The Objective Valuation of "Non-Traded" IP

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Fair Market Value

"the price at which the property would change hands between a willing buyer and a willing seller, neither being under any compulsion to buy or to sell and both having reasonable knowledge of relevant facts."

United States v. Cartwright, 411 U.S. 546 (1973)

(1) voluntary

(2) informed

(3) arms' length

(4) exchange

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Apparent problem: patents are not "traded"

- Patents are assets (the right to a future stream of benefits)
  - an asset price is the value today of the future stream
- Like all valuable assets, inventions are optimally managed
  - choice of geography, claim scope, prosecution interval, lifetime, etc.
- Most management choices are
  - <u>binary</u>: file / don't file, etc.
  - <u>conditional</u>: on prior decisions (issue if filed; maintain if issued; etc.
- A patent owner engages in a sequence of voluntary, informed, arms' length <u>conditional binary</u> exchanges with the patent office
- Patent owners
  - ➔ <u>do</u> create fair market value, but
  - ➔ they <u>don't</u> know what it is

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Actual problem (among many): censoring

- Censoring: the "price" paid for a patent right is "the same," whether the patent is worth (nearly) nothing, or billions
  - Solution: exploit variation in sequential binary decisions
    - e.g., 50 countries x 20 maintenance decisions ≈ 1,000 decisions per invention
    - all made simultaneously with other competitors' decisions
- Problem: what about differences between patents?
  - Solution:
- Problem: what about differences between patent offices?
  - Solution:
- Problem: what about …?
  - Solution: $\arg\max_{t \in T} \Sigma_a \Sigma_i \Sigma_t \beta^{t-1} 1[P_{iat}] (v_{iat} - c_{iat})$ …

