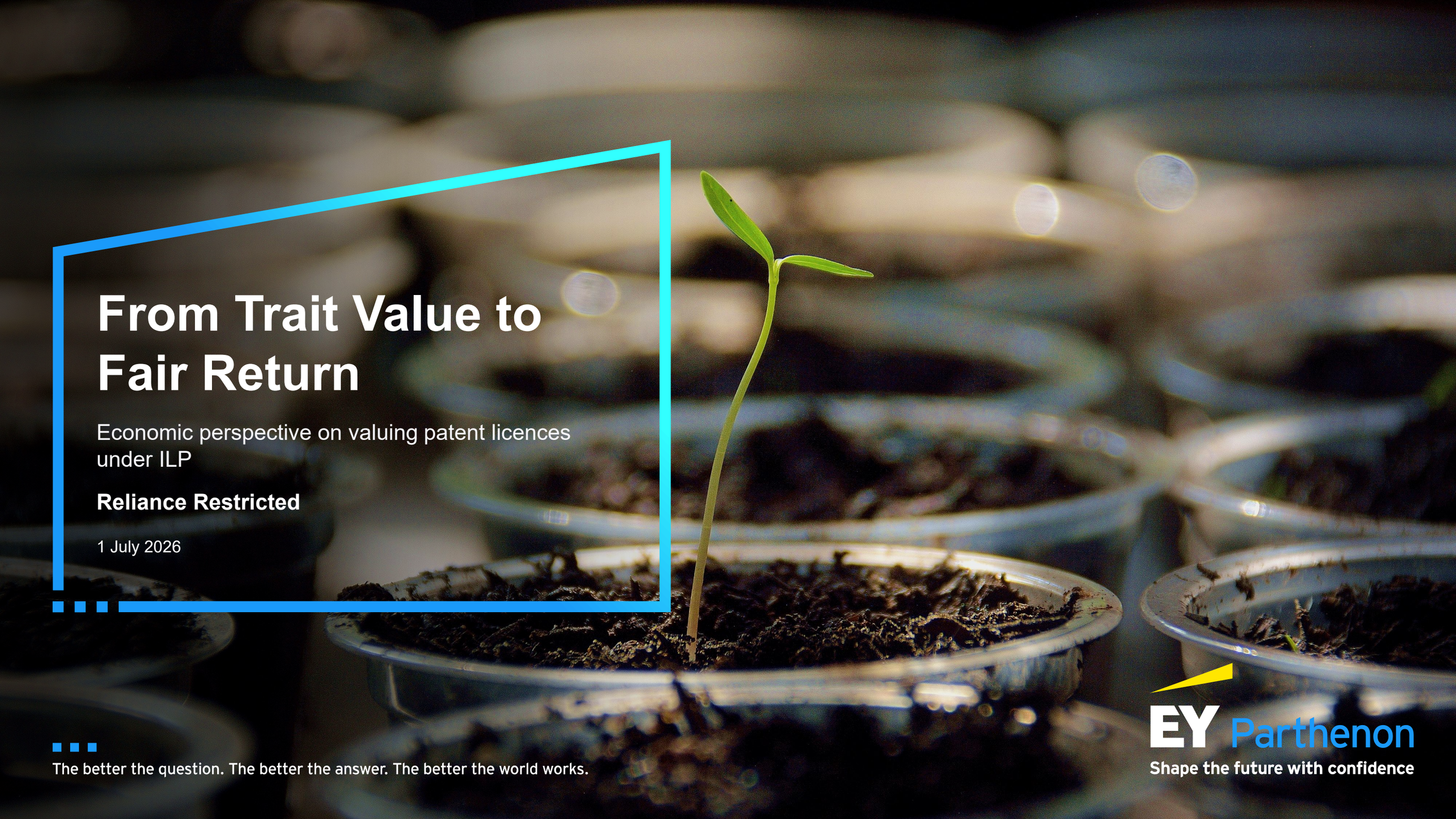

From Trait Value to Fair Return

Economic perspective on valuing patent licences under ILP

Reliance Restricted

1 July 2026

The better the question. The better the answer. The better the world works.

