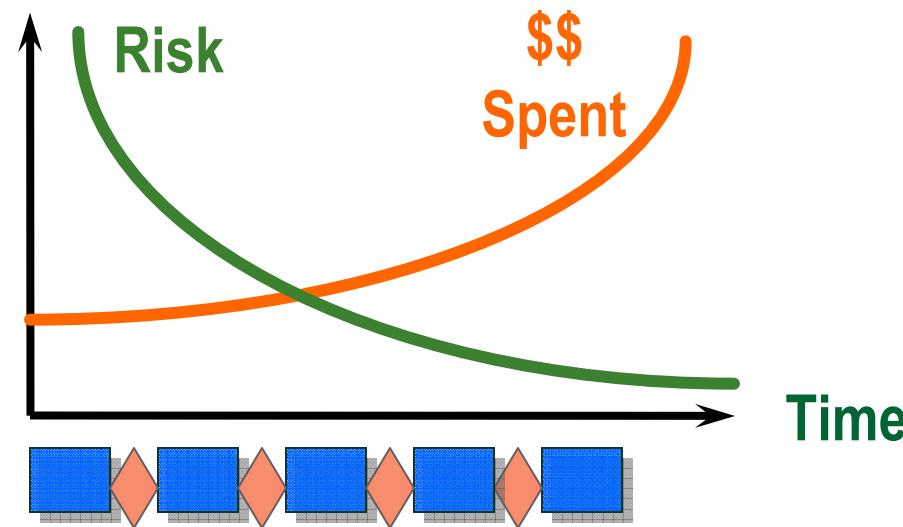


# Why Companies Engage in External Research Partnerships

- 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

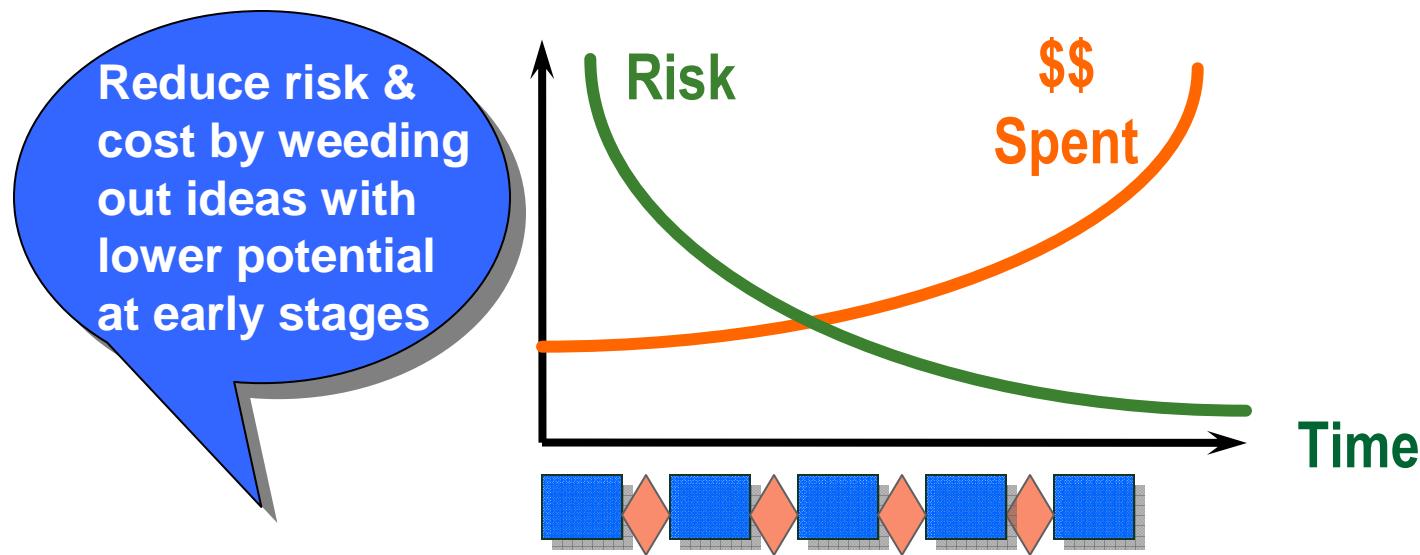
## ■ Improved Risk Management



**“Assessment before Investment”**

# Stage Gate Approach

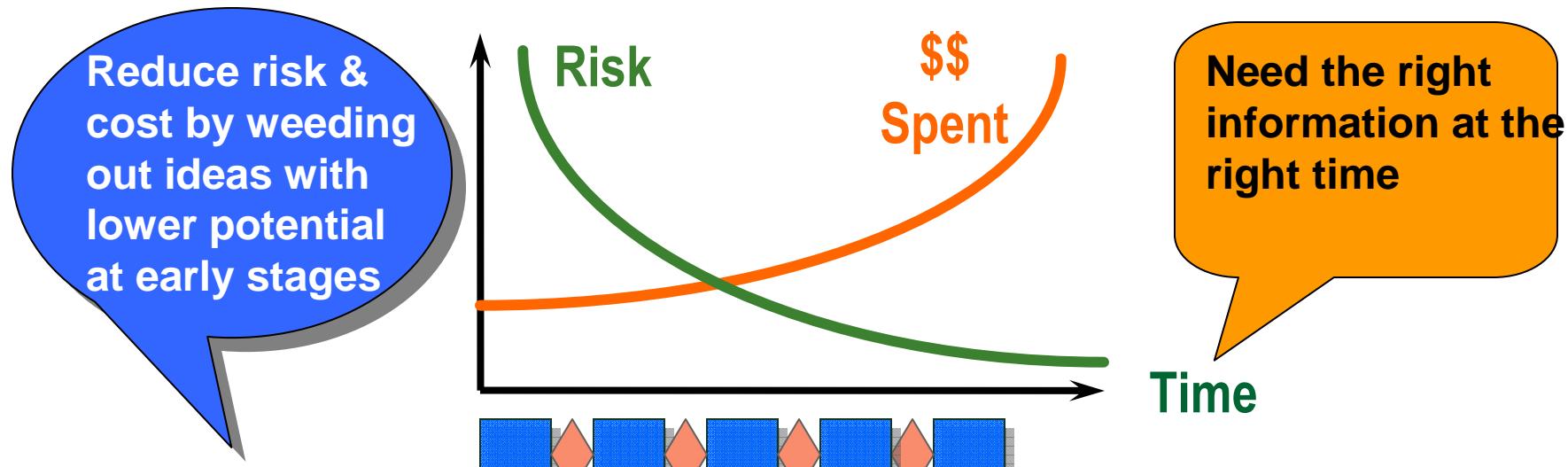
## ■ Improved Risk Management



**“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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  - Have to pay licensing costs that make commercialization unattractive (**bad business decision – value not maximized**)

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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**)

