



TOPIC 11

PRACTICAL EXAMPLES OF APPLICATION OF IP VALUATION METHODS

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Regional Workshop

IP Valuation for Biotechnology and Pharmaceutical Industry

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Contents

01 Initial Remarks

02 Practical Example: Chase Pharmaceuticals

03 Conclusions

01 Initial Remarks

Guillem Laporta, CFA

Experience

2018-Currently

Principal, Ysios Capital (Barcelona, Spain)

2013-2018

Associate, Edmond de Rothschild (Paris, France)

2011-2013

Analyst, Caixa Capital Risc (Barcelona, Spain)

Education

Chartered Financial Analyst (CFA)

BSc, MSc, Biotechnology, Universitat Autònoma de Barcelona

BA, MA, Business Administration, Universitat Pompeu Fabra

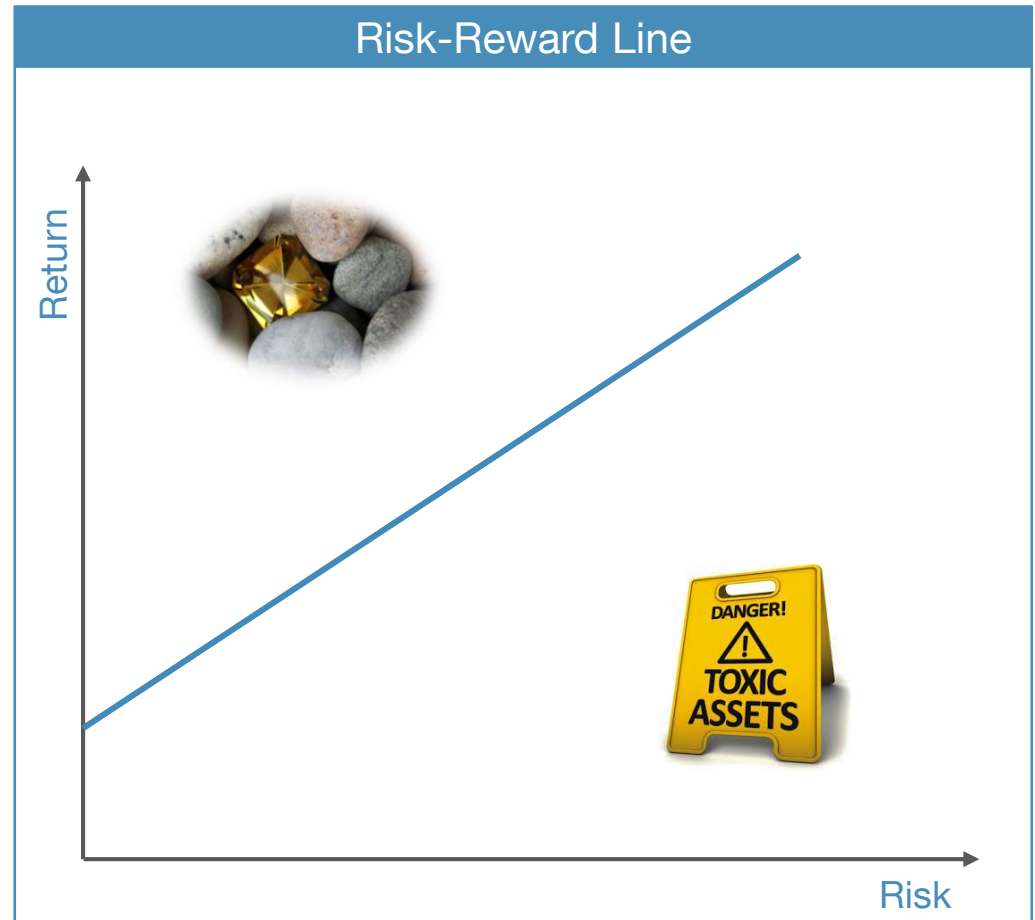
01 Initial Remarks

“No Hay Duros a Cuatro Pesetas”

