Valuing Royalty Investment Vehicles

A QUANTAMENTAL APPROACH

Royalty Pharma Use Case

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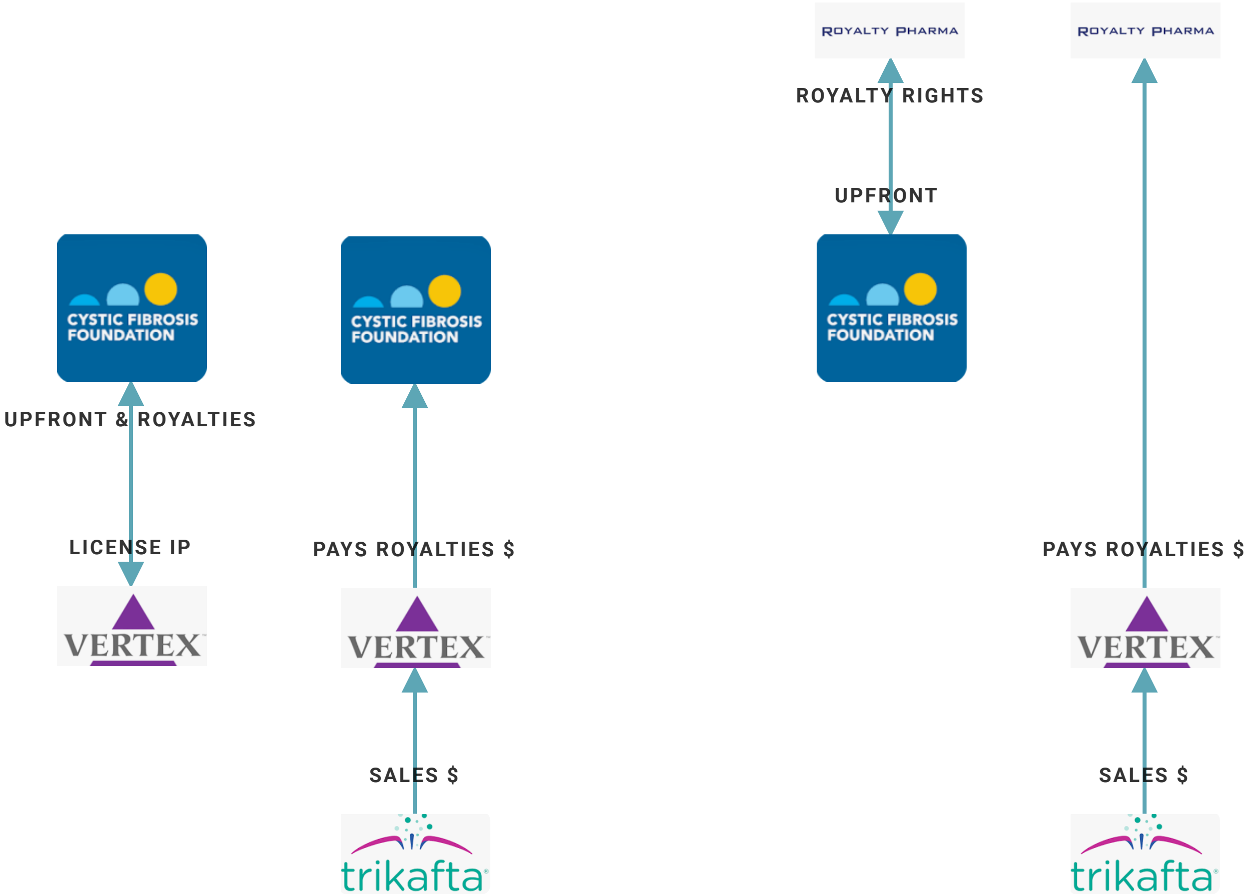
INTRODUCING ROYALTY ASSETS INVESTMENT

Royalty economics : acquiring rights to therapeutics' future sales based royalties from



ORIGINAL LICENSING AGREEMENT

- Originator licensed IP to Vertex
- Originatir received upfront and sales linked royalty's rights
- Keep IP ownership

ROYALTY DEAL AGREEMENT

- Originator monetized Royalty Rights for a lump sum from Royalty Pharma
- Royalty Pharma receive future trikafta sales related royalties

