

# Business performance: how does the market evaluate Pharma companies ?

This article does not intend to give an exhaustive description of the methods used by analysts and investors in valuing a Large Pharma or a Large Biotech company but will focus on the main ones. There are many different valuation models but only two main approaches: intrinsic valuation and relative valuation. In addition, when looking at Pharma companies, non-financial elements linked to the corporate responsibility of the company play an essential role in assessing whether a particular company represents an attractive investment opportunity.

## 0.1 The intrinsic approach: Discounted Cash Flow (DCF) and risk-adjusted Net Present Value (rNPV)

The investors' motto when looking at a company is "Cash is king!". Hence, the most widely used method for the intrinsic valuation of a company in any sector is the discounted cashflow method or DCF. DCF is used to calculate how much an investment is worth today based on its future cash flows and how uncertain they are. It involves making projections of a company's future free cash flow (FCF) over a period of several years, typically 5 or 10 years and then apply to the last forecasted FCF a terminal growth rate or growth to infinity, typically between 0.5% to 2.5%. Then this stream of FCF is discounted back as of today using a specific discount rate. Analysts usually use a company's weighted average cost of capital (WACC) as the discount rate. The WACC is the combined cost of capital for the company reflecting all sources of financing (equity, debt) and a choice of a capital structure (the mix between equity and debt) which gives the weighting. The WACC takes also into account the company's specific corporate tax rate. Investors may require a specific hurdle rate reflecting their required return rate, *i.e.* their minimum expected return, and would then use this required return rate to discount the stream of FCFs instead of the company's WACC. This is generally the case at venture capital firms when they value privately-held companies for a new round of financing for example. However, for large publicly traded companies, investors usually use a company's WACC. As FCF factor in capital expenditures and other cash flows to generate earnings, it is considered as an economic model of valuation rather than an accounting model of valuation which does not take into account the investments required to generate earnings nor their timing.

An additional step for Pharmaceutical and Biotech companies is to calculate the risk-adjusted Net Present Value (rNPV) of a company's main late-stage R&D products to assess how much these projects are worth and thus get an idea of the value of the company's R&D pipeline. Analysts then compare the sum of the individual product rNPV to the company's current share price to assess whether the future source of growth – the R&D pipeline – represent a small or large portion of the share price. Any unbalance between the two can be a sign that either the near-term future is undervalued or the long-term future does not weight much. The same principles used for the DCF calculation apply to the rNPV calculation, *i.e.* discounting a stream of future free cash flows (FCF) at a specific hurdle rate, but here it is applied to one product, and it is risk-adjusted for the probability of success that the product has to be approved and launched, which depends on both its stage of development (Phase I, II or III) and the therapeutic area it belongs to. Note that the stream of FCF also depends on the speed at which the product will reach its peak sales, the length of the sales plateau, and the timing and speed of generic entries which determine the shape of the sales fade-off. It is also important to note that each analyst will have a very specific opinion as the list of parameters listed above can be weighted very differently.

**What are the limitations of the intrinsic value methods (DCF and rNPV)?** They require making projections of free cash flows far in the future using only one set of assumptions for growth, margins and capital expenditures (CapEx). That is why analysts usually perform DCFs using three different scenarios:

the base case, the best case and the worst case to arrive at a range of values. The same caveats apply to the rNPV/product with the additional uncertainties linked to the phase of development, the specific therapeutic indication, the competition stage, the hypothetical launching date of the product and its pricing. A more sophisticated approach is to do a Monte-Carlo simulation with more variations in the assumptions and their impacts on margin evolution (pricing, competition entry, number of competition, fast or slow ramp-up, short or long plateau, price decline, timing of generic entry, strength of sales erosion, etc...) and thousands of iterations.