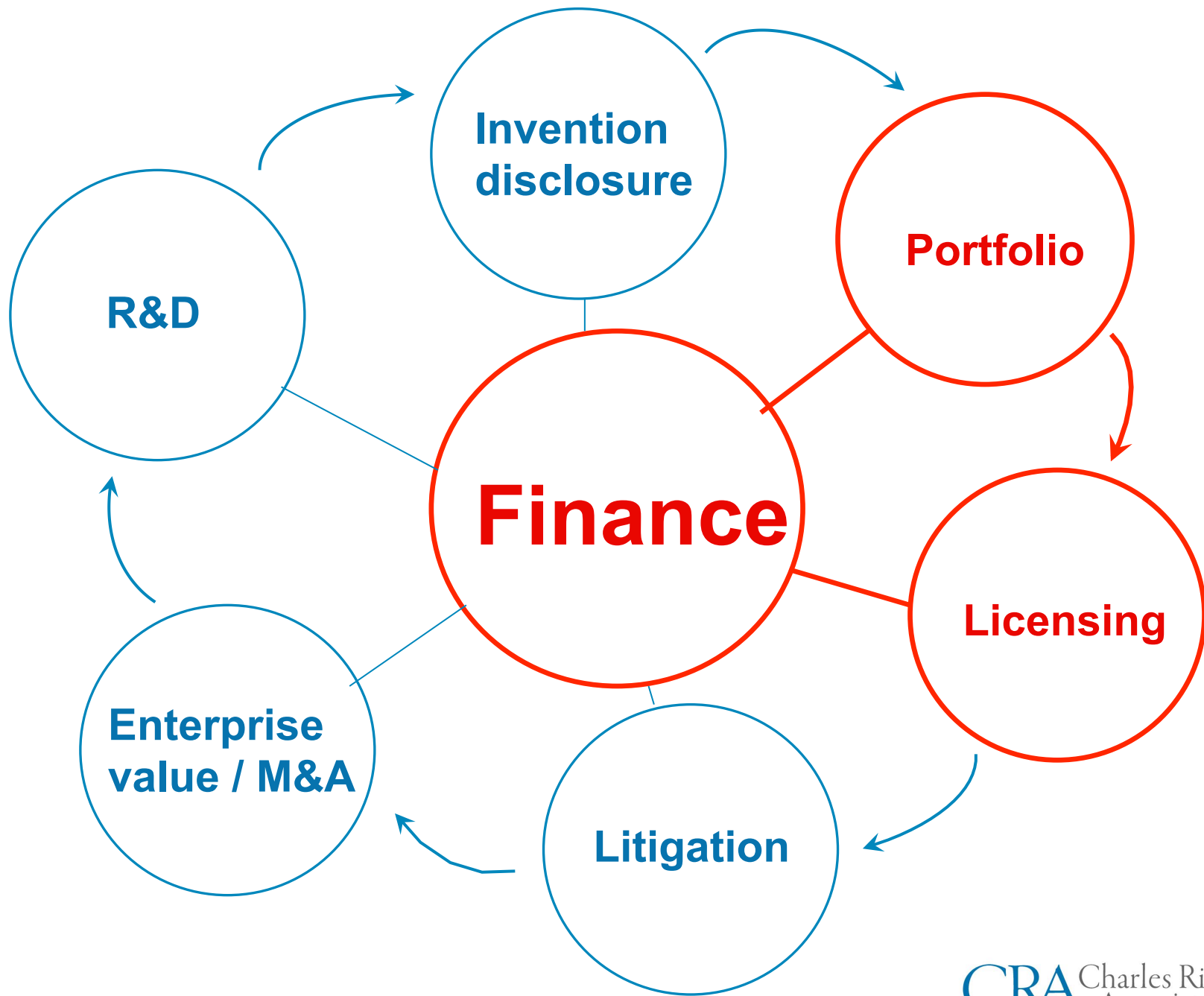# A conditional binary decision sequence