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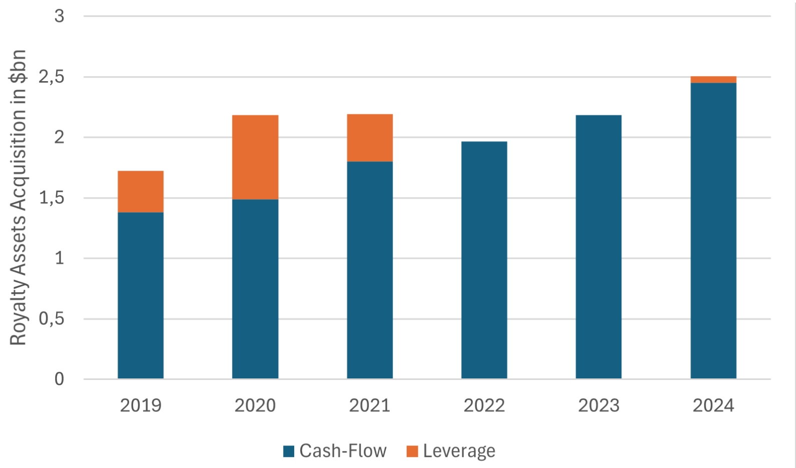
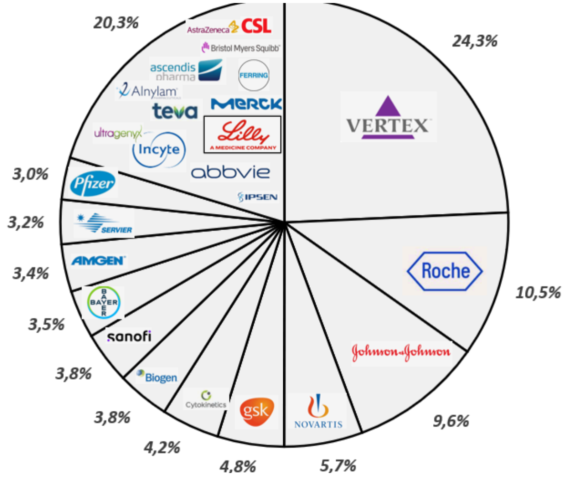
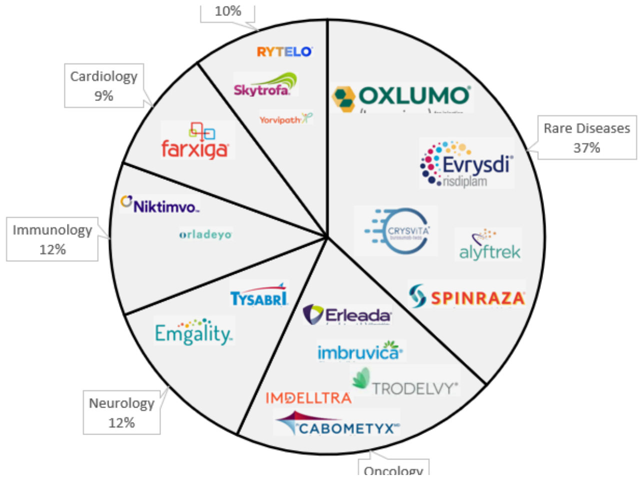
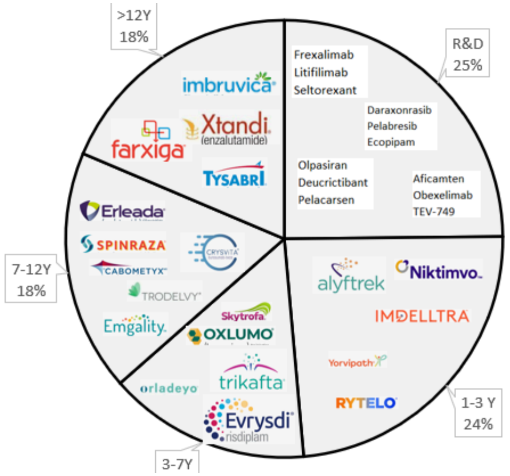
Build diversified portofolio of long term cash generative assets

- **CAPITAL DEPLOYMENT**
  - CashFlow from Royalty receipts
  - Leverage
- **ASSET PICKING AND DEAL STRUCTURING**
- **PORTFOLIO CONSTRUCTION**
  - Therapeutic Franchise Mix
  - Products' Maturity Mix
  - Counterparty risk Mix









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Structural Business Model Divergence Warrants a Distinct Valuation vs. Pharma/Biotech

	RPRX	Pharma	Large Biotech
Investments KPI (IRR, PayBack, MOIC)	●	◔	○
Licensing, M&A	○	◔	◑
Top Line growth	◑	◕	●
Margin Improvement	○	●	◑
Operational : R&D Risks	◔	◑	◕
Operational : Market Access, Sales & Marketing	○	●	◕