In efficient markets, all investments are in the risk/reward line

Time and arbitrage eliminate outlier opportunities

Hence it is very difficult to consistently obtain outsized risk-adjusted returns



Source: Own Analysis

01 Initial Remarks

The Price of an Asset Depends on the Future Cash Flows It Can Generate

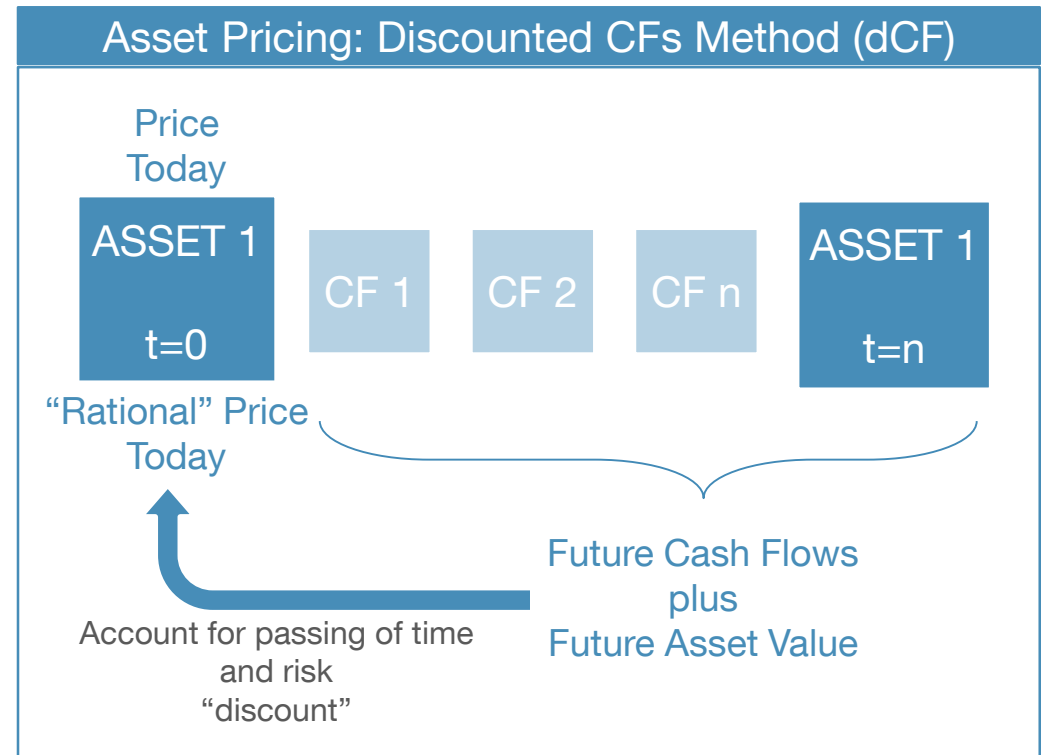
The price of an asset can be determined by the “utility” it will provide in the future

If such utility can be measured in cashflows (CF), then a price can be established TODAY

The translation of future utility to current price needs to account for at least 1) the passing of time, 2) the risk involved in the realization of the CFs

ALERT!

There's no such thing as an “objective price”. All we can do is calculate a “rational price” based on assumptions, which will always involve a degree of subjectivity



Source: Own Analysis

01 Initial Remarks

The Problem of Assets in R&D Stage Is That CFs Are Difficult to Estimate

When CFs are difficult to measure, dCF can still be used, but many more assumptions will need to be made, leading to a worse price estimate