## 0.2 The relative approach: peers multiples comparison

Comparative methods look at similar companies in the same sub-segment and postulate that if two companies have the same sales growth rate, same margin and same earnings growth rate, they should trade at the same multiple. The level of this multiple is not absolute but highly depends on market conditions and whether the sector is “in vogue” or not. Hence, DCF can give a certain range a values for a company which are totally disconnected from the values obtained by peer comparisons. If an investor has a long-term view, when the DCF value is well above the value obtained by peer comparisons, he/she could take the decision to invest.

The most widely-used comparative ratios are: the Price to Earnings ratio (or PE) and its variant the Price to Growth ratio (or PEG), the Enterprise Value to EBITDA (EV/EBITDA) and the EV/Sales ratio. All these methods are used to compare respective past multiples and forward-looking multiples by a year or two.

When using PEs, “P” corresponds to the Price the Company’s share is currently trading at and the “E” is its earnings per share (EPS) which is obtained by dividing its absolute amount of earnings by the Company’s number of shares outstanding. Analysts/investors compare a Company’s next twelve months PE (NTM PE) to the average NTM PEs of peers from the same sector (the sector’s NTM PE), to the NTM PE of the stock market the Company is trading in (NASDAQ, etc) and also to the company’s own historical NTM PE range. The higher its PE relative to peers the more “expensive” the shares of the company are considered. Despite its ease of use, PE as the sole valuation method is criticised as it is susceptible to differences in accounting policies. This is the reason why analysts re-calculate a company’s EPS to exclude any unusual items (non-recurring items) that could bias real “apple-for-apple” comparisons. A variant of the PE ratios comparison is the Price to Growth (or PEG) of a company. It uses its PE ratio divided by its 3 or 5 years compounded annual average earnings growth rate (CAGR) and compares it to its sector peers’ PEGs. For example, if a company A has a PE of 15x and a 3-yr earnings CAGR of 10%, its PEG will be 1.5. If company B has a PE of 20x (so just looking at its PE, one would say that B is more expensive than A) but a 3-yr earnings CAGR of 15%, then its PEG will be at 1.33, lower or deemed less expensive than A. Investors can use these methods to compare between companies without making clear growth and profitability assumptions. When a sector is out of favour, PEs reflect more the market’s mood than the fundamentals of companies, *e.g.* in pre-US elections period as political rhetoric is high on drug pricing, usually the Pharmaceutical sector does not perform well on the stock market. Hence its average PE is lower than usual. Also, PEs cannot be used for loss-making companies like many Biotech companies are.

the other method classically used is EV/EBITDAs: the Enterprise Value (EV) broadly corresponds to the company’s market capitalisation plus its net debt (its gross debt minus its cash and cash equivalents) or minus its net cash when the company is net cash positive. EBITDA is the company’s earnings (E) before (B) interest (I), tax (T), depreciation (D) and amortisation (A). EBITDA is considered as a rough proxy of cash generation. The ratio next twelve months EV (NTM EV) to EBITDA is used to compare companies within a sector, like PE and PEG, when it is computed at the company’s level. There is usually some correlation between the NTM EV/EBITDA multiple and a company’s earnings per share CAGR. Another way to use NTM EV/EBITDA ratios is for a Sum of the Parts (SOTP) computation. Analysts will look at the different businesses a Pharma company might have and grant them different EV/EBITDA multiples. For example, a Specialty Pharma business is usually valued more than a small molecule Primary Care business as the margins are higher in the former and its environment less competitive. Therefore analysts grant a higher EV/EBITDA multiple to the former versus the latter. Once analysts have granted different NTM EV/EBITDA multiples to the respective NTM EBITDAs of a company’s businesses (*e.g.* Vaccines, Specialty Pharma, Generics), they sum the different results (or EV per business) to arrive at the company’s NTM EV. Subtracting the company’s net debt, a theoretical NTM market cap is derived, which divided by the total number of shares, gives a theoretical target price (TP). The target price can then be compared to the company’s current share price. This gives the upside or downside potential of the shares.

