Damages & Valuation MOOC: Advanced Module 2.5

Loss quantification and valuation in IP disputes

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Types of intellectual property (IP) disputes

- Patent infringement
- Injunction applications / unjust injunctions
- Trademark infringement
- Copyright infringement
- Trade secret misappropriation
- Breach of confidentiality or restrictive covenants

What are the lost profits from patent infringement or (unjust) injunction?

What is the value of a given patent/copyright/ trademark?

What is a fair and reasonable royalty rate for a licence or for quantifying damages?

How do you quantify negotiating damages?

Valuation methods

Income-based

Value of IP to user and/or owner, based on expected cash flows attributable to IP

Focus on attributing cash flows to IP

Market-based

Realisable value, based on comparable transactions or royalty rates

Key is to find appropriate comparators

Cost-based

Value of construction or reconstruction, based on historical or replacement cost

Cost allocation key, risks of not rewarding the investor sufficiently

Income-based methods

- Discounting IP cash flows
- Identifying relevant IP cash flows
- Quantifying loss in IP disputes

Company A

Specialises in molecularly targeted therapies (MTT)

Develops a blockbuster drug for treating cancer, **Clypeum**

- patent granted on 31 December 2021
- clinical approvals on track
- plans to commercialise from 1 January 2023

The initial price of Clypeum is set at $5,000 per dose with a profit margin of 25%.

Projected sales volume in 2023 is 200,000 doses.

What is the value of Clypeum to Company A?

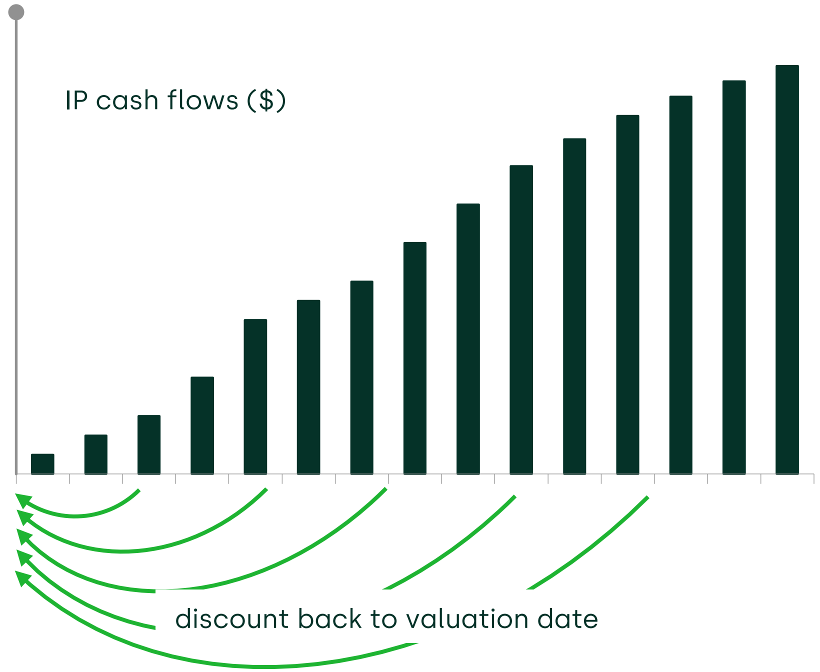
Discounting relevant cash flows

Step 1 What are the **end-user cash flows**?

Step 2 What is the proportion of cash flows **attributable to the IP** in question?

Step 3 How to convert the IP cash flows into a valuation range? Use **discounted cash flows (DCF)** method.

This requires a discount rate (typically cost of capital)



Let's look at Exercise 1 of the Life Sciences case study

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How do you identify the relevant IP cashflows?