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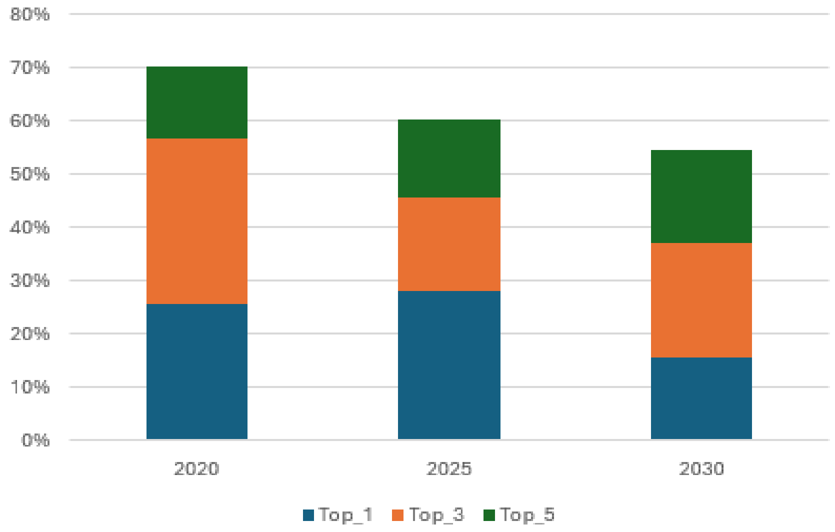
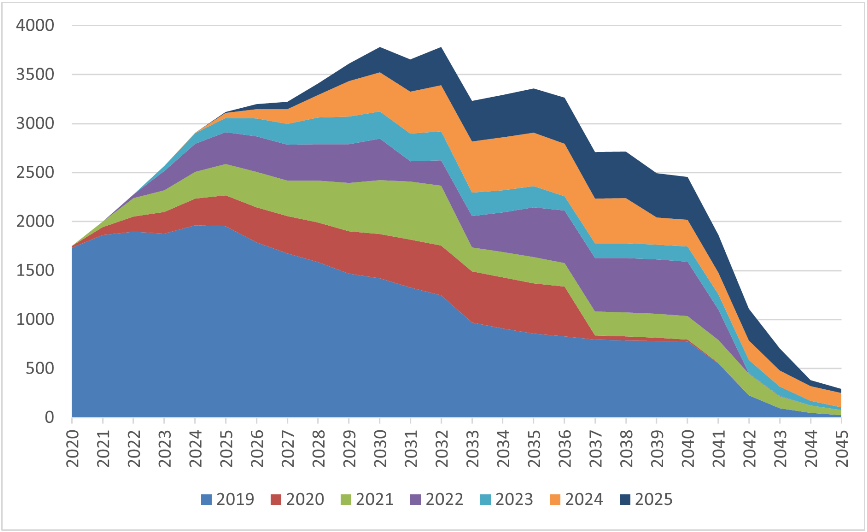
PORTFOLIO CONCENTRATION



REVENUE FORECAST PER MILLESIME



RPRX : REVENUE ANALYSIS

On track to beat $4.7bn 2030 guidance

- **ASSET RENEWAL AND LIFECYCLE MANAGEMENT**

  Top 5 revenue share: ~50% in 2030 (down from 70% in 2020)

  Portfolio renewal: 2020–25 investments to deliver higher peak revenue than 2012–20

- **TOP-LINE GROWTH OF ~10%**

  $3.8bn from current royalties; gap to be closed with new investments

  Best-case scenario (all R&D approvals + high-end sales): Current portfolio sufficient to meet guidance

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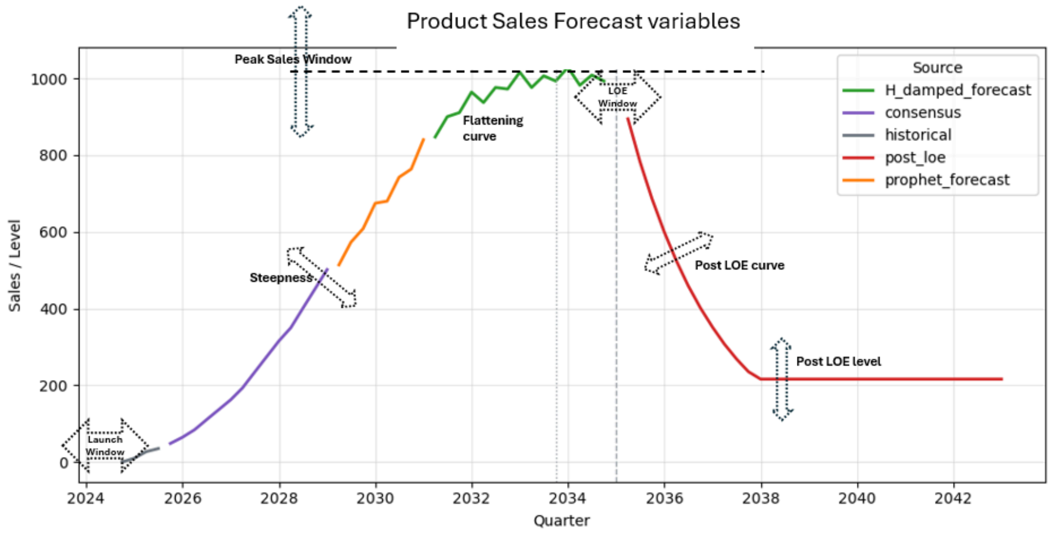
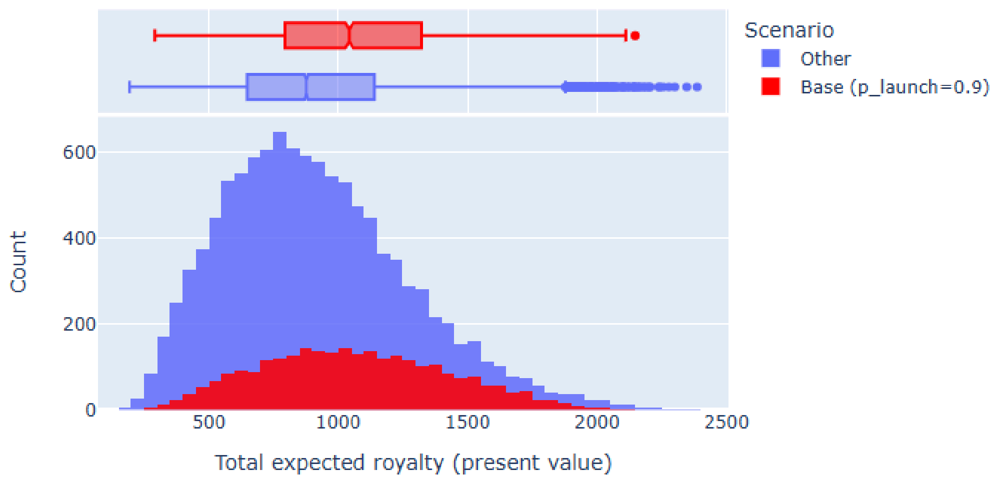
SALES FORECAST EXAMPLE