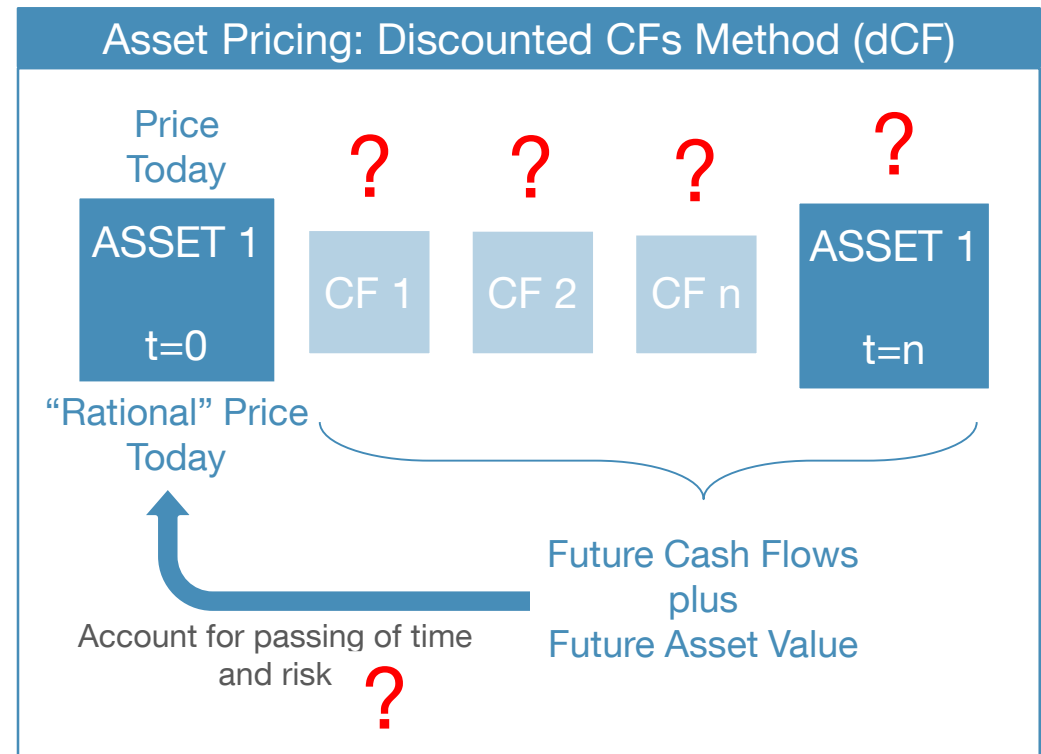
When can be CFs difficult to measure?

- CFs occur far in the future
- CF amounts are not easily predictable
- Risk cannot be estimated

Then What?

dCF is still a useful method. It is a power tool used in M&A negotiations with pharmas