Identifying IP cash flows: excess earnings method

All of the firm's assets contribute to profit generation

Firm's profits

IP stack

Other assets

- property, plant and equipment
- inventory
- trained workforce
- brand

Stylised example of excess earnings method

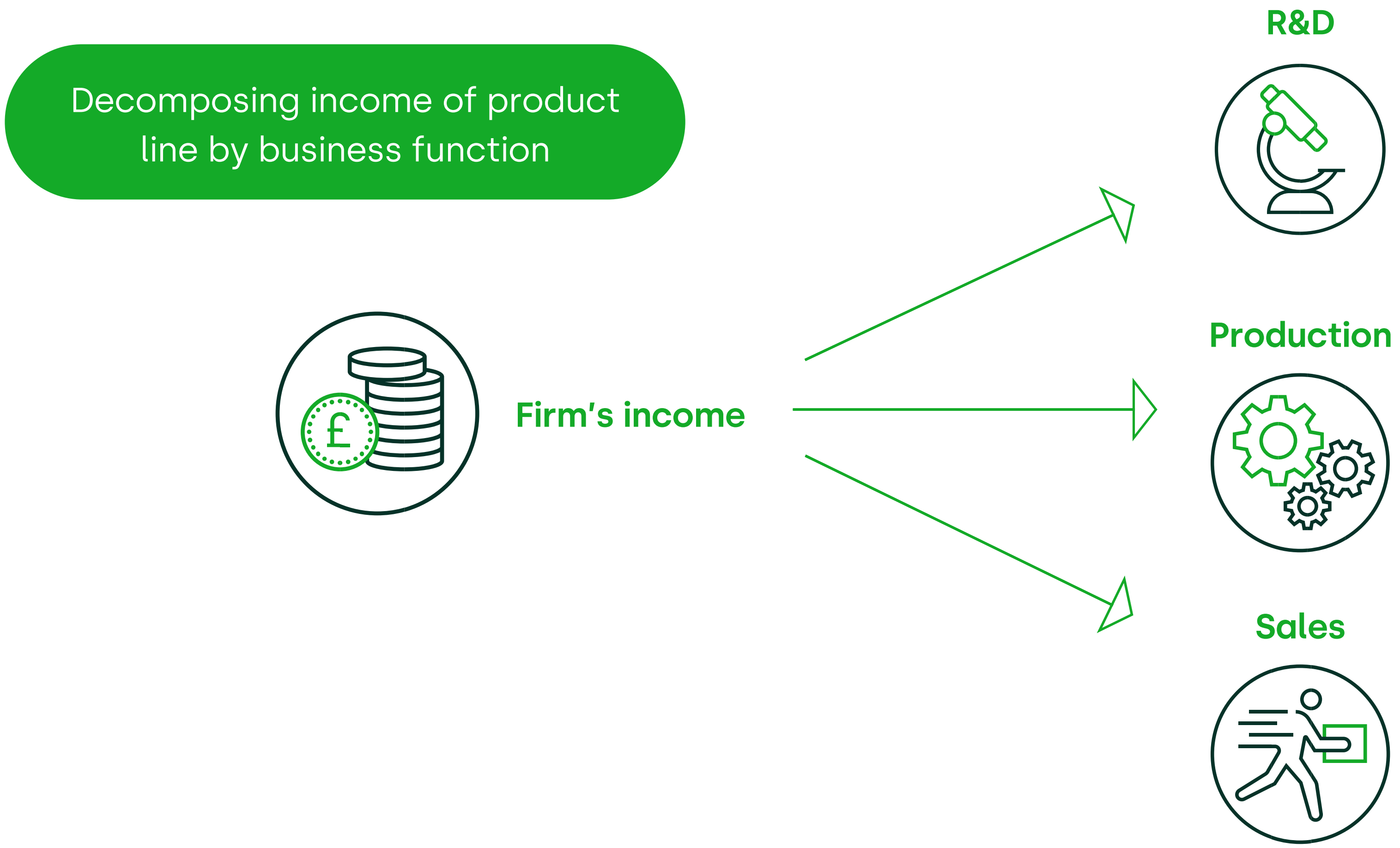
Any given year

Net profit	£100
−	
Contributory Asset Charges (CAC)	£75
=	
Excess earnings	£25

Allocated to IP

CAC		Value		Weighted average cost of capital (WACC)
£37.5	=	£250	×	15%
£12	=	£80	×	15%
£10.5	=	£70	×	15%
£15	=	£100	×	15%

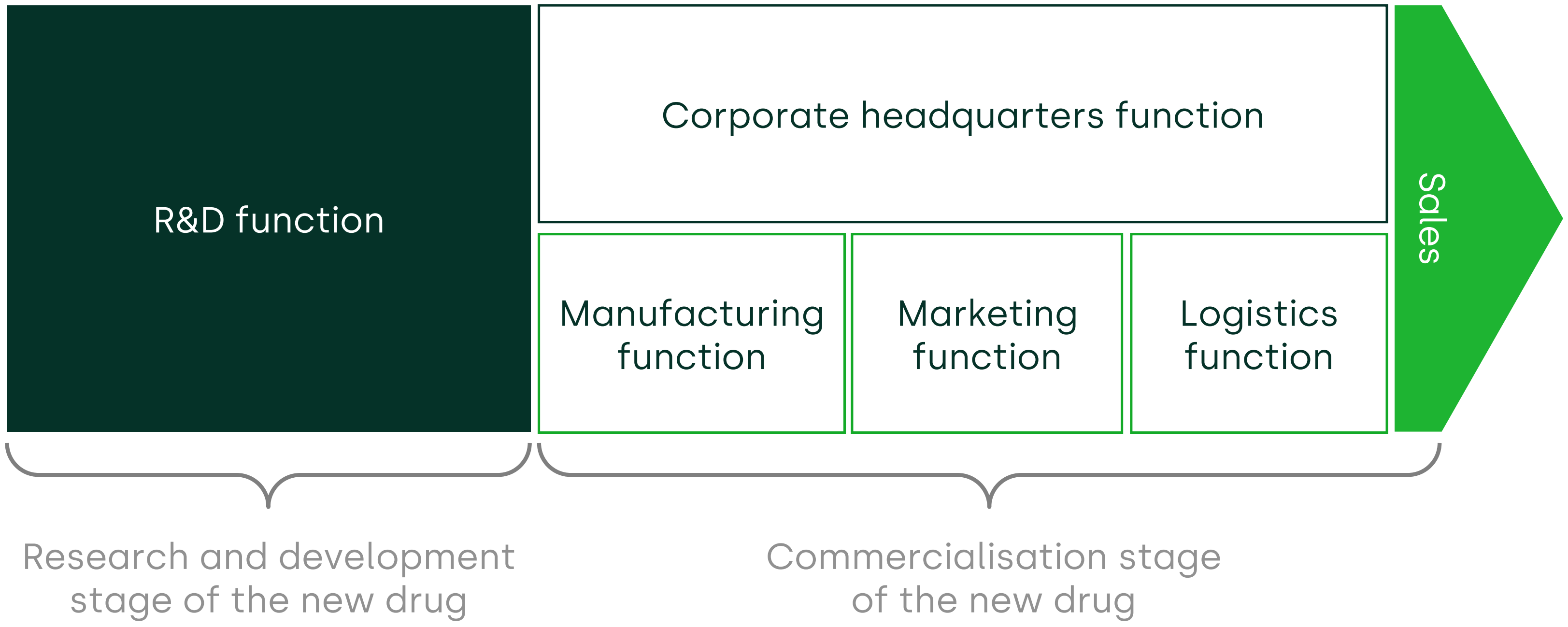
Identifying IP cash flows: residual income method