# Dow Study of IP Terms in Sponsored Research Agreements

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# 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

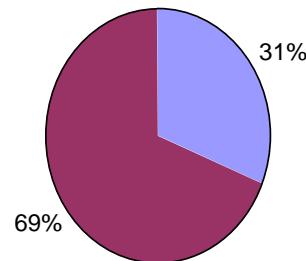
## Data Set Used for Statistics

- ❑ 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

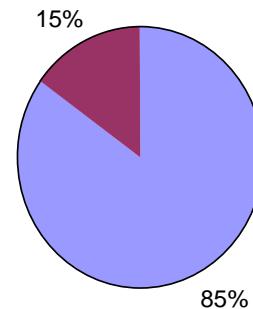
# Comparison of Terms: US Universities Versus Foreign Universities

# Ownership of Inventions Resulting from Sponsored Research

**US Universities**



**Foreign Universities**

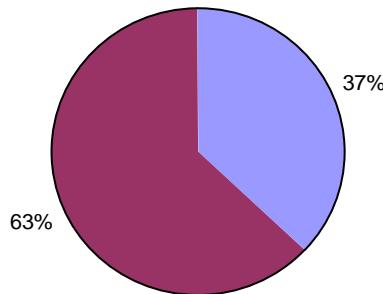


 Sole university inventions assigned to Dow or owned jointly

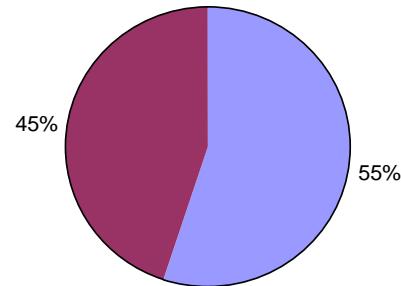
 Sole university inventions solely owned by University