Alternative methods based on the same concept: Venture Capital Method



Source: Own Analysis

Contents

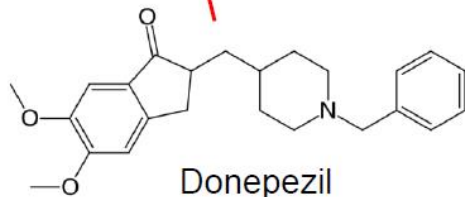
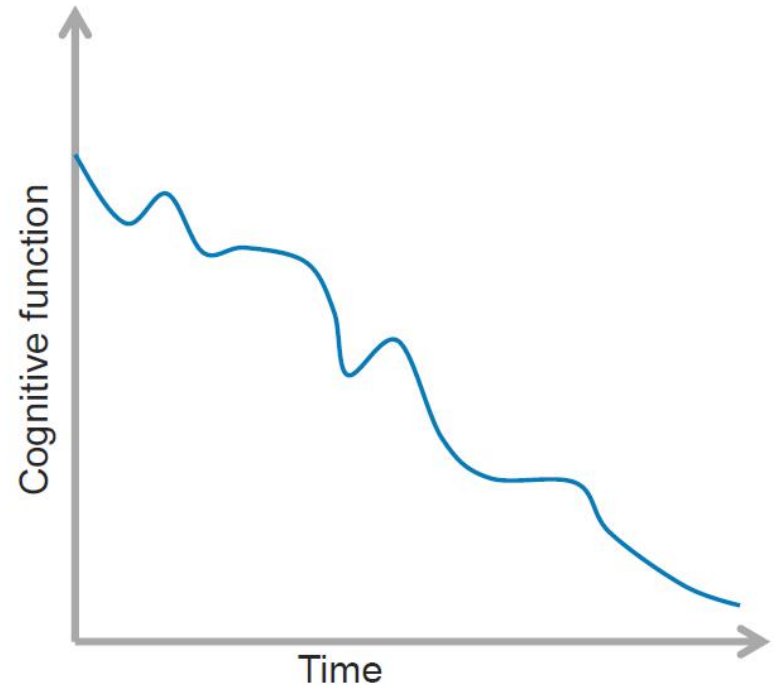
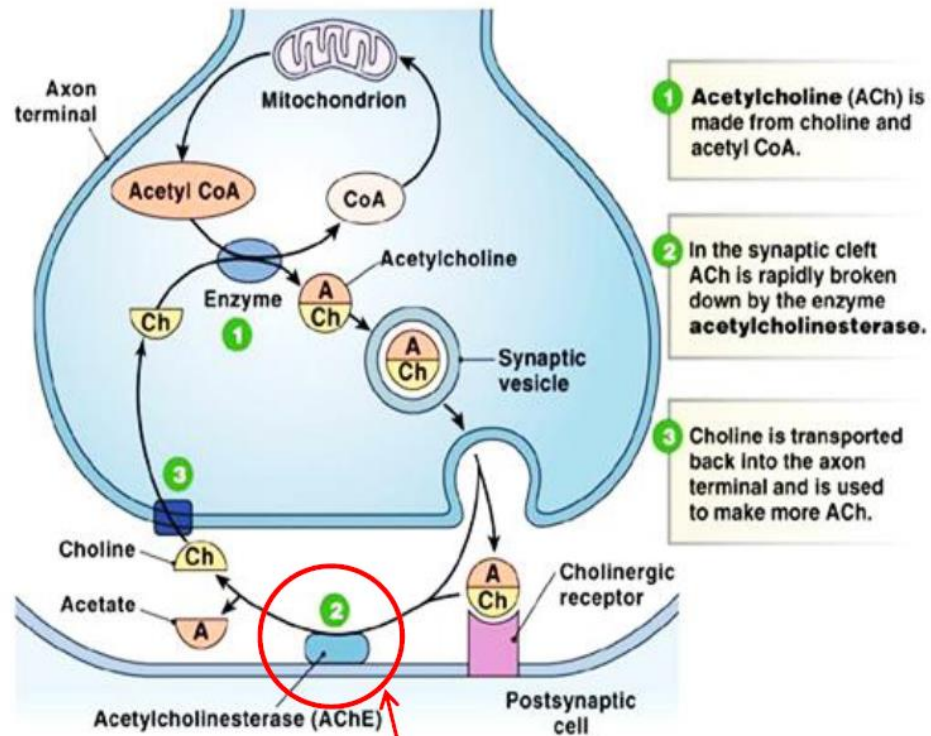
01 Initial Remarks