Residual income method

- first, assess incomes of other functions using external benchmarks

- then, subtract those incomes from the total income of the product line to arrive at the **residual income** for the R&D function



Let's look at Exercise 2 of the Life Sciences case study

Identifying IP cash flows: relief from royalty method

Licensing IP

- pay royalties
- lower tax due to royalty costs

Owning IP

- no royalty payments
- no tax shield

Hypothetical royalty payments that would be saved by owning the asset rather than licensing it

Relief from royalty method

Step 1 Collecting **financial projections** for annual revenues, growth rates and tax rates

Step 2 Estimating the **suitable royalty rate** for the IP in question using comparators

Step 3 Applying the royalty rate to the estimated revenue stream and calculating **after-tax royalty stream**

Step 4 Estimating the appropriate discount factor and calculating **present value** of after-tax royalties

Note: For simplicity, these steps do not consider the amortisation benefit from owning the IP in question.

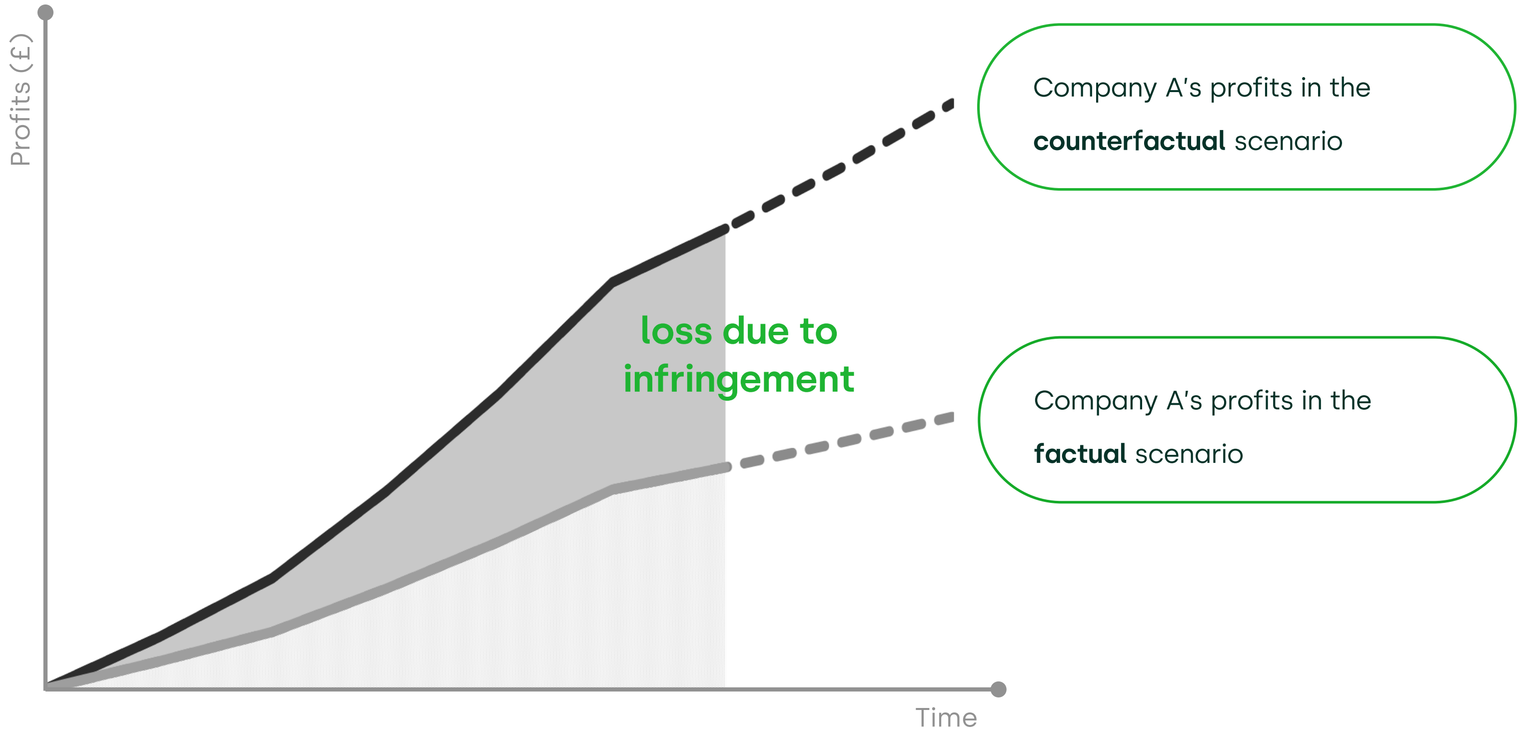
How do you quantify loss in IP disputes?

Lost profits: patent infringement

Before launch, **Company A** discovers that **Company B** has started selling a similar drug—**Copiare**—with the same active ingredient as Clypeum.