# Cost of Practicing University Inventions Resulting from Sponsored Research

**US Universities**



**Foreign Universities**

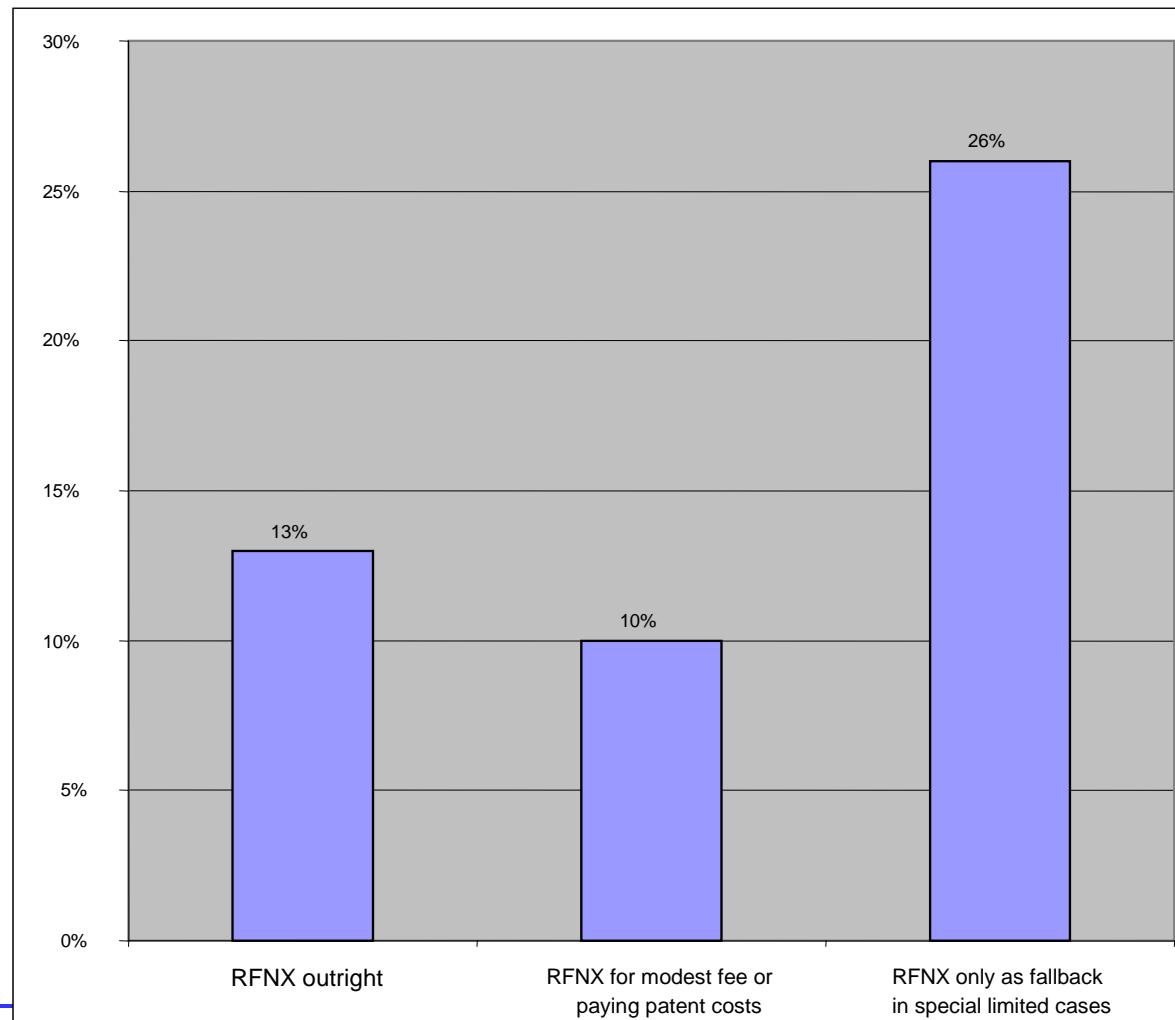


- █ Dow has royalty-free right to practice sole university inventions
- █ Dow must pay fee or royalties to practice of sole university inventions

# Comparison of Terms for US University Agreements

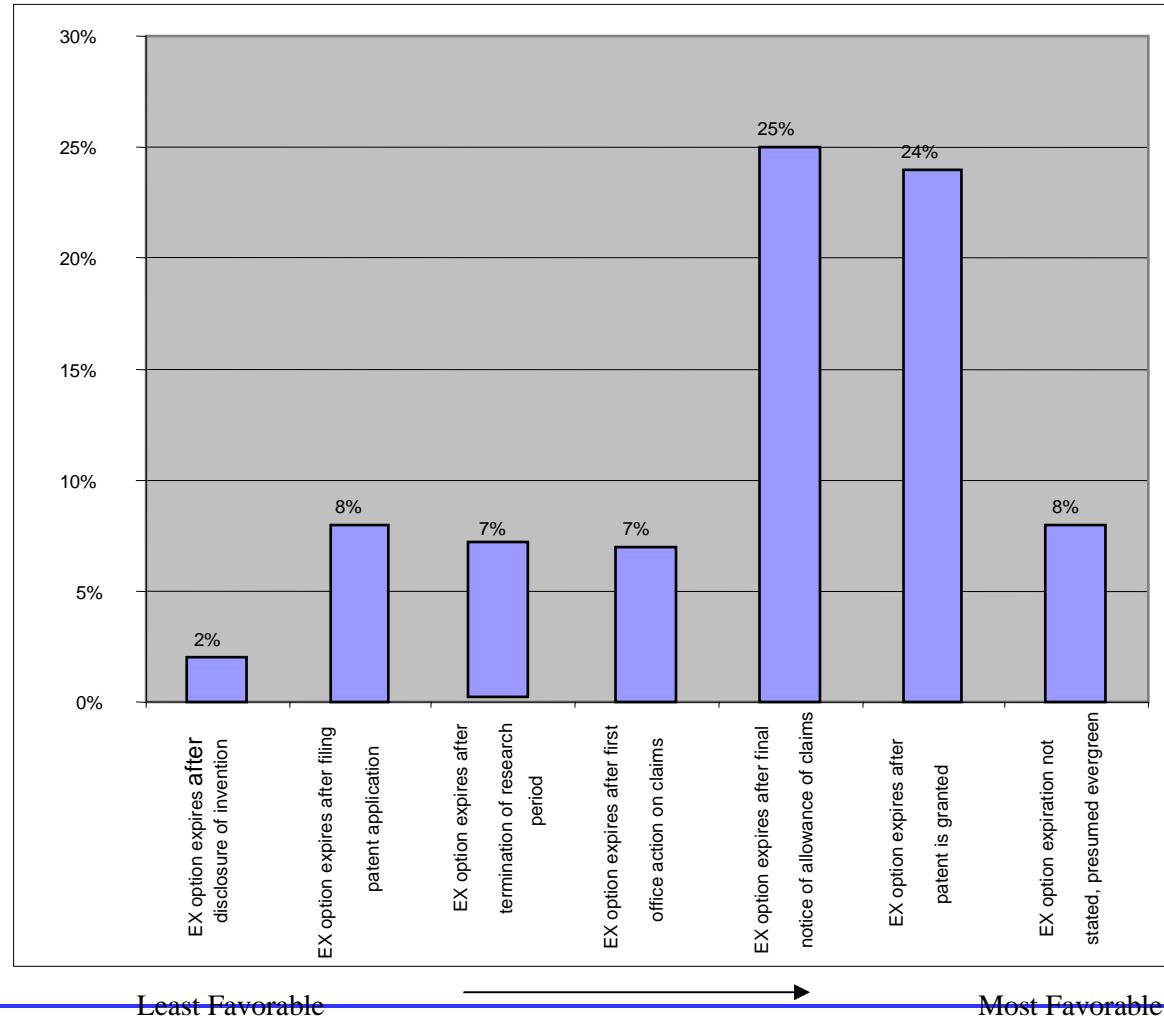
# Royalty Free Nonexclusive License (RFNX)