Daraxonrasib: discounted total expected royalties (all variants)



ROYALTY FORECASTS DISTRIBUTION EXAMPLE

FORECASTING METHODOLOGY

A data driven process

- **PRODUCT SALES FORECAST SCENARIOS**

  Full product life cycle forecasting

  Monte Carlo simulations

- **ROYALTY EXPANDED SCENARIOS**

  Agreement terms: royalty rates, tranches, tiers, timing, ratchet

  Probability and timing scenarios on key parameters

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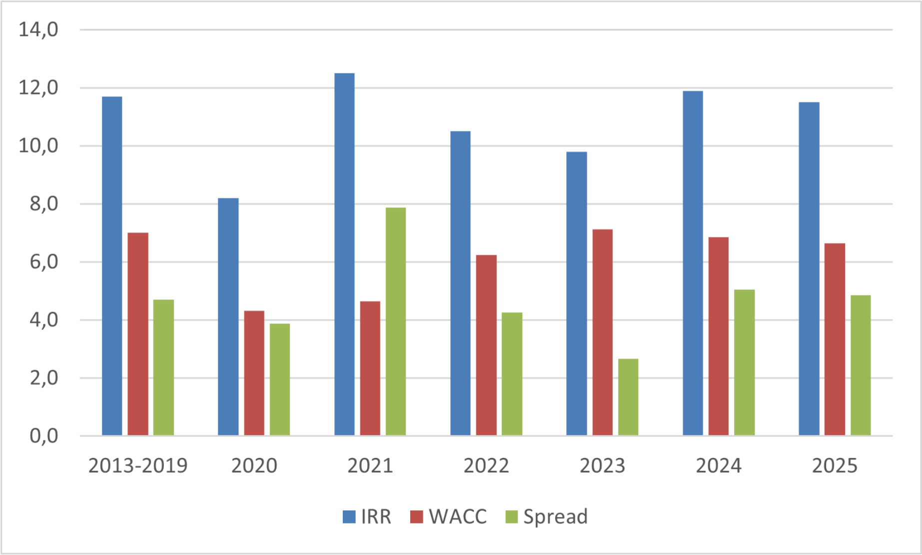
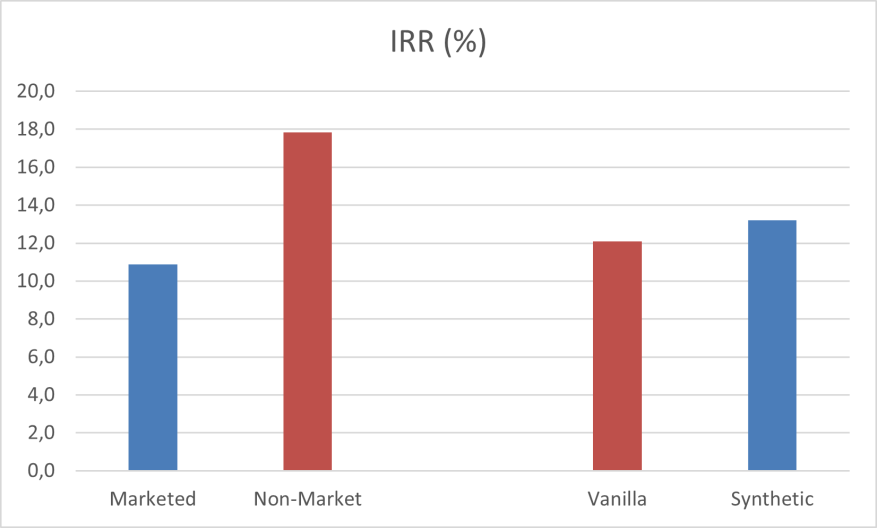
RPRX : INVESTMENT DISCIPLINE