02 Practical Example: Chase Pharmaceuticals

03 Conclusions

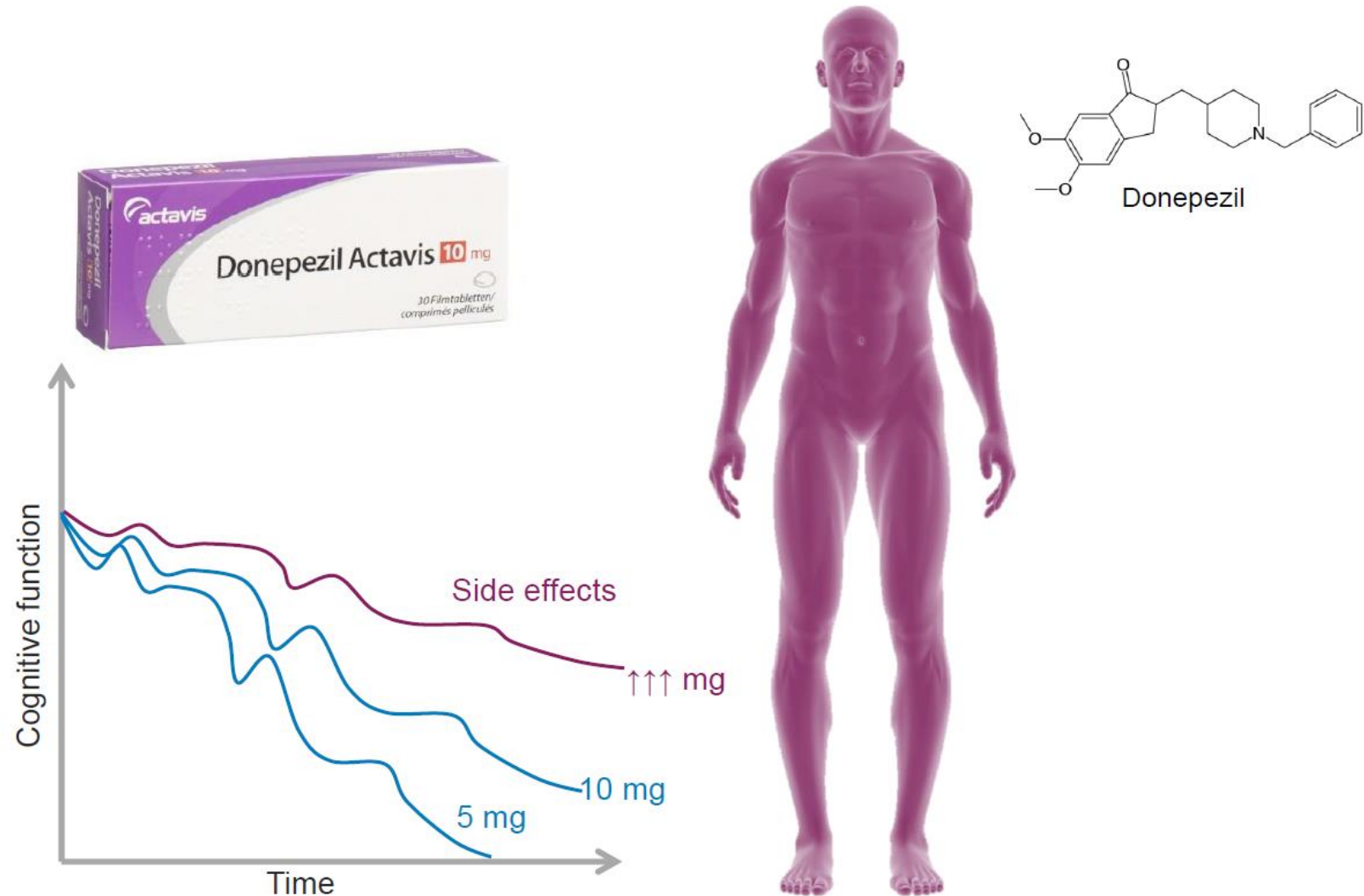
02 Practical Example: Chase Pharmaceuticals