% of US Agreement with Provisions Shown



# Exclusive (EX) Option Periods

(% of US Agreements with Provisions Shown)



# Agreement Terms Catalogued and Scored

## Terms

### **Rights to University Inventions**

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

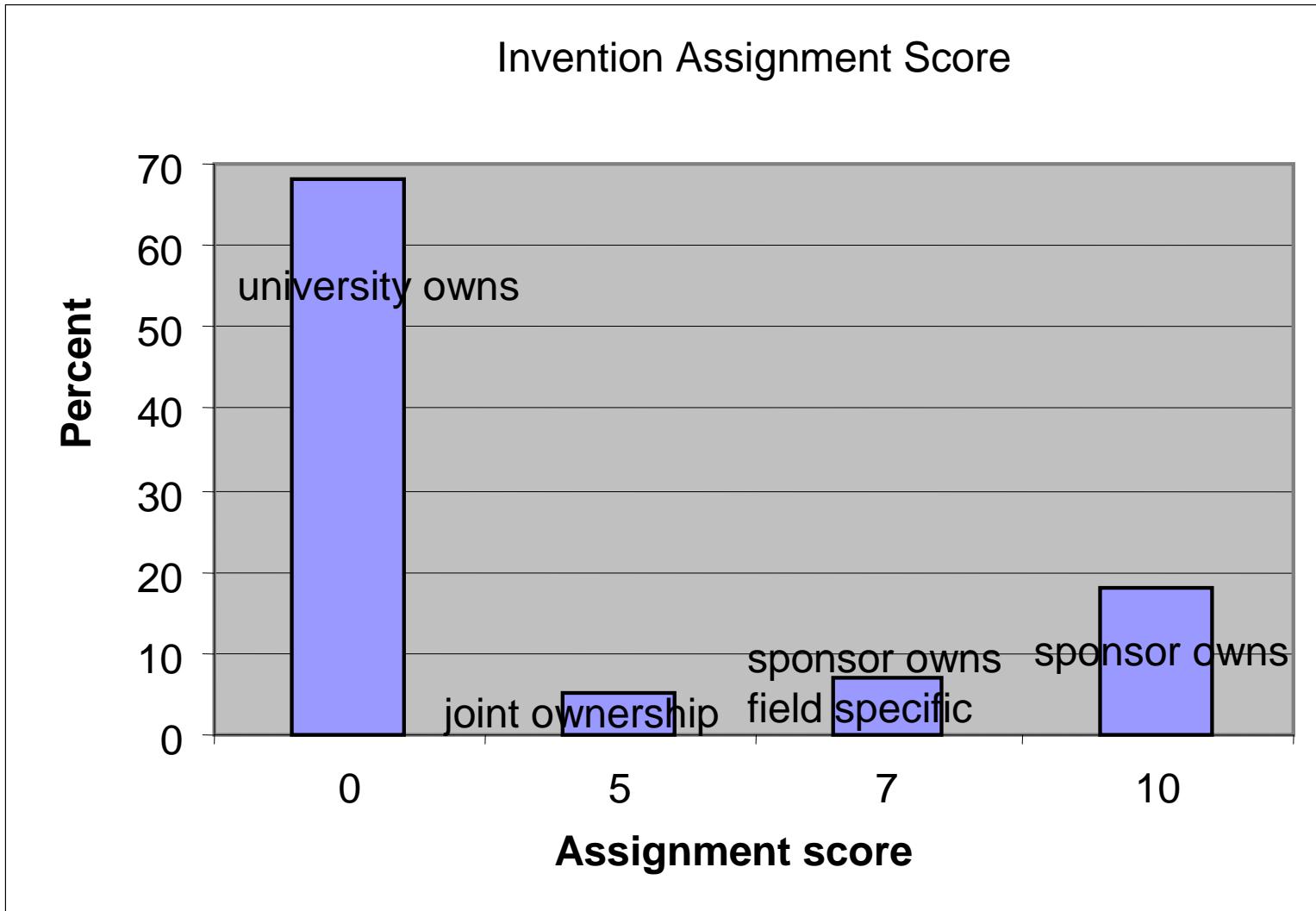
### **Process for Negotiating Licenses**