Proven track record with 11%+ IRR



HISTORICAL IRR VS WACC



MIX IRR - DEAL STAGE AND DEAL TYPE

- **~500 BPS IRR–WACC SPREAD**

  Resilience to rising interest rates

  ~$2.5bn annual investments

- **DISCIPLINED PRODUCT SELECTION & DEAL STRUCTURING SHOWN IN IRR MIX**

  Above average approval success from selective asset picking

  Deal structuring limits capital at risk via milestone payments, tranching options and ratchets

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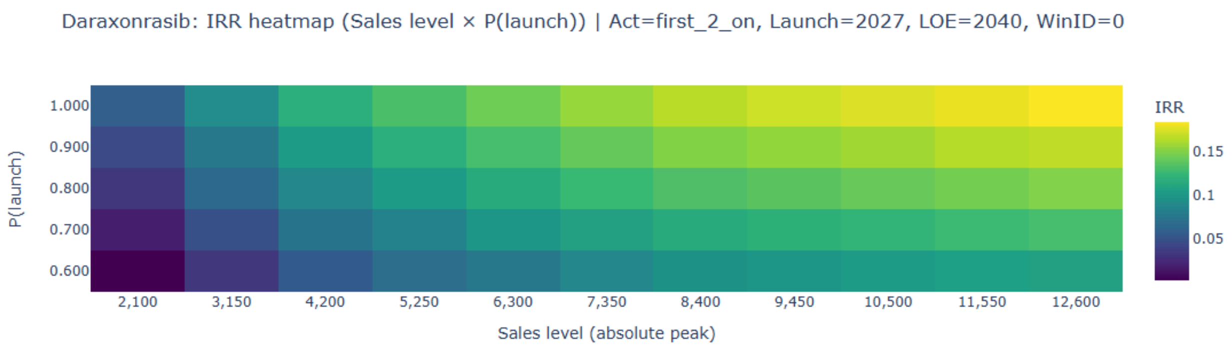
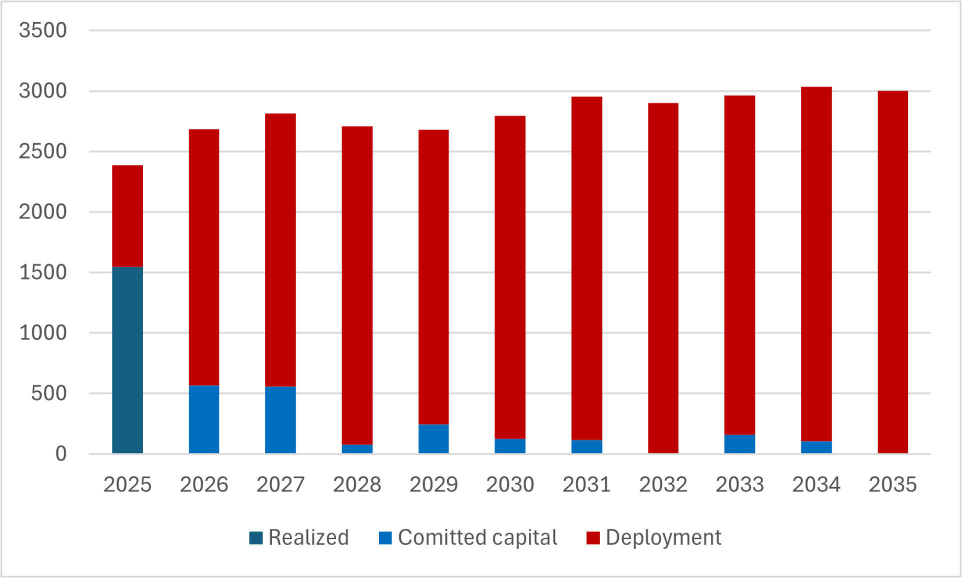
IRR SENSITIVITY EXAMPLE





CAPITAL DEPLOYMENT FORECAST ($M)