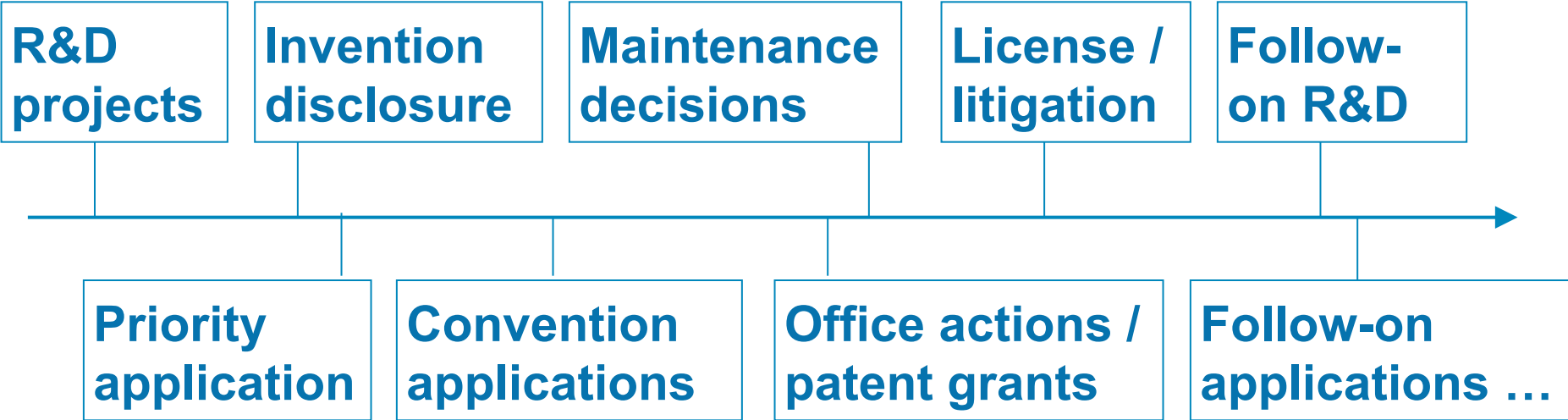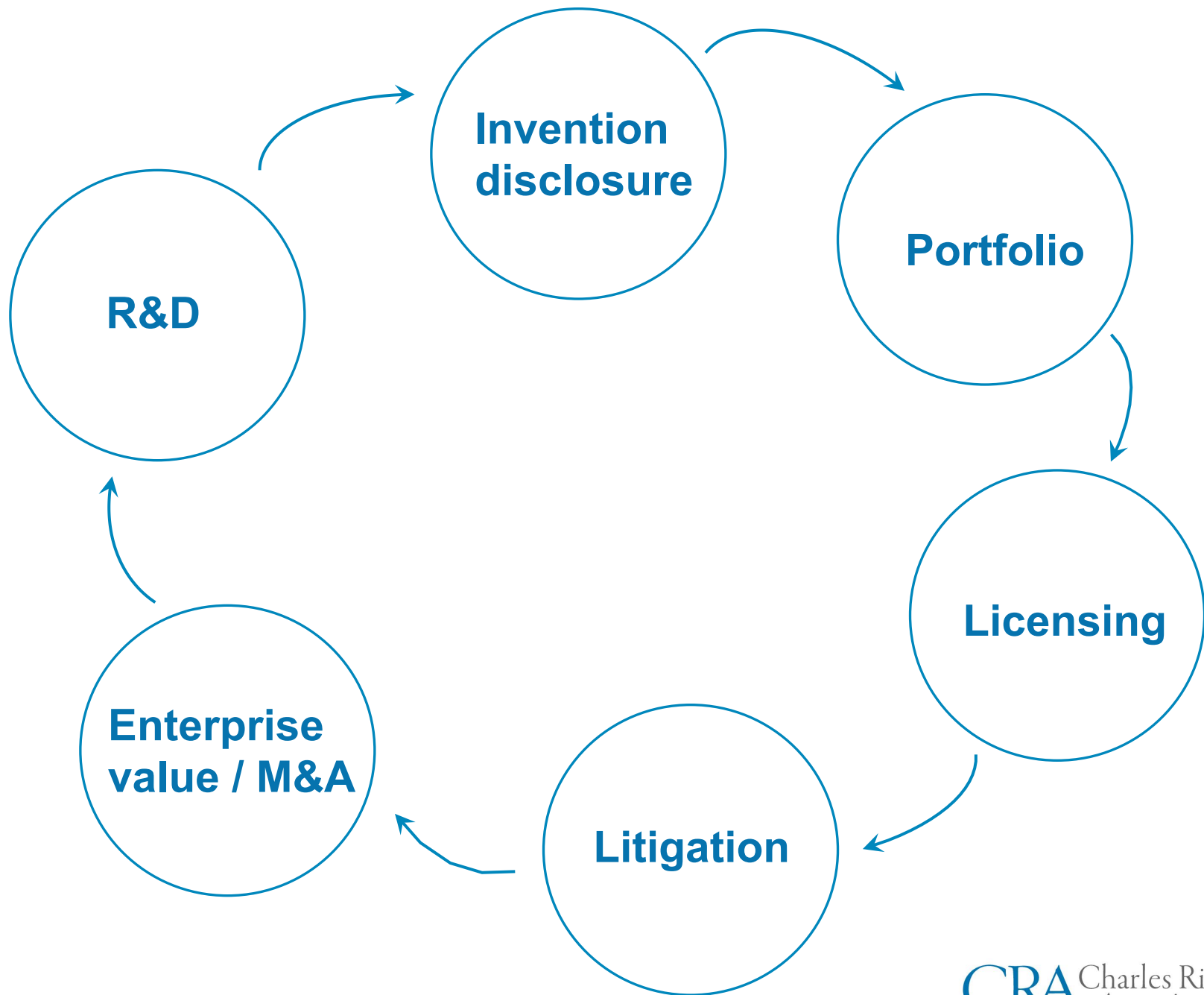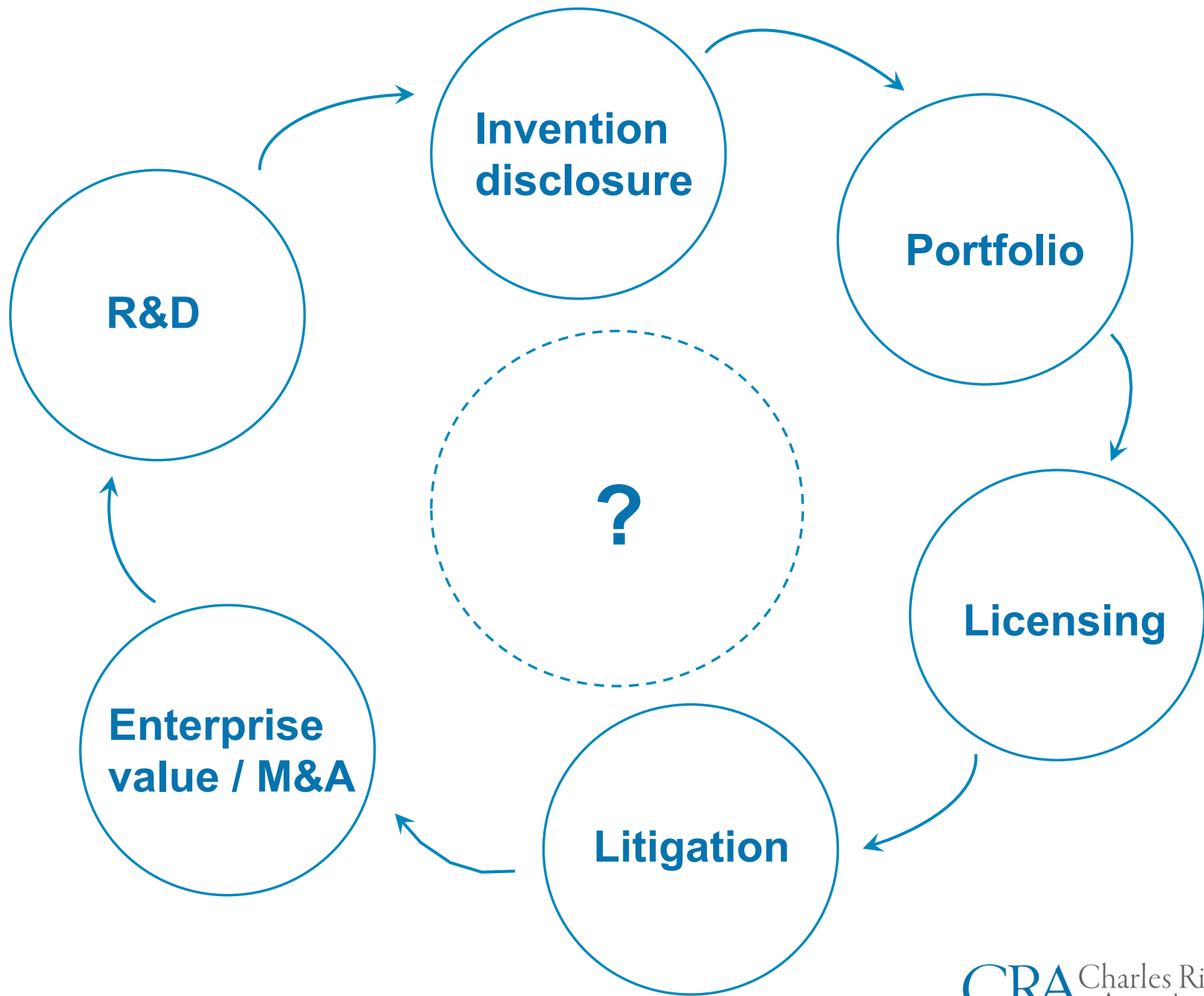