- Length of Option Periods
- Right of First Refusal

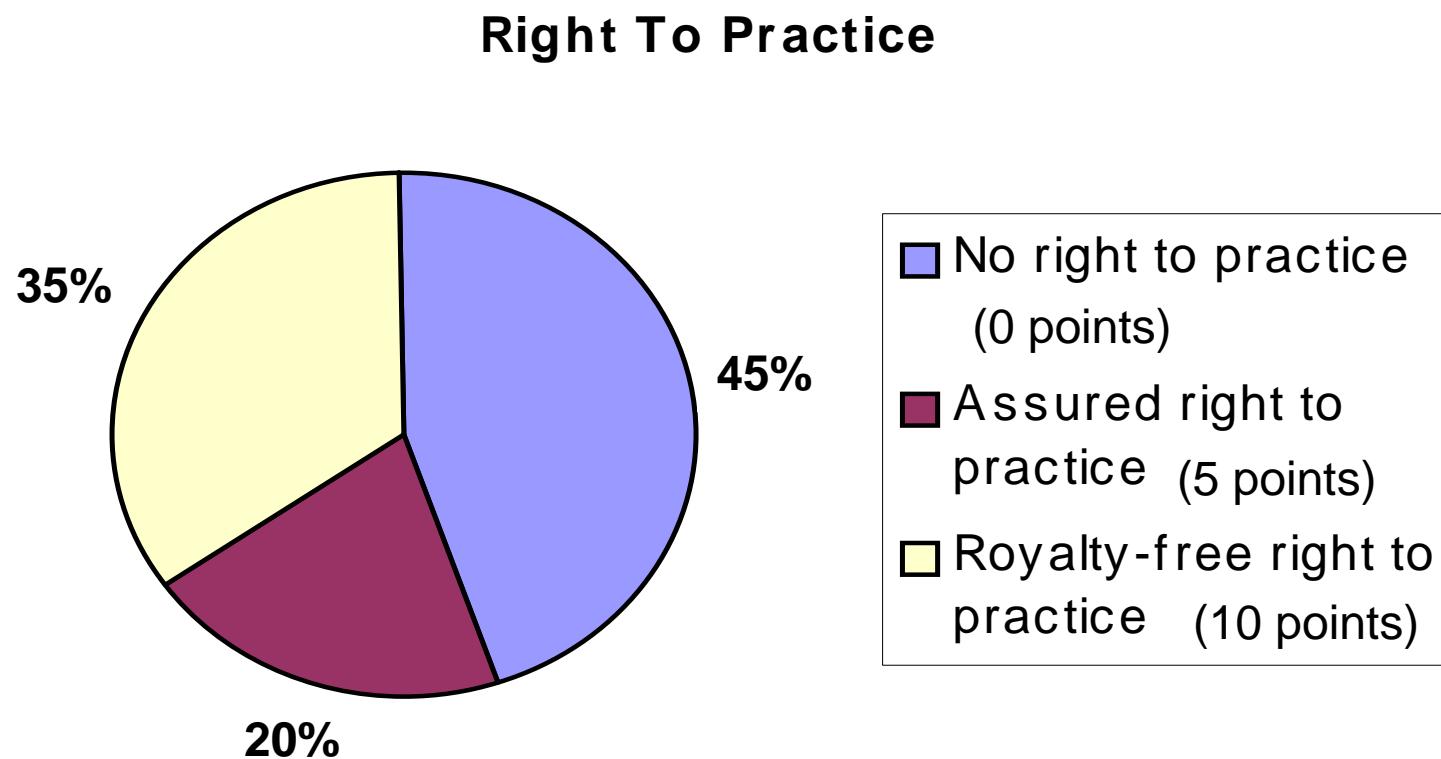
### **Scoring - Discrete values in the range 0 to 10**