INVESTMENTS ANALYSIS METHODOLOGY

Standardized analytics framework for evaluating deal performance

- **INVESTMENTS ANALYTICS**

  Inputs: Royalty Receipts scenarios and related cash out

  KPI (IRR, Payback, MOIC) per deal, product and millesime

- **IRR METRICS FOR FUTURE INVESTMENTS**

  Restate amount with committed capital

  IRR for future capital deployment

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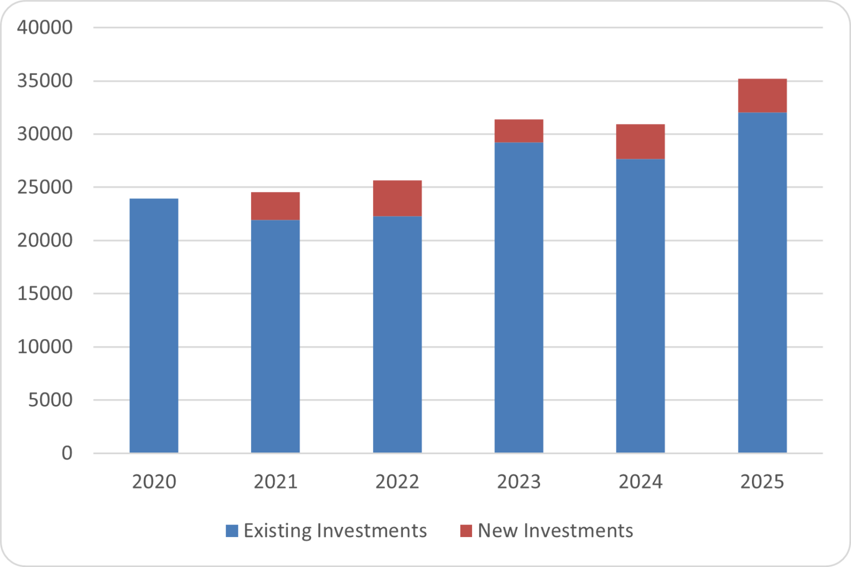
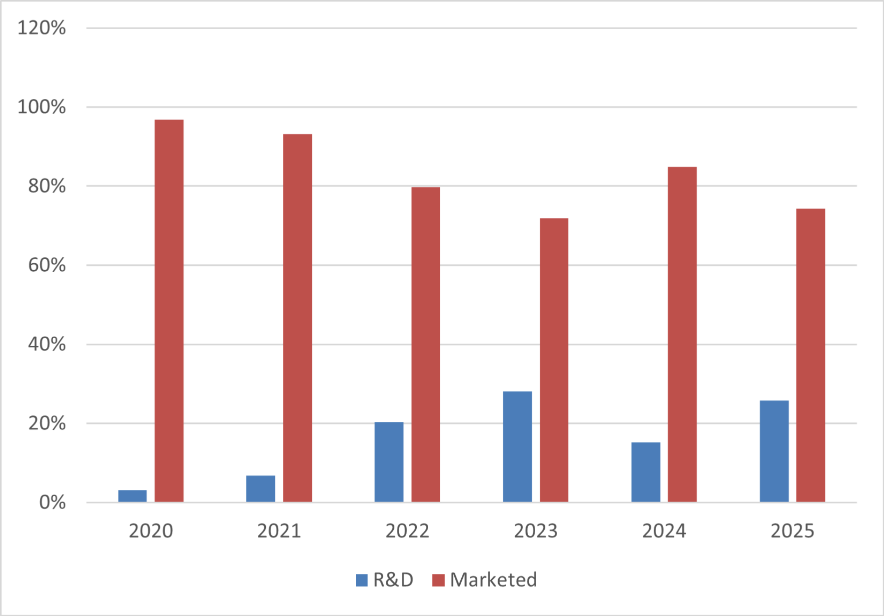


ROYALTY ASSETS VALUE



MIX RAV MARKETED VS R&D

RPRX: ROYALTY ASSETS' NPVS

All-time high: $35bn in 2025

- **2020–2025 CAGR: 8%, DRIVEN BY**

  Upward revision of products' sales potential

  Product launches from existing R&D deals (ex Cobenfy/Trodelvy/Nurtec)

  $2.5bn yearly capital deployment with 11% IRR

  Short-term dips: 2022 from rates; 2024 from Alytreck risk

- **R&D-LINKED ROYALTY ASSETS: RISK DIVERSIFIED AND CONTAINED IN 2025**

  Diversified across 17 products (vs 11 in 2023)

  Largest exposure only 3.7% of total value (vs 13% in 2023)

  Risk staggered over the next 5 years

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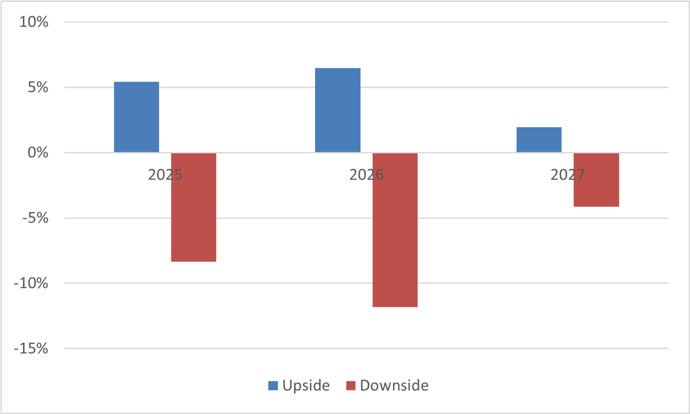
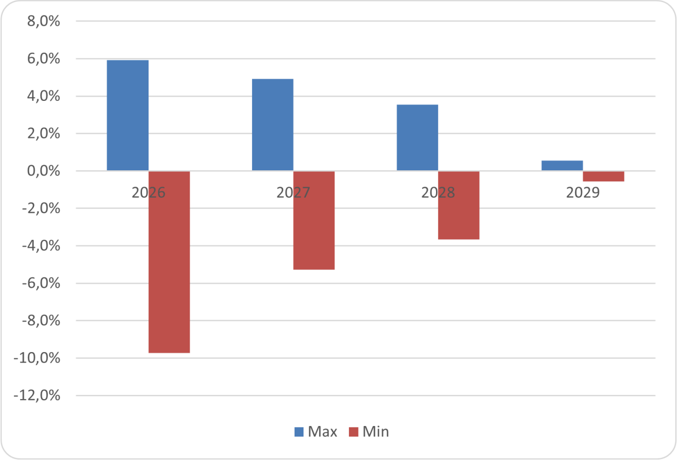
SENSITIVITY TO BINARY EVENTS