**What are the limitations of the relative valuation methods?** Apart from the difficulty to find truly similar companies in the same sub-sector, relative valuation results depend on market cycles, which sector is in favour or out of favour (*e.g.* staples or cyclicals) and which thematics are currently played by investors (*e.g.* growth or value). For example, in the year preceding a US Presidential election, The Pharma sector usually

does not perform well on the stock market as the more rhetoric there is among candidates over the necessity to reform the US healthcare system, the more investors worry about possible new legislation restricting drug pricing freedom and anticipate the negative impact the latter would have on the profit generation capabilities of Pharma companies. The overall sector NTM PE can become lower than in previous years and the sector relative PE (to the overall market) might show a widening discount *vs* previous years. However, DCF values do not change and are usually well above the values obtained by peer comparisons. However, we should note that DCF values would become lower if a wide-reaching reform of the US health system and pricing freedom were to be implemented. In more favourable periods for the sector, the multiples can be very high and yield to valuations well above intrinsic values which gives a signal that investors are overly enthusiastic about some growth prospects.

To summarise, no analyst/investor only use one method of valuation. Usually, intrinsic valuations (DCF, SOTP) are performed then compared to the relative valuations (PE, PEG) to obtain a range of valuation.

### 0.3 What do investors look for when assessing the attractiveness of a Pharma company?

Analysts will spend a significant amount of their time analysing a company's R&D pipeline, mostly the projects in Phase III and Phase II to assess their potentials and values to the company. The number of projects in the R&D pipeline, their development phase, whether they are partnered or fully owned, their competitive environment, their clinical data, etc... This analysis enable them to perform rNPV calculations of the R&D pipeline value, *i.e.* the future growth prospects of the company. Conversely they also analyse what are the main threats: patent expiries on a blockbusters, timing of generic entry and how many future competing products and whether those have "better" clinical data (better efficacy, better side-effect profile, convenience of use, etc).

**The increasing importance of ESG criteria in investment decision making.** More recently investors have started to take into account ESG criteria in their investment decision-making process. Indeed, most of the funds raised in the US in the last couple of years have gone to funds with ESG criteria in their investment process. Given its importance for society, the Pharma industry is both highly regulated, and highly exposed to ESG controversies. In some cases, these controversies are amplified by debates more driven by emotions and opinions than by factual evidence. Before the COVID crisis, the pharmaceutical industry had the most disastrous reputation among all sectors, although it is saving lives: a striking paradox. However, with the COVID crisis, the benefits for humankind of the pharmaceutical industry have been more apparent as it has led to the development of several vaccines in a record time, proving its high value to society. The industry is also a promotor of healthy lives (rated under the SGD3 category in the ESG global criteria) and is prone to ESG-related opportunities.

ESG matters are gaining ground both worldwide and in the investment community: the vast majority of funds raised over the past couple of years were dedicated to investments that had to comply with ESG criteria. Some companies that would have a bad ESG score are excluded from the scope of potential investment opportunities. Hence, ESG investing becomes a driver for change at the companies' level.

Among the ESG criteria taken into account by ESG analysts when scoring a pharmaceutical company are: access to health and medicines (a challenge in many parts of the world, in low and medium income countries mainly but also in some segments of the population in "rich" countries), often linked to drug pricing (affordable drugs), product controversies and reputational risks (side-effects of some therapeutics), business ethics (inappropriate conduct to promote some products in certain countries, improper collusion between the industry and governments or regulators), innovation (the "raison d'être" of a pharmaceutical company), finished product quality, etc. ESG analysts take into account all these aspects and come up with a scoring for each company then rank the companies accordingly. Usually the score obtained will be compared to the sector's average and good or bad notes will be granted relative to this average.