- **where?** Europe
- **from?** 31 December 2022

Company A starts infringement litigation against Company B

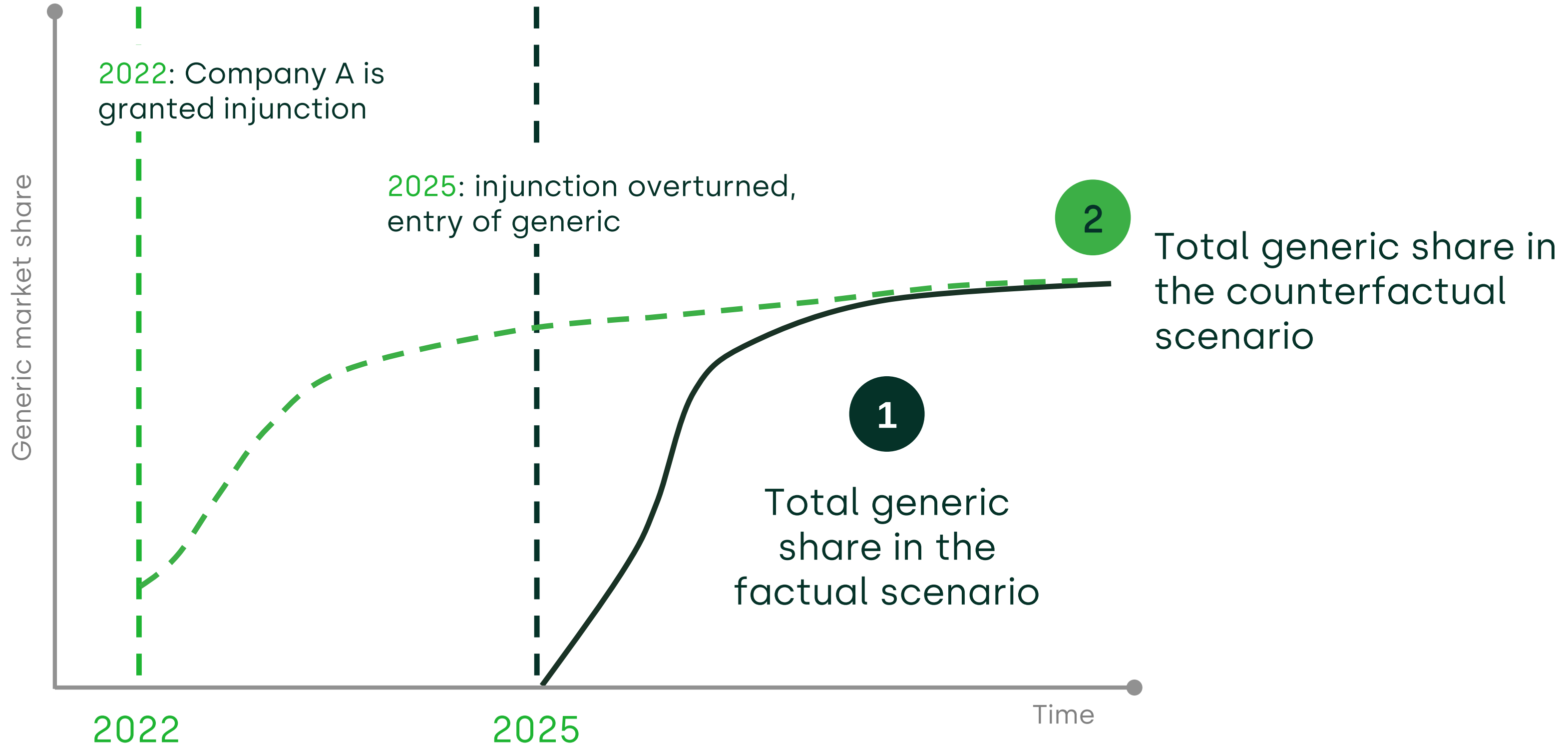


Lost profits: unjust infringement

Here we look at **lost profits from the perspective of Company B** (or the generic drug manufacturers).

Issues to consider:

- what is the relevant counterfactual?
- what would have been the total market size in the counterfactual?
- what would have been the total generic share and what would be each generic's share?
- what would have been the generic price(s)?

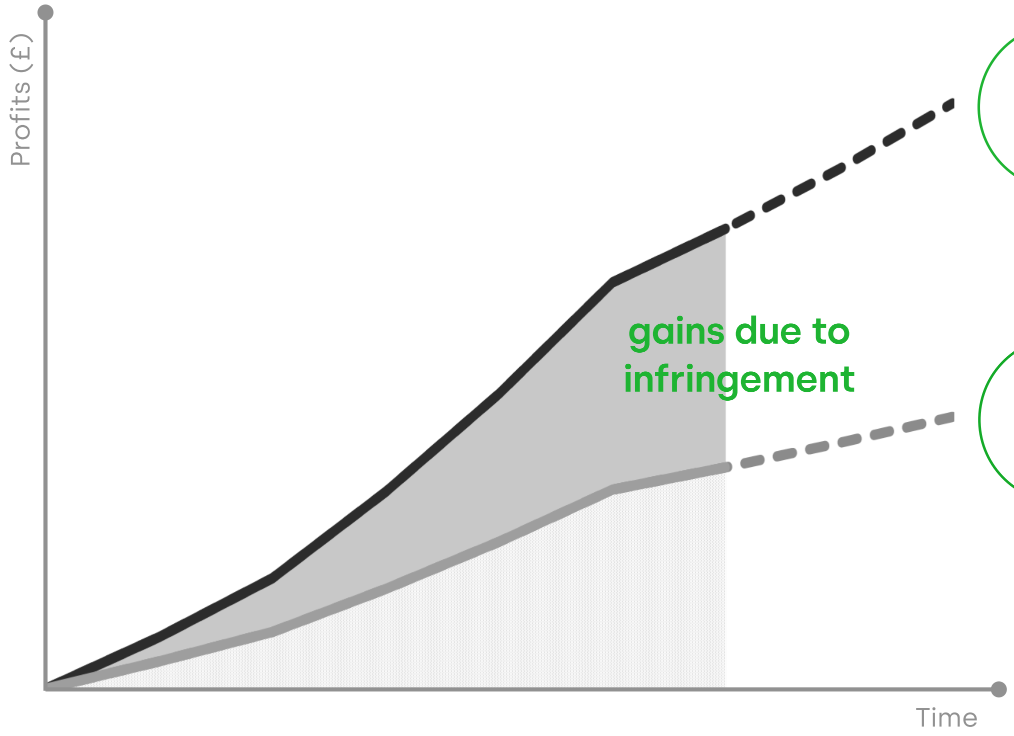


Lost profits: negotiating damages framework

1. Determine the additional profits earned by the licensee as a result of the breach

2. How these additional profits are distributed between the parties depends on:

- the licensee's maximum willingness to pay
- the licensor's minimum willingness to accept

