Patenting
through a $ Lens

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NAPP
NATIONAL ASSOCIATION
OF PATENT PRACTITIONERS

This is for general education.
Nothing here is legal advice.

Medium-sized companies

Have

A recurring budget for patenting

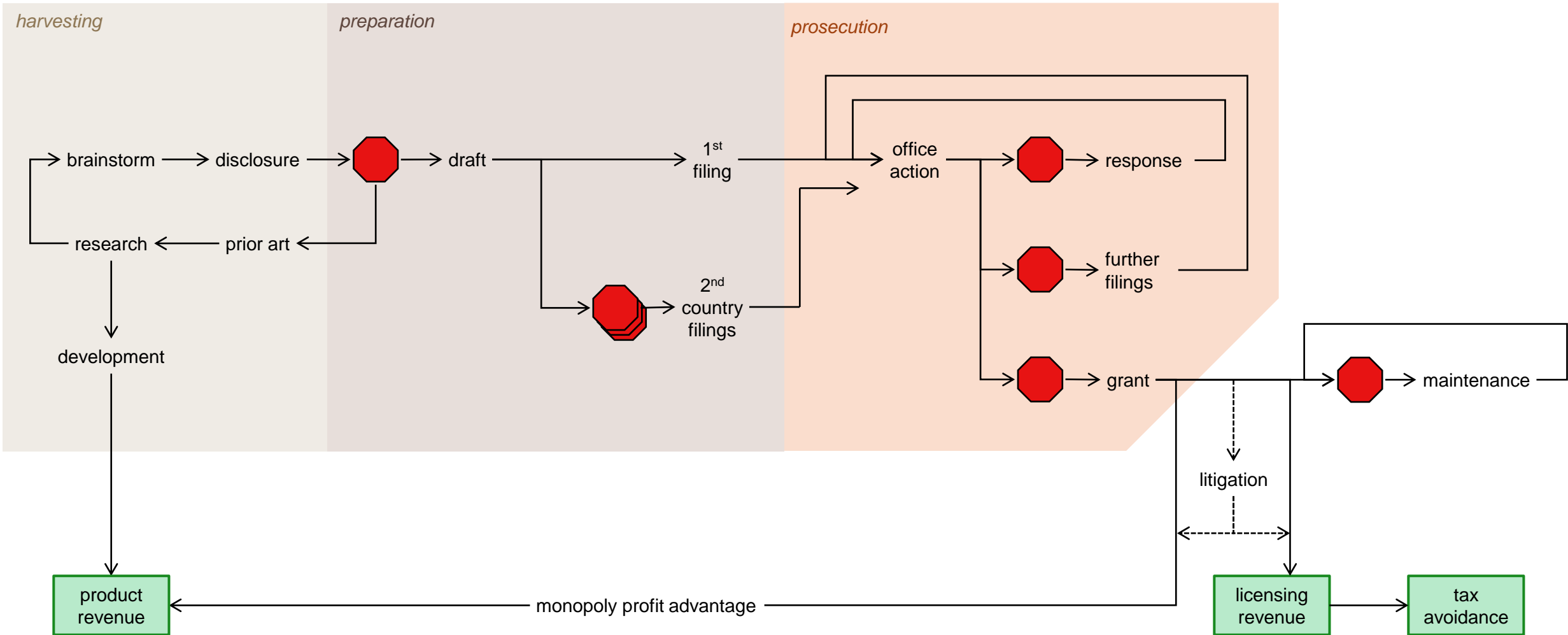A process for evaluating invention

Don't have

A patenting department
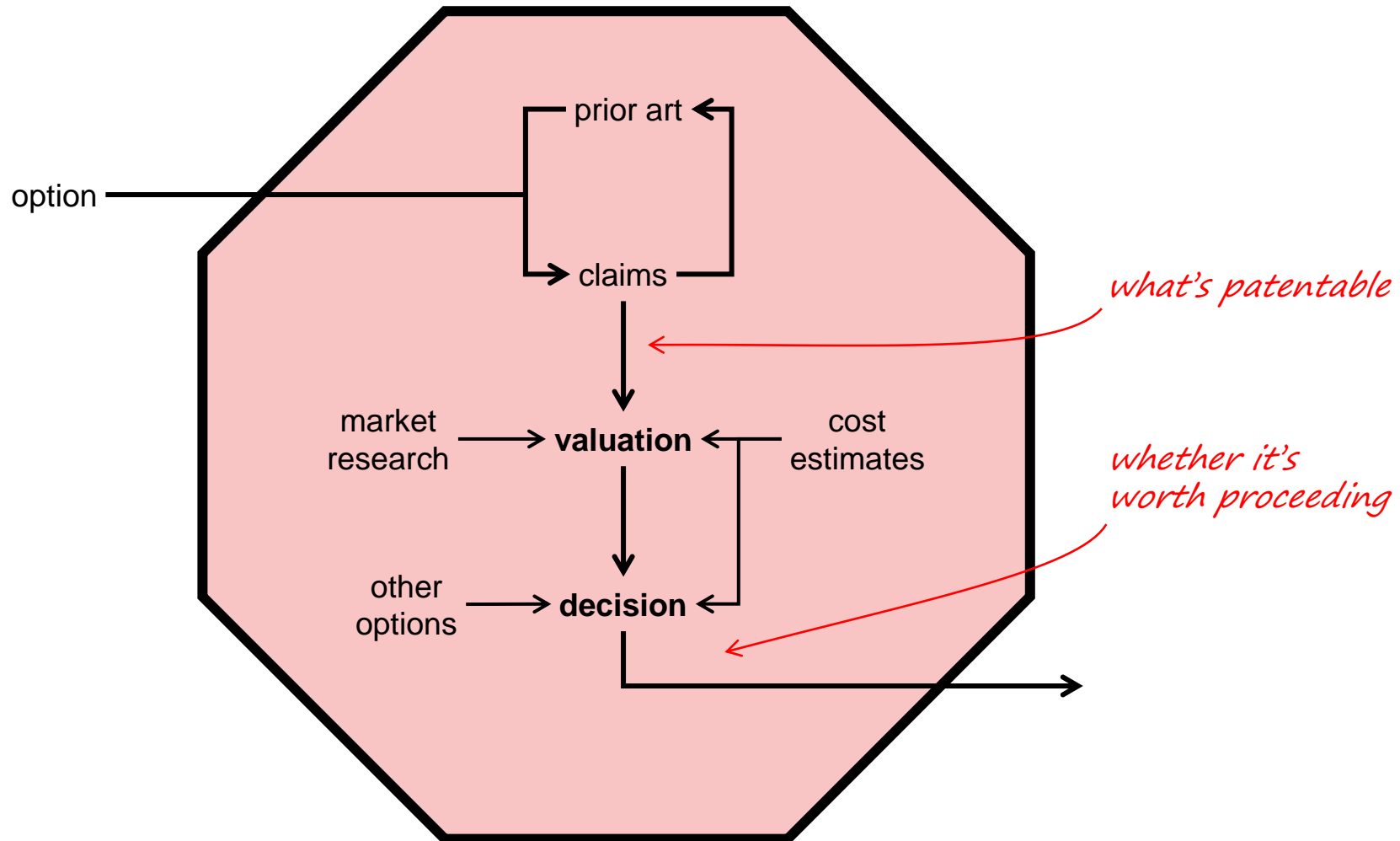
Multiple business units

This presentation is for medium-sized companies

The life of a patent

Each ⬣ is a decision on an option to buy potential future revenue

Decision process

Valuation methods

✗ Cost-based – Theoretical research cost savings

✗ Market-based – Deal pricing "comps" from others' patents

✓ Income-based – Estimates <u>real value</u>

*profit increase
from
claimed invention*

Valuation estimate

$$V_P = \left(\left(\sum_{i=Y_g}^{20} \frac{M_i + R_i L_i}{(1+I)^{\max(0,i-Y_s)}} \right) - E \right) D_A D_U D_F D_P D_E D_Q (1+B)(1+9S) - \left(\sum_{i=Y_s}^{20} \frac{C_i}{(1+I)^{i-Y_s}} \right) + Z$$