* 2025: Approval (aficamten), Filing (ecopipam), and Phase 3 results (obexelimab, deucrictibant). 2026: Approval (TEV749), Filing (seltorexant), Phase 3 results (daraxonrasib, olpasiran, pelacarsen). 2027: Phase 3 results (frexalimab, litifilimab, pelabresib)

SENSITIVITY TO SALES REVISIONS



RPRX: ROYALTY ASSETS' NPVS

Sensitivity and Risks to valuation

- **BINARY EVENTS RISKS**

  2026 major binary event risks: Alyftrek court decision

  Risk Related to R&D Products

- **SALES REVISION**

  2026: Aliftreck/Trikafta cannibalisation

  New products sales launches

- **OTHER RISKS**

  Decay in Launch of product (1 to 2% sensitivity)

  Options not triggering from third party

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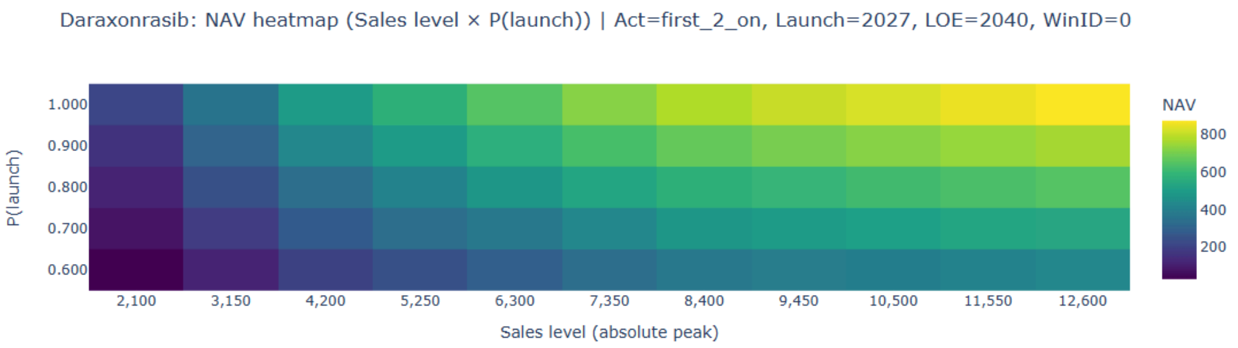
PRODUCT NPV SENSITIVITY EXAMPLE



VALUE_DATE	PRODUCT	PHASE	CT _RESULTS	LAUNCH _DATE	LAUNCH _PROBA	TRANCHE_ACTIVATION_PROBA	TRANCHE_ACTIVATION_TIMING
30/06/2025	Daraxonrasib	3		31/12/2027	66%	T1:100%, T2:80%, T3:50%, T4:0%, T5:0%	T1:25-05, T2:26-06, T3:27-12, T4:sd, T5:31-12
30/06/2026	Daraxonrasib	3	+	31/12/2027	80%	T1:100%, T2:100%, T3:50%, T4:0%, T5:0%	T1:25-05, T2:26-06, T3:27-12, T4:sd, T5:31-12
31/12/2026	Daraxonrasib	Filing (PDUFA)		31/10/2027	90%	T1:100%, T2:100%, T3:100%, T4:0%, T5:0%	T1:25-05, T2:26-06, T3:27-10, T4:sd, T5:31-12
30/10/2027	Daraxonrasib	Approval		31/10/2027	100%	T1:100%, T2:100%, T3:100%, T4:sd%, T5:50%	T1:25-05, T2:26-06, T3:27-10, T4:sd, T5:31-12

CAPITAL DEPLOYMENT FORECAST ($M)