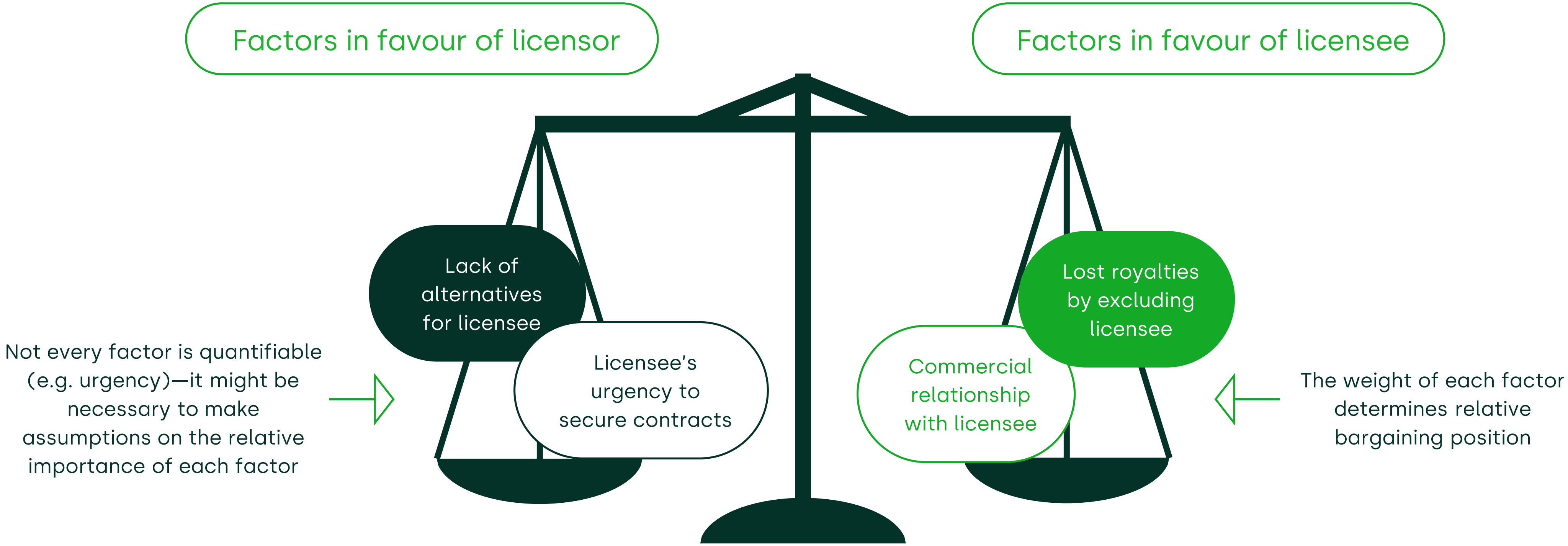


Company B's profits in the **factual** scenario

Company B's profits in the **counterfactual** scenario

- determined by the licensee's outside options
- what would have been the licensee's optimal compliant course of action?

Bargaining theory to distribute the additional profits between the parties



Note: Some of these factors are already used to determine the size of the pie to be distributed.
It is important not to double count their impact.

Market-based methods

- Adjusting running royalty rates
- Unpacking lump-sum agreements
- Unpacking cross-licence agreements

Company A

Owns 25 standard-essential patents (SEPs) for 5G

↓

Has not entered into any licence with implementers (e.g. handset manufacturers) yet

Company B

Owns 100 SEPs for 5G

↓

Entered into licences with multiple implementers

Company C

Handset manufacturer implementing 5G SEPs

↓

Seeking a licence from Company A

What is the appropriate royalty rate for Company A's 5G SEP portfolio?

Adjusting running royalty rates

Step 1	Pick a comparator as the benchmark rate	→	For example, Portfolio B comprising 100 patents with a royalty rate of 5%		
Step 2	Calculate the relative strength ratio e.g. 25% for 5G	→	Number of relevant patents in Portfolio A i.e. 25 for 5G	÷	Number of relevant patents in Portfolio B i.e. 100 for 5G
Step 3	Portfolio B's benchmark rate of 5% (Step 1)	×	Portfolio A's strength ratio of 25% (Step 2)	=	Portfolio A's royalty rate is 1.25%