V_P Net present value

Y_s Years since priority date (presently)

Y_g Year entering enforceability

M_i **Company's production profit under monopoly in year *i***

L_i **Region-cumulative claim-apportioned marginal profit from licensed sales in year *i* (royalty base)**

R_i Reasonable royalty rate based on expected sales pricing/volume in year *i*

I Cost of capital (discount rate) reflecting opportunity cost and time value of money

E Cost of enforcement

D_A Probability of company having an appetite to sue

D_U Probability of future market adoption

D_F Probability of being able to detect infringement

D_P Probability of no invalidating prior art

D_E Probability of claims being found patent eligible subject matter

D_Q Probability of avoiding fatal preparation, prosecution, and enforcement errors

B Premium for the family being open

S Probability of being essential to an industry standard

C_i Expected future drafting, filing, prosecution, and maintenance costs in year *i*
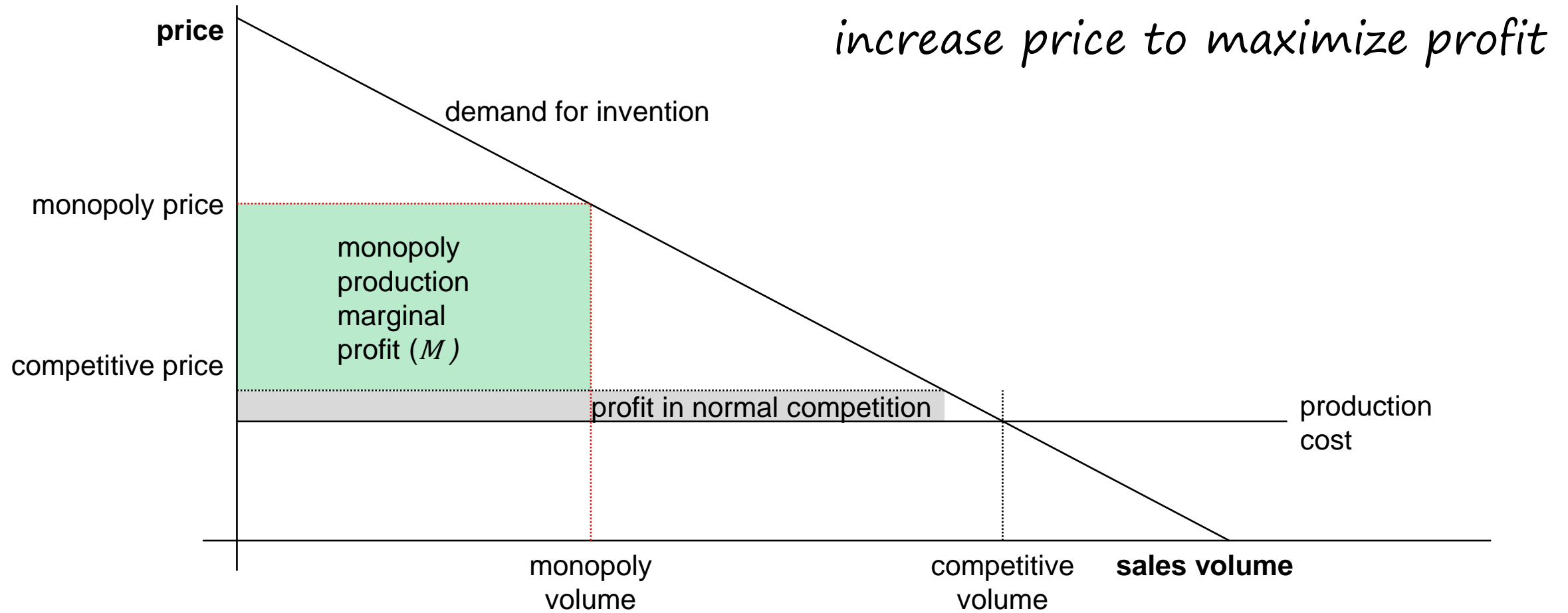
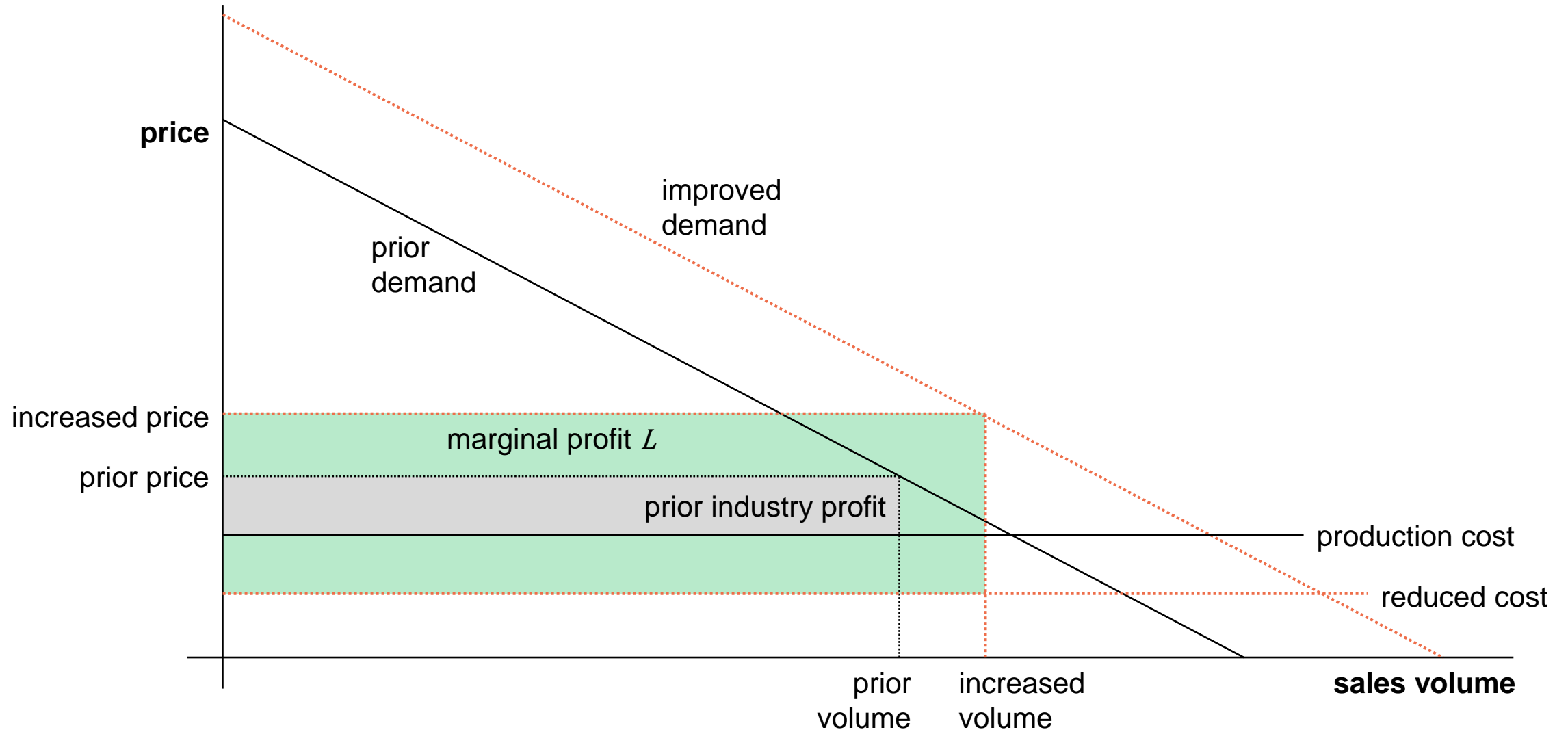Z Marginal company valuation per patent portfolio asset