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

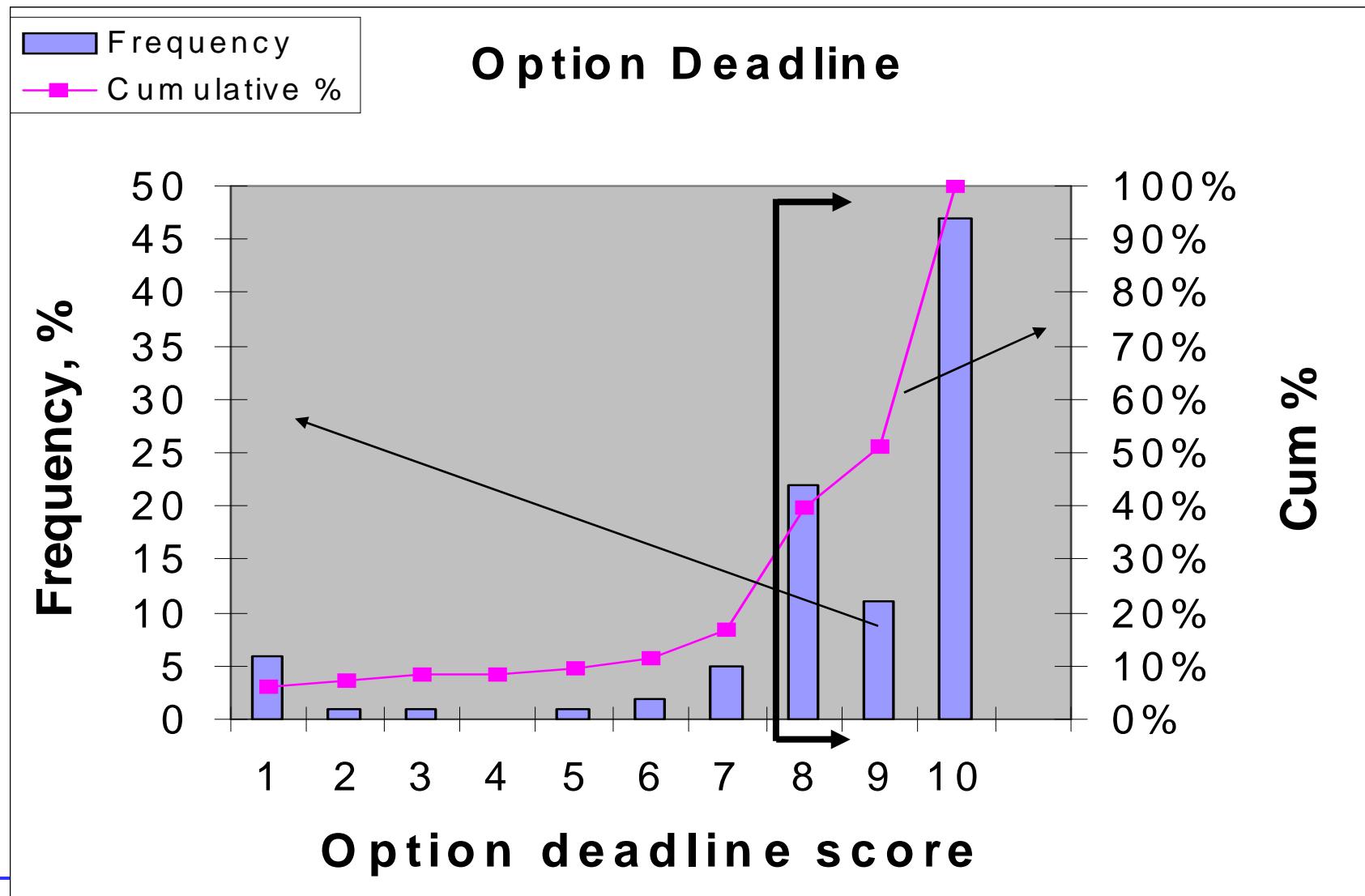
# Ownership of Sole University Inventions