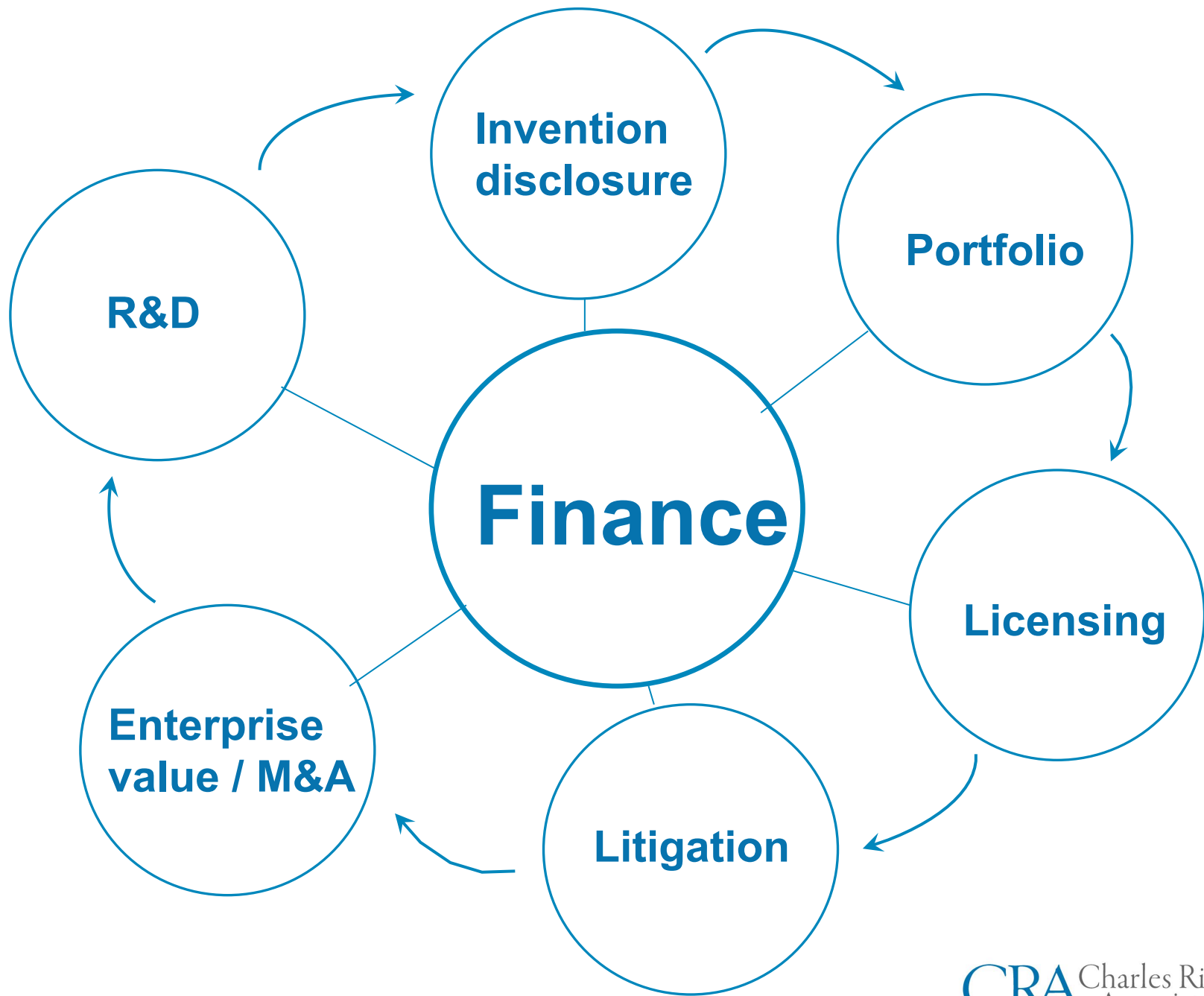
Example 1 – cross-license negotiations