NET ASSET VALUE METHODOLOGY

Structured NAV computation and stress testing

- **NAV CALCULATION**

  Combining product-level NPVs under different scenarios

  Applying probability-weighted outcomes on Base case scenario

- **STRESS TESTS**

  Assets NAVs aggregation on parameters vs base case

  Stress tests scenario on industry key risks

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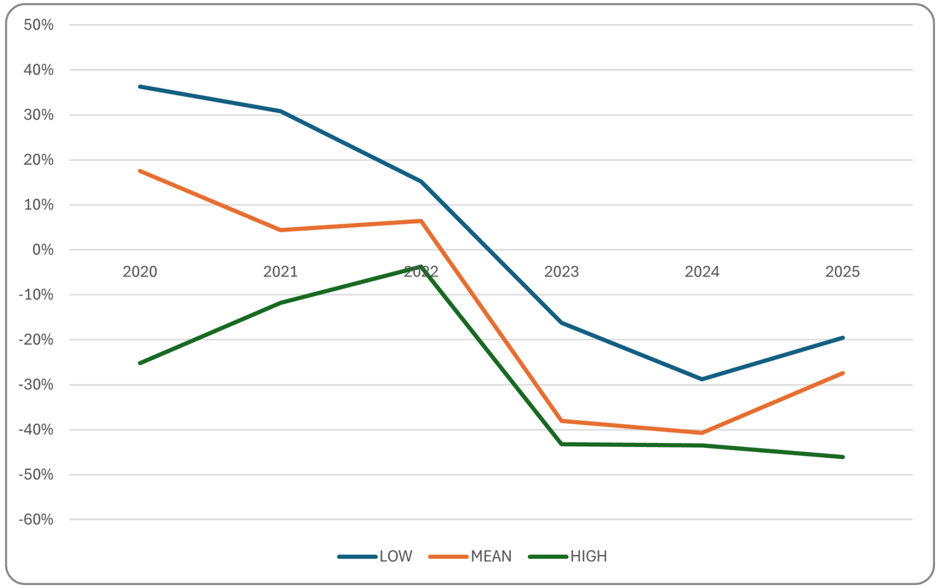
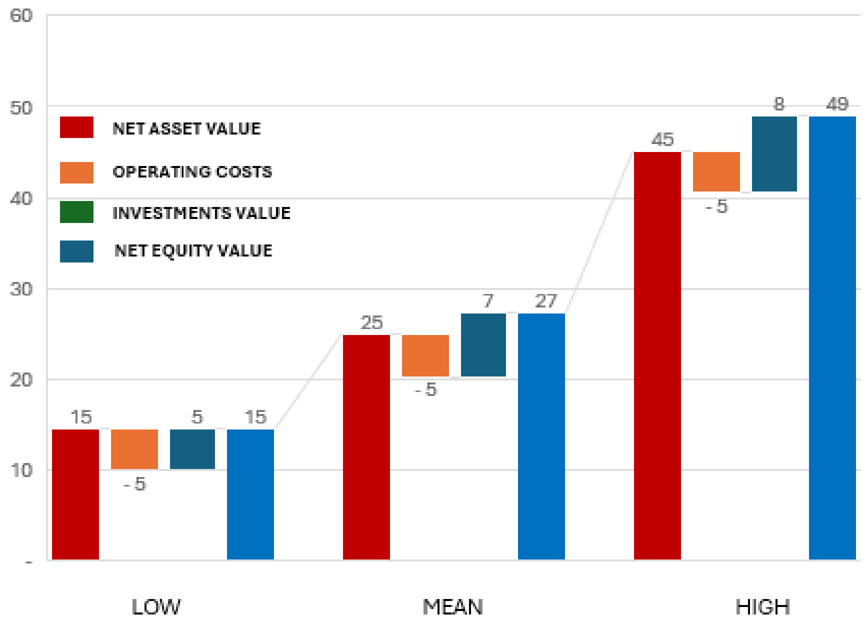
RPRX COMPANY VALUATION

Upside potential from re-rating



HISTORICAL DISCOUNT/PREMIUM TO NAV



EQUITY VALUATION LOW MEAN HIGH ($BN)

- **VALUATION GAP: ~20% DISCOUNT VS. JUSTIFIED PREMIUM :**

  Royalty valuation = predictable revenues, not exit assumptions

  Transparency: deal terms disclosure and quarterly updates

  Upcoming capital deployment and investments track record

- **BEST/WORST CASE SCENARIOS**

  Interests rate +/-100 bp vs mean

  Binary Events +/- (low = all R&D product failure, High all R&D product success), Tranche options triggering

  Sales at top or bottom end of expectations

  New investments IRR min 10% high 12%

  High with all options triggered

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About

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CONTINUING THE DISCUSSION

From valuation framework to investment application

- **Request the White Paper**
- **Discuss the Framework**
- **Engage in Opportunities**

WHITE PAPER

A Quantamental Framework for the Valuation and Risk Analysis of Therapeutics Royalty Investment Vehicles

Use Case: Royalty Pharma (RPRX)

Author : Olivier Leherle September 2025

Introduction

The purpose of this paper is to analyze and value royalty investment vehicles, using **Royalty Pharma** (RPRX) as a case study. Royalty investment vehicles operate as **specialized investment firms** that acquire and manage royalty interests in biopharmaceutical assets, a market segment that has experienced particularly strong growth in recent years.

These vehicles focus on acquiring and managing royalty interests, with core strengths in identifying high-quality assets, structuring royalty acquisitions, and building diversified portfolios that generate cash flows linked to the commercial performance of those assets. The underlying operating partners (pharma or biotech) remain responsible for product development and commercialization.

Accordingly, **the company is evaluated using an investment vehicle methodology**, distinct from the frameworks typically applied to traditional drug developers. This approach underscores how disciplined asset selection, portfolio diversification, and strategic capital deployment can drive sustainable value creation and deliver attractive, risk-adjusted returns for investors.

For this study, dedicated Python code was developed to implement the valuation framework, enabling algorithmic modeling and the generation of long-term financial forecasts and valuation metrics.

The content of this paper is as following:

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