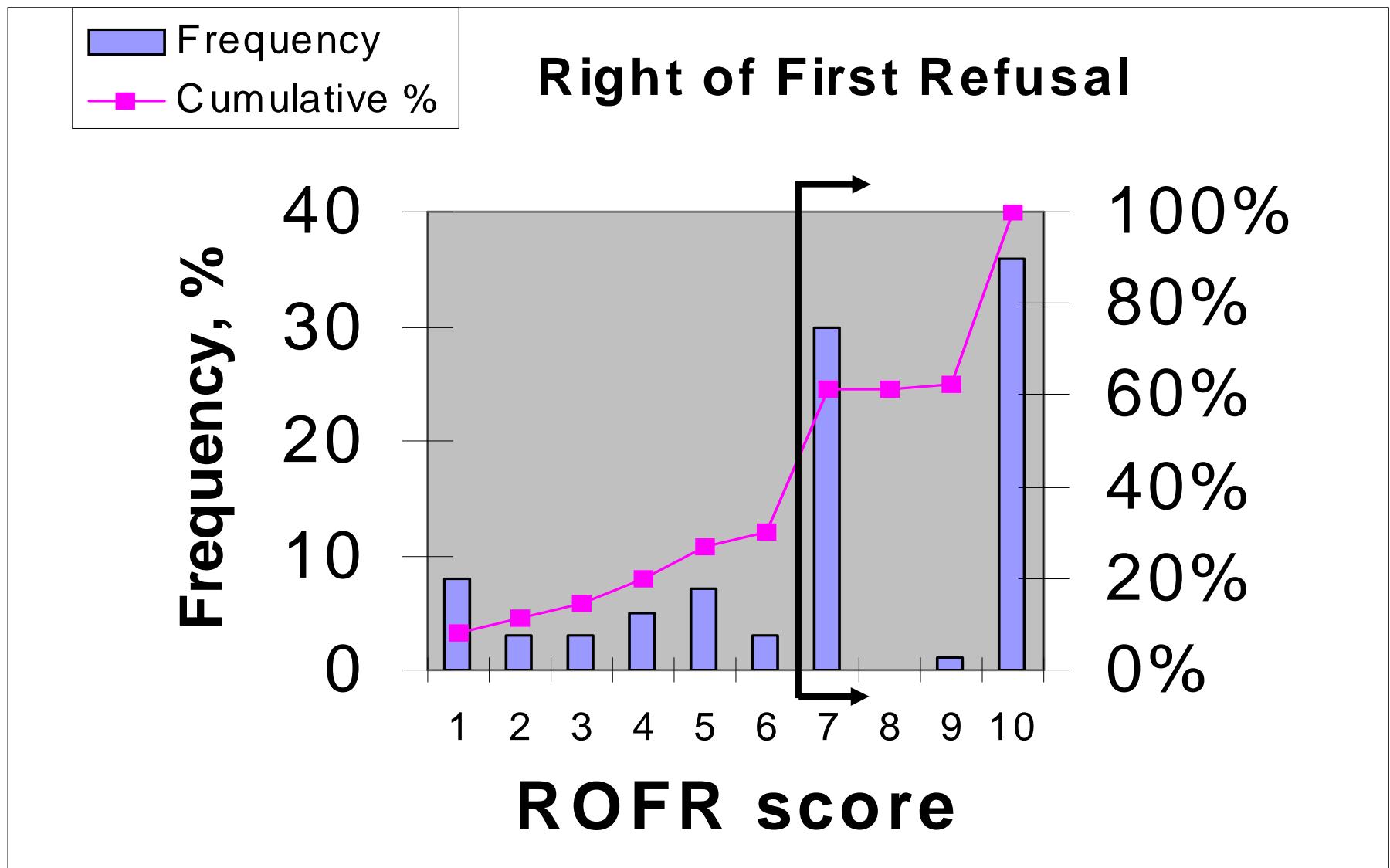
# Right to Practice Scores



# Option Deadline Scores



# Right of First Refusal Scores



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

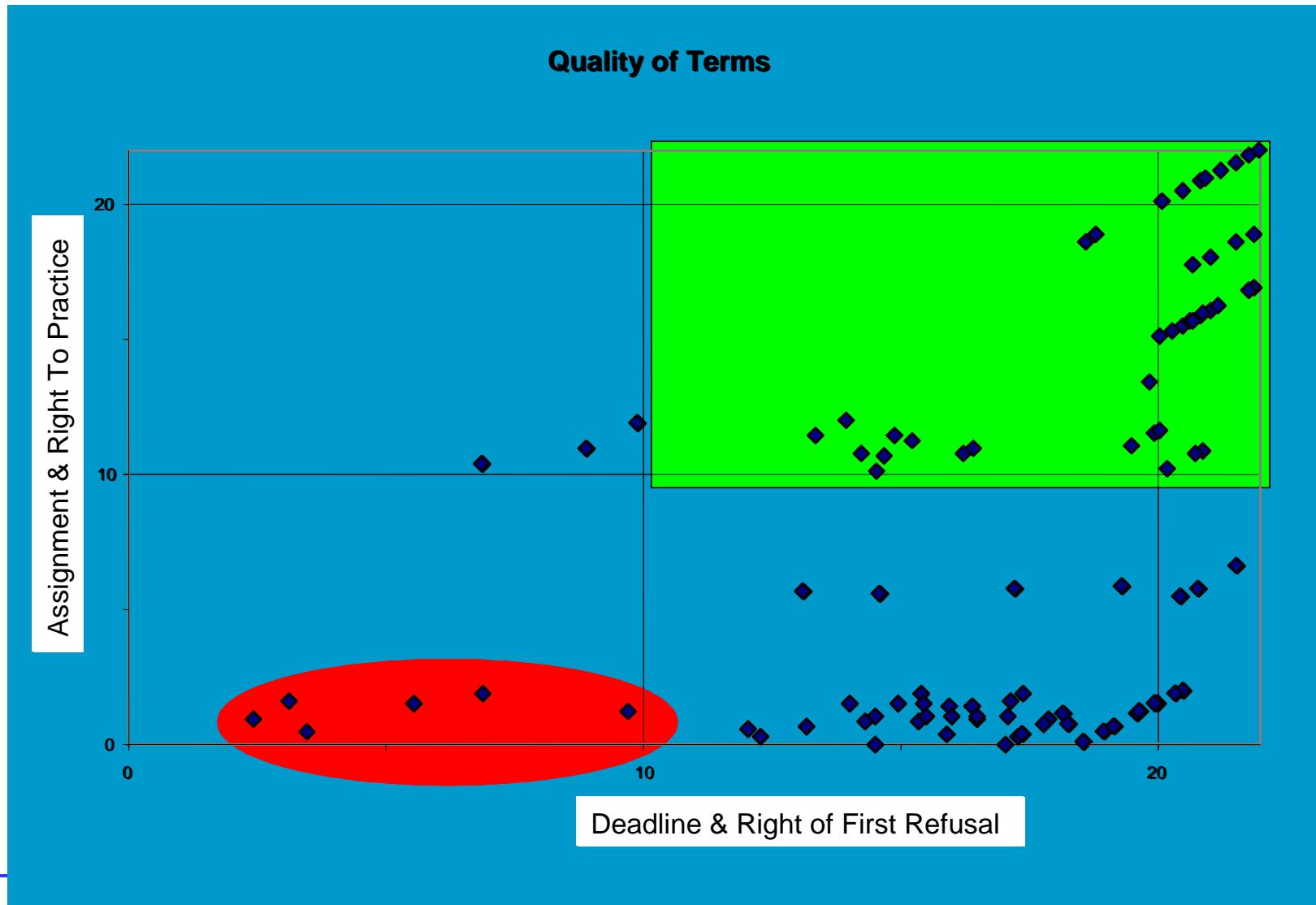
## Rights to University Inventions (y-axis)