- Compute the balancing payment between two electronics competitors, given:
  - aggregate portfolio size
  - expected sales exposure
  - company-specific success in cross-licenses with third parties

- How to counter a demand for $700 million?

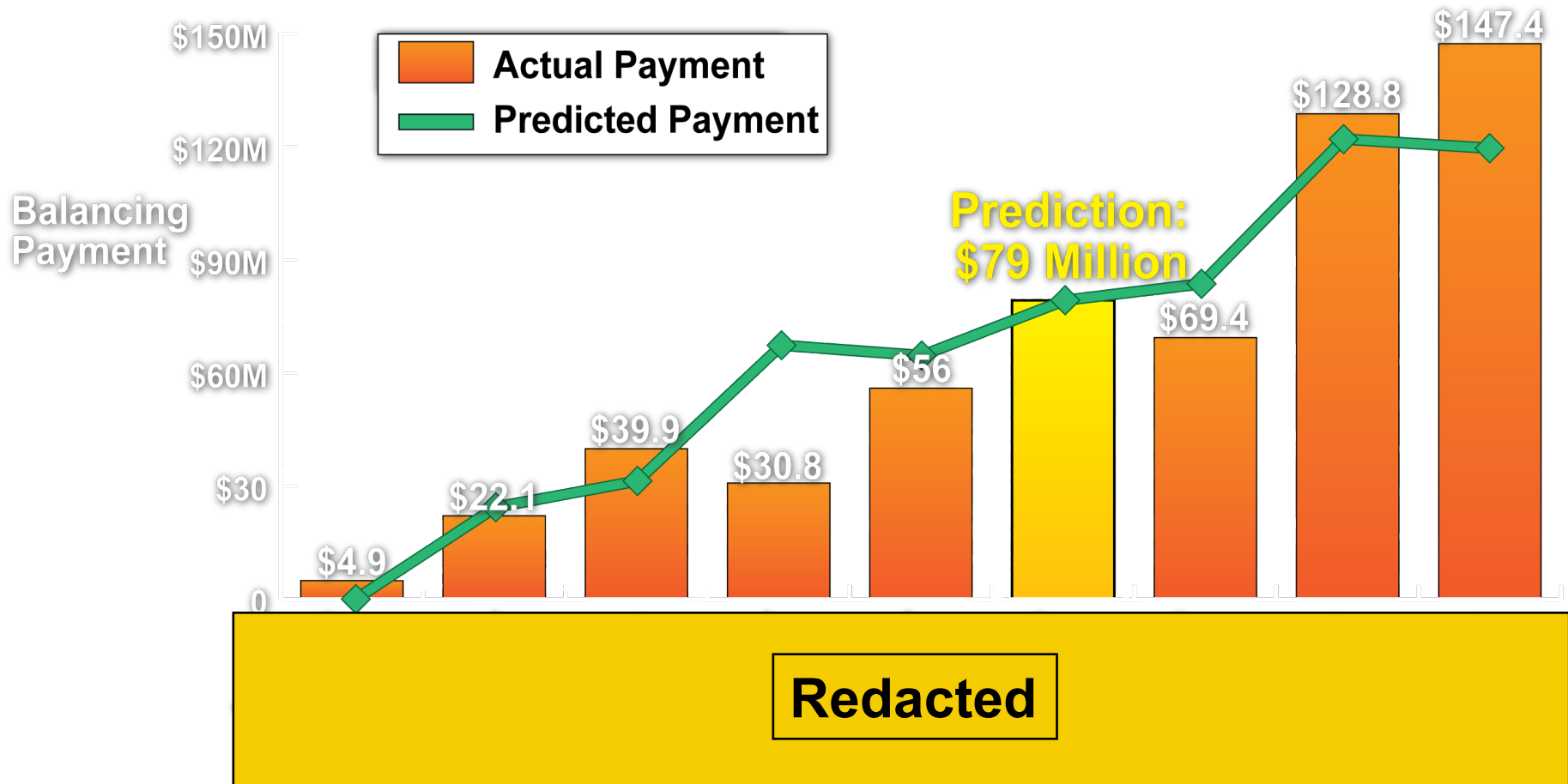Outcome of a Cross-License Between LCD Competitors

Example 1 – cross-license negotiations

- Compute the balancing payment between two electronics competitors, given:
  - aggregate portfolio size
  - expected sales exposure
  - company-specific success in cross-licenses with third parties

- How to counter a demand for $700 million?

Payee's claim:	$111 million
Payor's claim:	$ 32 million
Balancing payment	**$ 79 million**

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Example 2 – injunction between competitors

- Plaintiff
  - seeks an injunction against infringing competitor
  - plaintiff owns hundreds of patents
  - market sales exceed $5 billion per year

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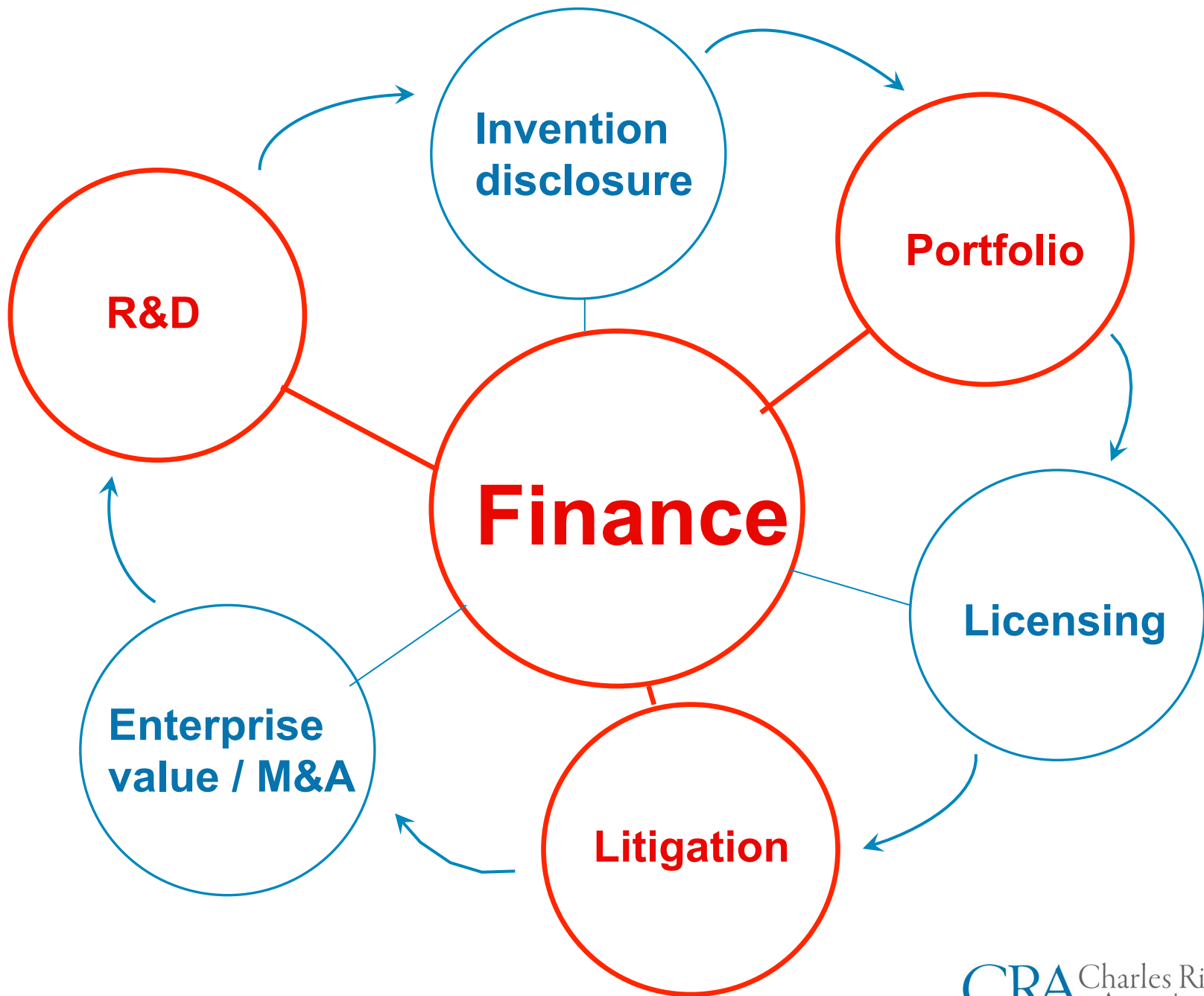
- Plaintiff
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  - plaintiff owns hundreds of patents
  - market sales exceed $5 billion per year