### 0.4 Performance indicators analysis of the 14 Pharma companies

Table 1 presents:

- main P&L metrics: Pharma sales, R&D percentage, SG&A percentage
- shareholders 10y returns: 10 y DIV, 10 y SBB, 10 y Share price multiplier
- portfolio score
- ESG score

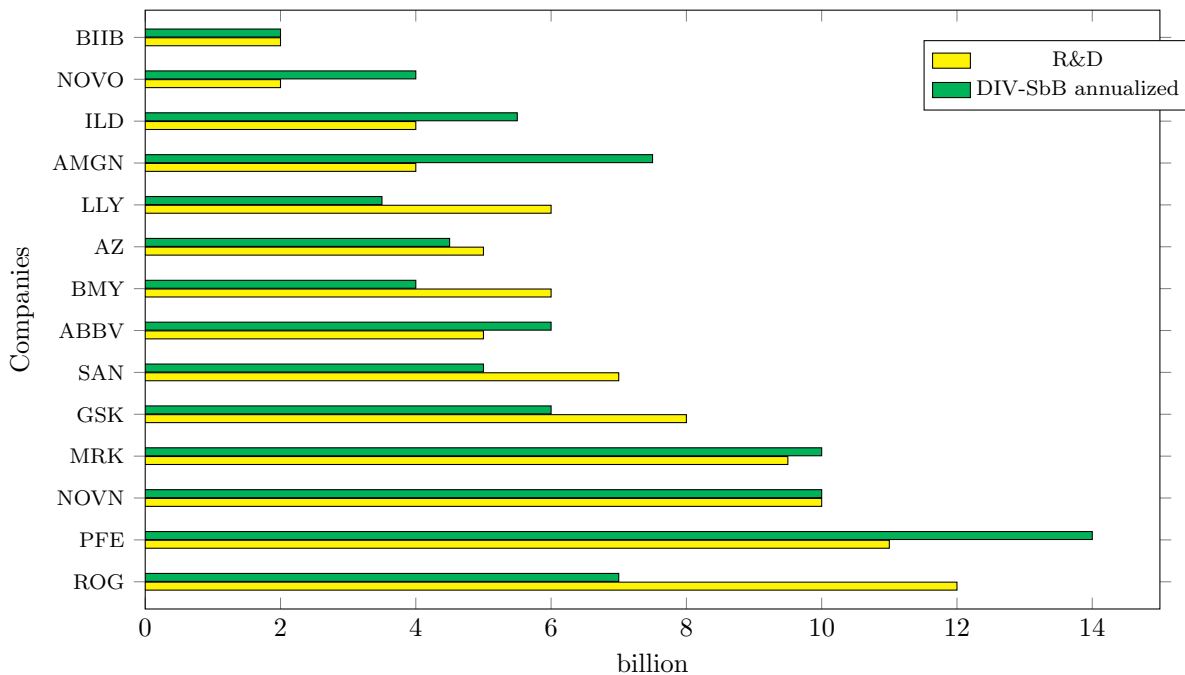
For the ESG score, we used the score developed by Alva in 2020. This score analyzed and scored the 26 different standard ESG topics for 20 pharma companies from January 1 through April 30. Those category evaluations were then combined to create an overall score for each company with a range: -100 to +100. The Top 10 companies were the only reported in June 2021 by Fierce Pharma in a special report<sup>1</sup>. It is interesting to note that among our sample of 14 companies, only 7 were included in this Top10 list.