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

## Fair Process for Negotiations (x-axis)

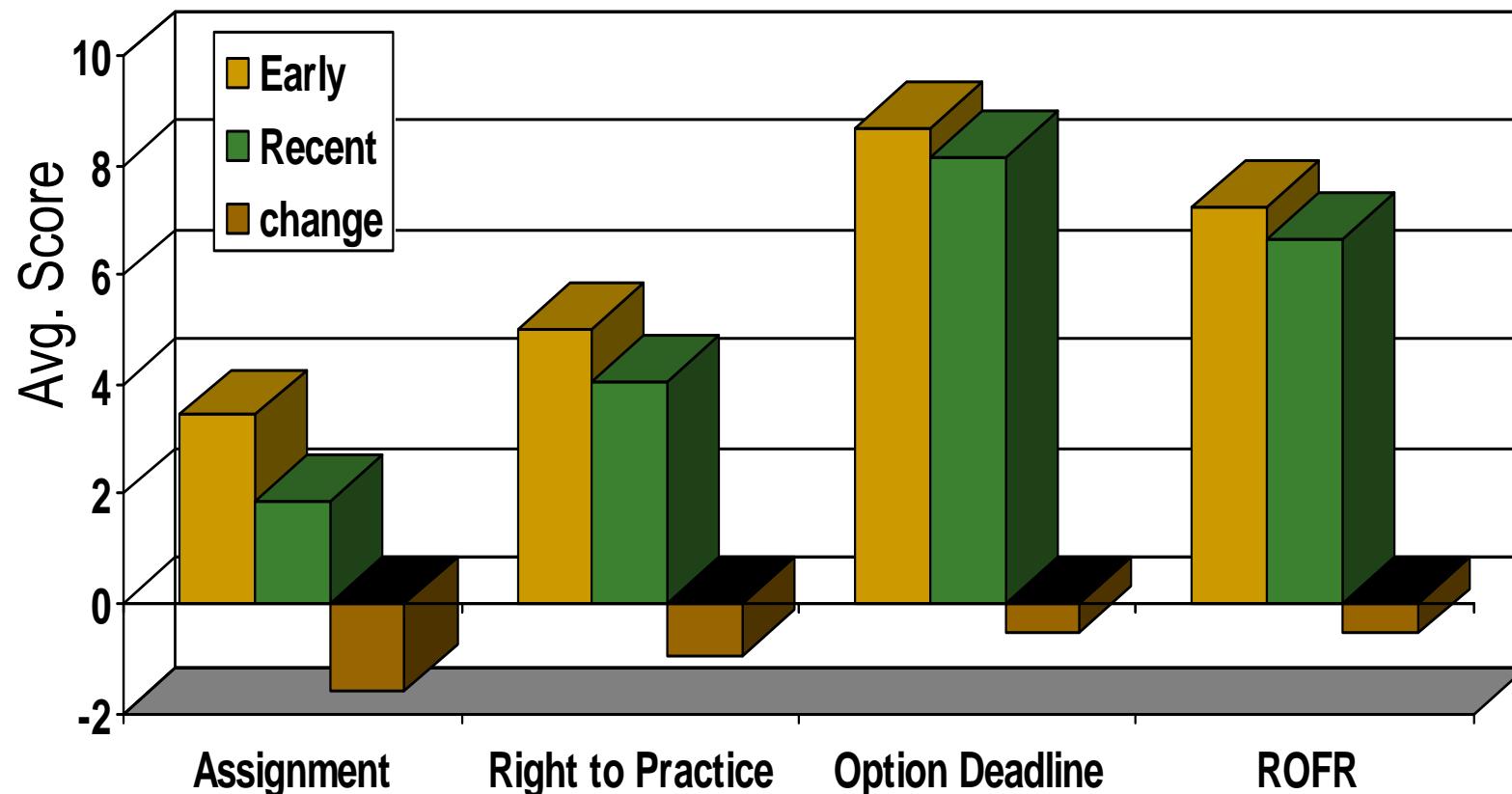
- Option Deadline 0 – 15
- Right of First Refusal 0 - 5

# Scatter Plot of all Scored Agreements



# Historical Trends

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



# Questions?