Company A enters into a lump-sum agreement with another implementer, Company D

Payment schedule

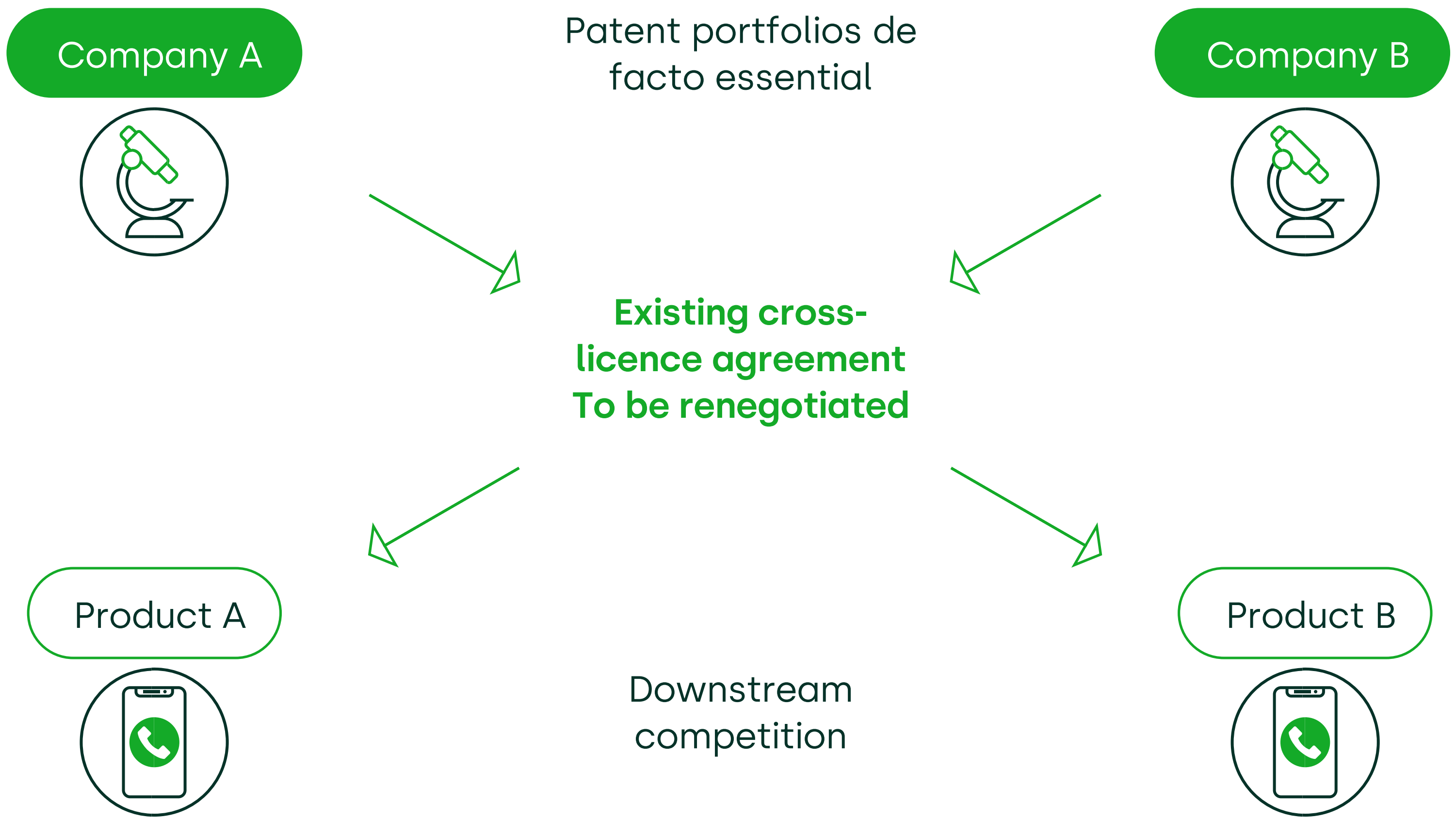
- what is the agreed total amount?
- are the payments spread out over time?

Duration

- how many years does the licence cover?
- what are Company D's projected sales during this period?

Let's look at Exercise 1 of the Telecoms case study

Unpacking cross-licensing agreements



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Unpacking cross-licensing agreements: stylised example

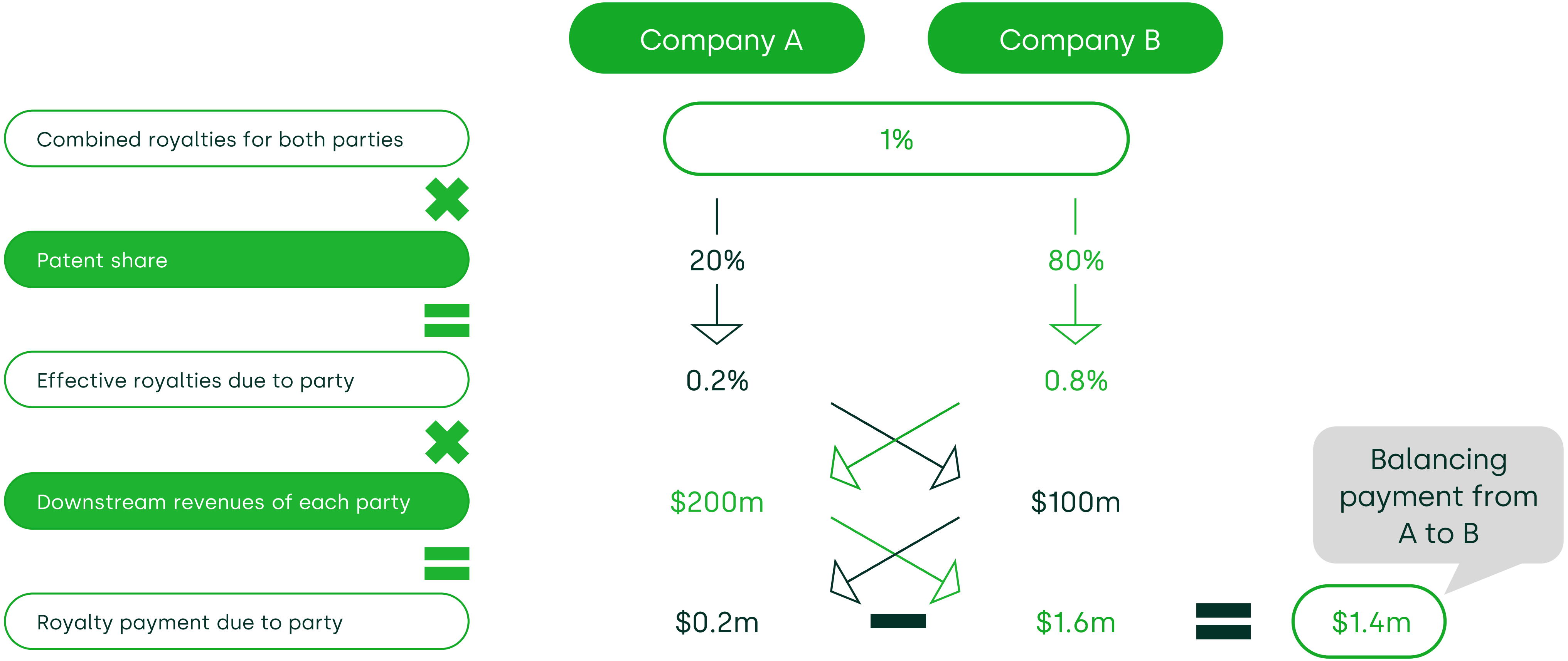
2010 Cross-licence agreement ('CLA')
Observed payment of $Xm from A to B