Donepezil Is the Standard-of-Care Treatment for Alheimers' Disease



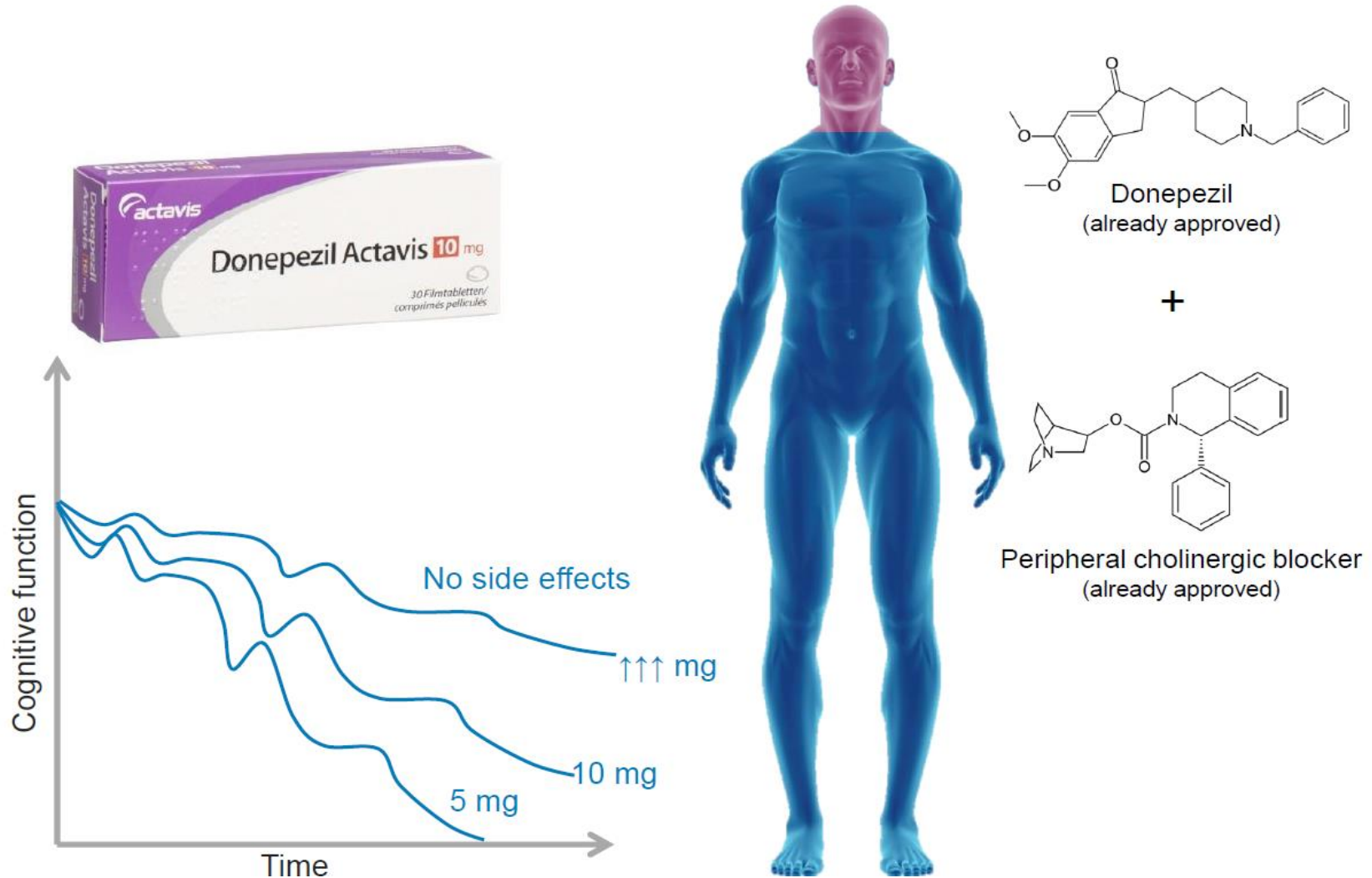
02 Practical Example: Chase Pharmaceuticals

High Doses of Donepezil Help Slow Down the Disease, But This Comes with Side Effects



02 Practical Example: Chase Pharmaceuticals

Innovation: Combination of Donepezil with a Peripheral Cholinergic Blocker



02 Practical Example: Chase Pharmaceuticals

SWOT Is a Useful Tool to Assess Risk

Strengths	Weaknesses
<ul style="list-style-type: none">• Simple and robust scientific and medical concept• Abbreviated and less costly regulatory development	<ul style="list-style-type: none">• First time working with the team• Company's headquarters not close
Opportunities	Threats
<ul style="list-style-type: none">• Unmet medical need and huge market opportunity• Potential for a slowdown in disease progression• Concept can be extended to other combinations of AChEIs and antidotes	<ul style="list-style-type: none">• Perceived risk of generic challenge at exit• Disappointing clinical results• New CEO may not fit in the company's atmosphere

Source: Own Analysis Based on Non-confidential Data from Andara Partners

02 Practical Example: Chase Pharmaceuticals

Comparables Help Assess Return Potential

Date	Seller/ Buyer	Product	Stage	Territory	Upfront (US\$Mil)	Milestone (US\$Mil)	Total Non- Royalty (US\$Mil)
2008	Vitae Pharma/ Boehringer	Neuroprotection BACE Inhibitors	Preclinical	Worldwide	42	200	ND
2008	Myriad/ Lundbeck	Flurizan for Neuroprotection	End of Phase III	Worldwide	100	250	ND
2008	Medivation/ Pfizer	Dimebon for Palliation	End of Phase II	Worldwide	225	500	ND
2009	Elan/ J&J	Bapineuzamab for Neuroprotection	End of Phase II	Worldwide	500	500 + 18% stake in J&J	ND
2010	Alectos/ Merck	Neuroprotection	Preclinical	Worldwide	99	190	ND
2011	Evotec/ Roche	Neuroprotection	Preclinical	Worldwide	10	830	ND
2012	AC Immune/ Genentech	Neuroprotection	Preclinical	Worldwide	21		ND
2012	Adamas/ Forrest	Palliation	End of Phase II	Worldwide ?Or just US?	65	95	ND
2013	Lundbeck/ Otsuka	Palliation	End of Phase II	Worldwide but Co- Promotion	150	675	ND