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Table of contents

1

Introduction

Today's presenters

Pieter-Bob Houpt

Partner

pieter.bob.houpt@parthenon.ey.com
+31 (0) 6 2908 4507

- Transactions and Corporate Finance partner at EY-Parthenon.
- Experienced in complex valuations and buy-/sell-side transactions.
- Special expertise in the Food & Agri sector.

Patrick Boertien

Partner

patrick.boertien@parthenon.ey.com
+31 (0) 6 2125 2578

- Leads the Dutch Valuation & Business Modelling practice.
- Specialist in valuations, business cases and expert determinations.
- Experienced in dispute services as a registered court expert.

Why this workshop: applying valuation principles to patent licensing

1 Breeding innovation
New traits can improve yield, risk, cost or quality

2 Trait patents
IP protects a technical contribution

3 ILP access
Members commit to make patents available

4 FRAND licence fee
Access requires fair and reasonable compensation

5 Expert decision
If negotiation fails, experts choose one submitted rate

"Free access, but not access for free"

How do we determine the economic value created by a patented trait or licence?

Provide perspective on how to value a patent or licence, so FRAND licence fee discussions are grounded in economic logic.

Audience view: What is “fair and reasonable” in FRAND?

F Fair

R Reasonable

A And

N Non-

D Discriminatory

What considerations should matter when determining a fair and reasonable licence fee?

Examples: incremental value, risk taken, investment recovery, alternatives, benchmarks, patent life, adoption speed.

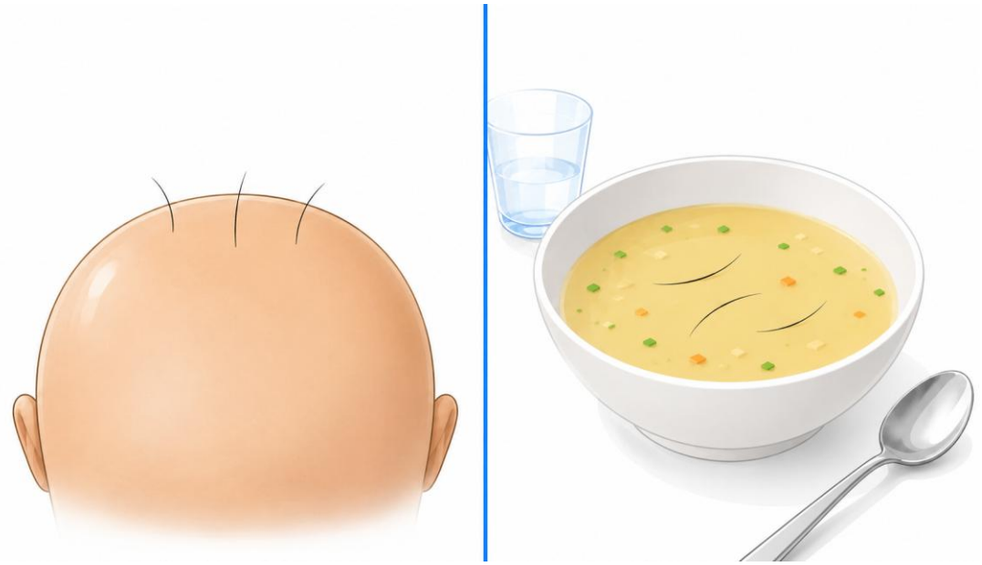
2

Valuation of a (vegetable breeding) company

What is value?

"Price is what you pay, value is what you get"