- Defendant
  - infringed patent is "trivial"
  - "de minimis" $2 million damages award
  - "a few thousandths of 1 percent" royalty rate

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Example 2 – injunction between competitors

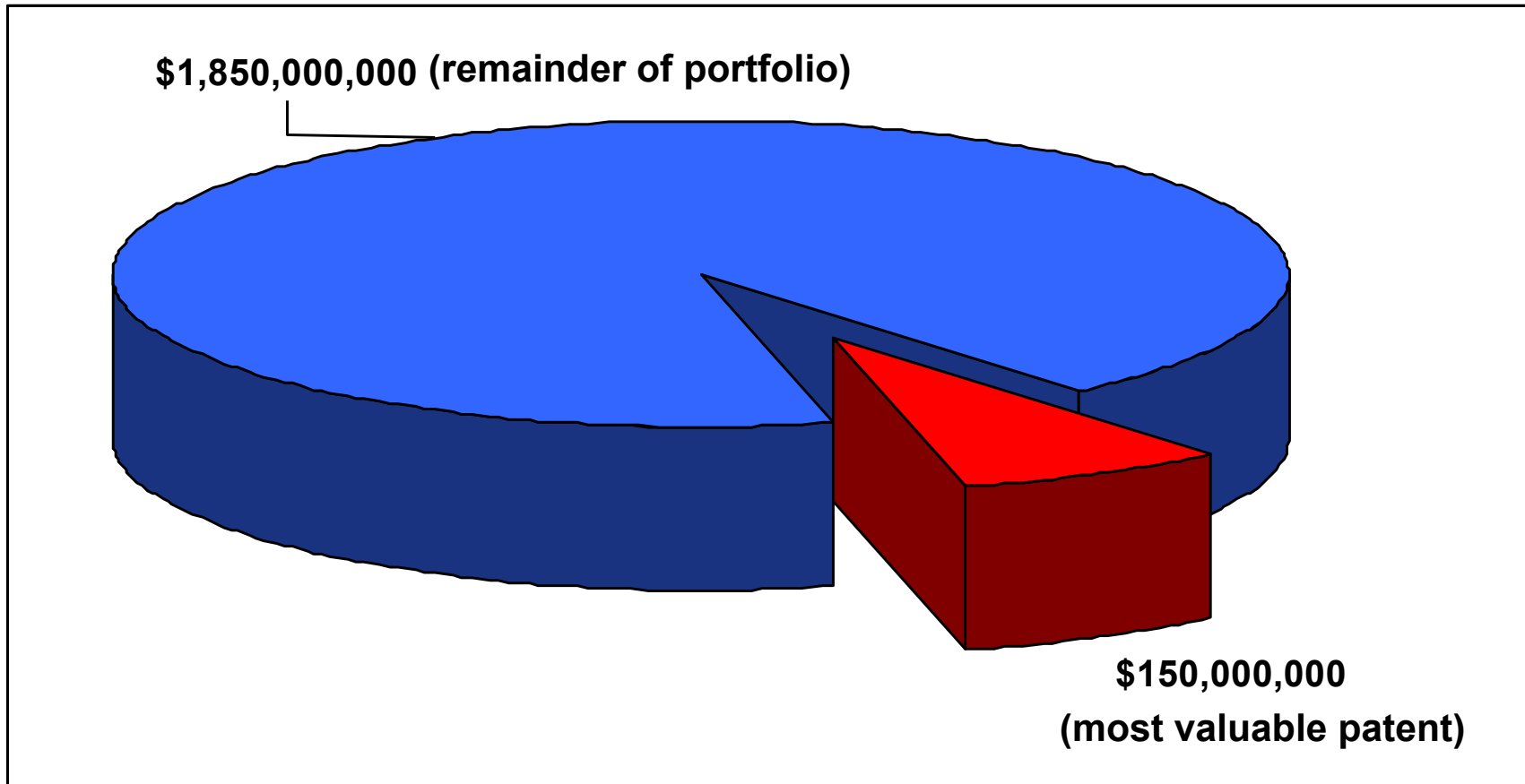- Plaintiff
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- Analysis
  - compute the global value of the portfolio
  - compute the expected value of the most valuable patent in it
  - compute the portion of value attributable to asserting the patent against the largest competitor, in the U.S., over patent's useful life through trial
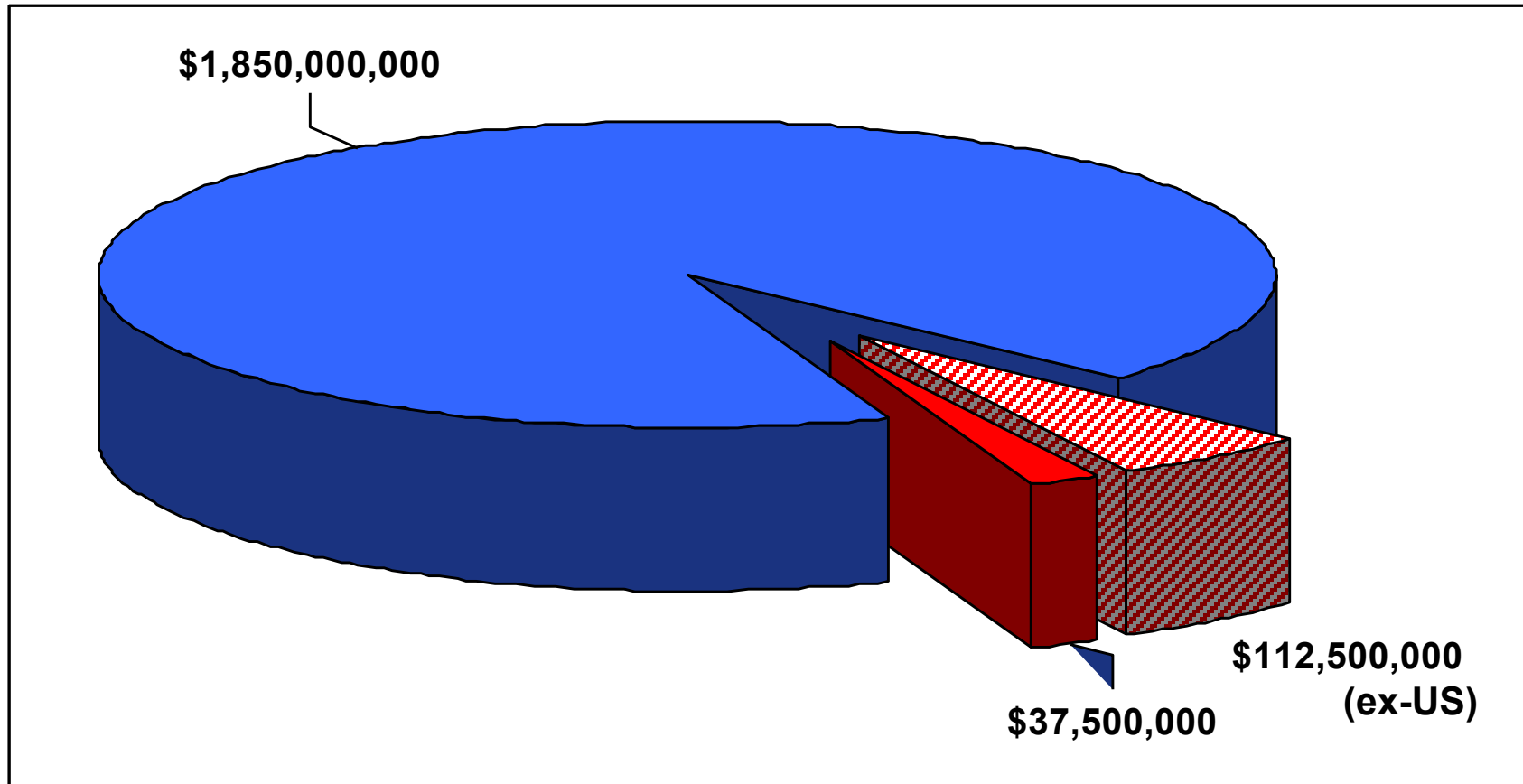
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Most valuable patent in a $2 billion global portfolio