Source: Andera Partners

Average = \$150 M
Upfront

02 Practical Example: Chase Pharmaceuticals

Description of the Investment Round

Investment Features

- May 2014
- \$21 M Series B round
- \$10 M ticket
- Use of proceeds: Start and complete Phase 2a and Phase 2b by end of 2017

Reasons for Investment

- Unique low risk / high return opportunity
 - Known compounds with positive Phase 1
 - Blockbuster potential
- Original idea supported by strong IP
- Differentiation through safety and efficacy
- Excellent clinical trial developers



02 Practical Example: Chase Pharmaceuticals

Returns Analysis Based on Potential Upfront Values

			Base Case			
Upfront Value	\$50 M	\$125 M	\$150 M	\$200 M	\$250 M	\$300 M
Multiple	1.9x	4.6x	5.6x	7.4x	9.3x	11.1x

Source: Own Analysis. The figures above are just an example for explanatory purposes only. They do not correspond to the actual analysis for this investment

02 Practical Example: Chase Pharmaceuticals

Chase Pharmaceuticals Was Acquired by Allergan in Nov 2016 for up to \$1 Billion



The screenshot shows the PharmaLive website header with the tagline 'The Pulse of the Pharmaceutical Industry' and social media icons for Facebook, Twitter, LinkedIn, and RSS. The navigation menu includes 'MARKETING & ADVERTISING', 'R&D', 'THERAPEUTICS', 'RESOURCES', 'MANNY AWARDS', 'EVENTS', and 'ISSUE ARCHIVES'. The breadcrumb trail reads 'PharmaLive > Business > M&A > Allergan Acquires Chase Pharma in \$1 Billion Pact'. A 'Print' button is visible on the right. The article title 'Allergan Acquires Chase Pharma in \$1 Billion Pact' is prominently displayed. Below the title, the byline states 'Written by: BioSpace | news@biospace.com | Dated: Wednesday, November 23rd, 2016'.

Former Allergan Exec Who Now Helms Chase Pharma Inks \$1 Billion Pact With and His New Gang

Allergan **struck a deal** with Irvine, Calif.-based Chase Pharmaceuticals for **\$125 million in an upfront payment combined with additional regulatory and sales milestones that could amount to about \$1 billion**. Allergan's interest in Chase centers on its lead compound, CPC-201, for the treatment of Alzheimer's disease. **David Nicholson**, Allergan's chief research and development officer, said the addition of CPC-201 "adds a new Phase III ready program for Alzheimer's disease" to the company's broad CNS portfolio.

Source: PharmaLive

02 Practical Example: Chase Pharmaceuticals

Realized and Potential Returns after Transaction

		Realized	Base Case			Potential
Upfront Value	\$50 M	\$125 M	\$150 M	\$200 M	\$250 M	\$1000 M
Multiple	1.9x	4.6x	5.6x	7.4x	9.3x	37.0x

Source: Own Analysis. The figures above are just an example for explanatory purposes only. They do not correspond to the actual analysis for this investment

Contents

01 Initial Remarks

02 Practical Example: Chase Pharmaceuticals

03 Conclusions

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1. In efficient markets, investment opportunities can be found along the risk/reward line
2. The price of an asset depends on the future cash flows it can generate
3. The problem with assets at R&D stage is that cash flows are difficult to estimate
4. Innovation does not always mean the discovery of new complex molecules. It can be achieved by the combination of existing products
5. SWOT is a useful qualitative tool to understand risks
6. The perceived risk on an opportunity will determine the potential return we will ask for to assume that risk
7. Comparable exit transactions validate the return potential and determine the pre-money valuation