Table 1: Comparison of 14 Pharma companies

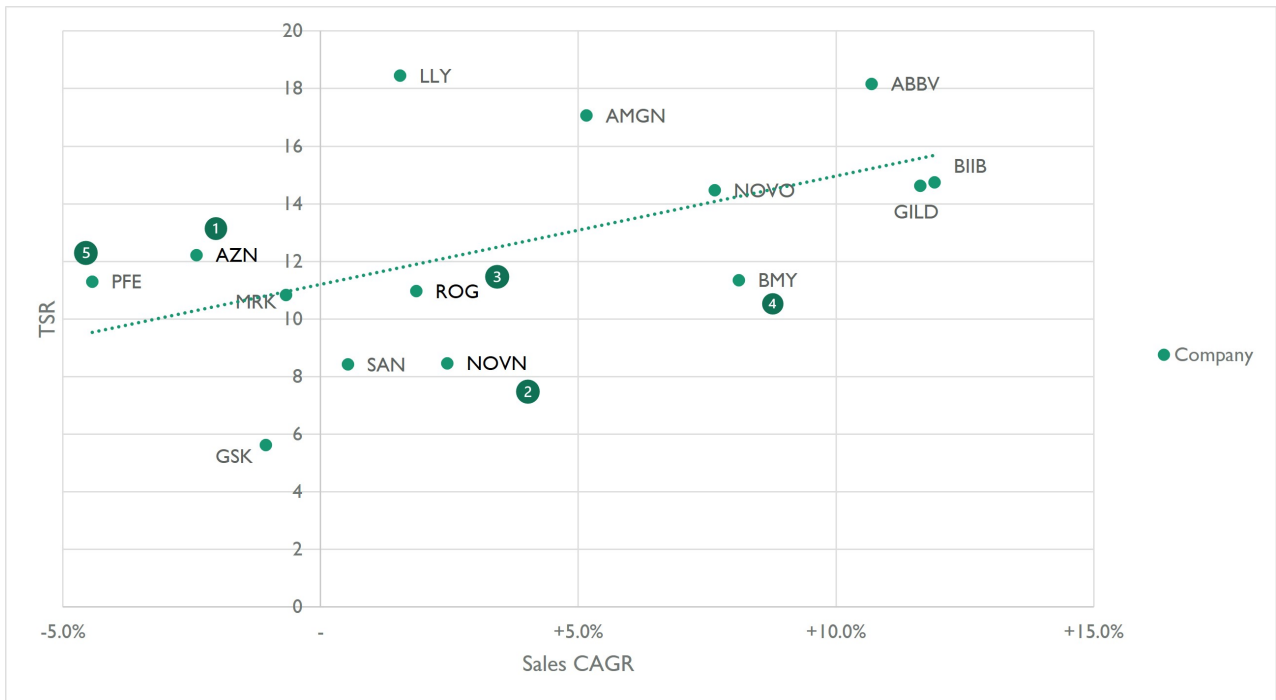
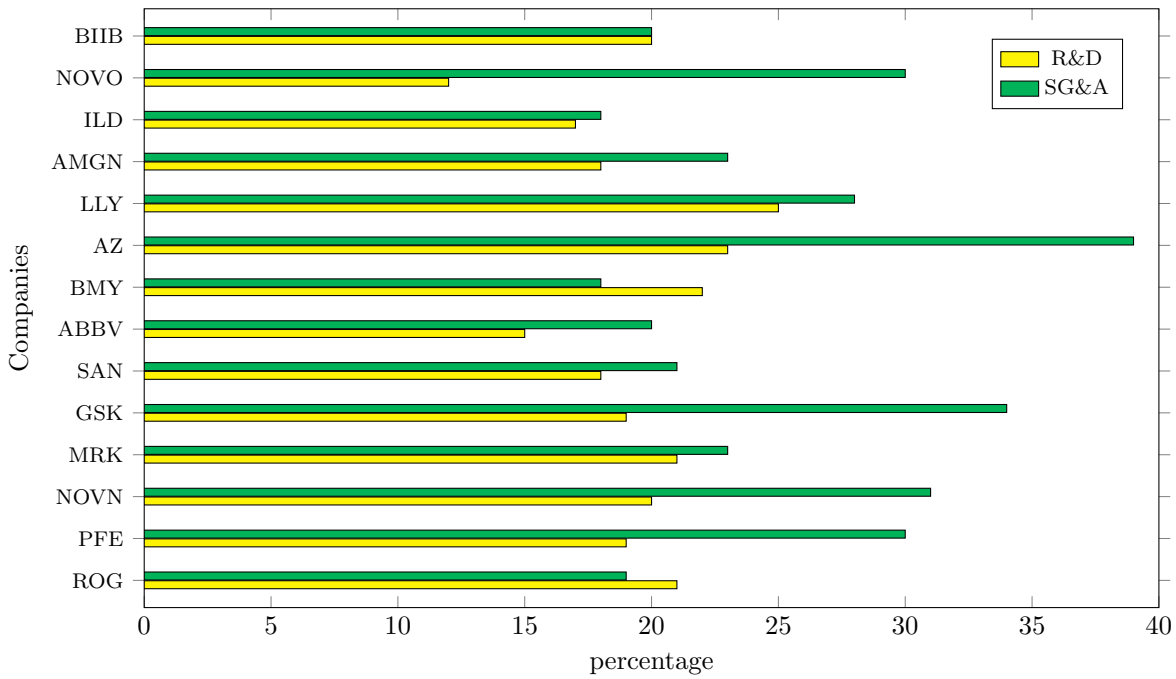
Indicateurs	AZN	GSK	NOVN	NOVO	ROG	SAN	ABBV	AMGN	BIIB	BYM	GILD	LLY	MRK	PFE
Pharma sales(bn)	26	22	39	19	47	29	43	24	11	42	24	24	33	35
R&D%	22.7	20.7	19.6	12.2	23.8	16.9	13.5	16.9	19.6	21.7	19.9	24.8	20.4	23.2
SG&A%	36.2	32.2	29.7	29.1	18.7	19.9	21.4	23.3	23.2	17.4	19.8	24.9	20.6	28.5
10 y DIV (bn)	35	51	66	25	76	43	44	28	0	28	20	23	55	75
10 y SBB (bn)	8	8	37	23	0	16	28	51	27	15	37	14	45	74
10y Share price x	2.5	1.1	1.7	3.4	2.3	1.6	2	4.2	4	2.3	3.2	4.8	2.4	2.2
Portfolio score	190	112	181	36	166	98	105	-	-	132	-	86	80	131
ESG score	-	-	+35	+36	+26	+21	-	+34	+46	-	+31	-	-	-