business determinations

technology determinations

legal determinations

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Monopoly marginal profit (M)

increase price to maximize profit

price

demand for invention

monopoly price

monopoly
production
marginal
profit (M)

competitive price

profit in normal competition

production
cost

monopoly
volume

competitive
volume

sales volume
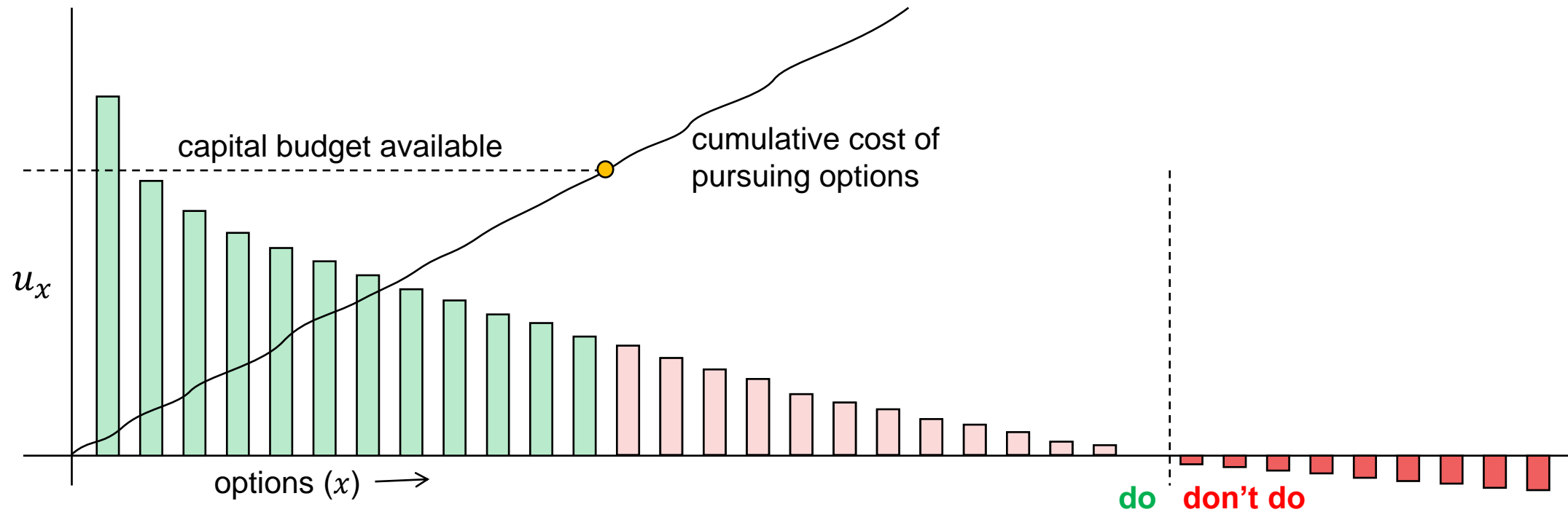
Licensing royalty base (L)

Option comparison

Calculate, within the budget horizon
  for each option x
    the utility u of the money to buy the option
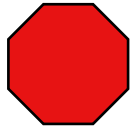Sort the option by the utility of money to buy them

$$u = V_P \div c$$

u utility of budget money spent on option
c cost within the budget horizon to buy option