Value depends on context



Three hairs may seem like very little, until they appear in your soup

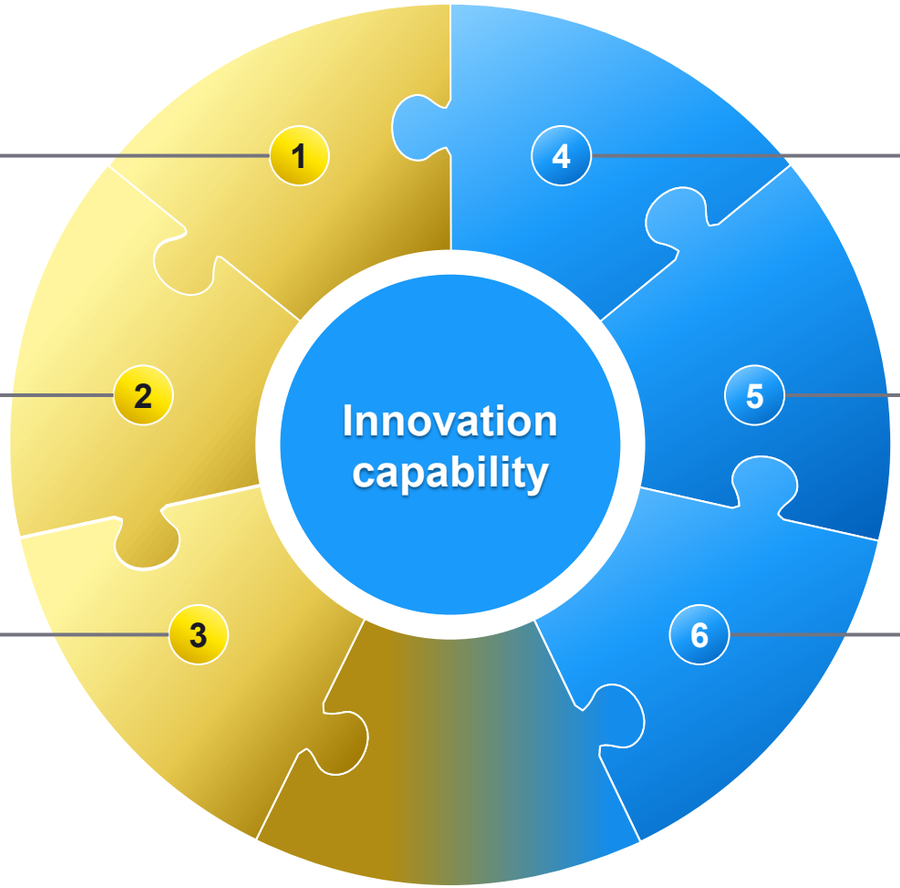
Innovation capability drives future value in plant breeding

Core intangible value drivers

Knowhow
Breeding expertise, data, historical trials and tacit knowledge

Technology / IP
PBRs, Trait patents, breeding technologies, markers and freedom to operate

Germplasm / portfolio
Access to genetic material and commercial variety pipeline



Value conversion and protection

Risk profile
Adoption risk, disease resistance durability, regulation and enforceability

Barriers to entry
Long development cycles, high R&D spend and accumulated experience

Commercial reach
Customer relationships, brand trust and route to market

The stronger and more defensible the innovation base, the higher and more resilient the expected future benefits

Valuation starts with three lenses, but future cash flows drive value

	1 Cost	2 Market approach	3 Income
Methods	Historical cost	***"Market value"*** Guideline Company	Cash flow oriented
	Replacement cost	***"Transaction value"*** Similar Transactions	DCF method
Value is based on	Assets & Liabilities Hidden reserves Historical performance	Value based on multiples of comparable companies/ transactions	Present value of future cashflows Taking risk into account
Considerations	Does not consider future earnings	Fair market value estimate Truly comparables are difficult to find	Does consider future earnings More complex application

Income approach: a DCF converts future cash flows into value today

Illustrative example: 10 years of EUR 100 free cash flow discounted at 10%

Formula: present value = future cash flow x discount factor

Discount factor = 1 / (1 + discount rate)^year

	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Cash flow	**EUR 100**	**EUR 100**	**EUR 100**	**EUR 100**	**EUR 100**	**EUR 100**	**EUR 100**	**EUR 100**	**EUR 100**	**EUR 100**
Discount factor	DF 0.91	DF 0.83	DF 0.75	DF 0.68	DF 0.62	DF 0.56	DF 0.51	DF 0.47	DF 0.42	DF 0.39
Present value	**PV 91**	**PV 83**	**PV 75**	**PV 68**	**PV 62**	**PV 56**	**PV 51**	**PV 47**	**PV 42**	**PV 39**

Value
= sum of present values

Illustrative NPV: EUR 614

The discount rate reflects the required return for risk: higher uncertainty means lower present value for the same future cash flow.