To illustrate these results, the figures below compare these indicators in pairs and show that:

- Most companies will tend to reinvest in R&D at the expense of return to shareholders.
- Investments in SG&A are generally greater than investment in R&D, as a consequence of most companies spending on SG&A believing that the impact on the top line will justify the investment.
- There is a clear linear relationship between the Total Shareholder Return (TSR) and the sales compound annual growth rate (CAGR) over the period.



<sup>1</sup><https://www.fiercepharma.com/special-report/top-10-esg-pharma-companies-2021>



In Table 4 below, the Price Earning ratio (PE)<sup>2</sup> is displayed on a scale from 0 to 40 with companies ranked from left to right and top to bottom based on their portfolio score. The PE is a good measure of the valuation of future growth combining in theory both innovation and growth results and measuring the ability to generate business over 12 months. Average PE, both in EU and US, were growing steadily from 2010 to 2015 with a clear advantage to US companies. From 2015 to 2021, EU companies tend to have an average PE value stable around 15, while US companies experienced some headwinds with an average value around 10 at the lowest point of the period (2020), around half the value in 2015. Individual company analysis does comfort the fact that PE is a metric mixing both growth and innovation: companies with a good innovative potential are credited (*AZ*) as well as companies with good return to shareholders (*LLY*).

<sup>2</sup>Price Earning ratio: share price (e.g. 100) divided by the expected net profit of the company next twelve months (price over share profit)