capital budget available

cumulative cost of pursuing options

u_x

options (x) $\longrightarrow$

do   don't do

Allocating budget

Option steps

receive option

↓

🛑

↓

decision

↓

professional
instructions

↓ *spending committed*

filing

Budget horizon timeline

¼ annual capital budget

committed spending

drafting and 1st filing
office action responses
further filings
grant fees

extended office action responses

2nd country filings

maintenance fees

today — month 3 — month 6 — month 12 — month 30 — year 20
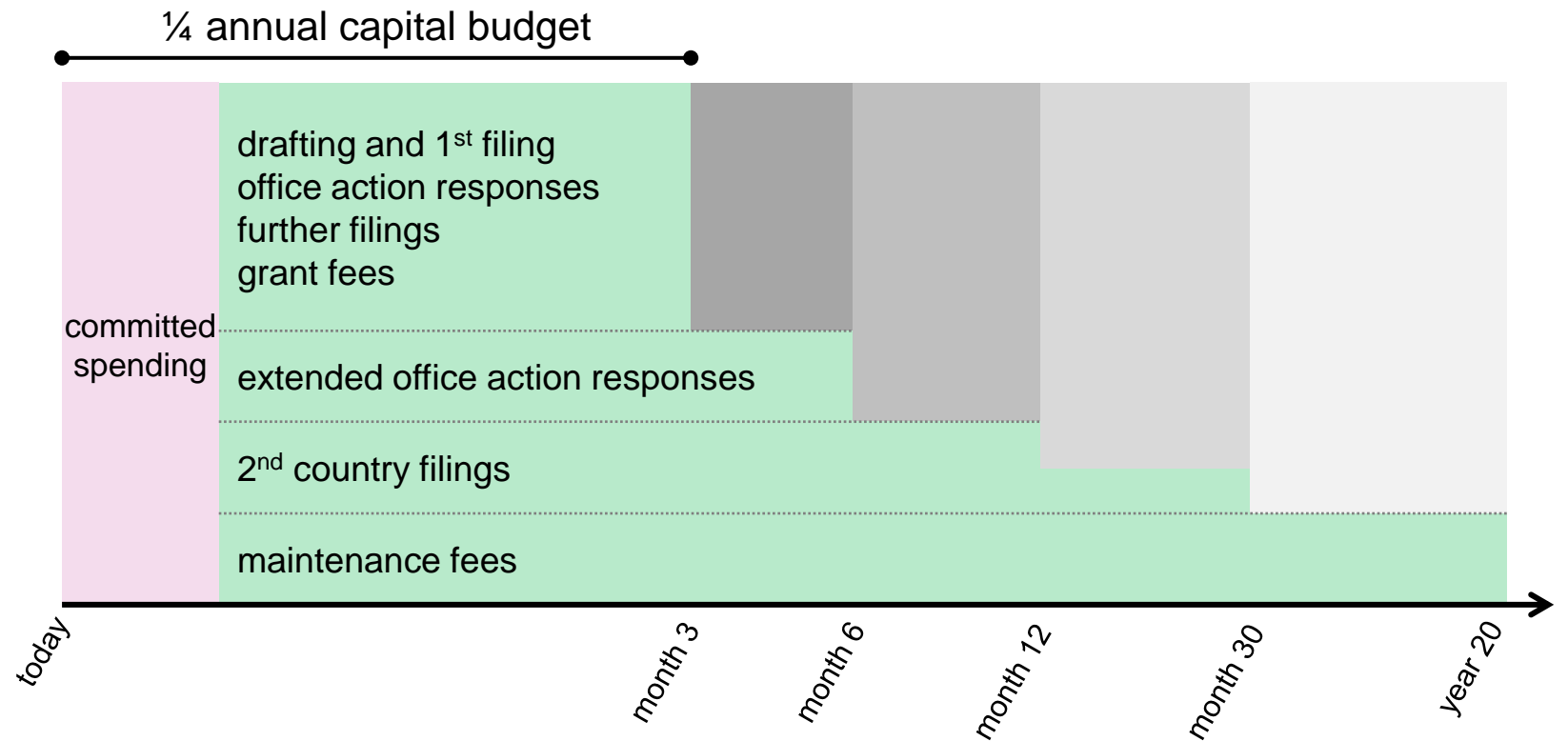
Be

Methodical – Don't skip steps

Dispassionate – Avoid liking or disliking inventions, inventors, or markets

Quantitative – Apply a formula to best estimate numbers, even if uncertain
Do not follow a 'gut feel'

Rational – Be able to explain the reasoning supporting your estimates

Good luck

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