2020 New cross-licence agreement ('New CLA')
What is the net payment in the new world?

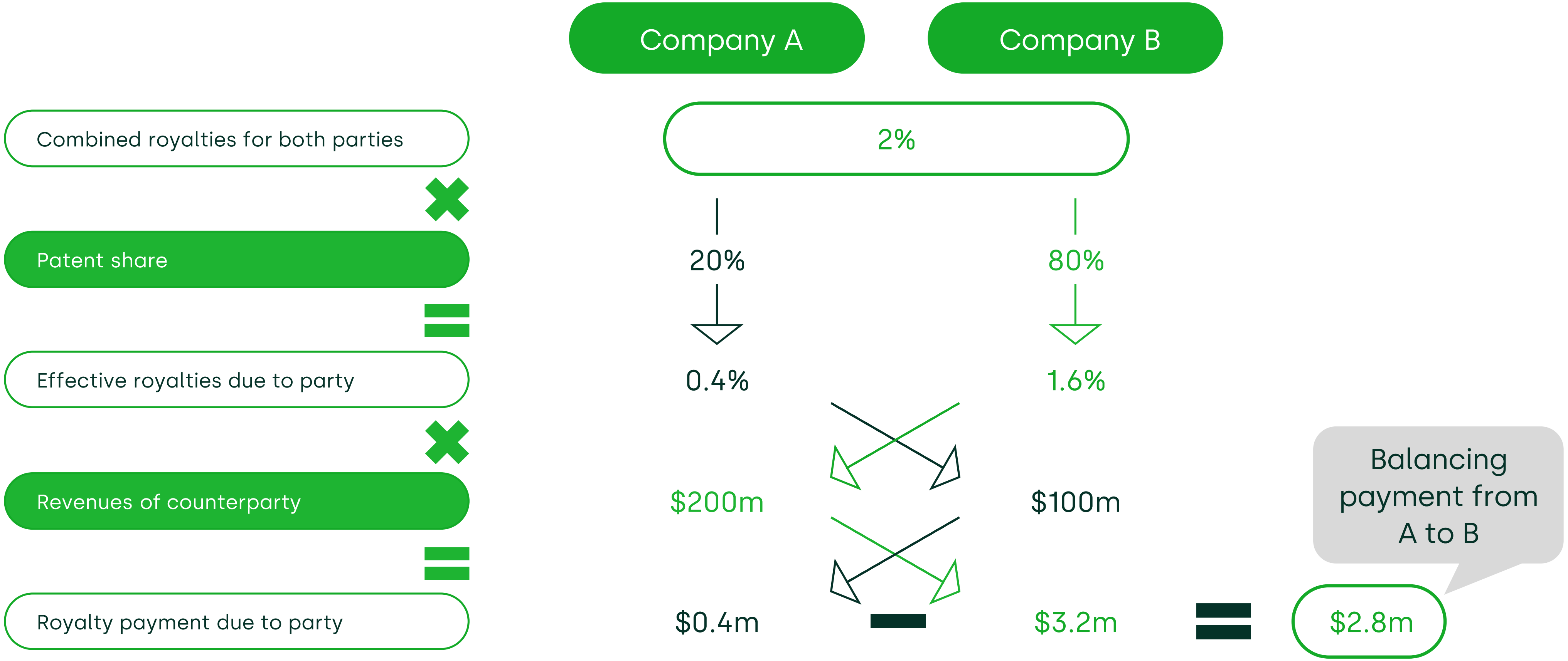
1 What was the underlying 'notional' royalty rate behind the observed balancing payment?

2 What are the considerations if using this 'notional' royalty rate to determine the new payment?

1. What was the underlying 'notional' royalty rate?



1. What was the underlying 'notional' royalty rate?



1. Relevant considerations for the underlying 'notional' royalty rate

Balancing payment paid by A to B in 2010:

- how many years are captured by this agreement?

Revenues of A and B for the period of the CLA:

- how to estimate projected sales as at 2010, the signing date?

Patent share of A and B for the period of the CLA:

- which patents should be included?
- how to estimate projected patent shares, as at 2010?
- does it proxy the relative portfolio strength?