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Valuation of a Patent / IP

How to value a patent / IP

The same three approaches apply, with the income approach as the typical method

	1 Cost	2 Market approach	3 Income
Value is based on	R&D, trials, registration and patent costs	Reference licence deals and comparable transactions of patents	Estimated additional value created (or protected) by the trait based on **Methods:** Relief-from-Royalty or With & Without approach
Considerations	Not sufficient alone because the creator should earn a return for risk and innovation	Limited public information Comparability is limited by crop, geography, trait type and licence scope	More complex application requiring a high degree of estimation / judgement
Practical use case	**Base value**	**Sanity check**	**Typical approach**

Illustrative example: With & Without approach

The value of the trait or licence is the difference between two business-case valuations

With trait / licence	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Revenue	120	120	120	120	120	120	120	120	120	120
Free Cash Flow	**12.0**	**12.0**	**12.0**	**12.0**	**12.0**	**12.0**	**12.0**	**12.0**	**12.0**	**12.0**
Discount factor	0.91	0.83	0.75	0.68	0.62	0.56	0.51	0.47	0.42	0.39
Present Value of FCF	**10.9**	**9.9**	**9.0**	**8.2**	**7.5**	**6.8**	**6.2**	**5.6**	**5.1**	**4.6**

PV Business case 74

Without trait / licence	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Revenue	100	100	100	100	100	100	100	100	100	100
Free Cash Flow	**10.4**	**10.4**	**10.4**	**10.4**	**10.4**	**10.4**	**10.4**	**10.4**	**10.4**	**10.4**
Discount factor	0.91	0.83	0.75	0.68	0.62	0.56	0.51	0.47	0.42	0.39
Present Value of FCF	**9.5**	**8.6**	**7.8**	**7.1**	**6.5**	**5.9**	**5.3**	**4.9**	**4.4**	**4.0**

PV Business case 64

Key assumptions

Incremental revenue p.a.	**20**
Discount rate	**10%**
Licence term	**10 years**

Value of trait / licence

10

Difference between With and Without business cases

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Back-solving the licence fee: turn incremental value into royalty rate

Once incremental value has been determined, an implied maximum royalty rate can be calculated

Key assumptions

Licence value	10
Trait / licence revenue p.a.	20
Term	10 years
Discount rate	10%

Royalty case	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Trait / Licence revenue	20	20	20	20	20	20	20	20	20	20
Royalty payment	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6
Discount factor	0.91	0.83	0.75	0.68	0.62	0.56	0.51	0.47	0.42	0.39
Present value of royalty	1.5	1.3	1.2	1.1	1.0	0.9	0.8	0.7	0.7	0.6