$1,850,000,000 (remainder of portfolio)

$150,000,000
(most valuable patent)

Most valuable patent in a $2 billion global portfolio
- US market only (25% of world)

$1,850,000,000

$37,500,000

$112,500,000
(ex-US)

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Most valuable patent in a $2 billion global portfolio

- US market only (25% of world)

- asserted against largest competitor (25% of US market)

$1,850,000,000
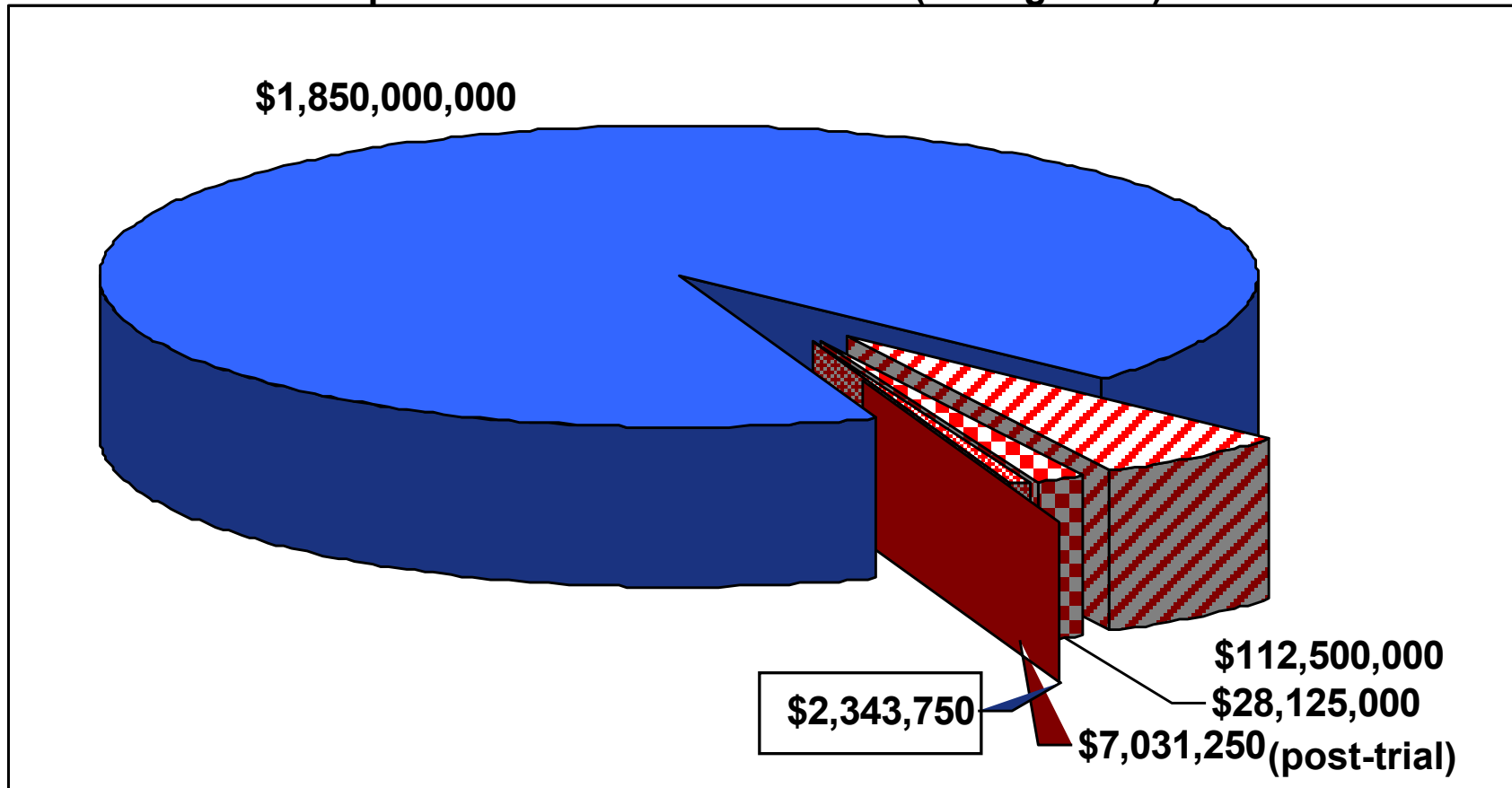
$112,500,000

$9,375,000

$28,125,000
(3rd parties)
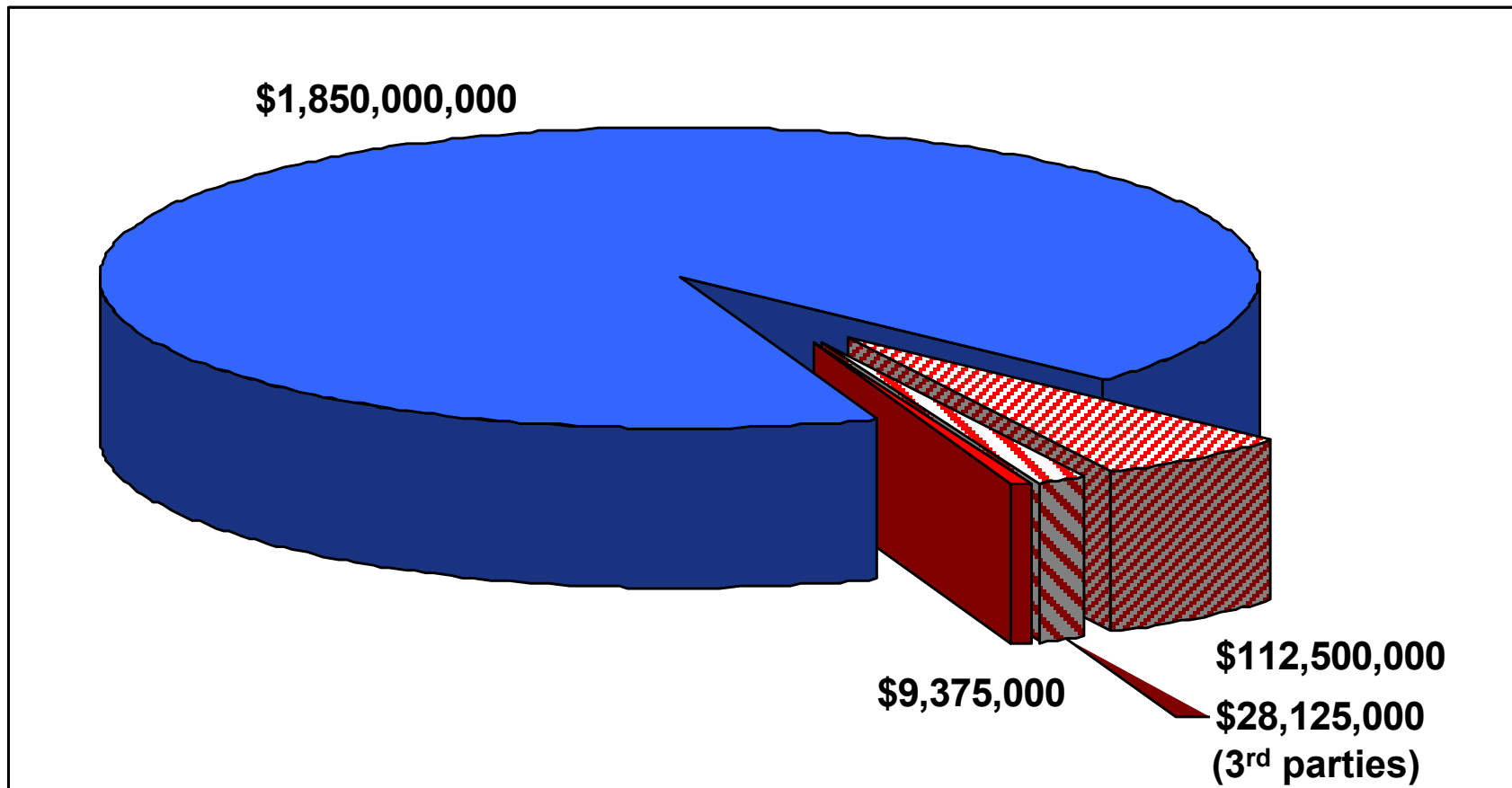
Most valuable patent in a $2 billion global portfolio

- **US market only (25% of world)**
- **asserted against largest competitor (25% of US market)**
- **for 25% of patent's useful economic life (through trial)**

$1,850,000,000

$112,500,000
$28,125,000
$7,031,250 (post-trial)

$2,343,750

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Other examples

- Am I maximizing the value of my portfolio (not "monetizing")?

- What should I pay for the portfolio of my acquisition target?

- What is the value of my R&D, apart from patent rights?

- How should I structure compensation to induce optimal disclosure by my employees?