2. Relevant considerations for applying the 'notional' royalty rate to the new world

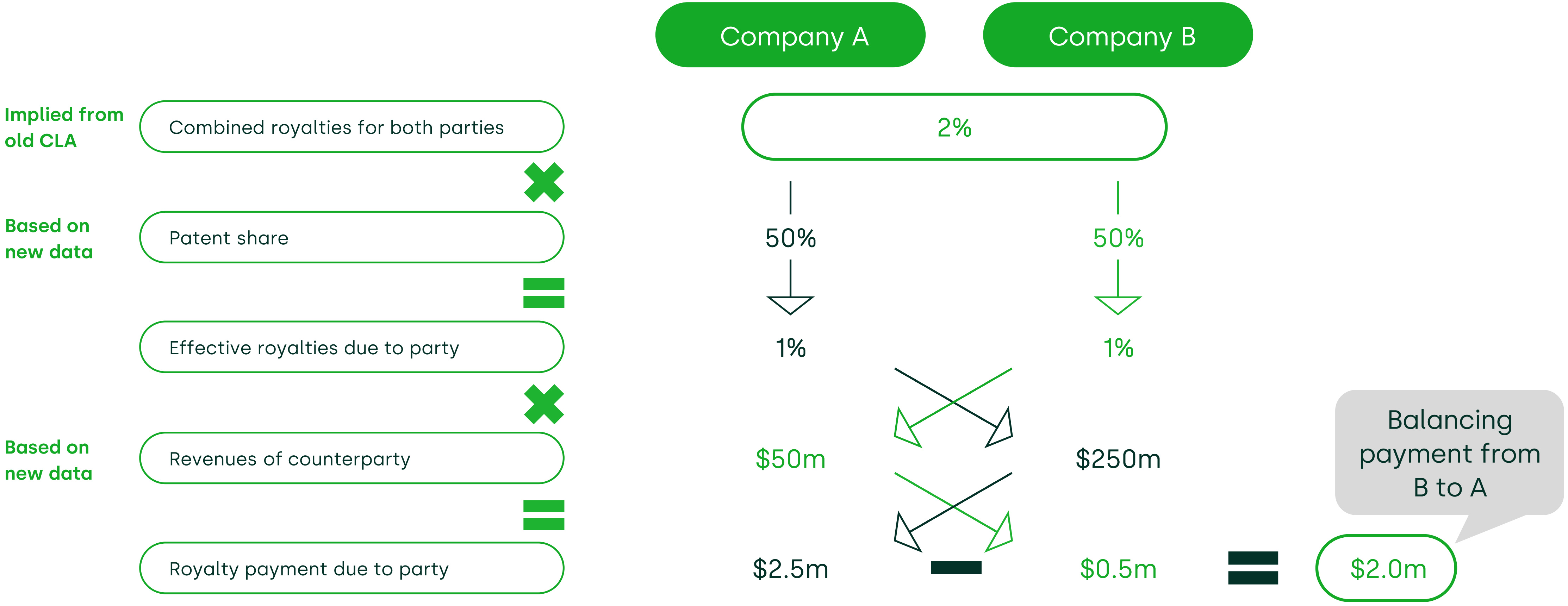
Is 2010 agreement a good comparator?

- same parties
- same technology and application
- commercial agreement (was considered reasonable)

Change in relative patent portfolios: this only affects the split of total royalties; fundamental technology remained similar and the combined patent portfolio size is also similar

Change in downstream revenues: this affects total royalty payments; should it affect the underlying rate?

2. Applying the ‘notional’ royalty rate to the new world



Note: For simplification, we assume here that the combined patent portfolio size of the two parties remains unchanged, although their respective patent shares change.

Main takeaways

Damages framework goes hand-in-hand with the applicable legal framework

- method(s) implemented depend on the context/facts of the specific case, and the information available

Good practice to stress-test results using multiple methods

- even if one method is chosen as the primary approach, consider applying another method as a cross-check

Exercise caution with lost profits assessment—are damages estimated to be much higher than the total value of the company?

- if so, is that reasonable?
- are sales projections too high, or is discount rate too low?

Exercise caution when selecting comparators

- consider whether market dynamics have changed

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About Oxera

We bring deep expertise in **valuation** and **damages quantification** in disputes, and have a solid reputation for delivering independent and robust analysis:

- we provide **end-to-end support**—early assessment of merits, collaboration with industry experts, preparation of expert reports, testimonies at hearings, and advice for settlement negotiations or mediations

- some of our **recent clients in IP space** include: Abbott, ASML, AstraZeneca, Conversant, Eli Lilly, Ericsson, Google, Lonza, Merck, Microsoft, Nokia, PanOptis, Pfizer

- our experts have **testified in courts** across many jurisdictions (including the Netherlands, Germany, China and the UK) and before tribunals under the rules of LCIA, ICC, SCAI, SCC, UNCITRAL, ICSID and the PCA

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About the presenters

Dr Avantika Chowdhury, Partner

Avantika provides expert advice on competition matters and commercial disputes. She has broad sectoral experience, with specific expertise in the life sciences and technology sectors. She has acted as an expert in disputes in front of the UK High Court, the UK Competition Appeals Tribunal, and courts/tribunals in Ireland, India, Sweden and the Netherlands. Avantika is listed in The International Who's Who of Competition Lawyers & Economists.

Shreya Gupta, Principal

Shreya specialises in advising on economic and financial valuation issues in IP disputes. She has advised multiple patent owners in disputes relating to FRAND licensing terms, and has acted as a named expert in such matters. Her arbitration experience includes projects under the rules of the LCIA, ICC, SCAI, SCC, GCCCAC and PCA. Shreya is listed as a Future Leader in Who's Who Legal – Arbitration 2021.

Yuhao Zhou, CFA, Senior Consultant

Yuhao specialises in applying corporate finance principles to a range of projects across sectors and geographies, with a particular focus on commercial disputes. Over the past few years, Yuhao has led the Oxera team in multiple IP dispute cases and advised telecom and pharmaceutical clients from Europe, the US and China. Yuhao has previously worked in the accounting, banking, investment management and consulting sectors.

Selected Oxera publications related to IP valuation

- Chowdhury, A. and Gupta, S. (2019), 'Valuation of FRAND: recent developments and looking forward', *Patent Laws and Regulation 2020*, ICLG.
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