PV Royalty payments **10**

Royalty rate = 8.0% of incremental revenue

PV of royalty payments

10

Royalty rate = 8.0% of revenue

Annual payment approx. 1.6

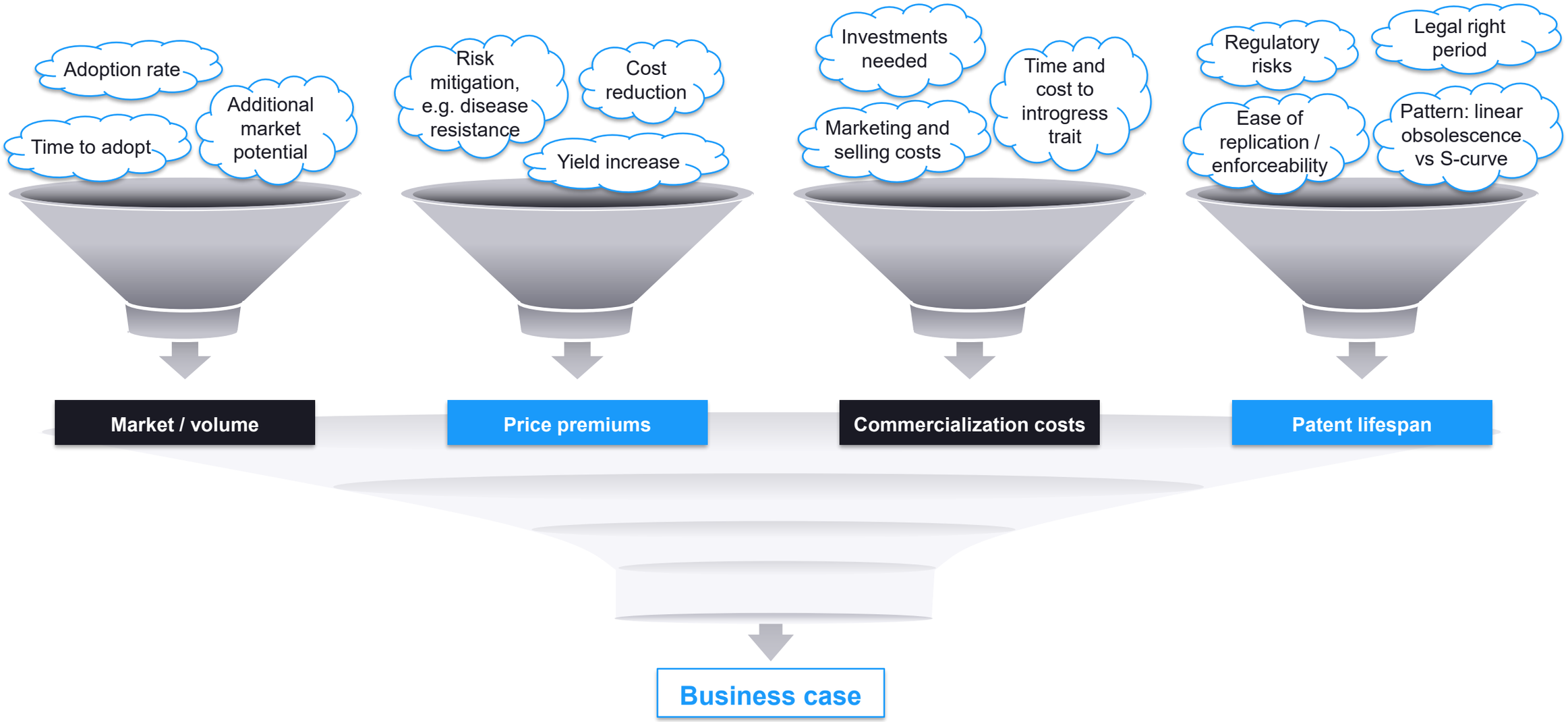
Key message: At this rate, the licensee taker pays exactly the value received: zero NPV. The actual FRAND licence fee should be below this ceiling.

Audience view: what are key inputs for a business case?

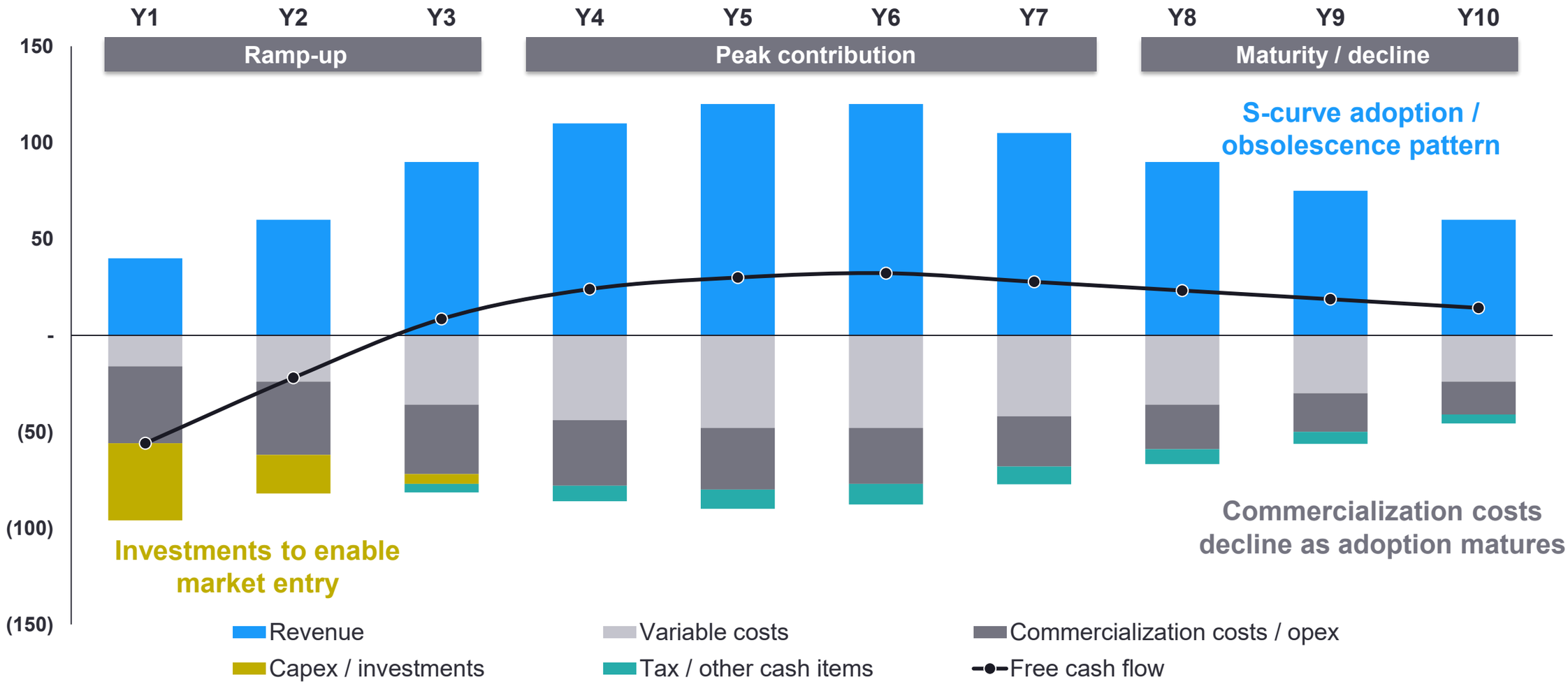
What are the key inputs for a plant-breeding patent business case?