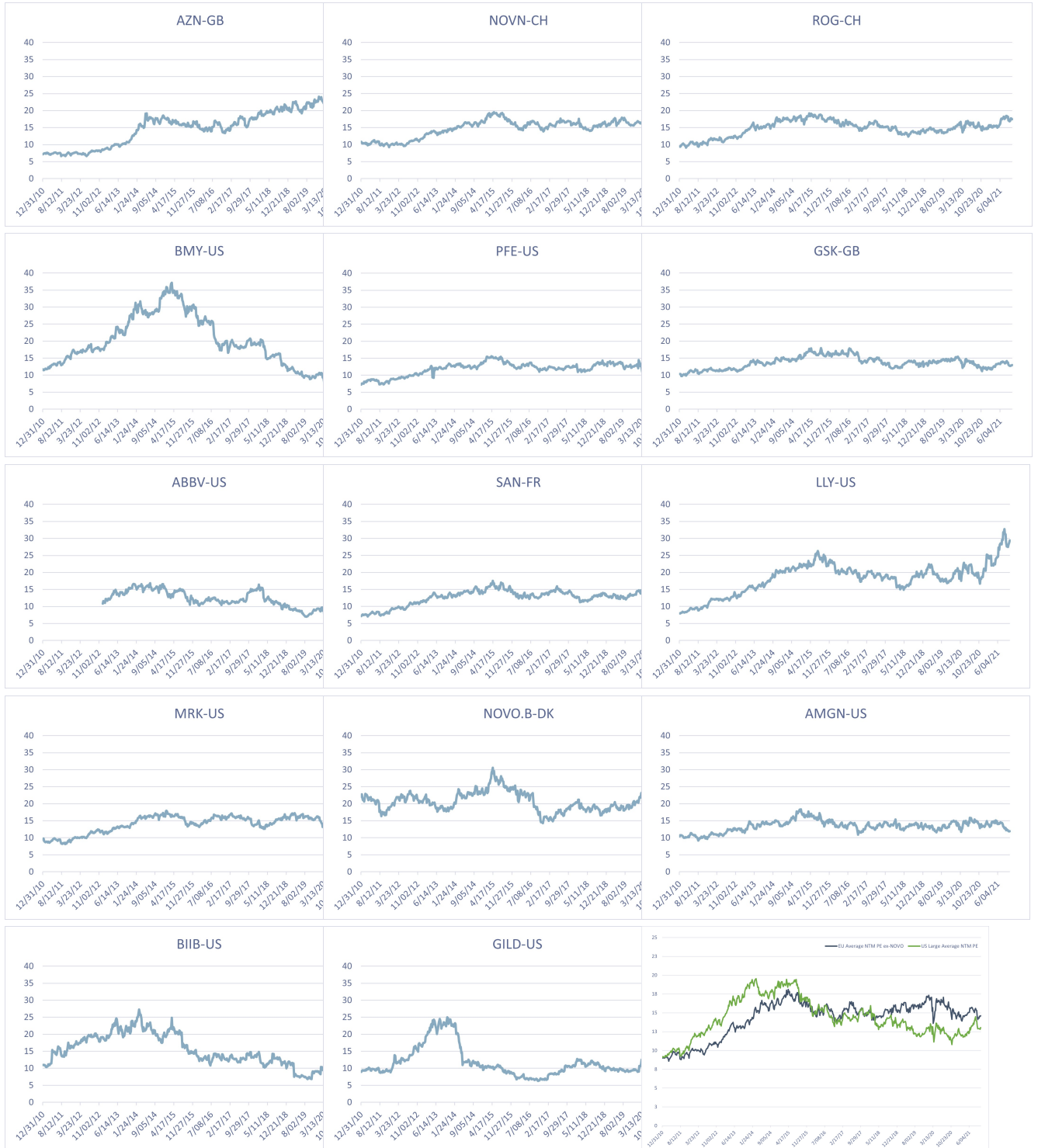


Table 2: NMT PE by companies and average values for EU and US companies

In conclusion:

- EU companies tend to demonstrate a better innovative potential than US ones over the last 5 years (This is well captured by the PE evolution).
- Being innovative has no direct correlation on sales and therefore on shareholder return, as demonstrated.
- Share evolution is definitely driven by factors non related to the innovative dimension of the company but more related to the growth of the company.

To transform the current model it will be critical to maintain the highest possible profit for investors while investing heavily in R&D and maintaining revenue growth. Reallocating public funding (the real fuel of the top line) to innovative drugs will incentivise the Market to invest in the world most innovative companies.