- …

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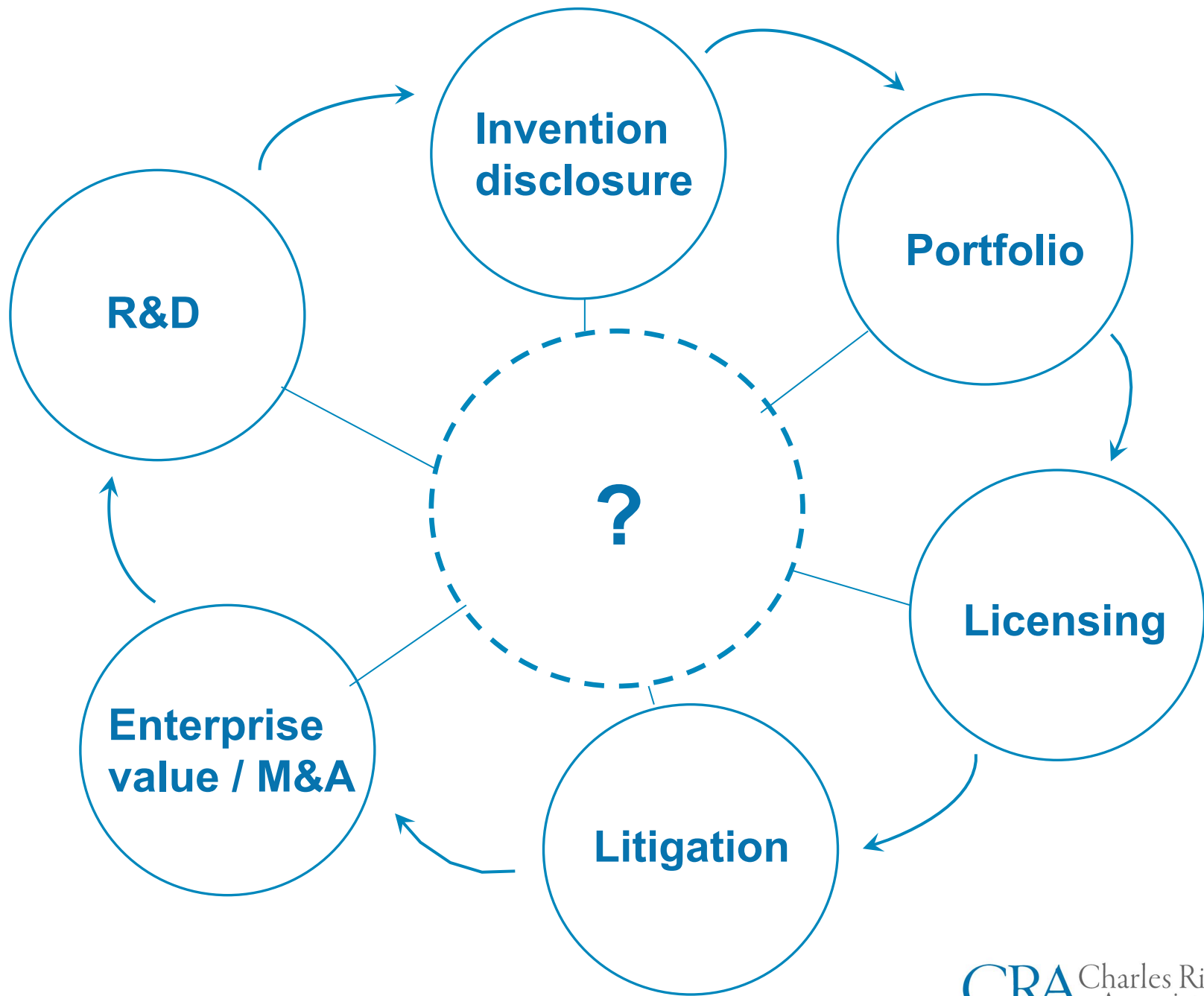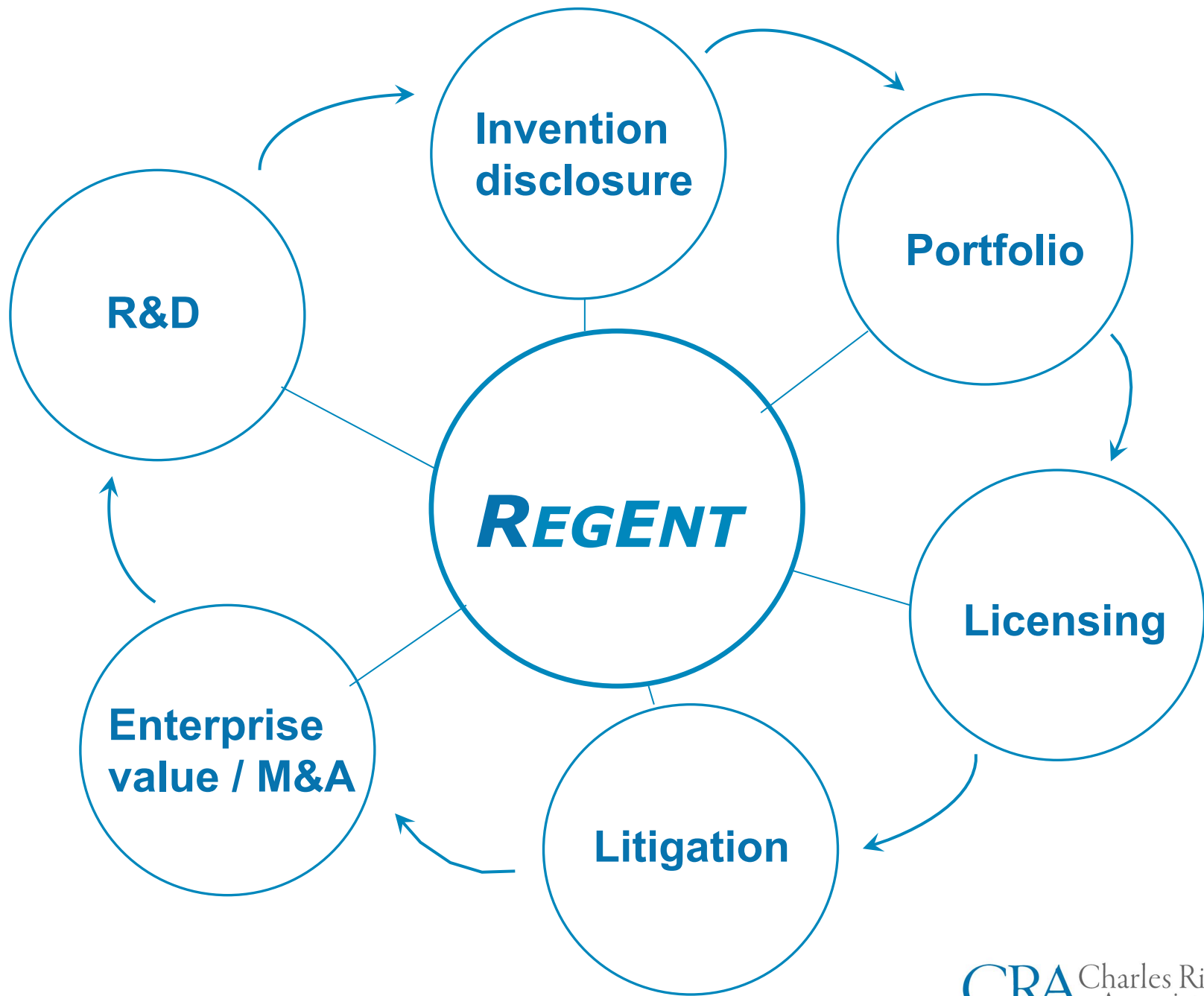
REGENT – ENTERPRISE REGULATION

- **REGENT** operations management for R&D managers

- **REGENT** portfolio management for portfolio managers

- **REGENT** license management for license managers

- **REGENT** case management for litigation managers

- **REGENT** competitive assessment for M&A managers

- **REGENT** asset management for financial managers

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THERE IS ONLY ONE REALITY

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