Think of assumptions that move incremental NPV.
Examples: market size, adoption rate, cost reduction, yield increase, replication risk

Key value drivers: inputs for the business case



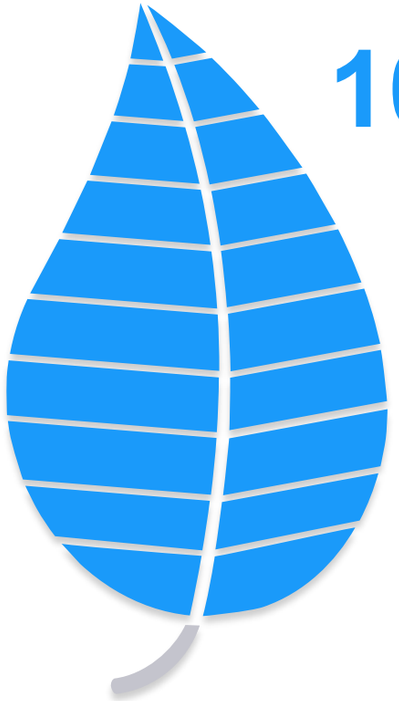
Illustrative business case based on key inputs and assumptions



Thought experiment: how much value would a trait bring to the market

Hypothetical monopoly

Assumes the licensor keeps exclusive control of the patented trait.



100%

Licensor

>

ILP / FRAND reality

Under ILP, access must be granted on FRAND terms

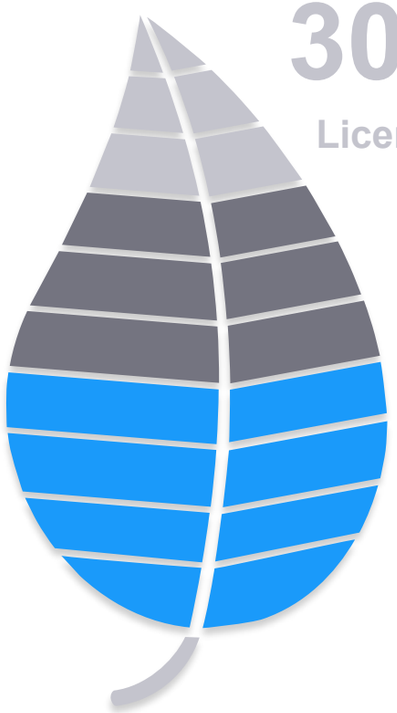
Monopoly capture is not available or desirable

Licence fee becomes share of value

? What is reasonable value sharing?

>

Multiple licensees



30%

Licensee A

30%

Licensee B

40%

Licensor

Total value the trait brings to the market = **Trait value pool**

Applying the income approach: two perspectives on value

Licensee perspective

1 WITH licence

Value of the business case WITH the use of the patented trait.

2 WITHOUT licence

Value of the alternative business case WITHOUT the use of the patented trait.

1 − 2 = 3 Value to the licensee (before licence fee)

3 − Value of licence fee paid = Value to licensee

Licensor perspective

1 WITH: hypothetical monopoly

Value of the business case where licensor captures the full added value of the trait.

2 WITHOUT trait value

Value of the business case without the developed trait / patent benefit.

1 − 2 = 3 Trait value pool

3 − Value of market share lost by granting others your trait + Value of licence fee income = Value to licensor

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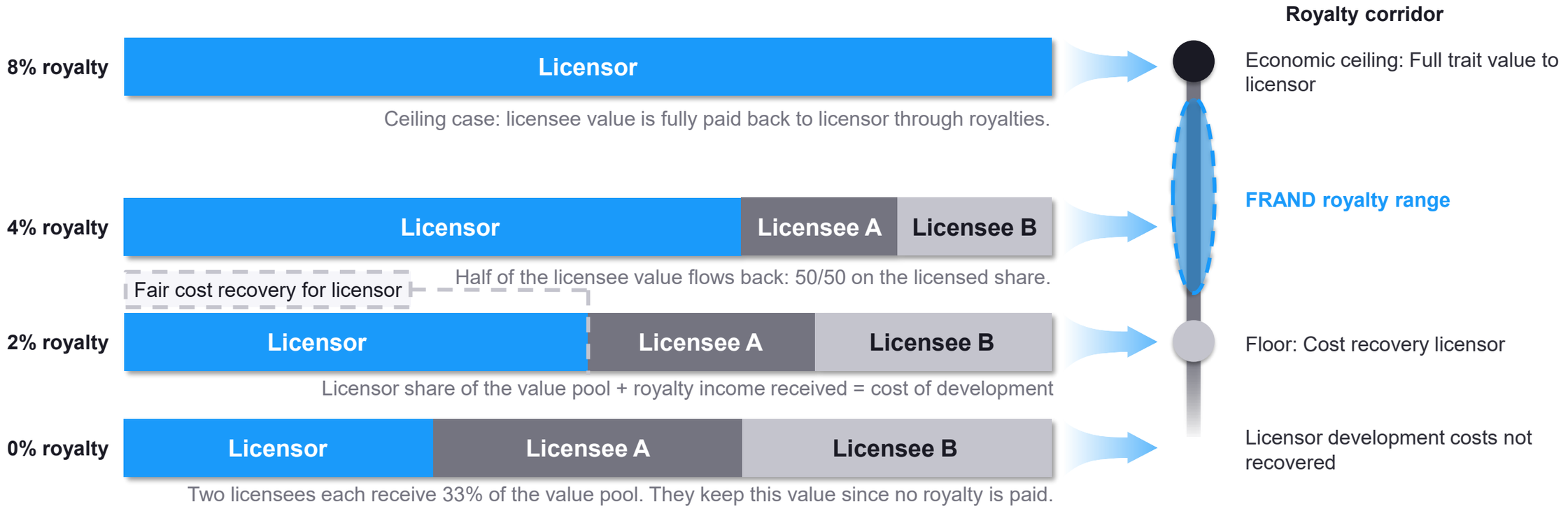
Discussion: how should the total value pool be divided?

Starting point

Total value pool	10
Ceiling royalty rate: all licensee value is paid back to the licensor	8%
Royalty rate at which licensor recovers costs fairly	2%
Market share per participant	33%



What royalty rate would fairly split the value pool?

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Audience view

The total trait value has been determined.
What percentage of this value should go to the licensor?

Royalty corridor

Economic ceiling: Full trait value to licensor

FRAND royalty range

Floor: Cost recovery licensor

% of trait value to licensor

A	0%	–	20%
B	20%	–	40%
C	40%	–	60%
D	60%	–	80%
E	80%	–	100%

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